

**THE IMPACT OF DISCLOSURE REFORM AND  
ALTERNATIVE SOURCES OF EARNINGS-RELATED  
INFORMATION ON THE MARKET REACTION TO FIRM-  
BASED EARNINGS-RELATED DISCLOSURES**

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# **The Impact of Disclosure Reform and Alternative Sources of Earnings-Related Information on the Market Reaction to Firm-Based Earnings-Related Disclosures**

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# **The Impact of Disclosure Reform and Alternative Sources of Earnings-Related Information on the Market Reaction to Firm-Based Earnings-Related Disclosures**

## **Abstract**

Our study seeks to investigate changes in the market reaction to earnings-related disclosures following the introduction of the New Zealand continuous disclosure reform. We further extend to study whether these changes are different when there exist the alternative sources of earnings-related information. Using the sample of 580 earnings forecasts and 626 earnings announcements released by 94 firms listed on the New Zealand Exchange during the financial reporting periods ending from 31 January 1999 to 31 December 2005, we find evidence that the introduction of the disclosure reform has impacted to the market reaction to earnings-related disclosures and the availability of alternative sources of earnings-related information plays an important role in shaping this impact. Specifically, the market places less emphasis on post-disclosure reform management earnings forecasts issued by firms of which the alternative sources of earnings-related information are available. There is a significant reduction in the market reaction to earnings announcements in the post-disclosure reform period. This reduction is mainly driven by group of earnings announcements issued by firms of which the alternative sources of earnings-related information are not available. These findings suggest that while the enhancement of disclosure regulation in New Zealand is considered to have some positive impact on the financial environment which is consistent with regulatory intent, the regulators should be aware that the benefits from this disclosure regulation may not be universal and thus the increase in compliance costs borne by all firms could not accordingly be equally justified.

## **1 Introduction**

New Zealand has introduced statutory backing for the New Zealand Exchange's (NZX) continuous disclosure listing rules from 1 December 2002, which requires listed firms to disclose material information to the capital market as soon as they arise in order to promote the efficiency and integrity of the capital market (Securities Markets Amendment Act, 2002). Early work on this disclosure reform by Poskitt and Yang (2006), Frijns et al. (2008), Huang et al. (2009) and Dunstan et al. (2010) collectively identifies a range of impacts of the disclosure reform including changes in capital market characteristics and corporate disclosure behaviour. The dispersion of analysts' earnings forecasts, the market reaction to earnings announcements and the information component of the bid-ask spread for less liquid stocks all decreased following the enforcement of the disclosure reform (Frijns et al., 2008; Huang et al., 2009). According to Huang et al. (2009), firms increased the number of price-sensitive disclosures released to the market and improved the timeliness of their earnings announcements. Focusing on management earnings forecasts, Dunstan et al. (2010) provide strong evidence that there have been significant changes in the likelihood, frequency and qualitative characteristics of management earnings forecasts in the post-disclosure reform period. Specifically, there has been an increase in the likelihood that firms issue an earnings forecast (overall and non-routine), the frequency of earnings forecasts issued by firms (overall and non-routine), and precision and the accuracy of earnings forecasts.

However, despite the broad scope adopted in Poskitt and Yang (2006), Frijns et al. (2008) and Huang et al. (2009), none of these studies investigate the role of alternative sources of earnings-related information and the importance of management earnings forecasts while examining the disclosure reform's impact on general capital market characteristics. Also, although Dunstan et al. (2010) find significant changes in management earnings forecast

behaviour across the disclosure reform, their study has not yet provided any evidence documenting whether these incremental changes have had any impact on the general capital market characteristics. Collectively, while these findings have provided some evidence about the positive impact of the disclosure reform on capital market characteristics and corporate disclosure behaviour, we are still not in the position to fully understand how the disclosure reform interacting with the alternative sources of earnings-related information has changed corporate disclosure behaviour in general and management earnings forecast behaviour in particular, which, in turn, has impacted on the market reaction of earnings-related disclosures issued by firms and the overall information environment.

Our study seeks to investigate the impact of this disclosure reform on the market reaction to earnings-related disclosures issued by firms. We further investigate whether any impact of this disclosure reform on the market reaction to earnings-related disclosures is influenced by the availability of alternative sources of earnings-related information. New Zealand provides an ideal experimental setting to explore the impact of a possible substitution between firm-based earnings-related disclosures and those earnings-related disclosures acquired from the alternative sources because of the relatively low number of NZX-listed firms being followed by active analysts and/or cross-listed in a foreign exchange (Dunstan et al., 2010). Our study contributes to this literature in two ways. First, unlike the broad scope adopted by the three prior studies on capital market characteristics, we focus specifically on the changes in the market reaction to the main earnings-related disclosures issued by firms (i.e. management earnings forecasts and earnings announcements) across the disclosure reform. We present a detailed empirical analysis of these changes while considering the important role of alternative sources of earnings-related information. Second, we add to the prior research which analyses the market reaction to earnings announcements by controlling for the presence of management earnings forecasts and their accuracy.

We examine the changes in the market reaction to earnings-related disclosures (i.e. management earnings forecasts and earnings announcements) following the introduction of the disclosure reform, using a sample of 580 management earnings forecasts and 626 earnings announcements provided by 94 NZX-listed firms during the 31 January 1999 to 31 December 2005 financial reporting periods. In our analysis, we investigate whether the availability of alternative sources of earnings-related information (i.e. analyst coverage and media attention as proxied by cross-listing status on a foreign exchange) has had any impact on these changes.

Our results show that the introduction of the disclosure reform has impacted on the market reaction to earnings-related disclosures and the availability of alternative sources of earnings-related information plays an important role in shaping this impact. Controlling for time-series dependency and firm-specific characteristics, we provide some evidence of a smaller market reaction around management earnings forecasts and earnings announcements after the enforcement of the disclosure reform. Specifically, the market reacts less to management earnings forecasts issued by firms which are followed by analysts and/or cross-listed on a foreign exchange following the introduction of the disclosure reform. To some extent, these findings suggest that the information content of a post-disclosure reform incremental management earnings forecast decreased when there exist alternative sources of earnings-related information. There is a significant reduction in the market reaction to earnings announcements in the post-disclosure reform period. This reduction is mainly driven by the group of firms which are not followed by analysts and/or cross-listed on a foreign exchange. These findings suggest that the positive impact of the disclosure reform in New Zealand on the overall information environment just before the release of earnings announcements has been restricted to firms which are not followed by analysts and/or not cross-listed on a foreign exchange. In other words, the relative benefits of the enforcement of this disclosure reform

seem to be less where the alternative sources of earnings-related information are available in the capital market.

The remainder of our study is organised as follows. Section 2 provides background to the continuous disclosure reform in New Zealand. Section 3 develops the research hypotheses. Section 4 presents details about control variables. Section 5 describes the research design. Section 6 presents the results and our study concludes in section 7.

## **2 Background to the New Zealand Continuous Disclosure Reform**

Prior to 1 December 2002, New Zealand securities law only required firms to provide periodic disclosures (the filing of annual reports), episodic disclosures (e.g. the disclosure of share dealings by directors), and IPO-related disclosures (Erlenwein, 2003). Listed firms were only bound by continuous disclosure obligations under the NZX Listing Rule 10.1.1. Under this rule, listed firms had a general obligation to disclose all price-sensitive information (relevant information) once the maintenance of confidentiality ceased to have a greater value to the issuer concerned than to the public. Like most stock exchanges' requirements, the NZX listing rules are purely contractual provisions that firms accept upon listing. Like other listing rules, the NZX had responsibility for monitoring and enforcing compliance with Rule 10.1.1. The purely contractual nature of the disclosure obligation led to concerns about the effectiveness of Rule 10.1.1. Specifically, the NZX's enforcement mechanisms were considered inadequate, the definition of relevant information was vague, uncertain and broad, and the rules were inconsistent with international standards (Erlenwein, 2003).

The continuous disclosure reform came into force on 1 December 2002 under the Securities Markets Amendment Act 2002. It was based on the principle that a strong (statutory-backed) continuous disclosure regime would deliver superior outcomes to a rules-based model and as

a result, avoid the necessity for costly quarterly reporting.<sup>1</sup> The amended Act does not prescribe the continuous disclosure requirements applying to listed firms; rather, it provides a statutory framework under which the NZX Listing Rule 10.1 operates. The amended Act requires a listed firm to make any material information about events or matters available to participants in the registered exchange's market as they arise (the amended Act, Section 19D). Thus, the amended Act preserves the autonomy of the NZX through recognising its primary responsibility for monitoring its own listing rules. It has also provided an enforcement regime to be implemented by either the Securities Commission, with its persecutory role, or any other person with an interest in any failure to disclose. The amended Act emphasises investor protection through an informed market – a market in which “material information” must be released on a timely basis. According to Section 19E, material information is defined as information that:

*“A reasonable person would expect, if it were generally available to the market, to have a material effect on the price or value of quoted securities of the public issuer.”*

Coinciding with the introduction of the amended Act, on 1 December 2002, the NZX introduced revised Listing Rule 10.1 to ensure compatibility with the amended Act. The revised rule provides that a listed firm should release material information immediately once becoming “aware” of it. A listed issuer is deemed to have come into possession of material information once a director or executive officer has become aware of it in the course of the performance of his or her duties (Listing Rule 10.1.1). The NZX has recognised that there are situations where the issuer should legally be allowed to withhold material information.

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<sup>1</sup> A majority of participants in the New Zealand Securities Commission's consultation process regarding to corporate governance rejected the proposition of mandatory quarterly reporting for three reasons: (1) the continuous disclosure regime is sufficient, (2) unnecessary compliance costs, and (3) the risk of entities managing short-term earnings (New Zealand Securities Commission, 2004, p.57).



Although not incorporated into the amended Act, the “carve-out” provisions are a vital part of the disclosure reform. According to the provisions, material information does not have to be released when: (1) a reasonable person would not expect the information to be disclosed; and (2) the information is confidential and its confidentiality is maintained; and (3) it would either be illegal to release the information, or it contains an incomplete proposal or negotiation, or comprises matters or supposition, or is insufficiently definite, or is for internal management only, or is a trade secret. Even if all three criteria are met, a firm can still be required to release specific information if it is necessary to prevent the development of a false market in a firm’s securities.<sup>2</sup>

If an issuer is found to have breached the continuous disclosure provisions, the Securities Commission has the power under the amended Act to issue an order requiring the issuer to disclose the necessary information and to publish corrective statements at the firm’s expense. If the issuer commits a criminal offence in contravention of an order, a fine of up to \$30,000 can be imposed. The Court may also make civil orders requiring disclosure or corrective statements, imposing pecuniary penalties of up to \$300,000, make compensatory orders, and order the payment of the Securities Commission’s costs and expenses.

### **3 Literature Review and Hypothesis Development**

In a capital market economy, information and agency problems hamper the efficient allocation of resources. Among several potential solutions to mitigate these problems are regulations which require the full disclosure of all firms’ private information and the demand for analysts who engage in uncovering private information about firms and for the media who packages and disseminates information as well as creates new information (Healy and Palepu, 2001; Verrecchia, 2001; Bushee et al., 2009). Given the information and agency problems,

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<sup>2</sup> A false market is “a market for quoted securities which is materially influenced by false or misleading information” (Listing Rule 10.1.1(c)).

managers balance conflicting interests in deciding the optimal level of disclosure for their firms which may not necessarily be the full disclosure option (Verrecchia, 1983; Dye, 1986). In the absence of mandatory disclosure regulation, the decision to voluntarily disclose information is strategically driven and influenced by the nature of the information held by managers, incentives of managers, circumstances of the firms and expected reaction by investors, analysts and media to the disclosures.

