

Executive Performance-based Remuneration: How is it Paid under Performance Change and Different Board Structures?

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Acknowledgement:

The author gratefully acknowledges the financial support from the ANU College of Business and Economics, the Australian National University, and the helpful comments by Greg Shailer and Jacqueline Birt.

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ABSTRACT

This paper examines the extent to which CEO performance-based remuneration is paid by companies which experience improvement in financial performance but have different board structures. It also analyses how such payment relates to change in financial performance and board structures by comparing the cases between Australian and Singaporean companies. By reference to the traditional theory of controlling management and shareholders conflicts through board monitoring and management incentive system, the results reveal that performance-improving companies in both Australia and Singapore exhibit a higher rate of CEO performance-based payment than performance-declining companies, highlighting that performance pay is likely to be linked to change in performance. While there is no effect of board structure, which is more independent in Australia than Singapore, on the level of CEO performance-based payment, larger firms appear to have greater use of performance-based remuneration as incentive to management and sales revenue is a likely yardstick used by companies for determining CEO performance pay in both countries. In addition, executive performance pay in Australian firms appears to be more responsive to past year's performance improvement than the Singaporean counterparts.

Keywords: performance-based remuneration, independent board, performance change

1. Introduction

This paper examines the extent to which a performance-based component is used as part of the management incentive remuneration by companies which experience improvement in financial performance but have different board structures. Specifically, it analyses the level of performance-based remuneration paid to chief executive officer (CEO) and how such payment relates to change in financial performance and board structures. A comparison of remuneration and board practices is made between Australian and Singaporean performance-improving companies where the level of owner-management relationship and board governance are different.

Corporate governance research originates from the issue of conflicts of interests between management and shareholders, and directors' accountability to shareholders (Fama, 1980; Fama and Jensen, 1983). The conflicts typically arise from the separation of management and owners in widely-held firms. Australian companies are relatively more widely-held¹ than Singaporean companies and exhibit higher owner-management conflicts, while companies in Singapore are largely family owned or government controlled, and therefore are expected to have lower owner-management conflicts. The different owner-management relationships could lead to different board monitoring systems in terms of structure and composition in the two countries. Given the global interests and much media attention in executive remuneration payments, what level of performance-based remuneration would companies pay to their chief executive when there is a change in financial performance? Would the regulators' recommendation for more independent board affect companies' decisions to structure management incentive payments? This paper seeks to address these two issues.

¹ While Australian companies are more widely-held than Singaporean companies, their ownerships are still relatively more concentrated than companies in US and UK (La Porta et al., 1999).

Two competing views regarding the role of the board of directors and management incentive payments prevail. Previous research emphasizing the principal-agent model of governance (Rosenstein and Wyatt, 1990; Core, Holthausen and Larker, 1999; Kakabadse et al., 2001; Denis, 2001) considered the use of an independent board and linking executive remuneration to performance to be good corporate governance practices. An independent board has the capacity to monitor management performance due to asymmetry of information between management and shareholders. Performance-based executive remuneration is thus designed to align the interests of management and shareholders. On the other hand, proponents of the stewardship role of the board argue that executives have self-incentive to drive firms' values rather than relying on an independent board and short-term management incentive payments (Donaldson and Davis, 1991). These views could have implications on executive performance pay under different owner-management settings.

Empirical evidence regarding the relationships among CEO compensation, sensitivity of pay and performance, and board structure is mixed (e.g. Rosenstein and Wyatt, 1990; Shleifer and Vishny, 1997; Core, et al., 1999; Gillan and Starks, 2000; Kakabadse et al., 2001; Denis, 2001; Perry and Zenner, 2001). A strong link between executive payments, firm performance and board structure is still questionable. Nevertheless, prior research provides evidence of increasing levels of executive compensation and performance-based payment over time in different countries (Conyon and Schwalbach, 2000; Bushman and Smith, 2001), prompting increased research attention on performance-based management compensation. In addition, there is a call for more research to better understand cross-country differences in corporate governance (La Porta et al., 1998; Bushman and Smith, 2001).

This study differs from prior research in that it focuses on the more controversial component of performance-based payment rather than total remuneration. It examines how such payment relates to a change in financial performance rather than a single year of performance. It also addresses whether an independent board affects the level of performance-based remuneration

paid to CEO by contrasting the practices in two countries with different board monitoring systems.

A comparison between Australia and Singapore is made because these two countries have different ownership and board environment, but with similar governance regulations imposed by capital market regulators given the global trend of strengthening corporate governance regulation. This provides an appropriate setting for analyzing the possible influence of ownership and board structure while controlling for the effect of governance regulation on executive compensation.

Both Australia and Singapore are common-law countries with established legal protection for outside investors (La Porta et al., 1998). However, share ownership in Australian companies is less concentrated than Singaporean companies (La Porta et al., 1999) because most Singaporean companies are primarily family or state owned. The different ownership pattern is likely to affect the structure of the company board as a monitoring mechanism (Donaldson and Davis, 1991). Both Australia and Singapore have similar high quality of accounting standards and disclosure (La Porta et al., 1998). Nevertheless, Singaporean companies tend to engage in more earnings management than Australian companies (Leuz et al., 2003). It is outside the scope of this paper to explore reasons for earnings management, but it signals the need to examine corporate governance practices, in which the board plays a crucial role in monitoring management behaviour, including the use of incentive payments.

