ROLE OF MONITORING WITHIN A GOOD CORPORATE GOVERNANCE STRUCTURE: EVIDENCE FROM AUSTRALIA

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Abstract

This study investigates the role of monitoring mechanisms within a corporate governance structures, focusing on top 500 publicly-listed companies in Australia. Specifically, it examines whether different monitoring mechanisms affect firm performance. Previous studies have been conducted to examine various monitoring mechanisms and firm performance. However, none of the have consider the interaction among the monitoring mechanisms when examining the relationship. In management and behavioural researches it is well established that Structural Equation Modelling can handle the problem of interaction among the variables. Therefore, we have decided to use Structural equation modelling to identify the complex inter-relations between the corporate governance monitoring mechanisms. We conclude that there is a possibility of having a substitution or complementary links among monitoring mechanisms which explains why there is no consistent empirical evidence between individual monitoring mechanisms and firm performance.

Keywords: Monitoring; Performance; Structural equation modelling; Performance

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1. Introduction

This study investigates the effects of corporate monitoring mechanisms on firm performance under different conditions of agency conflict. Following the much-reported collapses of publicly-listed companies such as Enron, World Com, HIH and One. Tel, corporate monitoring is an issue that has emerged at the forefront of the debate on corporate responsibility. The separation of ownership and control in publicly owned firms has the potential to create conflict between the interests of managers and shareholders. Such conflict can be reduced by devising effective monitoring mechanisms.

Previous research has focused on examining different governance mechanisms, typically studying one or two governance variable(s), such as board of directors (Hermalin and Weisbach, 2001), concentration of ownership (Shivdasani, 1993; Kaplan and Minton, 1994), external auditors (Watts and Zimmerman, 1990), audit committees (Ramsay, 2001), in terms of their effects on firm performance. However, firm performance depends on the efficiency of a bundle of monitoring mechanisms in controlling the agency problem, the conflict between interests of management and shareholders, rather than on any single monitoring mechanism (Rediker and Seth, 1995, p. 87; Agrawal and Knoeber, 1996, p. 378). This study considers the effective monitoring mechanisms as a bundle and examines their effect on firm performance.

Prior research examining different monitoring mechanisms that reduce agency problems is largely based on American, British, Japanese and German companies (Farrar, 2008). There is less research in other countries such as Australia which has a very different capital market, board structures and governance objectives than above mentioned countries. Therefore, conclusions reached in previous studies may not be applicable to Australia (Farrar, 2008). However, no previous studies paid attention to the joint effects of monitoring mechanisms in Australian context.

This study is motivated by a need for understanding how monitoring mechanisms work in Australia, and the role of market-specific factors versus governance characteristics in determining the effectiveness of Australian corporate monitoring mechanisms. This task is specially difficult as there is not a well-developed theory about the complex, multi-dimensional nature of corporate governance (Larcker, Richardson and Tuna, 2007).

This study is also motivated to provide evidence to regulators on the effectiveness of monitoring mechanisms after a series of major corporate collapses in Australian companies, particularly HIH, One. Tel and Harris Scarfe. This is especially timely in Australia with the release of the second version of Australian Stock Exchange (ASX) Corporate Governance Council's much anticipated report *Principles of Good Corporate Governance and Best Practice Recommendations* in March 2003 (revised version issues in August, 2007), as well as the 2006 *Horwath Corporate Governance Report* (mid-sized Australian ASX companies) which is critical of Australian companies' current corporate governance practices in general (Kang *et al.*, 2007). In order to improve corporate governance, the ASX established guidelines emphasising improved standards of board monitoring, shareholders' rights, and financial reporting. For example, the *Corporate Law Economic Reform Act 2003* introduced major changes to the *Corporations Act 2001* regarding auditor independence, the role of independent directors on company boards, and executive responsibility for financial reports and understanding of financial statements.

This paper is composed of six sections: section 2 develops a conceptual view of monitoring mechanisms and performance using an agency perspective; section 3 discusses our research propositions and methodology; section 4 describes sample selection and descriptive statistics for the research; section 5 provides the analysis; and section 6 provides concluding comments and highlights possible future research.

2. Monitoring mechanisms and performance

In order to understand the possible relationships among monitoring mechanisms and their potential influence on performance, this section places monitoring mechanisms in the context of the agency problem which arises from the separation of ownership and control. In this section a conceptual model (Figure 1) is developed to show the potential effects of monitoring mechanisms on firm performance.

[FIGURE 1 ABOUT HERE]

2.1 Monitoring by the board of directors

Boards are responsible for ensuring that management's behaviour and actions are consistent with the interests of the owners. They have the power to hire, fire and compensate executive managers and to ratify and monitor important decisions (Fama and Jensen 1983a; Jensen, 1993). A board's monitoring helps to reduce agency costs and safeguard the interests of shareholders.

There has been a great deal of empirical research on this board of directors monitoring and firm performance (e.g., Jensen, 1993; Agerwal and Knoeber, 1996; Hermalin and Weisbach, 2001). Various studies argue there are particular characteristics needed for effective monitoring of the board. Jensen (1993) considers three characteristics – board composition, board leadership structure and board size – to illustrate the monitoring ability of the board. Regarding board composition, the greatest concern has been placed on the proportion of independent directors on the board. For example, Agerwal and Knoeber (1996) examine a range of governance variables and find that board independence is the only governance mechanism that consistently affects corporate value. In case of board leadership, conflict of interest arises when the CEO and Chair are the same person (1991, 2001). Regarding size, the general finding is that smaller boards are more effective as they promote candid discussion, make quick decisions, and are easier for management to control (e.g., Lipton and Lorsch, 1992; Jensen, 1993).

Hermalin and Weisbach (2001) cover most aspects of board monitoring. They report a number of findings: smaller boards and the greater proportion of independent directors each appear to lead management teams to take actions that are more in line with shareholders' interests; boards with greater proportions of outsiders are more likely to remove a poorly performing manager, as are smaller boards; firms whose boards have greater proportions of outsiders appear to make better acquisition-related decisions; and firms with smaller boards set CEO remuneration plans that are more sensitive to CEO performance.