Intervention in the form of mandatory disclosure regulation introduces compliance costs and leads managers to reassess their disclosure strategies, realigning the optimal level of voluntary disclosure with the level of mandatory disclosure for their firms. From the analysts' perspective, this regulatory intervention could potentially change the optimal level of information uncovered by analysts. If the optimal level of firms' voluntary disclosure together with firms' level of mandatory disclosure potentially enables analysts to improve their information production process, the demand for analysts could increase and the optimal level of information uncovered by analysts could accordingly increase. Alternatively, if the firms' voluntary and mandatory disclosure pre-empts analysts' information, information to be issued by analysts would be less valuable. Accordingly, the demand for analysts and their optimal of information supplied would decrease. From the media's perspective, this regulation intervention could also alter the optimal level of information packaged, disseminated and created by the media. Similar to the impact of this regulation intervention on the role of analysts, the role of media may be more or less valuable.

From the investors' perspective, the regulatory intervention could also alter the way investors acquire and interpret the information about firms. Investors may find it less costly for them to acquire information directly from the firms and rely less on information provided by the analysts and/or the media. However, investors may be confused by a flood of information,

much of which may not be value relevant to them and rely more on the analysts' and the media's information. Therefore, it is important from a regulatory perspective to understand under what circumstances a mandatory disclosure regulation is effective in providing a desirable level of information in order to correct market expectations of the firm's earnings performance and improve the efficiency and integrity of the capital market.

In the absence of a mandatory requirement for managers to forecast their firms' earnings, management earnings forecasts are important voluntary disclosures providing information about expected earnings of a firm. Managers may release earnings forecasts to correct what they perceive as an inaccurate market expectation of earnings and consequently influence their firms' stock price (Nagar et al., 2003; Hirst et al., 2008). Prior U.S. studies seek to examine whether management earnings forecasts, over which managers have considerable discretion about the timing, frequency, precision and accuracy, carry information content relevant to the capital market. In fact, there is strong evidence that management earnings forecasts are influential on share prices (Patell, 1976; Penman, 1980; Pownall et al., 1993), analyst behaviour (Baginski and Hassell, 1990) and the information asymmetry (Coller and Yohn, 1997).

This prior research has not compared the relative informativeness of unregulated and regulated management earnings forecasts. The disclosure reform in New Zealand, which requires that all price-sensitive information be disclosed immediately to the NZX, provides the opportunity to examine whether the disclosure reform has altered investors' perception of management earnings forecasts. If the disclosure reform is effective in prompting managers to make timelier and more informative earnings-related announcements, we would expect the information surprise associated with each incremental management earnings forecast to be lower in the post-disclosure reform period. If this is the case, the magnitude of the market

reaction to each individual management earnings forecast will decrease in the post-disclosure reform period if the regulation has been effective. Interestingly, if the disclosure reform is effective in penalising misleading management earnings forecasts, the credibility of management earnings forecasts issued in the post-disclosure reform period could be enhanced, leading to a greater market reaction. However, the effectiveness of this disclosure reform has been challenged due to the lack of strong enforcement and the difficulty in compliance (Dunstan et al., 2010). The disclosure reform may not be coercive enough to force managers to reassess their disclosure strategies. If this is the case, there will be no change in the magnitude of the market reaction to each individual management earnings forecast. Given the ambiguity about how the disclosure reform impacts on management earnings forecast behaviour and the market perception of those earnings forecasts, we state our hypothesis regarding the magnitude of market reaction management earnings forecasts in the null form.

*H1: There is no change in the market reaction to management earnings forecasts in the post-disclosure reform period.*

According to Huang et al. (2009) and Dunstan et al. (2010), firms increased the number of price-sensitive disclosures in general, and management earnings forecasts in particular, to the capital market after the enforcement of this disclosure reform. However, we have not learnt from these studies whether the disclosure reform has altered the overall information set available to the capital market.

The disclosure reform may result in changes in the way in which the capital market becomes informed. If the firm becomes a greater information supplier following the disclosure reform, we would expect that there would be less return available for the analysts and the media from their information production. In other words, if the disclosure reform has impacted on the supply of alternative information and created substitution effects then the overall information

set available to the capital market will not be altered. If however, the disclosure reform has lead to more disclosures but not necessarily better disclosures which may be of little value to the analysts, the media and the investors, thus reducing the overall information set available to the capital market (Gaynor, 2003). If alternatively, the disclosure reform has resulted in the disclosure of extra commentary which makes it easier for the analysts and the media to uncover information about firms; we might expect the overall information set to be increased in the post-disclosure reform.

Earnings announcements provide significant information about firms' earnings performance and are found to influence stock prices (Beaver, 1968). However, prior studies show that most of the information provided by earnings announcements has been incorporated into stock prices via earnings-related pre-announcements (Ball and Brown, 1968; Beaver et al., 1980; Freeman, 1987). The magnitude of market reaction to earnings announcements will depend on how much of the underlying information has already been pre-empted. In other words, the magnitude of market reaction to earnings announcement will depend on the overall information set available to the capital market before the release of earnings announcements. An introduction of a disclosure reform will have an impact on the way in which the market reacts to earnings announcements if such disclosure reform has an impact on the overall information set immediately before the release of earnings announcements. Due to the strength of the opposing views regarding the likely impact of the disclosure reform on the overall information set, we state our hypothesis regarding the impact of the disclosure reform on the magnitude of market reaction to earnings announcements in the null form.

*H2: There is no change in the market reaction to earnings announcements in the post-disclosure reform period.*

## **4 Control Variables**

### ***4.1 Analyst Following***

Prior research provides evidence that analysts and investors rely on firms' disclosures, including management earnings forecasts, as a guidance to improve their information production process and tend to provide coverage for and invest in firms providing more disclosures in general and more earnings forecasts in particular (Hirst et al., 2008). The New Zealand environment is characterised by a very low level of analyst following.<sup>3</sup> When firms are followed by analysts, the way that investors acquire and interpret firms' information might depend on how they perceive the information provided directly from firms compared to the information provided by analysts. If investors are comfortable with disclosures issued by firms, they might rely less on analysts' information and thus reacting more strongly to firms' disclosures. However, if investors find disclosures issued by firms not relevant or difficult to interpret, they might rely more on analysts' information and thus reacting less strongly to firms' disclosures. Therefore, it is important to control for analyst following.

### ***4.2 Cross-listing Status***

According to Baker et al. (2002), firms cross-listed on a foreign exchange experienced a significant increase in their visibility in the capital market by getting more attention from both analysts and media. Also, firms cross-listed on other foreign exchange could be subjected to more onerous disclosure rules which existed prior to the disclosure reform.<sup>4</sup> These more onerous disclosure rules and their associated litigation risk for non-compliance are likely to lead to fewer ad-hoc and low quality disclosures for those firms. Such an expectation is

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<sup>3</sup> Dunstan et al. (2010) document only 55.38% of their sample firms year being followed by analysts. Huang et al. (2009) report only 83 NZX-listed firms are covered by I/B/E/S.

<sup>4</sup> For example, firms cross-listed in the ASX have already subjected to the Australian continuous disclosure regime which came into force in 1994 or firms cross-listed in the U.S. have already required to lodge quarterly reporting and Form 8-K for certain events.

consistent with the findings of Dunstan et al. (2010) who find that cross-listed firms did not significantly change their disclosure strategies in the post-disclosure reform period. We, therefore, include cross-listing status as a control.

### ***4.3 Forecast-specific Characteristics***

Most prior studies of the market reaction to management earnings forecasts consistently document a greater market reaction to bad news than for good news management earnings forecasts. Investor reaction to management earnings forecasts varies depending on the confidence in which they have in the quality of the information disclosed. This is driven in part by the expectations that investors have about the disclosure motives of firms and their assessment of the quality of the information disclosed (Skinner, 1994; Soffer et al., 2000). Therefore, we seek to control for the nature of the earnings news.

Management may release earnings forecasts as part of a routine event such as the chairman's address at the annual general meeting or concurrently with the release of mandatory reports. Management may also update the market through the release of a non-routine announcement at any time. To some extent, the market would only expect to make non-routine earnings forecasts where the benefits of the disclosure are high, thus reacting more strongly to the non-routine disclosures. Thus, it is important to control for the non-routine nature of the earnings forecasts.

Prior studies also document the impact of other forecast-specific characteristics on the market reaction to management earnings forecasts. Baginski et al. (1993) reveal that the market reacts more to forecasts with higher levels of precision (i.e. point forecasts carry more information content compared to other less precise ones). However, Pownall et al. (1993) and Atiase et al. (2005) find that the forecast precision has no impact on the forecasts' information content. In respect of forecast horizon, Pownall et al. (1993) and Ng et al. (2008) confirm that earnings

forecasts with shorter horizons are of higher quality and more relevant to the capital market. In respect of prior forecast accuracy, Hutton and Stocken (2009) find that the market reacts more promptly to both good news and bad news earnings forecasts released by firms with a strong reputation for providing accurate forecasts. Given these prior research findings, we expect that these qualitative characteristics of management earnings forecasts in terms of forecast precision, forecast horizon and prior forecast accuracy would impact on the market reaction; thus, these three forecast-specific characteristics are controlled in the testing procedure.

#### ***4.4 Firm-specific Characteristics***

There are also numerous firm-specific factors that are likely to influence the market reaction to earnings-related announcements. Prior research has shown that firm-specific attributes such as firm performance, firm size and growth opportunities impact the disclosure decision and market interpretation of this decision (Atiase et al., 1988; Holthausen and Verrecchia, 1988; Gaver and Gaver, 1993). We, therefore, include these controls in all of our models.

### **5 Research Design**

#### ***5.1 Study Period and Sample***

The focus of our study is to examine the impact of the New Zealand disclosure reform on market reaction to earnings-related disclosures. Our data starts with financial reporting period ending on 31 January 1999, the earliest date for which reliable disclosure data is available, and extends to the financial reporting period ending on 31 December 2005.<sup>5</sup> This gives us roughly an eight-year testing period. Our focus is on the population of all NZX-listed firms

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<sup>5</sup> We have selected a data period up until end of 2005 due to the potential of a further regulatory reform with the issue of the Securities Legislation Bill in early 2006. It is possible that the market reaction to earnings-related disclosures after this data might be influenced by these potential regulatory changes, rather than being solely influenced by the 2002 disclosure reform.



that survived at least for the period from 28 September 1999 to 13 September 2004. The total sample meets this criterion is 94 firms that issued 2650 usable announcements containing current or prospective information about earnings over the study period. 720 of these announcements contain usable earnings forecasts, among which 580 are bad or good news earnings forecasts.<sup>6</sup> Our second sample of focus contains a total of 626 usable earnings announcements during the same time period. Details of the sample selection procedure are provided in Table 1.

## ***5.2 Data Sources***

The cross-listing status and listing data information are taken directly from the NZX helpline service. Earnings and other accounting variables, market capitalisation and market-based data are obtained from either the IRG or the Datastream database. All disclosure data are obtained from the IRG database.

## ***5.3 Identification and Coding of Management Earnings Forecasts***

All announcements made over the study period are coded accordingly to the underlying (routine or non-routine) events associated with the announcements. Routine event announcements are defined as periodic announcements common to all firms required under the NZX listing rules or are in common practice. They include announcements containing mandatory period reports (quarterly, half-yearly, preliminary and annual reports) and other periodic releases associated with repetitive events, including the chairman's address at the annual general meeting, letters to shareholders, and other regular periodic financial updates. All other announcements are considered non-routine announcements. Earnings forecasts are

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<sup>6</sup> We exclude neutral news earnings forecasts from our testing as it is not clear whether neutrals news earnings forecasts are purely neutral or indicating good news or bad news to the capital market.

further classified according to their news content (good and bad news), precision (qualitative, open-ended, range and point estimates), and timing (horizon).

