

**HOW DO FIRMS MANAGE
THEIR EARNINGS FORECAST STRATEGY?
A NEW ZEALAND STUDY**

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How Do Firms Manage Their Earnings Forecast Strategy? A New Zealand Study

Professional Summary

Prior earnings forecast theories and empirical research studies have largely focused on explaining firms' decision to issue earnings forecasts to pre-empt any expected change in earnings (Hirst, Koonce, and Venkataraman, 2008). Some of these studies have considered the difference between earnings forecasts that are routine and those are non-routine in nature in an attempt to refine this explanation (Chan, Faff, Ho, and Ramsay, 2007; Dunstan, Gallery, and Truong, 2008). In contrast to the trend of research investigating why firms decide to forecast earnings, our study seeks to examine how firms manage their earnings forecast strategy once they have decided to release earnings forecasts. Specifically, our objective is to investigate why firms decide to adopt a multiple earnings forecast approach (or portfolio approach) and consequently adopt a consistent drift strategy in earnings forecasting through the issue of an upward or downward series of earnings forecasts to pre-empt earnings announcements.

The eight-year period from financial report period ending on 31 January 1999 to financial report period ending on 31 December 2005 is selected as our study period. Across this study period, we identify 350 NZX-listed firm years of which earnings announcements are pre-empted by management earnings forecasts. We employ both univariate and multivariate statistical procedures to examine (1) firms' decision to adopt an earnings forecast portfolio approach, and (2) firms' decision to adopt a consistent drift strategy in earnings forecasting. The multivariate procedures control for firm-specific characteristics (i.e. firm performance, firm size, cross-listing status, growth prospects, and analyst coverage) known to impact the earnings forecasting strategy.

Collectively, we document that in years where firms expect favourable earnings change, managers are more likely to adopt an earnings forecast portfolio approach (i.e. to issue a series of earnings forecasts) to update market expectations compared to firms expecting unfavourable earnings change, particularly after the introduction of the statutory-backed continuous disclosure regime on 1 December 2002. We also document that these good news firms have a greater propensity to adopt a consistent positive drift strategy in earnings forecasting while those with bad news are more likely to immediately update market expectations in earnings with a series of earnings forecasts of fluctuating signs. These findings indicate that firms expecting better earnings performance are more conservative in their earnings forecasting compared to those expecting worse earnings performance. While the gradual release of good news might not meet the intention of corporate regulators for the promotion of a continuously updated market – a market where all material information is released on a timely basis, the fact that firms expecting better earnings performance decide to release more earnings forecasts under the new continuous disclosure regime does suggest an improvement in the information flow to the capital market.

These revealing findings on management earnings forecast strategy would be beneficial for the corporate regulators in their monitoring and enforcement practices. Given the importance of these findings to corporate regulators, we encourage further research to extend our understanding on how firms manage their earnings forecast strategy in regulated environments.

How Do Firms Manage Their Earnings Forecast Strategy? A New Zealand Study

Abstract

In contrast to the trend of research investigating why firms decide to release earnings forecasts to pre-empt any expected change in earnings, our study investigates how firms manage their earnings forecast strategy once they have decided to release earnings forecasts. Using a sample of 350 NZX-listed firm years with balance date ending from 31 January 1999 to 31 December 2005 for 94 companies across the statutory-backed continuous disclosure regime, we document that firms are more likely to adopt a multiple earnings forecast (a portfolio) approach in the statutory sanctions period, particularly for the group of firms expecting favourable earnings change. We also document that these good news firms have a higher propensity to gradually update the market with good news earnings forecasts while those with bad news are more likely to immediately correct current market earnings expectations. These findings indicate that firms expecting better earnings performance are more conservative in their earnings forecasting compared to those expecting worse earnings performance. Although this asymmetrical treatment of good and bad news might not meet the corporate regulators' objective of a continuously updated market with an unbiased approach to the treatment of information, the overall increase in disclosure frequency in the statutory sanctions period does indicate an improvement in the information flow to the capital market.

Keywords: management earnings forecasts, continuous disclosure, earnings forecast strategy

JEL Classifications: G14 and K22

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1. Introduction

Prior earnings forecast theories and empirical research studies have largely focused on investigating why firms decide to issue earnings forecasts to pre-empt any expected change in earnings (Hirst et al., 2008). Some of these studies have considered the difference between earnings forecasts that are routine and those are non-routine in nature in an attempt to refine this explanation (Chan et al., 2007; Dunstan et al., 2008). In contrast to the trend of research investigating why firms decide to forecast earnings, our paper seeks to investigate how firms manage their earnings forecasts strategy. In other words, our objective is to examine why firms decide to adopt a multiple earnings forecast approach (or portfolio approach) and consequently adopt a consistent drift strategy in earnings forecasting through the issue of an upward or downward series of earnings forecasts to pre-empt earnings announcements.

