

## THE RELATIONSHIP BETWEEN DIRECTOR INDEPENDENCE, REPUTATION AND MANAGEMENT EARNINGS FORECASTS

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### Abstract

Informative management earnings forecasts potentially reduce information asymmetries in capital markets. We examine the relationship between corporate governance and management earnings forecasts. We extend the prior literature by examining the impact of independent director reputation on characteristics of management forecasts, by refining the previously used proxy for director independence and by distinguishing between routine and non-routine forecasts in the Australian governance environment. We find a significant positive relationship between the likelihood and frequency of firms issuing management earnings forecasts and our measures of audit committee independence and independent director reputation but not board independence. However, there is some evidence that director independence is related to more specific forecasts. These results are driven by routine earnings forecasts over which, it is argued, management have greater discretion.

**Keywords:** Management earnings forecasts, corporate governance, director reputation

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### 1. Introduction

The separation of ownership and control in publicly listed firms is argued to result in information asymmetries between managers and shareholders with ensuing agency problems. Internal corporate governance mechanisms centred round corporate boards may assist in reducing such information asymmetries by enhanced management disclosures.<sup>1</sup> The aim of our study is to examine whether specific board characteristics such as the proportion of independent directors on the board and audit committee as well as the reputation of these independent directors is associated with the likelihood of a firm issuing a management earnings forecast, the frequency of issuing management earnings forecasts and the specificity of such forecasts.

Australian Stock Exchange (ASX) listing rules require listed companies to continuously disclose information likely to have a material effect on share price. More specifically, the regulatory components of the Australian continuous disclosure regime are in two parts. First, the ASX Listing Rule 3.1 which requires that an entity immediately advises the ASX of any information concerning the entity that it becomes aware of (with a few exceptions), that a

reasonable person would expect to have a material effect on the price or value of the entity's securities. Second, S1001A of the Corporations Act which provides the statutory penalties for breach of the aforementioned Continuous Disclosure requirements. The Australian Securities and Investments Commission (ASIC) centrally regulate the application of the continuous disclosure requirements. Disclosures such as informative management earnings forecasts have the potential to reduce information asymmetries between management and shareholders.

Two recent papers by Ajinkya et al. (2005) and Karamanou and Vafeas (2005) examine and largely find an association between US firms' corporate governance mechanisms and characteristics of their management earnings forecasts.<sup>2</sup> It has been argued that the effectiveness with which a board discharges its management monitoring role is likely to vary between institutional environments (John and Senbet, 1998). Whilst the US SEC Form 8K requirements and Regulation Fair Disclosure provide a disclosure regime broadly similar to the Australian continuous disclosure requirements, it is argued that features of the Australian legal system, market for corporate control, ownership characteristics and other corporate governance features suggest that the Australian corporate governance environment is markedly

different from that of the US and has many characteristics associated with a weaker insider system as opposed to the US which is commonly characterised as having an outsider system (Dignam and Galanis, 2004).<sup>3</sup>

The need to refine the previously used proxies for director independence when examining the governance-forecast relation in the relatively weaker Australian governance environment motivates this study. First, Ajinkya et al. (2005) and Karamanou and Vafeas (2005) define all non-executives as outside directors, however, all outside directors may not be independent. Therefore, we refine the proxy for director independence by classifying directors as independent based on the definition in the ASX Best Practice Recommendations which exclude a range of non-executive directors whose independence may be compromised (ASX Corporate Governance Council, 2003).

Second, we argue that the reputation of independent directors is likely to be an important factor in their effectiveness as monitors and there is likely to be a greater demand for the more reputable directors. Linked to the demand for their services, we follow Fama (1980) and Ferris et al. (2003) and argue that, even in a relatively weaker governance environment, the need to maintain their reputation in the managerial labour market is a major incentive for independent directors to be effective monitors. Accordingly, we use the number of directorships<sup>4</sup> held in ASX100 companies as a proxy for director reputation.

Additionally, Karamanou and Vafeas (2005) state that an advantage in using management earnings forecasts to test the relationship between corporate governance mechanisms and disclosure, is that management has considerable discretion over the forecasting decision and its form. However, we suggest that there is a need to distinguish between routine and non-routine forecasts. Many Australian companies issue management earnings forecasts as part of the routine information released at the Chairman's address at the Annual General Meeting or with the release of the half-yearly profit result. Earnings forecasts released at any other time are classed as non-routine (Gallery, et al., 2002). These non-routine forecasts are likely to represent situations which are driven by the company's continuous disclosure obligations over which management have little or no discretion. The two prior US studies do not distinguish the nature of the forecasts<sup>5</sup> hence we also run all our analysis on the sub-samples of routine and non-routine forecasts.

The final sample consists of 1219 firm-years drawn from the top 300 Australian Stock Exchange listed companies (by market capitalisation) during the period 1999-2003. The results of our analysis show that there is a significant positive relationship between the likelihood of a firm issuing management earnings forecasts and the independent audit committee and director reputation measures, but not in relation to the

independent directors on the board. Examining the number of management earnings forecasts issued in the reporting period, we again find a significant positive relationship with the independent audit committee and director reputation measures. An analysis of sub-samples of routine and non-routine forecasts show that the overall results discussed above are driven by the results for routine earnings forecasts. Contrary to expectations, we find a significant negative relationship between the proportion of independent directors on the board and the number of management earnings forecasts issued. Initially, we find no significant association between forecast specificity and our hypothesised corporate governance variables. In further analysis, we split our sample into firm years in which there are a majority of independent directors on the board (in accordance with ASX Best Practice recommendations) and years where the independent directors are not the majority. We find that where a majority of directors are independent, forecasts are more specific, especially for routine forecasts. Our results are robust to a number of additional analyses.

The remainder of the paper is structured as follows: sections 2 and 3 review the literature and develop the research hypotheses. Section 4 outlines our research methods, variable definitions and sample, while section 5 reports our results. Section 6 presents our conclusions.

## 2. Director independence and reputation

In the following section, we consider the impact director independence and reputation has on the monitoring role of corporate boards.

### 2.1 Independent directors on the board

Corporate governance and control mechanisms have evolved as the means to overcome the agency problems associated with managing firms in which ownership and management are separated. The board of directors is the apex of the internal governance system and assists in reducing these agency problems (Fama and Jensen, 1983). As one of the board's important roles is to monitor senior management and as the inside (or executive) directors are by definition part of the senior management team, it is argued that the monitoring role is primarily the responsibility of the independent directors. There is a growing body of empirical evidence in support of this monitoring role. For example, Wiesbach (1988) finds that outside directors are proactive in replacing CEOs who are not performing. Regulators appear to consider board independence important and ASX Best Practice Recommendations (ASX Corporate Governance Council, 2003) in Australia include a recommendation that a majority of the board should be independent directors.

## 2.2 Independent directors on the audit committee

A key role of boards is to establish sub-committees to deal with specific matters. One such committee is the audit committee, which is responsible for oversight of the financial reporting processes. The statement, “The existence of an independent audit committee is recognised internationally as an important feature of good corporate governance” in the ASX Best Practice Recommendations (ASX Corporate Governance Council, 2003 p. 30) sums up the prominence given to audit committees in this document. Principle 4 includes a recommendation that all members of the audit committee should be non-executive directors and that the committee should comprise a majority of independent directors.

