Size Matters: The Link between CEO Remuneration, Firm Size and Firm Performance Moderated by Remuneration Committee Independence

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Size Matters: The Link between CEO Remuneration, Firm Size and Firm Performance Moderated by Remuneration Committee Independence

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ABSTRACT

The purpose of this paper is to examine the interactive relations between CEO remuneration, firm size and firm performance, moderated by remuneration committee (RC) independence. The paper uses OLS regressions to test a high order, three-way interactive hypothesis regarding how CEO total pay and bonuses relate to firm size (large, medium and smaller) and firm performance (ROA), moderated by remuneration committee independence (measured at 3 levels). The data relate to 123 Australian companies represented in the S&P ASX 300 data base for 2001. The results indicate that RCs are not universally effective, even if they comprise 100% non executive directors (NEDIRs). Specifically, in large firms both CEO total pay and CEO bonuses are moderated by RCs, and the moderating effect is strongest when those committees comprise 100% NEDIRs, but is weaker for lower levels of RC independence. At the other extreme, smaller firms’ committees appear to be ineffective in controlling either CEO total pay or CEO bonuses, no matter how independent the committee is. The results for medium firms are similar to those for smaller firms with respect to CEO total pay (no moderating effect), but similar to large firms with respect to CEO bonuses (moderating effect varying with the degree of RC independence).

JEL classifications: M12, M14, M52.

Keywords: CEO compensation, remuneration committee independence, firm size, firm performance.

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1. Introduction

Public outrage about the excesses of executive pay has increased particularly since the impact of the global financial crises on the community’s economic well-being. Shields, O’Donnell and O’Brien, (2003) reported that Australian executive remuneration grew during the decade 1992-2002 from 22 to 74 times average weekly earnings. Such a disparity between senior executives of Australian public companies and ordinary workers rankles the long held egalitarian value of a ‘fair day’s work for a ‘fair day’s pay’. Hence public concern about disproportionately high levels of executive remuneration has fuelled criticism about the effectiveness of corporate governance mechanisms to monitor and control executive remuneration in line with company performance.

To appease public outrage through a political response, Prime Minister Rudd requested the Productivity Commission to publicly inquire into Australian executive remuneration for the following reasons:

“A catalyst for this inquiry was concern that executive pay had got out of hand. This perception was fuelled by practices in financial institutions abroad that were seen as a key contributor to the global financial crisis. Further, while local shareholder value plummeted as a result of that imported crisis — with some companies being propped up by taxpayers — executive pay seemed to emerge unscathed, crystallising a view that executives were being rewarded for failure (after having been rewarded for success).

This has come on top of long-standing community discomfort about the widening gap between the remuneration of executives and other employees, as well as some large termination benefits with perceived lack of justification. Public opinion polling over the years consistently shows that most respondents believe executives to be overpaid. But polls also reveal limited awareness of the drivers of executive pay and wealth creation. …”

Further, “… Depending on the sample used, CEO remuneration at the 50–100 largest Australian listed companies grew by around 10 per cent a year in real terms between 1993 and 2007, translating to cumulative increases of up to 300 per cent. (The story for non-CEO executives is similar, but with lower growth rates and levels. Pay for non-executive directors (NEDs) — which is paid as a fixed amount in cash or shares — grew by around 9 per cent per year from 1993 to 2007.)” (Australian Government Productivity Commission, 2009, Overview p. xv).

Australian Governments however, have been successfully persuaded ‘to leave the market’ to regulate the social practice of executive remuneration, with any formal regulation designed to encourage the market efficiencies. In fact, Australian remuneration practice is largely regulated by statements of good practice, while legislative intervention is most prevalent for remuneration disclosure and voting on remuneration (Sheehan, 2009). In effect the pay for senior executives is market oriented and largely self-regulated through corporate governance mechanisms supported by codes of best practice such as the ASX Corporate Governance Council’s Corporate Governance Principles and Recommendations “Remunerate fairly and responsibly’ (Principle 9, 1st edition, 2003 http://www.shareholder.com/visitors/dynamicdoc/document.cfm?CompanyID=ASX&Docum
Further the marketised system of executive remuneration regulation is supposed to achieve reduced agency costs, while ensuring a “proper standard of performance and accountability for the benefit of others, yet provide some flexibility to allow for differences in how companies structure their remuneration practices.” (Sheehan, 2009, p. 275).

Yet senior executive pay and conditions have exploded since the 1990’s and continue to do so even after the internet bubble crash in 2001 leaving a trail of economic and social devastation in the wake of several large corporate collapses (Boyer, 2005). The near collapse of the global financial system did not prevent bankers from giving themselves huge bonuses even though the financial industry had to be rescued by taxpayer funds (Krugman, 2010). At the same time non-manager workers’ incomes and conditions have declined in relative terms (Buchanan and Watson, 2001) since the state-enforced deregulation of the labour markets began in the 1980’s (Sikka, 2008). Moreover, Boyer (2005, p.9) finds that “financial market-related incentives, supposed to discipline managers, have entitled them to convert their intrinsic power into remuneration and wealth, both at micro and macro level. This is the outcome of a de facto alliance of executives with financiers, who have exploited the long-run erosion of wage earners’ bargaining power.”

While the Australian Council of Trade Unions (ACTU) argued for legislative control over executive pay, the Commission’s recommendations follow the notion that executive pay can remain self regulated but strengthened by corporate governance mechanisms such as a remuneration committee. One of Commission’s key draft recommendations (Australian Government Productivity Commission, 2009, p. XXXIII) proposes a new ASX listing rule specifying that “all ASX300 companies have a remuneration committee of at least three members, all of whom are non-executive directors, with the chair and a majority of members being independent” to avoid conflicts of interest regarding executive pay.

