



Board Independence, Sub-committee Independence and Firm Performance: Evidence from Australia

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This study investigates whether the monitoring of company management by an independent board of directors serves to enhance firm performance in Australia. The paper explores in detail the impact of the level of independence of the main board and sub-committees including audit, remuneration and nomination on performance in a sample of 250 listed companies. From the perspective of a regulator, the study's findings have implications and suggest that an independent main board produces superior results. The shareholding of independent directors is also found to negatively impact performance for this data, suggesting that their role as independent arbiter is restricted by shareholding. Interestingly, the returns to firm performance engendered by independence did not extend to the composition of sub-committees, where the presence of outside directors did not significantly influence performance.

Keywords: governance, board of directors, agency theory, Australia.

JEL classification: G30.

1. INTRODUCTION

Agency theory defines the agency relationship where the principal (or owner) delegates tasks to an agent (or manager). The theory highlights costs associated with the principal–agent relationship, which include the opportunistic behaviour or self-interest of the agent taking priority over the principal's interest. Mallin (2004) highlighted a number of dimensions to this including the agent misusing their power for financial or other advantage; and the agent not taking appropriate risks in pursuance of the principal's interests—often because managers are more risk-averse

than the companies they lead. Another cost arises due to the principal and agent having access to different levels of information; the agent (manager) usually being in control of superior and more detailed information than that of the owner (information asymmetry). This requires the owner to institute expensive monitoring of the manager's actions to redress the knowledge imbalance.

Fama (1980) argued that the boards of directors provide the most critical, internally based method for monitoring the performance of managers. They have the ability to directly oversee the performance of managers and to offer incentives to managers that reward performance in line with owner expectations; or, equally, discipline managers when these are not met. Fama and Jensen (1983) note that effective monitoring

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requires the board of directors to act as an independent arbiter between management and owners, as collusion could result in an overall loss to the owners. To assess the degree to which a board may act independently to monitor the performance of managers, a number of key measures of board independence have been studied. These include the size and structure of the board, with the former referring to the number of directors; and the latter generally being the proportion of non-executives, the number of sub-committees, the proportion of non-executives on sub-committees and whether the CEO and chairperson positions are combined. If monitoring is effective, a positive relationship should exist between the level of board independence and firm performance (Mura 2007; Choi, Park & Yoo 2007; Schmid & Zimmermann 2008).

There has been heightened interest in key corporate governance mechanisms following the collapse of Harris Scarfe Ltd and HIH Insurance in Australia, and Enron and WorldCom in the United States (US). As stated by the Cadbury Committee (1992), strong governance involves balancing corporate performance with an appropriate level of monitoring. One aspect has been a strong emphasis on the internal elements of governance and, in particular, sub-committees and the roles of non-executive and independent directors. Numerous recommendations immediately following the collapse of Enron and WorldCom (e.g. the Smith Report 2003) have focused on the independence of committee members as a significant component of strong corporate governance.

There has been little research done on board-monitoring sub-committees, particularly the existence of them and their independence (Gales & Kesner 1994; Dalton *et al.* 1998). This study extends the work of previous researchers to include the number of board sub-committees established by the main board as well as their composition as part of the internal corporate governance mechanisms that potentially affect firm performance.

The present study investigates the monitoring of company management by an independent board of directors and should be of practical interest to regulators, accounting bodies and standard setters. The remainder of the paper is organised as follows. The next section provides an overview of the literature of relevance to board independence and performance in Australia and internationally. The hypotheses are developed in the third section. The fourth section provides information on critical control variables, after which there is a discussion of the research design and sample selection. The sixth section examines the results obtained; and this is followed by the concluding section, looking at the findings' implications and some directions for further research.

2. BACKGROUND

Empirical studies have been undertaken to assess the degree to which the independence of the board (as reflected in the above characteristics) impacts on company performance. Rosenstein and Wyatt (1990) assessed whether share prices respond positively when additional outside directors are appointed to companies. They found a statistically significant, but economically small effect on prices averaging around 0.2%. They found this effect to be slightly stronger when the appointment is for a director representing a financial institution versus those in other business. Rosenstein and Wyatt's (1997) study focused on the price effect of the appointment of insiders (managers) to the board. They reported associated stock price decreases, although these were only significant when an insider is added to the board of a company where inside directors own a significant proportion (5–25%) of the shares.

Consistent with the above study, Klein (1998) found only a modest association between firm performance and overall board composition, with directors divided into insiders, outsiders and affiliates. She did, however, isolate significant positive relationships between the percentage of executive directors on finance and investment sub-committees, and both accounting and market performance measures. Additionally, weak evidence is provided of a positive relation between firm performance and the presence of at least one outside director holding at least 5% of the firm's equity.

