

# **Audit Tenure, and Informativeness of Earnings: New Zealand Evidence**

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## **ATTESTATION OF AUTHORSHIP**

I hereby declare that the submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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## **Abstract**

The purpose of this research is to examine the relationship between audit tenure and earnings informativeness in New Zealand. Earnings informativeness is measured by market response to level and changes in earnings and market pricing of earnings components. A total sample of 357 firm-year observations from 2002 to 2009 is used for empirical testing. The results reveal that market response to earnings is more positive for firm-year observations audited by long-tenured auditors. The market also appears to positively value the discretionary components of earnings for firm-year observations audited by long-tenured auditors.

## Introduction

There is a common concern that as an audit firm's tenure gets longer, auditor independence is likely to be compromised because of familiarity and the motive to retain clients. The difference in audit quality results from variation in auditors' creditability and clients' earnings quality, whereas the important factors that influence the creditability of an auditor are audit tenure and auditor independence. Thus, the recent accounting scandals raise the issue of how to increase scrutiny of the role of auditing in corporations' earnings quality.

Johnson et al. (2002) and Myers et al. (2003) define audit tenure as the number of years that an auditor is retained by a firm. Tenure within three years is considered short tenure, and more than nine years is considered long tenure. Similarly, this study also defines short tenure when the audit period falls within three years. However, tenure of more than three years is treated as long audit tenure. Prior research shows that auditors engaged in short tenure are associated with a lower earning quality than those auditors who are engaged in long tenure (Ghosh & Moon, 2005; Myers et al., 2003). The reasons are outlined as: firstly, lack of client-specific knowledge restricts auditors from conducting a high quality audit, and results in a high rate of audit failure as auditors rely more heavily on client estimations (A. F. Gul, Jaggi, & Krishnan, 2007; Johnson et al., 2002). Secondly, low balling could be linked to a lower quality of earnings, whereby auditors are trying to recoup the loss made in the initial years of engagement for obtaining and retaining new clients (DeAnglo, 1981). Lastly, firms with high quality of earnings are more likely to retain high quality auditors, and auditors with high quality also likely to drop risky clients with lower earnings quality. Therefore, as suggested in recent auditing literature, long-tenured auditors are associated with higher earnings quality. For example, Johnson et al. (2002) find no evidence that long-tenured auditors are associated with high unexpected accruals in comparison to short-tenured auditors. Myers et al. (2003)

find less dispersion in the distribution of discretionary accruals, and larger constraints on income-increasing and income-decreasing accruals. Such findings are consistent with the above outlined reasons. These findings are also in line with learning theory in psychology (Lapre et al., 2000). The implication is that it takes a certain time for auditors to gain client-specific knowledge for an effective audit. Overall, although some of the existing literatures have still documented a negative relationship between superior audit quality and audit tenure, a substantial number of studies have established a positive relationship, that is, longer audit tenure results in superior audit quality.

This study assumes that audit quality is positively linked to earnings quality. As audit quality cannot be observed directly from the market, auditor brand name (Francis, Maydew, & Sparks, 1999; Reynolds & Francis, 2000) and auditor industry specialisation (Balsam, Krishnan, & Yang, 2003) are commonly used as proxies for audit quality, and both contribute positively to the creditability offered by auditors. Likewise, Earnings Response Coefficient (ERC) can be used as a proxy for earnings quality, which is used to measure earnings surprises on abnormal stock returns. The evidence from prior studies has shown that ERC varies both in sectional and inter-temporal. Collectively, ERC varies according to the degree of persistence in a firm's earnings, predictability of earnings and growth opportunities (Teoh & Wong, 1993). For example, Imhoff and Lobo (1992) find that firms are associated with a lower ERC when they have a low consensus in analysts' forecasts of earnings. Teoh and Wong (1993) use brand name as a proxy and find that the ERC of Big N auditors are significantly higher than those non-Big N auditors. Moreover, Balsam, Krishnan and Yang (2003) document that Big N auditors with industry specialisation are also positively correlated with higher ERC than clients of non-specialist auditors. These findings indicate that a high audit quality is strongly associated with higher ERC.



This paper studies how the market perceives the effect of audit tenure on earnings quality based on the New Zealand stock market. However, the size of New Zealand market is much smaller compared to those large markets such in the United States and Australia with markedly different market structures. The unique characteristics of the New Zealand market might create an environment in which audit tenure does not exert the same influence on earnings quality as in other nations. Using ERC as a proxy for market response to earnings quality, this study first uses earnings to test its association with tenure, and later specifies the association between earnings management and tenure, especially at the level of discretionary accruals. This is because financial reports always include judgements of managers and therefore is either likely to create opportunistic earnings or form an informativeness view on management. In order to further examine the association between the perceptions of investors on earnings quality and audit tenure, the control variables such as size, loss, leverage and growth of a firm have been taken into account, and also, the focused companies are limited to those audited by Big 4 auditors only. The results of this study show that the quality of reported earnings improves as audit tenure gets longer and the market reacts positively to earnings, with the implication that the earnings of a company with long-tenured auditors are positively valued by the market. The findings of extended tests on earnings management show a positive and significant earnings response coefficient for the interaction of audit tenure and discretionary accruals, indicating that the market positively values discretionary accruals of firms audited by long-tenured auditors. This is because investors believe that the use of discretionary accruals by management is for informative reasons rather than opportunistic reasons. The positive findings are consistent with the findings of larger nations, indicating that audit tenure in the New Zealand market has a similar effect on earnings quality regardless of the specific environment.

The rest of the paper is organised as follows. Section 2 gives the background information and the existing literature on audit tenure, audit quality, the quality of Big 4 auditors, and also includes a discussion of existing audit-related research in New Zealand. Section 3 shows the development of hypothesis and research design. Section 4 gives the explanation of variables. Section 5 and 6 details the sample used and presents the empirical results and analysis of the research. Section 7 provides the conclusion and outlines the limitations of the research.

## **Literature Review**

### **2.1 Audit Tenure and Auditor Independence**

Audits provide assurances of management behaviours and assertions of financial reports to stakeholders. An effective audit is an efficient monitoring device to mitigate agency problems between corporate managers and shareholders in order to increase the value of a firm (Jensen & Meckling, 1976). However, an effective audit increases a firm's value only when auditors are independent, and auditor independence is considered as the cornerstone for auditing. Definitions of auditor independence include, "the probability that the auditor will report a discovered breach in the financial report" (Watt and Zimmerman, 1983), and "the ability to resist client pressure" (Knapp, 1985). Therefore, an independent auditor will have an objective in mind and be able to persuade a client to recognise substandard reporting when subject to any irregularities, errors and frauds.

Recent accounting scandals such as the collapse of Enron and WorldCom have raised concern about whether auditors are truly independent, and the public reacts negatively to these kinds of audit failures. The Securities and Exchange Commission (SEC) has responded

to this negative effect by reinforcing importance of auditor independence. Collectively, the New Zealand Institute of Chartered Accountants (NZICA) requires that auditor independence must be present both in mind (fact) and in appearance (Zhang & Emanuel, 2008), as these factors significantly affect the ability of the auditor to produce a high quality report. Auditor independence, in fact, plays an important role in determining the reliability of audit reports. Auditor independence involves the improvement of the creditability of corporate financial reports and value-adding to the shareholders. The second implication is closely related to the profession of auditing, that is, the demand for an independent audit is to improve the transparency of information and to reduce information asymmetry to mitigate agency problems.

Accounting policy makers and existing researchers also argue that auditor independence is affected by audit tenure, and such effects are arguably presented in two dimensions: either positively or negatively. On one hand, many empirical studies suggest that short audit tenure decreases auditor independence (Geiger & Raghunandan, 2002; Johnson et al., 2002). For example, the reputation of auditors and the temptation of quasi-rent from a new client can strongly influence auditor's independence by motivating auditors to act with favour to client management, and act with a lower level of independence (Geiger & Raghunandan, 2002). On the other hand, in regard to long audit tenure, a substantial number of studies provide evidence that long auditor-client relationships impair auditor independence. This is because the existing cosy feeling between auditor and client, and over-familiarity with management may reduce the alertness of auditors in conducting aggressive reports. In addition, the satisfaction with the amount of audit fee received, auditor-client collusion and inevitable pressures from clients can also reduce auditor independence (Geiger & Raghunandan, 2002; Nasser, Wahid, Nazri, & Hudaib, 2006). Nevertheless, in contradiction to the above studies, other literatures document that long audit engagement is

positively related to auditor independence, as it allows auditors to gain more client-specific knowledge, and gain expertise on the client's accounting system, which eventually increases the effectiveness of audit produces (F. A. Gul, Fung, & Jaggi, 2009; Johnson et al., 2002).

## **2.2 Audit Tenure and Audit Quality**

When an auditor fails to modify the opinion on materially misstated financial statements, this is considered an audit risk. DeAngelo (1981) argues that audit quality is the market-assessed joint probability of an auditor to detect and report material misstatements and irregularities of clients' financial reports. The definition of audit quality can be structured in two parts. The first part is the ability and competence of auditors to detect material misstatements. The second part is the willingness to report such material misstatements. Hence, the competence and independence of an auditor is essential for high quality audits. Collectively, Titman and Trueman (1986) and Beatty (1989) define audit quality in terms of the accuracy of financial information presented by auditors in audit reports. Palmrose (1988) defines audit quality as the probability of financial statements containing no material misstatements. Moreover, Davidson and Neu (1993) define audit quality as the ability of an auditor to identify and rectify misstatements and irregularities in companies' reported earnings. Therefore, a high quality auditor is expected to provide a high assurance audit.