The theoretical role of the board in monitoring and disciplining management is firmly grounded in the agency framework of Fama and Jensen (1983). Empirical examination of board characteristics and firm performance focuses on: board size (e.g. Jensen, 1993; Yermack, 1996); independent directors (Dechow *et al*., 1996; Beasley, 1996, 2001); separate role of Chairperson (Chair) and Chief Executive

Officer (CEO) (Jensen, 1993); financial literacy (DeZoort, 1997) and board committees (Austin, 2002; Menon and Williams, 1994). However, the United States experience where the debate and tests have generally concentrated, offers little scope for generalising to Australia. For example, the argument put forward by Shivdasani and Yermack (1999) that CEOs influence board membership and select members less disposed to monitoring management is inconsistent with the structure of Australian boards and the less authoritative role of CEOs. However, Authur (2001) provides some evidence supporting the notion that Australian CEOs are influential in determining board composition.

For effective and efficient monitoring process board also have different committees for inducing a close look at management activities and their decision-making. To improve the functioning of board committees, particularly audit, compensation and nomination committees, legislation requires that such committees be independent (Austin, 2002), and have sufficient size and technical expertise to discharge their mandate effectively. This study considers the presence of three most important committees of the board: Nomination, remuneration and audit committees. The nomination committee advises on and searches for potential directors. Nomination committees engage in a detailed behaviour analysis of prospective candidates and recommending the person for board membership if they think that person can contribute to the boards' decision-making process (Leblanc, 2004). Remuneration committee taking into consideration the company's needs together with the interests of its shareholders and other stakeholders (Bosch, 1995). The main function of remuneration committees is to determine and review remuneration packages for senior executives (Klein, 1998). Monitoring ability of the nomination and remuneration committee is measured by: (i) number of meetings and (ii) proportion of non-executive directors on the committee.

And the *audit committee* is delegated specific financial oversight responsibilities (Menon and Williams, 1994). The primary function of the audit committee is to review management information, financial statements and internal control systems (Bosch, 1995; Klein, 1998). There is currently no legal requirement in Australia for a company to have an audit committee. However, the ASX requires listed companies to disclose whether an audit committee exists, and if not, to explain why. However, the ASX does not provide any prescription as to composition if one does exist. Similar to the full board, the effectiveness of audit committee monitoring is dependent on: (i) number of meetings, (ii) independence of the board, and (iii) financial literacy of the directors.

2.2 Monitoring by shareholders

Share ownership by managers and directors is known as insider ownership. Several studies argue that stock ownership by senior or top management and board members gives them an incentive to ensure that the firm is running efficiently (Brickley *et al*., 1988). The role of director ownership (shareholding by board of directors) and managerial ownership (shareholding by top management) as a monitoring mechanism has been the subject of much empirical analysis (Mork *et al*., 1988; McConnell and Servaes, 1990, 1995). When board members and executives have considerable holdings in a company's shares, their decisions have an impact on their own wealth (e.g., Brickley *et al*., 1988; Demsetz and Lehn, 1985; Denis and Denis, 1994).

Brickley *et al.* (1988) argue that share ownership by the CEO and board members provides them with incentives to ensure the firm operates efficiently and to monitor managers carefully. Morck *et al*. (1988), McConnell and Servaes (1990) and Hermalin and Weisbach (1991) investigated the relationship between ownership structure and firm value and provide evidence of a significant non-linear relationship between corporate value and managerial ownership. Specifically, value increases with managerial holdings for low levels of ownership. At some level, managers become entrenched within the firm resulting in a decrease in firm value. However, whereas Morck *et al*. (1988) document further changes in the corporate value–managerial holdings relationship at high levels of equity ownership, McConnell and Servaes (1990) report no such change.

The degree of ownership concentration in a company determines the distribution of power between its managers and shareholders. When ownership is dispersed, shareholders' control tends to be weak; when ownership is concentrated, major shareholders can play an important role in monitoring management. However, major shareholders may act in their own interests at the expense of minority shareholders and other investors—such as paying themselves special dividends, committing the company to disadvantageous business relationships with companies they control, and taking on excessively risky projects.

Major shareholders are paying attention to corporate monitoring and maximising returns. Such shareholders can work effectively for monitoring management, reducing the scope of managerial opportunism (Shleifer and Vishney, 1986). Major shareholders, due to their greater bargaining power over the firm relative to individual, are in a position to influence the management of a company, by

minimizing the problems of poor performance, lower profitability, poor investment allocation or other corporate governance problems.

2.3 Monitoring by external auditors

Auditors, as a part of the corporate governance mechanism, serve to increase the quality of financial reporting. Examining the reported performance by the auditors ensures the accountability of the management. Variations in demand for auditing may result from a desire to reduce the consequences arising from information asymmetry. If auditors enhance monitoring through financial reporting, it could be associated with lower use of discretionary accruals to inflate reported earning. Auditors do not directly monitor management, however, they provide an assurance service that improves the quality of financial information.

Publicly traded companies in Australia are required to have audits under the *Corporations Act 2001*. However, quality of audits, and subsequent ability to reduce agency costs, varies significantly (DeAngelo, 1981). DeAngelo (1981) defines *audit quality* as the joint probability that an auditor will (i) detect a material misstatement in the financial report if one exists (auditor competence), and (ii) report the misstatement if it is detected (auditor independence). This definition separates audit quality into two, namely competence and independence.

When audit competence increases, it impacts on the probability of discovering misstatements and will eventually increase the reliability of financial statements. Lack of auditor independence will reduce audit quality through a reluctance of the auditor to report any detected misstatements. Therefore, with respect to auditor monitoring, the general finding is that high level of competence and independence is compulsory for a high quality audit.

Empirical studies finds that *Big 4* audit firms have brand names that are associated with higher quality audits (DeAngelo, 1981, Dye, 1993, and Craswell *et al.*,1995) DeAngelo (1981) argues that large audit firms have stronger incentives to protect their reputations because they lose clients if they produce low quality audits. Dye (1993) argues that large audit firms face greater risk of litigation, and hence, large audit firms have stronger incentives to avoid litigation by supplying high audit quality. Craswell *et al.* (1995) find large audit firms earn significantly higher fees and they attribute part of this premium to investments in expertise by large audit firms. From the above findings it is reasonable to assume that audit firm size is a good proxy for audit quality.