## 2.3 Independent director reputation

The economics of the managerial labour market also provides incentives for independent directors to be effective monitors in order to enhance their reputation and the value of their human capital (Fama and Jensen, 1983). There is considerable empirical support for this proposition. For example, Ferris et al. (2003) report that firm performance is positively associated with the number of directorships held by directors of the firm. They refer to this result as a reputation effect. Gilson (1990) and Ferris et al. (2003) suggest that the number of directorships held by executives is likely to be a signal of their quality and may proxy for “reputational” capital. Research also shows that poor performance can be detrimental to a director’s reputation. For example, Gilson (1990) finds that directors who leave distressed firms hold fewer directorships in the future.<sup>6</sup>

## 3. Management earnings forecasts

An empirically driven structure of the management of corporate financial disclosure (Gibbins et al. 1990) sees a firm’s disclosure outputs as a function of several variables. The first of these is the firm’s disclosure position and this is defined “as a relatively stable preference for the way disclosure is managed” (p.130). Gibbins et al. suggest that this will establish an average response to matters to be disclosed under normal circumstances. It is argued that the board of directors is likely to have considerable influence over a firm’s disclosure position. Management earnings forecasts are an important example of corporate financial disclosure.

Based on the above discussion, it seems likely that the context in which the forecast is made may be important. Following prior Australian research (Gallery et al., 2002; Chan et al., 2007) we distinguish between routine and non-routine forecasts.<sup>7</sup>

## 3.1 Likelihood and frequency of making management earnings forecasts

Theoretical analyses by Grossman (1981) and Milgrom (1981) into the disclosure of discretionary information conclude that full disclosure will occur in the absence of costs. However, in the presence of costs including managerial self interest, full disclosure will not necessarily result. Such a lack of full disclosure is facilitated by the fact that, given uncertainty about management’s private information, the market will not necessarily construe the failure by management to disclose as bad news. Hence, strong governance has the potential to facilitate disclosure and an environment of greater transparency.

Ajinkya and Gift (1984) argue that managers issue voluntary earnings forecasts to help align the market’s earnings expectations with their own earnings expectations. They also argue that this incentive for forecast disclosure applies equally to both good and bad news. In the US, empirical research by Skinner (1994) finds that voluntary management earnings forecasts are more likely to occur when there are large negative earnings surprises. He attributes this to high litigation costs. In Australia, various papers have examined management earnings forecasts as well as the impact of regulatory change (Brown et al., 1999; Gallery, et al., 2002). Generally, these studies find increased disclosure and forecasts since the introduction of the continuous disclosure regime. Chan et al. (2007) investigate the effects of continuous disclosure and changes in the regulatory environment on management earnings forecasts. They find a significant increase in the number of non-routine forecasts issued in response to increased regulatory activity to enforce continuous disclosure, but no increase in earnings forecasts issued in conjunction with routine information events such as the company’s Annual General Meeting and its half-yearly profit report (routine forecasts).

Apart from the above, we argue that effective corporate governance will also influence the likelihood of issuing management earnings forecasts. The two prior US studies in this area also posit and find that the likelihood of the release of a forecast (Karamanou and Vafeas, 2005; Ajinkya et al., 2005) is higher for firms with effective governance structures. Specifically, we predict that independent directors on the board and audit committee as well as the reputation of these independent directors are likely to be associated with the likelihood of management earnings forecasts. Accordingly:

**H1a:** Firms with a greater proportion of independent directors on their board are more likely to issue management earnings forecasts;

**H1b:** Firms with a greater proportion of independent directors on their audit committee are more likely to issue management earnings forecasts; and

**H1c:** Firms with a greater proportion of more reputable independent directors on their board are more likely to issue management earnings forecasts.

Additionally, we argue that effective corporate governance will also influence the frequency with which management earnings forecasts are issued (Ajinkya et al., 2005). We predict that independent directors on the board and audit committee as well as the reputation of these independent directors are likely to be associated with more frequent management earnings forecasts. Accordingly:

**H2a:** Firms with a greater proportion of independent directors on their board are more likely to issue a greater number of management earnings forecasts in each reporting period;

**H2b:** Firms with a greater proportion of independent directors on their audit committee are more likely to issue a greater number of management earnings forecasts in each reporting period; and

**H2c:** Firms with a greater proportion of more reputable independent directors on their board are more likely to issue a greater number of management earnings forecasts in each reporting period.

### 3.2 Specificity of management earnings forecasts

A characteristic of management earnings forecasts is the specificity or the precision of the forecast. There are contrasting arguments as to the factors that determine forecast specificity. Skinner (1994) and Bamber and Cheon (1998) argue and find that managers faced with greater exposure to legal liability, are likely to voluntarily issue earnings forecasts that are less specific and are therefore less likely to be inaccurate. Consistent with this view, Coulton and Taylor (2003) find that Australian firms' good news stand-alone earnings forecasts are significantly more specific than their bad news earnings forecasts.<sup>8</sup> In contrast, Kasznik and Lev (1995) argue that the greater the divergence between managerial earnings expectations and market earnings expectations, the more specific the forecasts need to be to achieve the necessary re-alignment. However, where the management earnings forecast is good news, a specific (point) forecast may open management to loss of reputation or even litigation if the specific forecast is not attained (Kasznik and Lev, p.122). This suggests an asymmetric relationship where the relationship between the size of the earnings adjustment and forecast specificity will be demonstrated only for bad news forecasts.

There is also a relationship between forecast horizon and forecast specificity. As one gets further into a financial reporting period, management are likely to become more confident of the earnings outcome. This greater certainty leads to more specific earnings forecasts (Baginski, et al., 1994; Baginski and Hassell, 1997).

The two prior US studies in this area posit that forecast precision is higher for firms with effective

governance structures (Karamanou and Vafeas, 2005; Ajinkya et al., 2005). Whilst this proposition is supported in the case of some of the governance variables tested, Ajinkya et al. (2005) do not find a positive association between outside directors and forecast precision and Karamanou and Vafeas (2005) find a negative association when bad news is conveyed.

*Ceteris paribus*, specific or precise management earnings forecast information is likely to be more useful to shareholders. Notwithstanding, the mixed results of Karamanou and Vafeas (2005) and Ajinkya et al. (2005), we argue that effective corporate governance will also influence the specificity of such forecasts. We predict that independent directors on the board and audit committee as well as the reputation of these independent directors are likely to be associated with increased specificity of management earnings forecasts. Accordingly, after controlling for effects such as forecast horizon and forecast news:<sup>9</sup>

**H3a:** Firms with a greater proportion of independent directors on their board are more likely to issue specific management earnings forecasts;

**H3b:** Firms with a greater proportion of independent directors on their audit committee are more likely to issue specific management earnings forecasts; and

**H3c:** Firms with a greater proportion of more reputable independent directors on their board are more likely to issue specific management earnings forecasts.

## 4. Research method

### 4.1 Variable definition

#### 4.1.1 Measures of forecast characteristics (dependent variables)

To assess the likelihood of issuing (H1) and the frequency of issuing (H2) management earnings forecasts, we construct two measures:

**DFY:** a dummy variable coded 1 when the firm issues a management earnings forecast during the reporting period and 0 otherwise.

**NFORY:** a variable measuring the number of management earnings forecasts issued by each firm in each reporting period.<sup>10</sup>

To assess the specificity of management earnings forecasts (H3), we construct a measure:

**SPECL:** a variable measuring the specificity of the last management earnings forecast issued by each firm in each reporting period.<sup>11</sup> It is coded 1 for point, 2 for range (both upper and lower bounds are specified), 3 for maximum forecasts (no lower bound) and minimum forecasts (no upper bound).

#### 4.1.2 Hypothesized corporate governance variables

For each hypothesis, we identify three sub-hypotheses relating to our three corporate governance variables. These variables are measured as follows:

**PID:** the proportion of independent directors on the firm's board of directors. We use the Investment and Financial Services Association definition of independent directors (ASX Corporate Governance Council, 2003). Decisions about director independence were made following thorough scrutiny of annual report disclosures on related party transactions, substantial shareholdings, directors' affiliations and directors' shareholdings.

**IAC:** the proportion of independent directors on the firm's audit committee. As for PID, we use the Investment and Financial Services Association definition of independent directors (ASX Corporate Governance Council, 2003).

