

3-1-2014

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Recommended Citation

Sharma, V. D. and Chunli, K. 2014. Voluntary Audit Committee Characteristics, Incentives, and Aggressive Earnings Management: Evidence from New Zealand. Published online-early in the International Journal of Auditing, 18 (1), 76-89.

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**Voluntary Audit Committee Characteristics, Incentives, and Aggressive Earnings
Management: Evidence from New Zealand**

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We thank Steven Cahan, Vic Naiker and Divesh Sharma and participants at the 2008 Mid Year AAA International Accounting Conference for their comments and suggestions. We thank Benny Thomas for his research assistance.

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Voluntary Audit Committee Characteristics, Incentives, and Aggressive Earnings Management: Evidence from New Zealand

ABSTRACT

This study provides initial evidence on the association between voluntary audit committee characteristics, incentives and aggressive earnings management in New Zealand. Our results suggest audit committees comprising independent (non-executive) directors reduce (increase) the likelihood of aggressive earnings management. Financial expertise is associated with a lower likelihood of aggressive earnings management but only when the expertise is held by independent directors. Greater stock ownership by non-executive and executive directors serving on the audit committee increases the risk of aggressive earnings management. However, stock ownership by independent directors reduces this risk. Our results show that independent directors serving on other boards are associated with a lower likelihood of aggressive earnings management. Results relating to the New Zealand audit committee regulatory guidelines show that only majority independent directors on the audit committee is associated with the likelihood of aggressive earnings management. We raise potential implications for policy makers in New Zealand.

Keywords: earnings management, audit committee, financial expertise, multiple-directorship, ownership, governance, discretionary accruals.

1.0 INTRODUCTION AND BACKGROUND

In the wake of corporate scandals led by Enron, the U.S. Sarbanes-Oxley Act (SOX) (2002) transformed the corporate governance structure of listed companies. The SOX reforms transcended international boundaries which saw the introduction of The Combined Code (2003) in the UK, CLERP 9 (2004) in Australia, and similar regulations in smaller capital markets in the Asia-Pacific region. The regulations in smaller capital markets are voluntary rather than mandated by law as in the U.S. For example, the non-mandatory audit committee guidelines in New Zealand do not require listed companies to establish an audit committee and provide considerable discretion to management regarding the composition of voluntary audit committees. The New Zealand Stock Exchange (NZX) (2004) listing rules (para 3.6) and the New Zealand Securities Commission (NZSC) (2004) (para 3.4) *recommend* the establishment of an audit committee comprising solely of non-executive directors¹ with majority independent directors, and at least one director with an accounting and financial background.² In addition, the NZX (2004) listing rules (para 3.6.2) *recommend* a minimum of three directors on the audit committee. An additional statement issued by the NZSC (2004) at paragraph 3.4 *recommends* audit committees have an independent chairperson. The approach adopted in New Zealand could be regarded contentious for a number of reasons.

First, because of its small capital market, New Zealand relies considerably on foreign capital.³ Second, a small and less liquid market creates greater risk for the investor. Third, its

1 The NZX listing rule on page 5 para 14 states that the principles contained in the Corporate Governance Best Practice Code are corporate governance principles that may be desirable and which an issuer should consider and determine whether or not to adopt.

2 An independent director is someone who has no business, personal or other affiliation with the entity or its management. Non-executive directors are not employees of the entity but have some affiliation with the entity or its management.

3 For example, based on 2006 data New Zealand has a population of 4,177,000 across an area of 268,680 square kilometres, GDP per capita of approximately US\$25,531, and the stock market lists close to 400 companies (Census 2006).

geographical isolation creates potential for information asymmetry and increases agency costs to the foreign investor. Fourth, high management ownership in New Zealand firms affords management opportunities to expropriate minority stockholders. Fifth, since audit committees in New Zealand are not required to be completely independent of management, New Zealand firms could be perceived to be associated with greater information asymmetry, higher agency costs and higher cost of capital. Executives of firms can serve on their audit committees in New Zealand which is largely prohibited in other countries. Such conditions suggest New Zealand firms should implement effective corporate governance mechanisms to economically attract foreign capital and better protect minority and foreign investors. It is arguable that New Zealand regulations over financial reporting should follow best practices observed in established markets such as the U.S., UK and Australia because the New Zealand regulations are voluntary rather than mandated by law.

On the other hand, the non-mandatory principles-based discretion approach to the formation and structure of the audit committee in New Zealand may be reasonable. Requiring complete independence on the audit committee and enforcement of mandatory rules would impose significant financial costs. A rules-based approach for a small market would channel limited resources on compliance rather than on value creating strategic activities (ICANZ 2003). In addition, the need for mandatory audit committee regulations is diminished because the risk of financial misstatements and accounting fraud is negligible in New Zealand. There is no evidence of financial misreporting in New Zealand to the comparable magnitude seen in Australia (e.g., HIH Ltd, One.tel) or the U.S. (e.g., Enron, WorldCom), and New Zealand has not witnessed similar scandals over the last decade. Furthermore, the legal environment in New Zealand is less litigious which does not warrant U.S. style regulations.

An important difference between New Zealand and larger markets is that the majority of listed firms and their operations are domiciled in the two major cities of Auckland and Wellington, which are less than 60 minutes apart by air.⁴ These two cities are in the North Island, which is considered the major business region of the two main islands that comprise New Zealand. Because the size of the market and the geographic region is small, business executives are well known to each other. The small directorial market creates transparency and thus fosters monitoring as directors seek to protect their reputation. However, the small directorial market necessitates directors serve on multiple boards and not require audit committees comprise only independent directors that could influence the monitoring effectiveness of the directors.

Given the unique characteristics of the New Zealand market and the differences in the legal and institutional environment between New Zealand and the larger markets, the modus operandi of audit committees in New Zealand may be different and the empirical findings in larger markets may not be generalizable to New Zealand.

In attempting to fill a research void highlighted by Bushman and Smith (1999), this study extends the corporate governance literature by examining the association between audit committee characteristics and earnings management in New Zealand. Our purpose is threefold. First, we provide initial evidence on the association between voluntary audit committee characteristics and incentives facing directors on the audit committee, and earnings management in New Zealand. Specifically, we investigate the association between the likelihood of aggressive earnings management and (i) independence of the audit committee, (ii) financial expertise on the audit committee, (iii) stock ownership of directors on the audit

⁴ The population in these two cities comprises approximately 60% of the New Zealand population (Census 2006).

committee, and (iv) multiple-directorships held by directors on the audit committee. Second, we investigate the association between the New Zealand regulatory guidelines on the audit committee and the likelihood of aggressive earnings management.

Third, we complement and extend the limited literature on audit committees in New Zealand (Bradbury 1990; Rainsbury 2004; Rainsbury et al. 2008; Rainsbury and Bradbury 2009). Bradbury (1990) examines why firms voluntarily establish audit committees and Rainsbury et al. (2008) examine the characteristics of firms that voluntarily adopt best practices guidelines for audit committee membership. Closer to our study is Rainsbury and Bradbury (2009) who examine the effect of the quality of audit committees (independence and expertise) on financial reporting quality (aggregate accounting policy choice score) and external audit fees using a sample of 87 New Zealand firms, including 29 that had adopted a high quality audit committee. They find no evidence that best practice audit committees improved financial reporting quality. They also find no evidence that best practice audit committees were associated with lower audit fees. We extend this literature by examining how the financial expertise, stock ownership and other board seats of executive, non-executive and independent directors on the audit committee are related to aggressive earnings management.

