

Management Incentives for Prior Period Error Corrections under IAS 8

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Abstract

International Financial Reporting Standard IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* (IAS 8) requires prior period errors in the income statement to be amended in the first statement of changes in equity statement, following the detection of the error (International Accounting Standards Board, 2009). Hence, the impact of any prior period errors is shown through retained earnings rather than being included in the current period income statement. This study examines whether Australian companies use IAS 8 to engage in opportunistic reporting practices. Prior research has shown that certain variables predict the presence of earnings management and this study examines whether these variables have an association with error adjustments under IAS 8. The results show a positive association between IAS 8 error adjustments and the ratio of Chief Executive Officer (CEO) cash bonus to salary, poor performance and change of CEO. The results indicate that companies are using IAS 8 as a method of earnings management.

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1. Introduction

This study examines whether International Financial Reporting Standard IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* (IAS 8) is used to engage in opportunistic reporting practices by Australian companies. IAS 8 requires prior period errors reported in the income statement to be amended in the first statement of changes in equity statement, following the detection of the error (International Accounting Standards Board, 2009). Hence, the impact of any prior period errors is shown through retained earnings rather than being included in the current period's income statement. Managers could use this treatment for prior period errors as a method for manipulating current period earnings. If this is the case, then characteristics that have been shown in prior research to predict the presence of earnings management should also be associated with prior period error corrections that adjust prior earnings.

The majority of research on earnings restatements to date has come from the United States (US). This paper extends on that research in an Australian setting using current data that has become available since the introduction of IAS 8 in Australia. Limited research has been completed on restatement activity by Australian companies and important differences exist between restatement activity in the US and Australia. Publicly traded companies operate under different financial reporting standards and disclosure requirements in the United States compared to Australia. The regulatory and legal environments in the two countries also differ (Brown & Higgins, 2001; Habib & Hossain, 2008). This affects the impact of a restatement in terms of share price, the likelihood of litigation, and the motivation for opportunistic restatements.

Many of the prior US studies use the General Accounting Office (GAO) database of restatements made due to accounting irregularities between 1997 and 2002 (General Accounting Office, 2003). The availability of the GAO database has led many US researchers to assume in their research that restatement companies are earnings managers, or to use restatements as a proxy for earnings management. This research takes a different approach in that it does not assume that restating companies are earnings managers, nor does it use

corrections as a proxy for earnings management. Rather, it allows for the possibility that some restating companies are likely earnings managers and others are not.

There have been many calls for more research on earnings restatements involving companies from outside the US (Flanagan, et al., 2008). In particular, in the only empirical study that examined restatements by Australian companies, Ahmed and Goodwin (2007) call for future research to study restatements in Australia under IFRS. The mandatory application of IAS 8 for reporting periods beginning on or after July 2007 means that sufficient data is now available for analysis.

This research is likely to be of interest to standard setters. Restatements due to errors and irregularities are considered to indicate poor earnings quality, and to pose a threat to investor confidence, particularly if they occur in high numbers (Ahmed & Goodwin, 2007). This research uses data available for the first time, on Australian companies disclosing corrections of prior period errors under AASB 108 *Accounting Policies, Changes in Accounting Estimates and Errors* (AASB 108), which is the Australian equivalent of IAS 8. Healy and Wahlen (1999) argue that there is a need to identify which accounting standards are being used to manage earnings, so that those standards can be improved. If application of the standard reveals the existence of earnings management, then those improvements may be in the form of changes to the disclosure requirements. This research informs these considerations.

The results of this research indicate there is substantial overlap between the factors associated with earnings corrections and those identified as determinants of earnings management. Results show that error adjustments reported under IAS 8 are significantly associated with the ratio of CEO cash bonus to salary, poor performance and change of CEO. These results suggest that certain companies are using IAS 8 as a method for earnings management.

The next section of this paper provides a brief overview of IAS 8 and discusses the association between its operation and earnings management. This is followed by a review of relevant literature and the development of hypotheses in sections three and four. The research design is then discussed, followed by analysis of results. The paper concludes with a summary and discussion of research implications.

2. IAS 8 and earnings management

Prior to the introduction of IAS 8, the Australian standard AASB 1018 *Statement of Financial Performance* required errors to be recognised in the income statement of the period in which they were discovered (Australian Accounting Standards Board, 2002). IAS 8 and its Australian equivalent, now require prior period errors to be amended retrospectively as an adjustment in the statement of changes in equity (Australian Accounting Standards Board, 2007; International Accounting Standards Board, 2009). Hence, the impact of any prior period errors is shown through retained earnings rather than being included in current period income statement.

Arguments against this approach were that the standard allowed inappropriate use of hindsight; that the treatment rendered errors less prominent to users; and, that it allowed amounts to be debited or credited to retained earnings without ever being included in a current period income statement (International Accounting Standards Board, 2002).

These arguments are supported by emerging evidence from the US of so-called stealth disclosures of accounting restatements. This concept relates to the prominence of disclosures made by companies when restating for prior period errors. Managers have considerable discretion regarding the degree of attention drawn to such a change (Files, Swanson, & Tse, 2009), and some choose to draw as little as possible (Turner & Wheatley, 2003). A small number of academic and practitioner articles have considered the motives for, and impacts of, this behaviour (Hee & Chan, 2010). Turner and Wheatley (2003) find that under certain conditions, deliberately overstating income and then restating it the following year with minimal disclosure is an effective earnings management strategy. Files, et al., (2009) found that the degree of prominence of disclosure was significantly negatively correlated with mean three-day returns. It has been noted in the US financial press that the securities exchange commission disapproves of stealth restatements (Reilly, 2006). Clearly, the information content and prominence to users of disclosures regarding prior period errors are issues of significance, with potential economic and earnings quality implications.

The IASB's stated intention was to produce an accounting standard that would help ensure the information provided in financial statements is relevant, and of assistance to users in making important economic decisions regarding the flow of capital. However, the board may not have given adequate consideration to the constraining effect on management of every revenue (expense) item being recognised in current period profit (loss) at some time. It is possible that the standard setters have not given enough consideration to the possibility for opportunistic misuse of this standard. By providing a means by which selected expenses could

be moved backward into a prior period, this standard offers aggressive managers a possible alternative strategy with which to manage earnings. Furthermore, although the standard seems at face value to require fairly detailed disclosure, there are many potential ways to justify minimal disclosures of restatements under AASB 108.

The idea that managers adjust earnings in order to arrive at the reported accounting numbers they wish to present to stakeholders arose early in the development of positive accounting theory. It relies on agency theory, which explains that when there is a separation between ownership and control of a business, the owners incur costs to induce the managers to act in their interests (Jensen & Meckling, 1976). One perspective on the agency problem is to argue that managers are opportunistic and seek to transfer wealth from owners to themselves (Godfrey, Hodgson, & Holmes, 2003). A substantial body of literature has emerged that examines and tests this opportunistic perspective.

