



THE AUSTRALIAN NATIONAL UNIVERSITY

Working Paper Series in Finance 00-12

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JEL Classification	G34; L20.
Keywords	Corporate governance; Director resignations; Board of directors.
Last revision date:	September 2000
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Abstract

It is often difficult to predict how a change in a firm's corporate governance structure will affect the future value of the firm. We examine what factors are associated with the level of stock market uncertainty surrounding a change in composition of the board of directors by investigating the variations in market reaction to a director resignation announcement. Market uncertainty is measured as the absolute value of the abnormal return accruing to firms that experience a director resignation. Multivariate analysis shows that the level of uncertainty about the economic impact of the director resignation is explained by firm size and the type of director leaving. Consistent with positive information costs and signalling theory, market uncertainty decreases with firm size and increases when the resignation is by a non-executive director.

Acknowledgements:

We express our thanks to Richard Heaney for helpful comments that formed the genesis of this paper.

Introduction

Corporate governance encompasses the mechanisms implemented by stakeholders to monitor, supervise, advise and provide stewardship to a corporation's insiders and management.¹ Academic literature has directed much attention to assessing which governance structures provide the "best" outcomes for stakeholders in terms of alleviating managerial and debt agency problems. Assessing the success of governance mechanism is undertaken in various ways. One strand of accounting and finance research examines the relationship between firm performance and the characteristics of firms' governance mechanisms – the size of boards, composition of boards and committees (for example, Yermack 1996; Bhagat and Black 1998, 1999; Klein 1998). Another strand focuses on the stock market reaction to discrete tasks undertaken by directors in ensuring efficient outcomes for stakeholders – for example, replacing CEOs or reducing takeover avoidance strategies (Weisbach 1988; Byrd and Hickman 1992; Brickley, Coles and Terry 1994). Finally, a third strand examines the market reaction to changes in a company's corporate governance structure. Announcements of appointments to, or departures from, a board under various circumstances are assessed for their shareholder wealth effects. To this we must add law and economics and organizational behaviour research that focuses on the costs and benefits associated with board size, directors' responsibilities, speed of decision making, ease of coordination and bias against risk taking (Lipton and Lorsch 1992; Jensen 1993; Sternberg 1998).

This paper contributes to the third strand of research introduced above by examining how resignations from firms is perceived by market participants in terms of its signalling value. We look at the variation in market reaction to director resignations by firm size, type of director, firm performance and board characteristics. Extant empirical literature provides a limited examination of the shareholder wealth effects of director departures. Furtado and Rozeff (1987, p. 150) report unpublished research showing that "the wealth effects of retirements and resignations are negative", while Welch, Fleming and Heaney (2000)

¹ Stakeholders may include equity-holders, creditors and other claimants who supply capital, as well as employees, consumers, suppliers, and the government (John and Senbet, 1998, p. 372; Johnson and Scholes 1999, p. 214).

have shown that the market reacts negatively to the departure of non-executive directors from high performing firms. Other studies have considered specific aspects of changes in board composition, but the research has largely failed to examine the different characteristics of board members or the sensitivity of the market reaction to specific firm characteristics. Prior research on the market reaction to news of non-executive and executive director appointments provides evidence that the market reaction to news of these announcements is a function of the type of director and the financial performance of the firm (see for example Rosenstein and Wyatt 1990 and 1997; Weisbach 1988, Warner, Watts and Wruck 1988; Bonnier and Bruner 1989). Similarly, Johnson, Magee, Nagarajan and Newman (1985) and Warner, Watts and Wruck (1988) show that the market reacts differently to various reasons for departure announcement. In this paper we expand upon the existing literature by finding, among other things, that director resignations have different signaling value to the market depending upon firm size and type of director resigning. Specifically, the larger the firm the greater the certainty about the effect of a resignation on the future value of the firm and so the lower the variation in market reaction. Further, the resignation of non-executive directors creates more uncertainty than executive director resignations, increasing variation in market reaction. These findings are robust to controls for financial performance, board size, proportion of non-executive directors on the board and whether there has been previous resignations.

The remainder of this paper is organized as follows. Section 2 develops the hypotheses examined in the paper. Chapter 3 overviews the data collection process and presents descriptive statistics. Section 4 documents our results, and section 5 provides some conclusions.

2. Literature review and hypotheses development

Firms are an efficient structure for producing and delivering goods and services as they provide a means of reducing contracting costs through the creation of economies of scale (Coase 1937; Alchian and Demsetz 1972). One can view the firm as a nexus of contracts between a complex set of stakeholders, which may include shareholders, debtholders, employees and other parties within society (see for example Williamson

1971; 1985, and Alchian and Woodward 1987). Whilst the corporate structure facilitates the minimisation of contracting costs, additional agency costs are introduced. Contracts entered into by the firm may involve the separation of ownership and control whereby principal-agent problems can emerge. Governance mechanisms used to control management behaviour are costly, but often necessary to align the interests of the agent with those of the principal.

The market reaction to changes in the corporate governance mechanisms of the firm provides us with one way of measuring how directors are valued in terms of their roles in monitoring and supervising management, representing stakeholders and advising on strategy.² Given an efficient market, stock market prices should reflect the value of securities, and of the underlying firm, as indicated by the relevant information set. Therefore, if the expected value of a firm increases, so too should the firm's share price. Larger variations in the market reaction to material changes of the firm indicates that the market participants are uncertain about the future value of the firm. In view of the above, if a firm's share price changes in response to a director resignation, it implies that the stock market perceives a change in the expected value of the firm resulting from this change in board composition.

2.1 Firm size and the value of directors

Reinganum (1985) suggests that when predicting the shareholder wealth effects of changes in boards of directors one must give consideration to the context in which the executive change is occurring. It is argued that small firms may have less complex control and decision making systems than do larger firms, and so the roles performed by directors will be different. Smaller firms have a reduced pool of management support undertaking strategy formulation placing demands on directors to have general, rather than firm specific, managerial capital (Furtado and Rozeff 1987). However, the complexity of large firms suggests that directors need to have a variety of human capital skills and undertake a range of monitoring functions. In

² Sternberg (1998) notes that two types of accountability are central to corporate governance: directors' accountability to the company's shareholders; and the accountability of employees and other agents to the company and its board. In

addition, there is a positive relationship between board size and firm size, so that the roles of directors subtly changes as board size increases. Depending on your view of director responsibilities, a resignation from the board would have a greater (lesser) impact on the governance mechanism and potential future value of small firms than on large firms.

