Corporate governance and dividend strategy: lessons from Australia

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Abstract

Purpose – The purpose of this paper is to empirically investigate the effects of corporate governance on the dividend payout (DP) in Australia where DP remains high and corporate governance system has recently been strengthened.

Design/methodology/approach – A self-constructed governance indexes over 2001-2013 is used for the random effect panel Tobit model to investigate the effect of corporate governance on cash dividend. Two different versions of the indexes and the traditionally emphasized governance elements such as board structure are also used for the robustness checks.

Findings – Estimation results report that a positive effect of governance, combined with size of firm and profitability, on DPs. In contrast, financial distress and the global financial crisis, respectively, have negative effect on dividend policy. Further examinations imply that the positive effect of governance is attenuated by growth opportunities while intensified by firm free cash flow and the franked dividend policy.

Originality/value – The sample period and the governance indexes in this paper, respectively, are the longest and the most comprehensive among existing studies on Australian case. This paper also combined the traditional governance-dividend theme with corporate tax, particularly the unique franked dividend tax system.

Keywords Corporate governance, Dividend policy

Paper type Research paper

1. Introduction

The case of Australian cash dividend policy is interesting because it differs substantially from that of the USA and UK although its governance system adopted the same framework as the traditional Anglo-Saxon one. In particular, corporate dividend strategy has changed remarkably since the late 1980s when Australia introduced the franked dividend policy. Since then, the average payout ratio of Australian firms has maintained a substantially higher level.

Researchers on corporate governance have associated the importance of governance with corporate dividend policy. Based on extensive review of existing studies, Shleifer and Vishny (1997) concluded that the ultimate goal of corporate governance is to protect minority shareholders. Dividend payments can be used to reduce the existing conflict between corporate insiders (such as controlling shareholders and managers) and outsiders (such as minority shareholders) or to decrease the agency conflict between majority and minority shareholders (Jensen, 1986). Well-functioning corporate governance is required to mitigate the agency problem which arises from the separation between ownership and managerial control. Given the limited ownership of a hired manager, the marginal benefits

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of pursuing private benefits at the expense of shareholders are greater than the marginal costs to the manager. The agency theory also implies that distributing "free" cash flows which otherwise would be exploited by manager's private consumption or spent on unprofitable projects (Jensen, 1986; Easterbrook, 1984). This agency theory also illustrates that the distribution of free cash flows (FCFs) creates an opportunities for firms to be scrutinized by capital market to the extent that the more dividend payout (DP) leads to more issuance of new shares. For this reason, Gugler and Yurtoglu (2003) contend that the power of the largest shareholder decreased DP ratio while the second largest shareholder increased the DP in Germany. In a similar vein, Jiraporn *et al.* (2011) reported a positive effect of corporate governance on DPs in the USA.

Law and financial economists claim DP tends to be higher among countries with stronger protection of minority shareholders than countries with poorly functioning corporate governance (La Porta *et al.*, 2000). This law and financial economists' argument suggests that the corporate governance standard should help explain differences in DP across countries. Considering that the different standard of corporate governance at country level is a linear extension of different level of shareholder protections at firm level in each country, the law and financial economists' argument is directly applicable to explain differences in DPs on firm-level. Indeed, the link between corporate governance, firm characteristics and dividend policy has received growing attention in the literature in both developed and developing markets (La Porta *et al.*, 2000; Aivazian *et al.*, 2003).

Australia has strengthened corporate governance, particularly since the activity of the ASX Corporate Governance Council (2003)[1]. Similar to the introduction of the 2002 Sarbanes-Oxley Act in the USA, corporate scandals such as the collapse of the large insurance company, HIH, have drawn more public and academic attention to the governance issue in Australia. While most corporate governance elements are similar to the cases of the USA and the UK, the Australian governance system allows investors to influence more managerial decisions (Nenova, 2003). For example, investors can influence directors or CEO nominations, and the ability to transfer assets to related parties at nonmarket terms or perquisites consumption at the expense of the firm. As such, it is interesting to examine the association of corporate governance with dividend payments in Australia.

Despite the Miller and Modigliani (1961) irrelevance proposition, dividend policy has been regarded as important by corporation and shareholders. The more DPs become a strategic decision, the greater the importance of the directors (BOD) and corporate governance. Because a good structure of BOD has better monitoring power on the financial decisions of the company. Australian companies have adopted the liquidity-test basis model for distribution of dividend since 2001. This is different from the distributable profit model used in the UK, Malaysia and Singapore. According to the liquidity-test basis model, Australian corporations cannot pay dividend unless all following requirements are met: the company assets exceeded its liabilities immediately before the declaration of dividend and the excess is sufficient for dividend payment; The amount of dividend is reasonable and fair for the company's shareholders as whole; and the dividend payment does not materially prejudice the company's ability to pay its creditors. Dividend payment can materially prejudice the ability of the company to pay to its creditors if it results to insolvency. This can emphasize the role of company directors to prevent insolvent trading upon the payment of dividends. Following the amendments of the Australian Corporation Act 2001 the role of the BOD is strengthened to prevent insolvency[2].

Australian shareholders do not pay separate tax on the money they receive as dividend. Investors in Australia can use franked dividend to lower or offset the amount of total tax paid. This is a major difference of the Australian franked dividend system from other major developed economies such as the USA and Japan where the company pays corporate tax on their profits and shareholders pay personal tax when they receive dividends. As a result of this franked dividend tax system, Australian shareholders are expected to receive a higher cash dividends than those in the USA and Japan.

Existing studies on governance in Australia, however, have focused on the effect of governance on firm value, performance and social responsibility (Linden and Matolcsy, 2004; Beekes and Brown, 2006; Henry, 2008; Chan *et al.*, 2014). The goal of this paper is to fill the gap by investigating the effect of governance on dividend policy.

Most previous studies in Australia used single variables to test the effect of corporate governance on DP policy (Yarram and Dollery, 2015). However, one size does not fit all in the context of corporate governance as claimed by Gompers *et al.* (2003). A self-constructed governance index is created to examine the effect of governance on DPs. There is some research on corporate governance used governance indexes. In contrast with the current paper, these studies used the governance index to directly examine firm performance (Linden and Matolcsy, 2004), information disclosure (Beekes and Brown, 2006) and corporate social responsibility (Chan *et al.*, 2014). Yarram (2015), as an exception, examined the relationship between governance index and dividend in Australia. However, these studies including Yarram (2015) have used the existing Horwath index which is based on some selected companies. Another potential limit of this index is that it covers financial and utility companies whose financial statements have quite different structure. In contrast with existing studies, the governance index developed in this study is comprehensive as it covers the board function, audit committee, nomination committee and remuneration committee. In the contrast to the existing Horwath governance, the index developed in this paper focuses on all listed companies excluding finance and utilities. As such, the present study is expected to improve comparability. Furthermore, the governance index developed in this paper is based on a long-horizon approach as the index is developed based on the variables that have positive effects on DPs which will be further discussed in this paper. In particular, this study developed a number of governance indices to increase the robustness of the estimations.

The span of the data in this study is longer than any other existing studies in Australian corporate governance. The data commence from 2001, when the best corporate governance was introduced, up to 2013. This facilitated an examination of the effect of governance on DPs during and after the global financial crisis (GFC). Examination of this issue of governance and dividend policy during the financial crisis is important (Fama and French, 2001). The investigation of the changing corporate behaviors during the financial crisis makes these results differ from existing studies.

For these reasons, we expect our study to add values to existing studies on corporate governance literature and dividend policy researches. In particular, the self-constructed corporate governance index using the longest time frame and the largest samples differentiates our study from existing ones which focused largely on one element of governance system and/or governance index using small samples. In addition to the classic investigation of the effect of governance on DPs, our paper also analyzes the issue combined with the Australian unique tax system of the franked dividend.

The empirical hypotheses are developed in the following section. Section 3 introduces the estimation model, followed by Section 4 describing data and the governance index. Estimation results and discussion are in Section 5. Section 6 reports the robustness check. Section 7 contains conclusions.