Within Australia, as part of the regulatory response to recent corporate failure, the Australian Stock Exchange (ASX) Corporate Governance Council was formed in 2002 to address and develop a national corporate governance framework. The council subsequently, in March 2003, recommended ten principles of good corporate governance and best practices. An “if not, why not” approach is adopted. Companies are required to provide explanation for any departure from the best practice recommendations. The recommendations include the

independence of the board and setting up of board committees to enhance the role and accountability of directors, and linking executive remuneration to company performance. In Singapore, a similar response was initiated by the Singapore Ministry of Finance Corporate Governance committee, which issued the Code of Corporate Governance in 2001. The Code also suggests linking executive pay to performance. Listed companies are required to disclose their governance practices in their annual reports and provide explanation where their practices are not consistent with the Code. The provisions in the Code are similar to the ASX recommendations in many aspects, except that the Singaporean Code recommends at least one-third of the board members are independent directors, while the ASX principles recommends a majority of the board directors are independent, without specific guidance on what constitutes “majority”.

A number of important findings arise from this study. Firstly, performance-improving companies in both countries exhibit a higher rate of CEO performance-based payment than performance-declining companies, suggesting that performance pay is not only related to the level of performance as found in prior research, but also tends to link to change in performance. Second, there are significant differences in ownership concentration, board structure and firm size between the two countries. Among these, CEO duality, firm size and CEO change account for the different levels of performance pay, signaling a management-dominated board could affect the level of performance pay in different countries. Third, when concentrating only on the sample groups of performance-improving companies, both countries exhibit a similar level of performance-based remuneration paid to CEO despite the differences in owner-management relationship and board structure, calling into question the need for greater executive incentive payment in widely-held firms which experience higher owner-management conflicts. Fourth, the lack of significant relationship between board structure and CEO performance-based remuneration in both countries highlights the inapplicability of principal-agent model and optimal compensation contracting in explaining CEO performance-pay in Australia, but the competing view of stewardship role may hold in

the Singaporean case. The possibility of management self-dealing behaviour may also be explored. Lastly, the study finds a significant relationship between the level of performance pay and firm size in both countries, suggesting that larger firms are likely to have greater use of performance-based payments and sales revenue is likely to be used by companies as a yardstick for CEO performance pay as argued in prior research. In Australian case, the performance pay is also significantly related to the degree of past year's improvement in performance, suggesting that executive performance pay in Australian firms are more responsive to past year's performance improvement than the Singaporean counterparts.

2. Executive Performance-based Compensation

The issue of executive management compensation has attracted much academic and media attention, but not much is known about how different owner-management relationships affect performance-based compensation to executive managers. A theoretical explanation applicable to Anglo-American societies is typically provided by the agency and contracting theory. Agency problems within a firm arise from the conflict of interests between management and shareholders/owners (Fama, 1980; Fama and Jensen, 1983; Denis, 2001). It is argued that the degree of management and shareholders conflicts is potentially higher in widely-held firms, in which ownership is dispersed and is separated from the control of capital resources (Fama and Jensen, 1983; La Porta et al., 1999). Such conflicts generally arise from management's self-interests motives to pursue their own interests at the expense of the principals' interests in the presence of information asymmetry. Nevertheless, shareholders may not have sufficient incentive to incur the high costs of monitoring management's behaviour. The use of management incentive compensation contract and monitoring management's opportunistic behaviour is seen by the principal-agent model as an effective mechanism.

In order for the management compensation contract to be effective, previous research on economic contracting theory emphasizes the potential trade-off between management payment incentive and risk sharing in the design of an optimal compensation contract under information asymmetry and uncertainty (Ross, 1973; Holmstrom, 1979; Shavell, 1979). Where information asymmetry is high and the agent's effort is difficult to be observed, as in the case of widely-held firms, the design of an optimal compensation contract will tend to depend mainly on performance outcome so as to allocate the risk between the principal and the agent (Shavell, 1979; Tosi et al., 2000). It is also argued that performance-linked compensation schemes are more important in market-oriented systems and firms with more diversified ownership tend to have higher degree of pay-performance sensitivity than firms with concentrated ownership under the principal-agent model (Moerland, 1995; Kraft and Niederprum, 1999). In that sense, it is reasonable to expect that widely-held firms which experience improvement in financial performance would have an incentive to pay executive managers a higher proportion of performance-based compensation.

This strong focus on the performance-based management compensation contract has attracted a great deal of academic research on executive compensation and its sensitivity to financial performance (Baber, Janakiraman and Kang, 1996; Core et al, 1999; Tosi et al., 2000; Andjelkovic, Boyle and McNoe, 2002; Tosi, Misangyi, Fanelli, Waldman and Yammarino, 2004; Thompson, 2005). Nevertheless, empirical results are mixed. Jensen and Murphy (1990) documented a significant positive relationship between top executive pay and shareholders' wealth in the U.S., but arguing that the magnitude of such observed pay and performance relationship is too small to provide effective incentive. Their study reflected that executive pay in the U.S. has not been efficiently based on performance. They suggested that alternative political forces within and outside the firm, such as the role of board, compensation sub-committee, compensation disclosure regulation, could play a role in influencing the executive pay. Their conclusion appears to be consistent with other research findings which seek to relate pay-performance sensitivity to different firm and regulatory

environment. For example, Baber et al. (1996) suggested the existence of pay-performance sensitivity when investment opportunity was high. Andjelkovic et al. (2002) found that firms which voluntarily disclosed CEO compensation earlier than required exhibit a positive relationship between pay and performance. However, Tosi et al. (2000) and Andjelkovic et al. (2002) found no significant relationship between executive pay and firm performance.