Fich (2005) analysed 1,493 first-time director appointments to *Fortune* 1000 boards, for the period 1997–99, to assess whether certain outside directors produce more positive share price reactions. The study found that appointees who are CEOs of other companies result in a more positive share price reaction than for other appointments. In addition, the study revealed positive long-term performance benefits in firms that appoint outside CEOs as directors. The study found, however, that CEOs experienced negative stock-price effects at their own firms when they accepted outside director positions and this was particularly pronounced if the CEO's own firm was faced with significant growth opportunities.

Mura (2007) also examined the relationship between firm performance and board composition. The results, which included a test for endogeneity among variables, confirmed that the direction of the relationship moves from board composition to performance. A significant positive coefficient on the variable of the proportion of outside directors showed that the proportion of non-executives on the board has a positive impact on firm performance. The study

supported the idea that non-executive directors are effective monitors of the firms' management for this United Kingdom (UK)-based sample.

The level of outsider representation on the sub-committees of the main board has also been associated with the independence of the board and reduced agency costs. For example, in Australia Bosch (1995) proposed that audit committees should comprise a majority of non-executive directors. Stapledon and Lawrence (1997) concluded in a study of the top 100 Australian companies that independent directors are better placed to monitor executive management effectively. Vance (1983) drew a similar conclusion in believing that the independence of such directors ensures both objectivity and sufficient means of 'checks and balances' in relation to managerial behaviour. Menon and Williams (1994: 125) similarly stated that the presence of executive managers on an audit committee precludes them from being an objective monitor of management. Finally, Cotter and Silvester (2003: 214) reported that '...independent audit committees can reduce agency costs by minimizing the opportunistic selection of financial accounting policies, and by increasing the credibility and accuracy of financial reporting'.

The independence of remuneration committees that determine the reward packages for senior executives is also considered essential (Bosch 1995). Kesner (1988) believed this determination to be central to the monitoring role of the board as it evaluates the performance of the managers in line with company goals and sets appropriate rewards for performance. Cotter and Silvester (2003) noted that an independent committee is far more likely to determine a fair and equitable reward package, thereby reducing agency costs, than if executives are responsible for setting their own pay.

Laing and Weir (1999) studied the relationship between the governance structures proposed by the Cadbury Committee (1992) and corporate performance in the UK. The sample consisted of 115 quoted, non-financial UK companies for the years 1992 and 1995. The study found a positive impact of board sub-committees on performance (measured as return on assets) in both years. Companies with remuneration and audit committees outperformed others. Additional evidence from the study showed a significant improvement in performance for those firms that introduced audit and remuneration committees during the periods under examination, suggesting that the establishment of board committees is an effective monitoring mechanism. A further study by Weir and Laing (2000) found the presence of a remuneration committee has a positive effect on performance as measured by market returns but not on the accounting

performance. Similarly, the return on assets is lower if firms have more outside directors on the board, but this is not reflected in the market returns.

The independence of the board is also considered in the context of the leadership structure in operation; that is, are the roles of CEO and chair combined or separated? The empirical evidence on this question is limited, but generally favours that a separation of roles leads to improved performance. An empirical study by Rechner and Dalton (1991) found that companies with separated roles outperform firms with combined roles. They assessed that their findings '...may provide empirical support for some strongly-worded admonitions about a governance structure that includes the same individual serving simultaneously as CEO and board chairperson' (p. 59).

Pi and Timme (1993) produced similar results in a sample of banks over the 1987–90 period. Their study, which included controls for firm size and other variables, determined that the accounting-based measure (return on assets) was higher for firms with separated roles. Baliga, Moyer and Rao (1996) used a market-based measure (market value added) to determine similarly that a dual leadership structure produced superior returns in the long run.

Elsayed (2007) examined the extent to which board leadership structure (as proxied by CEO duality) impacts corporate performance in Egyptian-listed companies. Two alternative measures of corporate performance were used: return on assets and return to shareholder ratio. The sample was taken from Egyptian public limited firms over the period 2000–04. The data on board leadership structure, corporate performance and other related variables were available for ninety-two firms in nineteen different industrial sectors. The findings initially indicated that board leadership structure has no direct impact on corporate performance. Additional analysis, however, revealed that the impact of CEO duality on corporate performance varied with financial performance of firms and across industry types. Consistent with the finding of Finkelstein and D'Aveni (1994), CEO duality is preferable in low-performance firms. Overall, the findings support the conclusion of the meta-analysis of Rhoades, Rechner and Sundaramurthy (2001), and the argument of Boyd (1995) and Brickley, Coles and Jarrell (1997); in that the relationship between board leadership structure and corporate performance may vary within the context of firms and industry, and that CEO duality will only be advantageous for some firms whilst not for others.