Using a sample of 350 NZX-listed firm years with ending balance date from 31 January 1999 to 31 December 2005, we document that in years where firms expect favourable earnings change managers are more likely to issue a series of earnings forecasts to update market expectations compared to firms expecting unfavourable earnings change, particularly in the statutory-backed continuous disclosure (CD) regime period. We also document that these good news firms have a greater propensity to adopt a consistent positive drift strategy in earnings forecasting while those with bad news are more likely to immediately update market expectations in earnings with a series of earnings forecasts of fluctuating signs. A possible explanation for these findings is the fact that good news firms might be more conservative in releasing good news to the market. While the gradual release of good news might not meet the intention of corporate regulators for the promotion of a continuously updated market, the fact that firms expecting better performance decide to release more earnings forecasts in the post-statutory sanctions period suggests an improvement in the information flow to the capital market.

The remainder of the paper is organised as follows. Section 2 presents an overview of New Zealand continuous disclosure environment. Section 3 provides the earnings forecast motivation and develops the research hypotheses. The research design is shown in Section 4. Section 5 presents the results and the paper concludes in Section 6.

2. The New Zealand Continuous Disclosure Environment

In response to the ongoing concerns about the under-regulated New Zealand capital market which has been considered out of step of international best practice, New Zealand corporate regulators adopted the Australian disclosure model to introduce statutory backing for the NZX's continuous disclosure listing rules in December 2002. The stated motivation for the imposition of this regulation is to encourage investor confidence in the efficiency and integrity of the capital market by ensuring the timely disclosure of all material information (NZX Guidance Note - Continuous Disclosure).

Prior to 1 December 2002, New Zealand public issuers were bound by continuous disclosure obligations under the previous listing rule 10.1.1 of the NZSE. New Zealand's statutory securities law only enforced the issuance of periodic disclosures, episodic disclosures, and IPO-related disclosures (Erlenwein, 2003). Under Listing Rule 10.1.1, public issuers were required to treat information as an asset, to be used and applied for its overall benefits. Public issuers also had a general obligation to disclose all relevant information to the market once the maintenance of confidentiality ceased to have a greater value to the company concerned than to the public. The issuers' obligation to the NZSE's listing rules upon listing was purely contractual. Following listing, monitoring and enforcement of the rule compliance remains the responsibility of the NZSE. The contractual nature of the disclosure obligation led to scepticism about the effectiveness of Listing Rule 10.1.1. Specifically, the NZSE'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 current continuous disclosure regime involved amendments to the Securities Markets Act (SMA) 1988 and revisions to NZX's Listing Rule 10.1 which were set in place on 1 December 2002. The SMA provides a statutory framework within which the NZX Listing Rule 10.1 operates. As specified in section 19D of the SMA, the continuous disclosure provisions are defined as "provisions that require a public issuer that is a party to a listing agreement with a registered exchange to notify information about events or matters as they arise for the purpose of that information being made available to participants in the registered exchange's market". The SMA also provides an enforcement regime implemented either by the Securities Commission with its prosecutory role or any other person with an interest in any contravention of the continuous disclosure requirements. Therefore, investor protection is

enhanced through an informed market in which all material information must be released on a timely basis.

Coinciding with the introduction of the amended SMA on 1 December 2002, the NZX introduced its revised Listing Rule 10.1 to ensure compatibility with the SMA. With the presumption that information belongs to all of public issuers' investors instead of to issuers themselves, the revised listing rules dispense with the existing requirement that information to be treated as an asset, to be used and applied for an issuer's overall benefits, by requiring the issuers to release material information immediately once becoming aware of it. It is no longer for an issuer to be able to assess whether there is greater value to the issuer in keeping the information confidential (McLaughlin and Wallis, 2002). A listed issuer is deemed to have come into possession of the material information when a director or executive officer has become aware of it in the course of performance of his or her duties (NZX Listing Rule 10.1.1). To assist issuers in identifying material information, guidance notes to the listing rules provide a non-exhaustive list of events. The first and most relevant to our study is "a change in the issuer's financial forecast or expectation" from either (1) the financial results for the previous corresponding period, or (2) prospective financial information such as forecasts or projections contained in any prospects, or (3) prospective financial information such as forecasts or projections previously provided to the market in relation to the half-year period (Guidance Notes - Continuous Disclosure, p.14).

However, similar to the old listing rules, the NZX has recognised in its revised rules that there are situations where the issuer should legally be allowed to withhold material information. The "carve-out" provisions are a vital part of the continuous disclosure regime despite not being explicitly incorporated into the amended SMA. According to the "carve-out" provisions, the non-disclosure of material information is possible 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 negotiations, or comprises matters or supposition, or is insufficiently definite, or is for internal management only, or is a trade secret. Even if all three of these criteria are satisfied, an issuer could still be required to release specific information if the NZX deems disclosure necessary to prevent the development of a false market in the issuer's securities.

The amended SMA 1988 importantly empowers the Securities Commission to require listed issuers to disclose necessary information bound by the regime and to publish corrective statements at the firm's expense if it is found to have contravened the continuous disclosure provisions. The Securities Commission must normally give the issuer at least 24 hours' written notice before making the order. The order may be made more urgently in some special case. The issuer may face a fine of up to \$30,000 if it is found to have committed a criminal offence with respect to an order made by the Securities Commission. The Court may also make civil orders requiring disclosure or corrective statements, impose pecuniary penalties of up to \$300,000, make compensatory orders, and order the payment of the Securities Commission's costs and expenses.