This study also adds knowledge to the current literature in two important ways. First, we investigate how the oversight role of the audit committee is influenced by the level of stock ownership held by directors on the audit committee. Agency theory posits that stock ownership may motivate executives and directors to more vigilantly monitor the financial reporting process (Jensen 1989; Shivdasani 1993; Short and Keasey 1999) or create conflict of interests such that directors on the audit committee could support rather than challenge management's policies (e.g., Carcello and Neal 2003; Mangena and Pike 2005). New Zealand

provides a natural setting to study this because the level of director stock ownership varies considerably and the directors on the audit committee could be an executive, non-executive or independent.

Second, we consider the effect of multiple-directorships on the effectiveness of the audit committee. While multiple-directorships provide directors with relevant governance experience, too many outside directorships may make them overcommitted and too busy to conduct effective monitoring (Sharma and Iselin 2012). New Zealand provides a natural setting to study the effect of multiple-directorships because the directorial market is small and directors serve on many boards.

Based on a sample of 194 New Zealand Stock Exchange listed firm-years over 2004 and 2005, the evidence suggests the majority and greater percentage of independent directors on the audit committee are associated with a lower likelihood of aggressive earnings management whereas both majority and greater percentage of non-executive directors on the audit committee are associated with a higher likelihood of aggressive earnings management. We find that a greater proportion of independent directors with financial expertise on the audit committee reduce the likelihood of aggressive earnings management but no such effect is observed for non-executive and executive directors possessing financial expertise. Greater stock ownership by non-executive and executive directors on the audit committee is associated with a higher likelihood of aggressive earnings management but lower likelihood when independent directors own stock in the firm. We find independent directors serving on multiple boards are associated with a lower likelihood of aggressive earnings management and find no such effects for non-executive and executive directors. Of the five NZSC and NZX best practice recommendations, we find that one, majority independent directors on the audit committee, is useful in curbing aggressive earnings management. These results raise

important implications for audit committee regulations in New Zealand and are discussed in the paper.

2.0 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Audit Committee Independence

It is generally believed that an independent audit committee provides effective monitoring of the financial discretion exercised by management and in ensuring the credibility of the financial statements. The literature, however, is inconsistent regarding whether a majority independent audit committee or a completely independent audit committee is more effective in detecting and preventing earnings management. For example, Klein (2002) in the U.S. and Davidson et al. (2005) in Australia, report a negative association between earnings management and the proportion of outside directors on the audit committee but no such effects for audit committees comprising 100% outside directors. However, Bedard et al. (2004) in the U.S. find no association between majority independent directors on the audit committee and aggressive earnings management. They observe a significant negative association between aggressive earnings management and audit committees comprising 100% independent directors.⁵ Moreover, in the UK, Peasnell et al. (2005) find that the proportion of non-executive and independent directors on audit committees is not related to companies violating accounting standards.

While the literature provides mixed results on the composition of outside directors on the audit committee and the quality of financial reporting, regulators, both overseas (e.g., SOX 2002; Combined Code 2003; ASX 2003) and in New Zealand (NZX 2004; NZSC 2004),

⁵ Similarly, in relation to financial restatements the results of the prior research (e.g., Abbott et al. 2004; Agrawal and Chadha 2005) on audit committee independence are mixed.

emphasize the importance of the independence of the audit committee for effective monitoring of financial reporting. This view is widely echoed in the literature (see Carcello et al. 2011 and Sharma and Sharma 2011 for a review of the governance literature) which dates back to agency theory. Fama and Jensen (1983a; 1983b) posit independent directors have incentives to develop and signal their reputation to the market by maintaining independence and managerial competence. Failure to do so exposes them to potential litigation and loss of directorships. Regulations, agency theory, and the governance literature suggest a negative association between the independence of the audit committee and aggressive earnings management.

H₇: The independence of the audit committee is negatively associated with aggressive earnings management.

2.2 Audit Committee Expertise

In the U.S., the SOX (2002) mandates that at least one member of the audit committee be a financial expert.⁶ The NZX (2004) and NZSC (2004) recommend the audit committee include one director with an accounting and financial background. These regulations suggest relevant financial experience or technical knowledge is crucial for effective accounting oversight. Consistent with such regulations, the literature demonstrates that the effectiveness of the audit committee is enhanced through the presence of financial experts on the committee (Naiker and Sharma 2009; Dhaliwal et al. 2010). Directors with financial expertise are effective at identifying financial reporting problems because they better understand the

⁶ The SOX (2002) defines a financial expert as one who has obtained education and experience as a public accountant (e.g., CPA, CFA) or an auditor or a principal financial officer, comptroller or principal accounting officer of a company or possess experience through performance of similar functions (e.g., CEO, CFO). It further states that the financial expert should possess the following: (1) an understanding of GAAP and financial statements, (2) experience in the preparation or audit of financial statements, (3) experience with internal accounting controls, and (4) understand audit committee functions.

internal and external audit program and internal controls to prevent and detect material misstatements. However, the impact of financial expertise could be influenced by the independence of a director. Independent directors possessing financial expertise would be expected to exercise more effective monitoring of the financial reporting process than executive or non-executive directors with financial expertise (Agrawal and Chadha 2005; Dhaliwal et al. 2010). Therefore, we propose a negative association between the presence of independent directors with financial expertise on the audit committee and aggressive earnings management.

H₃: The presence of independent directors with financial expertise on the audit committee is negatively associated with aggressive earnings management.

2.3 Audit Committee Member Stock Ownership

Incentives are necessary to induce directors to be vigilant and ask tough questions (DeZoort et al. 2002). There is, however, a lack of research on what causes this demand for audit committee members to perform their duties. DeZoort et al. (2002) and Archambeault et al. (2008) identify stock ownership as one of the potential factors that can influence audit committee performance, and call for more research on this issue.

Agency theory argues that stock ownership affects directors' motives for monitoring the financial reporting process. For example, Jensen (1989) and Shivdasani (1993) posit that when directors have an equity stake in the firm, they are more likely to care about the governance of the firm, challenge or discipline management for poor financial reporting, and encourage better disclosure in the firm's financial reports. Stock ownership thus has the effect of aligning directors' interests with those of the stockholders. Accordingly, earnings quality may improve if audit committee directors own stocks in the company.

A contrary view suggests director stock ownership could threaten directors' effectiveness in monitoring the financial reporting process (Mangena and Pike 2005). Audit committee members with greater equity stake may have incentives to inflate their investment, which is based on the earnings performance of the firm. This incentive can reduce their motivation to perform their fiduciary duties to effectively monitor management thus leading to financial misreporting (Forker 1992). Carcello and Neal (2003) report that directors with high stock ownership support management during disputes with the auditor. While one would expect independent directors to uphold their objectivity regardless of their ownership in the company, there is no empirical evidence whether independent directors would act accordingly. Rather, research suggests even independent directors may support management if they are compensated highly (Brick et al. 2006). Given the alternative arguments, we propose a null hypothesis.

H₀: There is no association between audit committee member stock ownership and aggressive earnings management.

2.4 Audit Committee Multiple-Directorships

The New York Stock Exchange (2003) requires the board of directors to consider whether additional directorships would impair a director's monitoring effectiveness. In New Zealand, there are no specific guidelines regarding additional directorships in the NZX (2004) listing rules or in the governance principles issued by the NZSC (2004). Whether multiple-directorships would significantly impair the monitoring ability of the audit committee, and whether New Zealand should adopt a recommendation similar to the U.S. (NACD 1996) is an empirical question addressed in this study.

Yermack (1996) and Ferris et al. (2003) argue that multiple board appointments send signals to the directorial market about a director's reputation as an experienced specialist. Service on multiple boards also cultivates greater governance experience (Bedard et al. 2004; O'Sullivan 2005). Sharma and Iselin (2012) posit that directors serving on multiple boards have incentives to protect their reputation and because of their experience, they enhance the audit committee's powers to more effectively monitor the financial reporting process.