Research on modelling the relationship between the value of directors to the firm, firm size and board size is in infancy.³ Jensen (1993) and Lipton and Lorsch (1992) have argued that as board size increases it becomes difficult for an additional director to increase value. A larger board negatively affects the amount of time available at typical board meetings, and has a negative impact on the group dynamics by leading to greater formality and less frankness and openness on strategic discussion (Jensen 1993, p. 865).⁴ Thus, a larger board may not in fact be an effective board in that it may be less cohesive, more likely to endure free riders, and less able to communicate clearer (Lipton and Lorsch 1992, p. 65). Conversely, it may be argued that the benefits of larger boards pertain to the expanded pool of human capital, the ease of balancing insiders and outsiders, the lower likelihood of being captured by a CEO, and the ability to have directors from a range of industry backgrounds (Yermack 1996, p. 186).⁵

There is solid empirical evidence to suggest that there is a significant positive association between board size and firm size, despite the calls from academics for larger firms to limit board size to eight to ten directors. For example, Denis and Sarin (1999, pp. 194) found that board size is positively associated with firm size in the U.S.A. (0.37 correlation coefficient), while Stapledon and Lawrence (1997, p. 184) have documented a similar correlation for Australia (0.58). We argue here that the value of a director is dependent upon the size of the firm (which determines board size). Large firms extract value from maintaining internal

this context, directors are the mediators between the wishes of the shareholders and the actions of a company's employees (see also Fama, 1980; and Fama and Jensen, 1983).

³ One set of research is using game theory in modelling board behaviour; See, for example, Warther (1998).

⁴ There is an increasing body of organisational behaviour literature suggesting that as the size of the group increases, its functionality changes towards more formal interaction: ratification of authority, routinisation of authority and interaction, social and emotional detachment, procedural fairness, and status differentiation (Morand 1995, p. 843).

⁵ Debate over the costs and benefits of larger boards has led to suggestions that there is an optimal board size. For example, Lipton and Lorsch (1992, p. 67) recommend "that the size of a board should be limited to a maximum of ten directors (indeed we would favour boards of eight or nine)". Jensen (1993, p. 865) argues that when "boards go beyond seven or eight people they are less likely to function effectively and are easier for the CEO to control". Such arguments

labour markets by earning a return on the firm specific capital of internals, acquiring information about potential director productivity at low cost, and fostering an incentive compatible promotions system. As firm size decreases the internal labour market decreases in importance because (a) it is more costly to maintain a pool of potential director talent, and (b) firm specific human capital is less important than general business skills (Furtado and Rozeff 1987, p. 152). Thus, as compared to large firms, small firms incur greater per director search costs given a resignation, and greater per director loss of skills materially affecting the future value of the firm.

More formally, let us define the number of directors (d) is a function of firm size (for the i th firm), and the total product (TP_i) of the board (by definition the sum of directors) as a twice differentiable function and exhibiting diminishing marginal returns. We can therefore state that the $\frac{\partial TP_i}{\partial d} > 0$ when $d < d^*$, $\frac{\partial TP_i}{\partial d} = 0$ when $d = d^*$, and $\frac{\partial TP_i}{\partial d} < 0$ when $d > d^*$. This functional form shows us that there is an “optimal” number of directors on a board (d^*) when the marginal value of the additional director is zero. However, it is also the case that the number of directors is a function of firm size, so that d^* can vary. This idea has implications for empirical work. A director resigning from the board of a small firm will not necessarily have a greater adverse impact on the functioning of the board as compared with a larger firm - it all depends on how the size of the board approximates d^* . However, given the arguments above, we state that on average it is likely that $\frac{\partial TP_1}{\partial d} > \frac{\partial TP_2}{\partial d}$ where firm 1 is smaller than firm 2. Directors resigning from smaller firms are likely to associated with a greater loss of value than directors resigning from larger firms.

Given the diminishing marginal value of directors and the differences in marginal value by size, an information theoretic argument justifies the relationship between firm size and variation in market reaction to a resignation. The existence of positive information collection costs means that market participants will have more information on larger firms (which tend to have greater amounts of lower cost publicly available

therefore suggest a non-linear relationship between board size and performance. We leave this question to future research.

information) than on smaller firms. Thus, given that a director resignation has a lower marginal loss to a larger firm, and there is more information publicly available on larger firms, we hypothesise that the market is more certain about the signalling value of such a resignation. By contrast, a director resignation from a small firm may have a major (positive or negative) effect on the future value of the firm and, under conditions of information asymmetry, the market is uncertain about this impact. Thus we expect to observe greater variation in abnormal returns for smaller firms. We state this formally in hypothesis 1 below:

H1: There is a negative relationship between firm size and the variation in abnormal returns to firms announcing a director resignation.

2.2 Type of director

The Cadbury Report (1992, p. 20) notes that “whilst it is the board as a whole which is the final authority, executive and non-executive directors are likely to contribute in different ways to its work”. Executive directors hold both a board position and a senior managerial or executive position within the firm. Owing to this dual role, executive directors have the potential to make a valuable contribution to the board, as they are able to bring their firm-specific knowledge to board deliberations (Hampel Report, 1998). Fama and Jensen (1983) argue that this experience can contribute to effective board decision making.

Notwithstanding the benefits of executive directors, their independence from management may be impaired. Core, Holthausen and Larcker (1999) argue that executive directors display greater loyalty to management than do their non-executive colleagues, and that they are subject to greater influence by the company’s CEOs than are outside directors. Kaplan and Reishus (1990) note that the selection and reporting process of executive directors reduces independence, as directors are charged with the responsibility for monitoring the performance of the CEO but also report to the CEO. This results in a potential conflict of interest for such directors. Rosenstein and Wyatt (1997) argue that the presence of too many executive directors on a board may invite skepticism about the independence of such a board, especially with regards to reviewing the performance of management.