Board sub-committees were investigated by Weir, Laing and McKnight (2002) using 311 quoted, non-financial UK firms covering the period 1994–96. They found little evidence that board structure affects performance. Their results also indicated that the

structure and quality of board sub-committees have little impact on performance—a finding consistent with Klein (1998), Vafeas and Theodorou (1998) and Dalton *et al.* (1998). Weir, Laing and McKnight's (2002) study, however, found that companies in the top performance deciles have a greater proportion of independent directors both on their boards and on their audit committees.

The literature on governance characteristics and performance is still developing, particularly in its application to countries outside the US and UK. Generally, public policy has preceded in advance of rigorous empirical research findings, with many countries imposing regulation or codes of conduct upon companies. These have usually been based on the assumption that an independent board is in the best interest of shareholders, although the literature provides only modest support for this view.

3. HYPOTHESIS DEVELOPMENT

Agency theory suggests the use of effective corporate governance mechanisms to mitigate manager–shareholder conflicts and to monitor the performance of managers. Hypotheses relating to effective corporate governance mechanisms are developed under four main categories: the proportion of independent directors who form part of the board; the leadership structure of the CEO and chairperson; the existence and independence of various board sub-committees; and, the shareholding of executive and independent directors. The role of external auditors as an additional means of monitoring managerial behaviour is also examined in the study.

3.1 Proportion of Independent Directors

National corporate governance codes of conduct generally focus on how boards of directors should be structured in order to generate independent control of companies. Most often they prescribe a minimum representation of non-executive directors as a means of achieving sufficient independence from management (Bosch 1995; NACD 1996; Holmstrom & Kaplan 2003). Non-executive directors are believed to play an important role in monitoring, and perhaps challenging if needed, management. This is supported in agency theory, which suggests that effective monitoring leads to a reduction in agency costs since managers have fewer opportunities to build their personal wealth at the expense of shareholders.

Despite the above, empirical evidence on the value of non-executive directors on boards is mixed.

Rosenstein and Wyatt (1990) showed that a positive stock price reaction follows the appointment of non-executive directors to company boards. Weir, Laing and McKnight (2002) found that the presence of non-executive directors on UK boards positively influenced the return to shareholder ratio of companies. Using a large panel dataset of UK firms for the period 1991–2001, Mura (2007) found significant positive association between the proportional representation of non-executives on the board and firm performance. Similarly, Choi, Park and Yoo (2007) reported that outside directors in Korea have a significant and positive effect on firm performance.

In contrast, Hermalin and Weisbach (1991), Mehran (1995), Klein (1998), Dalton *et al.* (1998), Vafeas and Theodorou (1998) and Laing and Weir (1999) all found no significant performance relationship; a possible explanation being that boards dominated by outsiders may lack company-specific operational knowledge to effectively guide the company (Klein 1998).

On balance, it is expected that a majority outsider representation best enables efficient monitoring activities, leading to a fall in agency costs. To investigate this relationship further, this study examines the relationship between board composition and firm performance as follows:

Hypothesis 1: The proportion of independent directors serving on the board will be positively associated with improved monitoring of management and, consequently, higher firm performance.

3.2 CEO Duality

A question that has received growing attention in corporate governance literature is whether there is a relationship between board leadership structure and corporate performance. It is often speculated that the presence of a combined CEO/chair compromises the independence of the board as the individual has sufficient power to unreasonably influence company decision-making (Cadbury Committee 1992; Jensen 1993) and, thereby, reduce the board's ability both to monitor and discipline the management team. When the CEO is also the board chairperson, a single person holding both roles is more likely to dominate the board, as it '...signals the absence of separation of the decision management and the decision controls' (Fama & Jensen 1983: 314). This could render the board ineffective in discharging its leadership and control duties (Daily & Dalton 1993; Jensen 1993), with CEOs free '...to pursue their own interests rather than the interests of shareholders' (Weisbach 1988: 435). A structure of this type enhances CEO power and authority and compromises board independence

(Finkelstein & D'Aveni 1994; Rhoades, Rechner & Sundaramurthy 2001), and eventually leads to the incapability of protecting the interest of shareholders by boards of directors. Therefore, CEO duality is expected to increase agency costs and affect firm performance negatively.

There have been some dissenting views, with researchers finding that the combination of the positions (CEO and chairperson) enhanced company performance (Brickley, Coles & Jarrell 1997; Coles, McWilliams & Sen 2001; Ying-Fen 2005).

While the empirical consensus around the relationship between CEO duality and corporate performance is not resolved, both theoretical arguments and regulatory frameworks provide strong support for the separation of these roles. Hence:

Hypothesis 2: Separation of the roles of the CEO and the chair of the board will be positively related to firm performance.