3. Company Board Structure

The principal-agent model attaches value to an independent board of directors in monitoring management performance on behalf of the shareholders (Fama, 1980; de Andres, Azofra and Lopez, 2005). Characteristics of an effective independent board normally include the presence of outside independent directors on the board, and separating the role of chief executive officer and the board chair in order to enhance monitoring (Rosenstein and Wyatt, 1990; Kakabadse et al., 2001; Denis, 2001; Ryan Jr and Wiggins III, 2004; de Andres et al., 2005; Wan and Ong, 2005). Decisions on CEO compensation can be made more independently from management and more objectively on appropriate performance measures, thus closer in line with firms' values (Kren and Kerr, 1997; Denis, 2001), suggesting some observable relationships between board composition and paying performance-based compensation to executives.

Despite the benefit of an independent board in contracting executive performance pay, Shleifer and Vishny (1997:745) suggested that a serious problem associated with incentive contracts is that they may create opportunities for "self-dealing for the managers, especially if these contracts are negotiated with poorly motivated boards of directors". For example, managers may negotiate for themselves such contracts when they expect that earnings are likely to increase. This may imply that firms with less stringent governance control including less independent board monitoring, such as Singaporean firms, are more likely to expose to management self-dealing behaviour. As most of the Singaporean firms are family owned and

controlled, they often exhibit lower separation of ownership and control, and managers are often appointed family members and appointed internally (Mak and Kusnadi, 2005). Their boards are likely to be less independent and potentially provide greater opportunity for management self-dealing behaviour.

The principal-agent model has been challenged by proponents for the stewardship role of the board (Donaldson and Davis, 1991). Such theoretical argument focuses on senior managers who effectively have the incentive to act in the interests of the firm, rather than being self-interest or taking opportunistic behaviour. The achievement of superior performance is made possible by empowering the senior manager. Hence, the concentration of CEO and board chair responsibilities on the same person, and inside directors with their experience can arguably add value to the firm. Contrary to the agency perspective, the emphasis on the stewardship role implies that board structure is unlikely to have an important effect on short-term performance-based payments to the chief executive.

Prior research does not provide clear evidence on the relationship between board structure and executive performance-based remuneration. Core et al. (1999) found CEO compensation was higher in US firms where governance structure was less effective, with less independent outside directors. However, Kren and Kerr (1997) did not find evidence that more outside directors on the board would contribute to greater pay-performance relationship. Coulton and Taylor (2002) also found no significant relationships between effective governance structure including an independent board and CEO bonus and stock options pay in Australian context.

Attention is also paid to the role of a remuneration subcommittee. Both the ASX corporate governance principles and the Singaporean Codes support the role of an independent remuneration committee in reviewing and recommending executive compensation. But the ASX acknowledges that such a committee may be more effective for larger firms rather than smaller firms. The importance of the remuneration committee is also supported by Dalton et

al. (1998) and Anderson and Bizjak (2003). But Dalton et al. (1998) argued that the amount of CEO compensation was related to the composition of a remuneration subcommittee. Anderson and Bizjak (2003), while considering the value of a remuneration committee, did not find evidence that greater committee independence would affect executive remuneration in US context.

4. Variables

Six sets of variables are compared between Australian and Singaporean companies, including CEO remuneration, financial performance, ownership concentration, board independence, management-dominated control², and other board and firm attributes. The analysis can be expressed in a general function as below and the variable measurement is summarized in Table 1.

CEO performance-based remuneration = f (financial performance, ownership concentration, board and sub-committees composition, other board and firm attributes)

< TABLE 1 ABOUT HERE >

CEO remuneration. CEO performance-based remuneration is calculated by the total of bonuses and equity-based payments as a percentage of total remuneration. In Australia, the ASX Corporate Governance Council recommends disclosure by listed companies of the amount and components of remuneration for each director and each of the five highest-paid

² Using factor analysis for the whole sample, 9 ownership and board variables fall into 3 factors with eigenvalue greater than 1, accounting for 74% of the variance. The three factors can be identified as (1) ownership concentration, with the three ownership measures; (2) board independence consists of independent directors and non-executives directors on company boards and remuneration committees; (3) management-dominated control consists of CEO duality and directors shareholding. The 9 variables are classified into these three categories accordingly.

executives. The disclosure would include components such as salary, fees, bonuses, profit share, value of shares issued and options granted, and other non-cash benefits. While the ASX guidelines were still not effective in 2003, most companies have already made the transition in disclosing details of executive payments. Singaporean companies are also required by the Code to disclose details of remuneration of each director and the top five key executives in the annual reports. However, instead of the dollar amount, companies are only required to disclose, in percentage terms, the components of base salary, variable or performance-related income/bonuses, benefits in kind, stock options and other long-term incentives. Subject to the availability of data and different classification of payments, the performance-based remuneration for this study consists of items identified as performance-related in the annual reports including bonuses, variable components, long-term incentives, profit share and stock options. The analysis is made in percentage terms only due to data restriction from Singaporean disclosure.