A major threat to auditor independence, identified in the literature, is the joint provision of audit and non-audit services. This can both increase the competence and cost-effectiveness of audit firms and reduce the actual or perceived independence of the auditor (Arrunada, 1999). The revenue-based independence threat is suggested by a positive association between audit fees and non-audit service (e.g., Simunic, 1984; Palmrose 1986; Davis et al., 1993; Craswell et al., 1995; Butterworth and Houghton 1995).

2.4 Performance measures

In the absence of strong theoretical work on implementing any particular set of performance measures, this study tests accounting and accounting-market hybrid (hybrid) performance measures by examining the effect of monitoring on selected monitoring mechanisms. Performance measures are necessary for evaluation of the business, including comparing the effectiveness of monitoring methods and maintaining organisational control. This can ensure the achievement of organisational goals and objectives. This study measures the financial performance of firms on the basis of financial accounting information. Financial accounting information is the outcome of any company's accounting and reporting systems. This information provides quantitative data concerning the financial position and how a company has performed over a certain period. The financial statements supplied by the management are subject to external audits to verify their accuracy. Again, accounting information, which is the product of a governance process, is required for most governance mechanisms to operate efficiently (Sloan, 1996, 2001). Market information is also used to measure a company's hybrid performance.

At the level of accounting returns per se, it is conjectured that monitoring mechanisms that better safeguard shareholders' interests should result in superior financial returns. The notion that monitoring effectiveness can be observed in financial performance measures is a long-term view and changes to monitoring mechanisms in response to performance deficiencies are likely to be gradual processes that also reflect environmental changes. This reduces the likelihood of observing systematic relationships between alternate monitoring mechanisms and outcomes. However, the results of previous studies show some degree of association between related corporate governance variables and contemporaneous financial performance. For example, both Atkinson et al. (1997) and Lindenberg and Ross (1981) report

that accounting and hybrid performance measures are related to corporate governance decisions. Chow et al. (1997, p.22) argue that 'financial measures should be retained and viewed in the larger context of the company's competitive strategies for creating future value'.

In this study we use accounting and hybrid performance measures to examine the effect of monitoring mechanisms on firm performance. ROE, ROA and EPS are used as accounting measures. It is expected that the different monitoring mechanisms will influence management to work for the company's best interests and this will eventually force them to report the correct accounting information. This will have an impact on the firm's performance. Monitoring also influences management to have more influence in the market which could impact on market performance. PER, MBV and DY are used as hybrid (accounting and market) measures of performance.

[FIGURE 2 ABOUT HERE]

The above structural equation model (Figure 2) reflects the range of internal and external monitoring mechanisms. In this model, the key mechanisms of corporate governance control are the board of directors, shareholders and external auditors. Monitoring of shareholders is linked with blockholders and insider shareholders. Monitoring conducted by boards of directors is linked to the board's characteristics, composition and committees. Auditors as a moderator of discretionary accounting impacts are linked to audit quality, i.e. *Big 4* auditor and the proportion of no audit fees.

3. Propositions and methodology

The various indicators or proxy elements associated with the three main players in the monitoring process and their relationship to firm performance are presented as an empirical schema.

The research questions for testing in this study is: To what extent does each of the categories of players in the monitoring process – shareholders, board of directors and auditors - affect corporate financial performance?

What monitoring mechanisms are associated with the main players? First, shareholders are represented by both concentrated ownership (top 1, top 20 shareholders) and the share ownership by the insiders (i.e. shareholding by executive and non-executive directors). Second, the board of directors basically consists of board size, proportion of independent directors, separate CEO and Chair positions, financial literacy of directors, and independent members on the audit, remuneration and nomination committees. Third, mechanisms of monitoring are concerned with the quality of audit namely, *Big 4* audit firm and audit fees. Existing literature supports the premise that these monitoring mechanisms influence firm performance as shown in Shivdasani (1993), Kaplan and Minton (1994), Hermalin and Weisbach (2003) and Holderness (2003).

For testing the propositions we use the *Structural Equation Modelling* (SEM) technique. This specific statistical tool is used here because SEM is able to deal with multicollinearity and reveals potential complex interrelationships between monitoring mechanisms. of indicators. There are three reasons why this research uses SEM. Firstly, in this research on corporate monitoring; most of the variables are not possible to observe directly. These variables are termed latent variables in SEM SEM has the ability to incorporate latent variables into the analysis. By using SEM with multiple indicator variables, it is possible to model important latent variables (Wooldridge, 2003).

Secondly, in all multivariate analyses it is assumed that there is no error in the variables but from practical and theoretical perspectives this is impossible to perfectly measure a latent concept without some degree of error. However this is possible in SEM to consider error and by considering this SEM improves the statistical estimate.

Thirdly, SEM is a powerful tool with which to measure multicollinearity in sets of predictor variables. The SEM examines a series of dependent relationships simultaneously. This is particularly useful when one dependent variable becomes an independent variable in subsequent dependent relationships.

This study addresses the issue of which combination of mechanisms can be applied in an interrelated structural setting. It sets all monitoring mechanisms in a structural equation model in order to establish within the structural setting how the individual monitoring mechanisms affect performance. This will be the first study to analyse a large number of monitoring variables in a structural setting and determine their contribution towards a combined effect on performance in the Australian context.

In SEM there is no single statistical test that describes the goodness-of-fit of the model. Instead, researchers have developed a number of goodness-of-fit measures which assess the results (see Table 2 for details of results and cut-off value). For this type of study it is necessary to have enough data so

important differences or relationships can be observed. SEM applications typically use 200-500 cases to fit models that have from 10-18 observed variables. This research uses Australian *Top 500* companies for the period 2001–2003 from 17 monitoring mechanisms.