Earnings forecasts are classified as good (bad) news if the content reveals favourable (unfavourable) earnings prospects relative to the last periodic earnings announcement or the last earnings forecasts if one has been provided since the last periodic earnings announcement.

Forecast precision is defined as the level of specificity in the earnings forecasts. We follow Baginski et al. (2002) and Ajinkya et al. (2005) by using an ordinal coding scheme where precision is coded as 0, 1, 2 and 3 for qualitative, open-ended, range and point estimates, respectively). Qualitative forecasts are those where management provides a general impression about the expected performance (e.g. “we expect improved earnings performance this year”). These qualitative forecasts do not capture any precise numeric interpretation about the firms’ expected performance. Open-ended forecasts are forecasts where management specifies a lower bound or an upper bound for the expected firm performance (e.g. “profit will be greater than \$5 million” or “profit will be lower than \$2 million”). Range forecasts contain a precise numeric range of expected firm performance (e.g. “profit will be between \$1.1 and \$1.3 million”). Point forecasts are the most specific, indicating a precise single numerical figure about expected performance (e.g. “net income will be \$1.2 million”).

Forecast horizon captures the timeliness of the earnings forecasts. Assuming forecasts are accurate, longer forecast horizon provides investors with information on a timelier basis. Baginski et al. (2002) define forecast horizon as the number of calendar days until period end, regardless of whether the period is an interim or annual forecasting period. We follow the similar procedure and based on the facts that most forecasts in New Zealand relate to current

full period earnings, we measure forecast horizon as the number of calendar days between the release date of the earnings forecast and the end of the current financial year.

We follow Hutton and Stocken (2009) in suggesting that prior year's forecast accuracy would enhance the credibility of the current year's earnings forecasts.

#### ***5.4 Market Reaction to Management Earnings Forecasts and Earnings Announcements***

Cumulative abnormal returns around the release date of the earnings forecasts and earnings announcements are used as the measurement of the market reaction to these announcements. The abnormal return for each day of the event window is measured using the single factor market model with the NZX Top40&50 Index.<sup>7</sup>

Prior research reveals inconsistency in the length of event window for cumulative abnormal return measurement. Shorter windows fail to fully capture the effects of analyst briefings pre- and post-announcements, occasional NZX misspecification of announcement dates and delayed reaction to announcements due to the subsequent press coverage or firm press release. However, wider event windows create the risk of capturing other event effects, such as the weekend effect, that are not related to earnings forecasts and earnings announcements. Skinner (1994) uses the [0,1] model while Kasznik and Lev (1995) use several different event windows including the five day windows. We propose the use of five day window to capture the market reaction to earnings forecasts and earnings announcements.

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<sup>7</sup> The NZX Top 40&50 Return Index changed from Top 40 to Top 50 on 28 February 2003. The method advised by the NZX to create a continuous series of the NZX Top 40&50 Return Index is as follows. From the 28 February 2003 up to the present time, the NZX Top50 Return Index is used. From the 28 February 2003 backward, a news data set based on the previous NZX Top40 Return Index is created by using the following formula:

NZX Top50 Return Index Equivalent = (NZX Top 40 Return Index \* NZX Top50 Return Index as on 28 February 2003)/NZX Top40 Return Index as on 28 February 2003.

### 5.5 Hypothesis Testing Procedures

Our hypotheses are tested using univariate methods and due to the expected interactions across constructs, multivariate methods are employed to jointly test hypotheses and to control for common firm-specific characteristics expected to impact on the market reaction to earnings forecasts and earnings announcements. Depending on the results of Breusch and Pagan Lagrangian and Hausman test, we employ the random effects, fixed effects or OLS linear regression models where appropriate to make the inferences about the hypothesised relationships and to control for forecast-specific and firms-specific characteristics. The generic models are depicted as follows.

$$CAR_{i,t} = a_0 + a_1 REFORM_{i,t} + a_2 ENEWS_{i,t} + a_3 NREVENT_{i,t} + a_4 PRECISE_{i,t} + a_5 FHORIZON_{i,t} + a_6 PRIOR\_INACCURACY_{i,t} + a_7 ECHANGE_{i,t} + a_8 SIZE_{i,t} + a_9 XLIST_{i,t} + a_{10} MVBV_{i,t} + a_{11} ANALYST_{i,t} + (u_i + \varepsilon_{i,t}) \quad (1)$$

$$EACAR_{i,t} = b_0 + b_1 REFORM_{i,t} + b_2 ECSIGN_{i,t} + b_3 ECHANGE_{i,t} + b_4 SIZE_{i,t} + b_5 XLIST_{i,t} + b_6 MVBV_{i,t} + b_7 ANALYST_{i,t} + b_8 PRE-EMPT_{i,t} + (w_i + \theta_{i,t}) \quad (2a)$$

$$EACAR_{i,t} = c_0 + c_1 REFORM_{i,t} + c_2 ECSIGN_{i,t} + c_3 ECHANGE_{i,t} + c_4 SIZE_{i,t} + c_5 XLIST_{i,t} + c_6 MVBV_{i,t} + c_7 ANALYST_{i,t} + c_8 ACCURACY_{i,t} + \delta_{i,t} \quad (2b)$$

Models 1 and 2a-b are used to test the changes in the market reaction to earnings forecasts (H1) and earnings announcements (H2) following the disclosure reform, respectively. The definitions of the dependent variables are as follows.

*CAR* is the natural logarithm of the absolute value of the five day abnormal return associated with the management earnings forecasts.

*EACAR* is the natural logarithm of the absolute value of the five day abnormal return associated with the earnings announcements.

*REFORM* is a dichotomous variable taking the value of 1 if the current financial year ends in the post-disclosure reform period or 0 otherwise.

*ENEWS* is a dichotomous variable taking the value of 1 if the earnings forecast indicates an expected positive change in current year earnings and 0 otherwise.

*NREVENT* is a dichotomous variable taking the value of 1 if the earnings forecast is released through a non-routine announcement and 0 otherwise.

*PRECISE* is level of forecast precision, coded as 0, 1, 2, and 3 for qualitative, open-ended, range, and point forecasts, respectively.

*FHORIZON* is the number of calendar days between the release date of earnings forecast and the corresponding financial reporting date.

*PRIOR\_INACCURACY* is a dichotomous variable taking the value of 1 if the last management earnings forecast in the previous financial year is inaccurate and 0 if either the last management earnings forecast is accurate or no management earnings forecast is made.

*ECSIGN* is a dichotomous variable taking the value of 1 for a positive current period earnings per share change and 0 otherwise.

*ECHANGE* is the natural logarithm of the absolute value of percentage change in earnings per share deflated by share price at the beginning of the financial year.

*SIZE* is the natural logarithm of the total market value of equity at the end of the current financial year.

*XLIST* is a dichotomous variable taking the value of 1 if the firm is cross-listed in a foreign exchange and 0 otherwise.

*MVBV* is the natural logarithm of the market value of equity divided by the book value of equity at the end of the current financial year.

*ANALYST* is a dichotomous variable taking the value of 1 if the firm is followed by at least one analyst in the corresponding financial year and 0 otherwise.

*PRE-EMPT* is a dichotomous variable taking the value of 1 if the current financial year's change in earnings is pre-empted by at least one management earnings forecast and 0 otherwise.

*ACCURACY* is a dichotomous variable taking the value of 1 if the current financial year's change in earnings is pre-empted by accurate management earnings forecasts and 0 otherwise.

Model 1 and 2a-b are subsequently retested while including the interaction variables between *REFORM* and either *ANALYST* or *XLIST* once at a time to investigate whether such impact of

the disclosure reform on the market reaction to earnings forecasts and earnings announcements if any is influenced by the alternative sources of earnings-related information if available. Model 1 is also retested while including the interaction variables between *REFORM* and either *ENEWS* or *NREVENT* to examine whether the forecast news content and the forecast announcement type have affected the impact of the disclosure reform on the market reaction earnings forecasts if any. Model 2a and 2b are also retested while including the interaction variables between *REFORM* and *PRE\_EMPT* and between *REFORM* and *ACCURACY*, respectively to inspect whether the impact of the disclosure reform on market reaction to earnings announcements is influenced by the firms' earnings forecast behaviour.

Skewness and kurtosis statistics for the regression variables are checked and extreme values are winsorised to preserve the characteristic of the original data while minimising possible distortion of results by the extreme values. The maximum number of observations winsorised is limited to 1 percent of the sample observations.

## **6 Results**

### ***6.1 Market Reaction to Earnings Forecasts***

Table 2 displays the abnormal returns for the five days encompassing 580 bad news or good news management earnings forecasts made by 94 firms during the study period. Consistent with prior research, we find that the capital market typically responds negatively to bad news and positively to good news and that there is an asymmetrical reaction to bad and good news. The mean of cumulative five day abnormal returns for bad news is -5.132 percent compared to 1.259 percent for good news earnings forecasts. This asymmetrical treatment of bad news and good news still prevailed across the disclosure reform. Although an overall comparison between the cumulative five day abnormal returns for routine and non-routine earnings forecasts do not reveal any significant difference, the capital market reacted negatively to

non-routine earnings forecasts in the pre-disclosure reform period. Overall, the capital market reacted positively to earnings forecasts issued by firms not followed by analysts or by firms not cross-listed and negatively to earnings forecasts issued by firms followed by analysts or by firms cross-listed. Such difference does not seem to be alleviated following the disclosure reform.

Table 3 compares the magnitude of the cumulative five day abnormal returns associated with these 580 earnings forecasts across the disclosure reform. Overall, the capital market reacted more strongly to bad news earnings forecasts compared to good news earnings forecasts and this asymmetrical treatment tended to decrease in the post-disclosure reform period. Interestingly, non-routine earnings forecasts consistently proved to have more value relevant to the capital market across the disclosure reform. The capital market reacted less strongly to firms that are followed by analysts or cross-listed. This trend is more obvious in the post-disclosure reform period.

Table 7 presents the results from the random effects and fixed effects linear regression model used to test H1. The results from this model being tested with *REFORM\_ENEWS*, *REFORM\_NREVENT*, *REFORM\_ANALYST* and *REFORM\_XLIST* once at a time are also shown. The *REFORM* coefficient is not significant; therefore, H1 is supported for the overall sample of 580 bad or good news earnings forecasts. The *REFORM\_NREVENT*, *REFORM\_ANALYST*, *REFORM\_XLIST* are negatively significant. Therefore, H1 is rejected by the group of non-routine earnings forecasts or by the group of earnings forecasts issued by firms followed by analysts or cross-listed on a foreign exchange. Further evidence from Table 7 reveals significant coefficients for some forecast-specific and firm-specific characteristics. The *ENEWS* coefficient is negatively significant, indicating that the capital market overall reacted more strongly to bad news earnings forecasts. The positive significant *NREVENT*

coefficient shows that non-routine earnings forecasts are more value relevant to the capital market. It is evident from the significant negative *PRIOR\_ACCURACY* coefficient that prior years' forecast accuracy did enhance the credibility of current years' earnings forecasts. The *SIZE* coefficient is negatively significant shows that the information content of an incremental management earnings issued by bigger firms is lower than their smaller counterparts. The positive significant *XLIST* coefficient indicates the earnings forecasts provided by cross-listed firms being more value relevant.

## ***6.2 Market Reaction to Earnings Announcements***

Table 4 shows the abnormal return for the five days encompassing 626 earnings announcements in general and 350 pre-empted earnings announcements in particular provided by the same 94 firms during the same study period. Overall, the capital market reacted negatively to earnings announcements indicating a negative change in earnings performance, or to earnings announcements issued by firms not followed by analysts or by firms issuing inaccurate earnings forecasts.