The existing literature on earnings management is extensive. It has been the subject of several reviews during the last decade. Healy and Wahlen (1999) focussed on material that is helpful to standard setters, and Dechow and Skinner (2000) aimed to reconcile the differing views on earnings management of practitioners, standard setters and academics. Stlowy and Breton (2004) present a comprehensive review and conceptual framework of the literature on accounts manipulation to that date, while Xu, Taylor and Dugan (2007) reviewed the literature on real earnings management. Hettihewa and Wright (2010) attempted to integrate an underlying theory of earnings management from the variety of approaches, methods and findings in the extant literature. Although these reviews all had a different focus, the dominant issues considered were consistent enough to be identifiable. Firstly, there is the pervasive question of whether market participants are actually deceived by earnings management. Secondly, the reviewers all acknowledge the importance of tests of incentives to manage earnings in providing evidentiary support for the existence of earnings management.

Managers are likely to exploit any available ambiguities as they appear, and standard setters must remain vigilant if they wish to prevent such misuse. It is suggested that the introduction of AASB 108 in Australia presented opportunistic managers of Australian listed companies with a potential new method with which to manage their earnings. Through its treatment of prior period errors, AASB 108 creates a variety of possible techniques for manipulating the prime targets of earnings management identified by Stlowy and Breton in their comprehensive review (2004), the earnings per share (EPS) and the debt/equity ratio. The more obvious approaches involve recognition of revenues and expenses, but the standard

makes it possible to misclassify liabilities, for example as non-current rather than current, or even simply miscalculate reported EPS. Under AASB 108, the prior period error can then be amended the following year, with no lingering constraining effects on the balance sheet as a result of the manipulation.

3. Literature review

3.1 Restatements and earnings Management

There is a substantial body of work examining US companies that have restated their financial reports. It is well-documented that there has been an increase in accounting restatements in the United States since the late 1990's (Efendi et al., 2007; Plumlee & Yohn, 2010).

Financial restatement research has extended the literature on earnings management in a number of ways. Ettredge, Scholz, Smith and Sun (2010) found evidence of a pattern of aggressive accounting for several years prior to restatements that resulted from companies committing fraud. They found a similar, but less pronounced, pattern more than one year prior to apparently non-fraudulent restatements of core earnings (Ettredge, et al., 2010). They focussed on sales, cost of sales and operating expenses, considering that these components of core earnings were of the most interest to investors and hence are the most likely targets of manipulation by management (Ettredge, et al., 2010). Their model describes managers who wish to manage earnings, using discretionary accruals and other within-GAAP accounting choices to do so until the balance sheet becomes too constrained for them to continue. While evidence shows that many managers allow their previous manipulations to reverse at this point, and hence miss earnings targets (Barton, Simko, & DeFond, 2002), clearly some go on to violate GAAP and produce financial statements that subsequently require restatement.

Research suggests that a subset of companies forced to restate their earnings are earnings managers (Beneish, 1999; Dechow et al., 1996; Hennes et al., 2008; Richardson, Tuna, & Wu, 2003). In line with prior research on earnings management, studies using restatements can be broadly grouped into three designs: tests of incentives (with or without an accrual model), tests of discontinuities, and tests of models. In their review of the earnings management literature, Healy and Wahlen (1999) detail a number of different incentives to manage earnings that had been examined by researchers to date. These include the expectations of the capital markets and concerns about share valuations, contracts that rely on accounting numbers including debt and management employment terms, and regulatory compliance (Healy & Wahlen, 1999).

Stlowy and Breton (2004) break the literature down differently, listing the objectives of earnings management as maximisation of managers' wealth, minimisation of the cost of capital including debt and equity offerings, and minimisation of political costs. This approach more clearly reflects the three fundamental hypotheses first tested in the literature, that is, the bonus plan, debt, and political cost hypotheses (Watts & Zimmerman, 1990).

It is not the intention of this study to attempt to answer definitively what the incentives are to manage earnings. This study focuses on the incentives that have been consistently examined in the earnings management literature, and found to be strong predictors of earnings management. They can be categorised as: management compensation incentive schemes; capital financing pressure; performance relative to expectations; CEO turnover; and the effects of size, industry, and audit quality. Each of these incentives is discussed in the following section, which develops hypotheses regarding their relation to the use of restatements in earnings management.

4. Hypothesis development

4.1 Management compensation incentive schemes

Executive compensation contracts draw upon a variety of remuneration possibilities, including various forms of incentive schemes. The purpose of rewarding managers based on performance is to better align their interests with the interests of owners, hence reducing agency costs. The impact of management compensation contracts on accounting choice has been the subject of a considerable body of empirical research to date. This research includes studies applying models of discretionary accruals, accounting misstatements and fraud.

Accounting numbers such as earnings figures are used to help monitor and enforce the terms of contracts between the company and others, including its management (Healy & Wahlen, 1999). Watts and Zimmerman (1978) first argued that management compensation contracts create incentives to manage earnings, and numerous researchers have tested the theory since then. Healy (1985) developed a model of the bonus plan hypothesis, clarifying the different incentives to manage earnings created by bonus schemes under various profit outcomes. Healy's (1985) model showed that managers make income increasing or decreasing accounting choices, if by doing so they can maximise their remuneration under a bonus plan.

Cash bonuses remain of interest in recent studies of management incentives (Burns & Kedia, 2006; Dechow et al., 1996; Efendi et al., 2007; Harris & Bromiley, 2007), though this variable is often found not to be significant. One explanation put forward for this result is the relative insignificance of cash bonus amounts compared to the value of stock options granted to management in the United States (Burns & Kedia, 2006; Harris & Bromiley, 2007). However, it is possible that this relationship differs in Australia, where the awarding of stock option incentives is not as widespread or systematic as in the US (Habib & Hossain, 2008). Hence, it is possible that the relative importance of cash bonuses may be greater in Australia than in the US. This leads to hypothesis one:

***Hypothesis 1:** CEO cash bonuses are positively associated with prior period error corrections that adjust prior earnings.*

Burns and Kedia (2006) examined the impact of performance-based compensation on misreporting and found strong evidence that stock options create incentives to engage in aggressive accounting practices. In an empirical study of companies that restated earnings due to accounting irregularities, Burns and Kedia (2006) tested the sensitivity of stock options, equity, restricted stock, long-term incentive payouts and cash salary plus bonus payments to company performance. They found that the sensitivity of CEO option portfolio to company price is significantly positively related to the likelihood and magnitude of a restatement. The sensitivity of the other tested components of CEO compensation had no significant impact on misreporting behaviour. Burns and Kedia (2006) explained the difference in terms of the convexity of the relationship between CEO wealth and stock price inherent in stock options, which limits the downside risk of misreporting.

Cheng and Warfield (2005) examined the link between management's equity incentives and earnings management, measured as the likelihood of meeting or just beating analyst's forecasts. They base their hypotheses on the existence of a positive relationship between equity incentives and managers' future sales of their own company's stock (Cheng & Warfield, 2005). That is, because managers with high equity incentives are more likely to sell their shares in the company in the future, those managers have increased incentives to manage earnings, in order to maximise their returns from such sales. Their results confirm that managers with high equity incentives are more likely to sell their shares in future periods (Cheng & Warfield, 2005). They also find that such managers are more likely to report earnings that meet or just beat analyst's forecasts, but less likely to report large earnings surprises (Cheng & Warfield, 2005). Their results are consistent with the theory that equity

incentives lead to managers' wealth being more sensitive to future stock prices, and hence create incentives to manage earnings. They examine equity incentives in the form of option grants, un-exercisable options, exercisable options, restricted stock grants, and stock ownership (Cheng & Warfield, 2005).