The purpose of this study therefore, is to examine the interactive relations between CEO remuneration, firm size and firm performance, moderated by remuneration committee (RC) independence. The Productivity Commission’s report (2009) argues that the efficacy of remuneration committee independence controls executive pay for performance, a major reason for corporate governance self regulation, purportedly to motivate managers to enhance company profitability. Much prior corporate governance research has tended to examine individual associations between executive compensation and various factors (see Tosi, Werner, Katz, and Gomez-Mejia, 2000 for a meta-analysis as well as Brennan and Solomon, 2008 and Gillan, 2006 for overviews). Few if any studies have examined the interactive relationships between executive compensation, firm performance and remuneration committee independence when in fact all these elements are involved in determining executive pay. Moreover firm size is also included in our interactive hypotheses since Tosi et al., (2000) found in their meta-analysis of CEO pay studies that firm size more so than performance significantly influenced CEO pay, that is, the bigger the firm the larger the executive pay packet. Importantly, if independent RCs can be shown to align CEO pay with performance no matter what size the firm, then the Productivity Commission’s recommendation will be effective public policy to control executive pay.

2. Disclosure of Self Regulated Executive Remuneration Pre-SOX Legislation

We examine ASX 300 companies in a corporate governance context before the enactment of legislation that increased regulatory scrutiny of directors’ responsibilities in response to the massive corporate collapses such as Enron in December 2001. In 2002, the
U.S. Congress enacted the Sarbanes Oxley Act (2002) that brought in corporate governance rules and requirements not only for U.S. based trading firms but also Australian companies associated with the U.S. capital markets. Additionally, Australian based transnational audit firms also began to use elements of S-OX in their audits of Australian companies. The Australian government’s Company Law Economic Reform Program CLERP 9 concerning corporate governance soon followed and was enacted in 2004.

We expressly analysed data from ASX 300 companies’ 2001 annual reports after mandated executive remuneration disclosure but during the period just prior to the introduction of the Sarbanes Oxley Act (2002), CLERP 9 (2004), and the ASX Corporate Governance Council’s Corporate Governance Principles and Recommendations principle to “Remunerate fairly and responsibly” (2003, 2008). Australian regulation mandated disclosure of directors’ and executives’ remuneration with the introduction of the Corporations Law, Company Law Review Act 1998 revised May 1999. Section 300A required executive remuneration to be disclosed by listed Australian companies for financial years after 1 July, 1998. The Act requires financial statement disclosure of emoluments of the five most highly remunerated officers. Originally executive remuneration was disclosed in bands but was this requirement was removed from AASB 1034 “Financial Report Presentation and Disclosures” p.12.

“6.1 The following information must be disclosed in the financial report of a disclosing entity:

(a) the aggregate remuneration of all executive officers of the entity whose remuneration for the financial year is $100,000 or more”

The amended AASB 1034 became operative for companies at financial year end 30 June 2001, hence our sample of companies cover this specific period. This standard was subsequently superseded by AASB 101 in July 2004, operative 1 January 2005 to comply with the international accounting standards (ISAs) and executive remuneration was specifically guided by AASB 1046 Director and Executive Disclosures by Disclosing Entities (www.AASB.gov.au).

Other contextual events influenced our focus on 2001 company financial reports. These events include the internet bubble crash in March 2001 that resulted in a several corporate collapses and general investor turmoil in the following years’ financial reports (Boyer, 2005). For example, we looked for several IT companies that were in our 2001 sample but found they were non-existent in 2002, either insolvent or merged. The September 11, 2001 attack on the New York Twin Towers also resulted in further investor turmoil that exacerbated the impact of the internet bubble crash. Additionally we found ASX 300 company composition between 2001 and 2009 is affected by high volatility due to mergers, insolvencies and to some extent, the re-privatizing of public companies, making a longitudinal study difficult to sustain a reasonable sample of the original 2001 ASX 300 companies.

Our study contributes to corporate governance and executive remuneration research by investigating the association between actual CEO and senior executive pay and performance taking into account firm size, remuneration committee existence and independence.

3. Hypotheses Development and Associated Literature

3.1 Dependent Variable: CEO Remuneration

Executive bonuses in particular have received public attention because since the 1990’s cash incentives in the form of bonuses have grown exponentially indicating more emphasis on performance related pay for company executives (Shields et al., 2003). The
dependent variables in this study are the total remuneration for CEO and CEO bonuses of ASX 300 Australian companies. Total CEO remuneration comprises the sum of the fixed component (base salary, fringe benefits and superannuation) and a short-term incentive component (bonuses). For example, remuneration of Brambles CEO (2001 Brambles Annual Report, 2001) comprised salary, cash allowances, bonuses, superannuation, motor vehicle, and retirement benefits.

Base Salary is a fixed form of remuneration and is normally contingent on leadership skills and experience of CEOs. Similarly, fringe benefits such as motor vehicles and superannuation payments are not contingent on performance criteria per se and their relative amounts will vary depending on the remuneration package negotiated with the employer company. Jensen, Wruck and Murphy (2004) indicate that these fixed forms of remuneration should not be excessive when compared to the size or performance of the firm. Also, any increases in fixed remuneration should be partly contingent on improved firm performance.

Share options were not included as part of the total remuneration because of the vague reporting about when options have been or will be exercised for our sample, particularly during the 2001 period. Two thirds of our sample companies either did not compensate or report their CEO share options. Further, Hutchinson and Gul (2004) identified that stock options are not traded hence no observed market valuation can be included in executive pay. Secondly, the features of managerial share options are such that they bear little resemblance to options on stocks or securities in general, making it difficult to value them using the Black-Scholes option valuation model.

Jensen et al. (2004) further observed that there is no “cookbook solution” for remuneration as other non-economic organisational features such as culture, structure and strategies must be considered. Executive remuneration is negotiated in a largely self regulated labour market for senior company executives resulting in a variety of executive remuneration packages to enhance flexibility to suit each company’s characteristics and goals (Sheehan, 2009). Thus our final sample of companies varied considerably in their remuneration structure. Not all the companies disclosed remuneration elements such as superannuation while other companies did not remunerate their directors with fringe benefits (such as motor vehicles). Because base salary, fringe benefits and superannuation are fixed forms of remuneration, it was possible to combine the three forms remuneration into a total remuneration. We then examined CEO total remuneration or CEOTR and CEO bonuses for this study.