Table 5 compares the magnitude of the cumulative five day abnormal returns associated with these 626 earnings announcements in general and 350 pre-empted earnings announcements in particular. Our results document a significant reduction in the market reaction to the overall earnings announcements, irrespectively whether they are pre-empted by management earnings forecasts. The magnitude of the market reaction to earnings announcements significantly reduced from 0.058 to 0.043 at 1 percent level of significance. These findings are mainly driven by the group of earnings announcements indicating a positive change in earnings performance, or by the group of earnings announcements issued by firms which are not followed by analysts or not cross-listed on a foreign exchange or provide accurate earnings forecasts.



Table 8 and 9 provide the results from the random effects and OLS linear regression model used to test H2. The results from this model being tested with *REFORM\_ECSIGN*, *REFORM\_ANALYST*, *REFORM\_PRE-EMPT*, *REFORM\_ACCURACY* and *REFORM\_XLIST* once at a time are also presented. From both Table 8 and 9, the *REFORM* coefficient is negatively significant; therefore H2 is rejected. From Table 8, the negative significant *REFORM\_ECSIGN* coefficient and the positive significant *REFORM\_ANALYST* and *REFORM\_PRE-EMPT* coefficients reveal that, H2 is only rejected by the group of earnings announcements indicating a positive change in earnings performance or by the group of earnings announcements issued by firms which are not followed by analysts or not cross-listed on a foreign exchange. From Table 9, the *REFORM\_ACCURACY* is marginally negative significant, confirming that H2 is marginally rejected by the group of earnings announcements pre-empted by accurate earnings forecasts.

## **7 Conclusions**

The objective of our study has been (1) to investigate the impact of the New Zealand continuous disclosure reform on the market reaction to earnings-related disclosures issued by firms and (2) to examine whether any impact of this disclosure reform is influenced by the availability of alternative sources of earnings-related information. Focusing first on management earnings forecasts, we find only limited evidence of changes that can be linked to the disclosure reform. However, there is evidence in the post-disclosure reform period that the capital market has placed less emphasis on management earnings forecasts issued by firms which are followed by analysts and/or cross-listed on a foreign exchange. These findings suggest that the incremental value of each management earnings forecast perceived by investors decreased in the post-disclosure reform period when investors could seek

information about firms independently from the alternative sources. This is not the case when there is a less likelihood of an availability of an alternative source of information.

Stronger evidence for an impact of the disclosure reform is found in our analysis of the market reaction to earnings announcements. The market reaction to earnings announcements is found to significantly decrease in the post-disclosure reform period, indicating a significant improvement in the information set available to the capital market immediately before the release of these mandatory earnings announcements. Interestingly, while we have found the reform has diminished the value relevance of earnings announcements, this impact is only restricted to firms which are not followed by analysts and/or not cross-listed in a foreign exchange. In other words, the relative benefits of this disclosure reform seem to be less when there are alternative sources of earnings-related information available in the capital market.

From an academic perspective, our evidence adds to the current literature body that supports a positive impact of the disclosure reform on corporate disclosure behaviour and capital market characteristics. However, by investigating the availability of alternative sources of earnings related information about firms, we have given a clearer picture of the relative information changes for different firms.

From a regulatory perspective, our evidence could be consistent with the regulators' intent that the disclosure reform has improved the flow of information available in the capital market. However, the fact that there is not a positive impact for many firms means that the regulators should be aware that the disclosure reform may not bear benefits universally. This means that the increase in compliance costs which are borne by all firms could not be justified equally based on the benefits.

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**Table 1**  
**Sample Selection Procedure**

Selecting criteria	Number of observations
<b>Sample Firms</b>	
Total number of firms listed on NZX as on 3 December 2004	197
Less firms listed on NZX as on 3 December 2004 without IRG data	(44)
Less firms not surviving at least for the period from 28 September 1999 to 13 September 2004	(59)
<b>Total firms in the final sample</b>	<b>94</b>
<b>Sample Management Earnings Forecasts and Earnings Announcements</b>	
Total financial years by 94 firms	655*
Less financial years with missing announcements or unusable financial and stock return data for the firms	(29)
<b>Total financial years/earnings announcements in the final sample</b>	<b>626**</b>
Total announcements (potentially containing earnings forecasts) in the final sample	2650
Less announcements not containing earnings forecasts	(1930)
Total announcements containing earnings forecasts in the final sample	720
Less announcements containing neutral news earnings forecasts	140
<b>Total announcements containing bad and good news earnings forecasts</b>	<b>580</b>

\* Total financial years including all financial years with financial reporting date ending from 31 January 1999 to 31 December 2005.

\*\* Among 626 financial years (342 pre- and 284 post-disclosure reform), there are 350 financial years (163 pre- and 187 post-disclosure reform) of which earnings announcements are pre-empted by at least one management earnings forecast.

**Table 2**  
**Abnormal Return for the Five Days encompassing 580 Bad and Good News Management Earnings Forecasts Pre- and Post-Disclosure Reform**

Event Day	All Earnings Forecasts		Pre-Disclosure Reform		Post-Disclosure Reform	
	AR (%) ( <i>t</i> -statistic)	CAR (%) ( <i>t</i> -statistic)	AR (%) ( <i>t</i> -statistic)	CAR (%) ( <i>t</i> -statistic)	AR (%) ( <i>t</i> -statistic)	CAR (%) ( <i>t</i> -statistic)
<b>Full Sample</b>	N = 580		N = 248		N = 332	
-2	-0.190 (-1.422 <sup>^</sup> )	-0.190 (-1.422 <sup>^</sup> )	-0.357 (-1.294 <sup>^</sup> )	-0.357 (-1.294 <sup>^</sup> )	-0.066 (-0.596)	-0.066 (-0.596)
-1	0.111 (0.807)	-0.079 (-0.424)	0.268 (1.264)	-0.089 (-0.263)	-0.006 (-0.033)	-0.071 (-0.347)
0	-0.125 (-0.456)	-0.204 (-0.644)	-0.186 (-0.447)	-0.275 (-0.522)	-0.080 (-0.218)	-0.151 (-0.387)
1	0.211 (1.075)	0.007 (0.019)	0.056 (0.206)	-0.219 (-0.364)	0.326 (1.183)	0.175 (0.385)
2	-0.169 (-1.148)	-0.162 (-0.414)	-0.443 (-1.653 <sup>*</sup> )	-0.662 (-1.002)	0.036 (0.220)	0.211 (0.443)
<b>Bad News</b>	N = 129		N = 51		N = 78	
-2	-0.948 (-2.395 <sup>**</sup> )	-0.948 (-2.395 <sup>**</sup> )	-1.989 (-2.183 <sup>*</sup> )	-1.989 (-2.183 <sup>*</sup> )	-0.268 (-1.063)	-0.268 (-1.063)
-1	-0.372 (-1.001)	-1.321 (-2.666 <sup>**</sup> )	-0.687 (-1.323 <sup>^</sup> )	-2.676 (-3.079 <sup>**</sup> )	-0.167 (-0.324)	-0.435 (-0.759)
0	-2.846 (-3.562 <sup>**</sup> )	-4.167 (-5.310 <sup>**</sup> )	-2.691 (-1.789 <sup>*</sup> )	-5.367 (-3.695 <sup>**</sup> )	-2.947 (-3.307 <sup>**</sup> )	-3.382 (-3.387 <sup>**</sup> )
1	-0.824 (-1.846 <sup>*</sup> )	-4.991 (-5.486 <sup>**</sup> )	-1.356 (-1.498 <sup>^</sup> )	-6.723 (-3.687 <sup>**</sup> )	-0.476 (-1.075)	-3.858 (-4.256 <sup>**</sup> )
2	-0.142 (-0.2800)	-5.132 (-4.766 <sup>**</sup> )	-0.559 (-0.553)	-7.282 (-3.333 <sup>**</sup> )	0.131 (0.253)	-3.727 (-3.560 <sup>**</sup> )
<b>Good News</b>	N = 451		N = 197		N = 254	
-2	0.027 (0.209)	0.027 (0.209)	0.065 (0.263)	0.065 (0.263)	-0.003 (-0.027)	-0.003 (-0.027)
-1	0.250 (1.766 <sup>*</sup> )	0.276 (1.449 <sup>^</sup> )	0.515 (2.259 <sup>*</sup> )	0.580 (1.670 <sup>*</sup> )	0.043 (0.245)	0.040 (0.197)
0	0.653 (2.537 <sup>**</sup> )	0.930 (2.896 <sup>**</sup> )	0.463 (1.371 <sup>^</sup> )	1.043 (2.056 <sup>*</sup> )	0.801 (2.135 <sup>*</sup> )	0.841 (2.038 <sup>*</sup> )
1	0.507 (2.349 <sup>**</sup> )	1.436 (3.931 <sup>**</sup> )	0.422 (1.719 <sup>*</sup> )	1.465 (2.764 <sup>**</sup> )	0.573 (1.720 <sup>*</sup> )	1.414 (2.813 <sup>**</sup> )
2	-0.177 (-1.441 <sup>^</sup> )	1.259 (3.357 <sup>**</sup> )	-0.413 (-1.914 <sup>*</sup> )	1.052 (1.905 <sup>*</sup> )	0.006 (0.043)	1.420 (2.780 <sup>**</sup> )
<b>Routine</b>	N = 451		N = 209		N = 242	
-2	-0.105 (-0.811)	-0.105 (-0.811)	-0.141 (-0.602)	-0.141 (-0.602)	-0.074 (-0.561)	-0.074 (-0.561)
-1	0.267 (1.694 <sup>*</sup> )	0.162 (0.797)	0.386 (1.703 <sup>*</sup> )	0.245 (0.738)	0.164 (0.749)	0.090 (0.364)
0	0.240 (0.953)	0.401 (1.309 <sup>^</sup> )	0.397 (1.197)	0.642 (1.400 <sup>^</sup> )	0.104 (0.279)	0.193 (0.469)
1	0.083 (0.484)	0.484 (1.536 <sup>^</sup> )	0.210 (0.767)	0.852 (1.752 <sup>*</sup> )	-0.027 (-0.125)	0.166 (0.406)
2	-0.284 (-1.609 <sup>^</sup> )	0.200 (0.540)	-0.611 (-2.098 <sup>*</sup> )	0.241 (0.396)	-0.002 (-0.010)	0.164 (0.366)
<b>Non-routine</b>	N = 129		N = 39		N = 90	
-2	-0.488 (-1.231)	-0.488 (-1.231)	-1.518 (-1.237)	-1.518 (-1.237)	-0.042 (-0.216)	-0.042 (-0.216)
-1	-0.432 (-1.538 <sup>^</sup> )	-0.920 (-2.086 <sup>*</sup> )	-0.361 (-0.617)	-1.879 (-1.585 <sup>^</sup> )	-0.462 (-1.470 <sup>^</sup> )	-0.505 (-1.375 <sup>^</sup> )
0	-1.400 (-1.632 <sup>^</sup> )	-2.320 (-2.531 <sup>**</sup> )	-3.310 (-1.744 <sup>*</sup> )	-5.189 (-2.436 <sup>**</sup> )	-0.572 (-0.630)	-1.076 (-1.178)
1	0.658 (1.015)	-1.662 (-1.370 <sup>^</sup> )	-0.767 (-0.832)	-5.956 (-2.265 <sup>*</sup> )	1.276 (1.530 <sup>^</sup> )	0.199 (0.156)
2	0.233 (0.977)	-1.429 (-1.192)	0.456 (0.673)	-5.499 (-2.162 <sup>*</sup> )	0.137 (0.761)	0.336 (0.262)
<b>Not Followed by Analysts</b>	N = 237		N = 119		N = 118	
-2	0.064	0.064	0.254	0.254	-0.127	-0.127