Overall, the literature on the relationship between management compensation and earnings management presents a fairly consistent picture. Given that earnings management is not a costless or risk-free activity (Desai, Hogan, & Wilkins, 2006), incentive compensation up to some 'reasonable' value is generally not sufficient to motivate managers to engage in accounting manipulation activity that is against the interests of the company (Stlowy & Breton, 2004). However, the proliferation of stock option grants in the US in the last two decades (Efendi, et al., 2007), combined with strongly performing stock markets for much of that time that overvalued many stocks (Jensen, 2005), led to executives being compensated in very high amounts.

Research has consistently found that high values of CEO stock options are significantly associated with an increased likelihood of producing financial reports that later require restatement (Burns & Kedia, 2006; Cheng & Warfield, 2005; Dechow, et al., 1996; Efendi, et al., 2007; Elayan, Li, & Meyer, 2008; Harris & Bromiley, 2007). This leads to hypotheses two and three:

***Hypothesis 2:** CEO pay from stock options is positively associated with prior period error corrections that adjust prior earnings.*

***Hypothesis 3:** CEO holdings of stock options are positively associated with prior period error corrections that adjust prior earnings.*

4.2 Capital financing pressure

There are occasions when opportunistic managers might engage in earnings management on the company's behalf. One of these situations is when managers attempt to minimise the cost of raising debt or equity capital (Stlowy & Breton, 2004). Researchers have found strong empirical evidence that the need to minimise the costs of acquiring external financing is a clear motive for earnings management (Dechow et al., 1996; Efendi et al., 2007; Richardson et al., 2003).

As participants in the company's daily operations, management has access to information that is not available to outsiders such as investors and debt providers (Subramaniam, 2010). This differential access to information is known as information asymmetry, and agency costs

are expected to be higher in its presence (Subramaniam, 2010). Jensen and Meckling (1976) define agency costs as the sum of monitoring, bonding and residual costs incurred as a result of the conflicting incentives inherent in the agency relationship. The principal, in this case debt or equity providers, incur monitoring costs in their efforts to limit aberrant behaviour by the agent. Debt covenants impose a form of monitoring costs on a company, and it is in management's interests to see that these costs are minimised (Jensen & Meckling, 1976). The agent incurs bonding costs in an effort to reassure the principal and hence reduce these costs. Jensen and Meckling (1976) include the voluntary provision of audited financial reports as a form of bonding costs. The provision of "timely, relevant and credible" information to the market can reduce investor uncertainty and affect perceptions about the company's underlying financial health and future prospects (Lev, 1992, p. 15). This in turn affects the company's cost of debt and equity capital (Lev, 1992). Hence, it is in management's interest to take a strategic approach to the disclosure of information, especially information relating to the company's financial performance.

The fundamental information that contributes to debt providers' decisions about the cost of debt, comes from the company's published audited financial reports (Foster, 1986). Likewise, many of the factors that have been identified as impacting on the cost of equity can be found in the financial statements (Foster, 1986). The underlying consideration for outsiders in both cases is the riskiness of the investment; in the former case, whether the company is likely to survive to repay the debt, and in the latter case, the magnitude and variability of expected returns on the security (Foster, 1986). A survey of US financial executives found that the majority would sacrifice economic value for smooth earnings because they believed that investors preferred less volatility (Graham, Harvey, & Rajgopal, 2005).

The market rewards companies that consistently meet earnings expectations, with a lower cost of equity capital (Kasznik & McNichols, 2002). Kasznik and McNichols (2002) attribute this finding to investor perceptions that these companies are less risky. Beating earnings benchmarks is also associated with a lower cost of debt (Jiang, 2008). Achieving positive profits is the most important benchmark to bond investors, and the reduction in the cost of debt capital is more pronounced in companies with high default risk (Jiang, 2008). Jiang (2008) found that companies with high values of four frequently used proxies for earnings management still had a reduced cost of debt, but that the reduction was not as great as for other benchmark beating companies. Despite this finding that companies achieving benchmarks through earnings management are rewarded less in terms of reduced cost of debt, Pae and

Quinn (2011) find that companies do engage in both real and accruals-based earnings management prior to issuing bonds. They make the point that poor performance can restrict the amount of funds the company can borrow (Pae & Quinn, 2011). Any difficulties the company faces in getting access to sufficient finance could increase management's incentives to engage in earnings management well beyond that created by concerns about the cost of debt capital.

Studies on stock market incentives for earnings management have also found that managers use discretionary accruals to overstate earnings prior to initial public offerings and seasoned equity issues (Healy & Wahlen, 1999). Teoh, Welch and Wong (1998) found that managers use discretionary current accruals to inflate net income prior to issuing shares. They document a corresponding pattern in accruals and net income of growth prior to the seasoned equity issue, which peaks in the year of the issue and then declines afterward (Teoh, et al., 1998). Importantly, they find a strong and persistent negative relationship between discretionary current accruals and stock returns in companies issuing equity (Teoh, et al., 1998). This indicates that the market is in fact deceived by managements' efforts and that opportunistic manipulation of earnings reporting can achieve a reduced cost of equity capital. This leads to hypotheses four:

***Hypothesis 4:** Acquiring new debt and equity finance is positively associated with prior period error corrections that adjust prior earnings.*

4.3 Performance relative to expectations

Company performance has received a great deal of attention as a possible motivation for earnings management. In a departure from the traditional discretionary accrual models, discontinuities studies have examined company performance around earnings benchmarks, attempting to capture the prevalence of earnings management in the population of listed companies (Dechow & Skinner, 2000). Degeorge, Patel and Zeckhauser (1999) identified earnings management around three thresholds: firstly, to report positive profits; secondly, to report higher earnings than in the prior year; and thirdly, to meet analysts' earnings forecasts.

Most of the evidence of earnings management to meet or beat analyst forecasts comes from the United States (Habib & Hossain, 2008). Abarbanell and Lehavy (1999), for example, found strong evidence that companies with a buy stock recommendation were more likely to manage earnings to beat analyst forecasts, while companies rated a sell were more likely to use

extreme income-decreasing earnings management techniques to take a bath. However, those papers that examine reporting environments outside the US (including Australia) find that the need to meet or beat analysts' earnings forecasts is not as pressing for managers of non-US companies (Brown & Higgins, 2001; Habib & Hossain, 2008). Researchers attribute this finding to the differences in the corporate and legal environments in Australia and the US. The threat of litigation, after a decline in the share price following a failure to meet the forecast earnings figure, is much higher in the United States than in Australia (Brown & Higgins, 2001; Habib & Hossain, 2008). The importance of forecast earnings figures increases with the degree of analyst coverage, and much of the US research has focussed on large, 'high-analyst' companies (Graham, et al., 2005). Since the companies in this sample are mostly small, and all Australian, analyst forecasts are not tested.

Another possible reason given for the lack of evidence of Australian managers managing earnings to meet or beat analyst forecasts is the lack of dominance of stock option compensation schemes in executive remuneration. Although options are used as compensation in Australia, they are not awarded as extensively or systematically as in the US (Habib & Hossain, 2008). The subject of options as compensation is frequently raised in relation to motivations to manage earnings to meet profit targets. Along with other components of executive remuneration that tie rewards to the share price, options have been found by a number of researchers to create incentives to manage earnings, in order to meet or beat earnings targets (Habib & Hansen, 2008). In this sense, managing earnings to meet or beat performance targets is presented as simply a secondary mechanism of the bonus plan hypothesis. While this may be the case, there may also be other, more direct reasons for managers to want to influence the profit figure.