3.2 Independent Variables

In the following section we discuss the prior research associated with independent variables that test the hypothesised interactive links between executive pay, firm performance, firm size and remuneration committee independence.

3.2.1 Firm Performance Measure

Corporate boards justify disproportionately high levels of executive remuneration for pay performance reasons. Senior executives, particularly the CEO should be rewarded for managing a profitable company that provides appropriate returns to the owners thus reducing the agency problem or management opportunism (Fama and Jensen, 1983; Fama, 1980). Berle and Means (1932, p. 25, cited Tosi et al., 2000) stated that “The separation of ownership from control produces a condition where the interests of owner and of ultimate manager may, and often do, diverge, and where many of the checks which formerly operated to limit the use of power disappear.” The separation of ownership from control inspired agency theory (Jensen and Meckling, 1976) based on the premise that principals (the shareholders) delegate duties to an agent (the CEO), who is expected to act in the best interest
of the principal. Agency theory makes assumptions about managers. First agents are risk averse; agents are self-centred; and agents’ interests may differ from those of the principal. The opportunistic behaviour by the agent is possible as the agent may have different objectives from the principal and thus pursue a self-serving agenda. Corporate governance measures use a variety of incentives such as bonuses and options in an attempt to align management pay with firm performance (Jensen et al, 2004).

While international research reports mainly a significant relationship between CEO remuneration and firm performance, Australian evidence is mixed (Meherbi, Pattenden, Swan and Zhou, 2006). Earlier Australian research for years 1987 – 1992 reported by Izan, Sidhu and Taylor (1998) found no link between CEO remuneration and firm performance. Another Australian study (Clarkson, Nichols and Walker, 2006) examine the relationships between the various primary components of CEO remuneration (‘fixed salary’, ‘bonus’, and ‘options’) and each company performance and the company’s governance environment predicting a positive association between CEO remuneration and company performance, and a negative relationship between CEO remuneration and the company’s governance environment, thus indicating effective governance mechanisms to align pay for performance. The level of remuneration was scaled by market capitalisation because the theoretical construct of interest in their study, excess compensation, is unobservable. Clarkson et al., (2006) argue that the level of excess compensation is increasing in the level of compensation.

**ROA** is the primary measure of company performance in this study because companies typically base the incentive components of CEO remuneration on accounting based measures (Walker, 2005 cited Clarkson et al., 2006).

### 3.2.3 Firm Size and Executive Compensation

Firm size and executive remuneration is contentious as Baker et al., (1988, p. 609) found

“that the size/pay relation is causal and therefore reflects more than a matching of CEOs to firms on the basis of their abilities. It also suggests that CEOs can increase their pay by increasing firm size, even when the increase in size reduces the firm’s market value. This could explain some of the vast amount of inefficient expenditures of corporate resources on diversification programs that have created large conglomerate organizations over the last 20 years”.

Studies such as Tosi et al. (2000) and Merhebi et al., (2006) examined CEO pay and firm size. Tosi et al., (2000) tested the hypothesized links between firm size, performance, and CEO pay in their meta analysis of review of the empirical literature on the determinants of CEO pay. Their hypotheses specifically focused on 1) the firm performance and CEO pay determinant and 2) firm size and CEO pay determinant. They found that firm size accounted for more than 40% of the variance in total CEO pay, while firm performance accounted for less than 5% of the variance. Merhebi et al. (2006) tested the link between firm size and CEO pay of Australian companies (1990-1999) and found a significant and positive result. They further suggest that size is a proxy for performance arguing that larger firms have the resources for more generous remuneration packages regardless of performance. The notion of size as a proxy for performance is questioned by Baker et al. (1988) who find evidence that CEOs are able to increase their pay by increasing the firm size even when the size increase reduces the firm’s market value. They further suggest this motivation “could explain some of the vast amount of inefficient expenditures of corporate resources on diversification programs that have created large conglomerate organizations …” (Baker, 1988, p. 609).

Additionally Tosi et al., (2000, p. 329) argue that their findings are consistent with,
“those theoretical explanations that emphasize organizational size as an important determinant of total CEO pay; that is, indicators of firm size, taken together, explain almost nine times the amount of variance in total CEO pay than the most highly correlated performance measure. A lesser effect is demonstrated in the findings regarding pay sensitivity as well as in the difference in the pay/performance or pay/firm growth sensitivities. Changes in firm performance account for only 4% of the variance in CEO pay, while changes in firm size account for 5% of the variance in CEO pay. These results are consistent with Jensen and Murphy’s (1990) conclusion that “incentive alignment” as an explanatory agency construct for CEO pay is weakly supported at best.”

Our study specifically examines the interactive relations between CEO pay and firm size by partitioning our sample into large, medium and smaller firms using the natural log of the total assets as a proxy for firm size.

3.2.2 Remuneration Committee Independence

The UK Cadbury Committee report (Cadbury, 1992) one of the earliest investigations into the integrity of corporate governance, recommended a voluntary code of best practice to include a remuneration committee as described by Ezzamel and Watson (1998, p. 222),

“The remuneration of executive directors (those who are executives of the company on whose board they sit) should be subject to the recommendations of a remuneration committee (made up wholly or mainly of nonexecutive directors), which should ensure that large pay awards were justified by increases in firm performance and shareholders’ wealth”.