Financial performance. The degree of change in return on equity during the prior two years (2001-2003), and also change during the immediate previous year (2002-2003) for each group are compared. Accounting-based financial measures are used as it is argued that such measures could best reflect the outcomes of a firm's internal control and management decisions, compared to market-based measures, which are subject to influences external to the firm's control. It is also suggested that accounting information is often used by the board of directors in incentive contracts (Bushman and Smith, 2001; Hutchison and Gul, 2003)³.

Ownership concentration. Three measures of ownership concentration are used as an indication of the potential level of owner-management conflicts in the two countries. These are percentage of shares held by shareholders with 5% or more of the company shares,

³ Return on equity (ROE) is used rather than return on assets (ROA) in the analysis. While both measures are commonly employed by various studies (Donaldson and Davis, 1991; Core et al., 1999; Hutchison and Gul, 2003), the two measures are often highly correlated and produce similar results (Hutchison and Gul, 2003).

percentage of shareholding by the top shareholder, and percentage of shares held by the top 20 shareholders.

Board independence. The independence of the board is represented by the level of independent directors and non-executive directors on the company board and the remuneration committee. This mechanism is seen as effective by the principal-agent governance model. Proportion of independent directors on company board is measured by the number of independent directors as a percentage of company board size. Similar measurement applies to the proportion of independent directors on the remuneration committee, the proportion of non-executive directors on the company board and the remuneration committee.

Management-dominated control. Two proxies for management control are employed: CEO duality and directors shareholding. This set of variables represents the level of authority and power that can be exercised by directors and CEO, which is seen as necessary to fulfil the stewardship role of management. CEO duality is measured as 1 if CEO and board chair is the same person and 0 otherwise. Directors shareholding is the number of company ordinary shares held by directors as a percentage of total shares issued.

Other Board and Firm attributes. The analysis controls for the possible influence of other board firm attributes on executive pay, including firm size, revenue growth, asset growth, board size and change of CEO. Pay and performance sensitivity is often found to be associated with larger firms or firms with growth opportunity (Baber et al., 1996; Coulton and Taylor, 2002; Anderson and Bizjak, 2003; Thompson, 2005). Thompson (2005) suggested that sales and sales growth are common indicators for making executive remuneration decisions. Firm size is measured by total operating revenue, which also captures the suggestion that sales revenue could be used as a yardstick by companies for determining executive pay. Asset growth is measured as the percentage change in total assets during the

previous two years (Beasley, 1996). A similar measure is computed for revenue growth. Prior studies found a negative relationship between board size and firm value (de Andres et al., 2005; Mak and Kusnadi, 2005). Following this reasoning, smaller boards, which are likely to be associated with better performance, are expected to design higher performance-based pay (Denis, 2001). In addition, CEO pay may also be contingent upon the appointment of a new CEO (Rose and Shepard, 1997). CEO change is coded as 1 if there is a change in CEO during 2003, otherwise 0.

5. Sample

The sample comprises 47 performance-improving companies and 19 declining companies in Australia, as well as 52 performance-improving companies and 32 declining companies in Singapore, with a total of 150 firms. Table 2 presents the sampling process. Drawing on Bruton, Oviatt and White's (1994) and Castrogiovanni and Bruton's (2000) studies which defined financially-distressed firms as those that experienced two consecutive years of decline in both net income and investment return, this study applies the same criterion to identify companies experiencing declining performance. Similarly, companies experiencing two consecutive years of increase in both net income and investment return are identified as performance-improving.

< TABLE 2 ABOUT HERE >

Using the Osiris research database, top 500 companies in Australia and Singapore with data on net income and return on equity from 2001 to 2003 were identified. The selection process generated 235 firms satisfying the performance criteria. Performance-improving firms with three consecutive years of negative net income and investment return are eliminated as these firms are most likely to be in financial distress, which could have an impact on management remuneration design (Beatty and Zajac, 1994; Mishra et al., 2000), thus producing a bias in

the analysis of results. The final sample of 150 is obtained after eliminating those companies which annual reports or corporate governance data were not available.

For each company, data relating to CEO performance-based remuneration, board structures, ownership concentration and other firm attributes for the year 2003 are collected using research databases including Osirus and Connect4⁴, as well as company annual reports.

6. Results

Three levels of analysis are conducted. Initially, the sample characteristics of ownership concentration, board and firm attributes for performance-improving companies between the two countries are compared, and are contrasted to those performance-declining companies in the two countries. Similar analysis is then applied to compare the levels of CEO performance-based remuneration between the two countries. Finally, factors which may potentially influence the level of performance-based remuneration are analysed. A regression is firstly estimated for the whole sample to identify any country effect. A separate regression is then estimated for performance-improving companies in each country to provide further within-country evidence.