3.3 The Independence of Sub-committees

Board sub-committees are formed and used as another agency conflict-controlling mechanism by firms to organise their boards in such a way that they can make most effective use of their directors, with much of the key decision-making and implementation occurring at committee level (Kesner 1988; Bilimoria & Piderit 1994; Daily 1994, 1996; Ellstrand *et al.* 1999). It has been widely promulgated that boards of public companies should have separate monitoring committees for auditing the company financial statements, supervising the compensation of executive directors and controlling the selection process of new directors (Lipman 2007; *Sarbanes-Oxley Act of 2002*).

The audit committee is responsible for nominating the outside auditor; overseeing the preparation of the financial statements and annual reports; ensuring the efficacy of internal controls; and investigating allegations of material, financial, ethical and legal irregularities (Anderson & Anthony 1986, cited in Ellstrand *et al.* 1999). The remuneration committee is responsible for establishing the level of compensation for senior corporate executives and corporate officers. In addition, the remuneration committee is charged with recommending appropriate compensation for corporate directors (Fisher 1986, cited in Ellstrand *et al.* 1999). Finally, the nomination committee is charged with the identification, selection and evaluation of qualified candidates to serve in key positions within the corporation. More specifically, this committee is responsible for the selection of the CEO, directors and other top corporate executives (Vance 1983).

The relationship between board monitoring sub-committees and company performance (corporate value) is a research area of corporate governance that has not been extensively studied (Gales & Kesner 1994; Dalton *et al.* 1998). Some early supportive empirical evidence is provided by Wild (1996) and Laing and Weir (1999), who reported that a positive effect on firm performance resulted after the establishment of audit committees. According to Main and Johnston (1993), Laing and Weir (1999) and Weir and Laing (2000), the presence of remuneration committees is similarly positively associated with the improved performance of companies. Finally, Klein (1998) found a positive (though weak) relationship between the presence of a remuneration committee and company performance.

These committees perform key functions; their presence contributes to the board's monitoring role and enhances the confidence of investors, not only in the reliability and fairness of company financial statements but also in the effectiveness of the corporate reward system (executive remuneration packages) and the quality of appointed directors.

A number of authors have argued that non-executive or independent directors on board sub-committees are more able to exercise independent judgement and will, therefore, be more effective in performing their monitoring role (Stapledon & Lawrence 1997; Laing & Weir 1999). Being independent of company executive positions, outside directors are free to assess and evaluate management actions and judgements objectively, as well as to make crucial business decisions based upon moral grounds (Vance 1983; Ellstrand *et al.* 1999).

In the case of audit committees, independence will ensure that the financial viability and integrity of the company are maintained and the interests of shareholders are being properly safeguarded. Cotter and Silvester (2003) argue that '...independent audit committees, thereby, can reduce agency costs by minimizing the opportunistic selection of financial accounting policies, and by increasing the credibility and accuracy of financial reporting' (p. 214). There is some empirical support for this position, with Weir, Laing and McKnight (2002) reporting that UK firms with superior performance have a higher percentage of non-executives on the audit committee. Erickson *et al.* (2005) found a reduction in the negative impact of ownership concentration on the value of Canadian firms when the proportion of outside directors on the audit committee increased.

The call for independence may similarly be applied to remuneration committees, as put by Laing & Weir (1999: 458):

It is clearly important that the remuneration committee should be able to arrive at its decisions independently so that suitable reward packages are drawn up which would motivate and retain executive directors while protecting shareholder interests.

As stated by Weir and Laing (2001: 88):

...given that the aim of the remuneration committee is to supervise the performance of the executive directors and to devise suitable reward packages, its effectiveness is likely to be related to its structure and membership. It would therefore be expected that the remuneration committee would be made up entirely of non-executive directors.

This view is perhaps more bluntly put by Williamson (1985: 313), who commented:

...the absence of an independent remuneration committee is akin to an executive's writing their employment contract with one hand and then signing it with the other.

Finally, the independent structure of the nomination committee is also considered to be crucial. Ellstrand *et al.* (1999) asserted that '...a nominating committee that is composed of independent directors may be more likely to appoint other independent directors who will be vigilant in monitoring the CEO'. Support is provided by Shivdasani and Yermack (1999), who found that there is significant negative market reaction and significantly lower cumulative abnormal stock returns when there is an involvement of the CEO in the selection of company directors.

In relation to monitoring committees (audit, remuneration and nomination), the independence of each committee member is expected to improve the ability both to monitor and discipline company management, in turn reducing agency costs and increasing company performance. Hence, the following three hypotheses:

Hypothesis 3a: The independence of the audit committee will be positively related to firm performance.

Hypothesis 3b: The independence of the remuneration committee will be positively related to firm performance.

Hypothesis 3c: The independence of the nomination committee will be positively related to firm performance.