### **2.2.1 Short Audit Tenure**

Many empirical results suggest that short audit tenure is associated with a higher level of audit failures. Client-specific knowledge (accounting system, operating process, structure of internal control) is crucial for auditors to conduct an effective audit. Auditors are less

likely to gain all critical information in a short tenure and this increases the possibility of relying on client estimations, and ultimately results in a lower audit quality. Loebecke et al. (1989) find evidence that nearly one quarter of irregularities occur during a new audit client. The likelihood of getting lawsuits against auditors in early years of audit engagement is higher than in later years. This is due to short tenure auditors are more likely to fail to detect erroneous financial statements, and have less willingness to disclose those errors (Stice, 1991). Beasley et al. (2000) also find that 38 percent of their sample of SEC enforcement actions against auditors were in relation to initial audits. From a financial reporting quality perspective, short audit tenure is associated with less issuance of going-concern opinion before client bankruptcy (Geiger and Raghunandan, 2002), and is associated with a higher level of unexpected accruals and a lower accrual persistence (Johnson et al. (2002). Similarly, Carcello and Nagy (2004) document a higher likelihood of fraudulent reporting in initial years of auditor-client relationships. Iyer and Rama (2004) find that a client is more likely to persuade auditors to accept their position in the context of an accounting disagreement when they are still in the period of recovering the high start-up cost.

Although there is much research showing the negative effect of short audit tenure on audit quality, a few studies reveal opposite results. In instance, Casterella et al. (2002) find that audit failures are less likely to occur when auditor tenure is short. Collectively, Stanley and Todd DeZoort (2007) find that the likelihood for auditors to issue financial statement restatements is relatively high in the initial years of an audit engagement. Both studies are indicating that in short tenure auditors have a higher level of independence.

### **2.2.2 Long Audit Tenure**

The impacts of long tenure on audit quality are always arguable. Some empirical evidences indicate problematic audits are less likely to occur with returning auditors, which means audit service provided by long-tenured auditors assures higher audit quality. Long audit engagement enables auditors to have superior client specific knowledge and have expertise in the client accounting system. Thus, such auditors are much more effective in detecting irregularities and material errors, and thus reduce the chance of relying on client estimations (F. A. Gul et al., 2009; Johnson et al., 2002). Myer et al. (2003) suggest long audit tenure is associated with less dispersion in distributions of discretionary accruals, and have greater constraints on both income-increasing and income-decreasing discretionary accruals. Ghosh and Moon (2005) also conclude that audited financial statements are viewed as more reliable for clients with long audit tenure by showing evidence of higher investor perceptions of earning. Likewise, Gunny et al. (2007) point out that a lower degree of serious audit deficiencies is associated with longer tenure, and Lee et al. (2009) also conclude that long audit tenure decreases audit report lags with more effective audits of audit engagement over a longer period.

Nevertheless, there are also substantial bodies of literature show that long audit tenure reduces auditor mentioning strength. As audit tenure lengthens, it creates a level of closeness between auditors and clients, and allows auditors to switch their audit attitudes and being more relaxed, therefore, reduce the willingness to report detected misstatements and material errors. In addition, the over familiarity between auditors and a management board also leads to inevitable client pressures in the situation of audit conflict (Geiger & Raghunandan, 2002; Nasser et al., 2006). More interestingly, management may even make a personal appeal for understanding and support to take advantage of auditors' conflicts (Li, 2008). Consequently,

Auditor independence diminishes both consciously and non-consciously. Therefore, proponents of mandatory auditor rotation advocate that changing auditors can bring in a fresh new eye on management and create a clearer atmosphere between auditors and clients, enhancing the objectivity of auditors, and the following studies support the above viewpoints. Vanstraelen (2000) finds that in long audit tenure, both financially and non-financially distressed companies are associated with a higher likelihood of issuing unqualified reports. Casterella et al. (2002) studied the effect of audit tenure on fraud, auditor litigation, and auditor reporting before bankruptcy. They conclude that there is a negative relationship between audit tenure and audit quality. Lengthy audit tenure is found to be associated with a lower propensity to issue a going-concern opinion (Carey & Simnett, 2006; Choi & Dooger, 2005; Knechel & Vanstraelen, 2007), and an increasing discretionary accrual to meet earnings targets (Carey & Simnett, 2006; Davis, Soo, & Trompeter, 2009). Furthermore, long audit tenure also allows auditors to rely more on previous working papers or past experience with clients. That is, auditors become stale and view the audit work as simply a repetition of prior engagements. In summary, as stated by Shockley (1982), the effect of a long auditor-client relationship results in complacency, lack of innovation and reduced rigorous audit procedures, indicating a trade-off between long audit tenure and audit quality.

### **2.3 Audit Tenure and Market Response to Earnings Quality**

Regulators and analysts are concerned that auditors allow clients to meet or beat forecasted earnings when tenure length is increased because auditors are able to tolerate more in earnings management. Existing studies employ various proxies to capture different manifestations of earning quality as there is no common definition in literature for earnings quality and no direct observation for earning quality.

Discretionary accrual is commonly used as a proxy for earnings quality. The following are the recent studies which investigate the relationship between audit tenure and earnings quality, using accruals as a proxy. In particular, Johnson et al. (2002) find that short audit tenure is associated with a high level of absolute unexpected accruals, and no significant difference in discretionary accruals is found in medium and long audit tenure. In addition, Myers et al. (2003), Chung and Kallapur (2003) and Gul et al. (2009) also find evidence that earnings quality suffers with short audit tenure, suggesting the lengthier the audit tenure is, the more effective auditors are in restricting earnings management. In contrast, evidence from Taiwan shows a negative relationship during the initial year in audit tenure and discretionary accrual because of the “learning effect”, but later the relationship becomes positive because auditors become “excessively familiar” with clients (Chi & Huang, 2005). In general, there is a limitation associated with the use of discretionary accruals, assuming that all the discretionary accruals have been used as an accounting technique for opportunistic earnings management (Mascarenhas, Cahan, & Naiker, 2010). In fact, in addition to opportunistic earnings, discretionary accruals can also make earnings more informative when it conveys managers’ private information on a firm’s operation of future cash flow and potential profitability (Healy, 1993; Subramanyam, 1996). In other words, this is a way of smoothing the time profile of earnings to make income less variable (Fudenberg, 1995). Also, income smoothing is able to diminish the inconsistency of earnings and make earnings easier to predict for market participants (Chaney, 1996). For example, Tucke and Zarowin (2006) find that there is a stronger relationship between current stock prices and the future earnings response coefficient when earnings have been smoothed by discretionary accruals. This suggests that managers communicate their private information efficiently to market participants using discretionary accruals.



Earnings response coefficient (ERC) is another common proxy to measure the perception of earnings quality. ERC measures the extent of stock market responses to unexpected earnings. Since the underlying true earnings of a firm is not able to be observed directly by investors, they can only rely on external auditors to ascertain whether reported earnings conform with the relevant accounting principles to assure the reliability of financial figures. More skilful auditing is presumed to have a higher conformance between reported earnings and GAAP (Li, 2007). After the issuance of a financial statement by a high quality auditor, investors perceive a higher quality of reported earnings, and hence, they have a stronger response to unexpected changes in reported earnings. This explains why ERC is high when a firm engages a skilful auditor. Ghosh and Moon (2005) find a positive association between investor perception of earnings quality and audit tenure; longer audit tenure is associated with greater earnings response coefficients. This finding indicates that investors and information intermediaries perceive earnings quality to be of increased quality with extended audit tenure. Balsam et al. (2003) focus on auditor industry specialisation to investigate the absolute level of discretionary accrual and earnings response coefficient. They conclude that clients of industry specialist auditors have lower DAC and higher ERC in comparison to clients of non-industry specialist auditors.

## **2.4 Big Four Auditors**

In general, the public perceives that Big 4 auditors have higher auditing quality than non-Big 4 auditors. However, the effectiveness of an audit and the ability to rectify irregularities vary with the quality of auditors. Auditors with high audit quality, such as Big 4 auditors, are able to detect, rectify and report asymmetric information in a more timely fashion in comparison with auditors of lower quality. Big 4 auditors have greater experience,

and larger investments in audit systems, as well as an industry focus. Big 4 auditors are expected to have high audit quality and to provide the best quality of audit service compared with auditors in the industry. The reputation of the brand name also lends credibility to their audited reports.

The sample of this study excludes the clients of non-Big 4 audit firms as a way of mitigating the influence of variable quality on the results. The observable characteristics of specialised training, accreditation of reputable agencies and peer review of Big N auditors enable investors to perceive a higher audit quality (Dopuch & Simunic, 1982). Palmore (1988) finds that Big N auditors are less likely to experience litigation than non-Big N auditors. The result suggests that the audit quality of Big N auditors is higher and less faulty. In addition, Big N auditors are also consistent with a higher return on an initial public offering than non-Big N auditors (Beatty, 1989). Recent research has documented a positive association between Big N auditors and earnings quality. Teoh and Wong (1993) argue that high quality auditors are able to provide a more credible financial report, and find that the earnings response coefficient of Big 8 clients are significantly higher than the clients of non-Big 8 auditors. The superior knowledge of Big N auditors and the motive of brand name protection results in Big N auditors being better at detecting opportunistic misstatements and reporting them subsequently (Becker et al., 1998; Reynolds and Francis, 2000). Therefore, clients of brand name auditors are also associated with lower discretionary accruals (Francis et al., 1999).