6.1 Sample characteristics: ownership concentration, board and firm attributes

Differences in ownership concentration, board and firm attributes between companies in Australia and Singapore are showed in Table 3. It highlights that the sample Singaporean companies have a higher ownership concentration than the Australian companies. The differences are statistically significant for all three measures. The shareholdings by the largest shareholder in Australia has a mean of about 20% for both improving and declining

⁴ Osirus is a database containing company data in different countries, and Connect4 is an Australian company database.

companies, while the mean for Singaporean improving companies is 35% and 40% for declining companies. In Australia, shareholders with 5% or more shareholdings, on average, held 36% of shares for improving companies and 34% for declining companies, but a much higher percentage is found in Singapore (a mean of 58% for improving companies and 64% for declining companies). Similarly for the mean percentage of shares held by the top 20 shareholders where a higher percentage is noted in Singapore (59% for improving companies and 55% for declining companies in Australia, 79% for improving companies and 83% for declining companies in Singapore).

< TABLE 3 ABOUT HERE >

The results on the level of board independence and management-dominated control reveal different corporate governance practices between Australian and Singaporean companies. Australian companies with improving performance are likely to structure a more independent board, but performance-improving companies in Singapore tend to empower senior management with greater authority and control. Similar results are found for performance declining companies. In relation to board independence, Australian improving companies have a higher proportion of non-executive and independent directors on the board and remuneration committee (mean 74% and 62% respectively on the board, 89% and 81% for those with a remuneration committee) than the Singaporean counterparts (board 59% and 46%, remuneration committee 78%, 69%). On the other hand, a higher proportion of Singaporean improving companies (46%), as compared to Australian (2%), have the role of board chair and CEO served by the same person. Singaporean companies also exhibit a higher level of director shareholdings than Australian companies (mean 21% and 8% respectively). The results are similar for performance declining companies.

The results suggest that there is likely to be a substitution effect between ownership concentration and the need to structure an independent board for the sample companies. The

proposition is supported by an additional statistical test (not reported here) showing a significant negative correlation between the proportion of independent directors and the three ownership measures.⁵ This highlights that under the environment where ownership concentration is high (and possibly high level of family ownership), as in the case of Singaporean companies, companies are less likely to be concerned about board structure or bringing in more independent directors. There are two competing arguments regarding such relationship. Large investors are argued to have an incentive and the ability to monitor the operation of the firm due to their significant shareholdings in the firm, therefore reducing agency problem (Shleifer and Vishny, 1997; Denis, 2001). The involvement of large investors in the monitoring process becomes an important corporate governance mechanism. This view is also consistent with the proponents of the stewardship role of the board (Donaldson and Davis, 1991). The second argument suggests that large investors enjoy private benefits at the expense of other shareholders (Denis, 2001) and thus have less incentive to structure an independent board.

Other board and firm attributes are also different between the two countries. Australian improving companies are larger firms, in terms of total revenue, as compared to Singaporean improving companies. Declining firms in both countries are much smaller firms. Australian companies, both improving and declining, have higher assets and revenue growth than Singaporean companies. Both Australian and Singaporean improving companies have similar board size, but Australian declining companies have smaller board size than those declining companies in Singapore. A higher proportion of both Australian improving and declining companies experience a change of CEO as compared to Singaporean companies. It appears that change in CEO is not common in Singapore even though firm performance is declining. This perhaps relates to the different corporate cultural and ownership between the two

⁵ A regression analysis of the proportion of independent directors is also conducted on percentage of shares held by holders with 5% or more shareholdings, and other control variables including firm size, revenue growth, debt and board size for the whole sample in two countries. The results confirm a negative association between board independence and ownership concentration (adjusted R² 0.281, sig 0.000).

countries where it is difficult to change the CEO who is a family member of the family-owned company in Singapore.

6.2 CEO performance-based remuneration

Details of the CEO remuneration and financial performance are presented in Table 4. Panel A shows that companies with improving financial performance experienced similar level of changes in ROE from 2001 to 2003 in both Australia (mean 17%) and Singapore (mean 19%). Much weaker growth in ROE from 2002 to 2003 is observed (mean 4% in Australia and 7% in Singapore). On the other hand, companies with declining financial performance experienced a steep drop in ROE over the two-year period from 2001 to 2003 (mean -67% in Australia and -28% in Singapore). Decline in ROE for the one-year period from 2002-2003 was about 49% in Australia and 17% in Singapore.

< TABLE 4 ABOUT HERE >

Panel B presents information on CEO remuneration. The level of CEO performance-based remuneration is similar for both Australian and Singaporean improving companies (mean 30% and 32% respectively, no significant statistical difference). There is also a similar low level of performance-based payments to CEO for declining companies in both countries (mean 13% and 12% for Australia and Singapore respectively, no significant statistical difference). The results also reveal that 87% and 92% of the sample Australian and Singaporean improving firms pay a performance-based component to CEO. This contrasts to only 47% of Australian and 68% of Singaporean declining firms. Out of those with a performance component, the level of performance-based payments is similar for improving firms in both countries (mean 35%). But declining firms pay a much lower proportion (mean 27% in Australia, 17% in Singapore). The results also highlight that there is a wider gap in the level of performance pay between performance improving and declining companies in

Singapore than the Australian counterparts. In other words, in Singapore, when the firm's performance is improving, the performance pay proportion is much higher, and when the firm's performance is declining, the performance pay proportion is much lower.