3.4 Director Shareholding

Central to agency theory is the belief that costs arising due to the separation between ownership (principal) and control (agent) can be reduced through the shareholdings of managers in their own firms. This leads to a 'convergence of interest', where the desired outcomes for owners and managers are aligned as a result of the capital returns accruing to the manager through their personal shareholding (Jensen & Meckling 1976). If this holds, then executive shareholding should be associated with improved firm performance.

In contrast, independent directors fulfil a monitoring role to ensure that managers maximise shareholder wealth, rather than pursue their own 'self-interested' behaviour (Fama & Jensen 1983). As noted by Cotter and Silvester (2003: 213):

...corporate boards generally include outside members who ratify decisions that involve serious agency problems between internal managers and residual claimants and act as arbiters in disagreements among internal managers.

This role is particularly important when managers, due to holding a significant investment in their own firm (through salary and shareholdings), act to protect their investment by making risk-averse decisions, which owners with a fully diversified portfolio would not choose (Jensen & Meckling 1976). To the extent that independent director shareholding reduces the ability of outside directors to act as independent arbiters, they should be associated with a decline in firm performance. Such suppositions lead to the final two hypotheses:

Hypothesis 4a: The shareholding of executive directors will be positively related to firm performance.

Hypothesis 4b: The shareholding of independent directors will be negatively related to firm performance.

4. CONTROL VARIABLES

A number of additional variables are included in the study to control for other potential influences on the performance of firms.

4.1 Auditor Quality

An additional governance instrument through which shareholders can monitor managerial behaviour and

effectiveness is the independently audited annual report to shareholders, which includes an auditor's review of the reliability of the financial statements prepared by management (Watts & Zimmerman 1983). Auditors not only provide shareholders with independently ratified financial statements, but can also discover issues through internal control systems, including fraud detection. This improves the credibility of financial statements issued by the audited companies, leading to lower contracting costs with external suppliers and lenders and, therefore, a lower cost of capital (Jensen & Meckling 1976).

The quality of audit services may be defined as 'the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system; and (b) report the breach' (DeAngelo 1981: 186). From a shareholder's perspective, the quality of the audit is not observable and the shareholder is, therefore, able to make judgements based only on the reputation of the auditor and, possibly, price (where the fee is published). Given there is no direct measure of either audit quality or reputations, the majority of studies in this area have relied upon auditor size as a proxy measure for quality.

Extant empirical research supports the positive relationship between auditor size and quality, indicating that the largest international audit firms provide above-average quality of audit services (e.g. Palmrose 1988; Siew Hong & Wong 1993; Niemi 2004). Niemi (2004), in summarising the literature in this area, finds that large audit firms are associated with more accurate reports, lower litigation activity and greater compliance with generally accepted accounting principles (GAAP) reporting requirements. They are also seen to be able to better withstand pressure from clients and, due to their greater collateral, are seen to have more to lose in the case of an audit failure. This latter point was similarly revealed by DeAngelo (1981) who found that the probability of an auditor finding and reporting on a problem in the accounting system increased with audit firm size. Accordingly, auditor size as proxied by the participation of the 'Big 4' audit firms will be used as an indicator of higher-quality auditors, lowering agency and capital costs which will ultimately lead to better firm performance.

4.2 Firm Size

The firm's market capitalisation is included to control for the potential effects of firm size on corporate performance. Short and Keasey (1999) proposed two major avenues through which this effect may occur: firstly, a financing effect, in which larger firms find it easier to generate funds internally and to access funds

from external sources, lowering the overall cost of capital; secondly, large firms may create higher entry barriers, thereby reducing competition and benefiting from above-normal profits.

4.3 Debt Ratio

The debt ratio is defined as the book value of total debt divided by total assets—and this influences company performance in two ways. Firstly, the presence of debt ensures that management decisions and the firm's operation are being externally monitored by debt holders. Stiglitz (1985) contends that lenders, particularly banks, effectively perform a function of management supervision. Secondly, the use of financial leverage creates contractual obligations for managers to meet fixed future debt repayments, thereby reducing the funds available to management for discretionary consumption of perks; moreover, debt requires management to become more efficient to reduce both the probability of bankruptcy and the potential loss of their own reputation (Jensen & Meckling 1976; Grossman & Hart 1982; Jensen 1986).

4.4 Industry Classification

Industry effects account for the nature of the competitive environment in which a firm operates, including the number and size-dispersion of industry rivals and the rate of growth of the industry in general. Since performance may also depend on industry affiliations, a number of studies have included a dummy variable to capture these industry effects (Vafeas & Theodorou 1998; Ellstrand *et al.* 1999).