## **2.5 Existing research in New Zealand**

There is a numbers of audit related research in New Zealand. Most of the studies are in the areas of non-audit services (NAS) fees and auditor industry specialisation, and some of the research is briefly reviewed below.

Hay et al. (2006) study the association between NAS fees and issuance of going concern opinions, but find no significant association between these two due to the small market in the country for auditing and consulting services, and the existence of complex relationships. Cahan et al. (2008) investigate the relationship between growth in non-audit fees, client importance, and earnings management. They find no association between the growth in NAS fees or audit tenure and discretionary accruals, but do find supportive evidence that the interaction between NAS fees and client importance is significantly and positively related to discretionary accruals. Zhang and Emanuel (2008) also study the association between non-audit services and earnings conservatism. The findings show that earnings conservatism does exist in New Zealand, but do not show a negative relationship between NAS and earnings conservatism, which suggests that the provision of non-audit services does not undermine auditor independence.

Hay and Jeter (2011) find that fee premiums to specialist auditors do exist. They also find that most of the premiums are paid by larger firms and by low risk firms. Habib and Bhuiyan (2011) study the association between auditor industry specialisation and the Audit Report Lag (ARL) at national level and city level specialisation, and find that ARL is shorter for a client audited by industry specialist auditors than by non-specialist auditors. The study of further documents shows that after the adoption of International Financial Reporting Standards (IFRS), ARL has increased for all firms except those firms audited by industry specialist auditors.

There is no previous research in the study of audit tenure on earnings quality in the New Zealand market. Therefore, this study seeks to contribute to this area by investigating the association between audit tenure and discretionary accruals. An additional objective is to investigate the impact of audit tenure on ERC.

## **Hypotheses Development**

The length of audit tenure is a critical factor influencing auditor independence, and it ultimately influences audit quality. The popular proposal to favour short audit tenure or early audit engagement is misguided. Short audit tenure impairs auditor independence, lack of client-specific knowledge and unfamiliarity in accounting systems leads to overall low audit quality. Meanwhile, findings of auditing literatures conclude that auditor independence also increases with audit tenure, because of the learning curve for newly engaged auditors, increases in understanding of clients' unique knowledge, and auditor brand name protection. All of these factors enable auditors to conduct effective audits and maintain a high motive for detecting and reporting errors and misstatements, and thus audit quality is high. In practice, clients are less willing to change auditors and this can potentially decrease the pressure of auditors to compromise their audit independence. From a client perspective, changing auditors is very costly, especially in the event of auditor-client disagreement. Hence, even when clients believe an auditor is being very conservative in reporting financial information, clients still have a strong incentive not to change auditors. To put it another way, from an auditor perspective, they also have less incentive to compromise their independence when tenure increases, because they know it is costly for a client to switch (Cahan et al., 2008). In summary, it is expected that when audit tenure is positively correlated with audit quality, and

indicating high earnings quality, the market reacts positively to reported earnings with a positive earnings response coefficient. However, an alternative view suggests that earnings of firms with long-tenured auditors are of low quality and may have a negative association with return, subject to the level of closeness between auditor and client. This decreases the willingness of an auditor to report any material misstatements they have found and also results in inevitable client pressures in audit disagreements. Moreover, the deep understanding of client-specific knowledge and the previous audit experiences gained from clients is likely to decrease auditors' alertness during aggressive accounting choices. This situation allows auditors to view their audit as a simple repetition of previous work and rely heavily on previous working papers. Therefore, earnings quality is expected to be either negatively or positively associated with audit tenure.

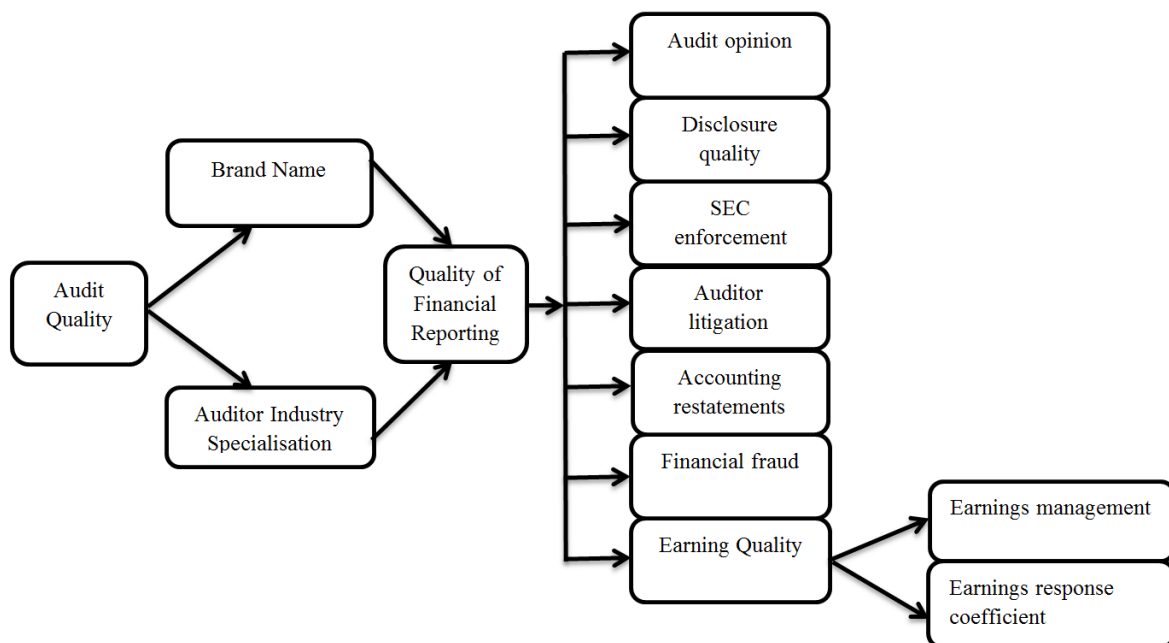
The following testable hypothesis is developed:

***H<sub>1</sub>: Earning quality, proxied by the earnings response coefficient, is associated with audit tenure.***

The left hand side of Figure 1 (adopted from Balsam et al. 2003) shows that audit quality can be measured in two ways, either through auditor brand name or auditor industry specialisation. Both measurements show audit quality is positively correlated with reported financial quality. This study focuses on Big 4 audit firms as representative of quality financial statements. Consistent with prior studies, it is argued that when firms are audited by Big 4 auditors, the quality of financial reporting is higher than those firms engaged with non-Big 4 auditors. Big-4 auditors are being perceived to be of higher quality, that is, higher audit independence and competence (Becker et al, 1998; Reynolds & Francis, 2000; Francis et al, 1999). Auditors of a higher quality are more likely to drop clients with low earnings quality.

They are also more likely to report errors, irregularities and frauds which are detected during the audit engagement, because they have a low tolerance for questionable accounting methods. Auditors with high quality also have a market-based incentive to maintain their integrity and objectivity. Any potential loss can have a significant influence on their reputation and therefore provides a strong motivation for an auditor to remain highly independent.

**Figure.1**



(Balsam et al, 2003)

The right hand side of the Figure.1 (adopted from Balsam et al, 2003) shows the various ways to measure audit quality, through the issuance of going concern opinion (Carey & Simnett, 2006; Choi & Dooger, 2005; Knechel & Vanstraelen, 2007), disclosure quality (Dunn & Mayhew, 2004), SEC enforcement (Beasley et al. 2000), auditor litigation (Newman, Patterson, & Smith, 2005), restatement of financial statements, and mitigation of accounting frauds (Casterella et al. (2002), earnings quality (Teoh and Wong, 1993; Balsam

et al. 2003). For earnings quality, discretionary accruals and the earnings response coefficient can be used as proxies to measure earnings quality. Some of researchers argue that a higher quality of audit is able to decrease the perceived uncertainty and noise in the reported earnings which eventually results in a higher earnings response coefficient. Prior studies have documented that earnings quality suffers with short audit tenure because earnings are associated with a high level of discretionary accruals (Johnson et al, 2002; Myers et al, 2003, Gul et al, 2009). Market react negatively to earnings, as they believe that the effect of low balling and lack of client knowledge decreases auditors' ability to detect opportunistic earnings in short audit tenure. In addition, some studies provide evidence that earnings quality is positively correlated with tenure. Land and McNichols (1999) and Imhoff and Lobo (1992) find that high audit quality is associated with an increased earnings response coefficient. Long-tenured auditors are more likely to place restrictions on a client's opportunistic earnings, because of their superior client-specific knowledge and expertise in accounting systems. Hence, a reduced dispersion of discretionary accruals is associated with long tenure (Myer et al, 2003). Therefore, the market perceives the quality of earnings as high and places a positive value on earnings. Nevertheless, some alternative views suggest a negative association between earnings quality and audit tenure. Carey and Simneet, (2006) and Davis et al. (2009) find that long audit tenure increases the possibility for clients to use discretionary accruals to beat or meet the earnings forecasts. Again, the level of closeness and familiarity between auditor and client management decreases auditor monitoring strength to allow opportunistic earnings. Consequently, market reacts negatively to the reported earnings as they believe that earnings quality is doubtful when the auditor-client relationship is of long-standing.