Unlike executive directors, non-executive directors are only employed by a company in the capacity as a director on the board. Non-executive directors are typically appointed in view of their industry expertise and their decision-making abilities (Fama and Jensen, 1983). The role of these directors differs somewhat from that of their executive counterparts in that non-executive directors may be undertaking strategic, independent monitoring and representative roles (Hampel Report, 1998, p. 26). Despite the fact that non-executive directors are not employed in other positions by the company, there may be other circumstances where their independence is threatened. For example, numerous authors have questioned the independence of outside directors given the dominance of a company's CEO in making such appointments or directors' previous connections with the firm (see for example Core, Holthausen and Larcker, 1999; and Rosenstein and Wyatt, 1990).⁶

As outlined in the introduction, the empirical literature on the value to the firm of executive and non-executive directors is diverse. We focus here on the literature that examines the market reaction to changes in composition of the board of directors. Rosenstein and Wyatt (1997) tested the market's reaction to announcements of executive director appointments and show that, on average, abnormal returns at the announcement date are approximately zero. While executive directors provide the board with important firm-specific knowledge which facilitates more effective decision making, they suggested that executive directors' perceived lack of independence in evaluating managerial performance largely negates the human capital specific benefit.

The relative importance of non-executive directors in monitoring management is highlighted by Weisbach (1988), who finds that the incidence of CEO turnover is more highly correlated with firm performance for corporations with a majority of non-executive directors than for companies where executive directors dominate. The importance placed on non-executive directors by the market was also noted by Byrd and Hickman (1992) and Brickley, Coles and Terry (1994). Both studies found a positive correlation

⁶ Many researchers have extended the executive - non executive dichotomy to examine the nature of non-executive independence. Independent non-executive directors are those that have no current or former connection with the firm apart from their directorship. This definition excludes non-executive directors who may obtain board positions due to

between controls initiated by a company's management and the number of non-executive directors on the board. Rosenstein and Wyatt (1990) found that, on average, the appointment of a non-executive director was accompanied by a significantly positive average abnormal return. This result held even when there was a majority of outside directors on the board prior to the new appointment. Rosenstein and Wyatt (1990, p. 176) note that "these results imply that the expected benefits of outside guidance gained from these appointments outweighs the expected costs of potential managerial entrenchment and inefficient decision making". The authors also suggest that the appointment of an outside director may signal a change in a firm's strategy, which is perceived as positive news by the market.

In this study we hypothesize that a director resignation provides different signals to the market depending on the type of director. We expect the announcement of a resignation to lead to greater variation in market reaction if the resignation is from a non-executive director. When a non-executive director leaves, the market is more uncertain about whether the monitoring, supervision and advice functions of non-executive directors will be maintained. Thus, there is greater uncertainty about whether the firm will in the future be able to resolve efficiently agency problems or deal adequately with changes in the external environment. We state hypothesis 2 below:

H2: There is a positive relationship between the announcement of a non-executive director resignation and the variation in abnormal returns to firms.

2.3 Control variables

Previous resignations

The uncertainty associated with an announcement of a resignation may depend upon the number of previous resignations. Firms that are undertaking major changes in governance, or management spills, will create greater uncertainty as to the expected value of the firm, as compared to firms that lose a single director in a

being current stakeholders to the firm, eg. blockholders, key suppliers, and are seen as non-independent (or gray) non-executives. See , for example, Rosenstein and Wyatt (1997, pp. 235-37).

year. Thus we control for the possibility that firms in our sample may have had more than one resignation during the year. It is difficult to hypothesize a direction for the relationship between the variation in market reaction and previous resignations. On the one hand, a positive relationship may exist whereby the more resignations that take place the more internal problems exist at the firm, and thus more uncertainty as to expected future value. By contrast, a negative relationship may exist indicating that the signalling effect of a resignation decreases as more resignations take place. We would also expect a positive association between the number of previous resignations and firm size, as larger firms (and thus larger boards) have a higher probability that a director will resign merely due to the number of directors.

Firm performance

Bonnier and Bruner (1989) show that some of the inconsistency in results found by researchers examining the market reaction to announcements of changes in top management may be due to researchers failing to control for the financial strength of a company. To isolate the impact of management changes, they examine share price reactions for firms who have already been established as under-performing, finding positive excess returns around announcements of management changes (where management is defined as the chairman, CEO or president). The change in management is seen by investors as a positive signal that the distressed firm is altering key decision making positions to improve performance. Other researchers find similar results. Coughlan and Schmidt (1985) and Gilson (1989) find that under-performing firms are the more likely to replace senior executives. Denis and Kruse (2000) find that firms that performed poorly were more likely to experience control-reducing disciplinary events such as takeover attempts, shareholder activism and board dismissals. Similarly, Welch, Fleming and Heaney (2000) found that high performing firms experience significant negative abnormal returns to the announcement of a director departure.

Board characteristics

As we argued above the size of the board is positively related to the size of the firm. We control for two board characteristics in order to see whether our arguments about firm size are robust. First we control for

board size and examine whether board size has explanatory value over and above firm size. We expect not. Secondly, we control for the ratio of non-executives to executives on the board. This composition measure has been used in several governance studies to examine whether there is an ideal number of non-executive directors (eg. Kaplan and Reishus 1990; Rosenstein and Wyatt 1997; Denis and Sarin 1999). We use this variable to see whether the market reacts differently to resignations from boards with a high ratio of non-executive to executive, as compared to a low ratio.

3. Data and empirical methods

3.1 Sample selection procedures

Announcements of director resignations from Australian publicly listed companies are collected for the period 1 July 1998 to 30 June 1999 from the Australian Stock Exchange (ASX). Details include the ASX announcement date (event date) when the departure is announced over the stock exchange trading system.⁷ Announcements were filtered to remove confounding announcement effects including multiple director resignations and other major announcements, such as takeovers, during an eleven day period including the announcement date, announcement date minus 5 days to announcement date plus 5 days. The initial sample consisted of 630 announcements of director departures (see Table 1 below). Observations were removed if they form part of same-day multiple announcements or announcements for companies with other major announcements within the window period (including announcements involving multiple director departures), where there are no financial statements or share prices available during the estimation or event periods, where companies were undertaking takeover and similar major restructuring activity within the beta estimation period, and where directors resigned or died.

⁷ Identification of the event date is critical for event studies. Given the requirements for disclosure under the Australian Corporations Law, the ASX continuing disclosure requirements and insider trading regulations, these announcements should be the first official announcements of the director departure. The ASX Announcement Platform time and date stamps the announcement providing an official recording of the event date.