4.5 Board Size

The disadvantages associated with large boards have been addressed by many authors. 'When boards get beyond seven or eight people, they are less likely to function effectively and are easier for the CEO to control' (Jensen 1993: 865). A board with 'eight or fewer members engenders greater focus, participation, and genuine interaction and debate' (Firstenberg & Malkiel 1994: 34). According to Goodstein, Gautam and Boeker (1994), strategic actions and changes are less likely to be initiated when there are a large number of board members. Yermack (1996), who first empirically documented a significant inverse relation between board size and firm performance, concluded that the costs associated with large boards (e.g. coordination, communication and director free-riding costs) are not

TABLE 1. Sample size for the governance–performance model

250 companies randomly selected from a population of all Australian companies listed on the ASX. Finance-related companies including banking, insurance and trust companies were excluded from the sample.	250
Companies for which an annual return to shareholder could not be calculated as a result of start-up, suspension, change of name or dissolution during the financial year.	(15)
Identities of CEOs and/or chair of board not disclosed resulting in insufficient information to determine the company leadership structure (CEO duality).	(14)
Sample remaining after listwise deletion.	221
<p>Notes: In the corporate governance literature, the dependent variable firm performance has been measured as: market-based (de Miguel, Pindado & de la Torre 2004; Mura 2007); accounting-based (Dhnadirek & Tang 2003; Ng 2005); or both (Short & Keasey 1999; Bonn 2004; Guedri & Hollandts 2008). For this study a comprehensive market measure—return to shareholder—is used, which captures both the capital (share price change) and dividend return to the owners. This is seen to have an advantage over accounting performance by incorporating a current perspective of the position of the firm (as determined by market price), rather than an historical perspective based on accounting results as measured by accounting conventions (Demsetz & Villalonga 2001).</p> <p>Return to shareholder is regressed against seven variables related to board independence to measure their impact on firm performance. The study, therefore, specifically tests the following model: Return to Shareholder = $\alpha + \beta_1 \text{ProIND} + \beta_2 \text{Duality} + \beta_3 \text{AuditIndependence} + \beta_4 \text{RemunIndependence} + \beta_5 \text{NomIndependence} + \beta_6 \text{ExecShareholding} + \beta_7 \text{IndptShareholding} + \gamma \text{Control Variables}$ Where:</p> <p>Return to Shareholder = The annualised return to shareholders, including all price changes and reinvestment of dividends. It includes the effect of bonus issues and splits.</p> <p>ProIND = The proportion of independent directors on the board.</p> <p>Duality = 1 if the positions of CEO and chair of board are either held by the same person or persons with the same family name; and 0 otherwise.</p> <p>AuditIndependence = The proportion of independent directors in the audit committee.</p> <p>RemunIndependence = The proportion of independent directors in the remuneration committee.</p> <p>NomIndependence = The proportion of independent directors in the nomination committee.</p> <p>ExecShareholding = The proportion of total shares held by the company's executive directors.</p> <p>IndptShareholding = The proportion of total shares held by the company's independent directors.</p> <p>Control Variables:</p> <p>Auditorsize = 1 if the firm's audit company is one of the following large audit firms: KPMG, E&Y, PWC and DTT; and 0 otherwise.</p> <p>Firmsize = The natural log of market capitalisation.</p> <p>Debratio = Total liabilities as a proportion of total assets.</p> <p>Industry = 1 for companies in mining, energy and resource sectors; and 0 otherwise.</p> <p>Boardsize = The number of directors on the board.</p>	

sufficiently offset by its benefits alone. The present study includes consideration of the number of directors on the board both as a control variable and also as an attempt to expand the literature linking board size with corporate performance.

5. SAMPLE SELECTION AND RESEARCH DESIGN

To examine the relationship between governance and firm performance, 250 companies were randomly selected from a population of all companies listed in the Australian Stock Exchange (ASX) in the 2004/2005 financial year. The year 2004/2005 was chosen as it was a period of heightened interest in governance and governance structures. This followed from the collapse of companies such as Enron and WorldCom. Indeed,

the two years prior (2003 and 2004) were characterised by the high level of activity in governance reviews and legislative changes. A study conducted in the year 2005 provided the first opportunity to assess governance and performance, incorporating mandatory changes in the areas of sub-committees, audit and composition. Finance-related companies including banking, insurance and trust companies were excluded from the sample, as their accounting reporting requirements and capital structure varies greatly from other companies and would distort the overall results. Missing data arises as a result of inadequate disclosure, resulting in an inability to distinguish the role of CEO and board chair; and through changes to company structures during the financial year that prevent the calculation of annualised returns to the shareholder (Table 1).

TABLE 2. Mean, median and quartile range for percentage return to shareholders for the year 2005 ($n = 221$)

Min.	Max.	Mean	Median	Percentiles		
				25th	75th	90th
-3.580	3.360	-0.059	0.074	-0.333	0.074	0.348

6. RESULTS

Table 2 shows the mean return to shareholders for the 2005 financial year (-5.90%), with a median of positive 7.40%. Although this is indicative of a negatively skewed distribution, the test for skewness (-0.821) was acceptable and various data transformations failed to improve on this result.