	(0.297)	(0.297)	(0.688)	(0.688)	(-0.560)	(-0.560)
-1	0.061	0.126	0.308	0.561	-0.187	-0.314
	(0.278)	(0.397)	(0.957)	(1.107)	(-0.622)	(-0.839)
0	0.740	0.866	0.562	1.124	0.919	0.605
	(2.097*)	(1.862*)	(1.085)	(1.536^)	(1.913*)	(1.054)
1	0.746	1.611	0.421	1.545	1.073	1.678
	(2.037*)	(2.838**)	(1.135)	(2.177*)	(1.694*)	(1.884*)
2	-0.176	1.436	-0.290	1.255	-0.061	1.617
	(-1.025)	(2.477**)	(-1.165)	(1.730*)	(-0.258)	(1.781*)
Followed by Analysts	N = 343		N = 129		N = 214	
-2	-0.366	-0.366	-0.921	-0.921	-0.032	-0.032
	(-2.163*)	(-2.163*)	(-2.285*)	(-2.285*)	(-0.272)	(-0.272)
-1	0.146	-0.220	0.231	-0.689	0.094	0.062
	(0.825)	(-0.969)	(0.824)	(-1.539^)	(0.414)	(0.256)
0	-0.723	-0.943	-0.876	-1.565	-0.630	-0.568
	(-1.847*)	(-2.222*)	(-1.377^)	(-2.117*)	(-1.267)	(-1.106)
1	-0.159	-1.102	-0.281	-1.846	-0.085	-0.653
	(-0.747)	(-2.348**)	(-0.710)	(-1.986*)	(-0.350)	(-1.303^)
2	-0.165	-1.267	-0.585	-2.431	0.089	-0.565
	(-0.750)	(-2.425**)	(-1.265)	(-2.295*)	(0.415)	(-1.050)
Not Cross- listed	N = 410		N = 176		N = 234	
-2	0.006	0.006	0.018	0.018	-0.003	-0.003
	(0.043)	(0.043)	(0.067)	(0.067)	(-0.022)	(-0.022)
-1	0.179	0.185	0.368	0.386	0.036	0.033
	(1.033)	(0.827)	(1.481^)	(1.025)	(0.152)	(0.123)
0	0.126	0.311	0.088	0.474	0.155	0.188
	(0.404)	(0.860)	(0.200)	(0.815)	(0.355)	(0.410)
1	0.418	0.728	0.185	0.658	0.593	0.780
	(1.673*)	(1.784*)	(0.653)	(1.139)	(1.552^)	(1.373^)
2	-0.091	0.637	-0.252	0.406	0.030	0.810
	(-0.557)	(1.487^)	(-1.023)	(0.669)	(0.134)	(1.359^)
Cross-listed	N = 170		N = 72		N = 98	
-2	-0.663	-0.663	-1.274	-1.274	-0.214	-0.214
	(-2.194*)	(-2.194*)	(-1.876*)	(-1.876*)	(-1.409^)	(-1.409^)
-1	-0.051	-0.715	0.024	-1.251	-0.107	-0.321
	(-0.237)	(-2.136*)	(0.058)	(-1.785*)	(-0.463)	(-1.208)
0	-0.730	-1.445	-0.854	-2.104	-0.639	-0.960
	(-1.312^)	(-2.291*)	(-0.897)	(-1.904*)	(-0.955)	(-1.307^)
1	-0.288	-1.732	-0.258	-2.363	-0.310	-1.269
	(-0.992)	(-2.303*)	(-0.407)	(-1.590^)	(-1.598^)	(-1.764*)
2	-0.357	-2.089	-0.911	-3.273	0.050	-1.220
	(-1.149)	(-2.494**)	(-1.299^)	(-1.931*)	(0.326)	(-1.634^)

^, \*, \*\* The abnormal returns are significantly different from zero at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed). This table shows the results of the one-sample student *t*-statistic for the abnormal returns for the five days encompassing 580 bad and good news management earnings forecasts. A management earnings forecast is an announcement made to the NZX pre-empting a current financial year's earnings announcement. A management earnings forecast is classified as being in the pre-disclosure reform (post-disclosure reform) period if its corresponding financial year ends before (on or after) 1 December 2002. A management earnings forecast is classified as bad (good) news if the forecast indicates an expected negative (positive) change in the current year earnings. A management earnings forecast is classified as routine (non-routine) if the forecast is released through a routine announcement such as quarterly, half-yearly, preliminary annual, annual reports, chairman's addresses at AGM, letters to shareholders, etc. (non-routine announcement such as profit warning, earnings guidance, market update, etc). A management earnings forecast is classified as being in the period followed by analysts if its corresponding firm is followed by at least one analyst in its corresponding financial year. A management earnings forecast is classified as being in the cross-listed period if its corresponding firm is cross-listed on a foreign exchange in its corresponding financial year.



**Table 3**  
**Magnitude of Five Day Cumulative Abnormal Return associated with 580 Bad and Good News Management Earnings Forecasts**  
**Pre- and Post-Disclosure Reform**

	All Earnings Forecasts	Pre-Disclosure Reform	Post-Disclosure Reform	<i>t</i> -test of difference between means <sup>1</sup>	<i>z</i> -statistic for Wilcoxon rank-sum test <sup>1</sup>
<b>All Earnings Forecasts</b>					
Mean	0.057	0.060	0.056	-0.669	
Median	0.035	0.036	0.035		-0.285
Observations	580	248	332		
<b>Bad News Earnings Forecasts</b>					
Mean	0.076	0.090	0.067	-1.163	
Median	0.040	0.040	0.040		-0.443
Observations	129	51	78		
<b>Good News Earnings Forecasts</b>					
Mean	0.052	0.052	0.052	-0.002	
Median	0.034	0.034	0.034		-0.206
Observations	451	197	254		
<i>t</i> -test of difference between means <sup>2</sup>	-2.429**	-1.811*	-1.657^		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>2</sup>	-2.241*	-1.659^	-1.511		
<b>Routine Earnings Forecasts</b>					
Mean	0.050	0.052	0.049	-0.503	
Median	0.034	0.034	0.032		-0.139
Observations	451	209	242		
<b>Non-routine Earnings Forecasts</b>					
Mean	0.083	0.104	0.074	-1.451^	
Median	0.049	0.064	0.044		-1.477
Observations	129	39	90		
<i>t</i> -test of difference between means <sup>3</sup>	3.357**	2.448**	2.415**		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>3</sup>	3.559**	3.167**	2.189*		
<b>Not Followed by Analysts</b>					
Mean	0.058	0.053	0.063	1.185	
Median	0.036	0.034	0.040		1.146
Observations	237	119	118		
<b>Followed by Analysts</b>					
Mean	0.057	0.067	0.051	-1.516^	
Median	0.035	0.039	0.033		-1.205
Observations	343	129	214		
<i>t</i> -test of difference between means <sup>4</sup>	-0.145	1.273	-1.568^		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>4</sup>	-0.942	0.610	-1.742^		
<b>Not Cross-listed</b>					
Mean	0.058	0.055	0.060	0.824	
Median	0.038	0.037	0.039		0.661
Observations	410	176	234		
<b>Cross-listed</b>					
Mean	0.056	0.072	0.045	-1.671*	
Median	0.030	0.035	0.028		1.578
Observations	170	72	98		
<i>t</i> -test of difference between means <sup>5</sup>	-0.288	1.063	-1.983*		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>5</sup>	-2.066*	-0.122	-2.606*		

^, \*, \*\* Characteristics are significantly different at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed). <sup>1</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for the pre-disclosure reform and post-disclosure reform period management earnings forecasts. <sup>2</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for bad and good news management earnings forecasts. <sup>3</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for routine and non-routine management earnings forecasts. <sup>4</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for management earnings forecasts released in financial years not followed and followed by analysts. <sup>5</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for management earnings forecasts released in financial years not cross-listed and cross-listed. The table is based on 580 bad and good news management earnings forecasts made by 94 NZX-listed firms with financial reporting date ending from 31 January 1999 to 31 December 2005. A management earnings forecast is an announcement made to the NZX pre-empting a current financial year's earnings announcement. A management earnings forecast is classified as being in the pre-disclosure reform (post-disclosure reform) period if its corresponding financial year ends before (on or after) 1 December 2002. A management earnings forecast is classified as bad (good) news if the forecast indicates an expected negative (positive) change in the current year earnings. A management earnings forecast is classified as routine (non-routine) if the

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forecast is released through a routine announcement such as quarterly, half-yearly, preliminary annual, annual reports, chairman's addresses at AGM, letters to shareholders, etc. (non-routine announcement such as profit warning, earnings guidance, market update, etc.). A management earnings forecast is classified as being in the period followed by analysts if its corresponding firm is followed by at least one analyst in its corresponding financial year. A management earnings forecast is classified as being in the cross-listed period if its corresponding firm is cross-listed on a foreign exchange in its corresponding financial year.

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**Table 4**  
**Abnormal Return for the Five Days encompassing 626 Earnings Announcements Pre- and Post-Disclosure Reform**