Graham et al. (2005) in a comprehensive study using surveys and in-depth interviews of financial executives found evidence of several alternative motives. Firstly, they found that Chief Financial Officer's (CFO) believed that EPS is the performance measure that is most important to the market and to outsiders. Managers also believed that analysts and investors preferred smooth earnings because they were more predictable. Accordingly, they were willing to sacrifice economic value in order to reduce volatility for this reason. Managers would also forgo a positive net present value investment in order to meet the consensus earnings target (Graham, et al., 2005). As detailed in the previous section on capital financing pressure, theory offers several explanations why outsiders are concerned with earnings benchmarks. Management's inclination to manage earnings in order to meet performance targets may be

secondary to their need to manipulate these outsiders, or it may stem from the same psychological base that gives outsiders their focus on thresholds. This includes the strongly different psychological impact of negative versus positive earnings figures, known as prospect theory (Kahneman & Tversky, 1979; Degeorge, et al., 1999). The survey evidence from company CFOs found that without substantial analyst coverage, the consensus earnings figure was based on the EPS from the same quarter of the prior year (Graham, et al., 2005).

This study investigates the impact of poor performance on prior period error disclosure behaviour. Harris and Bromiley (2007) found strong evidence that extremely low performance increased the likelihood of financial misrepresentation and subsequent restatement substantially. Their nonlinear analysis revealed that financial misrepresentation occurred mostly at the extremes of performance (Harris & Bromiley, 2007). Harris and Bromiley (2007) suggest that extreme underperformers may have the least ethical options remaining, and so are the most likely to turn to misrepresentation. In this case, management could be viewed as acting for the company. They are attempting to ensure the company's survival, which may be under threat if performance is sufficiently poor.

Another explanation for the behaviour predicted in this study has a similar foundation to that in the Abarbanell and Lehavy (1999) study, which found that companies engage in big bath accounting when rated a sell by analysts. An Australian study by Kent, Monem and Cuffe (2008) investigated big bath behaviour in the agricultural sector. They found that Australian agricultural companies are more likely to take a big bath during drought years, when investors are unable to distinguish between the negative economic consequences of the drought and additional losses recognised opportunistically by management (Kent, et al., 2008). Stakeholders recognise that the effects of drought are temporary and its causes external to the company, and tend to be sympathetic. Hence, there is minimal additional impact on the value of the company's equity if it recognises extraordinary losses during these times (Kent, et al., 2008).

This study collects data on company performance during the early stages of the global financial crisis. Given these economic conditions, it is possible that some companies experienced a severe turnaround on their previous performance. Extending on the work by Kent, Monem and Cuffe (2008), it is suggested that companies experiencing a sudden turnaround in performance due to the onset of the global financial crisis might find this an ideal time to take a bath. In anticipation of potentially difficult years ahead, using AASB 108 to

move current year expenses to the prior year could be an effective method of shielding future income against losses. This leads to hypothesis five:

***Hypothesis 5:** Poor performance relative to expectations is positively associated with prior period error corrections that adjust prior earnings.*

4.4 CEO change

Theory and empirical research supports several reasons why companies are more likely to disclose a prior period error that corrects previously overstated earnings following the resignation of the CEO. Firstly, incoming CEO's have incentives to *take a bath*, that is, to make income-decreasing write-offs in their first year of office. The purpose of this is to reverse any constraints on the balance sheet left over from earnings management activities in prior years, and to create a fresh start for the new CEO. Taking a bath in the first year of office enables the new CEO to show a rapid turnaround in earnings the following year (Walsh, et al., 1991).

Empirical research on asset write downs supports this theory. Strong and Meyer (1987) find that a change in management is the strongest determinant of a write down decision. Francis, Hanna and Vincent (1996) also found that write-offs are larger in magnitude and more frequent when the company has experienced a recent change in management. Latif, Strickland and Yang (2011) investigated CEO turnover where the change in management is due to the death of the former CEO. In this way they construct a sample of cases of voluntary turnover, cleanly separating out any terminations (Latif, et al., 2011). They find that incoming CEOs manage earnings downwards in their first full year of control (Latif, et al., 2011). Consistent with Strong and Meyer (1987), who found that the relationship is strongest when the new CEO comes from outside the company, Latif et al., (2011) find that new CEOs who take over after the sudden deaths of previous CEOs are most likely to take a bath. In the case of sudden death there is less likely to be a succession plan in place or some other form of established relationship between the former and incoming CEO (Latif, et al., 2011).

Alternatively, CEO turnover can occur as a consequence of earnings management. Desai, Hogan and Wilkins (2006) find increased turnover and poorer employment opportunities for managers following GAAP violation restatements in the US. Hennes, Leone and Miller (2008), consider turnover that occurs prior to the restatement announcement as well as after. The authors give two reasons for this choice: firstly, that the individual may have

been terminated once investigations were completed but before the matter was made public; and secondly, that a new CEO may have discovered the error or misstatement made by the previous management (Hennes, et al., 2008). In either case, one expects higher quality disclosure of the error when the previous CEO was responsible for the earnings management than when the new CEO decides to take a bath. Such disclosures can help to reassure stakeholders and restore organisational legitimacy when the company has been revealed as behaving contrary to society's expectations (Kent and Tamara, 2013). This leads to hypothesis six:

***Hypothesis 6:** CEO change is positively associated with prior period error corrections that adjust prior earnings.*

5. Research Design

5.1 Sample and data

The sample of error companies was collected by systematically examining the financial reports of every company listed on the Australian Securities Exchange Limited in 2008. The 2008 financial year was chosen firstly because the new standard applied to reporting periods beginning on or after 1 January 2005 but before 1 July 2007. Therefore, 2008 was the first period in which it was certain the standard had been fully applied after its introduction. Secondly, the transition years of 2005 and 2006 were avoided because of the possibility of unusual earnings management behaviour around the transition period.

For each company, the statement of changes in equity was examined to identify whether adjustments had been made under AASB 108. For companies that made adjustments, the annual reports were examined to differentiate changes that were made in order to correct prior period errors from those resulting from changes in accounting policies and other adjustments. The amounts and sources of the identified errors were collected.

The initial search yielded 95 companies with some form of error or direct adjustment to equity. Detailed examination excluded five companies on the basis that the error was made in the year it was disclosed. A further 19 companies were removed from the sample because the adjustment to equity was not the result of a prior period error. These included prior period adjustments due to changes of accounting policy, applications of new or amended accounting standards, and revisions of estimates. Thus, 71 companies remained that had disclosed one or

more prior period errors in 2008. A further four companies were removed from the sample because the prior period error was a typographical error with no financial impact. One company was removed because the error originated in the half-yearly interim report, which raised concerns about the comparability of data. A further two companies were removed because it was evident that the error was not a result of managerial discretion. One was due to employee fraud, the other was related to incorrect payroll tax returns that led to an adjustment for interest on unpaid taxes. Missing data further reduced the sample by 13 companies, and the final sample was comprised of 51 error companies.