Conversely, multiple directorships can make a director too busy thus impairing the effectiveness of the audit committee. According to Srinivasan (2005), busy directors often manage costs of monitoring (e.g., talent, developing the requisite expertise, and allocating time) by shirking their responsibilities. Consequently, greater agency costs may be imposed on the firm (Vafeas 2003; Shivadasani and Yermack 1999) that can manifest in a higher likelihood of aggressive earnings management (Sharma and Iselin 2012). We propose a null hypothesis because of the competing arguments.

H₀: There is no association between multiple-directorships held by audit committee members and aggressive earnings management.

3.0 RESEARCH DESIGN

3.1 Sample Selection

The sample size is 194 firm-year observations, comprising 94 firms with data both in 2005 and 2004, and three different firms with data in 2004 and 2005. All firms are listed on the New Zealand Stock Exchange (NZX). Table 1 describes the sample selection process. The sample is selected from 393 firms listed on the NZX, both on the main board – New Zealand Stock Market (NZSX), and the second board – New Zealand Alternative Market (NZAX) for the years 2004 and 2005. Consistent with prior research, firms in the investment

(n = 27), finance and insurance (n = 36), equity and trust (n = 12), mining (n = 6) and utility (n = 18) industries are excluded because they have different income measurement rules and unique capital structures which result in a fundamentally different accrual process that is not captured by the modified-Jones model to estimate discretionary accruals (Klein 2002). Foreign companies cross-listed on the New Zealand Stock Exchange (n = 86) are excluded because they are subject to different financial reporting and corporate governance regulations. Firms without an audit committee (n = 14) are also eliminated from the sample.

Insert Table 1 here

The NZX industry descriptors are used to classify firms into their respective industry groups. The greatest proportion of the sample firms (n = 51) are from the consumer industry, which accounts for 26.3% of the sample. Second is the property industry with 26 firms (13.4%), followed by 24 firms (12.4%) in agriculture, fishing, and forestry industry, and 21 (10.8%) firms in the intermediate durables industry. The lowest proportion of the sample comes from the tourism and leisure industry (7 firms = 3.6%), while the remainder of the sample is fairly evenly distributed (all less than 10% of the sample) among the ports and transport, food, health services, bio technology, and media and communication industries.

3.2 Data

Since there is no electronic database providing the information required for this study, financial and corporate governance data are hand-collected from company annual reports. This study examines the research hypotheses for the period 2004 to 2005 because corporate governance disclosure guidelines came into effect for financial years 2004 and later. We are interested in the initial reaction of public companies listed on the NZX after corporate governance disclosure guidelines came into effect. Therefore, this study provides initial

evidence of that reaction by limiting the years to 2004 and 2005. Prior to this date, very few companies established audit committees, being limited to mainly large listed firms, and voluntary governance information disclosure was very poor (see also Bradbury 1990; Rainsbury 2004; Rainsbury et al. 2008).

3.3 Measurement of the Variables

3.3.1 Earnings Management

We adopt the performance adjusted modified-Jones model to estimate discretionary accruals, which is specified as follows, because Kothari et al. (2005) find it is better in terms of model specification and power.

$$\frac{TAC_{ijt}}{A_{ijt-1}} = \alpha_j (1/A_{ijt-1}) + \beta_{1j} [(\Delta REV_{ijt} - \Delta REC_{ijt})/A_{ijt-1}] + \beta_{2j} (PPE_{ijt}/A_{ijt-1}) + ROA_{t-1} + \varepsilon_{ijt-1} \quad (1)$$

where:

TAC_{ijt} = total accruals for firm i in industry j in the current year t ;

A_{ijt-1} = total assets for firm i in industry j at the end of the previous year;

ΔREV_{ijt} = change in revenue for firm i in industry j between the current year and last year;

ΔREC_{ijt} = the change in receivables for firm i in industry j between the current year and last year;

PPE_{ijt} = gross property, plant and equipment for firm i in the current year; and

ROA_{t-1} = return on assets at the end of the previous year.

Using the cash flow approach (Hribar and Collins 2002), total accruals (TAC) are calculated as the difference between operating income (EARN) obtained from the Statement of Financial Performance and operating cash flows (CFO) obtained from the Statement of Cash Flows.

$$TAC_{ijt} = EARN_{ijt} - CFO_{ijt} \quad (2)$$

The predicted values from equation (1) are non-discretionary accruals (NDAC) and the difference (residuals) between actual total accruals (TAC) and NDAC is discretionary accruals (DAC) (Kothari et al. 2005).

$$DAC_{ijt} = TAC_{ijt} - NDAC_{ijt} \quad (3)$$

Prior research argues firms engage in both income-increasing and income-decreasing earnings management behavior for various motives (Nelson et al. 2002; Bedard et al. 2004). Bedard et al. (2004) classify large positive and negative discretionary accruals as aggressive earnings management. Similar to their approach, observations are classified into aggressive earnings management (AEM) if the absolute value of discretionary accruals, $|DAC|$, is in the top or bottom 20% of the sample. The mean (median) of $|DAC|$ is 0.208 (0.049) with a standard deviation of 0.608. Firms classified as AEM are coded 1, and 0 otherwise to facilitate the estimation of the logistic regression model used to test the research hypotheses.⁷ Our empirical model is as follows:

$$\begin{aligned} AEM = & \alpha + \beta_1 SIZE + \beta_2 LEV + \beta_3 MKT + \beta_4 LOSS + \beta_5 CHGEARN \\ & + \beta_6 ABSCFO + \beta_7 BIG4 + \beta_8 BLOCK5 + \beta_9 LN_MEET \\ & + \beta_{10} YEAR + \beta_N (AUDCHAR) + \varepsilon_i \end{aligned} \quad (4)$$

where:

- SIZE = natural logarithm of the current year's total assets of the firm;
- LEV = ratio of long term debt to total assets;
- MKT = market value of the firm divided by book value of total assets;

⁷ The New Zealand market is very small and consequently discretionary accruals can be quite 'sticky'. To have a reasonable chance of detecting subtle earnings management requires a sample size of several hundreds (Dechow et al. 1995) which New Zealand does not provide. Therefore, we use aggressive earnings management and logit regression to increase the power of our tests. Bedard et al. (2004) provide arguments in support of this approach.

LOSS	= 1 if income before extraordinary items is negative for two consecutive years, 0 otherwise;
CHGEARN	= absolute value of the change in net income between the current and the prior year deflated by lagged total assets;
ABSCFO	= absolute value of cash from operations deflated by lagged total assets;
BIG4	= 1 if the firm is audited by a Big 4 auditor, 0 otherwise;
BLOCK5	= cumulative percentage of common stock held by stockholders holding at least 5% ordinary stock in the firm;
LN_MEET	= natural logarithm of the number of audit committee meetings;
YEAR	= 1 if financial year is 2004, 0 otherwise; and
AUDCHAR	= empirical proxies for audit committee independence, financial expertise, director stock ownership and multiple directorships explained below.

3.3.2 Measures of Audit Committee Characteristics

For each of the audit committee test variables, independence, financial expertise, stock ownership and multiple directorships, we compute their respective percentage values (e.g., percentage of independent directors, percentage of stock ownership held by non-executive directors, etc).

3.3.2.1 Audit Committee Independence

This study differentiates between independent directors (ACIND) and non-executive directors (ACNE). Consistent with regulations (e.g., SOX 2002) and prior research (e.g., Vicknair et al. 1993; Beasley 1996; Klein 2002), independent directors are outside directors who do not have any affiliation (such as employment, business or family relationship) with the firm except in his or her capacity as a director on the board. Non-executive directors are not current employees of the firm but have some affiliation with the company or its executives. These directors are also known as “gray” directors. They can be relatives of management, consultants or suppliers to the firm, retired executives or investment bankers of the firm (Beasley 1996). In other words, they can be anyone who has a direct or indirect interest or

relationship with the firm which is so significant that it could reasonably influence his or her objective judgement or decision-making.⁸ The ‘Corporate Governance in New Zealand Principles and Guidance’ states directors holding 5% or more relevant interest or voting securities of an entity are not independent (NZSC 2004). Therefore, we classify directors holding at least 5% of stock in a company as non-executive directors.