4. Data and firm characteristics

The initial sample for this study consists of 1500 firm-year observations from *Top 500* ASX-listed companies from 2004 - 2006. Top 500 companies are choose as they must follow "*The Principles of Good Corporate Governance and Best practice Recommendations*" and need to report 'if not, why not' basis as to whether they complied with their recommendations for the first financial year commencing 1 January 2003. We rank the companies in terms of market capitalisation for each year. To ensure consistency in the database, companies with missing information are excluded. Ninety companies from the total 1,500 firm-year sample were excluded due to insufficient information. The remaining companies are 475 in 2004, 472 in 2005 and 463 in 2006.

[TABLE 1 ABOUT HERE]

In relation to industry classification, most of the companies in the data set (22%) operate in the financial sector followed by (18%) in the materials sector. The remaining 60% are involved in energy, industrial, consumer discretionary consumer staples, health care, information technology, telecommunication and utilities.

In the study average board size is 6 directors (maximum=17, minimum=3). Average number of board meetings is 10 per annum (maximum=37, minimum=2). Top shareholders, on average, hold 23% of company shares (maximum=97%, minimum=1%). Similarly, top 20 shareholders hold 63% of shares (maximum=100%, minimum=8%) (see Table 1).

In our sample of 1,410 firms, most (n=1,246, 88%) have a board size of 4 to 9 directors, and number of board meetings of 2 to 37 per annum. More than 82% of the firms (1,158) have a board with a majority of independent members. In the sample, there are 168 firms (12%) where the roles of chair and CEO are occupied by one person. One hundred fifty three firms (7%) do not have any audit committee meetings, and 66% of firms (929) have 2 to 4 audit committee meetings per annum. Eighty percent of firms (1,143) have 1 to 4 independent directors on the board. In 383 (27%) companies there are no financially literate members on the board and in 229 (16%) all directors are financially literate. In the sample, 79% (1,117 firms) have between 1 to 3 meetings per annum. Only 288 (20%) firms have a nomination committee. Of these, 239 companies have 1 to 4 nomination committee meetings per annum. Only in three committees there are no non-executive directors.

On average the top 20 shareholders hold 63% of shares. In our sample, 1,059 firms (75%) have the top 20 shareholders holding more than 50% of shares and 431 firms (31%) more than 75% of shares.

From the sample, 1,158 firms (82%) are audited by a *Big 4* auditor. It is expected that the auditing by a 'Big 4' auditor will improve the audit quality. The average non-audit fees earned by the external auditor is AU$8369. In the sample 36% of firms (508) have earned higher non-audit fees compared to audit fees. On average, the board of directors holds 16% of shares, and in 154 firms (11%) the top shareholder holds more than 50% of shares.

5. Analysis of the results

The model of monitoring mechanisms and their effect on the firm performance fits the data well for 2004, 2005 and 2006 for all the performance measurements (see Table 2). The models of monitoring mechanisms and their effect on the ROE fit[††] the data well for 2004, 2005 and 2006 ($\chi 2$ = 234.11 □ 297.03, p =.001); CMIN/DF is between 1.8 □ 2.39 ; RMSEA = .045 □ □ .054); adjusted goodness-of fit index (AGFI) = .90 □ □ .92; NFI = .89 □ .93; and CFI =.94 □ .96.

[TABLE 2 ABOUT HERE]

[††] A smaller value of chi-square represents a better fit. The chi-square-to-degree-of-freedom index is a standardized measure, with value between 1 and 5 representing a better fit, a smaller value indicates a better fit. RMSEA indicates better fit as it approaches .05. Values of AGFI, NFI and CFI approaching 1 represent better fit.

The results were generally consistent, when examining the impact of accounting and hybrid measures of firm performance.

5.1 Monitoring and performance

There are three groups of monitoring mechanisms in the model: shareholders, board of directors and external auditors. The relationships among shareholders, external auditors and board monitoring variables are significant for all the identified paths (see Table 2). In this research, a path diagram is developed which is more than just a visual portrayal of the relationships. These path diagrams allow us to present predictive relationships among constructs (i.e. the dependent-independent variable relationships), as well as associative relationships (correlations) between constructs and indicators.

If it is accepted that the board of directors, through the audit committee, monitor the role of external auditors, the board then influences the quality of the auditor function. Similarly, shareholder concentration appears to influence auditors with respect to the impact on performance: when there are concentrated shareholders, there will be increased pressure on auditors to act as a effective monitors of reported performance.

5.1.1 Shareholder monitoring and firm performance

The results of shareholder monitoring and their impact on one year lagged firm performance exhibit inconsistent but significant results in regard to accounting and hybrid performance. The analysis fails to reject the proposition that monitoring by shareholders influences firm performance.

[TABLE 3 ABOUT HERE]

Accounting performance measures

The data in Table 3 shows an association between monitoring by the shareholders and firm performance in the lagged models. A significant relationship for the year 2006 (p = .028) is found when performance is measured by ROA. Although this relationship is not consistent over the years, the result is sufficient to say that analysis failed to reject the proposition. After the corporate collapses of 2000-02 there was regulatory emphasis on improving monitoring by implementing superior monitoring procedures (ASX, 2003). However, shareholder monitoring factors in the form of concentration of top shareholdings and insider shareholdings by board members, have been largely unaffected by regulatory changes. The results in Table 3 nevertheless reveal that shareholders monitoring does have some positive effect on accounting performance (for ROA in 2006) but generally there is no significant effect.

In relation to EPS, this performance measure reflects how much has been earned during the financial year for each of the shares held. *Earnings* is an accounting number that reflects both the firm's economics results and management's accounting policy choices of management. The results in Table 3 show no significant relationship between shareholders monitoring and EPS, suggesting that powerful shareholders do not cause a significantly higher or lower EPS. This result does not identify whether stronger shareholders monitoring does, in fact, achieve superior economic result for the firm in any year, which are *smoothed* in the reported EPS due to accounting policy choice.

Hybrid performance measures

Similar to accounting performance measures, the data in Table 3 shows that there is no significant association between monitoring by the shareholders and hybrid performance measures. Results fail to find any significant relationship between monitoring by shareholders and firm performance measured by PER.