**DIRI100:** is a directors' reputation variable measured as the average number of directorships in ASX100 companies held by independent directors in each sample company for each reporting period over the years 1999-2003.<sup>12</sup>

#### 4.1.3 Control variables

We also include a number of other independent variables to control for factors that may impact on the characteristics of management earnings forecasts.

**BM:** ratio of book to market value of equity at the beginning of the year. We use the variable as a proxy for proprietary costs (Bamber and Cheon, 1998) and for high growth firms who may have high costs of disclosure.

**BSIZE:** Number of directors on the board. There is some evidence that large boards may be strong monitors (for example see Xie, et al. 2002; Mather and Ramsay, 2006).

**DCC:** a dummy variable capturing CEO duality, which is equal to 1 when the CEO is also chairman and 0 otherwise. A CEO who also chairs the board (CEO duality) is likely to have an impact on the board's ability to effectively monitor the CEO and reduce its independence (Hermalin and Weisbach, 2003).

**DLOSS:** a dummy variable that equals 1 when the firm reports a loss in a reporting period and 0 otherwise (Ajinkya et al., 2005).

**Forecast news classification:** We compared the mean analyst earnings forecast (I/B/E/S) immediately prior to the last management earnings forecast with the last management's earnings forecast. If the amount of a point forecast or mid-point of a range forecast was more than 10% above (below) the analyst earnings forecast this was classed as good (bad) news. All remaining cases were classed as neutral news. For management earnings forecasts in the form of a maximum or minimum forecast, we first determine the most specific \$ amount that could be attached to the forecast and then compare this to the analyst forecast. If a minimum forecast is greater than 10% above (40% below) the analyst forecast, it is classified as good (bad) news. Otherwise, it is deemed neutral news. If a maximum forecast is greater than 40% above (10% below) the analyst forecast, it is classified as good (bad) news. Otherwise, it is deemed

as neutral. For hypothesis testing, the news variables are dummy variables labelled **DGOODAL** and **DBADAL**.

**FHORL:** a forecast horizon measure which is the number of calendar days between the release of the firm's last earnings forecast for the reporting period and the date of the release of the preliminary annual earnings announcement.

**LEV:** is measured as interest bearing liabilities divided by total assets, both measured at the end of the reporting period.

**MCAP:** log of market capitalisation of the firm at the beginning of the year. Prior research, such as Kasznik and Lev (1995), has shown a positive relationship between firm size and management earnings forecasts.

**MSO:** Percentage of shares held by all directors. Directors owning equity may reduce agency problems and enhance monitoring (Jensen and Meckling, 1976). Alternatively, managers may become entrenched once share ownership increases beyond an optimal point (McConnell and Servaes, 1990).

**NAN:** the number of analysts following the firm. Prior research, such as Lang and Lundholm (1996), has shown a relationship between the quality of disclosure and analyst following.

**Routine/non-routine management earnings forecasts:** Routine management forecasts are those made at or accompanying the firm's Annual General Meeting or their half yearly profit announcement. Management earnings forecasts other than these are considered non-routine (Chan et al., 2007).

#### 4.2 Sample and data sources

The initial sample consists of the top 300 Australian Stock Exchange listed Australian companies (by market capitalisation). We identified the top 300 companies at two dates, 30 June, 1999 and 30 June, 2003. From this, we identified 350 different companies. We eliminated 45 banks, financial institutions and trusts which have different disclosure requirements or different corporate governance structures. For the remaining 305 companies, we collected financial statement data from Aspect Financial Analysis and Connect4 for each reporting period from 1999-2003. The corporate governance data were hand collected from the corporate governance and other disclosures contained in company annual reports. These were accessed using Connect4 and hard copy annual reports. Companies that were no longer listed or whose financial statements could not be obtained were dropped from the sample for those years that the data could not be obtained. The final sample consists of 1219 firm-years.

The management earnings forecast data were obtained from the ASX Signal G company announcements for our top 300 companies and were accessed on the Integrated Real Time Equity System (IRESS). Announcements were manually checked

and read and the process identified 365 firm-years in which management earnings forecasts were issued for a total of 547 forecasts.

## 5. Results

### 5.1 Descriptive statistics of the corporate governance and control variables

Descriptive statistics for the main corporate governance and control variables are shown in Panel A of Table 1. Of the corporate governance variables, DIRI100 shows that, on average, directors in our sample companies hold 0.507 directorships in ASX100 companies. The IAC variable shows that independent directors make up, on average, 77% of audit committee membership. This is considerably lower than the figure of 97% reported by Karamanou and Vafeas (2005) for their sample of US firms.<sup>13</sup> Finally, the proportion of independent directors on sample company boards is 59.5% compared to 51% reported by Mather and Ramsay (2006) for their sample of Australian companies changing CEO. Using an executive/non-executive classification of directors, Karamanou and Vafeas (2005) report a mean of 78.16% of non-executive directors in their sample of US companies (Ajinkya et al., 2005 use the same definition and report a mean of 71.6%).

Among the control variables, mean BSIZE of 7.35 compares to 8.17 reported by Mather and Ramsay (2006) for their sample of Australian firms changing CEO, 8.0 reported by Peasnell, et al. (2005) for UK firms and 11.6 reported by Karamanou and Vafeas (2005) for US firms. The mean value of MSO of 12.2% is broadly comparable to the 10.7% reported by Brailsford et al. (2002) in Australia and the 11.8% reported by McConnell and Servaes (1990) in the US. Of the other control variables, the mean value of DLOSS is 0.138 indicating approximately one in eight firm years is a loss. This compares to 0.123 reported by Ajinkya et al. (2005) for their sample of US firms. The mean number of analysts following our sample firms is 6.1, well below the means for US firms found by Ajinkya et al. (2005) of 9.7 and Karamanou and Vafeas (2005) of 13.5. Finally, the mean value of LEV (0.249) is similar to the 0.227 reported by Oei et al. (2007) for Australian firms.

#### INSERT TABLE 1

Panel B of Table 1 presents descriptive statistics for the management earnings forecast variables. The mean value of DFY is 0.299 indicating that management earnings forecasts occur in approximately 30% of firm/years sampled. In comparison, US samples of Karamanou and Vafeas (2005) and Ajinkya et al. (2005) report 38% and 41%, respectively. The FHORL variable indicates that, on average, forecasts are issued 169.7 days before release of the preliminary annual earnings announcement. This suggests most sample forecasts are routine in

nature, being released around the company's AGM or half-yearly profit announcement. Consistent with the long forecast horizon, mean forecast specificity of 2.28 indicates that, on average, the sample forecasts are generally maximums or minimums.

### 5.2 Corporate governance and the likelihood of making management earnings forecasts

To assess the association between corporate governance mechanisms and managements' decision to issue an earnings forecast, we initially compare the governance and other characteristics of the firm years with at least one management earnings forecast with the characteristics of the firm years in which there were no management forecasts (Karamanou and Vafeas, 2005). Results are shown in Table 2.

#### INSERT TABLE 2

Consistent with H1, firms years in which earnings forecasts occur have a significantly greater proportion of independent directors on the board (H1a), a significantly greater proportion of independent directors on the audit committee (H1b) and a significantly higher average level of ASX100 company directorships among independent directors on the board (H1c). Among the governance control variables, firm years in which management earnings forecasts occur have significantly larger board size than years in which no forecasts occur. For the other control variables, forecast years are significantly larger (MCAP), have significantly higher leverage (LEV), are significantly less likely to report a loss (DLOSS) and have a significantly larger analyst following (NAN).

To test H1 in a multivariate setting we use the following regression equation:

$$DFY_t = \beta_0 + \beta_1 PID_t + \beta_2 IAC_t + \beta_3 DIRI100_t + \beta_4 BSIZE_t + \beta_5 DCC_t + \beta_6 MSO_t + \beta_7 \log(MCAP_t) + \beta_8 BM_t + \beta_9 LEV_t + \beta_{10} DLOSS_t + \beta_{11} NAN_t \quad (1)$$

As DFY is a binary variable, this regression is run using binary probit. Results are shown in column 3 of Table 3.