3. Earnings Forecast Motivation and Hypothesis Development

3.1 Earnings Forecast Motivation

Management earnings forecasts are defined as “managerial disclosures predicting earnings prior to the expected reporting date” (King, Pownall, and Waymire, 1990, p.113). Four related disclosure theories seek to explain management decision to issue earnings forecasts. The expectation adjustment hypothesis of Ajinkya and Gift (1984) proposes that managers release earnings forecasts to reduce the level of information asymmetry and to align investors' earnings expectation with their own. While Ajinkya and Gift (1984) assume that managers generally dislike large earnings surprises irrespective of the earnings surprise sign, Skinner (1994, 1997) extends this expectation adjustment hypothesis with the assumption that the costs of failing to pre-empt bad news before the earnings announcements are larger than the costs of failing to pre-empt good news. Thus, Skinner's (1994, 1997) litigation and reputation cost hypotheses argues that managers decide to release earnings forecasts to pre-empt current year's change in earnings in order to avoid potential litigation costs from aggrieved investors as well as the potential reputation impairment costs arising from the earnings surprises, especially in case of expected bad news. Graham, Harvey, and Rajgopal (2005) further develop the reputation cost hypothesis which explains the management decision to issue earnings forecasts as to build up and maintain their disclosure reputation. Agency theory, in contrast, argues that managers might also be driven by their self-interest behaviour to opportunistically issue self-serving earnings forecasts which might conflict with shareholders' interests. Ultimately, management decision to issue earnings forecasts is tactically influenced

by the legal, regulatory, and institutional environment, the expected investors' reaction to earnings forecasts, the nature of information held by managers, and by managerial incentives.

Empirical research shows that U.S. managers are more likely to issue the full content of bad news in one announcement relative to good news due to the strong culture of private litigation (Skinner, 1994; Kasznik and Lev, 1995; Soffer, Thiagarajan, and Walther, 2000; Baginski, Hassell, and Kimbrough, 2002). In contrast, such asymmetrical treatment between good news and bad news is not observed in other lower litigation risk environments such as Japan, Canada, and New Zealand (Baginski et al., 2002; Kato, Skinner, and Kunimura, 2006; Dunstan et al., 2008).

Australian and New Zealand research on the change in the regulatory disclosure regime generally shows a positive impact of the statutory-backed continuous disclosure regime on management earnings forecasting behaviour. Investigating the extent and nature of management earnings forecasts for a large sample of analyst-followed companies listed on the ASX for the period from 1994 to 2001, Chan et al. (2007) find that the increased enforcement actions by the Australian Securities and Investment Commission and the additional legislative changes to the Australian continuous disclosure regime have significantly increased the level of non-routine earnings forecasts in the post 2000 period. Similarly, Dunstan et al.'s (2008) New Zealand study on management earnings forecasting behaviour shows significant increases in both the overall quantity of earnings forecasts and the quantity of non-routine earnings forecasts following the introduction of a statutory-backed continuous disclosure regime in 2002.

3.2 The Decision to Adopt an Earnings Forecast Portfolio Approach

Both the regulatory argument and prior Australian and New Zealand empirical evidence suggest an increase in the likelihood of management issuing earnings forecasts in general and non-routine earnings forecasts in particular in the statutory sanctions period. However, prior research does not address changes in disclosure strategies, in particular, whether non-disclosing firms have increased their propensity to disclose earnings forecasts or whether firms having already made earnings forecasts have modified the number of forecasts they issue to the capital market after regulatory changes to the disclosure rules. Firms may not only be more likely to issue multiple earnings forecasts in general (a "portfolio" approach) and non-routine earnings forecasts in particular but also be more likely to issue a series of

earnings forecasts (a “drift” approach) to pre-empt the current year’s change in earnings in the post continuous disclosure regime period. This motivates our research question about why firms would adopt a strategy of making a portfolio of forecasts or produce a series of forecasts over time rather than rely on the signalling effect of just one or two earnings forecasts in general or one or two non-routine earnings forecasts in particular. In the absence of New Zealand research on strategic earnings forecasting behaviour, it is difficult to predict the impact of the disclosure regime switch on management decision to adopt an earnings forecast portfolio approach among NZX-listed firms. On a regulatory perspective, the intention of a statutory-backed continuous disclosure regime is to promote a continuously informed market in which all material information is released on a timely basis. Therefore, *a priori* we would expect managers are more likely to update the market with a series of earnings forecasts pre-empting current year earnings change in the statutory sanctions period. Accordingly, we test the following hypothesis:

H1: Firms are more likely to adopt an earnings forecast portfolio approach following the introduction of NZ statutory-backed CD regime.