2. Development of empirical hypotheses

The FCF argument proposed by Jensen (1986) and Easterbrook (1984) illustrates that retained cash without dividend distribution may create the agency problem. Managers strongly prefer not to pay dividends as DPs reduce the amount of cash subject to managerial discretion (Jensen, 1986). According to the "outcome model," dividends are paid because minority shareholders pressure corporate insiders to distribute cash (La Porta *et al.*, 2000). Shleifer and Vishny (1997) suggest that the goal of corporate governance is to protect (minority) shareholders. A positive relationship exists between corporate governance and DPs because companies with stronger governance mechanisms are better at monitoring their managers; therefore, managers are less likely to use the money for their personal benefits, and as a result pay higher dividends (Smith, 1992; Farinha, 2003). Additionally, companies with stronger governance mechanisms have better firm performance, which can result in higher DPs. Mitton (2004) and Francis *et al.* (2011) demonstrated empirically this positive association. The present study therefore summarizes these predictions in the first testable hypothesis:

H1. Firms with stronger corporate governance will have higher dividend payouts.

Furthermore, the life-cycle theory (Grullon *et al.*, 2002; DeAngelo *et al.*, 2006) implies that mature firms pay greater dividends than growing firms. Damodaran (1999) also states that a firm's dividend policy tends to follow the life cycle of the firm. The life-cycle theory states that a good payout policy is driven by the firm's need to distribute its FCF along the corporate life cycle (DeAngelo and DeAngelo, 2006). During the mature growth stage, firms with larger cash flow and fewer profitable investment opportunities are more likely to pay their earnings as a dividend[3]. The life-cycle theory proposes that firms will adjust their dividend policies as their growth opportunities changes over time. Firms pay fewer dividends as their investment opportunities rises. The present study therefore summarizes these predictions as the following second hypothesis:

H2. Growth opportunities will decrease dividend payouts.

H2a. The positive effect of corporate governance on dividends will be attenuated by the growth opportunities of the firm.

Monkhouse (1993) found that, under the tax imputation system, the ideal dividend policy of Australian firms is to allocate all its franking credit as dividends. This view has also been corroborated by other researchers (Brown and Clarke, 1993; Pattenden and Twite, 2008). This argument indicates that a tax system needs to be included in the analysis of corporate DPs. In contrast with many countries where taxes are levied both on corporate level (i.e. corporate tax on profit) and individual level (i.e. income tax), the franked dividend system in Australia refers to a single tax. That is, shareholders obtain tax credits when firms pay tax on their dividend payable profits. Usually, this franked dividend system motivates shareholders to request more dividend than under the standard double taxation system. Indeed cash distribution under the franked dividend system is a way to increase shareholder's wealth. Considering that the ultimate goal of

corporate governance is to protect minority shareholders' interest, the present study therefore summarizes the third hypothesis:

H3. Franked dividend tax system increases corporate payouts.

H3a. The positive effect of corporate governance on dividends will be intensified by franked dividend.

3. Model

This study used the random effect panel Tobit regression because the DP ratio should be non-negative but less than unity. Indeed there is what one called a "mass point" in 0 as the dividend can only be positive or nil. Tobit estimations can eliminate biases associated with OLS regressions in the presence of censored dependent variables (Kim and Maddala, 1992; Greene, 2003). Baseline estimation model for DP in this study is:

$$\begin{aligned} Y_{it} = {} & \alpha_0 + \alpha_1(\mathrm{CGI}_{it}) + \alpha_2(\text{Firm size}_{it}) + \alpha_3(\text{Profitability}_{it}) \\ & - \alpha_4(\text{Leverage}_{it}) - \alpha_5(\text{Growth opportunities}_{it}) \\ & - \alpha_6(\text{Firm growth}_{it}) - \alpha_7(\text{Cash}_{it}) - \alpha_8(\text{Free cash flow}_{it}) \\ & - \alpha_9(\text{Financial distress}_{it}) + \alpha_{10}(\text{Dividend} - \text{track}_{it}) \\ & - \alpha_{11}(\text{Liquidity} - \text{test}_{it}) + \sum \text{Industry} + \varepsilon_{it} \end{aligned} \quad (1)$$

where, Y_{it} refers to the firm's (i's at the time t) cash distribution, calculated by dividends per share divided by net profit after tax before abnormal. CGI refers to corporate governance index which is calculated by three different methods for robustness checks. *H1* implies the sign of the estimated coefficient α_1 to be positive. Furthermore, controlled by the firm size, a larger firm may access the financial market more easily than smaller firms, which can relax cash flows and thus affect the firm's dividend policy. This study is also controlled by the firm's leverage. However, the expected sign of leverage is complex. From the agency perspective, leverage and dividends can be complementary in that both play a role in monitoring and disciplining managers' self-interest behaviors (Rediker and Seth, 1995) or substitutable (Crutchley and Hansen, 1989). Growth opportunities and firm growth will have negative signs as ineased profitable investment, rather than cash dividend at the current time, will increase expected cash flows in the future, which is reflected in the price of shares and thus increases the wealth of shareholders more than cash dividends. The signaling theory suggests that firms want to maintain a sustainable dividend policy. If a firm distributed dividends in one year and then ceases the following year, market investors may interpret the outcome as a signal for the firm's poor performance.

Liquidity is calculated as a proportion of cash to total assets. FCF is calculated as net cash after operating and investing cash flow to total market capital. Given the corporate governance index, which is the main independent variable, the expected signs of liquidity and FCF are complex. The substitution proposition predicts the sign to be negative when the corporate governance is controlled. The agency theory indicates that improved governance will reduce "exploitable" cash and FCF. Thus, the residual balance of "clean" cash and FCF can be substituted for dividend. The "outcomes" model (La Porta *et al.*, 2000) claims a positive sign of liquidity as it takes in to account pressures from minority shareholders on the managers to increase the exceeded cash as dividends.

Liquidity-test is a dummy variable equal to 1 if a firm's total assets minus total liability exceeded the amount of money declared as dividends, and 0 otherwise. The estimated sign of the liquidity-test is negative because it constrains dividend according to the balance-sheet values of assets and liabilities. Dividend-track is also a dummy variable equal to 1 if the firm paid a dividend in the previous year, and 0 otherwise. Franked dividend is a percentage of dividend with dividend imputation that creates a tax credit to eliminate the double taxation of cash payouts from a company. Financial distress is a dummy variable equal to 1 if the firm experienced a two-year consecutive loss, and 0 otherwise. Following the signaling theory (Myers and Majluf, 1984; DeAngelo *et al.*, 1992), this study expects financial distress to have a negative effect on the DP ratio as firms try to send a signal to the market that their permanent earnings have declined (DeAngelo *et al.*, 1992).

Australian companies increase their DP in order to distribute their imputation credits and to satisfy the demand of their stockholder clientele (Bellamy, 1994). In order to test the effect of the tax imputation system that dominated Australia and consistent with the study of Henry (2011), this study uses the percentage of franked dividend as proxy for the tax imputation system. A positive sign of this franked dividend variable is expected.

To investigate the moderation effects by performance, growth opportunities, free cash flow and franked dividend the baseline model is extended as follows:

$$\begin{aligned} Y_{it} = {} & \alpha_0 + \alpha_1(\mathrm{CGI}_{it}) + \alpha_2(\text{Firm size}_{it}) + \alpha_3(\text{Profitability}_{it}) \\ & + \alpha_4(\text{Leverage}_{it}) - \alpha_5(\text{Growth opportunities}_{it}) \\ & - \alpha_6(\text{Firm growth}_{it}) - \alpha_7(\text{Cash}_{it}) - \alpha_8(\text{Free cash flow}_{it}) \\ & - \alpha_9(\text{Financial distress}_{it}) + \alpha_{10}(\text{Dividend} - \text{track}_{it}) \\ & - \alpha_{11}(\text{Liquidity} - \text{test}_{it}) + \sum_{k=12}^{13} \alpha_k \mathrm{CGI}_{it} \times \mathrm{MV}_{it,k} + \sum \text{Industry} + \varepsilon_{it} \end{aligned} \quad (2)$$

where MV refers to growth opportunities and franked dividend. Empirical hypotheses *H2a* and *H3a*, respectively, imply that signs of the estimated coefficients of these variables are negative and positive, respectively.