#### INSERT TABLE 3

The multivariate results in column 3 of Table 3 show that the model is significant with an  $R^2$  of 0.087. For the hypothesised corporate governance variables, Table 3 shows a significant positive relationship between IAC and whether a firm issues a management earnings forecast. That is, firms with a higher percentage of independent directors on the audit committee are significantly more likely to issue management earnings forecasts. This provides support for (H1b). This result is not consistent with that found by Karamanou and Vafeas (2005) who find no significant relationship between the proportion of outside directors on the audit committee and the

likelihood of issuing a management earnings forecast. As noted in footnote 13, the definition employed by Karamanou and Vafeas (2005) for outside director audit committee membership was similar to that employed in this study and should not account for the difference in results.

Similarly the hypothesised relation between higher director reputation (DIRI100) and greater propensity to issue forecasts is also supported (H1c). Companies with a higher proportion of independent directors having a high reputation are more likely to issue management earnings forecasts. While consistent with our hypothesis, this is the first time this result has been documented in the literature. To assess the robustness of this result, we substituted the executive director reputation variable (DIRE100) for DIRI100. Untabulated results show that DIRE100 has no significant effect on the likelihood of a firm issuing a management earnings forecast. This indicates that it is the reputation of independent rather than executive directors that is important in determining the propensity to issue management earnings forecasts.

However, there is no support for H1a. This result contrasts with the univariate analysis and with the results of Ajinkya et al. (2005) and Karamanou and Vafeas (2005). Differences in the definitions of independence of directors may account for differences in the results.

Drawing on the discussion in Section 3 above and the results of prior Australian research (Chan et al., 2007), we partition our sample into routine forecasts and non-routine forecasts and re-ran the analysis. Results are shown in columns 4 and 5 of Table 3. For non-routine forecasts, our model has much lower explanatory power and governance variables play no significant role in the decision to issue a non-routine management earnings forecast. The overall results discussed above are, in fact, driven by the results for routine earnings forecasts. Consistent with H1b and H1c, the proportion of independent directors on the audit committee (IAC) and the reputation of independent directors (DIRI100) have a significant positive impact on the decision to issue a routine management earnings forecast. Contrary to H1a, the proportion of independent directors on the board has a significant negative impact on the decision to issue a routine management earnings forecast.

Among the control variables, DLOSS is significantly negatively associated with the likelihood of issuing a management earnings forecast. Overall and for routine forecasts, management are less likely to issue forecasts in loss making years (Ajinkya et al., 2005). There is also a strong positive relationship between issuing a management earnings forecast and analyst following (NAN) for all samples. This is consistent with both Ajinkya et al. (2005) and Karamanou and Vafeas (2005). However, in the overall sample and routine sub-sample, firm size (MCAP) exhibits a strong negative relationship. Given the very strong positive correlation between

MCAP and NAN (>.75), the opposing directions of these relationships is somewhat surprising.<sup>14</sup> Finding a negative relationship between market capitalisation and propensity to issue a management earnings forecast is inconsistent with our earlier univariate results and with Ajinkya et al. (2005). They find a strong positive relationship between market capitalisation and propensity to issue management earnings forecasts.

The results for firm size and proportion of independent directors seem somewhat anomalous. A possible explanation for the negative relationship with firm size (MCAP) and PID is that among the largest Australian listed companies, there is a 'trust us' approach to voluntary financial disclosure. The attitude may be that 'we are a large, well managed firm – trust us to do the right thing.' To gain further insight into such an explanation, we split the sample at the median market capitalisation and re-ran equation (1) on larger and smaller firm years separately. For smaller firm years, both MCAP and PID are insignificant, whereas for larger firms MCAP is negative and significant at 1%, while PID is insignificant. However, for the routine forecast sub-sample, among larger firms PID is negative and significant at 1%, but is insignificant for smaller firms. Hence, larger firms with higher levels of independent directors may favour less transparency when it comes to routine forecast disclosure.

### 5.2.1 Further analysis

ASX Governance Council 'Principles' recommend that boards should contain a majority of independent directors (Recommendation 2.1), as should the audit committee (Recommendation 4.3). It is possible that once these critical levels are reached, further increases in these variables have no additional impact. To assess the possible impact of this form of non-linearity, we converted the continuous PID and IAC variables into dummy variables that take on a value of 1 when a majority of the board (audit committee) are independent directors and 0 otherwise. For H1, the use of the dummy variables produced weaker results which are not reported in the paper.

We also used the dummy variable DPID to further investigate the significant negative finding on PID for the routine forecast sub-sample. The DPID variable was used to split the overall sample and each sub-sample into those firm years that met the ASX recommendation and those that did not and then equation (1) was re-run on the separate sub-samples. In untabulated results, we found that for the overall sample, when DPID = 0 (< 50% independent directors), PID was positive and DIRI100 and IAC were insignificant. When the board have less than the recommended majority of independent directors, higher levels of independent director representation on the board are associated with an increased likelihood of issuing a forecast. On the other hand, when DPID = 1 (=> 50% independent directors), PID was significantly negative and DIRI100 and IAC were

both positive and significant. There is evidence consistent with the view that independent director reputation and audit committee composition are a key determinant of the decision to issue management earnings forecasts only when the firm meets the ASX recommendation to have a majority of independent directors on the board.

### 5.3 Corporate governance and the frequency of issuing management earnings forecasts

In H2, we focus on the number of forecasts issued by each sample firm in each reporting period. To test H2 in a multivariate setting, we use the following regression equation:

$$NFORY_t = \beta_0 + \beta_1 PID_t + \beta_2 IAC_t + \beta_3 DIRI100_t + \beta_4 BSIZE_t + \beta_5 DCC_t + \beta_6 MSO_t + \beta_7 \log(MCAP_t) + \beta_8 BM_t + \beta_9 LEV_t + \beta_{10} DLOSS_t + \beta_{11} NAN_t \quad (2)$$

As NFORY is a continuous variable, this regression is run using ordinary least squares. Results for the overall sample are shown in column 3 of Table 4.

#### INSERT TABLE 4

The multivariate results show that the model is significant with an adjusted  $R^2$  of 0.081. Of the hypothesised corporate governance variables, Table 4 indicates a weakly significant positive relationship between IAC and the number of management earnings forecasts issued by a firm in each reporting period (10% level), thus providing limited support for H2b. The hypothesised relation between higher independent directors' reputation (DIRI100) and a greater number of management earnings forecasts being issued (H2c) is more strongly supported (1% level). As an additional robustness test, we again substituted the executive director reputation variable (DIRE100) for DIRI100. Untabulated results show that DIRE100 has no significant effect on the number of management earnings forecasts issued.<sup>15</sup>

Once again, there is no support for H2a. The PID variable is negative and significant at the 5%, indicating that a significantly lower number of management earnings forecasts are issued when the proportion of independent directors is higher. Direct comparison with the results of prior research is not possible. Ajinkya et al. (2005) investigate the aggregate number of management earnings forecasts issued by their sample firms over the four years of their study and relate this to the average of their independent variables. They find a significantly positive relationship between their PID variable and their measure of forecast frequency. Differences in methodology and in the definitions of director independence may contribute to the variance in results.

We again partition our sample into routine forecasts and non-routine forecasts and re-ran the analysis. Results are shown in columns 4 and 5 of Table 4. Again, for non-routine forecasts none of the hypothesised governance variables was significant.

The overall results are again driven by routine earnings forecasts. Consistent with H2b and H2c, the proportion of independent directors on the audit committee (IAC) and the reputation of independent directors (DIRI100) have a significant positive impact on the number of routine management earnings forecasts issued.