We employ three measures for the presence of both independent and non-executive directors on the audit committee. ACIND% (ACNE%) is the proportion of independent (non-executive) directors on the audit committee, ACIND51% (ACNE51%) equals 1 if the audit committee comprises majority (>50%) independent (non-executive) directors, and 0 otherwise, and ACIND100% (ACNE100%) equals 1 if the audit committee comprises solely of independent (non-executive) directors, and 0 otherwise.

3.3.2.2 Audit Committee Expertise

The NZX (2004) listing rules provide guidelines on the qualifications a member of the audit committee needs to satisfy to be deemed a financial expert.⁹ Directors not meeting the NZX (2004) criteria are classified as non-experts. Because these guidelines do not specify if the expert should be non-executive or independent, or whether an executive can satisfy this criterion, we test whether a financial expert’s independence matters. Following prior research (Dhaliwal et al. 2010), we measure the proportion of experts on the audit committee. EXPTEX%, EXPTNE%, and EXPTIND% represent the percentage of executive directors,

⁸ The identification of these affiliated associations in this study is dependent upon disclosures made in the annual report.

⁹ These include relevant professional qualifications (such as being a member of the Institute of Chartered Accountants of New Zealand or having successfully completed a course approved by the NZX for audit committee membership), or experience in the area of finance or accounting (like having held a chief financial officer position at a company for more than 20 months). This definition is consistent with that used in the prior literature (e.g., Abbott et al. 2004).

non-executive directors, and independent directors with financial or accounting expertise, respectively.

3.3.2.3 Audit Committee Member Stock Ownership

Audit committee member stock ownership is also measured for each of the three classifications of directors: ACSHEX%, ACSHNE% and ACSHIND% represent the cumulative percentage of stock owned by executive directors, non-executive directors and independent directors on the audit committee, respectively.¹⁰

3.3.2.4 Audit Committee Multiple-Directorships

Since the prior literature (Sharma and Iselin 2012) and policy-makers (e.g., NACD 1996) suggest three other board seats as the optimal cut-off for fulltime directors (six other board seats for retired directors) to effectively perform their responsibilities, these thresholds are used for determining if the directors are busy. In other words, a director on the audit committee is considered busy if s/he holds three additional board seats (six if retired). Following Sharma and Iselin (2012), we determine the number of other board seats held by each director on the audit committee and then compute the percentage of executive directors (ACMDEX%), non-executive directors (ACMDNE%), and independent directors (ACMDIND%) holding more than three other board seats (six if the director is retired).

3.3.3 Control Variables

We control for firm characteristics, external monitoring mechanisms and audit committee activity widely studied in the prior literature.¹¹ First, consistent with the prior

¹⁰ Stockholding data is obtained from annual report disclosures and relates to ordinary stock held by a director.

¹¹ Duality is not included as a control variable because there is no incidence of any company in the sample where the CEO chairs the board. This is an interesting finding and may explain why the average board

literature we control for firm characteristics. We control for firm size (SIZE), measured as the natural logarithm of the total assets of the firm, and it is predicted to be negatively associated with AEM because larger firms are likely to have more effective internal control systems and face more scrutiny from the market (Dechow et al. 1995; Bedard et al. 2004). We include leverage (LEV) calculated as the ratio of long term debt to total assets because Bedard et al. (2004) show it is positively associated with AEM. Next, growth potential, proxied by the market to book ratio (MKT), is included because it affects the independence of the audit committee (Klein 2002) but we make no prediction on its association with AEM. Klein (2002) reports that negative income (LOSS) is related to audit committee independence, and Beasley (1996) and Bedard et al. (2004) show it is related to financial misreporting. Since prior literature shows loss making firms can pursue either income increasing or income decreasing earnings management, we form no predictions about its effect on AEM. LOSS is coded 1 if income before extraordinary items of the firm is negative for two consecutive years, and 0 otherwise. The absolute value of change in earnings (CHGEARN) and cash from operations (ABSCFO) are also included as control variables because they are associated with AEM. CHGEARN is calculated as the absolute value of the difference between the current and prior years' operating income deflated by lagged total assets, and ABSCFO is absolute value of cash from operations deflated by lagged total assets (Bedard et al. 2004). For reasons similar to LOSS, we form no expectations about the sign of these two coefficients.

Second, we include external monitoring mechanisms such as auditor quality and block ownership because they could affect the quality of financial reporting. Menon and Williams (1994) and Agrawal and Chadha (2005) suggest Big 4 auditors are more likely to detect and

independence is higher in New Zealand than in the U.S. where CEOs also chair the board. This is an issue worthy of further research.

report material errors and irregularities in the financial statements. Consistent with prior research (Menon and Williams 1994; Agrawal and Chadha 2005), BIG4 is coded 1 if the auditor is a Big 4, and 0 otherwise. Block-holders with a significant financial stake in the firm closely monitor the financial reporting process (Beasley 1996; Dechow et al. 1996; Klein 2002). Large block-holders (BLOCK5) can also influence the selection of board members thereby affecting the corporate governance structure (Fromson 1990). Consistent with the prior literature, BLOCK5 is measured as the cumulative percentage of common stock held by stockholders holding at least 5% ordinary stock in the firm.

Finally, we control for the activity of the audit committee using the number of meetings per year (LN_MEET). Prior research shows that audit committees that meet more frequently are associated with higher quality financial reporting (Abbott et al. 2004) or indicative of financial reporting problems (Sharma et al. 2009). We take the natural logarithm of the total number of audit committee meetings during the financial year but make no predictions on its association with AEM.

4.0 RESULTS

4.1 Descriptive Statistics

Table 2 provides the descriptives statistics, including the mean, median, standard deviation, and lower and upper quartile values.¹² The average (median) percentage of executive (ACEX%), non-executive (ACNE%) and independent (ACIND%) directors on the audit committee are 17.5% (0), 10.6% (0) and 72% (66.7%), respectively. Almost 80% of the

¹² The data in Table 2 are provided for the pooled sample. A paired t-test was performed for each variable in Table 2 for observations for a firm occurring in both years. The tests indicated no variable was significantly ($p > 0.10$) different between 2004 and 2005. The test indicates, to some extent, that these observations are independent of each other as if these observations were independently pooled cross-sections. This suggests there are no significant changes in the variables between 2004 and 2005, and that pooling of the data are reasonable.

firms have majority independent directors (ACIND51%) on the audit committee, and only 30% are completely independent (ACIND100%). Seventy-one percent of the firms have an audit committee chair who is an independent director (ACCHAIR_IND).

On average, 18.8% (median 25%) of executive directors (EXPTEX%), 10% (median 0%) of non-executive directors (EXPTNE%), and 69.5% (median 66.7%) of independent directors (EXPTIND%) on the audit committee possess accounting and/or financial expertise, respectively. About 98% of audit committees have at least one financial expert (ONEEXPERT).

The average percentage of stock owned by executive directors (ACSHEX%), non-executive directors (ACSHNE%), and independent directors (ACSHIND%) on the audit committee is 5.14% (median 3.45%), 3.38% (median 0.03%) and 0.51% (median 0.09%), respectively. An interesting observation not tabulated is the percentage of stock held by directors on the board that are not independent. The maximum stock ownership is just over 80% for all directors and non-executive directors. Such stockholding is not unexpected as many New Zealand companies are closely held by founders and family members sitting on the board (La Porta et al. 1999).