Event Day	All Earnings Announcements		Pre-Disclosure Reform		Post-Disclosure Reform	
	AR (%) ( <i>t</i> -statistic)	CAR (%) ( <i>t</i> -statistic)	AR (%) ( <i>t</i> -statistic)	CAR (%) ( <i>t</i> -statistic)	AR (%) ( <i>t</i> -statistic)	CAR (%) ( <i>t</i> -statistic)
Full Sample	N = 626		N = 342		N = 284	
-2	-0.319 (-2.231*)	-0.316 (-2.231*)	-0.201 (-1.476 <sup>^</sup> )	-0.201 (-1.476 <sup>^</sup> )	-0.461 (-1.712*)	-0.461 (-1.712*)
-1	0.189 (1.698*)	-0.130 (-0.744)	0.201 (1.190)	-0.001 (-0.001)	0.174 (1.268)	-0.287 (-0.982)
0	0.150 (0.775)	0.019 (0.075)	0.227 (0.787)	0.227 (0.654)	0.056 (0.227)	-0.231 (-0.606)
1	0.141 (0.810)	0.161 (0.580)	0.171 (0.712)	0.398 (0.965)	0.106 (0.416)	-0.125 (-0.351)
2	-0.471 (-2.716**)	-0.310 (-0.934)	-0.611 (-2.199*)	-0.213 (-0.415)	-0.301 (-1.637 <sup>^</sup> )	-0.426 (-1.092)
Negative Exchange	N = 247		N = 135		N = 112	
-2	-0.289 (-1.992*)	-0.289 (-1.992*)	-0.487 (-2.027*)	-0.487 (-2.027*)	-0.050 (-0.374)	-0.050 (-0.374)
-1	0.191 (1.291 <sup>^</sup> )	-0.098 (-0.500)	0.159 (0.711)	-0.327 (-1.069)	0.229 (1.246)	0.179 (0.801)
0	-0.613 (-1.744*)	-0.711 (-1.841*)	-0.988 (-1.976*)	-1.316 (-2.423**)	-0.161 (-0.330)	0.018 (0.034)
1	-0.265 (-0.977)	-0.975 (-2.040*)	-0.248 (-0.655)	-1.563 (-2.322*)	-0.285 (-0.734)	-0.267 (-0.398)
2	-0.426 (-1.524 <sup>^</sup> )	-1.401 (-2.497**)	-0.395 (-0.938)	-1.958 (-2.300*)	-0.463 (-1.316 <sup>^</sup> )	-0.730 (-1.057)
Positive Exchange	N = 379		N = 207		N = 172	
-2	-0.339 (-1.564 <sup>^</sup> )	-0.339 (-1.564 <sup>^</sup> )	-0.015 (-0.094)	-0.015 (-0.094)	-0.729 (-1.674*)	-0.729 (-1.674*)
-1	0.188 (1.198)	-0.151 (-0.583)	0.228 (0.959)	0.213 (0.753)	0.139 (0.718)	-0.590 (-1.285)
0	0.647 (2.956**)	0.495 (1.459 <sup>^</sup> )	1.020 (3.016**)	1.233 (2.812**)	0.197 (0.772)	-0.393 (-0.751)
1	0.406 (1.786*)	0.901 (2.730**)	0.443 (1.434 <sup>^</sup> )	1.677 (3.338**)	0.361 (1.073)	-0.032 (-0.082)
2	-0.500 (-2.261*)	0.401 (0.993)	-0.752 (-2.041*)	0.925 (1.464 <sup>^</sup> )	-0.196 (-0.978)	-0.228 (-0.493)
Not Followed by Analysts	N = 279		N = 158		N = 121	
-2	-0.751 (-2.492**)	-0.751 (-2.492**)	-0.400 (-1.584 <sup>^</sup> )	-0.400 (-1.584 <sup>^</sup> )	-1.210 (-1.980*)	-1.210 (-1.980*)
-1	0.103 (0.568)	-0.649 (-1.913*)	0.072 (0.297)	-0.328 (-0.968)	0.143 (0.525)	-1.067 (-1.656 <sup>^</sup> )
0	-0.167 (-0.451)	-0.815 (-1.639 <sup>^</sup> )	-0.221 (-0.401)	-0.548 (-0.857)	-0.096 (-0.210)	-1.164 (-1.478 <sup>^</sup> )
1	0.226 (0.692)	-0.589 (-1.163)	0.368 (0.875)	-0.180 (-0.242)	0.040 (0.078)	-1.123 (-1.738*)
2	-0.828 (-2.488**)	-1.418 (-2.400**)	-0.934 (-1.850*)	-1.115 (-1.267)	-0.690 (-1.746*)	-1.813 (-2.466**)
Followed by Analysts	N = 347		N = 184		N = 163	
-2	0.028 (0.330)	0.028 (0.330)	-0.031 (-0.237)	-0.031 (-0.237)	0.095 (0.905)	0.095 (0.905)
-1	0.258 (1.860*)	0.286 (1.828*)	0.312 (1.324 <sup>^</sup> )	0.281 (1.085)	0.198 (1.522 <sup>^</sup> )	0.293 (1.810*)
0	0.404 (2.222*)	0.690 (3.027**)	0.612 (2.419**)	0.893 (2.682**)	0.169 (0.647)	0.461 (1.501 <sup>^</sup> )
1	0.074 (0.421)	0.764 (2.668**)	0.001 (0.004)	0.894 (2.127*)	0.155 (0.684)	0.617 (1.608 <sup>^</sup> )
2	-0.183 (-1.142)	0.581 (1.623 <sup>^</sup> )	-0.334 (-1.190)	0.560 (0.964)	-0.013 (-0.101)	0.604 (1.555 <sup>^</sup> )

Not Pre-empted	N = 276		N = 179		N = 97	
-2	-0.617 (-2.094*)	-0.617 (-2.094*)	-0.258 (-1.333^)	-0.258 (-1.333^)	-1.279 (-1.691*)	-1.279 (-1.691*)
-1	0.198 (1.041)	-0.419 (-1.247)	0.137 (0.543)	-0.120 (-0.406)	0.310 (1.128)	-0.969 (-1.237)
0	-0.162 (-0.624)	-0.581 (-1.365^)	-0.253 (-0.707)	-0.373 (-0.796)	0.006 (0.018)	-0.963 (-1.135)
1	0.472 (1.561^)	-0.109 (-0.263)	0.356 (1.003)	-0.017 (-0.032)	0.685 (1.225)	-0.279 (-0.451)
2	-0.523 (-1.643^)	-0.632 (-1.235)	-0.529 (-1.241)	-0.546 (-0.806)	-0.511 (-1.134)	-0.790 (-1.053)
Pre-empted	N = 350		N = 163		N = 187	
-2	-0.085 (-0.795)	-0.085 (-0.795)	-0.139 (-0.725)	-0.139 (-0.725)	-0.037 (-0.342)	-0.037 (-0.342)
-1	0.182 (1.387^)	0.097 (0.583)	0.271 (1.229)	0.132 (0.443)	0.104 (0.681)	0.067 (0.383)
0	0.395 (1.421^)	0.492 (1.580^)	0.755 (1.643^)	0.886 (1.730*)	0.082 (0.246)	0.149 (0.398)
1	-0.119 (-0.591)	0.374 (1.003)	-0.033 (-0.103)	0.854 (1.368^)	-0.194 (-0.759)	-0.045 (-0.103)
2	-0.430 (-2.354**)	-0.056 (-0.129)	-0.701 (-2.010*)	0.152 (0.195)	-0.193 (-1.248)	-0.238 (-0.530)
Inaccurate	N = 78		N = 41		N = 37	
-2	-0.673 (-2.556**)	-0.673 (-2.556**)	-1.159 (-2.892**)	-1.159 (-2.892**)	-0.134 (-0.425)	-0.134 (-0.425)
-1	0.179 (0.732)	-0.494 (-1.520^)	0.113 (0.351)	-1.046 (-2.036*)	0.252 (0.671)	0.118 (0.327)
0	-0.727 (-0.970)	-1.221 (-1.645^)	-1.121 (-0.969)	-2.167 (-2.012*)	-0.292 (-0.311)	-0.173 (-0.173)
1	-0.036 (-0.090)	-1.258 (-1.521^)	0.704 (1.434^)	-1.462 (-1.392^)	-0.857 (-1.339^)	-1.031 (-0.786)
2	-0.119 (-0.452)	-1.376 (-1.759*)	0.088 (0.197)	-1.374 (-1.523^)	-0.348 (-1.375^)	-1.379 (-1.040)
Accurate	N = 272		N = 122		N = 150	
-2	0.084 (0.747)	0.084 (0.747)	0.203 (0.965)	0.203 (0.965)	-0.013 (-0.118)	-0.013 (-0.118)
-1	0.183 (1.188)	0.267 (1.386^)	0.324 (1.181)	0.527 (1.503^)	0.068 (0.405)	0.055 (0.273)
0	0.717 (2.527**)	0.984 (2.938**)	1.385 (2.980**)	1.912 (3.454**)	0.174 (0.505)	0.229 (0.574)
1	-0.143 (-0.615)	0.841 (2.036*)	-0.281 (-0.719)	1.632 (2.192*)	-0.030 (-0.110)	0.198 (0.454)
2	-0.519 (-2.333*)	0.323 (0.631)	-0.966 (-2.198*)	0.665 (0.668)	-0.154 (-0.847)	0.044 (0.097)
Not Cross-listed	N = 468		N = 257		N = 211	
-2	-0.279 (-1.545^)	-0.279 (-1.545^)	-0.155 (-0.998)	-0.155 (-0.998)	-0.429 (-1.216)	-0.429 (-1.216)
-1	0.251 (1.946*)	-0.027 (-0.128)	0.264 (1.375^)	0.109 (0.456)	0.236 (1.422^)	-0.193 (-0.512)
0	0.048 (0.199)	0.020 (0.064)	0.119 (0.337)	0.228 (0.541)	-0.039 (-0.124)	-0.232 (-0.476)
1	0.108 (0.520)	0.129 (0.396)	0.093 (0.345)	0.321 (0.679)	0.127 (0.390)	-0.105 (-0.241)
2	-0.333 (-1.724*)	-0.204 (-0.554)	-0.395 (-1.347^)	-0.075 (-0.137)	-0.257 (-1.086)	-0.362 (-0.753)
Cross-listed	N = 158		N = 85		N = 73	
-2	-0.439 (-2.310*)	-0.439 (-2.310*)	-0.341 (-1.201)	-0.341 (-1.201)	-0.555 (-2.244*)	-0.555 (-2.244*)
-1	0.004 (0.020)	-0.435 (-1.571^)	0.010 (0.030)	-0.330 (-0.753)	-0.003 (-0.011)	-0.557 (-1.754*)
0	0.451 (1.599^)	0.016 (0.043)	0.555 (1.210)	0.225 (0.387)	0.330 (1.104)	-0.227 (-0.490)
1	0.239 (0.761)	0.265 (0.484)	0.406 (0.780)	0.632 (0.744)	0.045 (0.145)	-0.182 (-0.315)
2	-0.879 (-2.316*)	-0.623 (-0.849)	-1.264 (-1.860*)	-0.633 (-0.502)	-0.430 (-1.991*)	-0.612 (-0.988)

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<sup>^</sup>, \*, \*\* The abnormal returns are significantly different from zero at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed). This table shows the results of the one-sample student *t*-statistic for the abnormal returns for the five days encompassing 626 earnings announcements. An earnings announcement is a mandatory preliminary financial report made to the NZX before the release of the corresponding annual report as required by Listing Rule 10.4. An earnings announcement is classified as being in the pre-disclosure reform (post-disclosure reform) period if its corresponding financial year ends before (on or after) 1 December 2002. An earnings announcement is classified as being in the period with negative (positive) earnings change if it shows a decrease (an increase) in earnings per share. An earnings announcement is classified as being in the period followed by analysts if its corresponding firm is followed by at least one analyst in its corresponding financial year. An earnings announcement is classified as being pre-empted (not pre-empted) if it is pre-empted (not pre-empted) by at least one management earnings forecast. An earnings announcement is classified as being pre-empted by inaccurate (accurate) management earnings forecasts if the corresponding last management earnings forecast is inaccurate (accurate). An earnings announcement is classified as being in the cross-listed period if its corresponding firm is cross-listed on a foreign exchange in its corresponding financial year.

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**Table 5**  
**Magnitude of Five Day Cumulative Abnormal Return associated with 626 Earnings Announcements Pre- and Post-Disclosure Reform**

	All Earnings Announcements	Pre-Disclosure Reform	Post-Disclosure Reform	<i>t</i> -test of difference between means <sup>1</sup>	<i>z</i> -statistic for Wilcoxon rank-sum test <sup>1</sup>
<b>All Earnings Announcements</b>					
Mean	0.051	0.058	0.043	-3.090**	
Median	0.032	0.036	0.028		-3.523**
Observations	626	342	284		
<b>Negative Earnings Change</b>					
Mean	0.052	0.056	0.049	-0.749	
Median	0.034	0.034	0.032		-0.592
Observations	247	135	112		
<b>Positive Earnings Change</b>					
Mean	0.050	0.060	0.039	-3.551**	
Median	0.031	0.040	0.026		-3.958**
Observations	379	207	172		
<i>t</i> -test of difference between means <sup>2</sup>	-0.434	0.501	-1.666*		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>2</sup>	-0.781	0.937	-2.204*		
<b>Not Followed by Analysts</b>					
Mean	0.061	0.071	0.047	-2.530**	
Median	0.032	0.044	0.021		-3.582**
Observations	279	158	121		
<b>Followed by Analysts</b>					
Mean	0.043	0.047	0.039	-1.440^	
Median	0.032	0.034	0.031		-1.026
Observations	347	184	163		
<i>t</i> -test of difference between means <sup>3</sup>	-3.277**	-2.979**	-1.292^		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>3</sup>	0.803	-2.336*	1.430		
<b>Not Pre-empted by Management Earnings Forecasts</b>					
Mean	0.051	0.056	0.042	-1.637^	
Median	0.030	0.034	0.020		-2.624**
Observations	276	179	97		
<b>Pre-empted by Management Earnings Forecasts</b>					
Mean	0.051	0.061	0.043	-2.544**	
Median	0.036	0.041	0.031		-2.914**
Observations	350	163	187		
<i>t</i> -test of difference between means <sup>4</sup>	0.074	0.604	0.199		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>4</sup>	1.687^	1.700^	1.653^		
<b>Inaccurate Management Earnings Forecasts</b>					
Mean	0.048	0.045	0.052	0.577	
Median	0.033	0.033	0.031		-0.085
Observations	78	41	37		
<b>Accurate Management Earnings Forecasts</b>					
Mean	0.052	0.066	0.041	-2.944**	
Median	0.036	0.044	0.031		-3.289**
Observations	272	122	150		
<i>t</i> -test of difference between means <sup>5</sup>	0.482	1.476^	-1.011		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>5</sup>	0.630	1.568	-0.402		
<b>Not Cross-listed</b>					
Mean	0.052	0.059	0.043	-2.820**	
Median	0.034	0.041	0.027		-4.046**
Observations	468	257	211		
<b>Cross-listed</b>					
Mean	0.048	0.055	0.040	1.278	
Median	0.028	0.028	0.031		0.140
Observations	158	85	73		
<i>t</i> -test of difference between means <sup>6</sup>	-0.594	-0.392	-0.450		
<i>z</i> -statistic for Wilcoxon rank-sum test <sup>6</sup>	-1.158	-2.382*	0.981		