The findings are consistent with the expectation that firms with improving performance will exhibit higher level of executive performance-based payments than declining firms. In addition, a higher proportion of the improving firms than declining firms pay a performance-based component to CEO, and for those paying a performance component, improving firms pay a higher level than declining firms. This provides an indication of the responsiveness of performance pay to changes in performance. However, given the differences in ownership and board structures between the two countries, the similar level of performance-based payments for improving firms in the two country samples raise queries about whether ownership and board structures matter in designing CEO pay.

6.3 Determinants of CEO performance-based remuneration

The association between CEO performance-based pay and other ownership, board and firm attributes is tested by multivariate analysis. Initially, a regression is estimated for the whole sample (combined improving and declining firms in both countries) to test the effect of country differences of ownership and board structure on performance-based remuneration. The independent variables consist of ownership and board variables including the percentage of shares held by holders with 5% or more shareholdings, proportion of independent directors on the board and proportion of independent directors on remuneration committee; and other variables which show significant country differences in Table 3 including CEO duality, director shareholding and total revenue (the logarithm of total revenue is used in regression analysis). The estimation also control for improving or declining firms (coded as 1 for improving firms, 0 otherwise) and change of CEO.

The results are presented in Table 5. Diagnosis by variance inflation factor indicates there is no significant collinearity problem. A significant positive relationship is found between the performance component and improving/declining firms, CEO/chair duality and total revenue. A significant negative relationship is found for CEO change variable. However, the coefficients of ownership and independent director variables are not statistically significant. The results suggest that ownership concentration, an independent board or an independent remuneration committee do not appear to have an effect on the decision to pay a performance component to CEO. Instead, differences in management-dominated control through CEO duality and firm size are likely to drive the level of performance pay as expected. The appointment of new CEO tends to reduce performance pay level. The results also provide evidence that performance-based payment is sensitive to improvement in financial performance when the change in performance is analysed as a dichotomous category.

< TABLE 5 ABOUT HERE >

The whole sample analysis provides evidence on country effect. But are there any different driving factors within each country? Two separate regression analysis for performance-improving firms in each of the two countries are conducted. Due to collinearity and sample size problems, only selected variables are tested. The degree of improvement in ROE one year prior to performance pay and board structure variables are of interest. The board variables include proportion of independent directors on the board, CEO duality, and an interactive variable representing the level of board independence in growing firms (proportion of independent directors on the board x revenue growth). The control variables include total revenue and CEO change.

Table 6 provides the regression results. For Australian improving companies, there is no significant relationship between CEO performance-based payment and board structure. Although the coefficient for the interactive variable of independent director and revenue

growth is significant, the negative relationship cast doubt on the role of independent director on paying CEO with a performance component when the firm experiences revenue growth. However, the level of performance pay is significantly and positively associated with the degree of previous year's improvement in financial performance and total revenue. The results appear to be consistent with Coulton and Taylor's (2002) findings.

< TABLE 6 ABOUT HERE >

With respect to the Singaporean improving companies, the only significant variables are total revenue (with a positive coefficient) and CEO change (with a negative coefficient). Other board and performance variables are not statistically significant. The results do not provide strong evidence regarding the role of independent directors on CEO performance-based pay, no matter whether the firm ownership is widely held or concentrated. Rather, there is a support for the argument that firm's decision on CEO performance-based pay is largely based on sales revenue and that larger firms are likely to pay a higher level of performance component (Coulton and Taylor, 2002; Anderson and Bizjak, 2003; Thompson, 2005).

6.4 Additional Tests

Additional between-country and within-country regression tests are conducted to provide further evidence to the above results (additional test results are not reported in tables). The country effect on CEO performance-based payment is further tested by substituting the 5% shareholding measures with the other two ownership concentration measures, percentage of shares held by top 20 shareholders and percentage of shares held by the largest shareholder. No significant result is found, supporting the original finding that ownership concentration is not a major factor for CEO remuneration design in Australia and Singapore. As for individual country, previous year's change in financial performance (2002-2003) is substituted by firstly, change in ROE from 2001 to 2002, and secondly, change in ROE from 2001 to 2003 in order

to capture the change into the past two years. The results are insignificant in both countries. This suggests that, in Australia, CEO performance pay is largely based on past year change in performance rather than changes over a longer time period.⁶ However, in Singapore, performance pay does not appear to be related to any change in performance.

7. Conclusion

This study compares the level of performance-based remuneration paid to CEO by Australian and Singaporean companies experiencing improvement in financial performance and the extent to which such pay is determined by change in performance and board structure. The different owner-management relationship and board governance systems between Australian and Singaporean companies enables better analysis of the role of an independent board in designing executive remuneration. The comparison between Australia and Singapore also provides greater insight into how change in performance might affect a company's decision to pay a performance-based component to CEO under different board monitoring systems in different countries.