A relatively higher PER could be a reflection of whether investors are willing to pay a market premium relative to current reported earnings due to the monitoring activities of shareholders. In this section, shareholder monitoring is based on shareholders concentration and insider holdings by members of board of directors. Concentrated shareholdings can indicate that powerful shareholders monitor performance and affect PER for their own individual purposes which can vary with their personal investment strategies. It is not surprising therefore, that no relationship is found between shareholders monitoring and PER.

The next hybrid performance measure in Table 3 is MBV. Table 3 shows a significant relationship between shareholder monitoring and MBV for two of the three years analysed (2005 has p = .037; 2006 has p = .052). Higher market capitalisation to book value of equity is deemed to reflect a stronger intellectual capital and intangibles that are not recorded in book value. The results infer that powerful shareholders' influence over management leads to the development of greater unidentifiable goodwill by the firm. However, many factors affect MBV, so this is a very tentative inference.

The final column in Table 3 provides results of shareholders monitoring and performance measured by the DY. It shows that in 2005 the relationship is significant in the lagged year (p = .011), but not

significant in the other two years. This suggests that shareholders concentration can occasionally affect management decision concerning dividend payout relative to market price of shares.

Overall, the results in Table 3 do not provide a clear pattern of relationship between shareholders monitoring and firm performance. One possible reason for these inconsistent results is the presence of substitution or complementary effects among the range of governance mechanisms. These may encourage the firm to rely on various monitoring devices and structures.

5.1.2 Director monitoring and firm performance

Boards of directors are the most active monitors of management. Monitoring efficiency improves when independent, financially literate directors make up the board, and the CEO and Chair are separate persons. Yet, whether monitoring by boards affects firm performance remains unresolved in the literature. The following results show that such monitoring has an inconsistent but statistically significant relationship with firm performance.

[TABLE 4 ABOUT HERE]

Accounting performance measures

The data for monitoring and accounting performance for lagged year (Table 4) show that the impacts of board of directors on ROE, ROA or EPS are not significant. The results are consistent with conclusions reached by Bhagat and Black (2000), who examined the effects of board composition on accounting performance. They failed to find any relationship between board composition and firm performance. In general, board of directors monitoring has been found to have more impact on market performance compared to accounting performance. Board monitoring may improve the transparency of reporting but this is not necessarily reflected in accounting numbers.

Hybrid performance

Table 4 shows that there is almost no relationship between monitoring by the board of directors and hybrid performance measures. Results fail to find any significant result between monitoring by board and firm performance measured by PER or DY. The only significant result is for the performance measure MBV. In 2002 there was a significantly positive relationship (p = .055) between board monitoring and MBV in the lagged model.

Overall, this research failed to find significant results for accounting or hybrid performance models, with the exception of one isolated incident across six performance measures in three years. These findings are consistent with Hermalin and Weisbach (1991), Mehran (1995), Klein (1998) and Bhagat and Black (2000), who examined the influence of board composition on firm performance and failed to find any relationships. MacAvoy and Millstein (1999) argue that one reason for not finding any relationship is because they have used "old" data – that is, data that preceded the board monitoring role in the current-year and performance. However, they found no difference in the result when they used the lagged year's performance.

5.1.3 Auditor-based construct and firm performance

As a monitor of the reported performance of any company, auditors are responsible for safeguarding accounting information which is used for decision-making. Bushman and Smith (2001) argue that publicly reported accounting information, which measures a firm's financial position and performance, is useful in various corporate governance mechanisms. Monitoring by auditors is reflected in accounting and hybrid performance measures. The following analysis reveals auditor monitoring on firm performance.

[TABLE 5 ABOUT HERE]

Accounting performance measures

Table 5 shows that there is no relationship between monitoring by auditors and firm performance when measured by ROE or ROA. This might be expected because auditor monitoring is concerned with ensuring accounting numbers are *true and fair* without being systematically biased in any year. There is a significant relationship between the monitoring by auditors and their effect on the EPS for 2002 and 2003. In 2002 there is a significantly positive relationship between the variables in the lagged year (p = .01) and in 2003 lagged year (p = .005).

Hybrid performance measures

Similar to accounting measures, Table 5 shows that there is no relationship between monitoring by auditors and firm performance when measured by price earnings ratio. A further test using MBV and firm

performance shows that a significantly negative relationship exists in lagged years: 2002 (p = .003) and in 2003 (p = .000). This relationship shows that when auditor monitoring increases, MBV value decreases significantly.

These results again present a quite inconsistent picture. The curious finding is that auditor monitoring is negatively related to MBV. The explanation may be that higher quality auditors will generate financial statements that contain more up-to-date fair values of assets and more recognition of intangible assets, thereby increasing the reported book value of net assets, which can lower MBV.

In the final column of Table 5, there is a significantly positive relationship in the lagged year models for 2002 (p = .002) and 2003 (p = .006) for DY. Since DY is a reflection in part of sound cash management (i.e. ability to pay regular and increasing cash dividends), the quality of auditing and assurance services would benefit the firm's cash management.

Overall, the results for relationships between auditor monitoring and firm performance are mixed. There was found to be no relationship with accounting performance measures, but some significant relationships, both positive and inverse, for hybrid performance measures. It is again posited that a key reason for not uncovering a consistent pattern of relationships is the presence of substitute effects among the governance variables. The possible interdependence among auditing and other monitoring mechanisms may explain the differences in relationships between individual monitoring mechanisms and performance measures over the period.

5.3 Robustness tests

One set of robustness tests involved verifying the statistical inferences by testing the sample for the two and three years lagged model and seeing how the monitoring effects compared to one year lagged models. All lagged models conclude that one-year lagged models are more reflective of performance compared to these models. However, substitution effect models, similar to one-year lagged models, are showing significant negative relations between shareholders and board monitoring, and shareholders and auditor monitoring.