4. Data and descriptive statistics

4.1 Construction of corporate governance index

Following the seminal paper by Gompers *et al.* (2003), the corporate governance index has been frequently used by other researchers (Brown and Caylor, 2006; Jiraporn *et al.*, 2012; Sawicki, 2009). In particular, Sawicki (2009) proposed governance index in the nexus of DPs based on four different categories: board of directors, audit, and remuneration and nomination committees. These four important elements of governance, as individual elements, have often used by empirical researchers, including Prommin *et al.* (2014) to test the effect of governance on stock liquidity and Christensen *et al.* (2010) to examine the effect of governance on firm performance in Australia. This study takes the spirit of these four major governance elements. However, the 13 different corporate governance variables used in this study are promulgated by the ASX Corporate Governance Council (2003) and related literatures in the context of Australia (refer to Table I).

(1) Board function	Board size (measured as the number of directors in each company during the year), more than the mean of board size in each year
	Independence of the directors on the board (measured as the proportion of non-executive directors on the board (Monem, 2013), more than 50 percent of directors
	Number of board meetings (measured as the number of board meetings in each company), more than the mean of board meetings in each year
	Chairman and CEO separation
	Directors' shareholding (measured as the total number of shares held by directors in each company) more than 5% of total outstanding shares in the company
	CEOs' shareholding (measured as the number of shares held by the CEO in each company) more than 5% of total outstanding shares in the company
(2) Audit committee	Existence of an audit committee
	That meet at least once annually
	Engagement of Big Four auditors
(3) Remuneration committee	Existence of a remuneration committee
	That meet at least once annually
(4) Nomination committee	Existence of a nomination committee
	That meet at least once annually

Notes: This table identifies the criteria used in constructing the governance index. Each question is constructed in a manner that the answer "yes" adds one point to the governance score. The rating is on a scale of 0-13, with a higher score indicating better governance

Table I.
Corporate Governance Index I variables

The Corporate Governance Index (CGI I) covering the 13 elements in Table I is expected to effectively capture a firm's governance structure, practices and related policies. The value of CGI is based on the accumulated score from the confirmation ("1," not "0") of whether a firm meets the required condition for each of the 13 governance variables. Therefore, the CGI ranges from a maximum of 13 to a minimum of 0 (refer to Table AI for the details). A score closer to 13 is means better governance system.

Further, this study calculated the Second Governance Index (CGI II) following corporate governance rating (published in the WHK Horwath/University of Newcastle Corporate Governance Reports) which includes categories such as the board of directors, audit committee, remuneration and nomination committee, external auditor independence and code of conduct. However, the Horwath index has a number of drawbacks for this study. For example, the index only provides a rating for the top 500 firms each year. Most of the top companies in Australia have a strong board structure. Companies included in the Horwath index also included financial and utility firms which have a different structure of ownership and financial statements; therefore the Horwath sample will be limited in number and outdated to test the relation between governance and DPs for current investors and researchers. Also, the index gives the companies a star rating from 1 to 5 and the exact weighting is proprietary and not available to the public. The current study developed CGI II based on 14 governance variables for the Horwath index during the years 2001 to 2013 as shown in Table II.

The Third Governance Index (CGI III) follows the Aggarwal *et al.* (2011). The index provides a firm-level governance measure, that is, comparable across countries. It focuses on the variables which were most frequently used governance variable by researchers which includes categories such as the board structure, audit selection, compensation and ownership structure. The index developed in the present paper is based on five of the available variables that are identified with their code number in the Table III.

(1) Board of directors	1.1 The most desirable outcome will be for a company to have: 1.1.1 A board with majority of independent directors (measured as the proportion independent directors on the board) 1.1.3 Met at least six times annually 1.2 The least desirable outcome will be for a company to have: 1.2.1 A board with no independent director 1.2.2 The CEO as chairperson 1.2.3 Met less than six times annually
(2) Audit committee	2.1 The most desirable outcome will be for a company to have an audit committee 2.1.4 With at least three members 2.1.5 That does not comprise the full board 2.1.6 That meet at least four times annually 2.2 The least desirable outcome will be for a company not to have an audit committee
(3) Remuneration committee	3.1 The most desirable outcome will be for a company to have a remuneration committee: 3.1.2 With at least three members 3.1.3 That does not comprise the full board 3.2 The least desirable outcome will be for a company not to have a remuneration committee
(4) Nomination committee	4.1 The most desirable outcome will be for a company to have a nomination committee: 4.1.2 With at least three members 4.1.3 That does not comprise the full board 4.2 The least desirable outcome will be for a company not to have a nomination committee

Table II.
Corporate Governance Index II variables

Notes: Base on the principals in WHK Horwath/University of Newcastle corporate governance reports available variables. This table identifies the criteria used in constructing the governance index. Each question is constructed in a manner that the answer "yes" adds one point to the governance score. The rating is on a scale of 0-14, with a higher score indicating better governance

1.	All directors attended 75% of board meetings or had a valid excuse
3.	Board is controlled by more than 50% independent outside directors (measured as the proportion independent directors on the board)
4.	Board size is at greater than five but less than 16
7.	Chairman and CEO positions are separated, or there is a lead director
11.	Governance guidelines are publicly disclosed

Table III.
Corporate Governance Index III variables

Notes: This table identifies the criteria used in constructing the governance index. Each question is constructed in a manner that the answer "yes" adds one point to the governance score. The rating is on a scale of 0-5, with a higher score indicating better governance
Source: Aggarwal *et al.* (2011) available variables

4.2 Sample construction and data description

The initial sample consists of all the companies listed in the Australian Stock Exchange from 2001 to 2013 (Table IV). Excluding the financial and utility sectors the final sample consisted of 11,393 firm-year observations. Data for DPs and control variables are from the Morningstar database and companies' annual reports. Data relating to corporate governance were hand-collected from the Australian Company Announcements database SIRCA. Variables were winsorized at the top and bottom 5 percent to remove outliers.

Figure 1 shows that the amount of dividend payments increased from just under A$23,000 million in 2001 to about A$40,000 million in 2013. Over that period, the portion of DP ratio in Figure 2 also increased from 20 to about 23 percent. However, as shown in Figure 3, the portion of firms which paid dividends increased from 33.21 percent in 2001 to around 35.68 percent in 2007, but dropped dramatically down to about 32.72 percent in 2009 and increased to its highest (38.17 percent) in 2013 (Figure 3). This substantial drop indicates the importance of the GFC, which will be examined below.

Figure 4 shows the trends of the average level of CGI I, II and III. The level of corporate governance of all three indices increased over the period. CGI I, which is the main index in this study, increased from about 50 percent in 2001 to a peak of 73 percent in 2008. This might be due to the effect of GFC as the companies during the period found it more necessary to improve their corporate governance mechanism for

Type of variables	Available source
Corporate governance variables	SIRCA database Annual reports available in Connect 4 database
Dividend policy variables	Morningstar database Annual reports
Control variables	Morningstar database SIRCA database

Table IV.
The type of variables and respective data sources to be used in this study