Table 1

Insert about here

The distribution of announcements (not reported) provided little evidence of trends in the timing of director resignations. If these trends were present, we may expect them to be concentrated around the later half of the calendar year when firms hold their annual general meetings (AGM). This would lead to resignation announcements being clustered in the period July through November inclusive. There was however a fairly even distribution of resignation announcements across the year, and so it is unlikely that seasonal effects are driving the results reported in the paper.

Descriptive variables are summarised in Table 2, Panel A. Firm size is the firm's equity market value obtained either from Datastream or from the *Australian Financial Review* and *Shares* seven calendar days prior to the announcement date. The book value of ordinary equity is obtained from firm's most recent annual reports preceding the commencement of the sampling period (total owners' equity is a summation of share capital, reserves and retained profits, or accumulated losses). Two measures of performance are used in the study. The first measure is book to market calculated using the equity numbers and the second is reported earnings per share (EPS) obtained for each of the firms. A smaller sample size (49 data points due to data limitations) is used to examine characteristics of the board of directors: board size and the ratio of non-executive to executives on the board.

Table 2

Insert about here

Two categorical variables are described in Panel B of Table 2: executive versus non-executive director resignations, and the number of previous announcements of resignations by firms during the sample period. Approximately one third of the data contains announcements of resignations from executive directors. Within the final sample there were 87 firms making 107 announcements of resignations. Eighteen

firms had more than one separate director resignation announcement (note that multiple announcements during the eleven day event window were removed from the sample). In the reduced sample there were 41 firms making 49 announcements. Seven firms had more than one resignation.

3.3 Returns generating model

The Australian market is often characterised by thin trading of stocks (see for example Sinclair, 1981). The effect of thin trading may also impact on the market proxy, which may be comprised of thinly traded stocks. Consequently, there is the need to select a returns generating model that accounts for these problems. We calculate abnormal returns to shareholders using the market model with Dimson (1979) adjustment for thin trading, including 5 leads and 25 lags.⁸ All returns are calculated as continuously compounded rates of return, and prices have been adjusted for capitalisation charges and dividends. Expected returns for individual stocks are calculated as:

$$ER_{it} = \mathbf{a}_i + \mathbf{b}_{iD} R_{mt} \quad (1)$$

where ER_{it} is the expected return for company i in period t , R_{mt} is the return on the market in period t ,

\mathbf{a}_i and $\mathbf{b}_{iD} = \sum_{i=-25}^{+5} \mathbf{b}_i$ are ordinary least squares regression coefficients calculated using the estimation period.

The initial event window consists of the five working days either side of the announcement date, day 0, for every company identified as part of the final data set though final reporting focuses on the announcement date plus one trading day either side. Abnormal returns (ARs) are defined as the difference between the realised return and the expected return.

$$AR_{it} = R_{it} - ER_{it} \quad (2)$$

⁸ We found no serial correlation in the market index during the period of our study and so choose the Dimson's adjustment. Sensitivity analysis using alternative lead/lag combinations indicated that the choice of 5 leads and 25 lags was reasonable for the sample. See Sinclair (1981) for further discussion of leads and lags in beta calculations for companies on the Australian stock market.

where AR_{it} is the abnormal return for company i in period t , R_{it} is the actual return for company i in period t , and ER_{it} is the expected return for company i in period t as defined in equation (1). Returns are then cumulated for day 0 and day 1 $CAR_{(0,+1)}$ for each company in the sample as outlined in equation 3:

$$CAR_{(0,+1)} = \sum_{t=0}^{t=1} AR_{it} \quad (3)$$

Finally, we calculate the variance of the cumulative abnormal returns by taking the absolute value of $CAR(0,+1)$.

4. Results

4.1 Resignations and variation in market reaction

We examine the hypotheses outlined in section 2 using a multivariate model with the variation in the abnormal return to firms that have made resignation announcements as the dependent variable. The first model (Model 1) examines hypotheses 1 and 2 after controlling for the existences of previous announcements and the financial performance of the firm. Model 1 is estimated for the full sample of 107 announcements. The second model (Model 2) is estimated using a reduced sample of 49 announcement for which we could determine board size and the proportion of non-executives to executives on the board at the time of the announcement.

Model 1 is specified below in equation 4:

$$Abs(CAR_{i,0,1}) = \mathbf{a} + \mathbf{b}_{LMV}LMV_i + \mathbf{b}_{Nonexec}D_{i,Nonexec} + \mathbf{b}_{Prev}D_{i,Prev} + \mathbf{b}_{Perf}Perf_i + \mathbf{e}_i \quad (4)$$

where:

$Abs(CAR_{i,0,1})$ = the absolute value of the cumulative abnormal return for firm i on day 0 and day 1;

LMV_i = natural log of the firm's market capitalisation 6 days before the announcement and is used to measure firm size;

$D_{i,Nonexe}$ = 1 if the director resigning was a non-executive director with the firm;

$D_{i, Prev} = 1$ if the firm had a previous resignation from the board during the sample period;

$Perf_i$ = the financial performance of the firm is measured by either the ratio of book to market, or earnings per share as stated in the firm's annual report.

This model states that the variance of the market reaction to the announcement of a resignation (as measured by the absolute value of the cumulative abnormal return) is associated with the size of the firm (we hypothesise $b_{LMV} < 0$) and the type of director leaving the company ($b_{Nonex} > 0$), after controlling for the firm's performance and whether there had been previous resignations. Model 2 is specified below in equation 5 and examines in more detail the relationship between variation of market reaction, firm size and type of director after controlling for previous resignations, board size, ratio of non-executives to executives on the board, and firm performance:

$$Abs(CAR_{i,0,1}) = \mathbf{a} + \mathbf{b}_{LMV} LMV_i + \mathbf{b}_{Nonex} D_{i, Nonex} + \mathbf{b}_{Prev} D_{i, Prev} + \mathbf{b}_{Board} Board_i + \mathbf{b}_{Ratio} Ratio_i + \mathbf{b}_{Per} Perf_i + \mathbf{e}_i \quad (5)$$

where:

$Abs(CAR_{i,0,1})$, LMV_i , $D_{i, Nonex}$, $D_{i, Prev}$ and $Perf_i$ are as defined in Model 1, and

$Board_i$ = the number of directors on the board at the time of the resignation announcement;

$Ratio_i$ = the ratio of non-executive to executive directors on the board (including the resigning director) at the time of the resignation announcement.