About 60% of executive directors (ACMDEX%), 60% of non-executive directors (ACMDNE%), and 50% of independent directors (ACMDIND%) on the audit committee serve on three or more boards. These data indicate a considerable number of audit committee directors serve on more than three other boards. We also provide descriptive statistics on audit committee meetings and size of the audit committee. The average number of meetings is 2.6 (median = 2.00) and average audit committee size is 3.34 (median = 3.00).

Firm size (SIZE), on average, is 18.292 and since this is the natural logarithm value, it translates to about \$88 million. The average leverage ratio (LEV) is 0.559 and market to book

ratio (MKT) is 3.07. Moreover, 19% of firms have negative income before extraordinary items (LOSS). The average absolute change in earnings (CHGEARN) is 0.948. Most firms (around 79%) are audited by Big 4 auditors (BIG4). The mean cumulative percentage of stock held by blockholders holding at least 5% ordinary stock in the firm (BLOCK5) is 54%.

Insert Table 2 here

A correlation matrix is included as Table 3. None of the correlations between independent variables that proxy unique constructs are highly correlated (> 0.80) to pose multicollinearity threats (Gujarati 2003). We also performed variance-inflation-factor (VIF) analysis and find none of the VIFs exceed 10, the threshold at which multicollinearity can be a problem (Gujarati 2003).

Insert Table 3 here

4.2 Multivariate Analyses

Table 4 reports the results of the logistic regression models for the independence of the audit committee and its relationship with AEM. The coefficients on two of the three independence variables (when measured as the percentage of non-executive directors on the audit committee (ACNE%), and the majority non-executive directors on the audit committee (ACNE51%)) are positive and significant ($p < 0.01$ and $p < 0.05$). However, the results show a negative and significant ($p < 0.01$) coefficient on majority independent directors on the audit committee (ACIND51%) and percentage of independent directors on the audit committee (ACIND%). The coefficients on 100% independent audit committee (ACIND100%) and 100% non-executive director composition of the audit committee are not significant. The results are consistent with hypothesis 1 because only independent directors on the audit committee are negative and significantly associated with AEM. The presence of non-

executive directors defined as those non-employee directors who have some economic or other affiliation with the firm or its executives, are positively related to AEM. These results suggest that while independent directors on the audit committee reduce the risk of financial misreporting, non-executive directors increase such risks.

Insert Table 4 here

Table 5 presents the results relating to the financial expertise, stock ownership and multiple-board seats for executive, non-executive and independent directors. Three sets of logistic regression models are estimated, one for each classification of directors. The results relating to executive and non-executive directors (columns headed EXEC and NONEXEC) show that greater stock ownership (STOCK) by executive and non-executive directors on the audit committee is positive and significantly ($p < 0.01$) associated with AEM. Executive and non-executive directors' financial expertise (EXPERT) and their other board seats (OTHBOD) are not significantly related to AEM. In contrast, independent directors' financial expertise, stock ownership and other board seats are all negative and significantly ($p < 0.05$) associated with AEM. Therefore, hypothesis 2 is supported, that there is a negative association between independent director financial expertise and AEM. The null hypotheses 3 and 4 are rejected for independent directors because we find that independent directors' ownership and multiple board seats are negatively related to AEM. We also reject the null in hypothesis 3 for stock ownership because both executive and non-executive directors' stock ownership is positive and significantly associated with AEM. Hypotheses 4 is not rejected for executive and non-executive directors' other board seats because these variables are not statistically significant.¹³

¹³ Our results and conclusions are not affected if we use data winzorised at the 1% and 99% levels.

Collectively, these results suggest that audit committee independence is critical because only independent directors with financial expertise appear to objectively exercise their monitoring of the financial reporting process. While executive and non-executive directors possess the financial expertise, they are not effective because of conflicts of interest (i.e., executives pursue their own interests and affiliated directors support management). Furthermore, greater ownership in the firm incentivizes executive and non-executive directors to focus on engaging in earnings manipulation because doing so will increase their value in the firm due to stock price increases. These results suggest non-executive directors on the audit committee appear to support an environment that condones AEM. Independent directors, who by definition, hold less than 5% stock in the company, do not experience such material economic incentives. They probably are more concerned about protecting their reputation in the small directorial market in New Zealand.

The results on the control variables in Tables 4 and 5 are consistent across all logistic regressions. The control variable results are also consistent with the literature and our predictions. For example, larger companies (SIZE) and those with positive changes in earnings (CHGEARN) are negatively associated, while firms with higher leverage (LEV) and higher growth (MKT) are positively associated, with AEM.

Insert Table 5 here

4.2.5 Tests of the New Zealand Recommendations

The NZX (2004) listing rules and the ‘Corporate Governance in New Zealand Principles and Guidance’ issued by the NZSC (2004) recommend the audit committee comprise only non-executive directors (ACNE100%), a majority of whom are independent directors (ACIND51%), and have at least one member with an accounting or financial

background (ONEEXPERT). The NZX further encourages audit committees to comprise a minimum of three directors (ACSIZE_MIN3). Additionally, the NZSC (2004) recommends the audit committee have an independent chairperson (ACCHAIR_IND).

In our sample, 59 firm-years (30%) meet all of these requirements. Most firms meet four requirements (minimum three directors (177 = 91%), majority independent (155 = 80%), independent chair (137 = 71%), and one financial expert (190 = 98%)) but only 51% (99 firm-years) meet the all non-executive requirement. Note that the non-executive definition of the NZSC includes gray and independent directors. Our primary tests reported earlier define non-executive directors as gray directors only.

We investigate the effect of the New Zealand audit committee recommendations on aggressive earnings management and present the results in Table 6. Only the coefficient on majority independent directors (ACIND51%) is negative and significant ($p < 0.01$). This suggests that the effectiveness of the audit committee in terms of reducing the likelihood of AEM is enhanced when the majority of the directors on the audit committee are independent. The results in Table 6 show that ACNE100%, ACCHAIR_IND, and ACSIZE_MIN3 are positive and significantly related to the likelihood of AEM and having ONEEXPERT is not significant. We also tested the degree of compliance with the recommendations by computing an audit committee governance compliance index score. As there are five recommendations, we assign a value of 1 if a firm meets one of the five criteria and then take the sum across all five criteria. The index score ranges from 1 to 5, and has a mean (median) of 3.91 (4.00). When we estimate the logistic regression, we find the index score is not significant.¹⁴

Insert Table 6 here

¹⁴ We also tested a dummy variable that was set to 1 if a firm met all five recommendations, and 0 otherwise. This variable was not significant.

4.3 Additional Analyses

4.3.1 Alternative Measures

Recall that the NZX (2004) and the NZSC (2004) define a financial expert as someone with a financial background through formal qualification (e.g., CPA) or experience in a financial role (e.g., CFO). Naiker and Sharma (2009) and Dhaliwal et al. (2010) show specific accounting expertise can have a different effect on earnings management than experts without CPA qualifications. When we limit financial expertise to professionally qualified individuals, we find our results are similar. This is so because in our New Zealand sample, most of the experts on the audit committee have some form of professional accounting qualification (CA or CPA from New Zealand, Australia or U.K.).