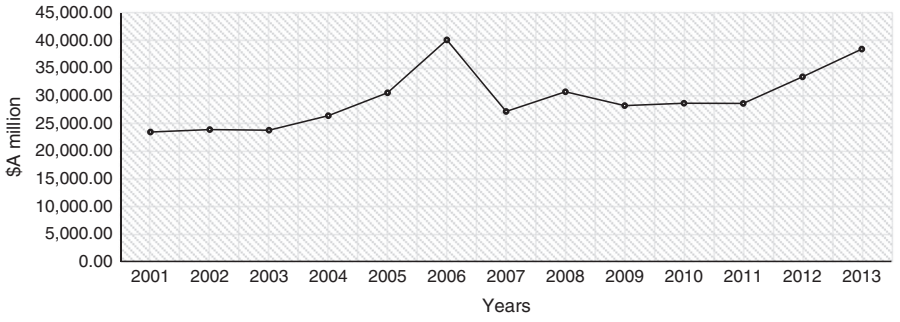


Figure 1.
Dividend payment by Australian firms during 2001-2013

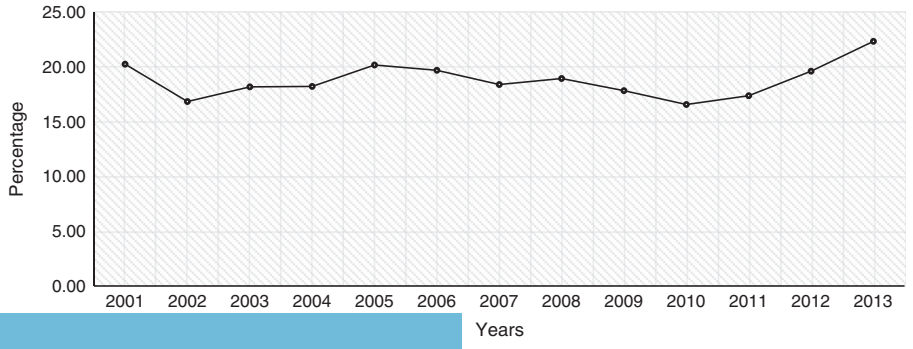


Figure 2.
Portion of dividend to net profit during 2001-2013

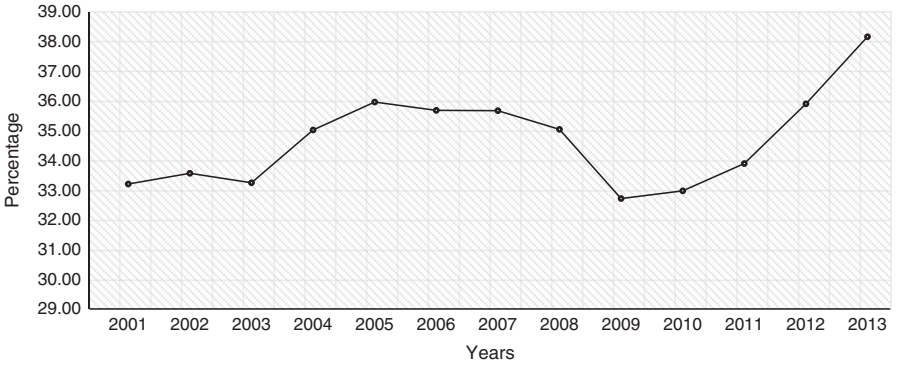


Figure 3.
Portion of dividend paid companies during 2001-2013

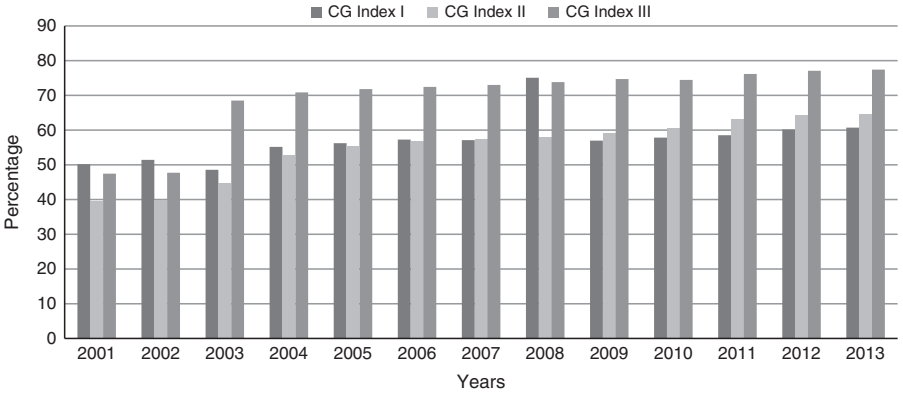


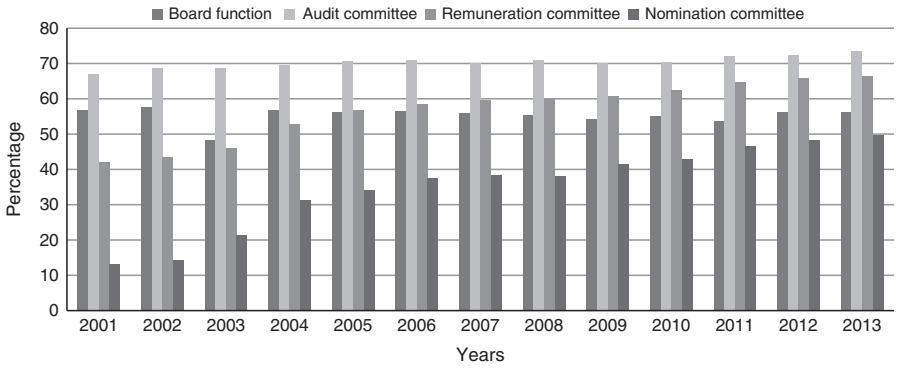
Figure 4.
Trend of average corporate governance indices over 2001-2013

Notes: CG Index I is calculated as the summation of the 13 categories of corporate governance dummy, as described in Table I, divided by 13. As such, the closer to 1 the better governance system and vice versa. CG Index II is calculated by the same method as for CG Index I but based on the 14 categories of corporate governance dummies as described in Table II. CG Index III is calculated based on five dummy variables as described in Table III

better monitoring of the firms. The level of corporate governance shows a significant improvement from 50 percent in 2001 to 60 percent in 2013. A similar improvement was likewise found in the average of corporate governance which was around 55.84 percent. This can show the necessity of corporate governance improvement in the context of Australian firms.

The trends of each elements of CGI I, II, III are presented in Figure 5. It is apparent that audit, remuneration and nomination committees have become more widely adopted by firms over the period.

The bar chart in Figure 6 shows that industries with a high CGI index include consumer staples (67 percent) and telecommunication services (66 percent), whereas the industries with low CGI index are the materials (47 percent) and energy sectors (48 percent). The line graph shows the portion of dividend paying firms in each industry. The result shows that, on average, companies with stronger CG have a higher tendency to pay dividends. The lower portion of dividend paying firms in the energy



Notes: The board function index (category) is calculated as summation of the six dummy variables as described in Table I. The closer to six the better BOD functions to indicates improved governance. The audit committee index (category) is calculated by summation of the three variables as described in Table I. The closer to three the better governance. The nomination and remuneration committee index (category) is the summation of the two variables as described in Table I. The closer to two the better governance

Figure 5.
Trend of corporate governance elements over 2001-2013

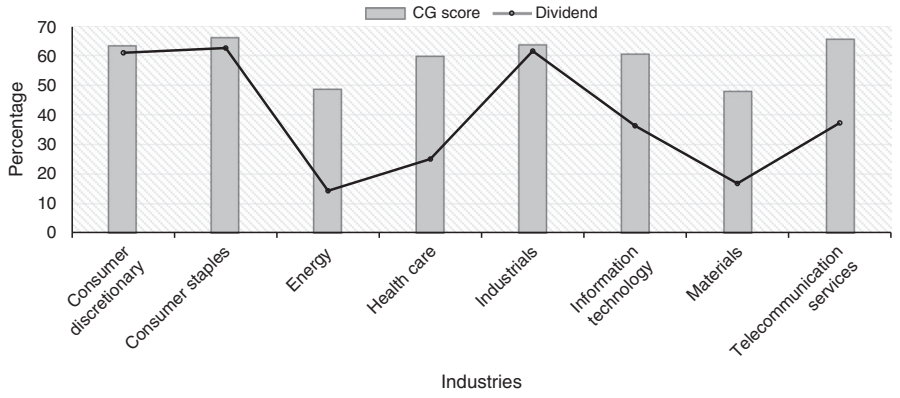


Figure 6.
Average of corporate governance scores by industries

sector can also support the *H2* where the positive relation between CG is attenuated by growth (explained in Table V).

Table V shows the descriptive statistics for the variables. Panel A reports the descriptive statistics and panel B reports the Pearson cross-correlation coefficients and the level of significance between the variables.

The results show that the average DP over the period is 0.187. Over the sample period of 2001-2013, the average CGI I (CGI II, CGI III) is 0.558 (0.548, 0.695). The average leverage was 29.9 percent and cash ratio was 0.214, whereas the profitability ratio, that is, return on assets was −0.119.

The Pearson pair-wise correlation matrix in panel B shows that CGI I, II and III are positively and statistically significantly correlated with DPs which is consistent with the prediction of *H1*. The DP ratio is positively correlated with firm size, profitability, leverage, free cash flow, dividend of the previous year, dividend test, and franked dividend, and inversely related to firm growth, cash, and firm financial distress.