In model 2 we examine whether board characteristics add explanatory power over and above firm size and the type of director. As discussed in section 2, board size and the ratio of non-executive to executive directors on the board are proxies attempting to capture the marginal value of the departing director.

Correlations between the dependant and explanatory variables are presented in Tables 3 and 4. Both samples indicate that there is initial support for our argument that there is a negative association between the variation in abnormal returns and firm size. The full sample (Table 3) indicates that there is a significant

negative 0.26 correlation, while the reduced sample (Table 4) shows a negative 0.31 correlation between these variables. We also find some evidence of a positive correlation between the size of the firm and good performance in both samples. This can be seen in the positive association between size and earnings per share (significant in the full sample only), and a negative correlation between book to market (the lower book to market the better the financial performance; significant in both samples). As Bonnier and Bruner (1989) argue, controlling for firm performance in multivariate analysis is required. There are no other significant correlations in the full sample. In the reduced sample (Table 4), as expected, there are significant correlations between firm size, board size and board characteristics. These results are consistent with empirical work on the composition of Australian boards of directors undertaken by Stapledon and Lawrence (1997, p. 183), Calleja (1999) and Lawrence and Stapledon (1999). Larger firms are more likely to have larger boards and a higher proportion of non-executives on the board. The positive correlation between these variables indicates that the assumptions behind the marginal value of directors presented in section 2 has some justification. We shall also have to be aware of potential multicollinearity problems in regression using these variables in Model 2.

Tables 3 and 4

Insert about here

There are two sets of regression results reported in Table 5. These regressions use the full sample to estimate Model 1. Columns two and three report regression results for Model 1 using book to market as the performance measure, and columns four and five reported the same regressions using earnings per share. Both models are significant at the 5% level although they only explain approximately 7% of the variation in abnormal returns. Such low adjusted R^2 are common in this area of research using multivariate regressions with event study abnormal share returns (see, for example, Kaplan and Reishus 1990; Bonnier and Bruner 1989; Rosenstein and Wyatt 1997). As hypothesised, we find a statistically significant negative relationship between the variance of market reaction and company size. This indicates that as firm size increases the uncertainty associated with a director resignation continues to decrease by approximately 1.3%, leading to a

clearer signal of the future value of the firm. By contrast, the signal of a director resigning from a small firm creates uncertainty in the market by increasing variance. This result is robust to alternative measurements of firm performance, and supports hypothesis 1. We also find a significant positive relationship between the type of director and the variance of market reaction. This results suggests that there is signalling value to the type of director leaving the firm, with the resignation of a non-executive leading to greater uncertainty about the firm (approximately a 2% increase in variation). This result supports hypothesis 2. Finally, both estimations of company performance were insignificant, as was the previous resignation dummy variable.

Table 5

Insert about here

We have examined a reduced sample of 49 firms to investigate whether firm size remains a robust explanator and whether board characteristics are associated with the uncertainty surrounding a director resignation. Table 6 presents regressions estimating Model 2 with alternative measurements for firm performance. The negative association between the variation in abnormal returns and firm size remains significant at the 10% level for both regressions, and at 5% using book to market. This indicates that board characteristics add little extra value in explaining the variation in market reaction over and above firm size. Redundant variable tests for firm size and board characteristics were undertaken to see which variables in the model have zero coefficients and might be deleted (see Table 6 Panel B). The null for these tests is that $\mathbf{b}_j=0$. Panel B indicates that with *LMV* in the model, we fail to reject the null that the coefficients of *Board*, *Ratio* and *Nonexec* are zero when each is left out of Model 2. However, we reject the null for *LMV* which indicates that *LMV* is needed in any model explaining *ABCAR* even if *Board* and *Ratio* are explanatory variables. Similar tests for Model 2 with *EPS* as the performance measure show that *LMV* is the only variable providing strong explanatory power over and above board characteristics. In sum, board characteristics do not add explanatory power if firm size is already in the model. The inclusion of board characteristics do influence the explanatory power of the non-executive dummy variable. The non-executive dummy is no longer a

significant explainer of the variation in market reaction, and this is due to the significant correlations between firm size and some board characteristics, and that the board characteristics and non-executive resignation signal may be capturing the same information.

Table 6

Insert about here

Sequential variable selection procedures provide a useful exploratory device to examine the various candidate models that explain the variation in market reaction to resignations. Forward and backward stepwise regressions were run on the reduced sample and are reported in Panels C and D, Table 6. Both stepwise procedures generated a two variable model with *LMV* and *Ratio* as explanatory variables. Backward stepwise removed *Prev*, *Board*, *Perf* and *Nonexec* in descending order, indicating that of the remaining variables *Nonexec* contains more explanatory power than board size. The parsimonious model (Panel D) shows consistent results with Model 1 with a negative association between market uncertainty and firm size. Contrary to expectations there is a positive association between market uncertainty and ratio of non-executives to executives on the board of directors. We would expect that the more non-executives on the board the lower the marginal value of each director and thus a lower level of uncertainty with a resignation.

4.2 Sensitivity analysis

Sensitivity analysis was undertaken on Models 1 and 2 to examine the robustness of results to various estimation procedures. Table 7 presents results from three regressions using OLS with a White's heteroskedasticity consistent covariance estimator, and a 10%-trimmed least squares (TLS) estimator (reporting TLS and White's adjusted test statistics).

Table 7

Insert about here

In Model 1 the three estimation procedures show that the relationship between the variation in market reaction to the resignation announcement and firm size, and between the variation and non-executive resignations are significant at the 5% level. We continue to find support for hypotheses 1 and 2. The results for model 2 also indicate that hypothesis 1 is supported, and that the non-executive dummy loses explanatory power. There are also two unexpected changes in the additional control variables in Model 2. Under the White's adjusted OLS model 2 ratio becomes significant at the 10% level, as does previous resignations using the TLS regression. Both results do not hold over the range of sensitivity tests or in the original OLS regressions, and so we do not regard these as statistically robust findings. In sum, the standard OLS regression results reported in Tables 5 and 6 are not sensitive to outliers or alternative estimation procedures.

5. Conclusion

The market reaction to changes in board composition provides us with one way of valuing the roles and responsibilities performed by executive and non-executive directors. Board changes can lead to uncertainty about the continuance of the existing governance structure and the future value of the firm. We have shown that the uncertainty surrounding director resignations depends upon firm size and the type of director resigning. Lower variation in abnormal returns is observed for larger firms as there is lower information collection costs and more certainty about the marginal value of a director. Conversely, greater uncertainty is evident when a non-executive director leaves a small firm.