The sampling design is a matched pair case-control study, with control companies matched with error companies on the basis of industry and size. Industry is measured using the Global Industry Classification Standard (GICS) industry codes. Random assignment of subjects to a control sample is often an effective way to ensure the equivalent distribution of confounding variables between groups, thus controlling for the effects of extraneous variables (Salkind, 2006). However, when it is known that particular variables can be expected to impact on the dependent variable, matching the control sample based on those variables is a better option (Salkind, 2006). Matched samples have been used in similar research, both in the US (Harris, 2008; Harris & Bromiley, 2007) and in Australia (Ahmed & Goodwin, 2007; Sharma, 2004).

A matched sample of companies was identified based on GICS Industry Sector and total assets in the year that the error was disclosed. For industry, a matched company was selected based on the description of its operations closely matching the error company. GICS Industry Sectors can encompass a broad range of business activities within each sector. Matching based on the description of primary business operations was intended to improve the degree of control for industry-specific influences. The description used was the business summary found in the FinAnalysis database profile for each company.

Annual reports for the disclosure year were collected for the error companies and the matched group. Data for the compensation variables, CEO change and auditor were collected manually from these reports. Capital financing, balance sheet and income accounting variables, and EPS data were collected from the FinAnalysis database and the financial reports.

5.2 *Dependent variable*

The dependent variable *Earnings Correction* is measured as a ratio scaled, continuous variable. To construct the variable *Earnings Correction*, data was first collected on Earnings Per Share (EPS) for all companies in the sample for the disclosure year and the prior year from the FinAnalysis database. Next, the comparative EPS figures for the error companies were recorded from their printed annual reports in the disclosure year. This provided a Corrected EPS figure for the prior year. The published EPS for the prior year was then subtracted from the Corrected EPS figure, to give a measure of the impact of the error on the EPS. For the matched companies this figure was necessarily zero. Also, because the majority of income-affecting errors had inflated the prior year's EPS, the dependent variable had a negative mean, reflecting the fact that most earnings corrections were reductions of previously reported EPS. The *Earnings Correction* variable used in the final analysis is transformed by multiplying by minus one (-1) to reduce confusion in reporting the results. The dependent variable captures both the existence of an error and the magnitude of its effect on earnings.

5.3 Independent variables

The *Ratio of CEO Bonus Pay to Salary* is calculated as the cash bonus amount over fees and salary, averaged across the prior year and the year of disclosure. By using bonuses paid in the year that the error occurred and the disclosure year this variable captures any actual rewards relating to the error period. *Value of CEO Options Issued as Incentive Pay* is measured as the natural log of declared value (in the published remuneration report) of any options issued to the CEO as incentive pay during the prior year and the disclosure year. *CEO Options Held* is measured as the natural log of the average of the number of options held by the CEO at the beginning of the disclosure year (end of prior year) and the number of options held by the CEO at the end of the disclosure year. The variable *New Debt and Equity Finance Acquired* is a categorical variable with a value of one (1) for companies where there was an overall increase in debt and equity capital from the disclosure year and the year following disclosure, and zero (0) otherwise. The debt and equity capital values are adjusted for those error companies that disclosed corrections to debt or equity figures. *Poor EPS Performance* is measured as the change in EPS from the prior year to the disclosure year. That is, the variable is calculated by subtracting the prior year EPS from the disclosure year EPS. The corrected EPS is not used as the metric of interest, we use the change in performance had the company not disclosed the error. The variable *CEO Resigned* is a categorical variable with a value of one for companies where the CEO resigned between the end of the prior year and the end of the disclosure year, and zero otherwise.

5.4 Control variables

Watts and Zimmerman (1978) first hypothesised that the increased public and regulatory scrutiny imposed on large companies provided an incentive to lobby for accounting standards that result in a lower earnings figure. This has become known as the political cost theory, which proposes that large companies face higher political costs in the form of taxes, regulation, and close media and public scrutiny of their affairs (Bazley, Hancock, Berry, & Jarvis, 2004). Managers of these companies therefore have incentives to manage earnings downwards in order to minimise these costs. Company size has been described as a noisy proxy and other measures such as industry membership suggested in its place (Godfrey, et al., 2003). Industry membership has a more direct relationship with the nature and degree of regulation a company is subject to, while the size of a company correlates strongly with a number of other factors that are also known to impact on earnings management behaviour (Godfrey, et al., 2003). For this reason, empirical studies of earnings management frequently include variables for both industry and size as control variables. Size and industry are controlled for in the current study by using a sample of error companies with non-error companies matched on size and industry.

DeAngelo (1981) argued that incumbent large audit firms have incentives to provide higher quality audits, because they face higher opportunity costs if caught cheating than small audit firms. DeAngelo defined audit quality as the “joint probability that a given auditor will *both* (a) discover a breach in the client’s accounting system and (b) report the breach” (1981, p. 186). This led to widespread in-principle acceptance of the use of an easily measurable Auditor Size variable – that is, whether the company was audited by a Big 8, Big 6, Big 4, or a small-to-medium audit firm – as a proxy for the very difficult to measure construct of Audit Quality (Becker, Defond, Jiambalvo, & Subramanyam, 1998; Francis, Maydew, & Sparks, 1999). Davidson and Neu (1993) tested the association between auditor size and audit quality using management earnings forecasts. They found that, after controlling for client risk, companies that were audited by Big Eight audit firms had larger forecast errors. This was consistent with their expectation that a higher quality audit allows the client less flexibility to manage reported earnings closer to the forecast earnings figure (Davidson & Neu, 1993). Becker, Defond, Jiambalvo and Subramanyam (1998) tested the impact of audit quality on earnings management using a discretionary accruals model. They find that companies with lower audit quality (non-Big Six auditors) had higher discretionary accruals and greater “accounting flexibility” than companies that were audited by Big Six auditors (Becker, et al.,

1998, p. 1). The first control variable *Audit Quality* is measured dichotomously. It takes a value of one if the company was audited by one of the *big four* auditing firms, and zero if it was not. The auditing firms that are known as the *big four* are: KPMG, PricewaterhouseCoopers, Deloitte Touche Tohmatsu, and Ernst & Young.

5.5 Statistical model

The relationships between the independent variables and the dependant variable are tested by the following model:

$$\begin{aligned} \text{Earnings Correction} = & b_0 + b_1 \text{Ratio of CEO Bonus Pay to Salary} + b_2 \text{Value of CEO Options} \\ & \text{Issued as Incentive Pay} + b_3 \text{CEO Options Held} + b_4 \text{New Debt and Equity Finance} + b_5 \text{Poor} \\ & \text{EPS Performance} + b_6 \text{CEO Resigned} + b_7 \text{Audit Quality} + e \end{aligned}$$

Where:

Earnings Correction= The effect of the error on EPS. (EPS in prior year (PY) - Corrected EPS).
 Ratio of CEO Bonus Pay to Salary = CEO cash bonus divided by fees and salary, averaged across disclosure year (DY) and prior year (PY).

Value of CEO Options Issued as Incentive Pay= Natural log of value (as disclosed) of options granted to the CEO as incentive pay in DY and PY.

CEO Options Held = Natural log of average number of options held by CEO at beginning of DY (end of PY) and end of DY.