In accordance with the above findings, hypothesis 2 is structured as follows:

***H<sub>2</sub>: Market pricing of earnings components is conditional on audit tenure.***

## Research Design

### 4.1 Perception of investors on audit tenure and earnings

This study first examines the relationship between investors' perception of earnings quality and audit tenure. The following regression models are being used:

$$RET = \beta_0 + \beta_1 E + \beta_2 \Delta E + \beta_3 Tenure + \beta_4 Tenure * E + \beta_5 Tenure * \Delta E \dots \dots \dots \text{Model 1}$$

$$RET = \beta_0 + \beta_1 E + \beta_2 \Delta E + \beta_3 Tenure + \beta_4 Tenure * E + \beta_5 Tenure * \Delta E + \beta_6 Size + \beta_7 Loss + \beta_8 Lev + \beta_9 Grow + \beta_{10} Size * E + \beta_{11} Size * \Delta E + \beta_{12} Loss * E + \beta_{13} Loss * \Delta E + \beta_{14} Lev * E + \beta_{15} Lev * \Delta E + \beta_{16} Grow * E + \beta_{17} Grow * \Delta E + \varepsilon \dots \dots \text{Model 2}$$

*RET* is the total adjusted annual stock return in a fiscal year. *E* is the income before extraordinary items, and  $\Delta E$  is the difference in income before extraordinary items for the current year and the previous year. Size, loss, leverage and growth of the company are included as control variables, because a firm's earnings are associated with different characteristics of the firm. Previous studies find those factors are related to earnings accruals, such as Becker et al. (1998), Francis and Krishnan (1999).

### 4.2 Perception of investors on audit tenure and earning components

This study later looks into the relationship between audit tenure and earnings management, because reported earnings equal accruals plus cash flow. Earnings management is a strategy used by a company to deliberately manipulate earnings, through either downward or upward adjustment of reported earnings (especially with accruals) by choosing accounting policies which achieve the specific objectives of client management. This behaviour could have a significant impact on the financial information provided to the public, for example, a large amount of absolute discretionary accrual may indicate a low earnings



quality. Modified Jones Models (1995) is being considered as the best model to measure discretionary portion of total accruals, and hence the total accrual is formulated as follows:

$$TACR_t/A_{t-1} = \alpha_0 (1/A_{t-1}) + \alpha_1 ((\Delta REV_t - \Delta REC_t)/A_{t-1}) + \alpha_2 (PPE_t/A_{t-1}) + \varepsilon_t \dots \dots \dots \text{Model 3}$$

Where *TACR* is the total accrual, defined as earnings minus cash flows from operations, *ΔREV* is the total revenue in year *t* less in year *t-1* divided by total assets in year *t-1*. *PPE* is the gross property, plant and equipment in year *t*. *A* represents total assets; *ε* is residual and represents *DACR*. All variables are scaled by total assets.

Thereafter, the absolute value of discretionary accruals is able to be computed as below:

$$Abs(DACR) = Abs(TACR_t/A_{t-1} - \alpha_0(1/A_{t-1}) - \alpha_1((\Delta REV_t - \Delta REC_t)/A_{t-1}) - \alpha_2(PPE_t/A_{t-1})) \dots \text{Model 4}$$

The regression of the second hypothesis is presented as follows with the estimated absolute value of discretionary accruals (DACCR) for each firm in year *t* and control variables:

$$RET = \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF + \beta_4 Tenure + \beta_5 Tenure * DACR + \beta_6 Tenure * NDACR + \beta_7 Tenure * OCF \dots \dots \dots \text{Model 5}$$

$$RET = \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF + \beta_4 Tenure + \beta_5 Tenure * DACR + \beta_6 Tenure * NDACR + \beta_7 Tenure * OCF + \beta_8 Size * DACR + \beta_9 Loss * DACR + \beta_{10} Lev * DACR + \beta_{11} Grow * DACR + \beta_{12} Size * NDACR + \beta_{13} Loss * NDACR + \beta_{14} Lev * NDACR + \beta_{15} Grow * NDACR + \beta_{16} Size * OCF + \beta_{17} Loss * OCF + \beta_{18} Lev * OCF + \beta_{19} Grow * OCF + \varepsilon \dots \dots \dots \text{Model 6}$$

Where NDACCR is the absolute value non-discretionary accrual, calculated as total accrual minus discretionary accrual (DACCR), OCF is the cash flow from operations scaled by total assets. Similar to Becker et al. (1998) and Reynolds and Francis (2000), this model includes firm size and operating cash flow as control variables which can influence discretionary accruals. Leverage is also included, as prior research has indicated that there is a high incentive for a firm to manipulate earnings when the firm is associated with a high level of debt (Reynolds & Francis, 2000; Watts & Zimmerman, 1986).

## **Explanation of variables**

### **Return (Ret):**

Return variables can be calculated using the following model,

$$Ret = \frac{TRI_t - TRI_{t-1}}{TRI_{t-1}}$$

*Ret* in this study is being used as an indicator for the changes in market return of companies. *TRI* is short for Total Return Index; the values of *TRI* are extracted from DataStream, and have been adjusted to three months times after company's fiscal year end date, to allow for delayed responses from investors to the published earnings due to the lag between actual the financial year end date and the date of the financial report being issued. Using the difference between closing *TRI* and opening *TRI*, and divided by opening *TRI*, the change of company's earning is derived.

### **Earnings (E):**

Earnings is calculated use the following method,

$$EARN = \frac{EPS\ t}{Share\ Price\ t-1}$$

*EARN* represents the earnings of the company *i* in time *t*. *EPS* is calculated by the total amount of Net income after tax in annual reports divided by total number of shares, and over the beginning share price.

### **Audit Tenure (Tenure):**

Audit tenure is the number of years a particular audit firm provides an audit service to the same client. An audit service period of three years or less provided by one audit firm is considered as short tenure. An audit service period of four years or more can be treated as long audit tenure. *Tenure* is a dummy variable; it takes a value of 1 if audit tenure is long, otherwise it has a value of 0.

### **Firm Size (Size):**

The size of the company is being included as a control variable and can be measured by using the natural logarithm of the fiscal year end market value of equity for the companies. The inclusion of size can be motivated by the political cost theory. This explains the phenomenon by which the managers of a large, politically sensitive company are more likely to reduce political costs by exploiting latitude in accounting, and this eventually impacts on earnings quality (Ghosh and Moon, 2005).

**Loss (Loss):**

Loss is used as a control variable as it is expected that any negative earnings can have an impact on an investor's perception of company performance, and make investors cautious about those companies which have reported a loss. Prior research shows that ERC is negatively affected when a company reports a loss in a financial statement (Hayn, 1995). Therefore, the Loss variable is used to account for incidences of change in ERC for negative earnings.

**Leverage (Lev):**

Leverage is the ratio of total debt to total assets of the company. When firms have a high level of leverage, management are more likely to supply latitude accounting figures to potential debt-covenant violations (DeFond & Jiambalvo, 1994). Previous studies show that high leverage always results in low ERC; this is because a higher portion of debt may imply that company finance is contributing heavily to repayments. It thus has a potential negative impact on investor return.

**Growth (Grow):**

Growth is the ratio of market value of equity to book value of equity. The ratio indicates that the higher the market to book ratio, the higher the estimated growth for the company. Hence, this variable contributes positively to earnings for incidences of positive ERC.

## Sample

The population of interest for this study focuses on 105 listed companies in the New Zealand Stock Exchange (NZX). The time period spans from 2002 to 2009. Fourteen financial institutions are excluded from the sample as they use different rules and regulations and have different market characteristics. Therefore, their inclusion would have resulted in earnings and market behaviour which is inconsistent with the other companies. This study is narrowed down to companies audited by Big 4 audit firms; non-Big 4 auditors were excluded due to audit quality variation. Further twenty-one companies thereafter were excluded from the sample. Hence, only sixty-five companies are taken into consideration with a total 357 firm-year observations after excluding the delisted companies on the New Zealand Stock Exchange and any missing value. Other data on sales, net profits, total assets and debts was collected from *NZX Deep Archive*, and data on return, numbers of shares and earnings per share was collected from *DataStream*.

## Empirical results and Analysis of the Research

### 7.1 Perceptions of investors on audit tenure and earnings

#### Descriptive statistics

Table 1 Panel A shows the descriptive statistics for dependent variable *Ret* and other independent variables used in this study. Mean of *Ret* is 0.096 with a median of 0.085. The average (median) *E* is 0.079 (0.073). Change in earnings shows a mean with negative value of -0.018 and median of -0.007, which indicates that on average the earnings of a firm in the current year decreases 1.8% in comparison to earnings of the previous year. The average size

of a firm shows a mean of 5.275 and the average market to book ratio is 2.149 (*Growth*); 11.8% of the sample observations report negative earnings (*Loss* with a mean of 0.118).