A possible explanation for why our 'likelihood' and 'frequency' results are being driven by routine forecasts is that such forecasts arise at the same time and in relation to the same information event each year. Given the discretion inherent in the forecasting process, firms are more likely to disclose routine management earnings forecasts when they have a disclosure position (Gibbins et al., 1990) that is favourable towards this kind of disclosure. As noted earlier, board characteristics are likely to have a considerable influence over the firm's disclosure position. This is borne out by our results. On the other hand, non-routine forecasts represent situations where the company's continuous disclosure obligations are "in play". Companies have little discretion in complying with these obligations. Hence, governance characteristics do not play a significant role in explaining the likelihood and frequency of such forecasts. Again, this is consistent with our results. For non-routine forecasts, the lack of significant results for our hypothesised governance variables may partly arise from the relative urgency of the need to disclose. This may preclude full consultation with the independent directors on the board.

Among the control variables, there is again a strong positive relationship between the number of management earnings forecasts issued and analyst following (NAN), while firm size (MCAP) again exhibits a strong negative relationship.<sup>16</sup> Both these results are inconsistent with Ajinkya et al. (2005).<sup>17</sup> However, consistent with Ajinkya (2005), loss firms issue a significantly lower number of management earnings forecasts.

#### 5.3.1 Further analysis

We again converted the continuous PID and IAC variables into dummy variables that take on a value of 1 when a majority of the board (audit committee) are independent directors and 0 otherwise. Once again, the results were weaker and are not reported.

Recall that contrary to H2a, the proportion of independent directors on the Board has a significant negative impact on the number of management earnings forecasts. Again, we split the sample using DPID into those firm years that met the ASX recommendation and those that did not. In untabulated results, we found that when DPID = 0 (< 50% independent directors), for the overall sample, all hypothesised governance variables are insignificant. Thus the results in Table 4 are driven by those cases where the ASX recommendation is met.



#### 5.4 Corporate governance and the specificity of management earnings forecasts

In H3, we analyse the specificity of the last forecast issued by management in a reporting period. Sample firms not issuing a forecast in a given reporting period are not included in the analysis. To test H3 in a multivariate setting we use the following regression equation:

$$\text{SPECL}_t = \beta_1 \text{PID}_t + \beta_2 \text{IAC}_t + \beta_3 \text{DIRI100}_t + \beta_4 \text{BSIZE}_t + \beta_5 \text{DCC}_t + \beta_6 \text{MSO}_t + \beta_7 \log(\text{MCAP}_t) + \beta_8 \text{BM}_t + \beta_9 \text{LEV}_t + \beta_{10} \text{DLOSS}_t + \beta_{11} \text{NAN}_t + \beta_{12} \text{FHORL}_t + \beta_{13} \text{DBADAL}_t + \beta_{14} \text{DGOODAL}_t \quad (3)$$

As SPECL is an ordered categorical variable, this regression is run using ordered probit. Results are shown for all forecasts in column 3 of Table 5.

#### INSERT TABLE 5

The overall model is significant and has a pseudo  $R^2$  of 0.113. H3 tests for the existence of a negative relationship between the corporate governance variables and forecast specificity. That is, better governance results in more specific forecasts. None of the hypothesised variables are significant thus there is no support for H3. As an additional robustness test, we again substituted the executive director reputation variable (DIRE100) for DIRI100. Untabulated results show that DIRE100 has a significant (5%) positive effect on forecast specificity. That is, higher executive director reputation results in less specific management earnings forecasts. This contrasts with the original results showing that independent director reputation has no observed significant effect on forecast specificity. The finding is consistent with directors being concerned with reputation effects resulting from not meeting forecasts. To the extent that directors suffer negative consequences from failing to meet forecasts, we would expect these consequences to be greater for executive directors. Ajinkya et al. (2005) test specificity using a similar specification to ours and find no significant association between the proportion of outside directors and forecast specificity. Karamanou and Vafeas (2005) use a slightly different specification (point versus other forecasts) and find that a greater proportion of outside directors is associated with less specific forecasts. However, similar to our results, they find no association between the percentage of outside directors on the audit committee and the specificity of management earnings forecasts.<sup>18</sup>

We again split our sample into routine forecasts and non-routine forecasts and re-run the analysis. Results are shown in columns 4 and 5 of Table 5. For both routine and non-routine forecasts, none of the hypothesized governance variables are significant. Turning to the control variables, we note that overall and for routine forecasts there is a positive relationship between forecast horizon (FHORL) and the specificity of management forecasts. That is, the longer the time period between the issue of the last

management earnings forecast and the release of the preliminary final annual earnings announcement, the less specific is the forecast. This is consistent with the bulk of prior forecast research (Baginski et al., 1994), but not with Ajinkya et al. (2005), who find greater forecast precision for forecasts with longer forecast horizons, or Karamanou and Vafeas (2005) who find no association between forecast horizon and forecast specificity. We also observe a strong negative association between forecasts containing bad news (as measured relative to consensus analysts' forecasts at the time of the forecast) and forecast specificity. For all samples, forecasts containing bad news are more specific. This finding contrasts with prior research. Karamanou and Vafeas (2005) analyse point versus other forecast forms and find that bad news is reported in less precise terms.<sup>19</sup> Of the governance control variables, BSIZE is positively associated with forecast specificity. That is, forecasts are less specific if the board is larger. However, for the non-routine sub-sample, the MSO variable is negative and significant indicating that higher managerial share ownership results in more specific non-routine management earnings forecasts.

#### 5.4.1 Further analysis

We again converted the continuous PID and IAC variables into dummy variables that take on a value of 1 when a majority of the board (audit committee) are independent directors and 0 otherwise. In the overall sample, the variable DPID was consistently negative and significant at the 10% level, while in the routine sub-sample it was negative and significant at 5%. This suggests that boards with the recommended greater than 50% independent director representation are likely to issue more specific management earnings forecasts. We also repeated the analysis using the first forecast issued by the firm in the reporting period (unreported). None of the hypothesized governance variables were significant and the results for forecast horizon, news and board size were similar to those reported in Table 5. Overall, our robustness tests for H3 suggest that the relationship between corporate governance variables and forecast specificity is complex and contextual.

Multivariate testing thus far assumes linear models. For robustness, we examined the possibility of non-linear relationships in line with the following arguments. When independent directors have too many ASX100 directorships ('busy directors'), monitoring may be negatively affected, resulting in an inverted U shaped relationship between directors' reputation and the propensity of firms to issue management earnings forecasts. To test for the possibility of a quadratic relationship, the squared value of our DIRI100 variable was included in all our models (unreported). For the overall samples and each sub-sample, there was no evidence of a quadratic relationship between DIRI100 and the likelihood or frequency of issuing a management earnings forecast or the specificity of such forecasts.

## 6. Conclusions

The purpose of our study is to examine the relationship between certain of the firm's corporate governance mechanisms and the issue of management earnings forecasts to keep capital markets informed. Our results investigating the propensity of Top 300 listed Australian companies to issue management earnings forecasts in a continuous disclosure environment are quite consistent. In accordance with our hypotheses, we find that the proportion of independent directors on the audit committee and the reputation of independent directors on the board are both positively associated with forecast occurrence and forecast frequency. However, for forecast occurrence (frequency) we find no association (negative association) with the proportion of independent directors on the board. We also split our sample into routine forecasts and non-routine forecasts and re-ran the analysis. Notably, we find it is only routine earnings forecasts that reinforce the overall findings. Our main tests find no significant association between forecast specificity and our hypothesised corporate governance variables. Additional testing indicates that, where consistent with ASX recommendations, a majority of directors are independent, forecasts are more specific. This is especially so for routine forecasts. We also undertake extensive robustness testing focusing on (but not limited to) potential non-linear relationships.