An attempt was made to check the relationship between monitoring and two-three year lagged performance. For this, companies during the period 2001–2003 are taken into consideration. The above result did not show any significant relationship between shareholder monitoring and two-three year lagged performance. If this result is compared with the finding in the one-year lagged model, a conclusion can be drawn that the effect of monitoring is more reflected in the immediate year, i.e. in the one-year lagged model. It can be argued that shareholders generally react immediately after the financial year. Results shows there is no significant relationship found between board monitoring and firm performance measured by different accounting, market and hybrid measures. If the financial report users are not satisfied with the monitoring done by the board of directors, they have the option to veto and change the directors. Therefore it is assumed that results of current monitoring will be reflected in the year immediately after the financial information is published and not in subsequent years. Auditor-based construct and firm performance does not show any significant relationship in the two-three year lagged model. If the financial report users are not satisfied with the auditor-based construct they have the option to change the auditor at the next annual general meeting. If there is any change in auditors, the previous auditor's performance is not expected to be reflected in the two or three lagged year's performance.

There can be two probable explanations for the results of the robustness tests. Firstly, it suggests that effect of monitoring is reflected on a concurrent basis. As suggested in the literature, if the shareholders are not satisfied with the firm's performance they 'exit' immediately rather than using their 'voice'. The other explanation is that this research failed to document the effect of two or three lagged years monitoring because of using the panel data. In this process the companies selected were among the top 500 and filtered only those that are surviving at the top of the list during these three years. Therefore the result does not reflect the true scenario. We argue, however, for the first context as it is believed that after the financial results are declared people become concerned with those results (immediate performance) compared to previous performance.

6. Conclusion

With few exceptions, all the models suggest that there is limited discernable pattern of significant relationships between monitoring as carried out by shareholders, board of directors and auditors and lagged years performance. This result is consistent with Nandelstadh and Rosenberg (2003) who also find limited combinations of internal and external corporate governance mechanisms associated with firm

performance. They based their conclusion on an analysis of data from Finnish publicly-listed companies during 1990–2000.

If governance mechanisms can complement or substitute for each other, then no clear relationship could be established between monitoring mechanisms when considered independently of each other, and firm performance. This fact can explain why the paper found results of an inconsistent nature. By confirming these relationships, this study adds value to the body of literature on monitoring and its influence on firm performance.

This study has policy implications for the Australian corporate environment. When considering any change in corporate monitoring, the Australian federal government should take into account the nation's business and legal practices and culture. As mentioned previously, in Australia, the Anglo-American model of corporate governance applies (Arens *et a*l., 2007). However, the specifics of corporate governance regulations and norms make it difficult to compare the results of Australian companies with those of the United States and the United Kingdom. Australia's economy (though much more global in nature than a decade ago), is still smaller, its capital markets are relatively small, ownership structures are very different, and local companies are not as well capitalised. Typically, Australian business organisations are characterised by a mix of having, firstly, large blockholders and, secondly, more in terms of separation of the Chair and CEO incumbent compared to the United States and the United Kingdom. Accounting standards in Australia require detailed disclosure of executives' and directors' remuneration and related-party transactions (AASB 124) which, in effect, means publicly accessible information that can be used by shareholders as a corporate monitoring mechanism. The structural differences between the United States and Australian regulatory framework are substantial. These differences include legal duties and responsibilities of directors, structure of board of directors, compensation contracts, shareholders' rights and corporate disclosure requirements.

During the past 6 years, steps have been taken in Australia to toughen the corporate governance code of conduct and reporting practices. The ASX released its corporate governance guidelines, which set out the principles of best practice for companies listed on the ASX. Furthermore, the *Corporate Law Economic Reform Program Act 2004* advocated reforming and adopting principles that provide good governance practice.

6.3 Limitations of the study

There are a number of limitations that may influence the results of this study, and these need to be addressed in order to improve the integrity of future research in this area.

Three accounting bases and three hybrid measurements were used in this study. This strategy may impede some important performance features that could be obtained through other tools. Therefore, this study may not accurately report the intrinsic performance of companies. Accounting measures of performance are subjected to accounting policy choice, while market measures of performance are affected by market inefficiencies.

Another possible limitation of this research concerns sample selection. This research only uses the information for the top 500 companies; however, other listed companies may have systematically different monitoring and other effects on their firm performance. Due to this fact the results may have been different if the remainder of the listed companies or the bottom 500 listed companies were sampled.

This study did not consider other market and regulatory mechanisms as have been used in single country studies. Capital market, managerial labour market and legal systems are common to all firms and there is little scope in differentiating these factors (Agrawal and Knoeber, 1996; Denis and McConnell, 2003). Jensen (1993) states that the legal system, which in itself is a corporate governance mechanism, is too blunt to deal with agency problems between managers and shareholders. The same is true for the labour and capital market.

For future research, the model in this study could be expanded to include more alternative monitoring mechanisms that influence a company's performance. For example, equity-based incentives such as granting of rights, bonus shares and share options to managers are widely used to align the interests of the principals (owners) and the agent (employees). Similarly, there are different control mechanisms such as those derived from the market where managerial talent has the expertise and integrity to reduce agency-related problems. Performance-based cash bonuses can be another mechanism for encouraging the agent to work so that the firm's performance targets are achieved.

Again, in future research should be done to examine whether there is any substitution or complementary effects exist between different monitoring mechanisms, i.e. shareholders and board of directors monitoring; board of directors and auditor monitoring; and shareholders and auditors monitoring and firm performance.