Table V.
Descriptive statistics of variables

Panel A: Summary statistics						
	Obs	Mean	SD	Median	Min	Max
DP	11,174	0.187	0.301	0	0	0.933
Governance variables						
CG Index I	11,393	0.558	0.222	0.615	0	1
CG Index II	11,393	0.548	0.285	0.571	0	1
CG Index III	11,393	0.695	0.192	0.6	0	1
Board function	11,393	0.554	0.238	0.5	0	1
Audit committee	11,393	0.703	0.347	0.667	0	1
Remuneration committee	11,393	0.566	0.470	1	0	1
Nomination committee	11,393	0.348	0.454	0	0	1
Firm characteristics						
Firm size	11,110	17.943	2.022	17.802	14.728	21.849
Profitability	11,213	−0.119	0.322	0	−1.096	0.189
Leverage	11,239	0.299	0.418	0.077	0	1.461
Growth opportunities	11,222	2.429	2.347	1.62	0	9.19
Firm growth	10,986	0.227	0.619	0.055	−0.529	2.131
Liquidity	11,231	0.214	0.235	0.115	0.004	0.811
Free cash flow	11,110	0.102	0.236	−0.059	−0.702	0.293
Financial distress	11,192	0.502	0.500	1	0	1
Dividend-track	10,856	0.339	0.473	0	0	1
Liquidity-test	11,174	0.958	0.199	1	0	1
Franked dividend	4,036	0.787	0.384	1	0	1

(*continued*)

Panel B: Pearson cross-correlation matrix

Variables	DP	CG Index I	Firm size	Profitability	Leverage	Growth opportunities	Firm growth	Cash	Free cash flow	Financial distress	Dividend-track	Liquidity-test
CG Index I	0.379***											
Firm size	0.481***	0.534***										
Profitability	0.403***	0.329***	0.465***									
Leverage	0.242***	0.251***	0.214***	0.212***								
Growth opportunities	0.009	−0.023**	0.203***	−0.173***	0.051***							
Firm growth	−0.075***	−0.038***	0.153***	0.192***	−0.014	0.133***						
Liquidity	−0.277***	−0.240***	−0.227***	−0.351***	−0.391***	0.277***	0.101***					
Free cash flow	0.313***	0.203***	0.337***	0.415***	0.011	0.090***	−0.049***	−0.042***				
Financial distress	−0.443***	−0.296***	−0.3***	−0.442***	−0.155***	0.094***	0.151***	0.167***	−0.537***			
Dividend-track	0.743***	0.432***	0.541***	0.439***	0.283***	−0.032***	−0.080***	−0.327***	0.338***	−0.484***		
Liquidity-test	0.093***	0.126***	0.189***	0.306***	0.129***	0.173***	0.137***	−0.023**	0.114***	−0.074***	0.122***	
Franked dividend	0.116***	0.078***	−0.147***	0.065***	−0.016	0.038**	0.036**	−0.049***	0.007	−0.005	0.126***	0.039**

Notes: Dividend payout ratio (DP) refers to the percentage of dividends out of net profits. CG Index I is calculated as the summation of the 13 categories of corporate governance dummy, as described in Table I, divided by 13. As such, the closer to 1 the better governance system and vice versa. CG Index II is calculated by the same method as for CG Index I but based on the 14 categories of corporate governance dummies as described in Table II. CG Index III is calculated based on a five dummy variables as described in Table III. Firm size is calculated as logarithm of the firm's market capitalization. Profitability is calculated as net income over total assets. Leverage is measured as short-term debt plus long term debt divided by total shareholders' equity. Growth opportunities measured as the market value of equity divided by book value of equity. Firm growth refers to the one-year growth rate of total assets. Liquidity is calculated as cash to total assets. Free cash flow is the operating cash flow less net capital investments during the year scaled by total assets. Financial distress is a dummy variable and is equal to 1 if the firm makes a two-year consecutive loss, and 0 otherwise. Dividend-track is also a dummy viable and is equal to 1 if the firm paid dividend in the previous year, and 0 otherwise. Liquidity-test is also a dummy variable and is equal to 1 if a firm's total assets minus total liability exceeded the amount of money declared as dividends, and 0 otherwise. Franked dividend is a percentage of dividends with dividend imputation that creates a tax credit to eliminate the double taxation of cash payouts from a company. *, **, ***Significant at the 10, 5 and 1 percent levels, respectively

Table V.

5. Regression results

Table VI shows the coefficient of CGI I is positive and significant irrespective of model specifications, which is consistent with *H1*. In addition to the baseline estimation for the effect of governance on payout on model (1), this study includes growth opportunities variable and other control variables on model (2) with a view to examining the *H2*. Results on column (2) show a negative coefficient of growth opportunities as expected. Meanwhile, the positive effect of governance remains positive and significant although the magnitude of estimated coefficient dropped almost by 80 percent.

The rest of models in Table VI examine the effect of the Australian tax system, captured by the franked dividend system on dividend. As the *H3* indicates, the estimated sign of the franked dividend variable was positive throughout the models (3)-(6).

	Model 1	Model 2	Model 3	Model 4	Model 5
CG Index I	0.566 (13.93)***	0.100 (2.64)***	0.099 (2.67)***	0.110 (2.79)***	0.094 (2.53)**
Firm size		0.069 (13.68)***	0.012 (2.57)***	0.03 (6.08)***	0.014 (3.12)***
Profitability		2.063 (22.48)***	0.638 (6.60)***	0.585 (5.90)***	0.659 (6.77)***
Leverage		0.060 (3.85)***	0.040 (2.61)***	0.038 (2.39)**	0.046 (3.09)***
Growth opportunities		−0.026 (−7.28)***	−0.006 (−1.87)*	−0.008 (−2.40)**	−0.008 (−2.68)***
Firm growth		−0.057 (−4.92)***	−0.076 (−6.57)***	−0.08 (−7.23)***	−0.091 (−7.44)***
Liquidity		−0.139 (−3.23)***	−0.146 (−3.33)***	−0.22 (−4.78)***	
Free cash flow					−0.109 (−3.38)***
Financial-distress		−0.094 (−7.13)***	−0.032 (−2.52)**	−0.026 (−2.00)**	−0.042 (−3.13)***
Dividend-track		0.428 (27.67)***	0.231 (16.75)***		0.234 (17.00)***
Liquidity-test		−0.088 (−1.89)*	−0.274 (−4.89)***	−0.29 (−5.09)***	−0.254 (−4.54)***
Franked dividend			0.033 (2.14)***	0.061 (3.69)***	0.035 (2.28)**
Intercept	−0.634 (−5.02)***	−1.46 (−13.75)***	0.153 (1.44)	−0.069 (−0.60)	0.080 (0.76)
Industry dummy	Yes	Yes	Yes	Yes	Yes
Firm-years	111,74	107,04	3,919	3,974	3,919
Number of firms	1,125	1,207	646	650	646
Log likelihood	−3,897.76	−2,364.74	−843.38	−1,044.89	−843.25
Probability	0.000	0.000	0.000	0.000	0.000

Notes: Dividend payout ratio (DP), the dependent variable, refers to the percentage of dividends out of net profits. CG Index I is calculated as the summation of the 13 categories of corporate governance dummy, as described in Table I, divided by 13. As such, the closer to 1 the better governance system and vice versa. Firm size is calculated as logarithm of the firm's market capitalization. Profitability is calculated as net income over total assets. Leverage is measured as short-term debt plus long term debt divided by total shareholders' equity. Growth opportunities measured as the market value of equity divided by book value of equity. Firm growth refers to the one-year growth rate of total assets. Liqudity is calculated as cash to total assets. Free cash flow is the operating cash flow less net capital investments during the year scaled by total assets. Financial distress is a dummy variable and is equal to 1 if the firm makes a two-year consecutive loss, and 0 otherwise. Dividend-track is also a dummy viable and is equal to 1 if the firm paid dividend in the previous year, and 0 otherwise. Liquidity-test is also a dummy variable and is equal to 1 if a firm's total assets minus total liability exceeded the amount of money declared as dividends, and 0 otherwise. Franked dividend is a percentage of dividends with dividend imputation that creates a tax credit to eliminate the double taxation of cash payouts from a company. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table VI.
Tobit estimation of the effect of Corporate Governance Index I on cash dividend

Because of the limited number of observations for the franked dividend variable, efficiency of the estimation dropped substantially. Despite this decrease in efficiency of estimation, all the main independent variables (i.e. CGI, growth opportunities and franked dividend) report the significant coefficient for the expected signs. For further robustness checks, this study estimated using CGI II and CGI III. Results in Table VII confirm that the main finding is robust against different constructions of governance indexes.