Further, the independence of RCs to improve executive pay efficiency became core the U.S. regulation introduced by the Securities and Exchange Commission and the Internal Revenue Service in the 1993. These regulations were motivated by the concern that when executive directors participated in the remuneration committee’s executive pay contracts, the remuneration committee was compromised resulting in pay contracts that favoured management (Vafeas, 2003). Conyon and Peck (1998) in their UK study of RCs and executive pay for 94 companies in the period 1991-1994, report that the proportion of non-executive directors on a remuneration committee is positively related to senior management pay and sensitivity of pay to performance. In contrast, a 1998 U.S. study examined 194 firms’ CEO pay and remuneration committee composition for 1991. Daily, Johnson, Ellstrand and Dalton (1998) found no link between excessive CEO pay and remuneration committee dominance by executive directors. These findings are supported by Newman and Mozes (1999) who analysed 1992 U.S. company data for 161 firms and found no relationship between CEO pay and executive director participation in the remuneration committee, although under certain conditions executive pay for performance is skewed in management’s favour.

Vafeas (2003) investigated the impact of the U.S. regulations on the requirement of majority non-executive directors comprising RCs. After analysing 271 firms for 1991-1997 period, he reports a declining trend in executive director membership of RCs however, based on the evidence he could not conclude definitively that shareholders benefited from these U.S. regulations to enhance remuneration committee independence. Vafeas (2003) suggests that firms with RCs comprising ‘outsiders’ are able to fend off uninvited public scrutiny of pay practices as well as complying with 1992 SEC’s disclosure rules about the governance of executive compensation.

The composition of Australian RCs has not been regulated yet however a best practice code in the form of the ASX Corporate Governance Council’s Corporate Governance Principles and Recommendations (2003, 2008) recommended boards to “remunerate fairly
and responsibly’ through RCs comprising mainly non-executive directors. One Australian study of 109 large firms for 1997 (Cotter and Silvester, 2003) examines full board and monitoring committee independence, the impact of other mechanisms used to control agency conflicts on that independence and the impact of independence on firm value. They report “none of these alternative agency conflict-controlling mechanisms is associated with compensation committee independence (Cotter and Silvester, 2003, p. 230).

Prior research is therefore inconclusive about the efficacy of independent RCs to enhance efficient executive pay contracts aligned with performance. The Cadbury Committee (1992) recommended that the remuneration committee comprise a majority of non-executive directors as the independence of the remuneration committee is also vital for appropriate CEO and executive pay. The recent Productivity Commission’s report (2009) has also recommended that the remuneration committee have a majority of non-executive directors to enhance corporate governance integrity for executive remuneration. Although such illustrious committees have recommended independent RCs to self-regulate executive pay little Australian research has examined this issue. Our study aims to investigate the moderating relationship of RCs and CEO pay in Australian companies for 2001. In our study, the proportion of non-executive directors as members of the remuneration committee measures independence (REMCOMDIR) which is then categorised to perform interactive regressions.

3.2.4 Hypotheses

Prior research by Tosi et al., (2000), and Merhebi et al., (2006) examined firm size and performance separately in relation to CEO remuneration. These studies suggest that large firms generously pay their CEOs and executives and size appears to be more an important criterion than performance. Our study contributes to corporate governance research by examining the moderating efficacy of independent remuneration committees to universally align executive pay for Australian companies no matter the size in an essentially self-regulatory compensation context.

We hypothesize the following high order associations:

H 1a: There will be a positive association between CEO total remuneration (CEOTR) and firm performance (ROA) for all size firms (SIZE), when moderated by an independent remuneration committee (REMCOMDIR).

CEO and executive bonuses represent short term incentives that should be based directly on firm performance rather than firm size. Similar to previous arguments, an independent remuneration committee therefore should control executive incentive pay for performance including incentives rather than size as reported by Tosi et al. (2000). The following are hypothesised:

H 1b: There will be a positive association between CEO bonuses (CEOBonuses), and firm performance (ROA) for all size firms (SIZE), when moderated by an independent remuneration committee (REMCOMDIR).

Based on the above discussion, the interactive OLS regression models below (see Hayes and Matthes, 2009) test the two hypotheses:-

H 1a: \[ CEOTR = b_0 + b_1 (\text{SIZE} \times \text{ROA} \times \text{REMCOMDIR}) + b_2 \text{IND} + e \] (1)

H 1b: \[ CEOBonuses = b_0 + b_1 (\text{SIZE} \times \text{ROA} \times \text{REMCOMDIR}) + b_2 \text{IND} + e \] (2)
The variables in the regressions are defined below:

**CEOTOTAL** = Natural logarithm of CEO total remuneration ($) = base pay + superannuation/fringe benefits + bonuses.

**Firm SIZE** = Natural logarithm of assets categorised into smaller firms = 0, medium firms = 1, large firms = 2.

**ROA** = Return on Assets

**REMCOMDIR** = Moderator measured as proportion of non-executive directors on the remuneration committee, categorised into 0 = < 70% composition, 1 = 70-90%, 2 = 100% composition.

**INDUSTRY** = Industry groups based on GIC sectors, 1 = energy & mining, 2 = industrials, 3 = consumer and 4 = services

**CEOBONUS** = Natural logarithm of CEO bonuses.

**SIZE** = Natural logarithm of assets categorised into smaller = 0, medium = 1, large = 2.

**ROA** = Return on Assets

**REMCOMDIR** = Moderator measured as proportion of non-executive directors on the remuneration committee, categorised into 0 = < 70% composition, 1 = 70-90%, 2 = 100% composition

**INDUSTRY** = Industry groups based on GIC codes and industry sectors, 1 = energy & mining, 2 = industrials, 3 = consumer and 4 = services

**CEOTOTAL** is the natural logarithm of CEO remuneration comprising base pay, superannuation, fringe benefits and bonuses reported in 2001 ASX 300 company reports.

**CEOBONUS** is the natural logarithm of the short-term incentive for performance as part of CEO total remuneration from 2001 ASX 300 company reports.

**Firm SIZE** is the natural logarithm of total assets. The natural log of total assets is taken to reduce the spread of the distribution, hence the effect of outliers [See histogram of the distribution in Figure 1]. SIZE is then categorised into three: smaller firms = 0, medium firms = 2 and larger firms = 3.