The correlation among variables is presented in Table 1 Panel B. The association between *Ret* and *E* shows a positive correlation of 0.449 and is statistically significant at the 0.01 level; *Ret* also positively correlates to change in *E* and is significant at the level of 0.01. Correlation between *Ret* and *Size*, *Ret* and *Grow* show positive values of 0.162 and 0.079, respectively, but the correlation of *Ret* and *Grow* is not statistically significant. These results imply that size and growth have a positive impact on earnings of the firm, and hence, as expected, the combined variables of *Size\*E* and *Grow\*E*, *Size\*ΔE* and *Grow\*ΔE* might play critical roles in denoting the earnings of clients. In addition, *Loss* and *Lev* are both significantly and negatively correlated with *Ret* with values of -0.346 and -0.135, respectively. As expected, these two correlations imply a lesser return when a company reports negative earnings and has a higher level of debt. *Loss* also reveals a significant negative correlation with change in earnings and size (0.212 and -0.277), suggesting that negative earnings are restricting on a firm's ability for growth, and resulting in a significant increase in leverage ratio. Moreover, this also suggests that the combined variables of *Loss\*E* and *Lev\*E*, *Loss\*ΔE* and *Lev\*ΔE* can have a negative effect on company earnings.

A univariate test using *Tenure* to partition the samples into long tenure and short tenure is presented in Panel C of Table 1. The results suggest that in long audit tenure the return on average (0.096) is slightly lower than the return in short tenure (0.097) and the difference is significant. The mean of earnings and change in earnings for long tenure is also slightly lower than the firms engaged in a short term auditor-client relationships, with a mean difference of 0.047, but this is not significant. Moreover, firms in long auditor-client engagement generally report a greater loss, lesser borrowing and higher growth than those with a short-term audit service. The difference may imply that under the long term

supervision of auditors, the earnings of a client company are more likely to reflect the reality of a firm's performance.

### **Regression results and analysis**

The study first examines the association between investor perception of earnings quality and audit tenure without control variables (Model 1). The results reported in Table 2 show an adjusted R-square value of 0.210 which indicates that the independent variables explain 21% of the variations in the dependence variables *Ret*. The coefficient of *E* and  $\Delta E$  are both positively correlated with returns with values of 0.191 and 0.043 respectively, but they are not statistically significant with p-values greater than 0.05 level of significance. The sum of the coefficient on *E* and  $\Delta E$  or ERC is 0.234 ( $0.191 + 0.043 > 0$ ) means the reported earnings (*E* and  $\Delta E$ ) are positively associated with returns (*Ret*), indicating that the capital market perceives the earnings quality as high and has a positive reaction to the earnings. More importantly, the interest of this section is to test how audit tenure affects the association within earnings and returns. Therefore, the focus is on the sign and magnitude of the sum of the coefficient on *Tenure*\**E* and *Tenure*\* $\Delta E$ . As reported in Table 2, the magnitude of the coefficients is 0.310 with positive a sign ( $0.274 + 0.036 > 0$ ), with t-value of 2.246 ( $1.956 + 0.290$ ). The regression estimates on *Tenure*\**E* suggests investors pay a premium of 1.325% ( $0.310/0.234$ ) for earnings for an additional year's increase in audit tenure. The finding is consistent with prior studies in having a positive association between audit tenure and return, indicating that investors perceive a higher level of earnings quality, and thus the market reacts positively to reported earnings, ERC is high.

**Table.1****Panel A: Descriptive Statistics for Pooled Sample**

Variables	Mean	Median	Max	Min	SD	N
Ret	0.096	0.085	1.635	-0.742	0.395	356
E	0.079	0.073	0.944	-0.351	0.162	356
$\Delta E$	-0.018	-0.007	0.606	-0.820	0.162	356
Size	5.275	5.263	7.063	3.309	0.765	356
Loss	0.118	0.000	1.000	0.000	0.323	356
Lev	0.220	0.220	0.792	0.000	0.170	356
Grow	2.083	1.490	8.826	0.157	1.754	356

**Panel B: Pairwise Correlation Matrix**

Variables	Ret	E	$\Delta E$	Tenure	Size	Loss	Leverage	Growth
Ret	1.000	0.449**	0.166**	0.000	0.162**	-0.346**	-0.135*	0.079
E		1.000	0.268**	-0.085	0.122*	-0.544**	-0.094	-0.163**
$\Delta E$			1.000	0.024	0.008	-0.212**	-0.052	0.036
Tenure				1.000	-0.169**	0.030	-0.091	0.032
Size					1.000	-0.277**	0.231**	0.283**
Loss						1.000	-0.040	0.095
Lev							1.000	0.140**



**Panel C: Univariate tests**

Variable	Long Tenure = 1		Variable	Short Tenure = 0		Mean differ	t- Stat
	Mean	SD		Mean	SD		
Ret	0.096	0.399	Ret	0.097	0.362	-0.001	-0.008
E	0.075	0.152	E	0.121	0.231	-0.047	-1.152
$\Delta E$	-0.017	0.149	$\Delta E$	-0.030	0.257	0.013	0.289
Size	5.233	0.756	Size	5.672	0.741	-0.439	-3.28**
Loss	0.121	0.327	Loss	0.088	0.288	0.033	0.625
Lev	0.215	0.171	Lev	0.267	0.151	-0.052	-1.895
Grow	2.102	1.770	Grow	1.910	1.612	0.192	0.654
N	322		N	34			

\*\* represents correlation significant at the 0.01 level (2-tailed)

\* represents correlation significant at the 0.05 level (2-tailed)

**Ret** is the return of earnings, and being used as an indicator for the changing in market return for companies.

**E** is the income before extraordinary items.

$\Delta E$  is the difference of income before extraordinary items for current year and previous year.

**Tenure** is a dummy variable; it takes a value of 1 if audit tenure is long, otherwise with a value of 0.

**Size** is the natural logarithm of the fiscal year end market value of equity for the companies.

**Loss** is a dummy variable; it takes a value of 1 when earnings are negative, otherwise with a value of 0.

**Lev** is the ratio of total debt to total assets of the company, is the financial leverage.

**Grow** is the market value of equity to book value of equity.

Model 2 is an expansion of Model 1, bringing in control variables. The results under Model 2 in Table 2 shows the adjusted R-square of 0.262, suggesting the explanatory power of the dependent variables is increased to 26.2% compared to Model 1. On considering the control variables the coefficient of *E* is no longer positively associated with *Ret* and results in a negative relationship with a coefficient value of -0.696 and t-value of -1.340, because of the multi-collinearity between variables.  $\Delta E$  stays positively related to return and is significant with a coefficient of 1.027 and t-statistic of 2.126. The sum of the coefficient on *E* and  $\Delta E$  (ERC) gives a value of 0.331; again, indicating the reported earnings is positively associated with returns. The sum of the coefficient on *Tenure*\**E* and *Tenure*\* $\Delta E$  remains positive 0.290 (0.327+-0.037), and has a t-value of 1.946 (2.228+-0.282). The parameter suggests that, after

controlling for the other characteristics of the firms, the premium pay to investor has changed to 0.876% (0.290/0.331) for earnings for an extra year's increase in audit tenure. Although the magnitude of the sum of the coefficient on  $Tenure * E$  and  $Tenure * \Delta E$  is smaller than in Model 1, the result continues to be positive and significant.

Easton and Harris, (1991) and Ali and Zarowin, (1992) point out that for pricing decision-making, earnings levels (earning changes) are more important, especially when earnings contain transitory (permanent) components. Therefore, the components of ERC ( $E$  and  $\Delta E$ ) provide insights in regards to the perception of the investor on the time-series of earnings, and this suggests that investors perceive both transitory and permanent components as having an effect on reported earnings. Similarly, the coefficient on  $Tenure * E$  in both models is larger than the coefficient on  $Tenure * \Delta E$ . The results also indicate that, as audit tenure lengthens, investors perceive the reported earnings as more likely to be transitory.

The coefficient of financial leverage  $\beta_8$  shows a statistically significant association with returns at a 5% level of significance with a value of -0.130 and t-value of -2.296. The negative relationship suggests that any decrease in leverage ratio results in a positive response in return. This can be explained as the level of investors' confidence being compromised when a company incurs a higher amount of debt. As the company increases the amount of borrowings, it thereby increases the liability and risk to the company which ultimately has an effect on future earnings. Growth  $\beta_9$  with a p-value of 0.003 indicates a statistically significant positive association with  $Ret$ , with a coefficient value of 0.173 and t-statistic value of 3.037. This positive relationship implies that a company with faster growth will generate greater profit and thus lead to a better return, as a higher growth rate can be seen as an indicator of better performance. Among the combined variables, the results show that ERC does not vary with loss, leverage and growth of firms, since the sum of coefficients on the variables are all insignificant in association with  $Ret$ , except for the size of firms. The

sum of the coefficient on  $Size*E$  and  $Size*\Delta E$  is -0.291 ( $\beta_{10} + \beta_{11}$ ), the negative and significant relationship indicates that the ERC is lower for bigger clients. This finding is inconsistent with existing research. Prior studies document that the ERC is positively correlated with size and growth, and negatively associated with loss and leverage.