Estimated coefficients of the control are also consistent with expectations. The positive sign of firm size is consistent with the studies of Setia-Atmaja *et al.* (2009) and Coulton and Ruddock (2011). The estimated coefficients of profitability and leverage ratio are positive as expected. The results also show a significant inverse relation of growth opportunities and dividend-track with DPs, supporting the life-cycle hypothesis, which is similar to the findings of Rozeff (1982), Farinha (2003) and Coulton and Ruddock (2011).

The negative relation between liquidity (free cash flow) and DPs supports the substitute model which predicts improvement in corporate governance distributing "free" cash and makes remaining liquidity and FCF to be substitutable for dividend.

	Model 1	Model 2	Model 3	Model 4
CG Index II	0.44 (14.38)***	0.054 (1.97)**		
CG Index III			0.309 (9.31)***	0.053 (1.85)*
Firm size		0.011 (2.41)**		0.013 (2.76)***
Profitability		0.633 (6.56)***		0.634 (6.58)***
Leverage		0.040 (2.65)***		0.041 (2.71)***
Growth opportunities		−0.006 (−1.84)*		−0.006 (−1.89)*
Firm growth		−0.075 (−6.46)***		−0.076 (−6.56)***
Liquidity		−0.146 (−3.34)***		−0.146 (−3.33)***
Financial distress		−0.032 (−2.48)**		−0.032 (−2.51)**
Dividend-track		0.231 (16.76)***		0.231 (16.76)***
Liquidity-test		−0.274 (−4.88)*		−0.271 (−4.83)*
Franked dividend		0.035 (2.28)**		0.037 (2.37)**
Intercept	−0.546 (−4.40)***	0.187 (1.71)*	−0.495 (−3.72)	0.160 (1.49)***
Industry dummy	Yes	Yes	Yes	Yes
Firm-years	11,174	3,919	11,174	3,919
Number of firms	1,225	646	1,225	646
Log likelihood	−3,879.46	−845.00	−3,940.23	−845.23
Probability	0.000	0.000	0.000	0.000

Notes: Dividend payout ratio (DP), the dependent variable, refers to the percentage of dividends out of net profits. CG Index II is calculated by the same method as for CG Index I but based on the 14 categories of corporate governance dummies as described in Table II. CG Index III is calculated based on a five dummy variables as described in Table III. Firm size is calculated as logarithm of the firm's market capitalization. Profitability is calculated as net income over total assets. Leverage is measured as short-term debt plus long term debt divided by total shareholders' equity. Growth opportunities measured as the market value of equity divided by book value of equity. Firm growth refers to the one-year growth rate of total assets. Liquidity is calculated as cash to total assets. Free cash flow is the operating cash flow less net capital investments during the year scaled by total assets. Financial distress is a dummy variable and is equals to 1 if the firm makes two-year consecutive loss, and 0 otherwise. Dividend-track is also a dummy viable and is equal to 1 if the firm paid dividend in the previous year, and 0 otherwise. Liquidity-test is also a dummy variable and is equal to 1 if a firm's total assets minus total liability exceeded the amount of money declared as dividends, and 0 otherwise. Franked dividend is a percentage of dividends with dividend imputation that creates a tax credit to eliminate the double taxation of cash payouts from a company. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table VII. Tobit estimation of the effect of Corporate Governance Index II and III on cash dividend

The positive association between dividend payment of the previous year (dividend-track) and DP of the current year supports the signaling hypothesis. The results show the liquidity-test dummy variable is negative.

To investigate the *H2a* and *H3a*, this study included interaction variables as reported in Table VIII. The results in Table VIII show the positive effect of corporate governance moderated by growth opportunities (model 1) and franked dividend (model 2). As suggested by La Porta *et al.* (2000) and Mitton (2004), the negative sign of the interaction between governance and growth opportunities, CGI I × Growth opportunities, implies an attenuation effect by growth opportunities. Governance variable of CGI I remain significant with the expected sign when including the interaction variable of CGI I × Growth opportunities. This means, for example, the magnitude of (net) effect of CGI I on dividend is positive (with the magnitude of 0.1) for firms with a zero growth opportunities. This magnitude of governance is almost the same as the results on the unrestricted models in Table VI.

The results in model 2 in Table VIII show that the positive relation between corporate governance and DPs will be intensified by franked dividends as predicted by *H3a*. Interestingly, the governance variable CGI I is no longer statistically significant when we control for the interaction variable with franked dividend. These findings suggest that the net effect of corporate governance on dividend is not significant for firms without franked dividend system.

6. Further analyses and robustness checks

6.1 Analysis of corporate governance categories

The main index developed for corporate governance in this study is based on 13 governance variables which are categories into four different categories: the board of

	Model 1	Model 2
CG Index I	0.110 (2.89)***	−0.034 (−0.51)
CG Index I × Growth opportunities	−0.053 (−2.30)**	
CG Index I × Franked dividend		0.182 (2.37)**
Firm size	0.069 (13.72)***	0.011 (2.52)**
Profitability	2.082 (22.53)***	0.638 (6.59)***
Leverage	0.060 (3.83)***	0.040 (2.61)***
Growth opportunities	−0.020 (−4.71)***	−0.006 (−1.80)*
Firm growth	−0.057 (−4.99)	−0.077 (−6.67)***
Liquidity	−0.140 (−3.25)***	−0.147 (−3.37)***
Financial distress	−0.094 (−7.11)***	−0.033 (−2.58)**
Dividend-track	0.428 (27.65)	0.232 (16.82)***
Liquidity-test	−0.084 (−1.81)*	−0.087 (−1.64)
Franked dividend		−0.087 (−1.64)
Intercept	−1.475 (−13.85)***	0.248 (2.17)**
Industry dummy	Yes	yes
Firm-years	107,04	3,919
Number of firms	1,207	646
Log likelihood	−2,362.09	−840.569
Probability	0.000	0.000

Table VIII.
Tobit estimation of the effect of Corporate Governance Index I on cash dividend: moderation effect by growth opportunities and franked dividend

Notes: CG Index I × Growth opportunities and CG Index I × Franked dividend refers interaction variables. The control variables are defined as same as in Table VII. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

directors, audit, remuneration and nomination committees. The use of CGI implicitly assumes that each of these individual governance categories is equally weighted. To examine the possibility of different plays of each of these categories in motivating DPs, this study estimates the same models by replacing the CGI by each of these governance categories (Table IX).

The results in Table IX show that the board of directors and audit committee (with less extent) is statistically significant regardless of model specifications. Remuneration and nomination committees are also positive but statistical significances are subject to model specifications.

Board function is closely associated with the board structure in our study as it is composed of independence of the board of directors, board meetings, board size, CEO duality (separation of the role of chief executive officer and the board of directors' chairman), directors shareholding (percentage of shares held by the directors in the company) and CEO shareholding (percentage of ordinary shares held by CEO). As such, the finding in Table X illustrates that board function, that is, determined by board composition and its activities is crucial to distribute DPs.

The audit committee in this paper is composed of three governance variables which included the audit committee, the committee having at least one meeting annually, and the existence of the one of the big four external auditors. Both board function and audit committee, *vis-à-vis* remuneration and nomination committee, are directly related to monitoring the manager's decisions and performance.

6.2 Effect of GFC

To examine any possible changing of dividend patterns during the financial crisis, this study adopted two different approaches. First, it included a binary variable for the GFC equals to 1 if years are subsets of 2007-2009 and 0 otherwise. Second, it splits the sample into three sub-groups. The first one is before the onset of the GFC the second and third ones occur during (2007-2009) and post the GFC.

The estimated coefficient of the binary variable of GFC on model (1) is negative, indicating that firms paid smaller dividends during the GFC than other years as expected. This negative impact of the GFC on dividends was also confirmed by the change in estimated coefficient of the CGI from model (2) to model (3).