3.3 The Decision to Adopt a Consistent Drift Strategy in Earnings Forecasting

Once a firm has decided to adopt an earnings forecast portfolio approach, the next decision relates to how the firm should manage its earnings forecast portfolio to continuously inform the market. It is difficult to predict whether firms utilise a consistent drift strategy to gradually inform bad or good news to the market or to predict if they are more likely to issue a series of earnings forecasts to immediately correct current market expectation of earnings or prior management earnings forecast error. There is no current Australian or New Zealand research on how firms manage their earnings forecasts in a regulated environment. The only U.S. research on how firms preannounce their earnings performance of Soffer et al. (2000) reveals that while firms with bad news essentially release all of their news at their preannouncement date, firms with good news only release approximately half of their news before the official earnings announcements. One possible explanation for this finding is the asymmetric loss function faced by managers. From a managerial perspective, the cost of not disclosing bad news on a timely basis is greater than the cost of not disclosing good news on a timely basis. Disclosing bad news earlier could reduce the litigation risk and the cost of subsequent litigation (Skinner, 1994, 1997). Given the increased litigation risk and enforcement imposed by the statutory-backed continuous disclosure regime, we would expect firms with bad news

are more likely to issue earnings forecasts to immediately pre-empt the current year's change in earnings in the statutory sanctions period and firms with good news are more likely to use a consistent drift strategy to progressively keep the market informed. This argument leads to the following hypothesis about the management disclosure decisions:

H2: Firms are more likely to adopt a consistent drift strategy in earnings forecasting when expecting good news than when expecting bad news following the introduction of NZ statutory-backed CD regime.

3.4 Control variables

Prior research has shown that the institutional environment such as analyst coverage and other firm characteristics such as the magnitude of earnings change, firm size, cross-listing status, and growth prospects influence management earnings forecasting decision regardless of change in disclosure regime and earnings change direction (Hirst et al., 2008). These firm specific characteristics are expected to be different cross-sectionally among NZX-listed firms, which in turn might directly impact on management decisions to adopt an earnings forecast portfolio approach and management decisions to adopt a consistent drift strategy in earnings forecasting. Therefore, we consider appropriate control variables in our research design.

4 Research Design

4.1 Sample

The NZX maintains an IRG database of all firm-related information made by a large number of NZX-listed firms. We obtain the list of 197 NZX-listed firms as on 3 December 2004. We eliminate 44 overseas domiciled firms listed on the NZX which are not covered by the IRG database and an additional 59 firms which did not survive at least for the period from 28 September 1999 to 13 September 2004. This leads to the final sample of 94 firms with 655 firm years with ending balance dates from 31 January 1999 to 31 December 2005. We further remove 23 firm years with missing documents or with unusable earnings data and 282 firm years not containing at least one management earnings forecast to obtain the final sample of 350 forecasting firm years. The sample selection procedure detail is shown in Table 1.

4.2 Data Sources

The listing status of NZX-listed firms was extracted from the Company Information section of the IRG Database. The cross-listing status and listing date information were obtained directly from the NZX. All financial accounting information including earnings, asset size, market capitalisation, and book value of equity and the analyst coverage information were taken from either the Datastream database or the Financial Information section of the IRG database. All management earnings forecasts were extracted from the Company Announcements section of the IRG Database.

4.3 Identification of Earnings Forecast Portfolio Approach and Consistent Drift Strategy in Earnings Forecasting

All management earnings forecasts from 350 forecasting firm years are classified according to their news content (i.e. bad, neutral, or good news). An earnings forecast is classified as good (bad) news if its content reveals favourable (unfavourable) earnings prospects relative to last periodic earnings announcement or forecast (if one has been provided since the last periodic earnings announcement). An earnings forecast is classified as neutral news if its content indicates no expected change in earnings.

A forecasting firm year is defined as adopting an earnings forecast portfolio approach if there are three or more earnings forecasts being issued throughout the financial year. A forecasting firm year is classified as adopting a consistent negative (positive) drift strategy in earnings forecasting if it adopts an earnings forecast portfolio approach and provides forecasts which consistently contains a series of bad (good) news earnings content.

4.4 Hypothesis Testing Procedure

We test the two hypotheses by employing both univariate and multivariate methods in order to control for common firm-specific characteristics expected to have a direct impact on the management decision to adopt an earnings portfolio approach and a consistent drift strategy in earnings forecasting. The logistical regression model is employed to make inferences about the hypothesised relationship and to control for firm-specific characteristics. Two versions of the logistical regression model used to test the hypothesised forecasting behaviour are as follows.

$$\begin{aligned}
PORTFOLIO_{i,t} = & a_0 + a_1PREPOST_{i,t} + a_2ESIGN_{i,t} + a_3ECHANGE_{i,t} + a_4ASSET_{i,t} \\
& + a_5XLIST_{i,t} + a_6MVBV_{i,t} + a_7ANALYST_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{1}$$

$$\begin{aligned}
DRIFT_{i,t} = & b_0 + b_1PREPOST_{i,t} + b_2ESIGN_{i,t} + b_3ECHANGE_{i,t} + b_4ASSET_{i,t} + \\
& b_5XLIST_{i,t} + b_6MVBV_{i,t} + b_7ANALYST_{i,t} + \delta_{i,t}
\end{aligned} \tag{2}$$

In equation (1), the dependent variable *PORTFOLIO* is an indicator variable taking the value of 1 if a firm year adopts an earnings forecast portfolio approach and 0 otherwise. In equation (2), the dependent variable *DRIFT* is an indicator variable taking the value of 1 if a firm year adopts a consistent drift strategy in earnings forecasting.