Hu and Kumar (2004) argue that a director holding at least 1% stock can significantly influence management decision making. Accordingly, the number and percentage of directors (executive, non-executive directors and independent directors) owning at least 1% stock on the audit committee are used as additional measures. The results using these 1% threshold measures for stock ownership are the same as our primary tests. In addition, we measure audit committee multiple-directorships as the average number of other directorships held by executive, non-executive and independent directors on the audit committee. This average measure does not yield any significant results for executive, non-executive and independent directors.¹⁵

4.3.3 Board Effect

The New Zealand governance recommendations allow companies to not have an audit committee provided they implement alternative governance mechanisms. In New Zealand, the

¹⁵ Relevant squared terms are used to test the non-linear effect of director stockholding and multiple-directorships. The results related to the squared terms do not show any significant effects.

board assumes the role of the audit committee when there is no audit committee. Therefore, firms without an audit committee ($n = 14$) are included in the analyses with board variables representing audit committee variables. The results observed are consistent with those reported earlier.

4.3.4 Multicollinearity Effects

Audit committee size (ACSIZE) was not included in the multivariate analyses as a control variable because we controlled for it by using audit committee size deflated variables (i.e., percentage measures). When we include ACSIZE in our tests, we find the significance of independent audit committee financial expertise reduces from $p < 0.01$ to $p < 0.10$ and stock ownership of independent directors on the audit committee reduces from $p < 0.01$ to $p < 0.05$. Overall, however, our conclusions do not change as the variables are still significant.

4.3.5 Firm Size and Year Effects

When the sample is split into large and small firms using the median of total assets as the cut-off, the result for independent directors' ownership is not significant for large firms but remains significant for smaller firms. Independent directors' financial expertise and multiple-directorships are significant for large firms but not for small firms. These results suggest independent directors in larger firms may be more concerned about protecting their reputation, particularly those with financial expertise and serving on other boards. Estimating the logit regressions by year yields lower significance (change from $p < 0.01$ to $p < 0.10$) in 2005 for independent directors' ownership and loss of significance for financial expertise. In 2004, independent directors' ownership and multiple-directorships lose significance but financial expertise remains significant. These results occur because of loss in statistical power due to the smaller sample size.

4.3.6 Alternative Measures for Earnings Management

We also test the effect of various abnormal accruals estimates (e.g., Jones model, current accruals, total accruals) to derive our AEM dependent variable. Using these estimates produces results that are largely qualitatively similar. However, if we employ continuous variable measures of various proxies for earnings management we find our results hold only for independent director's financial expertise. Such findings support the argument of Dechow et al. (1995) that in small samples, it is difficult to detect earnings management using continuous measures of earnings management.

4.3.7 Potential Endogeneity

Carcello et al. (2011) highlight that one of the difficult issues to address in governance research is potential endogeneity between the phenomenon of interest (i.e., earnings management) and governance characteristics. In our setting, firms that engage in AEM may establish audit committees of poor quality (e.g., low independence, no financial expert, etc) or audit committees that appear to be independent but in fact are not. If this is so then the associations we report between AEM and various audit committee characteristics may be endogenous. We address endogeneity by performing a Hausman test (Gujarati 2003) as follows. First, we estimate a regression model to extract the residual (\hat{v}) where the dependent variable is the audit committee governance compliance score discussed earlier (section 4.2.5). The independent variables in this model include SIZE, LEV, LIQUIDITY, SQRTSUB, MKT, LOSS, CHGEARN, ABSCFO, BIG4, BLOCK5, and YEAR dummies.¹⁶ Second, we include the residual (\hat{v}) in all the regressions reported in Tables 4, 5 and 6. If the residual (\hat{v}) is statistically significant then there is evidence of potential endogeneity. In all cases, the

¹⁶ LIQUIDITY is current assets over current liabilities, and SQRTSUB is the square root of the number of subsidiaries. All other variables are defined in Table 2.

residual (\hat{u}) is not significant.¹⁷ The most significant z-value of the residual was in the ACIND% test (Table 4) where it was 1.629 but is not significant at $p < 0.10$ (two-tailed test).

5.0 CONCLUSION

This study examines the association between audit committee characteristics and earnings quality in New Zealand, a small capital market with unique institutional and governance characteristics. This research makes the following contributions. First, the study contributes to the literature by showing that audit committee and earnings management associations observed in larger markets such as the U.S. do not hold in a smaller market such as New Zealand. For example, 100% independence on the audit committee is not related to aggressive earnings management but it is related in a U.S. setting (e.g., Bedard et al. 2004). Second, the study adds to the limited literature on incentive effects by documenting relationships between executive, non-executive, and independent directors' stock ownership and their other board seats on earnings quality.

Third, the study raises important implications for relevant regulatory bodies in New Zealand. Policy-makers in New Zealand may need to consider whether amendments to the audit committee guidelines and enforcements are required. The results suggest majority independent directors on the audit committee reduce earnings management and such features of the audit committee could be enforced. However, 100% non-executive representation may not be necessary as the results show non-executive directors on the audit committee do not reduce the likelihood of aggressive earnings management. We posit this is because non-executive directors have an affiliation with the firm and thus undermine their independence.

¹⁷ We thank a referee for this suggestion. We also estimated the regression by including aggressive earnings management (AEM) as an explanatory variable to determine if it is related to firms following the New Zealand audit committee recommendations. This test shows AEM is not significant ($t = -0.527$).

When independent directors on the audit committee own stocks in the firm, the likelihood of aggressive earnings management decreases. However, executive and non-executive directors owning stocks have incentives to engage in earnings management. New Zealand policy makers may want to consider restricting such directors from serving on the audit committee. Further research is required to determine the threshold at which stock ownership becomes a problem. Although our results suggest it may not be necessary to limit other board seats held by independent directors, more research is required.

As with other research, this study has potential limitations. Consistent with Bedard et al. (2004), we took precautions to limit the effect of measurement errors in the estimation of abnormal accruals in a small market like New Zealand by using a categorical variable rather than the magnitude of abnormal accruals as the dependent variable. Since New Zealand firms do not publicly disclose financial restatements and the incidence of modified audit opinion is nil in our sample, we are unable to use these empirical indicators as a proxy for earnings quality. Finally, our results are based on a small sample which although not unsurprising for a small country setting, as more governance data becomes available in New Zealand, future research can replicate our results and incorporate variables limited by data unavailability.

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Table 1: Summary of Sample Selection

NZX listed firms (NZSX and NZAX) over 2004 and 2005	393
Less: Investment industry firms	(27)
Less: Finance and insurance firms	(36)
Less: Equity and trust firms	(12)
Less: Mining firms	(6)
Less: Utility firms	(18)
Less: Foreign firms	(86)
Less: Firms without audit committees	(14)
Total sample size (97 from 2004 and 97 from 2005)	194

Table 2: Descriptive Data (n = 194)

Variable	Mean	Med	SD	Q1	Q3
<u>Audit Committee Variables</u>					
Independence					
ACEX%	0.175	0.000	0.196	0.000	0.333
ACNE%	0.106	0.000	0.234	0.000	0.333
ACNE51%	0.046	0.000	0.210	0.000	0.000
ACNE100%	0.010	0.000	0.101	0.000	0.000
ACIND%	0.717	0.667	0.223	0.667	1.000
ACIND51%	0.799	1.000	0.401	1.000	1.000
ACIND100%	0.299	0.000	0.458	0.000	1.000
ACCHAIR_IND	0.710	1.000	0.457	0.000	1.000
Expertise					
EXPTEX%	0.188	0.250	0.184	0.000	0.333
EXPTNE%	0.100	0.000	0.164	0.000	0.333
EXPTIND%	0.695	0.666	0.154	0.666	0.750
ONEEXPERT	0.979	1.000	0.142	1.000	1.000
Stockholding					
ACSHEX%	5.135	3.450	8.962	0.030	8.124
ACSHNE%	3.383	0.030	6.420	0.000	3.661
ACSHIND%	0.514	0.087	1.162	0.000	0.462
Multiple directorships					
ACMDEX%	0.604	0.667	0.407	0.300	1.000
ACMDNE%	0.594	0.667	0.406	0.267	1.000
ACMDIND%	0.509	0.500	0.411	0.000	1.000
Size					
ACSIZE	3.340	3.000	0.915	3.000	4.000
ACSIZE_MIN3	0.912	1.000	0.283	1.000	1.000
Meeting					
ACMEET	2.600	2.000	1.340	2.000	4.000
LN_MEET	1.217	1.098	0.358	1.098	1.609
<u>Control Variables</u>					
SIZE	18.292	18.470	2.067	17.181	19.493
LEV	0.559	0.409	1.776	0.263	0.576
MKT	3.067	0.890	12.186	0.547	1.706
LOSS	0.190	0.000	0.394	0.000	0.000
CHGEARN	0.948	0.009	6.504	0.003	0.026
ABSCFO	0.340	0.090	1.588	0.042	0.199
BIG4	0.790	1.000	0.406	1.000	1.000
BLOCK5	0.544	0.584	0.242	0.338	0.722