**ROA** or return on assets is a measure of company performance resulting from management’s productive use of company assets. ROA is calculated earnings before interest / (total assets less outside equity interests) and is a key measure of a company's profitability, equal to a fiscal year's earnings divided by its total assets. Return on assets essentially shows how much profit a company is making on the assets used in its business.

**REMCOMDIR** is the moderating variable measured as a proportion (%) of non-executive directors (NEDIRS) in the committee. It was calculated by summing the number of non-executive directors in the committee and dividing that figure by the total number of directors in that committee. **Table 4** reports the categorisation of REMCOMDIR into three levels as follows. The lowest proportion of NEDIRS on the remuneration committee (less than 70%) is designated as 0. A proportion 70 to 90% of NEDIRS on the remuneration committee is designated as 1, and 100% NEDIRS comprising the remuneration committee is designated as 2.

**INDUSTRY** is a categorical variable to control for industry differences. Industry groups comprise the 10 sectors of the Global Industry Classification Standard (GICS) utilised
by the ASX for industry classification (Australian Securities Exchange, 2009a; 2009b). For analysis purposes this study classifies ten industry sectors into four industry groups based on similarities in the nature of the industry.

3.3 Multiple Regression Models

The SPSS statistical package Ordinary Least Square (OLS) multiple regressions were used to test the high order relationship between executive and directors’ remuneration, firm performance and the proportion of non-executive directors on the remuneration committee as well as the firm size. This approach provides a more sophisticated and realistic evidence about corporate governance mechanisms as described in terms of high-order interactions (see Hayes and Matthes, 2009). Further, this analysis is able to determine both the nature (direction of the regression coefficients) and strength (significance) of the relationship between the dependent and independent variables described in Tables 2, 3 and 4.

For ease of interpretation of three-way interactions and because the nature of the relationships between the dependent variable and the independent variables are not necessarily linear, the variables SIZE and REMCOMDIR were categorized into three levels: smaller, medium and large. Using the frequency distributions, SIZE is split into approximate thirds. REMCOMDIR was split according to proportion of non-executive director membership on this committee: 100% non executive membership, 70-90% non executive composition and less than 70% non executive membership.

3.4 Sample

Our sample of companies in this study consists of 123 large publicly listed Australian companies. The companies were chosen from S&P ASX 300 database. Individual company annual reports for the years ending 2001 were downloaded from Fin analysis supplemented with data from Connect 4 databases. Given that compulsory disclosure of corporate governance practices and executive remuneration has only existed since late 1998 in Australia, extending the scope of this study prior to this period would be pointless, as appropriate data to carry out the study would not be publicly available. Further, it was inferred that the effectiveness of various committees such as the remuneration committee could not be evaluated before 2000 because such committees were in the process of being established in many companies.

Company reports for 2001 were downloaded then manually examined to collect information pertinent to this study. This information includes the remuneration of the CEO with individual components of remuneration disclosed separately. Essentially the sample companies had to disclose the base salary, superannuation, fringe benefits, bonuses and share options as well as corporate governance measure of remuneration committee independence represented by the proportion of non-executive directors on that committee.

Out of the initial 176 companies, a final sample of 123 companies has RCs as well as CEO remuneration information. Surprisingly, our sample includes 45 companies that chose not to compensate their CEOs with incentives. This is contrary to the recommendations of various committees such as the Cadbury committee and Greenbury committee and previous research (for example, Carpenter and Sanders, 2002; Beatty and Zajac, 1994; Brunello, Graziano and Parigi, 1999, Barber, Janakiraman and Kang, 1996 and Mehran, 1995) which indicates that an effective mechanism for aligning management’s interest with that of shareholders is to compensate managers with both short-term and long-term incentives that is coupled with firm performance.
<table>
<thead>
<tr>
<th>2001 company reports</th>
<th>ASX 300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less unavailable firms’ 2001 reports due to insolvencies, mergers or no longer trading on ASX</td>
<td>(124)</td>
</tr>
<tr>
<td>Less firms with incomplete executive remuneration</td>
<td>(30)</td>
</tr>
<tr>
<td>Less outlier (Macquarie Bank)</td>
<td>(1)</td>
</tr>
<tr>
<td>Less companies reporting executive remuneration but no remuneration committee</td>
<td>(22)</td>
</tr>
<tr>
<td>Total sample</td>
<td>123</td>
</tr>
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</table>

All data collected were entered into a SPSS spreadsheet in order to test the hypotheses.

4. Results

Table 1 describes the 4 industry groups based upon GIC industry sectors and Table 2 reports the number of firms for each industry group in this study. To perform the interactive analysis, variable firm size is categorised into 3 levels described in Table 3: smaller firms ($n = 37$, mean $m155.16$, sd 75.79), medium firms ($n = 42$, mean $m822.90$, sd 384.37) and large firms ($n = 44$, mean $m20420.36$, sd 49852.62). The independence of the remuneration committee is represented by the proportion of NEDIRs on that committee was also categorised at 3 levels described in Table 4. The remuneration committee of 74 firms comprised 100% of NEDIRs, 23 firms had 70 – 90% NEDIRs and 26 firms had less than 70% NEDIRs on the remuneration committee.

Table 5 reports the significant high order relationship ($F = 8.44$, df $= 9,123$, $p < .001$) between the dependent variable CEO total remuneration and the three-way interaction with firm size, firm performance (ROA) and remuneration committee independence (REMCOMDIR). This result indicates a significant positive relationship between CEO total remuneration with firm performance and size, moderated by remuneration committee independence. Table 6 reports further analysis of this three-way interaction partially supporting hypothesis 1a. It reveals size matters with significant positive associations for large firms with firm performance (ROA) for all three levels of remuneration committee independence. The results are particularly strong for large firms with RCs comprising 100% and 70-90% NEDIRs ($p = <.001$) but slightly weaker for the remuneration committee comprising less than 70% NEDIRs ($p = .05$).