New Debt and Equity Finance= 1 for companies where there was an overall increase in debt and equity capital between the disclosure year and the following year, 0 otherwise.

Poor EPS Performance= The change in EPS performance (EPS in DY – EPS in PY).

CEO Resigned = 1 for companies whose CEO resigned between the end of PY and the end of DY, 0 for companies whose CEO did not.

Audit Quality= 1 for companies that were audited by a 'Big Four' Audit Firm, 0 for firms that were not.

6. Results

6.1 Descriptive statistics

Table 1 reports descriptive statistics for the entire sample (Panel A), for matched companies (Panel B), and for error companies (Panel C). There were eight cases of *earnings correction* that increased the prior year reported earnings, while the majority of adjustments were reductions. The highest increasing correction is minus three due to the variable having been transformed. The largest reduction in the prior year's reported earnings per share was an adjustment of 12.0, while most of the corrections lie between 3.0 and zero. The mean adjusts from 0.34 to 0.68 when the matched companies are removed from the calculation, as shown in Panel C of Table 1.

Table 1 about here

The first independent variable *Ratio of CEO Bonus Pay to Salary* has a minimum of zero. Sixty companies paid their CEOs no cash bonuses. The mean value was 0.2, which means that 20 per cent of CEO cash pay consisted of incentive bonuses. This figure is slightly higher for the matched companies at 22 per cent, compared to 18 per cent for the error companies. Companies that reported no salary were small, in their developmental stages, and loss making. These companies tended to pay their CEO's in options or shares rather than cash.

The *Value of CEO Options* has a minimum value of zero. Twenty four matched companies and 26 error companies did not provide their CEOs with any share options as incentive remuneration. The maximum value of \$3,055,000 was paid to the CEO of a matched company, with the second highest of \$2,895,090 being receive by the CEO of an error company. The sample mean for this variable was \$208,893, with the matched companies having a slightly higher mean than the error companies at \$210,417 and \$207,369 respectively.

For the variable *CEO Options Held*, 19 matched companies and 18 error companies had no CEO options during the disclosure year. This is because some companies granted their CEO's a parcel of options as part of a sign-on package or in some other arrangement that was explicitly not linked to performance incentives. The maximum of 30,000,000 was held by the CEO of a matched company, while the highest number of options held by the CEO of an error company was 10,000,000. The mean values were 2,027,195 for the matched companies, 1,527,042 for the error companies, and 1,777,119 for the full sample.

Poor EPS Performance has a mean of -7.4 cents per share. The negative sign on the mean of this variable indicates that the average change in performance for companies in the full sample was a reduction in EPS.

Of the dichotomous variables, the variable *New Debt and Equity Finance* shows that about 80 per cent of the companies obtained debt or equity finance in the disclosure year. The number of matched and error companies that obtained finance were 40 and 42 respectively. A change of CEO occurred for 17 per cent of companies. Out of the seventeen companies that experienced a change of CEO in the period, eleven were related to error companies while only six were related to the non-error matched companies. Forty-seven per cent of the sample companies were audited by *big four* firms. The matched companies more often used a *big four* audit firm at 53 per cent, compared to 41 per cent for the error companies.

Industry representation for the sample and for error companies is presented in Table 2. The Financial and Materials industry sectors had the equal highest representation at 27 per cent. Companies in the Industrials group had the next highest representation at 17 per cent.

Table 2 about here

The results of variance inflation factor (VIF) tests of collinearity for the independent variables are reported in Table 3, and correlations among the independent variables are reported in Table 4. Each VIF would equal one (1) if the set of independent variables was uncorrelated (Berenson et al., 2006). A conservative recommendation is that a VIF of less than five (5) is acceptable (Berenson et al., 2006). Tolerance measures how much of the variability of each independent variable is not explained by the other independent variables (Pallant, 2010). Hence, a very small value indicates multicollinearity. Pallant (2010) advises less than 0.1 is too small a tolerance value. These analyses show collinearity is not likely to be a problem in the model as VIF, tolerance statistics and correlations are well within acceptable values.

Tables 3 and 4 about here

6.2 Multivariate analysis

Table 5 reports the results of the regression analysis. The adjusted R^2 for the model is 0.25, and the model is significant at $p < 0.01$ ($F = 5.99$). Four of the independent variables contribute significantly to the model.

The results support Hypothesis one, that CEO cash bonuses are positively associated with prior period error corrections that reduce previously overstated earnings. The variable *Ratio of*

CEO Bonus Pay to Salary is statistically significant at $p < 0.01$ ($t = 3.41$). Its coefficient shows higher proportions of CEO cash remuneration paid in the form of incentive bonuses are positively related to prior period error corrections that adjust earnings.

Hypotheses two and three that CEO remuneration from stock options and CEO holdings of stock are not supported by the results. The independent variables *Value of Options Issued to CEO as Incentive Pay* and *CEO Options Held* are not significant. These findings differ from the results of previous research, which found that high values of CEO stock options are significantly associated with an increased likelihood of earnings restatements (Burns & Kedia, 2006; Cheng & Warfield, 2005; Dechow, et al., 1996; Efendi, et al., 2007). However, these studies came from the US, and previous research has also found that options are not used as frequently or systematically in Australia as in that country (Habib & Hossain, 2008). Furthermore, within some samples used in US studies the mean value of option grants is twenty to thirty times the value of cash bonuses (Harris & Bromiley, 2007). The relative importance of stock options as remuneration in the US is one explanation offered for findings that do not support hypotheses linking cash bonuses to restatements (Burns & Kedia, 2006; Harris & Bromiley, 2007).

Hypothesis four, that acquiring new debt and equity finance is positively associated with prior period error corrections is not supported. The variable *New Debt and Equity Finance* is not significant ($p = 0.47$, $t = 0.07$).

Hypothesis five that poor performance relative to the prior year is positively associated with prior period error corrections is supported. *Poor EPS Performance* has statistically significant at $p < 0.01$ ($t = 2.83$). Its positive coefficient means that poor performance relative to the prior year is positively related to error correction under AASB 108.

Hypothesis six that CEO change is positively associated with prior period error corrections that reduce previously reported earnings is supported. The independent variable *CEO Resigned* is statistically significant at $p < 0.05$ ($t = 2.15$). The variable has a positive sign as was predicted in hypothesis six.

Finally, the control variable for *Audit Quality* as indicated by the engagement of a *big four* audit firm was not significant ($p = 0.26$, $t = 0.65$).

6.3 Additional test

For the main analysis, the matched companies in the sample necessarily have a zero value for the dependent variable *Earnings Correction*. Therefore, the distribution of this variable is

kurtose. To test the robustness of the ordinary least squares regression reported in Table 5, an alternative Tobit regression was conducted (Tobin, 1958). The Tobit analysis is useful when there is censoring in the dependent variable. In this study, the value of *Earnings Correction* for the matched companies is censored at zero (Tobin, 1958).

The dependent variable for this analysis was the absolute value of *Earnings Correction*, and the independent variables were the same as those in the main analysis. Using the absolute value of *Earnings Correction* means the dependent variable captures the size of the correction, but not its direction. The results of the Tobit regression are reported in Table 6.