A possible explanation for why our findings are being driven by routine forecasts is that the inherent discretion associated with routine forecasts means that the firm's disclosure position (Gibbins et al., 1990), which is heavily influenced by the board, is likely to determine decisions relating to forecasts. However, many non-routine forecasts, represent situations which are driven by the company's continuous disclosure obligations. As companies have little or no discretion in complying with these obligations, governance characteristics are unlikely to play a significant role in explaining the likelihood and frequency of such forecasts.

This paper contributes to the literature by refining the previously used proxies for director independence when examining the governance-forecast relation in a corporate governance environment that is markedly different from the US. We find that certain attributes such as director reputation have a positive effect on forecast disclosure but the relationship between board independence and forecast disclosure appear more complex. Whilst this paper examines an important attribute of independent directors – their reputation – further work on other attributes is warranted.

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## Appendices

**Table 1.** Descriptive statistics

**Panel A:** Corporate governance and control variables

	BM	BSIZE	DCC	DIRI100	DLOSS	IAC
Mean	0.480	7.347	0.051	0.507	0.138	0.773
Median	0.399	7.000	0.000	0.000	0.000	0.800
Maximum	3.441	18.000	1.000	3.250	1.000	1.000
Minimum	-3.272	3.000	0.000	0.000	0.000	0.000
Std. Dev.	0.519	2.438	0.219	0.791	0.345	0.267
Skewness	0.470	0.894	4.103	1.202	2.100	-1.011
Kurtosis	8.939	4.373	17.837	3.076	5.411	3.338
Observations	1117	1187	1187	1156	1219	1131

	LEV	LOG(MCAP)	MSO	NAN	PID
Mean	0.249	20.075	0.122	6.121	0.595
Median	0.229	19.891	0.015	6.000	0.625
Maximum	1.523	24.708	0.825	18.000	1.000
Minimum	0.000	14.989	0.000	0.000	0.000
Std. Dev.	0.209	1.645	0.182	4.788	0.218
Skewness	1.371	0.379	1.531	0.271	-0.610
Kurtosis	6.220	3.031	4.297	1.861	2.815
Observations	1216	1117	1179	1153	1187

Definition of variables are as follows: **BM**: ratio of book to market value of equity at the beginning of the year. **BSIZE**: Number of directors on the board. **DCC**: a dummy variable capturing CEO duality, which is equal to 1 when the CEO is also chairman and 0 otherwise. **DIRI100**: is a directors' reputation variable measured as the average number of directorships in ASX100 companies held by directors in each sample company over the period 1999-2003. **DLOSS**: a dummy variable that equals 1 when the firm reports a loss and 0 otherwise. **IAC**: the proportion of independent directors on the firm's audit committee. **LEV**: is measured as interest bearing liabilities divided by total assets, both measured at the end of the reporting period. **MCAP**: log of market capitalisation of the firm at the beginning of the year. **MSO**: Percentage of shares held by all directors. **NAN**: the number of analysts following the firm. **PID**: the proportion of independent directors on the firm's board of directors.

**Panel B:** Forecast variables

	DFY	NFORY	SPECL	FHORL	DBADAL	DGOODAL
Mean	0.299	0.449	2.277	169.652	0.222	0.142
Median	0.000	0.000	3.000	182.000	0.000	0.000
Maximum	1.000	5.000	3.000	329.0000	1.000	1.000
Minimum	0.000	0.000	1.000	1.000000	0.000	0.000
Std. Dev.	0.458	0.803	0.895	92.573	0.416	0.350
Skewness	0.876	1.994	-0.573	0.065	1.338	2.046
Kurtosis	1.767	6.961	1.495	1.795	2.791	5.185
Observations	1219	1219	364	365	365	365

Definition of variables are as follows: **DFY** a dummy variable equal to 1 when the firm issues a management earnings forecast in the current reporting period and 0 otherwise. **NFORY** is the number of management earnings forecasts issued by a firm in the current reporting period. **SPECL** a variable measuring the specificity of the last management earnings forecast issued by each firm in each reporting period. It is coded 1 for point, 2 for range (both upper and lower bounds are specified), 3 for maximum forecasts (no lower bound) and minimum forecasts (no upper bound). **FHORL** a forecast horizon measure which is the number of calendar days between the release of the firm's last earnings forecast for the reporting period and the date of the release of the preliminary annual earnings announcement. **DBADAL** a dummy variable equal to 1 when the news contained in the last management earnings forecast is bad relative to analyst forecasts. **DGOODA1** a dummy variable equal to 1 when the news contained in the last management earnings forecast is good relative to analyst forecasts.

**Table 2.** Univariate comparisons of firm years with management earnings forecasts against firm years without such forecasts

Firm governance variables	N	All periods	Forecast periods	Non-forecast periods	Difference	t statistic
PID	1187	0.595	0.624	0.582	0.042	3.056
IAC	1131	0.773	0.810	0.756	0.054	3.175
DIRI100	1156	0.507	0.738	0.405	0.333	6.717
Governance control variables						
BSIZE	1187	7.347	7.720	7.184	0.536	3.502
DCC	1187	0.051	0.039	0.056	-0.017	-1.223
MSO	1179	0.122	0.109	0.127	-0.018	-1.548
Control variables						
LOG(MCAP)	1117	20.075	20.381	19.927	0.454	4.360
BM	1117	0.480	0.438	0.500	-0.063	-1.891
LEV	1216	0.249	0.285	0.233	0.052	4.030
DLOSS	1219	0.138	0.088	0.159	-0.071	-3.298
NAN	1153	5.808	7.962	5.268	2.694	9.204

Bold = significant at 5% or better

Definition of variables are as follows: **BM**: ratio of book to market value of equity at the beginning of the year. **BSIZE**: Number of directors on the board. **DCC**: a dummy variable capturing CEO duality, which is equal to 1 when the CEO is also chairman and 0 otherwise. **DIRI100**: is a directors' reputation variable measured as the average number of directorships in

ASX100 companies held by directors in each sample company over the period 1999-2003. **DLOSS**: a dummy variable that equals 1 when the firm reports a loss and 0 otherwise. **IAC**: the proportion of independent directors on the firm's audit committee. **LEV**: is measured as interest bearing liabilities divided by total assets, both measured at the end of the reporting period. **MCAP**: log of market capitalisation of the firm at the beginning of the year. **MSO**: Percentage of shares held by all directors. **NAN**: the number of analysts following the firm. **PID**: the proportion of independent directors on the firm's board of directors.

**Table 3.** Determinants of the likelihood of issuing a management earnings forecasts

$$DFY_t = \beta_0 + \beta_1 PID_t + \beta_2 IAC_t + \beta_3 DIRI100_t + \beta_4 BSIZE_t + \beta_5 DCC_t + \beta_6 MSO_t + \beta_7 \log(MCAP_t) + \beta_8 BM_t + \beta_9 LEV_t + \beta_{10} DLOSS_t + \beta_{11} NAN_t \quad (1)$$

As DFY is a binary variable this regression is run using binary probit. Variables are defined as follows: **DFY** a dummy variable equal to 1 when the firm issues a management earnings forecast in the current reporting period and 0 otherwise. **BM**: ratio of book to market value of equity at the beginning of the year. **BSIZE**: Number of directors on the board. **DCC**: a dummy variable capturing CEO duality, which is equal to 1 when the CEO is also chairman and 0 otherwise. **DIRI100**: is a directors' reputation variable measured as the average number of directorships in ASX100 companies held by directors in each sample company over the period 1999-2003. **DLOSS**: a dummy variable that equals 1 when the firm reports a loss and 0 otherwise. **IAC**: the proportion of independent directors on the firm's audit committee. **LEV**: is measured as interest bearing liabilities divided by total assets, both measured at the end of the reporting period. **MCAP**: log of market capitalisation of the firm at the beginning of the year. **MSO**: Percentage of shares held by all directors. **NAN**: the number of analysts following the firm. **PID**: the proportion of independent directors on the firm's board of directors.