From the above analysis, the overall findings in Model 1 and 2 are consistent with hypothesis 1: the positive earnings response coefficient indicates the investors of the New Zealand capital market react positively to the reported earnings of firms with long audit tenure, because they believe that auditors are able to bring in a higher quality of audit in a long term auditor-client engagement, and the ultimate earnings quality will be higher.

## **7.2 Perception of investors on audit tenure and earnings managements**

### **Descriptive statistics**

Descriptive statistics for the independent variables of regressions models used in hypothesis 2 are reported in Panel A of Table 3. Again,  $Ret$  shows a mean of 0.096 which indicates that the average return on earnings of the sample population increases 9.6% each year, and the median is 0.085. The table shows the median of the absolute discretionary accruals is 0.154 and the value of mean is 0.196, indicating that discretionary accruals are 19.6 percent of total assets, 21.9% non-discretionary accrual are included in total assets ( $NDACR$  mean 0.219), whereas operation cash flow is only 6.2% of total assets ( $OCF$  mean 0.904).

**Table.2**

$$RET = \beta_0 + \beta_1 E + \beta_2 \Delta E + \beta_3 Tenure + \beta_4 Tenure * E + \beta_5 Tenure * \Delta E \dots\dots\dots \text{Model 1}$$

$$RET = \beta_0 + \beta_1 E + \beta_2 \Delta E + \beta_3 Tenure + \beta_4 Tenure * E + \beta_5 Tenure * \Delta E + \beta_6 Size + \beta_7 Loss + \beta_8 Lev + \beta_9 Grow + \beta_{10} Size * E + \beta_{11} Size * \Delta E + \beta_{12} Loss * E + \beta_{13} Loss * \Delta E + \beta_{14} Lev * E + \beta_{15} Lev * \Delta E + \beta_{16} Grow * E + \beta_{17} Grow * \Delta E + \varepsilon \dots\dots\dots \text{Model 2}$$

<b>Dependent Variable: Ret</b>							
		Pool Sample					
		Model 1			Model 2		
		Coeff.	t-Stat	p-Value	Coeff.	t-Stat	p-Value
Intercept	$\beta_0$	0.043	0.549	0.583	0.025	0.128	0.898
E	$\beta_1$	0.191	1.322	0.187	-0.696	-1.340	0.181
$\Delta E$	$\beta_2$	0.043	0.335	0.738	1.027*	2.126	0.034
Tenure	$\beta_3$	-0.025	-0.414	0.679	-0.034	-0.566	0.572
Tenure*E	$\beta_4$	0.274	1.956	0.051	0.327*	2.228	0.027
Tenure* $\Delta E$	$\beta_5$	0.036	0.290	0.772	-0.037	-0.282	0.778
Size	$\beta_6$				0.010	0.154	0.878
Loss	$\beta_7$				-0.153	-1.707	0.089
Lev	$\beta_8$				-0.130*	-2.296	0.022
Grow	$\beta_9$				0.173**	3.037	0.003
Size*E	$\beta_{10}$				0.751	1.631	0.104
Size* $\Delta E$	$\beta_{11}$				-1.042	-2.202	0.028
Loss*E	$\beta_{12}$				-0.002	-0.020	0.984
Loss* $\Delta E$	$\beta_{13}$				-0.112	-1.051	0.294
Lev*E	$\beta_{14}$				0.036	0.518	0.605
Lev* $\Delta E$	$\beta_{15}$				0.066	0.912	0.363
Grow* E	$\beta_{16}$				0.017	0.211	0.833
Grow* $\Delta E$	$\beta_{17}$				0.157	1.429	0.154
R Square		0.221			0.297		
Adj R Square		0.210			0.262		
F-Value		19.888			8.395		
p-Value		.000 <sup>a</sup>			.000 <sup>a</sup>		

\*\* represents correlation is significant at the 0.01 level (2-tailed)

\* represents correlation is significant at the 0.05 level (2-tailed)

**Ret** is the return of earnings, and used as an indicator for the changing in market return for companies.

**E** is the income before extraordinary items.

**$\Delta E$**  is the difference of income before extraordinary items for current year and previous year.

**Tenure** is a dummy variable; it takes a value of 1 if audit tenure is long, otherwise with a value of 0.

**Size** is the natural logarithm of the fiscal year end market value of equity for the companies.

**Loss** is a dummy variable; it takes a value of 1 when earnings are negative, otherwise with a value of 0.

**Lev** is the ratio of total debt to total assets of the company, is the financial leverage.

**Grow** is the market value of equity to book value of equity.

**Table.3****Panel A: Descriptive Statistics for Pooled Sample**

Variables	Mean	Median	Min	Max	SD	N
Ret	0.096	0.085	-0.742	1.635	0.395	356
DACR	0.196	0.154	0.002	3.659	0.273	356
NDACR	0.219	0.191	0.006	4.563	0.299	356
OCF	0.062	0.091	-5.200	0.423	0.357	356

**Panel B: Pairwise Correlation**

Variables	Ret	DACCR	NDACCR	OCF	Tenure
Ret	1.000	0.022	0.040	0.243**	0.000
DACR		1.000	0.938**	-0.518**	-0.038
NDACR			1.000	0.413**	0.006
OCF				1.000	-0.036
Tenure					1.000

**Panel C: Univariate tests**

Variable	Long Tenure = 1		Variable	Short Tenure = 0		Mean		
	Mean	SD		Mean	SD	Differ	t- Stat	p-value
Ret	0.096	0.399	Ret	0.097	0.362	-0.001	-0.008	0.276
DACR	0.193	0.278	DACR	0.228	0.214	-0.035	-0.881	0.530
NDACR	0.219	0.313	NDACR	0.213	0.107	0.006	0.255	0.570
OCF	0.058	0.374	OCF	0.102	0.084	-0.044	-1.722	0.321

\*\* represents correlation is significant at the 0.01 level (2-tailed)

\* represents correlation is significant at the 0.05 level (2-tailed)

**Ret** is the return of earnings, and being used as an indicator for the change in market return for companies.

**DACR** is the absolute value of discretionary accruals.

**NDACCR** is the absolute value of non-discretionary accruals.

**OCF** is the cash flow from operations scaled by total assets.

The correlation among variables in the regression models presented in Panel 2, *Ret* is positively associated with all *DACR*, *NDACR* and *OCF*. *Tenure* is negatively associated with absolute discretionary accrual (*DACR*) with a correlation value of -0.038, showing that, consistent with hypothesis 2, market pricing of earnings components is conditional on audit tenure; as audit tenure grows longer there is a lower level of absolute discretionary accrual in the reported earnings. Similarly, operating cash flows are also negatively correlated with discretionary accruals and are significant at a 1% level with a correlation value of -0.518. Moreover, the correlation between *NDACR* and *OCF* is also negative at a 1% level of significance.

The results of the univariate tests are reported in Panel C, and show that the mean of *DACR* is smaller for long audit tenure compared to short tenure with values of 0.193 and 0.228 respectively. Collectively, the mean of *OCF* in long audit tenure (0.058) is also smaller than the mean in short tenure (0.102). These results imply that a lower level of earnings management is associated with long audit tenure by having a lower level of discretionary accruals for opportunistic earnings, which suggests a higher level of quality in earnings. However, the evidence is not significant

### **Regression results and analysis**

This section shows the alternative measurement on earnings response coefficient using absolute value of discretionary accruals, and it first tests the market perception in the association between audit tenure and earnings components for the whole sample without the interaction of control variables. The results of Model 5 are presented in Table 4. Adjusted R-squared with a value of 0.110 gives the explanatory power for this regression is 11%. As reported in the table, a negative coefficient (-0.097) in *DACR* indicates a negative association

between the use of discretionary accruals and return, but this negative relationship is insignificant with a p-value of 0.733. Both *NDACR* and *OCF* are positively and statistically significant correlated with returns with p-values of 0.015 and 0.025 respectively, suggesting that an increase in non-discretionary accruals and operating cash flow can lead to an increase in return. *Tenure* here shows a positive relationship with a return at a 0.05 level of significance (p-value is 0.016), suggesting that the market believes the longer the audit tenure, the higher the quality of reported earnings. The coefficient on *Tenure\*DACR* is 0.712 and is significant at a 5% level. The positive coefficient implies that the market positively prices discretionary accruals of firms audited by long-tenured auditors, as investors believe that the use of discretionary accruals by management is for informative reasons rather than opportunistic reasons. *Tenure\*NDACR* with a 1% level of significance has a negative coefficient of -0.757. The negative relationship indicates lower non-discretionary accruals are being used by management to increase earnings, and subsequently, this can be a supportive evidence for the above finding that when investors believe discretionary accruals are being used for informative purposes, lower non-discretionary accruals will be used. Hence, the market prices *NDACR* negatively and it is significant to earnings when audit tenure gets longer. This finding is consistent with hypothesis 2 of the study, arguing that the market price of earnings components is conditional on audit tenure in the New Zealand stock market.

Similar to the tests of hypothesis 1, this model has also been expanded by adding control variables. The results are shown under Model 6 of the Table 4. *Tenure* is no longer significantly positively associated with returns with a p-value of 0.441. The interactive coefficient on *DACR\*TENURE* is positive but loses significance at the conventional significance level (p-value, 0.114). The table shows the negative coefficient on *Loss\*DACR* with a value of -1.893 at a higher than 0.1% level of significance, implying that a larger amount of discretionary accruals is being used to manage earnings when a firm reports a loss

with a low return. The regression model in full sample observations does not provide significant evidence that long audit tenure will necessarily lead to positive reaction to discretionary accruals.