Table 6 about here

Results of the Tobit regression are qualitatively the same as those for the main analysis with the exception of the independent variable *Value of Options Issued to CEO as Incentive Pay* which is significant ($p < 0.01$). The coefficient indicates that the issue of options is positively associated with earnings correction under AASB 108.

7. Summary and discussion

The idea that companies might use restatements as a form of earnings management is not new. Turner and Wheatley (2003) found that deliberately overstating income and then restating it the following year with minimal disclosure can be an effective earnings management strategy, which they labelled *stealth* restatements. The flexibility of the disclosure requirements in IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*, and its Australian equivalent AASB 108, created the potential for such corrections by Australian companies, and by those in other countries that have adopted this International Financial Reporting Standard (IFRS). The introduction of IFRS may therefore have created a new method for managing earnings, in Australia and other countries.

This study hypothesised that some of the Australian companies that applied AASB 108 to make corrections of prior period errors used the standard as a method of earnings management. To test that possibility, analysis was conducted that examined the relation between incentives that had previously been identified as strong determinants of earnings management and error adjustments made under AASB 108. The incentives tested were: managerial remuneration incentive schemes, the need to raise external finance, poor performance relative to expectations, and the incentive for incoming managers to manage earnings downward. These were operationalised as independent variables and tested in a

multivariate model for associations with the dependant variable, an error correction under AASB 108 that adjusted prior period earnings.

Management compensation incentive schemes, in the form of cash bonuses, options issued as incentive pay and CEO holdings of options were expected to create incentives for management to opportunistically manage earnings. These incentives were therefore expected to be positively associated with earnings corrections that reduced prior year overstated earnings. Out of three management compensation incentive measures included in the analysis, two were found to be positively related to earnings corrections under AASB 108. The results of the multivariate tests found that the ratio of cash bonus to salary was significantly and positively associated with earnings corrections. Evidence was found that the issue of options as incentive pay is positively associated with earnings correction. However, CEO holdings of stock options were not found to be significantly associated with earnings corrections.

The need to acquire new debt or equity finance was found not to create an incentive for earnings management. Poor performance relative to the prior year was expected to create an incentive for earnings management. The hypothesis that poor performance relative to the prior year is positively associated with prior period error corrections was supported. This indicates that significant incentives existed in the disclosure year, and those incentives were associated with earnings corrections. This supports the theory that managers are using the disclosure of an error as a form of earnings management, as well as the making of an error. Companies experiencing a change of CEO were expected to be more likely to disclose error corrections that reduced earnings in prior years. Incoming CEOs were expected to have incentives to take a bath, by using the standard to disclose an error that moved expenses to the prior year. Multivariate testing found support for the hypothesis that CEO change is associated with earnings corrections. This result is consistent with disclosure of errors as a potential earnings management method.

Audit quality was expected to have a moderating association on the relationships between the dependent variable and the independent variables. Hence, it was included in the model as a control variable. The multivariate testing did not find any significant association between audit quality and earnings corrections. Overall, the results support the fundamental proposition of this study, that some companies are using AASB 108 as a method of earnings management.

Several limitations should be considered when analysing the contribution of this research. First, the sample size is small due to the need to ensure comparability at a time when

International Financial Reporting Standards were transitioning to full mandatory application in Australia. Australian Accounting Standard AASB 108 (IAS 8) was for the first time fully applied by reporting entities in the 2008 year. Second, the standard applies to changes in accounting policies and revisions of estimates as well as errors. Third, the quality and quantity of disclosure of the error is not measured in this study.

This research uses data available for the first time, on Australian companies disclosing earnings corrections under AASB 108, the Australian equivalent of IAS 8. An attempt was made to keep the sample companies free of potential confounding influences, while considering a broad range of possible incentives. Future research could take a narrower focus and examine some of those incentives in detail. Future studies could also include companies that applied AASB 108 to change accounting policies or to make revisions of accounting estimates.

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Table 1: Descriptive Statistics for Variables in Model

Panel A: Full Sample				
Continuous Variables	Minimum	Maximum	Mean	Std. Deviation
Earnings Correction	-3.00	12.00	0.34	1.57
Ratio of CEO Bonus Pay to Salary	0.00	2.07	0.20	0.37
Value of Options Issued to CEO as Incentive Pay	\$0	\$3,055,000	\$208,893	\$491,332
Natural log of Options Issued to CEO as Incentive Pay	0.00	14.81	6.68	6.04
CEO Options Held	0	30,000,000	1,777,119	3,509,350
Natural log of CEO Options Held	0.00	17.22	9.61	6.75
Poor EPS Performance	-549.40	102.40	-7.40	55.80
Dichotomous Variables	Frequency Yes	% Yes		
New Debt and Equity Finance	82	80.40		
CEO Resigned	17	16.70		
Audit Quality	48	47.10		
Panel B: Matched Companies				
Continuous Variables	Minimum	Maximum	Mean	Std. Deviation
Earnings Correction	0.00	0.00	0.00	0.00
Ratio of CEO Bonus Pay to Salary	0.00	2.07	0.22	0.40
Value of Options Issued to CEO as Incentive Pay	\$0	\$3,055,000	\$210,417	\$524,525
Natural log of Options Issued to CEO as Incentive Pay	0.00	14.81	6.91	5.93
CEO Options Held	0	30,000,000	2,027,195	4,482,467
Natural log of CEO Options Held	0.00	17.22	9.69	6.72
Poor EPS Performance	-155.40	67.90	-5.27	30.66
Dichotomous Variables	Frequency Yes	% Yes		
New Debt and Equity Finance	40	78.40		

CEO Resigned	6	11.80		
Audit Quality	27	52.90		
Panel C: Error Companies				
Continuous Variables	Minimum	Maximum	Mean	Std. Deviation
Earnings Correction	-3.0	12.0	0.68	2.18
Ratio of CEO Bonus Pay to Salary	.00	1.69	0.18	0.34
Value of Options Issued to CEO as Incentive Pay	\$0	\$2,895,090	\$207,369	\$459,907
Natural log of Options Issued to CEO as Incentive Pay	0.00	14.38	6.45	6.20
CEO Options Held	0	10,000,000	1,527,042	2,146,388
Natural log of CEO Options Held	0.00	16.12	9.52	6.85
Poor EPS Performance	-549.40	102.40	-9.44	72.58
Dichotomous Variables	Frequency Yes	% Yes		
New Debt and Equity Finance	42	82.40		
CEO Resigned	11	21.60		
Audit Quality	21	41.20		

Earnings Correction= The effect of the error on Earnings Per Share (EPS). (EPS in PY - Corrected EPS).

Ratio of CEO Bonus Pay to Salary = CEO cash bonus divided by fees and salary, averaged across disclosure year (DY) and prior year (PY).

Value of CEO Options Issued as Incentive Pay= Value (as disclosed) of options granted to the CEO as incentive pay in DY and PY.

CEO Options Held = Average number of options held by CEO at beginning of DY (end of PY) and end of DY.

New Debt and Equity Finance= 1 for companies where there was an overall increase in debt and equity capital between the disclosure year and the following year, 0 otherwise.

Poor EPS Performance= The change in Earnings Per Share (EPS) performance. (EPS in DY – EPS in PY).

CEO Resigned = 1 for companies whose CEO resigned between the end of PY and the end of DY, 0 for companies whose CEO did not.