The independent variables in equations (1) and (2) are defined as follows. *PREPOST* (the change in regime proxy) is an indicator variable taking the value of 1 if the current financial reporting period ends on or after 1 December 2002 and 0 otherwise. *ESIGN* (the forecast news content proxy) is an indicator variable taking the value of 1 for a positive current period earnings per share change and 0 otherwise. *ECHANGE* (the earnings magnitude proxy) 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. *ASSET* (the size proxy) is the natural logarithm of the total assets at the end of the current financial reporting period. *XLIST* is an indicator variable taking the value of 1 if the firm is cross-listed in a foreign exchange and 0 otherwise. *MVBV* (the growth or risk proxy) is the natural logarithm of the market value of equity divided by the book value of equity at the end of the current financial reporting period. *ANALYST* is an indicator variable taking the value of 1 if the firm is followed by analysts and 0 otherwise.

5. Results

5.1 Descriptive Statistics and Univariate Test Results

The descriptive statistics and the results from the univariate tests are presented in Tables 2 to 4 and show the statistics for the overall sample and the pre-CD and post-CD regime subsamples. Panel A of Table 2 shows the number of firm years adopting an earnings forecast portfolio approach. Out of 350 forecasting firm years, there are 104 (29.71%) firm years adopting an earnings forecast portfolio approach. In the pre-CD regime period, 34 of out of 163 (20.86%) firm years decide to adopt an earnings portfolio approach. In the post-CD regime period, 70 out of 187 (37.43%) firm years adopt an earnings portfolio approach. There

is a significant increase in the number of firms adopting an earnings forecast portfolio approach across the pre/post-statutory sanctions period. However, when partitioning the overall sample into negative and positive earnings change sub-samples, it is obvious that such significant increase is mainly driven by the group of firms expecting better earnings performance. While 27.87 % and 28.17% firms expecting worse earnings performance adopt an earnings forecast portfolio approach in the pre and post-CD regime period, respectively, 16.67% and 43.10% firms expecting better earnings performance adopt an earnings forecast portfolio approach in the pre and post-CD regime period, respectively. Also, the percentage of firm years with positive earnings change and adopting an earnings forecast portfolio approach is significantly higher than the percentage of firms with negative earnings change only in the post-CD regime period. Therefore, H1 is partially supported by the group of firms expecting better earnings performance. Panel B of Table 2 displays the number of firms adopting a consistent drift strategy in earnings forecasting. Across the statutory sanctions period, there is no significant change in the proportion of firms adopting a consistent drift strategy in earnings forecasting for both the full sample of 104 firm years and the two negative/positive earnings change sub-samples. However, firms expecting better earnings performance are more likely to adopt a consistent drift strategy in earnings forecasting compared to firms expecting worse earnings performance, particularly in the sanctions period. Hence, H2 is fully supported.

Table 3 provides the descriptive statistics for the controlled variables used in the estimation of the two logistical regression models. Except for the growth prospects measured by the market to book value ratio, all other firm-specific characteristics including the magnitude of earnings change, asset size, cross-listing status, and level of analyst coverage do not show any significant changes across the pre/post-sanctions period. Thus, it is unlikely that the interpretation of any changes in earnings forecasting behaviour across the pre/post sanctions period and firms expecting negative/positive earnings change would be confounded by these firm-specific characteristics. The significant difference for *MVBV* also highlights the necessity to control for growth prospects in our multivariate estimations.

Table 4 presents the Pearson and Spearman's Rho correlation among the continuous variables tested in the logistical regression models. Despite the presence of collinearity for the magnitude of earnings change, asset size and growth prospects variables, the correlations are not sufficiently high to be of concern to the subsequent multivariate analysis (Gujarati, 1995).

5.2 Multivariate Regression Results

The estimations of the two logistical regression models used to test the hypothesised relationships are presented in Table 5 and Table 6. Both two tables provide the regression results for all firm years and the two sub-samples pre/post-CD sanctions. Hypothesis 1 is based on the significance of the coefficient on the *PREPOST* indicator variable.

Table 5 provides the results from the logistical regression model estimating the likelihood of firms adopting an earnings forecast portfolio approach. The *PREPOST* indicator variable is significant at the 0.01 level, indicating that firms are more likely to issue multiple earnings forecasts in a series in the post statutory sanctions. Consistent with the univariate results, the significance of the coefficient on the *PREPOST* indicator variable is only evident for the sub-sample of firms subject to favourable earnings change. Therefore, H1 is only supported by the group of firms expecting positive earnings change. Further evidence in Table 5 shows that positive direction of earnings change and cross-listing status have a positive impact on management decision to adopt an earnings forecast portfolio strategy only in the post statutory sanctions period. However, the influence of analyst coverage on this decision is only positively significant in the pre-CD regime period.