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Figure 1: Monitoring Model

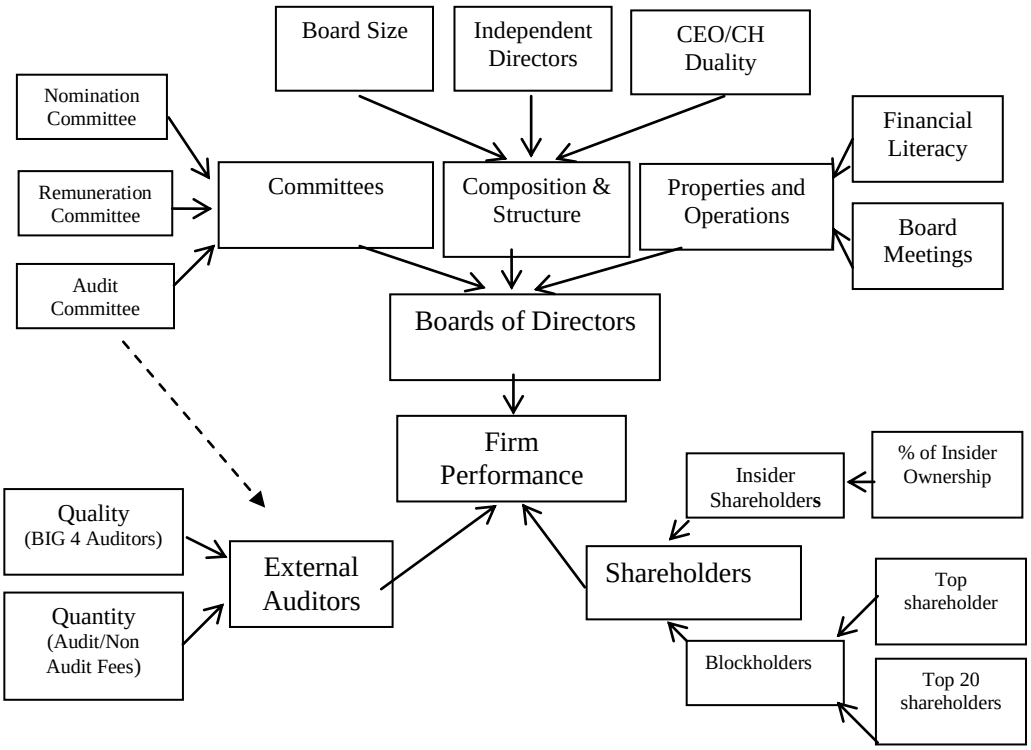
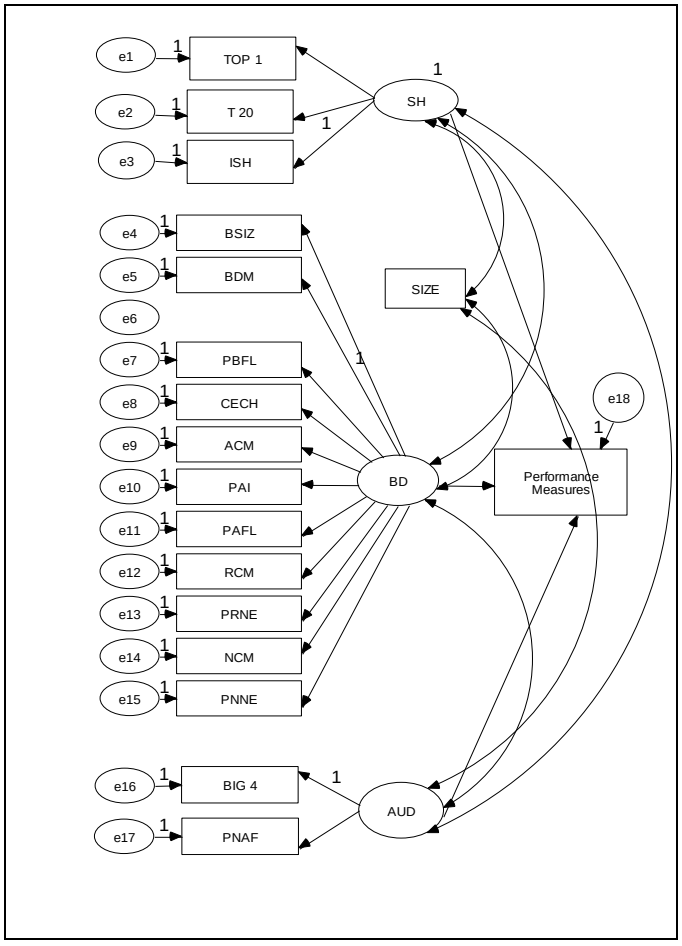


Figure 2: Structural Equation Model



Variables:

Major Shareholders:

Top 1= Share hold by the top shareholder
Top 20 = Share hold by the top 20 shareholders
ISH = Insider (directors and top management) shareholders

Board of Directors & Committees:

BSIZ = Number of directors in the board
BDM = Number of board meetings
PBI = Proportion of independent directors in the board
BFL = Number of financial literate directors in the board
CHCE = CEO and Chair of the board
ACM = Number of Audit committee meetings
PAI = Proportion of independent directors in the AC
AFL = Number of financial literate

Table 1. Descriptive statistics regarding monitoring measures

(Sample Size: 1410 Company –years)

Monitoring Variables	Combined Sample				2004				2005				2006			
	Minimum	Maximum	Mean	S.D	Minimum	Maximum	Mean	S.D	Minimum	Maximum	Mean	S.D.	Minimum	Maximum	Mean	S.D
Top Shareholder (%)	0.96	97.01	23.64	17.79	0.96	93.99	23.7	18.28	1.00	97	23.7	18.09	1.42	88.77	23.40	17
Top 20 Shareholders (%)	7.53	100	63.3	20.1	8	100	63.3	20.63	7.56	99.88	63.7	20.39	7.53	99.86	63.02	19.29
Boards of directors' Shareholdings (%)	0.00	96.69	15.93	21.03	0.00	92.41	16.13	21.21	0.00	96.69	16.75	21.69	0.00	91.87	14.90	20.13
Size of the Boards (number)	3	17	6.31	2.11	3	17	6.24	2.153	3	17	6.31	2.132	3	15	6.38	2.07
Boards of Directors' meetings (per year)	2	37	10.78	4.33	2	33	10.7	4.284	2	32	10.8	4.217	2	37	10.80	4.52
Proportion of Independent directors on the Boards	0	1	0.71	0.195	0	1	0.71	0.203	0	1	0.7	0.202	0	1	0.71	0.18
Proportion of Financial Literate directors on the Boards	0	1	.4139	.2529	0	1	.4365	.2508	0	1	.4350	.2486	0	1	0.36	.25
Dual role of Chair and CEO (0,1)	0	1	0.12	0.320	0	1	0.14	0.344	0	1	0.14	0.343	0	1	0.08	0.27
Number of Audit Committee Meetings (per year, N = 1265)	0	15	3.03	2.02	0	12	2.83	1.85	0	14	3.04	2.024	0	15	3.24	2.16
Proportion of Independent members on Audit Committee (N=1265)	0	1	0.69	0.35	0	1	0.67	0.351	0	1	0.7	0.357	0	1	0.71	0.36
Proportion of Financially Literate directors on the AC (N=1265)	0	1	0.44	0.34	0	1	0.46	0.34	0	1	0.46	0.34	0	1	0.39	0.34
Number of Remuneration Committee Meetings (per year, N = 815)	0	15	1.49	2.12	0	14	1.32	1.98	0	15	1.51	2.245	0	15	1.64	2.11
Proportion of Non-Executive Directors on RC (N = 815)	0	1	0.87	0.223	0	1	0.87	0.218	0	1	0.88	0.196	0	1	0.85	0.249
Number of Nomination Committee Meetings (per year, N =288)	0	17	0.55	1.57	0	17	0.45	1.626	0	13	0.56	1.674	0	13	0.66	1.41
Proportion of Non-Executive Directors on NC (N = 288)	0	1	0.89	0.208	0	1	0.91	0.208	0	1	0.90	0.203	0	1	0.88	0.213
Big 4 Audit firms (0.1)	0	1	0.82	0.38	0	1	0.81	0.389	0	1	0.83	0.379	0	1	0.82	0.38
Proportion of non-audit service fees (NAF/TAF)	0	0.96	0.39	0.24	0	0.96	0.41	0.25	0	0.92	0.4	0.24	0	0.96	0.35	0.23