6.2.1 Estimation using restricted sample periods. As described above, Australian corporate governance system has changed substantially since 2003. For this reason, we reran our model after splitting samples before and after 2003. Figures in Table XI show qualitatively same results as our main findings.

7. Conclusion

This study investigates the effect of corporate governance on the dividend policy of Australian firms over the period of 2001-2013. To capture multiple aspects of corporate governance, this paper calculated governance indexes. The main index is based on 13 governance variables which are divided into four categories.

Random effect panel Tobit estimation results support a positive relation between governance quality and DPs. Firm with better corporate governance mechanism will pay higher dividend to reduce agency problem. These results can also support the complementary role of corporate governance and DP policy of the firms in Australia. The dividend was also positively affected by franked dividend system.

Table IX.
Tobit estimation of the effect of governance categories on cash dividend

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Board function	0.117***	0.155***	0.214***	0.156***						
	(3.42)	(4.55)	(6.42)	(4.60)						
Audit committee	0.229***	0.05			0.362***	0.054*				
	(6.14)	(1.58)			(10.39)	(1.82)				
Remuneration committee	0.126***	0.011					0.198***	0.016		
	(6.36)	(0.69)					(11.00)	(1.07)		
Nomination committee	0.052***	−0.032**							0.126***	−0.0206
	(3.14)	(−2.31)							(8.20)	(−1.54)
Intercept	−0.629***	−1.58***	−0.398***	−1.56***	−0.555***	−1.46***	−0.408***	−1.47***	−0.333	−1.514***
	(−5.04)	(−14.39)	(−3.02)	(−14.52)	(−4.37)	(−13.70)	(−3.18)	(−13.78)	(−2.56)	(−13.96)
Control variables	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Franked dividend included	No	No	No	No	No	No	No	No	No	No
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-years	11,174	10,704	11,174	10,704	11,174	10,704	11,174	10,704	11,174	10,704
Number of firms	1,225	1,207	1,225	1,207	1,225	1,207	1,225	1,207	1,225	1,207
Log likelihood	−3,884.98	−2,353.9	−3,963.37	−2,357.65	−3,929.35	−2,366.5	−3,923.14	−2,367.65	−3,950.31	−2,367.04
Probability	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Dividend payout ratio (DP) refers to the percentage of dividends out of net profit paid. The board function index (category) is calculated as summation of the six dummy variables as described in Table I. The closer to 6 the better BOD functions to indicates improved governance. The audit committee index (category) is calculated by summation of the three variables as described in Table I. The closer to 3 the better governance. The nomination and remuneration committee index (category) is the summation of the two variables as described in Table I. The closer to 2 the better governance. The variable definitions for the control variables and Franked dividend are same as in Table IX. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

	Full sample (2001-2013) Model 1	Before the GFC (2001-2006) Mode 2	During and after the GFC (2007-2013) Model 3
CG Index I	0.099 (2.59)***	0.145 (2.89)***	0.084 (1.65)*
GFC	−0.066 (−3.04)***		
Firm size	0.012 (2.66)***	0.011 (1.83)*	0.018 (2.84)***
Profitability	0.648 (6.68)***	0.659 (5.12)***	0.624 (4.57)***
Leverage	0.037 (2.39)**	0.037 (1.85)*	0.039 (1.83)*
Growth opportunities	−0.006 (−1.77)*	−0.008 (−1.92)*	−0.001 (−0.39)
Firm growth	−0.078 (−6.67)***	−0.090 (−6.10)***	−0.073 (−4.45)***
Liquidity	−0.147 (−3.34)***	−0.192 (−3.20)***	−0.137 (−2.39)**
Financial distress	−0.036 (−2.79)***	−0.031 (−1.86)*	−0.039 (−2.24)**
Dividend-track	0.227 (16.41)***	0.219 (11.70)***	0.212 (11.12)***
Liquidity-test	−0.262 (−4.68)***	−0.227 (−2.60)***	−0.269 (−4.04)***
Franked dividend	0.035 (2.24)**	0.069 (3.39)***	0.025 (1.25)
Intercept	0.181 (1.64)	0.118 (0.80)	0.118 (0.86)
Industry/year dummy	Yes	Yes	Yes
Firm-years	3,919	2,176	2,068
Number of firms	646	521	468
Log likelihood	−824.64	−512.2	−364.40
Probability	0.000	0.000	0.000

Notes: GFC refers to the global financial crisis (2007-2009). *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table X. Tobit estimation of the effect of Corporate Governance Index I on cash dividend: the GFC effect

	(2001-2003)		(2004-2013)	
	Model 1	Model 2	Model 3	Model 4
CG Index I	0.191 (2.42)**	0.260 (3.31)***	0.085 (1.97)**	0.132 (3.06)***
Firm size	0.006 (0.82)	0.062 (7.58)***	0.015 (2.91)***	0.066 (11.86)***
Profitability	0.844 (3.78)***	2.786 (12.23)***	0.579 (5.35)***	1.91 (19.17)***
Leverage	0.093 (2.90)***	0.001 (0.05)	0.022 (1.29)	0.057 (3.28)***
Growth opportunities	−0.015 (−1.94)*	−0.043 (−5.44)***	−0.002 (−0.73)	−0.019 (−5.15)***
Firm growth	−0.107 (−3.86)***	−0.026 (−0.92)	−0.065 (−5.11)***	−0.057 (−4.58)***
Cash	0.029 (0.28)	0.069 (−0.74)	−0.183 (−3.80)***	−0.154 (−3.26)***
Financial distress	0.004 (0.17)	−0.066 (−2.23)**	−0.043 (−3.05)***	−0.102 (−7.01)***
Dividend-track	0.264 (8.41)***	0.551 (16.23)***	0.223 (14.39)***	0.430 (24.91)***
Liquidity-test	−0.034 (−0.19)	0.119 (0.98)	−0.308 (−5.29)***	−0.120 (−2.41)**
Franked dividend	0.068 (2.17)**		0.031 (1.80)*	
Intercept	−0.190 (−0.75)	−1.888 (−8.94)***	0.162 (1.38)	−1.335 (−11.45)***
Industry dummy	Yes	Yes	Yes	Yes
Firm-years	887	2,504	3,032	8,200
Number of firms	384	914	558	1,105
Log likelihood	−286.94	−657.25	−547.31	−1,700.13
Probability	0.000	0.000	0.000	0.000

Note: *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table XI. Tobit estimation of the effect of Corporate Governance Index I on cash dividend payment using splitted sample periods

In contrast, growth opportunities constrained dividend distribution which is in line with the life-cycle hypothesis.

Further analyses show the intensifying effect of governance on dividends by the level of franked dividends. This finding suggests the effect of governance on dividend

differs depending on corporate tax system. In contrast, the positive effect of governance on dividends was attenuated by growth opportunities. This finding suggests firm values cash and liquidity differently along their life cycle and availability of profitable projects.

Further investigation, using each individual governance element, shows that the board function and audit committee, *vis-à-vis* numeration and nomination committees, are more important to determine DPs. The estimation result also shows the negative effect of the GFC on DP.

Further to the managerial implications described above, our findings provide some policy implications. First, our results illustrate the importance of a proper arrangement of institutional settings to improve fairness and equity in an economy. That is, well-functioning corporate governance is a way to strengthen the rights of minority shareholders by preventing managerial private consumptions. Second, both the agency theory and our findings suggest that improved corporate governance is also important for allocative efficiency of resources as good governance can reduce "waste" of "free" cash flows. Third, however, it is unsure whether the franked dividends motivate investors to expect more DPs than the optimum level of payouts as indicated by the agency theory.