The study found that performance-improving companies in both countries exhibit a higher rate of CEO performance-based payment than performance-declining companies, suggesting that performance pay is not only related to the level of performance as found in prior research, but also tends to link to change in performance. Companies which experience improvement in financial performance are likely to reward their CEO with greater performance pay. However, companies are also seem to be cautious in determining the level of performance pay given the fact that performance-based component constitutes only about 30% of total remuneration. Fixed salary still forms a major part of the CEO's remuneration.

⁶ It is also possible that the performance-based remuneration data disclosed in company annual reports reflect only short-term incentive payments.

The results provide evidence that, in both countries, the level of performance pay is likely to be associated with larger firms and sales revenue is a likely indicator for CEO performance pay as suggested by prior research. In addition, the performance pay is also likely to be based on the degree of past year's improvement in performance in Australian rather than in Singapore.

The similar level of CEO performance-based remuneration found in the Australian and the Singaporean sample which experience improving performance cast doubt on the expectation that more performance-based remuneration would be paid to the executive under the environment of higher owner-management conflicts in more widely-held firms. Given that no significant association between board structure and performance pay is found, there is little evidence supporting the applicability of the principal-agent model and optimal compensation contracting in explaining the CEO performance pay level in Australia. As for the Singaporean case, there is some evidence of the stewardship role proposition. However, possibility of management 'self-dealing' may also be suspected. The comparatively less independent board and remuneration committee in Singapore, the higher degree of performance improvement and a wider gap in CEO performance pay between improving and declining companies as compared to Australian case indicates the possibility of such behaviour. Although self-dealing behaviour could also exist in Australia, such problem may be more serious in Singapore. The possibility of such contention requires further investigation.

The findings support regulators' recommendation that good governance practice involves linking executive remuneration to performance. However, the role of independent directors in governing executive performance-based pay appears to be less important than expected in practice. There are two possible explanations. From regulatory perspective, the appointment of independent directors on the board could be a reflection of mere compliance. The level of independent directors, about 60% in Australia and 40% in Singapore, resemble the regulatory requirement of "a majority" in Australia and "one-third" in Singapore. From theoretical

perspective, Kren and Kerr (1997, p.308) suggested that the benefit of outside directors' objectivity could be at the cost of "information deficit regarding the CEO's true capability, effort and responsibility for performance outcomes". The board and remuneration committee would have to rely on other sources of information such as from compensation consultants or advisors in setting performance-based payments. The independent board's role in monitoring executive pay could thus be weakened.

The analysis of this study is limited to the focus of board structure rather than board process which arguably has an influence on the effective functioning of the board (Wan and Ong, 2005). The different classification and disclosure in the two countries also limit the ability of this study to test individual component of CEO performance-based payments. Further research comparing different structures of performance-based remuneration paid to executive over times would yield greater insight into the design of executive performance pay in the global environment.

Table 1 Variable Measurement

Variables	Measurement
CEO remuneration	
CEO performance-based remuneration	Total bonuses and equity-based payments as a percentage of total remuneration
Financial performance	
Change in ROE in two years	Percentage change in ROE from 2001 to 2003
Change in ROE in one year	Percentage change in ROE from 2002 to 2003
Ownership concentration	
Substantial shareholders	Percentage of shares held by shareholders with 5% or more shareholdings
Largest shareholder	Percentage of shares held by the top shareholder
Top 20 shareholders	Percentage of shares held by top 20 shareholders
Board Independence	
Independent directors on company board	Number of independent directors as a percentage of total board members
Non-executive directors on company board	Number of non-executive directors as a percentage of total board members
Independent directors on remuneration committee	Number of independent directors as a percentage of total remuneration committee members
Non-executive directors on remuneration committee	Number of non-executive directors as a percentage of total remuneration committee members
Management-dominated control	
CEO duality	1 if CEO and board chair is the same person, 0 otherwise
Directors shareholding	Number of company ordinary shares held by directors as a percentage of total shares issued
Other Board and Firm attributes	
Firm size	Total operating revenue
Revenue growth	Percentage change in total operating revenue from 2001 to 2003
Asset growth	Percentage change in total assets from 2001 to 2003
Board size	Total number of directors on company board
CEO change	1 if there is a change of CEO during 2003, 0 otherwise
Existence of remuneration committee	1 if a remuneration committee exists, 0 otherwise

Table 2 Research Sample

	Australia		Singapore	
	Performance improving	Performance declining	Performance improving	Performance declining
Initial sample satisfying performance criteria	87	27	82	39
Less: Firms with three consecutive years of negative net income and return on equity	2	n/a	11	n/a
	85	27	71	39
Less: Firms which annual reports cannot be located	5	1	10	3
	80	26	61	36
Less: Firms with missing governance information	33	7	9	4
Final Sample	47	19	52	32