Interestingly, associations between CEO total remuneration for medium and smaller size firms and firm performance, are insignificant ($p = >.05$) when moderated by any level of remuneration committee independence. Indeed a significant negative relationship between CEO total remuneration and firm performance was found for smaller firms with RCs comprising less the 70% NEDIRs (the lowest level of remuneration committee independence) This last result suggests that smaller firms with a lowest proportion of independent executive directors in fact recompense their CEOs even when these firms are not performing.

We hypothesised a positive association between CEO total remuneration and firm performance when moderated by independent remuneration committees for all size firms. This hypothesis is rejected for the ASX 300 (2001) smaller and medium firms. Although having 100% NEDIRs on the remuneration committee, CEOs were recompensed irrespective of the level of firm performance, suggesting mandating 100% NEDIRs on the remuneration committee for these firms will have little control over CEO total pay.

We next investigate the association between the dependent variable CEO bonuses and the three-way interaction between firm size, firm performance and remuneration committee
independence. **Table 7** reports a significant high order interaction ($F = 1.94$, $df = 9,122$, $p = <.05$). **Table 8** reports further analysis of this interaction that partially supports hypothesis 1b. This analysis shows a strong positive relationship between CEO bonuses and firm performance (ROA) for large firms, and RCs comprising 100% non-executive directors ($p = <.001$). This result shows that these large firms, with 100% NEDIRs on their RCs, paid CEO bonuses in line with firm performance, thus demonstrating that CEO bonuses are moderated by independent RCs. We find a weaker result for large firms with RCs having 70-90% NEDIRs ($p = <.11$) and an insignificant relationship with firm performance for large companies with RCs with less than 70% NEDIRs. These results suggest that large firms with 100% NEDIRs on their RCs are the most effective in controlling CEO bonus incentives in line with firm performance, and the RCs with 70-90% NEDIRs less effective. Those large firms with less than 70% NEDIRs were least effective for this cohort.

**Table 8** also reports two positive significant results for medium sized firms between CEO bonus pay and firm performance moderated by RCs with 100% NEDIRs ($p = <.05$) and with 70-90% NEDIRs ($p = <.10$). Again the remuneration committee with 100% NEDIRs was the most effective of the three levels in aligning bonus pay with performance with an insignificant result reported at the lowest level of remuneration committee independence. This result indicates the ineffectiveness of remuneration committees to moderate CEO bonuses with firm performance for smaller firms no matter the composition of the remuneration committee.

5. Conclusion

In response to public outrage about alleged excessive executive compensation, a Productivity Commission’s key draft recommendation (Australian Government Productivity Commission, 2009, p. XXXIII) proposes a new ASX listing rule specifying that “all ASX300 companies have a remuneration committee of at least three members, all of whom are non-executive directors, with the chair and a majority of members being independent” to avoid conflicts of interest regarding executive pay.” Our findings are mixed and indicate that companies having RCs with 100% NEDIRs do not always control CEO total pay or CEO bonuses in relation to performance. In other words, size matters, as our study finds that large firm RCs effectively moderated CEO total pay for all levels of remuneration committee independence, the most effective committees(with smallest p-values) having more than 70% non executive membership. However for smaller and medium firms, RCs were ineffective in controlling CEO total pay for performance regardless of the level of independence of their remuneration committee.

For firms paying CEO bonuses, the results were mixed. In our study the large firm RCs comprising 100% NEDIRs have the most control paying CEO bonuses for performance ($p<.001$). Large firm RCs with 70-90% non executive director membership were weakly effective in paying CEO bonuses for performance and RCs with less than 70% non executive committee were ineffective. For medium size firms, RCs with 100% NEDIRs were also most effective when paying CEO bonuses for performance. Medium size firm RC’s, with 70-90% non executive membership was weakly effective RCs in smaller firms were ineffective in moderating CEO bonuses for performance regardless of the level of independence of their remuneration committee.

Our study contributes towards public policy as our evidence suggests that the Productivity Commission’s (2009) recommendation to mandate independent RCs comprising all NEDIRs will not be effective public policy for controlling excessive CEO compensation for all firms. Moreover, the Productivity Commission’s (2009) recommendation follows the notion that market efficiencies will control executive pay for performance which flies in the
face of fairness, justice and egalitarianism proclaimed by the centre left Labor government. In effect, powerful and wealthy corporate elites are able to arrange their compensation with minimum external oversight or transparency about a process that exacerbates income inequality (Sikka, 2008) and effectively firewalls senior management from an organisation’s internal labour norms. In contrast non-manager workers have to bargain with management through an enterprise bargaining system that is relatively open but highly contested as wages (earned by non-manager workers) are considered an expense by capital and therefore must be reduced to enhance profitability and shareholder wealth. In fact the notion of collective bargaining first emerged from the Rand Corporation as part of a larger neoclassical research into internal labour economics research by Williamson, Wachter and Harris (1975). Their research argues work organisations should emulate market conditions comprising transactions motivated by human opportunism. Goshal and Insead (1996, p. 39) criticise this notion, maintaining that incentivised opportunism results in dysfunctional behaviour “thereby sacrificing long term economic efficiency in the pursuit of short-term unsustainable gains”. They further argue that “the advantage of organizations over markets may lie not in overcoming human pathologies through hierarchy, but in leveraging the human ability to take initiative, to cooperate, and to learn; ..” (p. 42).

Remuneration committees as a corporate governance mechanism to control executive pay have another inherent flaw. The idea that non-executive directors are also independent of senior management is questionable as the income, conditions and other board appointments of these directors may depend on the generosity of management (Boyer, 2005). This situation predisposes an inter-dependent relationship with the possibility of intended or unintended collusion between senior management and NEDIRs, particularly when senior management and NEDIRs come from a similar socio-economic and cultural echelon (the old boys’ club).