The relationship between uncertainty, firm size and type of director remains when we control for firm financial performance, whether there were previous resignations and board characteristics such as board size and board composition. The empirical results are also robust to various model estimation techniques.

References

- Alchian, A. and Demsetz, H., 1972, Production, information costs and economic organisation, *American Economic Review* 62, 777-95.
- Alchian, A. and Woodward, S., 1987, Reflections on the theory of the firm, *Journal of Institutional and Theoretical Economics* 143, 110-36.
- Bacon, C., Cornett, M. and Davidson, W., 1997, The board of directors and dual-class recapitalisations, *Financial Management* 26, 5-22.
- Baysinger, B. and Butler, H., 1985, Corporate governance and board of directors: Performance effects of changes in board composition, *Journal of Law, Economics and Organisation* 1, 101-24.
- Bhagat, S. and Black, B., 1998, The relationship between board composition and firm performance, in: K. Hopt, H. Kanda, M. Roe, E. Wymeersch and S. Prigge, *Comparative Corporate Governance: The State of the Art and Emerging Research*.
- Bhagat, S. and Black, B., 1999, The uncertain relationship between board composition and corporate governance, *The Business Lawyer* 54.
- Bonnier, K. and Bruner, R., 1989, An analysis of stock price reaction to management changes in distressed firms, *Journal of Accounting and Economics* 11, 95-106.
- Brickley, J., Coles, J. and Terry, R., 1994, Outside directors and the adoption of poison pills, *Journal of Financial Economics* 35, 371-90.
- Byrd, J. and Hickman, K., 1992, Do outside directors monitor management? Evidence from tender offer bids, *Journal of Financial Economics* 32, 195-221.
- Calleja, N., 1999, To delegate or not to delegate: Board committees and corporate performance in Australia's top 100 companies, *Sydney Law Review* 21, 5-35.
- Coase, R., 1937, The nature of the firm, *Economica*, 386-405.
- Committee on Corporate Governance, 1998, *Committee on Corporate Governance: Final Report* (Gee Publishing Limited, London)(Hampel Report).
- Committee on the Financial Aspects of Corporate Governance, 1992, *Report of the Committee on the Financial Aspects of Corporate Governance* (Gee and Co. Limited, London)(Cadbury Report).
- Core, J., Holthausen, R. and Larcker, D., 1999, Corporate governance, chief executive officer compensation and firm performance, *Journal of Financial Economics* 51, 371-406.
- Coughlan, A. and Schmidt, R., 1985, Executive compensation, managerial turnover, and firm performance: An empirical investigation, *Journal of Accounting and Economics* 7, 43-66.
- Denis, D.J. and Kruse, T.A., 2000, Managerial discipline and corporate restructuring following performance declines, *Journal of Financial Economics* 55, 391-424.

- Denis, D.J. and Sarin, A., 1999, Ownership and board structures in publicly traded corporations, *Journal of Financial Economics* 52, 187-223.
- Dimson, E., 1979, Risk measurement when shares are subject to infrequent trading, *Journal of Financial Economics* 7, 197-226.
- Fama, E., 1980, Agency problems and the theory of the firm, *Journal of Political Economy* 88, 288-307.
- Fama, E. and Jensen, M., 1983, Separation of ownership and control, *Journal of Law and Economics* 27, 301-25.
- Furtado, E. and Rozeff, M., 1987, The wealth effects of company initiated management changes, *Journal of Financial Economics* 18, 147-60.
- Gilson, S.C., 1989, Management turnover and financial distress, *Journal of Financial Economics* 25, 425-58.
- Jensen, M., 1993, The modern industrial revolution, exit, and the failure of internal control systems, *Journal of Finance* 48, 831-80.
- John, K. and Senbet, L., 1998, Corporate governance and board effectiveness, *Journal of Banking and Finance* 22, 371-403.
- Johnson, G. and Scholes, K., 1999, *Exploring Corporate Strategy* (5th edition, Prentice Hall Europe).
- Johnson, W., Magee, R., Nagarajan, N. and Newman, H., 1985, An analysis of the stock price reaction to sudden executive deaths, *Journal of Accounting and Economics* 7, 151-74.
- Kaplan, S. and Reishus, D., 1990, Outside directorships and corporate performance, *Journal of Financial Economics* 27, 389-410.
- Klein, A., 1998, Firm performance and board committee structure, *Journal of Law and Economics*, 41, 245-303.
- Lawrence, J. and Stapledon, G.P., 1999, Is board composition important? A study of listed Australian companies, manuscript.
- Lipton, M. and Lorsch, J.W., 1992, A modest proposal for improved corporate governance, *The Business Lawyer* 48, 59-77.
- Morand, D.A. 1995, The role of behavioural formality and informality in the enactment of bureaucratic versus organic organizations, *Academy of Management Review* 20, 831-72.
- Reinganum, M., 1985, The effect of executive succession on stockholder wealth, *Administrative Science Quarterly* 30, 46-60.
- Rosenstein, S. and Wyatt, J., 1990, Outside directors and wealth effects, *Journal of Financial Economics* 26, 175-91.
- Rosenstein, S. and Wyatt, J., 1997, Inside directors, board effectiveness and shareholder wealth, *Journal of Financial Economics* 44, 229-50.

- Sinclair, N.A., 1981, An empirical examination of the required number of leading and lagged variables for ACM beta estimation, *Australian Journal of Management* 6, 119-26.
- Stapledon, G.P. and Lawrence, J., 1997, Board composition, structure and independence in Australia's largest listed companies, *Melbourne University Law Review* 21, 150-86.
- Sternberg, E., 1998, *Corporate Governance: Accountability in the Marketplace* (Institute of Economic Affairs, London).
- Williamson, O., 1971, The vertical integration of production: Market failure considerations, *American Economic Review* 61, 112-23.
- Williamson, O., 1985, *The Economic Institutions of Capitalism* (Free Press, New York).
- Welch, E., Fleming, G.A. and Heaney, R.A., 2000, The shareholder wealth effects of director departure announcements, *Australian National University Working Paper in Finance* No. 00-08.
- Warner, J.B., Watts, R.L. and Wruck, K.H., 1988, Stock prices and top management changes, *Journal of Financial Economics* 20, 461-92.
- Warther, V.A., 1998, Board effectiveness and board dissent: A model of the board's relationship to management and shareholders, *Journal of Corporate Finance* 4, 53-70.
- Weisbach, M.S., 1988, Outside directors and CEO turnover, *Journal of Financial Economics* 20, 431-60.
- Yermack, D. 1996, Higher market valuation of companies with a small board of directors, *Journal of Financial Economics* 40, 185-211.