Notes

1. Following the major corporate collapses in the USA (e.g. Enron in 2001, WorldCom in 2002 and Adelphia communications in 2002), Europe and Australia (e.g. HIH in 2001, Harris Scarfe in 2001 and Ansett Airline in 2001), corporate governance systems have received much more attention. Policy makers have improved on their previous policies and developed new policies in order to re-establish investors' confidence in those countries. An effective corporate governance structure through policy reforms is expected to increase corporate value by improved accountability and control systems commensurate with the risks involved. Following the high rate of corporate collapse in the 1980s and early 1990s in Australia, four major business organizations which include the Australian Stock Exchange, the Business Council of Australia, the Institute of Chartered Accountants and the Institute of Directors in Australia, approached the Chairman of the National Companies and Securities commission, Henry Bosch, and discussed the increased concern of the public-related corporate governance. Following their discussion, Bosch (1993) published a set of guidelines titled "Corporate Practices and Conduct." The guidelines were then revised in 1995. In 1997, the ASX released a set of guidelines titled "Good response to ASX Corporate Governance Disclosure rules." The ASX announced in the media that every one of the largest 150 companies listed in the Australian Stock Exchange complied with new listing rule. Australian corporate governance mechanisms were also developed by the Investor and Financial Services Association Limited (IFSA). The first edition of the IFSA guidelines for corporate governance practices, particularly for investment managers, was published in 1995 with the title of "Corporate Governance: a guide for investment managers and a statement of recommended corporate practices." The guideline was updated in following years, including July 1997 (2nd edition), July 1999 (3rd edition), December 2002 (4th edition), October 2004 (5th edition) and June 2009 (6th edition). One of the most comprehensive corporate governance guidelines was drawn up by the ASX Corporate Governance Council (2003) with the title of "Principles of Good Corporate Governance and Best Practice Recommendations." The review consisted of ten principles and 28 recommendations applicable to the corporate governance practices for the companies listed on the Australian Stock Exchange. The guideline was later revised in (2007) and (2010).

2. The major changes include dividend cannot be paid by companies unless all following requirements are met: the assets of company exceeded its liabilities immediately before the dividend is declared and the exceed is sufficient for dividend payment; the amount of dividend is reasonable and fair for the company's shareholders as whole; and the dividend payment dose not materially prejudice the company ability to pay its creditors.
3. The theory incorporates components of agency theory (Jensen and Meckling, 1976; Jensen, 1986) with progression in the investment opportunities of the firm, which was also discussed by Fama and French (2001) and Grullon *et al.* (2002).

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Further reading

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(The Appendix follows overleaf.)

Appendix

Table AI.
Criteria used to estimate the Governance Index I

Variables	ASX recommendation (2003)	Theory and evidence
Board size	Principle 2 – structure the board to add value – companies should have a board of an effective composition, size and commitment to adequately discharge its responsibilities and duties	Larger boards can bring more experience and recourse to the firm and are more constructive for firm performance (Dalton *et al.*, 1999). Chiang (2005) and Haniffa and Hudaib (2006) also show that board size is significantly associated with accounting and market performance. Similarly, Bokpin (2011) and Chen *et al.* (2011) show the positive relationship between the size of the board and the propensity of companies to pay cash dividends. This study argues that larger boards have more specialized skills and are better equipped to monitor managers (Williams *et al.*, 2005). They are therefore more effective and have a positive influence on a firms' dividend policy
Board meeting		Lipton and Lorsch (1992) suggested that one of the most widely shared problems among directors is a lack of time to carry out their tasks. Likewise, Conger *et al.* (1998) suggested that directors can increase board effectiveness by increasing the number of times the board meets. Similarly, Vafeas (1999) showed a positive relationship among board meeting frequency, corporate governance and ownership characteristics that was consistent with contracting and agency theory. Additionally, Kent and Stewart (2008) suggested that boards of directors need to be active to meet their corporate governance commitments, particularly in ensuring high-quality, transparent reporting in annual reports. This study argues that companies with more frequent board meetings are more likely to perform their duties diligently and effectively, thereby enhancing their level of oversight (Yatim *et al.*, 2006) and having positive effect on a firm's dividend policy
Directors independence	Recommendation 2.1: a majority of the board should be independent	Directors' independence also has a large effect on firm performance and consequently on dividend policy decisions. According to stewardship theory, less independent boards are expected to be highly associated with better performance. Anderson and Reeb (2004) and Weisbach (1988) showed a significant and positive relationship between the proportion of outsiders on a board and firm performance. Dahya and McConnell (2007) also showed that firms with a higher percentage of independent directors have higher market valuations. This study argues that independent directors can positively affect dividend policy because they are in a better position to protect shareholders' interests from opportunistic managers (because they are they are independent from managers' influence) (Fama and Jensen, 1983)
Directors' shareholding CEOs' shareholding		Welch's (2003) study of Australian listed companies indicated a significant relationship between managerial ownership and firm performance. The results also show that when endogeneity is taken into account, ownership and performance measures are not

(*continued*)

Variables	ASX recommendation (2003)	Theory and evidence
		significantly dependent. Similarly, Wruck (1989) showed a significant and positive relationship between concentrated ownership and firm performance. Fenn and Liang (2001) showed that in a mature market, managers' stock ownership can result in higher dividend payments by better aligning the interests of shareholders and management. In this study we consider higher share ownership among directors and CEOs to have a positive effect on dividend policy as the interests of managers and general shareholders will be the same. Therefore, we considered the directors, and CEOs which have more than 5% to have influence and positive affect on dividend payouts
Chairman and CEO separation	Recommendation 2.3: the roles of the chairperson and chief executive officer should not be held by the same individual	The final criterion of board structure is CEO duality. Previous studies indicated that most CEOs are opportunistic are therefore not automatically loyal to their shareholders (Jensen, 1986, 1993; Morck *et al.*, 1990; Shleifer and Vishny, 1989, 1997); therefore, they prefer to use money for their personal goals rather than paying dividends to shareholders. CEO chairperson duality can occur when the chief executive officer (CEO) of the firm also serves as a chairperson of the board. In the perspective of agency theory, there is near consensus that one individual should not perform the roles of board chairperson and CEO simultaneously (Zahra and Pearce, 1989; Lehn and Zhao, 2006). This study argues that companies that separate the role of CEO and chairman have better performance and can make better decisions concerning their dividend policy
Audit committee	Recommendation 4.2: the board should establish an audit committee	The audit committee performs an important role in monitoring the board's fulfillment of its corporate governance and oversight responsibilities in relation to a company' risk management system, internal control system, financial reporting and internal and external audit functions. An effective audit committee is a salient feature of a sound corporate governance system (DeZoort and Salterio, 2001). This study argues that the existence of an independent audit committee, and the committee having at least one meeting annually can positively effect on dividend policy
External auditor		External auditors are in the position to ensure that companies are aware of new reporting requirements (Kent and Stewart, 2008). Audit firms generally have more resources and experience to ensure that they are familiar with new accounting requirements. It is also assumed that these accounting firms have a greater incentive to protect their reputation because of their larger client base (Francis and Krishnan, 1999; Francis *et al.*, 1999; Krishnan, 2003; Kim *et al.*, 2003). As a result, they are more conservative and require a

(*continued*)

Table AI.

Variables	ASX recommendation (2003)	Theory and evidence
		greater level of disclosure (Clarkson *et al.*, 2003). The Big Six accounting firms are more likely to ensure transparency and eliminate mistakes in financial statements because they are more professional and have a greater reputation to uphold (Michaely and Shaw, 1995). Disclosure is improved if the firm's external auditor is one of the Big Six international accountant firms (Fan and Wong, 2005). Since the merging of the Big Six companies, we will consider the big four audit firms to have positive effect on dividend policy
Nomination committee	Recommendation 2.4: the board should establish a nomination committee	The nomination committee focuses on assessing the board of directors and examining the characteristics and skills that are required in the board candidates, and should therefore be separate from the board. A nominating committee provides independent recommendations and opinions for choosing the best board candidates. In addition, its existence indicates a formal and transparent process for the re-appointment of existing directors and new directors. This study therefore argues that the existence of nomination committee, and the committee having at least one meeting annually can positively effect on dividend policy
Remuneration committee	Recommendation 9.2: the board should establish a remuneration committee	Rumination committees appoint and review the amount and nature of all remuneration for senior officers of the company. This contributes to alleviating the agency problem by designing, constructing and implementing incentive schemes to better align the goals between management and shareholders (Jensen and Murphy, 1990). A separate remuneration committee plays a key role in determining that remuneration policies are effective and reported and explained to the shareholders. In the absence of an independent remuneration committee, it appears that executives are allowed to write their own contracts with one hand and sign them with the other (Williamson, 1988). This study therefore argues that the existence of remuneration committee, and the committee having at least one meeting annually can positively effect on dividend policy

Table AI.