While our study provides evidence about the moderating influence of RCs in ASX 300 companies there are limitations. Our sample of firms was collected only for 2001 for contextual reasons including regulatory changes and to avoid the impact of catastrophic events such as the internet crash. The models used to test the hypotheses are not complete in that other perhaps important factors have not been included when investigating the relationship between CEO pay, firm size, remuneration committee independence and firm performance however our models were constrained by the interactive focus. We acknowledge that there are other valid firm performance measures which were not included in this study for the methodological reason to perform a three-way interactive analysis.
REFERENCES


ASX Corporate Governance Council (2008), *Corporate Governance Principles and Recommendations*


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End Notes

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i The Productivity Commission was asked to undertake a public inquiry into the regulatory framework around remuneration of directors and executives of companies regulated under the Corporations Act. The report was presented to the Australian Government on 19 December 2009 and released publicly on 4 January, 2010. Specifically, the Commission was requested to consider:

- trends in director and executive remuneration in Australia and internationally
- the effectiveness of the existing framework for the oversight, accountability and transparency of director and executive remuneration practices
- the role of institutional and retail shareholders in the development, setting, reporting and consideration of remuneration practices
- any mechanisms that would better align the interests of boards and executives with those of shareholders and the wider community
- the effectiveness of the international responses to remuneration issues arising from the global financial crisis.

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iii The U.S. IRS regulation disallows tax deductibility of executive compensation when executive directors participate in the remuneration committee (Vafeas, 2003, p.53).
Figure 1
Natural Log Total Assets
### Table 1: Industry Groups based on GICS Code and Industry Sector

<table>
<thead>
<tr>
<th>Industry Groups</th>
<th>GICS Code</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Energy and Mining</td>
<td>10</td>
<td>Energy</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Materials</td>
</tr>
<tr>
<td>2: Industrials</td>
<td>20</td>
<td>Industrials</td>
</tr>
<tr>
<td>3: Consumer</td>
<td>25</td>
<td>Consumer Discretionary</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>Consumer Staples</td>
</tr>
<tr>
<td>4: Services</td>
<td>35</td>
<td>Health Care</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>Financials</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>Telecommunication Services</td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>Utilities</td>
</tr>
</tbody>
</table>

### Table 2: The No. of Firms for Each Industry Group

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Energy and Mining</td>
<td>28</td>
</tr>
<tr>
<td>2: Industrials</td>
<td>21</td>
</tr>
<tr>
<td>3: Consumer</td>
<td>36</td>
</tr>
<tr>
<td>4: Services</td>
<td>38</td>
</tr>
</tbody>
</table>

### Table 3: Firm Size (Total Assets - millions) at 3 levels

<table>
<thead>
<tr>
<th>FIRM SIZE 3 levels</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>smaller firms</td>
<td>155.16</td>
<td>75.79</td>
<td>37</td>
</tr>
<tr>
<td>medium size firms</td>
<td>822.90</td>
<td>384.37</td>
<td>42</td>
</tr>
<tr>
<td>large firms</td>
<td>20420.36</td>
<td>49852.62</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>7632.51</td>
<td>31111.25</td>
<td>123</td>
</tr>
</tbody>
</table>

### Table 4: Proportion of Executive Directors on the Remuneration Committee at 3 levels

<table>
<thead>
<tr>
<th>level</th>
<th>REMCOMMDIR</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>lowest proportion &lt;0.7 non executive directors</td>
<td>26</td>
</tr>
<tr>
<td>1</td>
<td>proportion 0.7-0.9 non executive directors</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>100% non executive directors</td>
<td>74</td>
</tr>
</tbody>
</table>
Table 5: CEO Total Remuneration Model (1a) Analysis showing 3-way Interaction Effect for Firm Size, Firm Performance (ROA) and Remuneration Committee Independence (REMCOMDIR)

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>42.11a</td>
<td>12</td>
<td>3.51</td>
<td>6.58</td>
<td>.00</td>
</tr>
<tr>
<td>Intercept</td>
<td>6152.05</td>
<td>1</td>
<td>6152.05</td>
<td>11535.73</td>
<td>.00</td>
</tr>
<tr>
<td>Industry Group</td>
<td>1.65</td>
<td>3</td>
<td>.55</td>
<td>1.031</td>
<td>.38</td>
</tr>
<tr>
<td>Firm Size * ROA * REMCOMDIR</td>
<td>40.49</td>
<td>9</td>
<td>4.50</td>
<td>8.46</td>
<td>.00****</td>
</tr>
<tr>
<td>Error</td>
<td>59.20</td>
<td>111</td>
<td>.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23602.05</td>
<td>124</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>101.30</td>
<td>123</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .10*, p = <.05**, p = <.01***, p = <.001****

a. R Squared = .42 (Adjusted R Squared = .35)
Table 6: Parameter Estimates for CEO Total Remuneration Model (1a) showing interactions for Large, Medium and Smaller Firms with Firm Performance (ROA), moderated by Remuneration Committee Independence (RECOMDIR) at 3 Levels