Table 2. Model Fitness (lagged year)

				2004		
Model	**χ^2 (df)**	**$\Delta\chi^2$ (Δ df)**	**RMSES**	**AGFI**	**CFI**	**NFI**
Return on Equity	267.367	2.156	.049	.911	.960	.929
Return on Assets	274.206	2.211	.051	.910	.958	.927
Earning Per Share	285.162	2.300	.052	.907	.955	.925
Price Earning Ratio	267.438	2.157	.049	.912	.960	.929
Market to Book Value	268.517	2.165	.050	.911	.960	.928
Dividend Yield	278.258	2.244	.051	.909	.957	.926
				2005		
Model	**χ^2 (df)**	**$\Delta\chi^2$ (Δ df)**	**RMSES**	**AGFI**	**CFI**	**NFI**
Return on Equity	291.620	2.352	.054	.903	.962	.936
Return on Assets	283.807	2.289	.052	.906	.963	.937
Earning Per Share	288.249	2.325	.053	.904	.963	.937
Price Earning Ratio	287.503	2.319	.053	.904	.962	.936
Market to Book Value	297.032	2.395	.054	.902	.960	.935
Dividend Yield	295.637	2.384	.054	.902	.961	.935
				2006		
Model	**χ^2 (df)**	**$\Delta\chi^2$ (Δ df)**	**RMSES**	**AGFI**	**CFI**	**NFI**
Return on Equity	239.456	1.931	.045	.923	.950	.904
Return on Assets	257.017	2.073	.048	.918	.943	.897
Earning Per Share	259.627	2.094	.049	.915	.942	.897
Price Earning Ratio	245.119	1.977	.046	.920	.948	.902
Market to Book Value	234.116	1.888	.044	.924	.953	.907
Dividend Yield	239.337	1.930	.045	.922	.950	.904

Here,
χ^2 (df) = Chi- Squire
AGFI = Adjusted goodness of fit index (acceptable limit => .90)
$\Delta\chi^2$ (Δ df) = Normed Chi-Squire (Acceptable limit 1 – 5; 1 = best fit, 5 = reasonable fit)
CFI = Comparative fir index (0 = no fit at all, 1 = perfect fit)
RMSES = Root mean squire (.05 or less indicate a close fit)
NFI = Normal fit index (0 = no fit at all, 1 = perfect fit)
(Source: Hair, et al. 2006)

Table 3. Shareholder monitoring and performance

	ROE (T+1)	ROA (T+1)	EPS (T+1)	PER (T+1)	MBV (T+1)	DY (T+1)
Shareholder monitoring	0.003	0.007	- 0.156	0.545	0.001	0.001
and Performance (2004)	(0.852)	(0.140)	(0.700)	(0.322)	(0.970)	(0.196)
Shareholder monitoring	0.023	0.012	0.978	-1.926	-0.099	0.001
and Performance (2005)	(0.164)	(0.273)	(0.097)	(0.217)	(0.037)*	(0.011)**
Shareholder monitoring	0.004	0.004	0.417	0.313	-0.083	0.000
and Performance (2006)	(0.701)	(0.028)*	(0.600)	(0.401)	(0.052)*	(0.176)

** Significant at the .01 level.
* Significant at the .05 level.

Table 4. Board of directors monitoring and performance

	ROE (T+1)	ROA (T+1)	EPS (T+1)	PER (T+1)	MBV (T+1)	DY (T+1)
Directors Monitoring and	0.017	-0.015	7.180	4.496	0.092	0.003
Performance (2004)	(0.896)	(0.694)	(0.075)	(0.359)	(0.768)	(0.636)
Directors Monitoring and	0.001	-0.025	-0.149	2.332	0.674	-0.003
Performance (2005)	(0.994)	(0.727)	(0.972)	(0.826)	(0.055)*	(0.083)
Directors Monitoring and	0.017	0.000	-2.980	1.654	0.435	-0.003
Performance (2006)	(0.768)	(0.972)	(0.551)	(0.460)	(0.110)	(0.108)

Table 5. Auditor-based construct and performance

	ROE (T+1)	ROA (T+1)	EPS (T+1)	PER (T+1)	MBV (T+1)	DY (T+1)
Auditor monitoring and	- 0.013	0.812	- 0.198	- 16.157	0.125	- 0.004
Performance (2004)	(0.993)	(0.075)	(0.996)	(0.771)	(0.972)	(0.962)
Auditor monitoring and	1.250	0.901	93.897	- 0.236	- 8.767	0.048
Performance (2005)	(0.229)	(0.169)	(0.010)**	(0.998)	(0.003) **	(0.002) **
Auditor monitoring and	0.239	0.121	115.186	- 0.891	- 7.965	0.04
Performance (2006)	(0.618)	(0.175)	(0.005) **	(0.962)	(0.000) **	(0.006) **

Note: Values in the bracket indicates "P value".