Table 1
Sample and Data Filtering Process

Reasons for exclusion from the sample	Number of observations
Initial number of announcements in sample	630
Less: Announcements forming part of same-day multiple announcements or announcements for companies with other major announcements within the window period	(300)
Less: Announcements made by companies for which there were no financial statements available	(137)
Less: Announcements for companies with takeover and other major activity within the beta estimation period	(27)
Less: Departures due to retirement or death	(59)
Final number of announcements in sample	107

Table 2
Descriptive Statistics

Panel A: Continuous variables

Descriptive statistics for the full sample ($N=107$) and sub-sample ($N=49$) used in this study. Market value of equity, seven calendar days prior to the announcement date, is obtained from Datastream for all but 12 companies. For these 12 companies market value is calculated using the *Australian Financial Review* share price quoted seven calendar days prior to the announcement date and number of shares for the previous month from *Shares, Your Guide to Australia's Best Stocks*. Book value of equity is obtained from annual accounts information quoted in Connect 4 or Huntley's DAT Analysis and dated at least 6 months prior to the announcement. Book to market is the ratio of the market value and book value of equity. *EPS* is obtained from Connect 4 or Huntley's DAT Analysis. Board size is the number of directors on the board as indicated by the most recent annual report. Ratio is the ratio of non-executive to executive directors on the board as indicated by the most recent annual report.

Variable ($N=107$)	Mean	Median	Standard Deviation	Maximum	Minimum
Market value of equity (\$AUDm)	744.83	19.41	2077.00	12964.96	0.40
Book value of equity(\$AUDm)	408.92	27.20	1042.66	5422.80	-3.12
Book to market	1.19	0.91	1.34	5.05	-7.77
Earnings per share (<i>EPS</i>)	-1.23	-0.52	140.00	101.33	-349.74
<hr/>					
Variable ($N=49$)					
Market value of equity (\$AUDm)	1113.90	71.77	2377.03	9640.30	1.25
Book value of equity(\$AUDm)	631.95	60.56	1418.38	5422.80	-0.44
Book to market	1.32	0.89	1.11	5.05	-0.06
Earnings per share (<i>EPS</i>)	-3.27	4.41	76.00	101.33	-349.74
Board size	6.86	6.00	2.83	14.00	3.00
Ratio	3.08	2.00	2.44	9.00	0.40

Table 2 cont'd
Descriptive Statistics
Panel B: Categorical variables

Categorical variables are presented for the full and sub-samples. Director type is obtained from annual report information in Connect 4 or Huntley's DAT Analysis. Number of previous announcements is the number of times a director resignation was announced prior to the current announcement, and both the previous announcement and the current announcement appears in the sample. Frequency refers to the number of companies rather than the number of announcements.

	Frequency	Percent of total
Variable (<i>N</i> =107)		
Director type		
Executive	37	34.6
Non-executive	70	65.4
Number of companies with previous announcements		
Zero	69	79.3
One	16	18.4
Two	2	2.3
Variable (<i>N</i> =49)		
Director type		
Executive	15	30.6
Non-executive	34	69.4
Number of companies with previous announcements		
Zero	34	82.9
One	6	14.6
Two	1	2.4

Table 3

Correlations between the absolute value of the average abnormal returns, size, and performance measures (book to market and earnings per share)

Correlations are Pearson product moment correlation coefficients calculated over the sample of 107 observations. ABCAR (0, +1) is the absolute value of the average abnormal return for days 0 and +1. *, ** indicates significance at the 10% and 5% levels respectively.

	Ln(Market value)	Book-to-market	Earnings per share
ABCAR(0, +1)	-0.26**	0.14	-0.04
Earnings per share	0.18*	-0.13	
Book-to-market	-0.22**		

Table 4

Correlations between the absolute value of average abnormal returns, size, performance measures (book to market and earnings per share), and board characteristics (board size and proportion of non-executives)

Correlations are Pearson product moment correlation coefficients calculated over the sample of 49 observations. ABCAR (0, +1) is the absolute value of the average abnormal return for days 0 and +1. Board is the number of directors on the board as indicated by the most recent annual report. Ratio is the ratio of non-executives to executives on the board of directors. *, ** indicates significance at the 10% and 5% levels respectively.

	Ln(market value)	Ratio	Board	Earnings per share	Book-to-market
ABCAR (0, +1)	-0.31**	0.14	-0.17	-0.03	0.11
Book-to-market	-0.55**	-0.18	-0.29**	-0.22	
Earnings per share	0.12	0.18	0.09		
Board	0.77**	0.44**			
Ratio	0.42**				

Table 5
Multivariate Analysis of Director Resignations: Full Sample

This table reports regression results for the model:

$$Abs(CAR_{i,0,1}) = a + b_{LMV}LMV_i + b_{Nonexec}D_{i,Nonexec} + b_{Prev}D_{i,Prev} + b_{Perf}Perf_i + e_i$$

Ordinary least squares regression (OLS) coefficients and t-statistics are reported. Sample size is 107 observations. The independent variable $Abs(CAR_{i,0,1})$ is the absolute value of the two-day cumulated abnormal return and it is used to measure the variance of returns. LMV is the natural log of market value of ordinary equity, $Nonexec$ is a director who was identified as being a non-executive director in the annual accounts, $Prev$ is the existence of a previous resignation during the sample period, BM is the ratio of book to market, EPS is the earnings per share (both measures for $Perf$). White's tests indicate the probability of rejecting the null hypothesis that the residuals are homogeneous. *, ** indicates significance at the 10% and 5% levels respectively.