<table>
<thead>
<tr>
<th>Parameter</th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>13.65</td>
<td>.15</td>
<td>91.23</td>
<td>.0</td>
</tr>
<tr>
<td>Industry Group = 1</td>
<td>-.12</td>
<td>.20</td>
<td>-.62</td>
<td>.54</td>
</tr>
<tr>
<td>Industry Group = 2</td>
<td>-.12</td>
<td>.20</td>
<td>-.61</td>
<td>.55</td>
</tr>
<tr>
<td>Industry Group = 3</td>
<td>-.30</td>
<td>.174</td>
<td>-1.74</td>
<td>.08*</td>
</tr>
<tr>
<td>Industry Group = 4</td>
<td>0</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>Firm Size=0 * ROA* REMCOMDIR = 0</td>
<td>-.04</td>
<td>.02</td>
<td>-2.29</td>
<td>.02**</td>
</tr>
<tr>
<td>Firm Size=0 * ROA* REMCOMDIR = 1</td>
<td>-.01</td>
<td>.03</td>
<td>-.44</td>
<td>.66</td>
</tr>
<tr>
<td>Firm Size=0 * ROA* REMCOMDIR = 2</td>
<td>-.02</td>
<td>.01</td>
<td>-1.48</td>
<td>.14</td>
</tr>
<tr>
<td>Firm Size=1 * ROA* REMCOMDIR = 0</td>
<td>-.01</td>
<td>.03</td>
<td>-.41</td>
<td>.66</td>
</tr>
<tr>
<td>Firm Size=1 * ROA* REMCOMDIR = 1</td>
<td>.05</td>
<td>.05</td>
<td>1.12</td>
<td>.26</td>
</tr>
<tr>
<td>Firm Size=1 * ROA* REMCOMDIR = 2</td>
<td>.01</td>
<td>.02</td>
<td>.40</td>
<td>.69</td>
</tr>
<tr>
<td>Firm Size=2 * ROA* REMCOMDIR = 0</td>
<td>.12</td>
<td>.05</td>
<td>2.29</td>
<td>.02**</td>
</tr>
<tr>
<td>Firm Size=2 * ROA* REMCOMDIR = 1</td>
<td>.18</td>
<td>.04</td>
<td>4.32</td>
<td>.00****</td>
</tr>
<tr>
<td>Firm Size=2 * ROA* REMCOMDIR = 2</td>
<td>.16</td>
<td>.03</td>
<td>5.51</td>
<td>.00****</td>
</tr>
</tbody>
</table>

p< = .10*, p = <.05**, p = <.01***, p = <.001****
Table 7:  CEO Bonus Remuneration Model (1b) Analysis showing 3 way Interaction Effect for Firm Size, Firm Performance (ROA), and Remuneration Committee Independence (REMCOMDIR)

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>748.27</td>
<td>12</td>
<td>62.36</td>
<td>2.09</td>
<td>.02</td>
</tr>
<tr>
<td>Intercept</td>
<td>1540.31</td>
<td>1</td>
<td>1540.31</td>
<td>51.59</td>
<td>.00</td>
</tr>
<tr>
<td>Industry Group</td>
<td>259.19</td>
<td>3</td>
<td>86.40</td>
<td>2.89</td>
<td>.04**</td>
</tr>
<tr>
<td>Firm Size * ROA* REMCOMDIR</td>
<td>520.81</td>
<td>9</td>
<td>57.87</td>
<td>1.94</td>
<td>.05**</td>
</tr>
<tr>
<td>Error</td>
<td>3284.45</td>
<td>110</td>
<td>29.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13486.00</td>
<td>123</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>4032.72</td>
<td>#122</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .10*, **p < .05**, ***p < .01***, ****p < .001****

# Note: one firm had a missing value for this model

a. R Squared = .186 (Adjusted R Squared = .10)
Table 8: Parameter Estimates for CEO Bonus Remuneration Model (1b) showing interactions for Large, Medium and Smaller Firms with Firm Performance (ROA), moderated by Remuneration Committee Independence (RECOMDIR) at 3 Levels

<table>
<thead>
<tr>
<th>Parameter</th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>8.73</td>
<td>1.12</td>
<td>7.80</td>
<td>.00</td>
</tr>
<tr>
<td>Industry Group = 1</td>
<td>-1.36</td>
<td>1.46</td>
<td>-.93</td>
<td>.35</td>
</tr>
<tr>
<td>Industry Group = 2</td>
<td>-2.94</td>
<td>1.29</td>
<td>-1.94</td>
<td>.06</td>
</tr>
<tr>
<td>Industry Group = 3</td>
<td>-3.59</td>
<td>1.31</td>
<td>-2.75</td>
<td>.01***</td>
</tr>
<tr>
<td>Industry Group = 4</td>
<td>0a</td>
<td>.</td>
<td>..</td>
<td></td>
</tr>
<tr>
<td>Firm Size = 0 * ROA* REMCOMDIR = 0</td>
<td>-.04</td>
<td>.14</td>
<td>-.30</td>
<td>.77</td>
</tr>
<tr>
<td>Firm Size = 0 * ROA* REMCOMDIR = 1</td>
<td>.10</td>
<td>.19</td>
<td>.56</td>
<td>.58</td>
</tr>
<tr>
<td>Firm Size = 0 * ROA* REMCOMDIR = 2</td>
<td>-.06</td>
<td>.08</td>
<td>-.67</td>
<td>.51</td>
</tr>
<tr>
<td>Firm Size = 1 * ROA* REMCOMDIR = 0</td>
<td>.07</td>
<td>.24</td>
<td>.31</td>
<td>.76</td>
</tr>
<tr>
<td>Firm Size = 1 * ROA* REMCOMDIR = 1</td>
<td>.64</td>
<td>.35</td>
<td>1.81</td>
<td>.07*</td>
</tr>
<tr>
<td>Firm Size = 1 * ROA* REMCOMDIR = 2</td>
<td>.41</td>
<td>.18</td>
<td>2.28</td>
<td>.02**</td>
</tr>
<tr>
<td>Firm Size = 2 * ROA* REMCOMDIR = 0</td>
<td>.30</td>
<td>.40</td>
<td>.75</td>
<td>.46</td>
</tr>
<tr>
<td>Firm Size = 2 * ROA* REMCOMDIR = 1</td>
<td>.52</td>
<td>.32</td>
<td>1.64</td>
<td>.11</td>
</tr>
<tr>
<td>Firm Size = 2 * ROA* REMCOMDIR = 2</td>
<td>.65</td>
<td>.22</td>
<td>3.03</td>
<td>.00****</td>
</tr>
</tbody>
</table>

p< = .10*, p = <.05**, p = <.01***, p = <.001****