Table 6 presents the estimation results for management decision to adopt a consistent drift strategy in earnings forecasting. The significant coefficient on *ESIGN* indicator variable for the overall sample and the post-CD regime sub-sample indicates that firms expecting increase in earnings performance are more likely to gradually release good news to the market in a series of earnings forecasts while firms expecting decrease in earnings performance are more likely to randomly correct market expectation of earnings with multiple earnings forecasts. Therefore, H2 is fully supported. However, we find no significant evidence of any cross-sectional variation on adopting this consistent drift strategy besides the change direction in earnings between years.

The finding that firms expecting good news are more likely to use a positive drift strategy whereas firms expecting bad news are more likely to issue series of earnings forecasts of fluctuating signs indicates that firms are adopting differential strategies depending on earnings performance. The fact that this result is stronger in the post statutory sanctions period seems to indicate why firms are more likely to issue a greater number of earnings forecasts in the post-sanctions period and this is the case for only firms subject to favourable

earnings change. A possible explanation for the fact that good news firms are more likely to adopt a consistent positive drift strategy is that firms are more conservative in the release of good news about earnings expectation. In terms of regulators' aspiration, the encouragement of gradual release of good news may not meet the objective of a more continuous informed market. However, if prior to the introduction of statutory sanctions, these good news firms in fact issue fewer and more conservative earnings forecasts then it might be concluded that the information flow to the market has indeed improved in the post statutory sanctions period which is to some extent consistent with the intention of the regulators for the promotion of a more timely information flow to the capital market.

6. Conclusion

The objective of our study is to investigate why firms decide to adopt alternative forecasting strategies following the introduction of a more regulated continuous disclosure environment. We propose that forecasting firms adopt an earnings forecast portfolio (or multiple forecasting) approach and adopt a consistent drift strategy involving a series of upward or downward earnings forecasts. Using a sample of 350 forecasting firm years with ending balance date from 31 January 1999 to 31 December 2005, as expected we show that firms are more likely to issue their earnings forecasts in a series in the post-sanctions period compared with the pre-sanctions period. However, these findings are only evident for the group of firms expecting favourable change in earnings performance. We also show that, as expected, these good news firms are more likely to gradually release good news to the market (i.e. adopt a drift strategy) while bad news firms are more likely to immediately update the market with any change in their earnings expectation. Such asymmetrical treatment between good news and bad news may not be consistent with the intention of the corporate regulators; however, the fact that good news firms issue more earnings forecasts in the post-statutory sanctions period does indicate an improvement in the information flow to the capital market.

These revealing findings on management earnings forecast strategy would be beneficial for the corporate regulators in their monitoring and enforcement practices. Given the importance of these findings to corporate regulators, we encourage further research aimed at extending our understanding on how firms manage their earnings forecast strategy in regulated environments.

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Table 1
Sample Selection Procedure

Selecting criteria	Number of observations
Sample Firms	
Total number of firms listed on NZX as on 3 December 2004	197
Less overseas 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)
Total firms in the final sample	94
Sample Firm Years	
Total firm years by 94 firms*	655
Less firm years with missing documents or unusable earnings data for the firms	(23)
Less firm years not containing at least one management earnings forecast	(282)
Final sample of forecasting firm years	350

* Total firm years including all firm years with ending balance date from 31 January 1999 to 31 December 2005.

Table 2
Earnings Forecast Strategy Associated with 350 Forecasting Firm Years

	All Firm Years	Pre-CD Regime	Post-CD Regime	Pearson Chi-square ¹
Panel A: Earnings Forecast Portfolio Approach Associated with 350 Forecasting Firm Years				
All Firm Years				
No. (%) of firm years adopting an earnings forecast portfolio approach	104 (29.71%)	34 (20.86%)	70 (37.43%)	11.455**
Observations	350	163	187	
Negative Earnings Change				
No. (%) of firm years adopting an earnings forecast portfolio approach	37 (28.03%)	17 (27.87%)	20 (28.17%)	0.002
Observations	132	61	71	
Positive Earnings Change				
No. (%) of firm years adopting an earnings forecast portfolio approach	67 (30.73%)	17 (16.67%)	50 (43.10%)	17.819**
Observations	218	102	116	
Pearson Chi-square²	0.289	2.902[^]	4.194*	
Panel B: Earnings Forecast Portfolio Management Associated with 104 Firm Years adopting an earnings forecast portfolio approach				
All Firm Years				
No. (%) of firm years adopting a consistent drift strategy in earnings forecasting	64 (61.54%)	19 (55.88%)	45 (64.29%)	0.683
Observations	104	34	70	
Negative Earnings Change				
No. (%) of firm years adopting a consistent drift strategy in earnings forecasting	16 (43.24%)	7 (41.18%)	9 (45.00%)	0.055
Observations	37	17	20	
Positive Earnings Change				
No. (%) of firm years adopting a consistent drift strategy in earnings forecasting	48 (71.64%)	12 (70.59%)	36 (72.00%)	0.012
Observations	67	17	50	
Pearson Chi-square²	8.122**	2.983[^]	4.536*	

[^], *, ** Characteristics are significantly different at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed).