ACEX% = proportion of executive directors on the audit committee;
ACNE% = proportion of non-executive directors on the audit committee;
ACNE51% = 1 if the audit committee comprises majority non-executive directors, 0 otherwise;
ACNE100% = 1 if the audit committee comprises solely of non-executive directors, 0 otherwise;
ACIND% = proportion of independent directors on the audit committee;
ACIND51% = 1 if the audit committee comprises majority independent directors, 0 otherwise;
ACIND100% = 1 if the audit committee comprises solely of independent directors, 0 otherwise;
ACCHAIR_IND = 1 if the audit committee chair is an independent director, 0 otherwise;
EXPTEX% = percentage of executive directors on the audit committee with financial or accounting expertise;
EXPTNE% = percentage of non-executive directors on the audit committee with financial or accounting expertise;
EXPTIND% = percentage of independent directors on the audit committee with financial or accounting expertise;

ONEEXPERT	= 1 if at least one director who is non-executive or independent has accounting or financial expertise, 0 otherwise;
ACSHEX%	= cumulative percentage of stock owned by executive directors on the audit committee;
ACSHNE%	= cumulative percentage of stock owned by non-executive directors on the audit committee;
ACSHIND%	= cumulative percentage of stock owned by independent directors on the audit committee;
ACMDEX%	= percentage of executive directors on the audit committee serving on three or more other boards;
ACMDNE%	= percentage of non-executive directors on the audit committee serving on three or more other boards (six or more for retired directors);
ACMDIND%	= percentage of independent directors on the audit committee serving on three or more other boards (six or more for retired directors);
ACSIZE	= total number of directors on the audit committee;
ACSIZE_MIN3	= 1 if audit committee comprises minimum of three members, 0 otherwise;
ACMEET	= total number of audit committee meetings during the financial year;
LN_MEET	= natural logarithm of the total number of audit committee meetings during the financial year;
LEV	= ratio of long term debt to total assets;
MKT	= market value of the firm divided by book value of total assets;
LOSS	= 1 if income before extraordinary items is negative for two consecutive years, 0 otherwise;
CHGEARN	= absolute value of the change in net income between the current and prior year deflated by lagged total assets;
ABSCFO	= absolute value of cash from operations deflated by lagged total assets;
SIZE	= natural logarithm of the total assets of the firm;
BIG4	= 1 if the firm is audited by Big 4 (KPMG, Deloitte, E&Y or PwC), 0 otherwise; and
BLOCK5	= cumulative percentage of common stock held by stockholders holding at least 5% ordinary stock in the firm.

Table 3: Correlation Matrix for Independent Variables (n = 194)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
ACEX% (1)	1.00																	
ACNE% (2)	-0.48	1.00																
ACNE51% (3)	-0.16	0.58	1.00															
ACNE100% (4)	-0.09	0.39	0.46	1.00														
ACIND% (5)	-0.38	-0.63	-0.48	-0.33	1.00													
ACIND51% (6)	-0.32	-0.41	-0.44	-0.20	0.72	1.00												
ACIND100% (7)	-0.43	-0.46	-0.14	-0.07	0.83	0.33	1.00											
ACCHAIR_IND (8)	0.24	0.01	-0.13	-0.05	0.28	0.31	0.05	1.00										
EXPTEX% (9)	0.49	-0.11	-0.03	-0.11	-0.32	-0.15	-0.43	-0.08	1.00									
EXPTNE% (10)	-0.32	0.27	0.02	-0.06	-0.01	-0.02	0.04	-0.02	-0.62	1.00								
EXPTIND% (11)	-0.27	-0.18	0.04	0.20	0.43	0.27	0.52	0.17	-0.50	-0.29	1.00							
ONEEXPERT (12)	-0.18	0.07	0.03	0.02	0.09	0.12	0.01	-0.01	-0.18	0.09	0.11	1.00						
ACSHEX% (13)	0.14	0.01	-0.04	-0.03	-0.13	-0.08	-0.15	-0.10	0.09	-0.03	-0.06	0.19	1.00					
ACSHNE% (14)	0.02	0.15	-0.08	-0.05	-0.18	-0.06	-0.21	-0.10	0.05	0.14	-0.21	0.08	0.32	1.00				
ACSHIND% (15)	0.04	-0.07	0.02	-0.03	0.03	0.12	-0.02	0.11	-0.09	0.01	0.04	0.06	0.10	0.13	1.00			
ACMDEX% (16)	-0.23	0.11	0.15	0.13	0.08	0.04	0.16	-0.02	-0.11	0.08	0.09	0.11	0.05	-0.00	-0.00	1.00		
ACMDNE% (17)	0.03	-0.03	0.02	0.00	0.00	0.01	-0.01	-0.10	-0.00	0.02	0.01	-0.15	0.22	-0.04	-0.01	-0.29	1.00	
ACMDIND% (18)	0.06	-0.09	-0.00	0.00	0.03	-0.02	0.00	0.04	0.01	-0.01	0.02	-0.04	-0.22	-0.04	-0.05	-0.02	-0.37	1.00
ACSIZE (19)	0.21	0.07	0.00	-0.09	-0.30	-0.00	0.05	0.01	0.25	-0.03	-0.32	0.13	0.07	0.14	-0.01	-0.07	-0.09	-0.04
LN_MEET (20)	0.08	-0.06	0.05	0.08	-0.01	-0.02	0.03	-0.02	0.01	0.03	-0.05	0.03	0.03	0.13	-0.02	-0.10	0.08	0.12
SIZE (21)	-0.10	-0.06	-0.03	0.07	-0.15	0.17	0.14	0.01	-0.11	0.12	0.02	0.13	-0.13	-0.08	-0.01	0.13	0.05	0.27
LEV (22)	-0.07	-0.04	-0.02	-0.00	0.10	0.04	0.12	0.05	0.04	-0.04	-0.00	0.04	0.01	-0.02	-0.01	0.00	-0.03	-0.09
MKT (23)	0.04	-0.05	-0.02	0.00	0.01	0.06	-0.01	0.07	0.06	-0.07	0.02	0.03	-0.00	0.02	0.06	-0.13	0.07	-0.04
LOSS (24)	0.17	-0.07	0.02	-0.05	-0.08	-0.08	-0.12	-0.15	0.26	-0.27	-0.04	0.07	0.16	-0.02	-0.03	-0.11	0.11	-0.06
CHGEARN (25)	-0.10	-0.06	-0.03	-0.01	0.15	0.06	0.18	0.08	0.05	-0.08	0.04	0.02	-0.04	-0.07	-0.00	-0.04	-0.02	-0.04
ABSCFO (26)	0.03	0.00	0.00	-0.00	-0.04	-0.09	-0.02	-0.07	0.06	-0.02	-0.03	0.03	-0.04	-0.07	-0.01	0.00	-0.06	0.08
BIG4 (27)	-0.09	-0.03	-0.07	0.05	0.11	0.09	0.11	0.18	-0.18	0.16	0.05	0.11	-0.30	-0.00	0.07	0.05	-0.14	0.20
BLOCK5 (28)	-0.02	-0.11	-0.07	-0.05	0.13	0.17	0.09	-0.11	-0.03	-0.03	0.12	0.06	0.00	0.08	-0.07	-0.08	0.05	-0.06