Audit Quality= 1 for companies that were audited by a 'Big Four' Audit Firm, 0 for firms that were not.

Table 2: Percentage of Companies in Each Industry Sector

Industry Sector	%
Consumer Discretionary	6.3
Consumer Staples	4.7
Energy	4.7
Financials	26.6
Health Care	3.1
Industrials	17.2
Information Technology	7.8
Materials	26.6
Telecommunications	1.6
Utilities	1.6
Total	100.0

Table 3: Collinearity Statistics

Variable	Tolerance	VIF
Ratio of CEO Bonus Pay to Salary	.86	1.17
Value of Options Issued to CEO as Incentive Pay	.80	1.25
CEO Options Held	.96	1.04
New Debt and Equity Finance	.76	1.31
Poor EPS Performance	.97	1.03
CEO Resigned	.98	1.02
Audit Quality	.91	1.10

Ratio of CEO Bonus Pay to Salary = CEO cash bonus divided by fees and salary, averaged across disclosure year (DY) and prior year (PY).

Value of CEO Options Issued as Incentive Pay= Natural log of value (as disclosed) of options granted to the CEO as incentive pay in DY and PY.

CEO Options Held = Natural log of average number of options held by CEO at beginning of DY (end of PY) and end of DY.

New Debt and Equity Finance= 1 for companies where there was an overall increase in debt and equity capital between the disclosure year and the following year, 0 otherwise.

Poor EPS Performance= The change in Earnings Per Share (EPS) performance. (EPS in DY – EPS in PY).

CEO Resigned = 1 for companies whose CEO resigned between the end of PY and the end of DY, 0 for companies whose CEO did not.

Audit Quality= 1 for companies that were audited by a 'Big Four' Audit Firm, 0 for firms that were not.

Table 4: Correlation Matrix

Variables	Earnings Correction	Ratio of CEO Bonus Pay to Salary	Value of Options Issued to CEO as Incentive Pay	CEO Options Held	New Debt and Equity Finance Acquired	Poor EPS Performance	CEO Resigned
Ratio of CEO Bonus Pay to Salary	**0.35						
Value of Options Issued to CEO as Incentive Pay	0.08	0.23*					
CEO Options Held	-0.14	0.043	0.09				
New Debt and Equity Finance	**0.35	**0.34	**0.38	-0.05			
Poor EPS Performance	**0.30	0.15	0.02	0.02	0.12		
CEO Resigned	*0.22	0.01	-0.09	-0.10	0.03	0.02	
Audit Quality	0.13	0.15	*0.24	-0.09	*0.23	0.02	0.03

* significant at the 0.05 level; ** denotes significant at the 0.01 level.

Ratio of CEO Bonus Pay to Salary = CEO cash bonus divided by fees and salary, averaged across disclosure year (DY) and prior year (PY).

Value of CEO Options Issued as Incentive Pay= Value (as disclosed) of options granted to the CEO as incentive pay in DY and PY.

CEO Options Held = Average number of options held by CEO at beginning of DY (end of PY) and end of DY.

New Debt and Equity Finance= 1 for companies where there was an overall increase in debt and equity capital between the disclosure year and the following year, 0 otherwise.

Poor EPS Performance= The change in Earnings Per Share (EPS) performance. (EPS in DY – EPS in PY).

CEO Resigned = 1 for companies whose CEO resigned between the end of PY and the end of DY, 0 for companies whose CEO did not.

Audit Quality= 1 for companies that were audited by a 'Big Four' Audit Firm, 0 for firms that were not.

Table 5: OLS Regression

Variables	Hypotheses		Beta	t - statistic	Significance
	Number	Predicted Sign			
(Constant)			-0.09	-0.25	0.40
Ratio of CEO Bonus Pay to Salary	H1	+	1.23	3.41	**0.00
Value of Options Issued to CEO as Incentive Pay	H2	+	0.03	0.88	0.19
CEO Options Held	H3	+	-0.03	-1.06	0.15
New Debt and Equity Finance	H4	+	0.02	0.07	0.47
Poor EPS Performance	H5	+	0.01	2.83	**0.00
CEO Resigned	H6	+	0.74	2.15	*0.02
Audit Quality		-	0.17	0.65	0.26
Model Statistics					
R ² = 0.26					
Adjusted R ² = 0.21					
F statistic = ** 4.73					

* Denotes significant at the 0.05 level; ** denotes significant at the 0.01 level.

Dependent variable is Earnings Correction = The effect of the error on Earnings Per Share (EPS). (EPS in PY - Corrected EPS).

Ratio of CEO Bonus Pay to Salary = CEO cash bonus divided by fees and salary, averaged across disclosure year (DY) and prior year (PY).

Value of CEO Options Issued as Incentive Pay= Natural log of value (as disclosed) of options granted to the CEO as incentive pay in DY and PY.

CEO Options Held = Natural log of average number of options held by CEO at beginning of DY (end of PY) and end of DY.

New Debt and Equity Finance= 1 for companies where there was an overall increase in debt and equity capital between the disclosure year and the following year, 0 otherwise.

Poor EPS Performance= The change in Earnings Per Share (EPS) performance. (EPS in DY – EPS in PY).

CEO Resigned = 1 for companies whose CEO resigned between the end of PY and the end of DY, 0 for companies whose CEO did not.

Audit Quality= 1 for companies that were audited by a 'Big Four' Audit Firm, 0 for firms that were not.

Table 6: Tobit Regression

Variables	Hypotheses		Beta	Z statistic	Significance
	Number	Predicted Sign			
(Constant)			-2.14	-2.73	**0.00
Ratio of CEO Bonus Pay to Salary	H1	+	1.93	2.29	**0.01
Value of Options Issued to CEO as Incentive Pay	H2	+	0.13	1.62	#0.06
CEO Options Held	H3	+	-0.06	0.92	0.18
New Debt and Equity Finance	H4	+	-0.31	-0.36	0.36
Poor EPS Performance	H5	+	0.03	2.04	*0.02
CEO Resigned	H6	+	1.25	1.45	#0.07
Audit Quality		-	-0.68	-0.92	0.18
Model Statistics					
Log Likelihood = **-106.68					

Denotes significant at the 0.10 level; * denotes significant at the 0.05 level; ** denotes significant at the 0.01 level.

Dependent variable is Earnings Correction = The effect of the error on Earnings Per Share (EPS). (EPS in PY - Corrected EPS).

Ratio of CEO Bonus Pay to Salary = CEO cash bonus divided by fees and salary, averaged across disclosure year (DY) and prior year (PY).

Value of CEO Options Issued as Incentive Pay= Natural log of value (as disclosed) of options granted to the CEO as incentive pay in DY and PY.

CEO Options Held = Natural log of average number of options held by CEO at beginning of DY (end of PY) and end of DY.

New Debt and Equity Finance= 1 for companies where there was an overall increase in debt and equity capital between the disclosure year and the following year, 0 otherwise.

Poor EPS Performance= The change in Earnings Per Share (EPS) performance. (EPS in DY – EPS in PY).

CEO Resigned = 1 for companies whose CEO resigned between the end of PY and the end of DY, 0 for companies whose CEO did not.

Audit Quality= 1 for companies that were audited by a 'Big Four' Audit Firm, 0 for firms that were not.