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<sup>^</sup>, \*, \*\* Characteristics are significantly different at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed). <sup>1</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for earnings announcements released in the pre-disclosure reform and post-disclosure reform periods. <sup>2</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for earnings announcements released in the negative and positive earnings change financial years. <sup>3</sup> Showing the *t*-statistics and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for earnings announcements released in financial years not followed and followed by analysts. <sup>4</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for earnings announcements released in financial years not pre-empted and pre-empted by management earnings forecasts. <sup>5</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for earnings announcements released in firms years with inaccurate and accurate management earnings forecasts. <sup>6</sup> Showing the *t*-statistic and *z*-statistic of difference between means of the magnitude of the cumulative abnormal returns for earnings announcements released in financial years not cross-listed and cross-listed. The table is based on 626 earnings announcements made by 94 NZX-listed firms with financial reporting date ending from 31 January 1999 to 31 December 2005. An earnings announcement is a mandatory preliminary financial report made to the NZX before the release of the corresponding annual report as required by Listing Rule 10.4. An earnings announcement is classified as being in the pre-disclosure reform (post-disclosure reform) period if its corresponding financial year ends before (on or after) 1 December 2002. An earnings announcement is classified as being in the period with negative (positive) earnings change if it shows a decrease (an increase) in earnings per share. An earnings announcement is classified as being in the period followed by analysts if its corresponding firm is followed by at least one analyst in its corresponding financial year. An earnings announcement is classified as being pre-empted if it is pre-empted by at least one management earnings forecast. An earnings announcement is classified as being pre-empted by inaccurate (accurate) management earnings forecasts if the corresponding last management earnings forecast is inaccurate (accurate). An earnings announcement is classified as being in the cross-listed period if its corresponding firm is cross-listed on a foreign exchange in its corresponding financial year.

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**Table 6**  
**Descriptive Statistics Pre- and Post-Disclosure Reform**

Variables	Overall Sample	Pre-Disclosure Reform	Post-Disclosure Reform	<i>t</i> -stat (Mann Whitney <i>z</i> -value)/chi-square
	Mean (Median)/Frequency (Percentage)	Mean (Median)/Frequency (Percentage)	Mean (Median)/Frequency (Percentage)	
<b>Panel A: Descriptive statistics for all bad and good news management earnings forecasts</b>				
	N = 580	N = 248	N = 332	
CAR  Earnings Change	-3.468 (-3.344) 0.189 (0.037)	-3.447 (-3.327) 0.271 (0.046)	-3.484 (-3.354) 0.128 (0.030)	-0.375 (-0.280) -2.518** (-2.843**)
ECHANGE	-3.218 (-3.306)	-2.989 (-3.086)	-3.388 (-3.515)	-2.978** (-2.842**)
Total Market Value of Equity (millions)	1,393.6 (156.5)	1,429.2 (121.7)	1,367.0 (192.2)	-0.118 (2.597**)
SIZE	19.000 (18.868)	18.810 (18.617)	19.142 (19.074)	2.249* (2.600**)
MVBV	0.387 (0.380)	0.259 (0.224)	0.482 (0.424)	3.721** (3.366**)
ENEWS (good news)	451 (77.76%)	197 (79.44%)	254 (76.51%)	0.704
NREVENT	129 (22.24%)	39 (15.73%)	90 (27.11%)	10.635**
PRECISE (qualitative)	334 (57.59%)	181 (72.98%)	153 (46.08%)	45.942**
PRECISE (open-ended)	60 (10.34%)	21 (8.47%)	39 (11.75%)	
PRECISE (range)	58 (10.00%)	10 (4.03%)	48 (14.46%)	
PRECISE (point)	128 (22.07%)	36 (14.52%)	92 (27.71%)	
FHORIZON	194 (213)	205 (221)	186 (189)	-2.317* (-1.744 <sup>^</sup> )
PRIOR_INACCURACY (inaccurate)	88 (15.17%)	38 (15.32%)	50 (15.06%)	0.008
ANALYST (followed by analysts)	343 (59.14%)	129 (52.02%)	214 (64.46%)	9.094**
XLIST (cross-listed)	170 (29.31%)	72 (29.03%)	98 (29.52%)	0.016
<b>Panel B: Descriptive statistics for all earnings announcements</b>				
	N = 626	N = 342	N = 284	
EACAR  Earnings Change	-3.555 (-3.429) 0.178 (0.037)	-3.413 (-3.325) 0.209 (0.040)	-3.727 (-3.595) 0.141 (0.032)	-3.530** (-3.520**) -1.588 <sup>^</sup> (-1.077)
ECHANGE	-3.315 (-3.293)	-3.239 (-3.214)	-3.406 (-3.449)	1.223 (1.070)
Total Market Value of Equity (millions)	1,774.8 (130.3)	1,921.1 (107.2)	1,598.6 (176.1)	-0.408 (2.456*)
SIZE	18.720 (18.685)	18.658 (18.491)	18.903 (18.987)	2.083* (2.457*)
MVBV	0.373 (0.254)	0.290 (0.164)	0.472 (0.356)	2.850** (2.954**)
ANALYST (followed by analysts)	347 (55.43%)	184 (53.80%)	163 (57.39%)	0.811
XLIST (cross-listed)	158 (25.24%)	85 (24.85%)	73 (25.70%)	0.060
PRE-EMPT (pre-empted)	350 (55.91%)	163 (39.77%)	187 (65.85%)	20.813**
ACCURACY (accurate) (350 pre-empted earnings announcements)	272 (77.71%)	122 (74.85%)	150 (80.21%)	1.449

<sup>^</sup>, \*, \*\* Characteristics are significantly different at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed). The pre-disclosure reform period includes all financial years ending in the 31 January 1999 to 30 November 2002 period and the post-disclosure reform period includes all those ending in the 1 December 2002 to 31 December 2005 period. |Earnings Change| is the absolute value of percentage change in earnings per share deflated by share price at the beginning of the financial year. ECHANGE is the natural logarithm of the absolute value of percentage change in earnings per share deflated by share price at the beginning of the financial year. Total Market Value of Equity is the total market value of equity at the end of the current financial year. SIZE is the natural logarithm of the total market value of equity at the end of the current financial year. MVBV is the natural logarithm of the market value of equity divided by the book value of equity at the end of the current financial year. ENEWS is a dichotomous variable taking the value of 1 if the management earnings forecast indicates an expected positive change in current period earnings and 0 otherwise. NREVENT is a dichotomous variable taking the value of 1 if management earnings forecast is released through a non-routine announcement and 0 otherwise. PRECISE is level of forecast precision, coded as 0, 1, 2, and 3 for qualitative, open-ended, range, and point forecasts, respectively. FHORIZON is the number of calendar days between the release date of management earnings forecast and the end date of the corresponding financial year. PRIOR\_INACCURACY is a dichotomous variable taking the value of 1 if the last management earnings forecast in the previous financial year is inaccurate and 0 if either the last management earnings forecast is accurate or no management earnings forecast is made. ANALYST is a dichotomous variable taking the value of 1 if the firm is followed by at least one analyst in the corresponding financial year and 0 otherwise. XLIST is a dichotomous variable taking the value of 1 if the firm is cross-listed on a foreign exchange and 0 otherwise. ACCURACY is a dichotomous variable taking the value of 1 if the current financial year's change in earnings is pre-empted by accurate management earnings forecasts and 0 otherwise.



**Table 7**

**Factors Associated with Magnitude of Five Day Abnormal Return for 580 Bad and Good News Management Earnings Forecasts Pre- and Post-Disclosure Reform**

$$CAR_{i,t} = a_0 + a_1 REFORM_{i,t} + a_2 ENEWS_{i,t} + a_3 NREVENT_{i,t} + a_4 PRECISE_{i,t} + a_5 FHORIZON_{i,t} + a_6 PRIOR\_INACCURACY_{i,t} + a_7 ECHANGE_{i,t} + a_8 SIZE_{i,t} + a_9 XLIST_{i,t} + a_{10} MVBV_{i,t} + a_{11} ANALYST_{i,t} + (u_i + \varepsilon_{i,t})$$

	Expected Sign	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
Intercept		-0.231 (0.789)	-0.221 (0.803)	-0.136 (0.873)	-0.213 (0.801)	-6.005 (0.084 <sup>^</sup> )
<i>REFORM</i>		-0.020 (0.843)	-0.050 (0.812)	0.065 (0.564)	0.211 (0.168)	0.093 (0.488)
<i>ENEWS</i>	-	-0.208 (0.045*)	-0.231 (0.107)	-0.185 (0.067 <sup>^</sup> )	-0.198 (0.054 <sup>^</sup> )	-0.237 (0.040*)
<i>NREVENT</i>	+	0.473 (0.001**)	0.470 (0.001**)	0.764 (0.001**)	0.467 (0.001**)	0.338 (0.015*)
<i>PRECISE</i>	+	-0.029 (0.260)	-0.028 (0.273)	-0.034 (0.225)	-0.017 (0.355)	0.036 (0.242)
<i>FHORIZON</i>	-	0.000 (0.331)	0.000 (0.331)	0.000 (0.382)	0.000 (0.317)	0.000 (0.262)
<i>PRIOR_INACCURACY</i>	-	-0.307 (0.013*)	-0.308 (0.013*)	-0.311 (0.012*)	-0.296 (0.016*)	-0.386 (0.006**)
<i>ECHANGE</i>	+	0.049 (0.074 <sup>^</sup> )	0.048 (0.079 <sup>^</sup> )	0.047 (0.080 <sup>^</sup> )	0.052 (0.057 <sup>^</sup> )	0.032 (0.244)
<i>SIZE</i>	-	-0.166 (0.001**)	-0.165 (0.001**)	-0.174 (0.000**)	-0.174 (0.000**)	0.141 (0.228)
<i>XLIST</i>	-	0.349 (0.025*)	0.350 (0.026*)	0.365 (0.019*)	0.378 (0.015*)	0.527 (0.199)
<i>MVBV</i>	+	0.087 (0.142)	0.088 (0.141)	0.089 (0.135)	0.077 (0.167)	-0.070 (0.351)
<i>ANALYST</i>	-	0.004 (0.485)	0.003 (0.490)	0.009 (0.471)	0.236 (0.075 <sup>^</sup> )	-0.073 (0.354)
<i>REFORM_ENEWS</i>			0.038 (0.873)			
<i>REFORM_NREVENT</i>				-0.421 (0.089 <sup>^</sup> )		
<i>REFORM_ANALYST</i>					-0.401 (0.046*)	
<i>REFORM_XLIST</i>						-0.646 (0.003**)
Breusch and Pagan Lagrangian		6.020*	5.940*	5.570*	7.310**	7.330**
Multipier Test						
Hausman Test		14.580	14.310	15.910	15.740	37.320**
Model Chi-square		36.420**	36.040**	39.950**	41.590**	
Model F-value						2.600**
Sigma_u		0.303	0.312	0.290	0.277	0.842
Sigma_e		1.105	1.106	1.104	1.102	1.097
Rho		0.070	0.074	0.065	0.060	0.371
F test						1.620**
R <sup>2</sup>		0.076	0.076	0.082	0.081	0.001