Table 3 (p. 10) displays the proportion of non-executive and independent directors present on the full board and the audit, remuneration and nomination sub-committees. The presence of independent directors on the main board and sub-committees are identified by, firstly, isolating the non-executive directors which are required by ASX listing rules to be identified in the annual report. The independence of the non-executive directors is then verified by reviewing any 'related party disclosures' made in the annual report as required by Australian accounting standards, which requires the disclosure of any director-related transactions with the company. If the director has no connection with the company other than as a shareholder, they are treated as 'independent' in this study.

Of the 221 companies in the final sample, 170 (77%) had established an audit committee; 130 (59%), a remuneration committee; and 71 (32%), a nomination committee (Table 3, p. 10). Interestingly, the proportion of non-executive directors on all three sub-committees was similar at around 90%, as was the proportion of independent directors at around 68%, with the independent representation on the main board being much lower at 28%. As the objective of the study was to identify the performance impact of independence, a third measure was calculated (shown as 'adjusted' in Table 3). This measure assumes that when a company does not establish a sub-committee, the decision-making reverts to the full board; and, hence, the measure of independence applied is that appearing for the full board. This allows the full sample of 221 companies to be utilised as for each sub-committee, as the full board data are substituted where no sub-committee exists. As the full board representation of independent directors was generally lower than those on the sub-committees, it resulted in a lower mean value for the 'adjusted' sub-committee measure.

The results from the ordinary least squares regression (Table 4, p. 11) find a significant positive relationship between the proportion of independent directors and performance as measured by return to shareholders. A significant positive coefficient for the firm size variable is also consistent with the arguments discussed earlier; and for this data, mining and resource companies also outperform other sectors. A negative and statistically significant coefficient on independent shareholding suggests that, as hypothesised, ownership by outside directors may impact on company performance. The shareholdings of independent directors ranged from 0 to 66% of total shares with a mean of 2.04% (median 0.01%). It is interesting that these generally modest shareholdings appear to influence the director's decision-making, and this points to the need for further research.

All other variables are insignificant, with no relationship detected with the other hypothesised variables of CEO duality and the independence of sub-committees.

7. CONCLUSION

The results of the study of influence of independent board monitoring on the level of firm performance were mixed.

The proportion of independent directors on the full board was found to positively affect firm performance (Hypothesis 1) in line with the evidence on US firms provided by Rosenstein and Wyatt (1990); on UK firms provided by Mura (2007); and on large Australian firms provided by Bonn (2004) and Bonn, Yoshikawa and Phan (2004). This supports the contention that independent non-executives on the board enhance firm performance as they are able to actively scrutinise management action. The study further identified that mean independent representation on the board was 27.7%, with only 3% of companies achieving a majority of independent directors, as opposed to 90% of companies with a majority of non-executive directors.

The measure of director 'independence' applied to committee representation is that the director has no connection with the company other than as

TABLE 3. The proportion of non-executive (NED) and independent directors on the full board and the audit, remuneration and nomination sub-committees

	N	Mean	Median
Independent directors on full board	221	0.2771	0.3333
NED on audit committee	170	0.9125	1.0000
Independent on audit committee	170	0.6780	0.6700
Independent on audit committee adjusted	221	0.5624	0.6000
NED on remuneration committee	130	0.9099	1.0000
Independent on remuneration committee	130	0.6847	0.6700
Independent on remuneration committee adjusted	221	0.4930	0.5000
NED on nomination committee	71	0.8703	1.0000
Independent on nomination committee	71	0.6973	0.6700
Independent on nomination committee adjusted	221	0.3889	0.3333

Note: The 'adjusted' rows measure assumes that when a company does not establish a sub-committee, the decision-making reverts to the full board; and, hence, the measure of independence applied is that appearing for the full board.

a shareholder. Directors' shareholdings, however, are also investigated with respect to performance. The study found a negative relationship between performance and the shareholding of independent directors (Hypothesis 4b). It implies that the ability of outside directors to act as independent arbiters between managers and owners may be impacted by their own shareholding. It could be speculated that when otherwise independent directors hold a significant investment in their own firm (through salary and shareholdings), they act to protect their investment by making risk-averse decisions, which owners with a fully diversified portfolio would not find optimal (Jensen & Meckling 1976).

The positive, though insignificant finding for executive shareholding (Hypothesis 4a) is in line with the 'convergence of interest' hypothesis proposed by Jensen and Meckling (1976), where the desired outcomes for owner and manager are aligned as a result of the manager's shareholding in the firm. Many prior studies, however, have found that this does not hold for larger shareholdings where managers become 'entrenched' and may prioritise their own rewards over shareholder returns (Singhchawla, Evans & Evans 2011).