Variable	Coefficient	All forecasts Col 2	Non-routine Col 3	Routine Col 4
<i>Constant</i> (z stat, p-value)		3.924 (3.926, 0.000)	0.426 (0.387, 0.699)	4.874 (4.660, 0.000)
<i>PID</i> (z stat, p-value)	$\beta_1$	-0.572 (-1.845, 0.065)	-0.152 (-0.444, 0.657)	-0.994 (-2.979, 0.003)
<i>IAC</i> (z stat, p-value)	$\beta_2$	0.506 (2.082, 0.037)	0.013 (0.049, 0.961)	0.789 (2.965, 0.003)
<i>DIRI100</i> (z stat, p-value)	$\beta_3$	0.217 (2.516, 0.012)	0.042 (0.425, 0.671)	0.307 (3.435, 0.001)
<i>BSIZE</i> (z stat, p-value)	$\beta_4$	0.024 (1.020, 0.308)	-0.012 (-0.470, 0.638)	0.054 (2.201, 0.028)
<i>MSO</i> (z stat, p-value)	$\beta_5$	-0.042 (-0.162, 0.872)	0.092 (0.332, 0.740)	-0.103 (-0.379, 0.705)
<i>DCC</i> (z stat, p value)	$\beta_6$	-0.131 (-0.619, 0.536)	-0.302 (-1.114, 0.265)	-0.211 (-0.901, 0.368)
<i>LOG(MCAP)</i> (z stat, p value)	$\beta_7$	-0.270 (-5.065, 0.000)	-0.086 (-1.470, 0.142)	-0.345 (-6.110, 0.000)
<i>BM</i> (z stat, p value)	$\beta_8$	-0.064 (-0.727, 0.467)	-0.089 (-0.904, 0.366)	0.016 (0.177, 0.859)
<i>LEV</i> (z stat, p value)	$\beta_9$	0.371 (1.755, 0.079)	0.036 (0.147, 0.883)	0.457 (2.077, 0.038)
<i>DLOSS</i> (z stat, p value)	$\beta_{10}$	-0.343 (-2.534, 0.011)	0.026 (0.177, 0.859)	-0.529 (-3.466, 0.001)
<i>NAN</i> (z stat, p value)	$\beta_{11}$	0.112 (7.492, 0.000)	0.073 (4.555, 0.000)	0.112 (7.045, 0.000)
<i>N</i>		1020	1020	1020
McFadden R <sup>2</sup>		0.087	0.035	0.101

Bold = significant at 5% or better

**Table 4.** Determinants of the frequency of issuing a management earnings forecasts

$$\text{NFORY}_i = \beta_0 + \beta_1 \text{PID}_i + \beta_2 \text{IAC}_i + \beta_3 \text{DIRI100}_i + \beta_4 \text{BSIZE}_i + \beta_5 \text{DCC}_i + \beta_6 \text{MSO}_i + \beta_7 \log(\text{MCAP}_i) + \beta_8 \text{BM}_i + \beta_9 \text{LEV}_i + \beta_{10} \text{DLOSS}_i + \beta_{11} \text{NAN}_i \quad (2)$$

Estimated using ordinary least squares. Variables are defined as follows: **NFOR** is the number of management earnings forecasts issued by a firm in the current reporting period. **BM**: ratio of book to market value of equity at the beginning of the year. **BSIZE**: Number of directors on the board. **DCC**: a dummy variable capturing CEO duality, which is equal to 1 when the CEO is also chairman and 0 otherwise. **DIRI100**: is a directors' reputation variable measured as the average number of directorships in ASX100 companies held by directors in each sample company over the period 1999-2003. **DLOSS**: a dummy variable that equals 1 when the firm reports a loss and 0 otherwise. **IAC**: the proportion of independent directors on the firm's audit committee. **LEV**: is measured as interest bearing liabilities divided by total assets, both measured at the end of the reporting period. **MCAP**: log of market capitalisation of the firm at the beginning of the year. **MSO**: Percentage of shares held by all directors. **NAN**: the number of analysts following the firm. **PID**: the proportion of independent directors on the firm's board of directors.

Variable	Coefficient	All forecasts Col 2	Non-routine Col 3	Routine Col 4
Constant (z stat, p-value)		3.040 (5.652, 0.000)	0.601 (1.954, 0.051)	2.439 (6.600, 0.000)
PID (z stat, p-value)	$\beta_1$	<b>-0.421</b> <b>(-2.243, 0.025)</b>	-0.040 (-0.391, 0.696)	<b>-0.380</b> <b>(-2.722, 0.007)</b>
IAC (z stat, p-value)	$\beta_2$	<b>0.283</b> <b>(1.929, 0.054)</b>	0.006 (0.070, 0.945)	<b>0.278</b> <b>(2.524, 0.012)</b>
DIRI100 (z stat, p-value)	$\beta_3$	<b>0.160</b> <b>(2.682, 0.007)</b>	0.043 (1.124, 0.2261)	<b>0.117</b> <b>(3.085, 0.002)</b>
BSIZE (z stat, p-value)	$\beta_4$	0.016 (1.127, 0.260)	-0.002 (-0.311, 0.756)	0.018 (1.890, 0.059)
MSO (z stat, p-value)	$\beta_5$	-0.074 (-0.529, 0.600)	0.020 (0.265, 0.791)	-0.095 (-0.975, 0.330)
DCC (z stat, p value)	$\beta_6$	-0.121 (-1.362, 0.173)	-0.082 (-1.813, 0.070)	-0.039 (-0.480, 0.631)
LOG(MCAP) (z stat, p value)	$\beta_7$	<b>-0.152</b> <b>(-5.432, 0.000)</b>	-0.026 (-1.573, 0.116)	<b>-0.126</b> <b>(-6.555, 0.000)</b>
BM (z stat, p value)	$\beta_8$	-0.013 (-0.235, 0.814)	-0.004 (-0.142, 0.887)	-0.009 (-0.239, 0.811)
LEV (z stat, p value)	$\beta_9$	0.079 (0.635, 0.525)	-0.008 (-0.101, 0.920)	0.087 (1.014, 0.311)
DLOSS (z stat, p value)	$\beta_{10}$	<b>-0.149</b> <b>(-2.047, 0.041)</b>	0.030 (0.616, 0.538)	<b>-0.179</b> <b>(-4.362, 0.000)</b>
NAN (z stat, p value)	$\beta_{11}$	<b>0.060</b> <b>(7.433, 0.000)</b>	<b>0.019</b> <b>(4.250, 0.000)</b>	<b>0.041</b> <b>(6.883, 0.000)</b>
N		1020	1020	1020
Adjusted R <sup>2</sup>		0.081	0.021	0.086

Bold = significant at 5% or better

**Table 5.** Determinants of forecast specificity

$$\text{SPECL}_i = \beta_1 \text{PID}_i + \beta_2 \text{IAC}_i + \beta_3 \text{DIRI100}_i + \beta_4 \text{BSIZE}_i + \beta_5 \text{DCC}_i + \beta_6 \text{MSO}_i + \beta_7 \log(\text{MCAP}_i) + \beta_8 \text{BM}_i + \beta_9 \text{LEV}_i + \beta_{10} \text{DLOSS}_i + \beta_{11} \text{NAN}_i + \beta_{12} \text{FHORL}_i + \beta_{13} \text{DBADAL}_i + \beta_{14} \text{DGOODAL}_i \quad (3)$$