This section of research later divides the total sample into long audit tenure and short audit tenure to test the individual effect of long and short tenure on earnings management and the market perception on reported earnings. Out of the total sample, 322 firm-year observations are in long audit tenure, and 34 firm-year observations are in short audit tenure, which is relatively small in the whole sample observed.

The results in the long audit tenure subsample are reported in Table 5, and show that The *DACR* coefficient is significantly positively correlated with the return, with a coefficient value of 0.627 and p-value of 0.004. This is in contrast to the *DACR* coefficient presented in the pool sample. Again, the positive coefficient indicates that the market positively prices discretionary accrual to earnings. Similarly, the sign of coefficient on *NDACR* is also contrary to the sign shown in the pool sample. Operating cash flow (*OCF*) continues to be positive and significant to the return. As a result, the sign of the coefficient on *DACR* and *NDACR* suggests that in long-term auditor-client engagements the market believes that the use of discretionary accruals is the signal for private information gained by managers to increase earnings in order to generate positive returns. Thus, the market reacts positively to earnings indicating a positive earnings response coefficient. As to the relationship between *DACR* and *Ret*, after interaction with control variables, *NDACR* and *Ret* lose their significance. This suggests that the use of discretionary accruals and non-discretionary accruals is not associated with return in long audit tenure, and the coefficient on *OCF* stays positive and significant to return with a value of 1.731 and p-value of 0.040. The results further reveal that the interaction between loss and discretionary accruals, operating cash flow (*Loss\*DACR*, *Loss\*OCF*) in relation to return is negative and statistically significant at



a 0.1% level with value of -2.002 and -1.304 respectively. The coefficient on *Loss\*NDACR* is still positive and significant to the return. Other control variables do not have a statistically significant influence on returns.

Table 6 gives the findings on the association between short audit tenure and earnings management, and the interactions with control variables. The explanatory power of the regression model 9 is 32.7% with an adjusted R-squared value of 0.327. Although *DACR* has a coefficient value of -0.083 and a p-value of 0.671, it is not significantly associated with returns when audit tenure is short. That means that in short audit tenure, discretionary accruals are negatively associated with returns. This suggests that the market prices discretionary accrual negatively. However, this evidence is not statistically significant. Non-discretionary accruals and operating cash flow once again play crucial roles in returns and hence influence market perception. They both have a significant positive association with returns. Moreover, the magnitude for the coefficient on *OCF* for short tenure is significantly smaller than that for long audit tenure. This finding suggests that the association between operating cash flow and returns is significantly weaker in a short auditor-client relationship. The expanded model 10 with control variable results is also reported in Table 6. The coefficients of *DACR*, *NDACR* and *OCF* do not show any significant relationship to the returns. The interactive terms with different control variables reveal no significant association between returns. This is due to the relatively small sample observation under short audit tenure.

#### Table.4

$$RET = \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF + \beta_4 Tenure + \beta_5 Tenure * DACR + \beta_6 Tenure * NDACR + \beta_7 Tenure * OCF \dots \dots \dots Model 5$$

**Table 4. Cont**

$$\begin{aligned}
RET = & \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF + \beta_4 Tenure + \beta_5 Tenure*DACR + \\
& \beta_6 Tenure*NDACR + \beta_7 Tenure*OCF + \beta_8 Size*DACR + \beta_9 Loss*DACR + \\
& \beta_{10} Lev*DACR + \beta_{11} Grow*DACR + \beta_{12} Size*NDACR + \beta_{13} Loss*NDACR + \\
& \beta_{14} Lev*NDACR + \beta_{15} Grow*NDACR + \beta_{16} Size*OCF + \beta_{17} Loss*OCF + \\
& \beta_{18} Lev*OCF + \beta_{19} Grow*OCF + \varepsilon \dots \dots \dots Model 6
\end{aligned}$$

Dependent Variable: Ret

		Pool Sample					
		Model 5			Model 6		
		Coeff.	t-Stat	p-Value	Coeff.	t-Stat	p-Value
Intercept	$\beta_0$	-0.456	-2.400	0.017	-0.310	-1.675	0.095
DACR	$\beta_1$	-0.097	-0.341	0.733	2.547	1.289	0.198
NDACR	$\beta_2$	1.340*	2.437	0.015	-1.617	-0.824	0.411
OCF	$\beta_3$	1.838*	2.257	0.025	2.359*	2.009	0.045
Tenure	$\beta_4$	0.346*	2.422	0.016	0.109	0.772	0.441
Tenure*DACR	$\beta_5$	0.712*	2.032	0.043	0.740	1.584	0.114
Tenure*NDACR	$\beta_6$	-1.757**	-2.966	0.003	-1.101	-1.673	0.095
Tenure*OCF	$\beta_7$	-1.439	-1.765	0.078	-0.617	-0.726	0.468
Size*DACR	$\beta_8$				-2.362	-1.345	0.179
Loss*DACR	$\beta_9$				-1.893**	-3.531	0.000
Lev*DACR	$\beta_{10}$				-0.060	-0.313	0.755
Grow*DACR	$\beta_{11}$				0.713	1.551	0.122
Size*NDACR	$\beta_{12}$				2.385	1.412	0.159
Loss*NDACR	$\beta_{13}$				1.437**	2.707	0.007
Lev*NDACR	$\beta_{14}$				-0.067	-0.333	0.739
Grow*NDACR	$\beta_{15}$				-0.796	-1.593	0.112
Size*OCF	$\beta_{16}$				-0.119	-0.179	0.858
Loss*OCF	$\beta_{17}$				-1.289**	-4.797	0.000
Lev*OCF	$\beta_{18}$				-0.016	-0.207	0.836
Grow*OCF	$\beta_{19}$				-0.123	-0.800	0.424
R Square		0.127			0.256		
Adj R Square		0.110			0.214		
F-Value		7.241			6.089		
p-Value		.000 <sup>a</sup>			.000 <sup>a</sup>		

\*\* represents correlation is significant at the 0.01 level (2-tailed)

\* represents correlation is significant at the 0.05 level (2-tailed)

**Ret** is the return of earnings, and being used as an indicator for the change in market return for companies.

**DACR** is the absolute value of discretionary accruals.

**NDACCR** is the absolute value of non-discretionary accruals.

**OCF** is the cash flow from operations scaled by total assets.

**Tenure** is a dummy variable; it takes a value of 1 if audit tenure is long, otherwise with a value of 0.

**Size** is the natural logarithm of the fiscal year end market value of equity for the companies.

**Loss** is a dummy variable; it takes a value of 1 when earnings are negative, otherwise with a value of 0.

**Lev** is the ratio of total debt to total assets of the company which is the financial leverage.

**Grow** is the market value of equity to book value of equity.

**Table.5**

$RET\_long = \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF$ ..... *Model 7*

$RET\_long = \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF + \beta_4 Size * DACR + \beta_5 Loss * DACR +$

$\beta_6 Lev * DACR + \beta_7 Grow * DACR + \beta_8 Size * NDACR + \beta_9 Loss * NDACR +$

$\beta_{10} Lev * NDACR + \beta_{11} Grow * NDACR + \beta_{12} Size * OCF + \beta_{13} Loss * OCF +$

$\beta_{14} Lev * OCF + \beta_{15} Grow * OCF + \varepsilon$ .....*Model 8*

Dependent Variable: Ret\_long

		Long Tenure					
		Model 7			Model 8		
		Coeff.	t-Stat	p-Value	Coeff.	t-Stat	p-Value
Intercept	$\beta_0$	0.009	0.318	0.751	-0.160	-3.520	0.000
DACR	$\beta_1$	0.627**	2.914	0.004	3.048	1.617	0.107
NDACR	$\beta_2$	-0.400*	-1.994	0.047	-2.662	-1.417	0.157
OCF	$\beta_3$	0.411**	6.083	0.000	1.731*	2.062	0.040
Size*DACR	$\beta_4$				-2.012	-1.071	0.285
Loss*DACR	$\beta_5$				-2.002**	-3.258	0.001
Lev*DACR	$\beta_6$				-0.157	-0.712	0.477
Grow*DACR	$\beta_7$				0.750	1.485	0.138
Size*NDACR	$\beta_8$				2.261	1.221	0.223
Loss*NDACR	$\beta_9$				1.526*	2.524	0.012
Lev*NDACR	$\beta_{10}$				0.005	0.022	0.982
Grow*NDACR	$\beta_{11}$				-0.820	-1.498	0.135
Size*OCF	$\beta_{12}$				-0.082	-0.115	0.908
Loss*OCF	$\beta_{13}$				-1.304**	-4.473	0.000
Lev*OCF	$\beta_{14}$				-0.007	-0.080	0.936
Grow*OCF	$\beta_{15}$				-0.139	-0.839	0.402
R Square		0.105			0.235		
Adj R Square		0.097			0.198		
F-Value		12.455			6.277		
p-Value		.000 <sup>a</sup>			.000 <sup>a</sup>		

**Table.6**

$RET\_short = \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF$ ..... *Model 9*