In contrast to the above, the leadership structure variable, which measures whether firms with a non-executive chair outperform firms that assign a CEO as board chair, was found to be insignificant (Hypothesis 2). Research in this area has produced

numerous contradictory views, with some researchers finding that the combination of the positions enhanced company performance (Brickley, Coles & Jarrell 1997; Coles, McWilliams & Sen 2001; Ying-Fen 2005); while others suggest that dividing these two positions enhances corporate performance (Rechner & Dalton 1991; Pi & Timme 1993; Daily & Dalton 1994; Rhoades, Rechner & Sundaramurthy 2001).

Board committee composition (Hypotheses 3a, 3b, 3c) was similarly not statistically significant and negative. This result, however, mirrors the insignificant relationships generally discovered in previous studies into the influence of sub-committee independence on firm performance (Klein 1998; Vafeas & Theodorou 1998; Ellstrand *et al.* 1999; Cotter & Silvester 2003; Hsu 2008). The data provide no evidence that regulatory pronouncements or shareholder agitation regarding the establishment and independence of board sub-committees are effective in enhancing firm performance.

For the control variables, large firms and those operating in the mining and resource sector were found to outperform others. Audit quality, board size and debt ratio were not found to have any influence on firm performance.

Further research is required to identify the causes of this disparity between the theory and the practical outcomes noted above, before more costly regulation is enacted. This research could be extended upon in a number of ways. A replication of the study, employing

TABLE 4. Regression analysis of return to shareholder on committee independence, director shareholding, debt ratio, industry, firm size and board size for listed Australian companies in 2005

	Coefficients				Collinearity Statistics	
	<i>B</i>	Std Error	<i>t</i>	Sig.	Tolerance	VIF
(Constant)	-1.454	0.335	-4.336	0.000		
ProIND	1.451	0.665	2.181	0.030*	0.297	3.362
Duality	0.006	0.150	0.041	0.968	0.852	1.174
AuditIndependence	-0.369	0.280	-1.320	0.188	0.282	3.550
RemunIndependence	0.206	0.287	0.718	0.474	0.306	3.266
NomIndependence	-0.407	0.347	-1.173	0.242	0.277	3.607
Auditorsize	-0.029	0.131	-0.220	0.826	0.713	1.403
IndptShareholding	-1.802	0.877	-2.056	0.041*	0.824	1.214
ExecShareholding	0.370	0.350	1.058	0.291	0.759	1.317
Debratio	-0.053	0.160	-0.328	0.743	0.837	1.194
Industry	0.290	0.128	2.267	0.024*	0.731	1.367
Firmsize	0.112	0.042	2.665	0.008**	0.364	2.750
Boardsize	-0.009	0.047	-0.186	0.853	0.413	2.424
<i>R</i> ² 0.117 Adjusted <i>R</i> ² 0.066 <i>F</i> -Statistic 2.289*** Sample size 221 *** <i>p</i> < 0.01, ** <i>p</i> < 0.05						
Where: Return to Shareholder = The annualised return to shareholders, including all price changes and reinvestment of dividends. It includes the effect of bonus issues and splits. ProIND = The proportion of independent directors on the board. Duality = 1 if the positions of CEO and chair of board are either held by the same person or persons with the same family name; and 0 otherwise. AuditIndependence = The proportion of non-executive directors in the audit committee. RemunIndependence = The proportion of non-executive directors in the remuneration committee. NomIndependence = The proportion of non-executive directors in the nomination committee. Auditorsize = 1 if the firm's audit company is one of the following large audit firms: KPMG, E&Y, PWC and DTT, and 0 otherwise. IndptShareholding = The proportion of total shares held by the company's independent directors. ExecShareholding = The proportion of total shares held by the company's executive directors. Debratio = Total liabilities as a proportion of total assets. Industry = 1 for companies in mining and resource sectors; and 0 otherwise. Firmsize = The natural log of market capitalisation. Boardsize = The number of directors on the board.						

longitudinal data, would assist in determining whether the relationships found were robust under differing economic conditions. Return to shareholder was employed as the dependent variable in this analysis, to provide an assessment of the efficiency with which management is utilising assets. Future research could assess the impact of the governance mechanisms on other performance-related variables, including

accounting-based measures (ROA, ROE and ROI) which provide an historical view of performance based on accounting conventions. It would also be possible to control for potential endogeneity in the variables (i.e. performance influencing changes in board structure); although Choi, Park and Yoo (2007) find this does not significantly change their results when tested using two-stage least squares regression.

The possibility of using more refined measures to assess the characteristics of the board and its committee members, including their experience and expertise, would enhance our understanding of the role of the committees and their ultimate impact on performance. This may include qualitative aspects which investigate the management process and directly interrogate the participants (e.g. how influential are non-executive directors in the decision-making process?), rather than relying on reported board structures.

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