<i>Variable</i>	<i>OLS Coeff.</i>	<i>OLS t-stat</i>	<i>OLS Coeff</i>	<i>OLS t-stat</i>
Constant	0.0470	4.06**	0.0492	4.57**
LMV	-0.0125	-2.72**	-0.0130	-2.84**
Nonexec	0.0187	1.86*	0.0204	2.00**
Prev	0.0047	0.39	0.0044	0.36
BM	0.0000	0.60		
EPS			-0.0000	-0.32
<i>F-stat</i>	3.01**		2.94**	
Adjusted R^2	0.071		0.069	
White's <i>F-stat</i>	0.84		0.71	

Table 6
Multivariate Analysis of Director Resignations: Reduced Sample

This table reports regression results for the model:

$$Abs(CAR_{i,0,1}) = \mathbf{a} + \mathbf{b}_{LMV}LMV_i + \mathbf{b}_{Nonexec}D_{i,Nonexec} + \mathbf{b}_{Prev}D_{i,Prev} + \mathbf{b}_{Board}Board_i + \mathbf{b}_{Ratio}Ratio_i + \mathbf{b}_{Perf}Perf_i + \mathbf{e}_i$$

using data from the sub-sample $N=49$. Panel A shows ordinary least squares regression (OLS) coefficients and t-statistics are reported (critical values are from a Student's t-distribution). The independent variable $Abs(CAR_{i,0,1})$ is the absolute value of the two-day cumulated abnormal return and it is used to measure the variance of returns. LMV is the natural log of market value of ordinary equity, $Nonexec$ is a director who was identified as being a non-executive director in the annual accounts, $Prev$ is the existence of a previous resignation during the sample period, $Board$ is the number of directors on the board as indicated by the most recent annual report, $Ratio$ is the ratio of non-executives to executives on the board of directors, BM is the ratio of book to market, EPS is the earnings per share (both measures for $Perf$). White's tests indicate the probability of rejecting the null hypothesis that the residuals are homogeneous. *, ** indicates significance at the 10% and 5% levels respectively. Panel B reports redundant variable analysis. Statistics show tests for rejecting the null that the redundant variable coefficient is zero if included in Model 2. Panels C and D report sequential variable selection procedures. Panel C shows the order in which variables dropped out of Model 2 using a backward stepwise procedure; (a) refers to Model 2 with BM as $Perf$, (b) refers to Model 2 with EPS as $Perf$. Panel D presents the parsimonious model as determined by a forward stepwise procedure.

Panel A: OLS regression results				
Variable	OLS Coeff	OLS t-stat	OLS Coeff	OLS t-stat
Constant	0.0674	2.12**	0.0508	2.00*
LMV	-0.0315	-2.18**	-0.0250	-1.99*
Nonexec	0.0126	0.64	0.0153	0.73
Prev	0.0048	0.21	0.0042	0.18
Board	0.0024	0.50	0.0014	0.30
Ratio	0.0064	1.57	0.0064	1.55
BM	-0.0000	-0.77		
EPS			-0.0000	-0.37
<i>F</i> -stat	1.85		1.75	
Adjusted R^2	0.096		0.086	
White's <i>F</i> -stat	0.29		0.23	

Panel B: Redundant variable analysis				
Redundant variable	Model 2 with <i>BM</i> as <i>Perf</i>		Model 2 with <i>EPS</i> as <i>Perf</i>	
	<i>F</i> -stat	Prob	<i>F</i> -stat	Prob
Board	0.25	0.6222	0.09	0.7698
Ratio	2.46	0.1243	2.39	0.1295
Nonexec	0.41	0.5265	0.53	0.4725
LMV	4.76	0.0349	3.96	0.0531

Table 6 cont'd

Panel C: Sequential variable selection		
Variables removed in order	(a) Prev, Board, BM, Nonexec (b) Prev, Board, EPS, Nonexec	

Panel D: Stepwise regression results		
<i>Variable</i>	<i>OLS Coeff</i>	<i>t-stat</i>
Constant	0.0661	3.99**
LMV	-0.0244	-3.05**
Ratio	0.0079	2.21**
<i>F-stat</i>	5.18**	
<i>Adjusted R²</i>	0.148	

Table 7
Sensitivity Analysis of the Multivariate Analysis of Director Resignations:
Full and Reduced Sample

This table reports sensitivity of the regression results for Models 1 and 2 using data from the full sample ($N=107$) and sub-sample ($N=49$). Ordinary least squares regression (OLS) coefficients and White's adjusted t-statistics are reported in the second and third columns. A 10%-trimmed least squares (TLS) robust estimator used for Model 1 ($N=96$) and Model 2 ($N=44$) and results are reported in columns four, five and six. The independent variable $Abs(CAR_{i,0,1})$ is the absolute value of the two-day cumulated abnormal return and it is used to measure the variance of returns. LMV is the natural log of market value of ordinary equity, $Nonexec$ is a director who was identified as being a non-executive director in the annual accounts, $Prev$ is the existence of a previous resignation during the sample period, $Board$ is the number of directors on the board as indicated by the most recent annual report, $Ratio$ is the ratio of non-executives to executives on the board of directors, BM is the ratio of book to market measuring $Perf$. Results for multivariate analysis with EPS as the performance measure were similar, and are not reported here. *, ** indicates significance at the 10% and 5% levels respectively.

Model 1					
	<i>OLS Coeff</i>	<i>White's t-stat</i>	<i>TLS Coeff</i>	<i>TLS t-stat</i>	<i>White's adjusted t-stat</i>
Constant	0.0473	4.97**	0.3436	4.76**	7.06**
LMV	-0.0129	-3.14**	-0.0081	-2.77**	-3.49**
Nonexec	0.0192	2.15**	0.0134	2.14**	2.33**
Prev	0.0066	0.65	0.0133	1.51	1.34
BM	0.0000	0.69	0.0000	1.60	1.59
<i>F-stat</i>	3.01**		4.71**		
<i>Adjusted R²</i>	0.071		0.135		
Model 2					
Constant	0.0674	2.14**	0.0548	3.03**	3.20**
LMV	-0.0315	-1.74*	-0.0178	-1.95*	-2.46**
Nonexec	0.0126	1.04	0.0071	0.64	0.84
Prev	0.0048	0.22	0.0267	2.01*	1.49
Board	0.0024	0.64	0.0011	0.40	0.53
Ratio	0.0064	1.83*	0.0028	1.21	1.19
BM	-0.0000	-0.56	-0.0000	-1.42	-1.49
<i>F-stat</i>	1.85		2.19*		
<i>Adjusted R²</i>	0.096		0.143		