Estimated using ordered probit. Variables are defined as follows: **SPECL** a variable measuring the specificity of the last management earnings forecast issued by each firm in each reporting period. It is coded 1 for point, 2 for range (both upper and lower bounds are specified), 3 for maximum forecasts (no lower bound) and minimum forecasts (no upper bound). **BM**: ratio of book to market value of equity at the beginning of the year. **BSIZE**: Number of directors on the board. **DBADAL**: a dummy variable equal to 1 when the news contained in the last management earnings forecast is bad relative to analyst forecasts. **DCC**: a dummy variable capturing CEO duality, which is equal to 1 when the CEO is also chairman and 0 otherwise. **DGOODAL** a dummy variable equal to 1 when the news contained in the last management earnings forecast is

good relative to analyst forecasts. DIRI100: is a directors' reputation variable measured as the average number of directorships in ASX100 companies held by directors in each sample company over the period 1999-2003. DLOSS: a dummy variable that equals 1 when the firm reports a loss and 0 otherwise. FHORL: a forecast horizon measure which is the number of calendar days between the release of the firm's last earnings forecast for the reporting period and the date of the release of the preliminary annual earnings announcement. IAC: the proportion of independent directors on the firm's audit committee. LEV: is measured as interest bearing liabilities divided by total assets, both measured at the end of the reporting period. MCAP: log of market capitalisation of the firm at the beginning of the year. MSO: Percentage of shares held by all directors. NAN: the number of analysts following the firm. PID: the proportion of independent directors on the firm's board of directors.

Variable	Coefficient	All forecasts Col 2	Non-routine Col 3	Routine Col 4
<i>PID</i> (z stat, p-value)	$\beta_1$	-0.572 (-1.003, 0.316)	-0.862 (-0.926, 0.354)	-0.667 (-0.877, 0.380)
<i>IAC</i> (z stat, p-value)	$\beta_2$	0.285 (0.670, 0.503)	0.376 (0.549, 0.583)	0.232 (0.410, 0.682)
<i>DIRI100</i> (z stat, p-value)	$\beta_3$	0.195 (1.589, 0.112)	0.216 (1.085, 0.278)	0.130 (0.743, 0.457)
<i>BFSIZE</i> (z stat, p-value)	$\beta_4$	<b>0.104</b> <b>(2.419, 0.016)</b>	0.144 (1.884, 0.060)	0.083 (1.474, 0.141)
<i>MSO</i> (z stat, p-value)	$\beta_5$	-0.749 (-1.650, 0.099)	<b>-1.556</b> <b>(-2.292, 0.022)</b>	-0.127 (-0.188, 0.851)
<i>DCC</i> (z stat, p value)	$\beta_6$	-0.028 (-0.060, 0.952)	1.283 (1.648, 0.099)	-0.544 (-1.043, 0.297)
<i>LOG(MCAP)</i> (z stat, p value)	$\beta_7$	-0.113 (-1.216, 0.224)	-0.217 (-1.415, 0.157)	-0.012 (-0.087, 0.931)
<i>BM</i> (z stat, p value)	$\beta_8$	0.126 (0.773, 0.440)	-0.425 (-1.559, 0.119)	0.412 (1.723, 0.085)
<i>LEV</i> (z stat, p value)	$\beta_9$	0.225 (0.682, 0.495)	0.275 (0.554, 0.580)	0.066 (0.139, 0.890)
<i>DLOSS</i> (z stat, p value)	$\beta_{10}$	-0.085 (-0.345, 0.730)	-0.001 (-0.001, 0.999)	-0.071 (-0.201, 0.841)
<i>NAN</i> (z stat, p value)	$\beta_{11}$	0.000 (0.012, 0.991)	0.012 (0.260, 0.795)	-0.001 (-0.148, 0.883)
<i>FHORL</i> (z stat, p value)	$\beta_{12}$	<b>0.004</b> <b>(5.582, 0.000)</b>	0.002 (0.914, 0.361)	<b>0.005</b> <b>(3.980, 0.000)</b>
<i>DBADAL</i> (z stat, p value)	$\beta_{13}$	<b>-0.614</b> <b>(3.624, 0.000)</b>	<b>-0.553</b> <b>(-2.125, 0.034)</b>	<b>-0.695</b> <b>(-3.058, 0.002)</b>
<i>DGOODAL</i> (z stat, p value)	$\beta_{14}$	-0.342 (1.638, 0.101)	<b>-0.880</b> <b>(-2.806, 0.005)</b>	0.145 (0.420, 0.675)
<i>N</i>		346	138	208
Pseudo R <sup>2</sup>		0.113	0.120	0.109

Bold = significant at 5% or better

<sup>1</sup> See Fama and Jensen (1983).

<sup>2</sup> See also Beekes and Brown (2006) for a more general examination of Australian disclosures.

<sup>3</sup> This is based on an analysis of ownership concentration, institutional shareholders, shareholder proxy voting patterns and the markets for corporate control (Dignam and Galanis, 2004).

<sup>4</sup> In a different context, Ferris et al. (2003) used a similar measure.

<sup>5</sup> The prevalence of quarterly reporting and forecasts in the US possibly reduces the incidence of non-routine forecasts.

<sup>6</sup> It is also possible that busy directors serving on multiple boards have less time to adequately monitor management. For example, Core et al. (1999) show that boards with multiple directorships are associated with paying their CEO what is considered to be excess remuneration. Accordingly, there may be a non-linear relationship between the number of directorships held and a director's ability to monitor management. Initially, increased directorships may signal greater

reputation and improved monitoring. However, beyond some point, further directorships may create an excessive workload leading to a decline in the quality of monitoring.

<sup>7</sup> See section 4.1 for a definition of these forecast categories.

<sup>8</sup> Coulton and Taylor (2003) use prior year earnings rather than analyst forecasts in determining whether management earnings forecasts convey good or bad news. We follow the US studies in considering analysts' forecasts more relevant in determining the news status of forecasts for the current period and use analysts forecasts to classify our sample into good and bad news.

<sup>9</sup> See section 4.1.3 of the paper for a discussion of these and other control variables.

<sup>10</sup> Ajinkya et al. (2005) use a measure labelled *FREQ* which is the total number of forecasts issued by a firm in their sample period. We chose not to use this measure as they regress this on the averages of the independent variables over the sample period. We prefer to keep our independent variables as firm/year variables.

<sup>11</sup> Forecast specificity is a forecast level variable not a firm level variable. We follow Ajinkya et al., (2005) in that we test the specificity of the last forecast issued by a firm in a particular reporting period. In the results section, we also report robustness using the first forecast issued during the reporting period.

<sup>12</sup> Using the same approach, we also created a director reputation variable for the executive directors. This is labelled *DIRE100*.

<sup>13</sup> Karamanou and Vafeas (2005) define their independent audit committee variable as the percentage of audit committee members who are not current or past employees of the company and who do not have a fiduciary relationship to the firm. This definition is much closer in spirit to the definition of independent directors employed in this study (ASX Corporate Governance Council, 2003). The definition of independence employed by Karamanou and Vafeas (2005) for their audit committee variable contrasts with definition they employ for independent directors on the board (non-executive).

<sup>14</sup> As a robustness check, we dropped *NAN* from the regression and re-ran the results. *MCAP* remained negative and significant at the 5% level.

<sup>15</sup> Given the very high correlation between *DFY* and *NFOR* (0.855) the consistency of results between *H1* and *H2* is to be expected.

<sup>16</sup> Again, as a robustness check, we dropped *NAN* and re-ran the regression (unreported). *MCAP* remained negative and significant at the 5% level.

<sup>17</sup> Ajinkya et al. (2005) measure their dependent variable as the aggregate number of forecasts over their four year sample period and used as their independent variables the averages of the firm-specific variables over the four years. These variations in method may account for the differences in results.

<sup>18</sup> We ran our regression using a point/ other classification for forecast specificity and again all our hypothesised variables were insignificant.

<sup>19</sup> Similar to our paper, Karamanou and Vafeas (2005) assess the news content of management earnings forecasts relative to consensus analysts' forecasts. However, they do not specify how the news content of range and open-ended forecasts is determined.