Table 3 Ownership Concentration, Board and Firm Attributes

		Au-I	Sg-I	Sig	Au-D	Sg-D	Sig
Ownership concentration							
Substantial shareholders (5% or more shareholdings)	Mean SD	36.19 23.363	58.43 15.761	0.000**	33.79 28.244	64.33 14.186	0.000**
Largest shareholder	Mean SD	20.48 19.704	34.59 20.611	0.000**	20.17 19.866	40.34 17.546	0.000**
Top 20 shareholders	Mean SD	58.58 19.605	78.63 10.322	0.000**	54.79 24.593	82.90 8.726	0.000**
Board Independence							
Independent directors on company board	Mean SD	62.30 23.282	45.68 12.001	0.000**	52.82 19.467	44.20 11.200	0.055*
Non-executive directors on company board	Mean SD	74.13 17.817	59.34 15.124	0.000**	70.60 14.044	59.70 13.570	0.013**
Independent directors on remuneration committee	Mean SD	81.05 27.717	69.43 12.106	0.000**	71.11 24.795	65.89 13.171	0.547
Non-executive directors on remuneration committee	Mean SD	89.66 22.446	77.77 15.162	0.000**	81.11 21.193	75.05 20.362	0.564
Management control							
CEO duality	No. %	1 2.1	24 46.2	0.000** #	1 5.3	10 31.3	0.029** #
Directors shareholding	Mean SD	8.47 14.507	20.81 23.243	0.000**	2.76 4.480	21.36 23.496	0.002**
Other Board and Firm attributes							
Firm size (US\$m)	Mean SD	1703.7 3741.1	239.1 465.4	0.000**	152.0 300.6	75.2 96.311	0.134
Revenue growth	Mean SD	38.99 31.338	21.69 29.673	0.001**	70.43 140.182	-7.41 22.165	0.006**
Asset growth	Mean SD	24.65 15.851	17.69 18.531	0.007**	30.79 51.306	2.15 14.099	0.003**
Board size (No.)	Mean SD	7.13 2.163	7.12 1.688	0.762	5.21 1.548	7.22 1.862	0.000**
CEO change	No. %	7 14.9	5 9.6	0.422	5 26.3	2 6.3	0.044** #
Existence of remuneration committee	No. %	40 85.1	50 96.2	0.056*#	14 73.7	32 100.0	0.002** #

Au-I Australian performance-improving companies

Sg-I Singaporean performance-improving companies

Au-D Australian performance-declining companies

Sg-D Singaporean performance-declining companies

Sig Two-group comparison significance level by Mann-Whitney two sample test

Pearson chi-square significance

* Significance at 0.1 level

** Significance at less than 0.01 level

Table 4 Financial Performance and CEO Remuneration

		Au-I	Sg-I	Sig	Au-D	Sg-D	Sig
Panel A: Financial performance							
Change in ROE in two years (2001 to 2003)	Mean	16.75	18.71	0.911	-67.20	-27.92	0.034**
	SD	25.991	23.763		70.983	30.645	
Change in ROE in one year (2002-2003)	Mean	4.17	6.80	0.236	-48.83	-16.67	0.037**
	SD	3.572	7.402		60.411	21.810	
Panel B: CEO remuneration (% of total remuneration)							
CEO performance-based remuneration (all sample)	Mean	29.78	32.31	0.679	13.06	12.03	0.482
	SD	22.109	24.018		18.869	12.692	
Firms with performance-based component	No.	41	48	---	9	22	---
	%	87.23	92.30		47.36	68.75	
CEO performance-based remuneration (only those with performance-based pay)	Mean	34.15	35.01	---	27.57	17.50	---
	SD	20.237	23.014		18.732	11.727	
Fixed salary	Mean	57.97	60.03	---	71.43	77.21	---
	SD	19.269	22.891		23.698	17.464	
Other (benefits and superannuation)	Mean	12.24	7.49	---	15.43	10.75	---
	SD	13.243	10.859		20.161	14.592	

Au-I Australian performance-improving companies
 Sg-I Singaporean performance-improving companies
 Au-D Australian performance-declining companies
 Sg-D Singaporean performance-declining companies
 Sig Two-group comparison significance level by Mann-Whitney two sample test
 ** Significance at less than 0.01 level

Table 5 Regression Analysis of CEO Performance-based Remuneration – whole sample between countries

	Coefficient	p-value
Intercept		0.006
Substantial shareholders	-0.040	0.645
Independent directors on company board	0.071	0.501
Independent directors on remuneration committee	-0.030	0.755
CEO duality	0.159	0.053*
Directors shareholding	-0.045	0.594
Ln total revenue	0.396	0.000**
Performance improving/declining	0.221	0.011**
CEO change	-0.173	0.027**
F-statistic	7.667	
R-square	0.333	
Adj. R-square	0.289	
Sig.	0.000	

* Significance at 0.1 level
 ** Significance at less than 0.01 level

Table 6 Regression Analysis of CEO Performance-based Remuneration – Within Countries Performance Improving Companies

	Australia performance-improving companies		Singapore performance-improving companies	
	Coefficient	p-value	Coefficient	p-value
Intercept		0.006		0.011
Change in past year ROE (2002-2003)	0.295	0.035**	0.039	0.757
Independent directors on company board	0.162	0.332	0.123	0.320
Independent directors for growth firms	-0.293	0.042**	0.179	0.193
CEO duality	-0.087	0.542	0.141	0.232
Ln total revenue	0.537	0.000**	0.434	0.001**
CEO change	-0.096	0.442	-0.409	0.003**
F-statistic	4.739		5.801	
R-square	0.415		0.436	
Adj. R-square	0.328		0.361	
Sig.	0.001		0.000	

* Significance at 0.1 level

** Significance at less than 0.01 level

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