<sup>^</sup>, \*, \*\* Significant at the 0.1, 0.05, and 0.01 levels. One-tailed (two-tailed) test is used when coefficient sign is predicted (not predicted). Random effects and fixed effects linear regression models are used where the dependent variable is *CAR*, the natural logarithm of the absolute value of the five day abnormal return associated with the management earnings forecasts. *REFORM* is a dichotomous variable taking the value of 1 if the current financial year ends in the post-disclosure reform period or 0 otherwise. *ENEWS* is a dichotomous variable taking the value of 1 if the earnings forecast indicates an expected positive change in current year earnings and 0 otherwise. *NREVENT* is a dichotomous variable taking the value of 1 if the earnings forecast is released through a non-routine announcement and 0 otherwise. *PRECISE* is level of forecast precision, coded as 0, 1, 2, and 3 for qualitative, open-ended, range, and point forecasts, respectively. *FHORIZON* is the number of calendar days between the release date of earnings forecast and the corresponding financial reporting date. *PRIOR\_INACCURACY* is a dichotomous variable taking the value of 1 if the last management earnings forecast in the previous financial year is inaccurate and 0 if either the last management earnings forecast is accurate or no management earnings forecast is made. *ECHANGE* is the natural logarithm of the absolute value of percentage change in earnings per share deflated by share price at the beginning of the financial year. *SIZE* is the natural logarithm of the total market value of equity at the end of the current financial year. *XLIST* is a dichotomous variable taking the value of 1 if the firm is cross-listed on a foreign exchange and 0 otherwise. *MVBV* is the natural logarithm of the market value of equity divided by the book value of equity at the end of the current financial year. *ANALYST* is a dichotomous variable taking the value of 1 if the firm is

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followed by at least one analyst in the corresponding financial year and 0 otherwise. *REFORM\_ENEWS* is *REFORM* multiplied by *ENEWS*. *REFORM\_NREVENT* is *REFORM* multiplied by *NREVENT*. *REFORM\_ANALYST* is *REFORM* multiplied by *ANALYST*. *REFORM\_XLIST* is *REFORM* multiplied by *XLIST*.

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**Table 8**  
**Factors Associated with Magnitude of Five Day Abnormal Return for 626 Earnings Announcements Pre- and Post-Disclosure Reform**

$$EACAR_{i,t} = b_0 + b_1 REFORM_{i,t} + b_2 ECSIGN_{i,t} + b_3 ECHANGE_{i,t} + b_4 SIZE_{i,t} + b_5 XLIST_{i,t} + b_6 MVBV_{i,t} + b_7 ANALYST_{i,t} + b_8 PRE-EMPT_{i,t} + (w_i + \theta_{i,t})$$

	Expected Sign	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
Intercept		-2.554 (0.000**)	-2.719 (0.000**)	-2.527 (0.000**)	-2.543 (0.000**)	-2.438 (0.000**)
<i>REFORM</i>		-0.339 (0.000**)	-0.126 (0.364)	-0.533 (0.000**)	-0.354 (0.009**)	-0.442 (0.000**)
<i>ECSIGN</i>	+	-0.129 (0.073^)	0.031 (0.396)	-0.133 (0.065^)	-0.129 (0.073^)	-0.132 (0.067^)
<i>ECHANGE</i>	+	0.039 (0.082^)	0.041 (0.075^)	0.041 (0.071^)	0.039 (0.082^)	0.036 (0.101)
<i>SIZE</i>	-	-0.042 (0.120)	-0.038 (0.144)	-0.038 (0.146)	-0.043 (0.119)	-0.047 (0.098^)
<i>XLIST</i>	-	0.014 (0.462)	0.008 (0.476)	0.004 (0.489)	0.014 (0.461)	-0.167 (0.158)
<i>MVBV</i>	+	0.069 (0.143)	0.065 (0.155)	0.071 (0.135)	0.069 (0.143)	0.067 (0.149)
<i>ANALYST</i>		0.062 (0.602)	0.059 (0.621)	-0.101 (0.488)	0.063 (0.602)	0.071 (0.551)
<i>PRE-EMPT</i>		0.157 (0.108)	0.155 (0.111)	0.148 (0.130)	0.146 (0.239)	0.153 (0.117)
<i>REFORM_ECSIGN</i>			-0.352 (0.048*)			
<i>REFORM_ANALYST</i>				0.347 (0.047*)		
<i>REFORM_PRE-EMPT</i>					0.027 (0.882)	
<i>REFORM_XLIST</i>						0.413 (0.035*)
Breusch and Pagan Lagrangian		9.960**	9.460**	10.290**	9.890**	10.510**
Multiplier Test						
Hausman Test		5.300	5.960	5.210	6.100	5.890
Model Chi-square		22.940**	26.970**	26.950**	22.930**	27.480**
Sigma_u		0.326	0.323	0.332	0.325	0.332
Sigma_e		1.057	1.055	1.054	1.058	1.053
Rho		0.087	0.086	0.090	0.086	0.090
R <sup>2</sup>		0.038	0.045	0.043	0.038	0.044

^, \*, \*\* Significant at the 0.1, 0.05, and 0.01 levels. One-tailed (two-tailed) test is used when coefficient sign is predicted (not predicted). Random effects linear regression model is used where dependent variable is *EACAR*, the natural logarithm of the absolute value of the five day abnormal return associated with the earnings announcements. *REFORM* is a dichotomous variable taking the value of 1 if the current financial year ends in the post-disclosure reform period or 0 otherwise. *ECSIGN* is a dichotomous variable taking the value of 1 for a positive current period earnings per share change and 0 otherwise. *ECHANGE* is a natural logarithm of the absolute value of the percentage change in earnings per share deflated by share price at the beginning of the financial year. *SIZE* is the natural logarithm of the total market value of equity at the end of the current financial year. *XLIST* is a dichotomous variable taking the value of 1 if the firm is cross-listed on a foreign exchange and 0 otherwise. *MVBV* is the natural logarithm of the market value of equity divided by the book value of equity at the end of the current financial year. *ANALYST* is a dichotomous variable taking the value of 1 if the firm is followed by at least one analyst in the corresponding financial year and 0 otherwise. *PRE-EMPT* is a dichotomous variable taking the value of 1 if the current financial year's change in earnings is pre-empted by at least one management earnings forecast and 0 otherwise. *REFORM\_ECSIGN* is *REFORM* multiplied by *ECSIGN*. *REFORM\_ANALYST* is *REFORM* multiplied by *ANALYST*. *REFORM\_PRE-EMPT* is *REFORM* multiplied by *PRE-EMPT*. *REFORM\_XLIST* is *REFORM* multiplied by *XLIST*.

**Table 9**  
**Factors Associated with Magnitude of Five Day Abnormal Return for 350 Pre-empted Earnings Announcements Pre- and Post- Disclosure Reform**

$$EACAR_{i,t} = c_0 + c_1 REFORM_{i,t} + c_2 ECSIGN_{i,t} + c_3 ECHANGE_{i,t} + c_4 SIZE_{i,t} + c_5 XLIST_{i,t} + c_6 MVBV_{i,t} + c_7 ANALYST_{i,t} + c_8 ACCURACY_{i,t} + \delta_{i,t}$$

	Expected Sign	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
Intercept		-2.456 (0.004**)	-2.600 (0.003**)	-2.410 (0.005**)	-2.770 (0.002**)	-2.339 (0.007**)
<i>REFORM</i>		-0.349 (0.005**)	-0.137 (0.490)	-0.519 (0.009**)	0.025 (0.924)	-0.473 (0.001**)
<i>ECSIGN</i>	+	-0.256 (0.022*)	-0.074 (0.345)	-0.263 (0.019*)	-0.256 (0.022*)	-0.257 (0.021*)
<i>ECHANGE</i>	+	0.049 (0.096^)	0.051 (0.085^)	0.05 (0.089^)	0.04 (0.142)	0.043 (0.123)
<i>SIZE</i>	-	-0.037 (0.229)	-0.035 (0.242)	-0.035 (0.242)	-0.03 (0.275)	-0.040 (0.207)
<i>XLIST</i>	-	0.007 (0.486)	0.002 (0.496)	0.000 (0.499)	-0.002 (0.495)	-0.248 (0.141)
<i>MVBV</i>	+	0.134 (0.068^)	0.127 (0.079^)	0.132 (0.07^)	0.156 (0.043*)	0.122 (0.087^)
<i>ANALYST</i>		-0.083 (0.574)	-0.076 (0.607)	-0.228 (0.251)	-0.129 (0.391)	-0.080 (0.588)
<i>ACCURACY</i>		0.181 (0.225)	0.178 (0.230)	0.199 (0.184)	0.419 (0.043*)	0.181 (0.221)
<i>REFORM_ECSIGN</i>			-0.338 (0.174)			
<i>REFORM_ANALYST</i>				0.272 (0.276)		
<i>REFORM_ACCURACY</i>					-0.493 (0.099^)	
<i>REFORM_XLIST</i>						0.484 (0.078^)
Breusch and Pagan Lagrangian Multiplier Test		0.780	1.320	0.860	0.810	0.630
Adjusted R <sup>2</sup>		0.027	0.029	0.028	0.032	0.033
F-value		2.210*	2.170*	2.090*	2.280*	2.320*

^, \*, \*\* Significant at the 0.1, 0.05, and 0.01 levels. One-tailed (two-tailed) test is used when coefficient sign is predicted (not predicted). Linear regression model is used where dependent variable is *EACAR*, the natural logarithm of the absolute value of the five day abnormal return associated with the earnings announcements. *REFORM* is a dichotomous variable taking the value of 1 if the current financial year ends in the post-disclosure reform period or 0 otherwise. *ECSIGN* is a dichotomous variable taking the value of 1 for a positive current period earnings per share change and 0 otherwise. *ECHANGE* is a natural logarithm of the absolute value of the percentage change in earnings per share deflated by share price at the beginning of the financial year. *SIZE* is the natural logarithm of the total market value of equity at the end of the current financial year. *XLIST* is a dichotomous variable taking the value of 1 if the firm is cross-listed on a foreign exchange and 0 otherwise. *MVBV* is the natural logarithm of the market value of equity divided by the book value of equity at the end of the current financial year. *ANALYST* is a dichotomous variable taking the value of 1 if the firm is followed by at least one analyst in the corresponding financial year and 0 otherwise. *ACCURACY* is a dichotomous variable taking the value of 1 if the current financial year's change in earnings is pre-empted by accurate management earnings forecasts and 0 otherwise. *REFORM\_ECSIGN* is *REFORM* multiplied by *ECSIGN*. *REFORM\_ANALYST* is *REFORM* multiplied by *ANALYST*. *REFORM\_ACCURACY* is *REFORM* multiplied by *ACCURACY*. *REFORM\_XLIST* is *REFORM* multiplied by *XLIST*.