¹ Showing the Pearson Chi-square of difference between Pre-CD and Post-CD Regime samples.

² Showing the Pearson Chi-square of difference between Negative and Positive Earnings Change samples.

A management earnings forecast is an announcement made to the NZX pre-empting a current period earnings change. A firm year adopts an earnings forecast portfolio approach if it contains three or more management earnings forecasts. A firm year adopts a consistent drift strategy in earnings forecasting if it consistently contains bad news or good news earnings forecasts. A firm year is classified as a Pre-CD Regime (Post-CD Regime) firm year if its financial reporting period ends before (on or after) 1 December 2002. Earnings Change is the change in yearly earnings per

share deflated by share price at the beginning of the current financial year.

Table 3
Descriptive Statistics

Variables	All Firm Years Mean (Median)/Frequency (Percentage)	Pre-CD Period Mean (Median)/Frequency (Percentage)	Post-CD Period Mean (Median)/Frequency (Percentage)	<i>t</i> -stat (Mann Whitney <i>z</i> - value)/Pearson chi- square
Panel A: Descriptive statistics for forecasting firm years				
	N = 350	N = 163	N = 187	
<i>ECHANGE</i>	-3.287 (-3.401)	-3.101 (-3.230)	-3.449 (-3.657)	-1.931 [^] (-1.881 [^])
Total Assets (\$ million)	4,239.0 (226.5)	4,767.4 (199.5)	3,778.5 (255.1)	-0.411 (1.311)
<i>ASSET</i>	19.284 (19.238)	19.183 (19.111)	19.373 (19.357)	0.998 (1.323)
<i>MVBV</i>	0.383 (0.376)	0.263 (0.205)	0.487 (0.467)	2.905** (2.647**)
<i>ESIGN</i> (positive)	218 (62.29%)	102 (62.58%)	116 (62.03%)	0.011
<i>XLIST</i> (cross-listed)	92 (26.29%)	41 (25.15%)	51 (27.27%)	0.202
<i>ANALYST</i> (followed by analysts)	219 (62.57%)	99 (60.74%)	120 (64.17%)	0.439
Panel B: Descriptive statistics for firm years adopting an earnings forecast portfolio approach				
	N = 104	N = 34	N = 70	
<i>ECHANGE</i>	-3.507 (-3.640)	-3.310 (-3.382)	-3.603 (-3.850)	-0.893 (-1.095)
Total Assets (\$ million)	4,855.5 (260.1)	7,232.7 (347.0)	3,700.9 (242.5)	-0.630 (-0.981)
<i>ASSET</i>	19.462 (19.377)	19.684 (19.658)	19.354 (19.306)	-0.977 (-0.974)
<i>MVBV</i>	0.452 (0.461)	0.219 (0.251)	0.565 (0.520)	2.285* (1.871 [^])
<i>ESIGN</i> (positive)	67 (64.42%)	17 (50.00%)	50 (71.43%)	4.585*
<i>XLIST</i> (cross-listed)	35 (33.65%)	11 (32.35%)	24 (34.29%)	0.038
<i>ANALYST</i> (followed by analysts)	73 (70.19%)	28 (82.35%)	45 (64.29%)	3.570 [^]

[^], *, ** Characteristics are significantly different at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed). A firm year is classified as a Pre-CD Regime (Post-CD Regime) firm year if its financial reporting period ends before (on or after) 1 December 2002. *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 Assets* is the total assets at the end of the current financial reporting period. *ASSET* is the natural logarithm of total assets at the end of the current financial reporting period. *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 reporting period. *XLIST* is an indicator variable taking the value of 1 if the firm is cross-listed in a foreign exchange and 0 otherwise. *ANALYST* is an indicator variable taking the value of 1 if the firm is followed by analysts and 0 otherwise.

Table 4
Pearson and Spearman's Rho Correlation Among Continuous Variables

Panel A: Correlation among variables for the forecasting firm years (N = 350)			
Variables	<i>ECHANGE</i>	<i>ASSET</i>	<i>MVBV</i>
<i>ECHANGE</i>	1.000	-0.063	-0.175**
<i>ASSET</i>	-0.112*	1.000	-0.132*
<i>MVBV</i>	-0.170**	-0.113*	1.000
Panel B: Correlation among variables for firm years adopting an earnings forecast portfolio approach (N = 104)			
Variables	<i>ECHANGE</i>	<i>ASSET</i>	<i>MVBV</i>
<i>ECHANGE</i>	1.000	-0.154	0.005
<i>ASSET</i>	-0.207*	1.000	-0.139
<i>MVBV</i>	-0.003	-0.113	1.000

The Pearson and Spearman's Rho Correlations are presented in the lower left and upper right hand side of the table, respectively. *, ** Characteristics are significantly correlated at the 0.05 and 0.01 levels, respectively (two-tailed). *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. *ASSET* is the natural logarithm of the total assets at the end of the current financial reporting period. *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 reporting period.