Variable	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
ACSIZE (19)	1.00									
LN_MEET (20)	0.00	1.00								
SIZE (21)	0.08	0.06	1.00							
LEV (22)	-0.03	0.09	-0.32	1.00						
MKT (23)	-0.06	-0.00	-0.37	0.31	1.00					
LOSS (24)	-0.07	0.00	-0.43	-0.03	0.17	1.00				
CHGEARN (25)	-0.08	0.01	-0.26	0.65	0.40	0.05	1.00			
ABSCFO (26)	-0.14	-0.10	-0.26	0.10	0.11	0.26	0.21	1.00		
BIG4 (27)	0.11	0.02	0.40	-0.12	-0.02	-0.24	-0.06	-0.10	1.00	
BLOCK5 (28)	-0.16	-0.02	-0.11	0.01	0.03	0.09	-0.03	0.07	-0.07	1.00

Pearson correlations significant at $p < 0.05$ are in bold. All variables are defined in Table 2.

Table 4: Logistic Regression Analysis for Audit Committee Independence (n = 194)

	<i>Predicted Sign</i>	<i>ACNE%</i>	<i>ACNE51%</i>	<i>ACNE100%</i>	<i>ACIND%</i>	<i>ACIND51%</i>	<i>ACIND100%</i>
Intercept	?	1.083 (0.280)	1.959 (0.976)	2.110 (1.140)	2.193 (1.188)	1.733 (0.753)	1.886 (0.895)
INDEP	?	1.862 (6.650)***	1.361 (2.585)**	21.117 (0.000)	-1.335 (-3.362)***	-0.699 (-3.043)***	-0.204 (-0.353)
SIZE	-	-0.119 (-1.269)	-0.148 (-2.035)	-0.148 (-2.055)	-0.108 (-1.030)	-0.105 (-0.981)	-0.135 (-1.663)
LEV	+	1.198 (4.708)***	1.233 (4.973)***	1.157 (4.700)***	1.162 (4.507)***	1.170 (4.655)***	1.172 (4.770)***
MKT	?	0.042 (2.648)***	0.043 (2.719)***	0.040 (2.415)**	0.041 (2.358)**	0.044 (2.820)***	0.041 (2.477)**
LOSS	?	-0.273 (-0.355)	-0.407 (-0.818)	-0.402 (-0.808)	-0.403 (-0.802)	-0.436 (-0.924)	-0.425 (-0.901)
CHGEARN	?	-0.565 (-4.700)***	-0.595 (-5.147)***	-0.568 (-4.961)***	-0.556 (-4.530)***	-0.573 (-4.864)***	-0.575 (-4.958)***
ABSCFO	?	0.781 (0.790)	0.978 (1.061)	1.189 (1.741)*	1.156 (1.601)	1.271 (1.933)*	1.264 (1.967)*
BIG4	-	-0.192 (-0.206)	-0.177 (-0.176)	-0.236 (-0.323)	-0.193 (-0.212)	-0.241 (-0.327)	-0.215 (-0.266)
BLOCK5	-	0.463 (0.513)	0.325 (0.259)	0.240 (0.145)	0.417 (0.416)	0.441 (0.459)	0.243 (0.147)
LN_MEET	?	0.113 (0.053)	0.004 (0.000)	-0.011 (-0.001)	0.012 (0.001)	0.015 (0.001)	0.018 (0.001)
YEAR	?	-0.200 (-0.331)	-0.218 (-0.401)	-0.209 (-0.373)	-0.210 (-0.370)	-0.197 (-0.325)	-0.236 (-0.476)
Pseudo R ²		16.0%	13.4%	13.1%	13.7%	13.5%	11.7%
χ^2		24.692***	20.502**	20.016**	20.976**	20.603**	17.856**

INDEP is the generic metric for audit committee independence and each independence variable in the column headings is defined in Table 2. YEAR = 1 if financial year is 2004, 0 otherwise. All other variables are defined in Table 2. The associated z-statistic is reported in parenthesis and ***, **, and * indicate significance at the 0.01, 0.05 and 0.10 levels, respectively.

Table 5: Logistic Regression Analysis for Audit Committee Expertise, Stock Ownership and Multiple-directorships (n = 194)

	Predicted Sign	EXEC	NONEXEC	INDEP
Intercept	?	1.466 (0.547)	1.718 (0.720)	3.204 (2.095)**
EXPERT	-	0.173 (0.039)	1.158 (1.328)	-1.748 (-2.682)***
STOCK	?	0.098 (3.488)***	0.044 (2.999)***	-0.283 (-2.540)**
OTHBOD	?	-0.029 (-0.001)	0.377 (0.452)	-0.704 (-2.951)***
SIZE	-	-0.122 (-1.410)*	-0.125 (-1.398)*	-0.128 (-1.359)*
LEV	+	0.923 (4.929)***	1.022 (5.098)***	1.157 (4.788)***
MKT	?	0.032 (1.834)**	0.035 (1.948)**	0.044 (3.012)***
LOSS	?	-0.553 (-1.322)	-0.272 (-0.328)	-0.471 (-1.043)
CHGEARN	?	-0.459 (-4.788)***	-0.504 (-4.978)***	-0.583 (-5.380)***
ABSCFO	?	1.283 (2.973)***	1.339 (2.797)***	1.403 (2.469)**
BIG4	-	0.001 (0.000)	-0.310 (-0.517)	-0.124 (-0.086)
BLOCK5	-	0.172 (0.074)	0.081 (0.016)	0.326 (0.237)
LN_MEET	-	-0.003 (-0.000)	-0.174 (-0.125)	0.049 (0.010)
YEAR	?	-0.223 (-0.415)	-0.228 (-0.422)	-0.252 (-0.512)
Pseudo R ²		14.2%	14.9%	17.4%
χ^2		21.627**	22.480**	26.630***

EXPERT, STOCK and OTHBOD are the generic metric for audit committee expertise, stock ownership and multiple directorships, respectively, for each of the three types of directors as defined in Table 2. YEAR = 1 if financial year is 2004, 0 otherwise. All other variables are defined in Table 2. The associated z-statistic is reported in parenthesis and ***, **, and * indicate significance at the 0.01, 0.05 and 0.10 levels, respectively.

Table 6: Logistic Regression Analysis for the New Zealand Recommendations (n = 194)

	Predicted Sign	Coefficient	z-value
Intercept		0.825	0.125
ACSIZE_MIN3	?	1.070	2.835***
ACNE100%	-	0.555	2.558**
ACIND51%	-	-1.069	-5.892***
ONEEXPERT	-	0.175	0.020
ACCHAIR_IND	-	0.607	2.716***
LEV	+	1.322	5.040***
MKT	?	0.049	3.180***
LOSS	?	-0.356	-0.579
CHGEARN	?	-0.651	-5.468***
ABSCFO	?	1.085	1.251
SIZE	-	-0.143	-1.721**
BIG4	-	-0.389	-0.783
BLOCK5	-	0.618	0.865
LN_MEET	-	0.024	0.002
YEAR	?	-0.217	-0.375
Pseudo R ²			17.8%
χ^2			27.683**

YEAR = 1 if financial year is 2004, 0 otherwise. All other variables are defined in Table 2. For the associated z-statistic, ***, **, and * indicate significance at the 0.01, 0.05 and 0.10 levels, respectively.