$RET\_short = \beta_0 + \beta_1 DACR + \beta_2 NDACR + \beta_3 OCF + \beta_4 Size*DACR + \beta_5 Loss*DACR +$

$\beta_6 Lev*DACR + \beta_7 Grow*DACR + \beta_8 Size*NDACR + \beta_9 Loss*NDACR +$

$\beta_{10} Lev*NDACR + \beta_{11} Grow*NDACR + \beta_{12} Size*OCF + \beta_{13} Loss*OCF +$

$\beta_{14} Lev*OCF + \beta_{15} Grow*OCF + \varepsilon$ .....*Model 10*

Dependent Variable: Ret\_Short

		Short Tenure					
		Model 9			Model 10		
		Coeff.	t-Stat	p-Value	Coeff.	t-Stat	p-Value
Intercept	$\beta_0$	-0.456	-3.018	0.005	-0.308	-1.788	0.091
DACR	$\beta_1$	-0.083	-0.428	0.671	5.366	0.878	0.392
NDACR	$\beta_2$	0.525**	3.063	0.005	-2.713	-0.822	0.422
OCF	$\beta_3$	0.472**	2.837	0.008	3.753	1.882	0.076
Size*DACR	$\beta_4$				-4.183	-0.656	0.520
Loss*DACR	$\beta_5$				-0.206	-0.553	0.587
Lev*DACR	$\beta_6$				-0.087	-0.156	0.878
Grow*DACR	$\beta_7$				-1.364	-1.830	0.084
Size*NDACR	$\beta_8$				2.723	0.721	0.480
Loss*NDACR	$\beta_9$				-0.252	-0.469	0.645
Lev*NDACR	$\beta_{10}$				0.309	0.484	0.634
Grow*NDACR	$\beta_{11}$				1.340	1.330	0.200
Size*OCF	$\beta_{12}$				-3.460	-1.517	0.147
Loss*OCF	$\beta_{13}$				-0.214	-0.401	0.693
Lev*OCF	$\beta_{14}$				-0.882	-1.587	0.130
Grow*OCF	$\beta_{15}$				0.327	0.534	0.600
R Square		0.388			0.744		
Adj R Square		0.327			0.530		
F-Value		6.337			3.481		
p-Value		.002 <sup>a</sup>			.007 <sup>a</sup>		

\*\* represents correlation is significant at the 0.01 level (2-tailed)

\* represents correlation is significant at the 0.05 level (2-tailed)

**Ret** is the return of earnings, and being used as an indicator for the change in market return for companies.

**DACR** is the absolute value of discretionary accruals.

**NDACR** is the absolute value non-discretionary accrual.

**OCF** is the cash flow from operations scaled by total assets

**Tenure** is a dummy variable; it takes a value of 1 if audit tenure is long, otherwise with a value of 0.

**Size** is the natural logarithm of the fiscal year end market value of equity for the companies.

**Loss** is a dummy variable; it takes a value of 1 when earnings are negative, otherwise with a value of 0.

**Lev** is the ratio of total debt to total assets of the company, is the financial leverage.

**Grow** is the market value of equity to book value of equity.

### **7.3 Summary of the effect of audit tenure on return in New Zealand**

Table 7 summarised the results of the eight models in this study. Through the measure of earnings quality, both models find that a positive relationship exists between earnings quality and audit tenure, suggesting that the quality of reported earnings is high in long tenure engagements. Audit quality is improved when auditors are involved in a long auditor-client engagement, and the market places positive values on earnings of the New Zealand companies audited by longer tenure. Therefore, audit tenure positively impacts on the ERC. The findings are consistent with hypothesis 1 of the study.

Using earnings management as a proxy, the results of the regression models in all the sample observations reveal that the interaction of audit tenure and discretionary accruals is positively associated with returns, indicating the informativeness view of the managerial use of DACCR by firms audited by long-tenured auditors. The finding is in support of hypothesis 2. In addition to the two separate audit tenure tests, long tenure and short tenure, the results from the long tenure model show that discretionary accrual is positively associated with returns. In long audit tenure this finding can be interpreted as meaning that earnings quality is increased to a certain level. Hence, the market in New Zealand reacts positively and believes that discretionary accruals are the signals of private information gained by managers to generate higher returns. Therefore, the ERC is positive. Although the short audit tenure subsample shows a negative relationship between tenure and returns, it still supports hypothesis

2, which argues that the market pricing of earnings elements is conditional on audit tenure but with a negative effect in comparison to long audit tenure.

**Table.7**

Summary of the effect of audit tenure on return

Proxy	without control variables			with control variables		
Earnings	Coeff.	t-Stat	p-Value	Coeff.	t-Stat	p-Value
E	0.191	1.322	0.187	-0.696	-1.340	0.181
$\Delta E$	0.043	0.335	0.738	1.027*	2.126	0.034
Tenure	-0.025	-0.414	0.679	-0.034	-0.566	0.572
Tenure*E	0.274	1.956	0.051	0.327*	2.228	0.027
Tenure* $\Delta E$	0.036	0.290	0.772	-0.037	-0.282	0.778
Earnings Components						
DACR	-0.097	-0.341	0.733	2.547	1.289	0.198
NDACR	1.340*	2.437*	0.015	-1.617	-0.824	0.411
OCF	1.838*	2.257*	0.025	2.359	2.009*	0.045
Tenure	0.346*	2.422*	0.016	0.109	0.772	0.441
Tenure*DACR	0.712*	2.032*	0.043	0.740	1.584	0.114
Tenure* NDACR	-1.757	2.966**	0.003	-1.101	-1.673	0.095
Tenure*OCF	-1.439	-1.765	0.078	-0.617	-0.726	0.468
Earnings Management (in long tenure)						
DACR	0.627	2.914**	0.004	3.048	1.617	0.107
NDACR	-0.400	(1.994)*	0.047	-2.662	-1.417	0.157
OCF	0.411	6.083**	0.000	1.731	2.062*	0.040
Earnings Management (in short tenure)						
DACR	-0.083	-0.428	0.671	5.366	0.878	0.392
NDACR	0.525	3.063**	0.005	-2.713	-0.822	0.422
OCF	0.472	2.837**	0.008	3.753	1.882	0.076

## **Conclusion and limitations**

Auditor independence is a fundamental feature for auditors to provide a high quality audit, and the length of auditor-client engagement is significantly related to auditor independence. The threat of audit tenure to audit quality has been a concern to many investors and accounting regulators. Previous studies in the field of audit tenure and earnings quality have documented a positive association between long tenure and high earnings quality. Ghosh and Moon (2003) provide evidence that investors and information intermediaries perceive earnings quality improved as audit tenure lengthens. It has also been documented that clients of Big N auditors are associated with a lower level of discretionary accruals (Becker et al. 1998, Reynolds and Francis, 2000), and a higher earnings response coefficient (Teoh and Wong, 1993). There has been no research related to audit tenure conducted in New Zealand. The few existing pieces of research have focused on the areas of non-audit service fees and auditor industry specialisation. This study extends the literature and provides insights into how the capital market in New Zealand perceives the reliability of reported earnings and audit tenure, that is, the positive relationship between ERC and audit tenure based on the clients of Big 4 audit firms. The study first finds a positive association between audit tenure and earnings with a positive earnings response coefficient. It later uses discretionary accruals as a proxy and further finds the association between audit tenure and discretionary accruals is positively related to returns. This indicates that there is an informativeness view of the managerial use of discretionary accruals by firms audited by long-tenured auditors. The overall findings show that in New Zealand, the positive association between market perception of earnings quality and audit tenure is observed. This could explain why most of the New Zealand firms prefer to retain auditors long-term instead of switching auditors. More importantly, this study found supporting evidence which contributes to knowledge about discretionary accrual (DACR). The study suggests that there

is an informativeness view of DACR in firms with longer audit tenure in New Zealand. This is in contrast to the opportunistic view of DACR developed by mainstream earnings management literature.

In addition to the regulatory view, the debate on mandatory auditor rotation is not new and has been recently strengthened by SOX. The proponents argue that mandatory auditor rotation can enhance auditor independence and audit quality by setting a limit on the audit period. However, the opponents argue that auditors are able to gain more experience and specific client knowledge over time; therefore, long tenure auditors have better knowledge to determine whether a client company has proper accounting policies and financial reporting. Therefore, the findings of this study support the view that there is a positive market perception of long audit tenure. This implies that mandatory auditor rotation is not necessarily required in New Zealand. The study concludes that auditor independence increases with audit tenure. Thus, audit quality increases as clients are more likely to use discretionary accruals for informative purpose when audit tenure is long. Imposing a mandatory limit on audit tenure might incur unintended costs on capital market participants.

Although the study has been carried out with caution, there are some limitations. First, the population of interest considers only a total 357 firm-year observations with the time period spans from 2002 to 2009. Due to the unique characteristics of the New Zealand market, with the relatively small number of listed companies in the stock exchange, and the smaller size of audit firms, the findings might be biased by the sample selection and time period chosen. Secondly, the calculation of RET variable uses the total return index figure after 3 months of the financial year's end. This may take into account the delayed market response to earnings after financial statements are made available to the market, and after financial statements have had their effect. Future study on audit tenure and audit quality



should adjust such limitations to provide a more comprehensive understanding about the New Zealand market's perceptions of earnings quality.

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