Table 5

Logistic Regression Analysis of Factors Associated with the Decision to Adopt an Earnings Forecast
Portfolio Approach – 31 January 1999 to 31 December 2005

$$PORTFOLIO_{i,t} = a_0 + a_1PREPOST_{i,t} + a_2ESIGN_{i,t} + a_3ECHANGE_{i,t} + a_4ASSET_{i,t} + a_5XLIST_{i,t} + a_6MVBV_{i,t} + a_7ANALYST_{i,t} + \varepsilon_{i,t}$$

Variables	Expected Sign	All Firm Years	Pre-CD Regime	Post-CD Regime
		Coefficient (z-stat.)	Coefficient (z-stat.)	Coefficient (z-stat.)
Intercept		-0.356 (-0.190)	-1.134 (-0.310)	1.952 (0.870)
<i>PREPOST</i>	+	0.811 (3.220**)		
<i>ESIGN</i>		0.151 (0.600)	-0.546 (-1.320)	0.702 (2.110*)
<i>ECHANGE</i>	+	-0.082 (-1.080)	-0.057 (-0.430)	-0.140 (-1.390^)
<i>ASSET</i>	+	-0.092 (-0.900)	-0.053 (-0.260)	-0.191 (-1.530^)
<i>XLIST</i>		0.632 (1.760^)	0.258 (0.430)	1.084 (2.250*)
<i>MVBV</i>		-0.039 (-0.210)	-0.255 (-0.790)	0.110 (0.460)
<i>ANALYST</i>	+	0.419 (1.380^)	1.363 (2.290*)	-0.101 (-0.270)
Pseudo R2		0.046	0.073	0.048
Model Chi-square		19.590**	12.100^	11.900^
N		350	163	187

^, *, ** Significant at the 0.1, 0.05, and 0.01 levels (one-tailed test when coefficient sign is predicted, two-tailed test when coefficient sign is not predicted), respectively. *PORTFOLIO* is an indicator variable taking the value of 1 if a firm year adopts an earnings forecast portfolio approach and 0 otherwise. *PREPOST* is an indicator variable taking the value of 1 if the current financial reporting period ends on or after 1 December 2002 and 0 otherwise. *ESIGN* is an indicator 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. *ASSET* is the natural logarithm of the total assets at the end of the current financial reporting period. *XLIST* is an indicator 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 reporting period. *ANALYST* is an indicator variable taking the value of 1 if the firm is followed by analysts and 0 otherwise.

Table 6

Logistic Regression Analysis of Factors Associated with the Decision to Adopt a Consistent Drift Strategy
in Earnings Forecasting – 31 January 1999 to 31 December 2005

$$DRIFT_{i,t} = b_0 + b_1PREPOST_{i,t} + b_2ESIGN_{i,t} + b_3ECHANGE_{i,t} + b_4ASSET_{i,t} + b_5XLIST_{i,t} + b_6MVBV_{i,t} + b_7ANALYST_{i,t} + \delta_{i,t}$$

Variables	Expected Sign	All Firm Years	Pre-CD Regime	Post-CD Regime
		Coefficient (z-stat.)	Coefficient (z-stat.)	Coefficient (z-stat.)
Intercept	+/-	-3.199 (-0.790)	-4.967 (-0.450)	-3.897 (-0.820)
<i>PREPOST</i>	+/-	-0.100 (-0.200)		
<i>ESIGN</i>	+/-	1.143 (2.520*)	1.350 (1.600)	1.295 (2.200*)
<i>ECHANGE</i>	+/-	-0.150 (-1.000)	-0.256 (-1.000)	-0.081 (-0.430)
<i>ASSET</i>	+/-	0.138 (0.630)	0.197 (0.320)	0.173 (0.680)
<i>XLIST</i>	+/-	-0.213 (-0.310)	-1.559 (-0.900)	0.312 (0.390)
<i>MVBV</i>	+/-	0.420 (1.230)	0.248 (0.410)	0.624 (1.360)
<i>ANALYST</i>	+/-	-0.413 (-0.690)	0.359 (0.220)	-0.745 (-1.070)
Pseudo R2		0.078	0.135	0.091
Model Chi-square		10.790	6.280	8.320
N		104	34	70

^, *, ** Significant at the 0.1, 0.05, and 0.01 levels (one-tailed test when coefficient sign is predicted, two-tailed test when coefficient sign is not predicted), respectively. *DRIFT* is an indicator variable taking the value of 1 if a firm year adopts a consistent drift strategy in earnings forecasting. *PREPOST* is an indicator variable taking the value of 1 if the current financial reporting period ends on or after 1 December 2002 and 0 otherwise. *ESIGN* is an indicator 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. *ASSET* is the natural logarithm of the total assets at the end of the current financial reporting period. *XLIST* is an indicator 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 reporting period. *ANALYST* is an indicator variable taking the value of 1 if the firm is followed by analysts and 0 otherwise.