Does Corporate Governance Have a Say on Dividends in Australian Listed Companies?

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Abstract

This paper investigates whether corporate governance has an impact on dividend policy in Australian listed firms. The empirical studies of corporate governance and dividend policy in the Australian context tend to have a limited scope and the findings are mixed. Unlike the existing literature, this paper provides a more comprehensive examination of the relationship between dividend policy and corporate governance mechanisms. Using a sample of 1,438 firm-year observations for the period of 2005 to 2011 and the panel data approach, this study finds that dividend payout is significantly positively (negatively) correlated with board size, board independence, institutional ownership and use of a Big-4 audit firm (CEO duality and managerial ownership). Moreover, dividend yield is significantly positively (negatively) correlated with managerial ownership (foreign ownership). These findings suggest that dividend policy and corporate governance mechanisms are complementary i.e. firms paying higher dividends are more likely to engage in good governance practices as well as having strong monitoring and control systems in place and therefore both dividend policy and corporate governance are considered as effective tools in reducing agency costs.

***JEL classification**:* G30, G32, G34

Keywords: Dividend payout, dividend yield, corporate governance, Australia

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1. Introduction

The dividend policy is one of the most debatable issues in corporate finance literature. It attracts particularly the interest of shareholders being a major financial policy and decision that matters to business. Notably, dividend policy varies over time, between firms and across countries, especially between developed and emergentcapital markets. In countries governed by Common Law regulations with strong shareholder protection, companies distribute higher dividends than those in Civil Lawcountries with weaker shareholder protection (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 2000). Maury and Pajuste (2002) used two approaches to explain how dividend policy mitigates agency problems. The first method is the outcomes model. This approach considers dividend policy as a result of the conflict between majority shareholders and minority shareholders; and between managers (the agent) and shareholders (the principal**).** The second method is the substitute model. This approach argues that manager opportunism can be reduced by appropriate dividend policies. The substitution model suggests that firms with weak minority interests try to establish a reputation by paying dividends (La Porta et al., 2000). Easterbrook (1984) asserts that the dividend policy may be used to reduce agency cost and mitigate agency conflict between minority and majority shareholders by restraining expropriations by senior management and removing corporate wealth from the control of top managers (Faccio, Lang, & Young, 2001). Further, Mehrani et al. (2011) point out that corporate governance is a factor affecting dividend policy.

Australia is a developed economy in the Asia-Pacific region with a strong financial market providing strong legal protection for shareholders. The Australian financial market follows the Anglo-American system of corporate governance. The Corporate Governance Council published the ASX Corporate Governance Principles (first edition) in 2003, (ASX, 2003). A subsequent revision was released in 2007 and new recommendations on diversity and the composition of the remuneration committee were added in 2010 (second edition). The practices of corporate governance have been widely studied in Australia, however, the research that links corporate governance to dividend policy is still scarce. Cotter and Silvester (2003), Setia- Atmaja, Tanewski, and Skully (2009), Alias, Rahim, Nor, and Yaacob (2012) and Yarram and Dollery (2015) are among the few studies that investigated the relationship between dividend payout behaviour and internal corporate governance mechanisms. In the early study, Cotter and Silvester (2003) found no relationship between board independence and dividend policy among large ASX listed companies. In contrast, Setia-Atmaja et al. (2009), Alias et al. (2012) and Yarram and Dollery (2015) documented a significant positive relationship between board independence and dividend payout. Thus, the question whether good corporate governance practises to have a higher proportion of independent board of director will yield more dividends is inconclusive.

The motivation of this study derives from the need to demonstrate how dividend policy can help corporate governance practices to mitigate agency conflict and protect the interest of shareholders and other stakeholders. This implies whether dividend policy and corporate governance practices play complementary roles in reducing agency costs that have far-reaching implications for shareholders, investors and stakeholders in a firm. A strong relationship between dividend policy and corporate governance practices can be perceived that firms paying higher dividends are more likely to engage in good governance practices and vice versa. These firms are well equipped with strong monitoring and control systems to safeguard against managerial opportunism and tunnelling of fund. Therefore, the motivation and contribution of the study are of four folds. First, previously Australian studies tend to focus on the impact of board independence on dividend payout decision. However, our study offers a more comprehensive examination of the relationship between dividend policy and corporate governance mechanisms in all aspects of board independence, board size, board meeting frequency, CEO duality, audit committee independence, audit quality, managerial ownership, institutional ownership, foreign ownership, and government ownership. To our best knowledge, there is limited research particularly on the relationship between audit committee independence, audit quality and managers' dividend payout decision.

Second, the empirical evidence of corporate governance and dividend policy in the Australian context not only has a limited scope but also the findings are mixed. For example, the findings of board independence and dividend payout are contrary between Cotter and Silvester (2003) and Setia-Atmaja et al. (2009), Alias et al. (2012), and Yarram and Dollery (2015). Therefore, we are motivated to re-examine the issue and to add more evidence to the existing literature.

Third, Yarram and Dollery (2015) suggest that CEO duality has a significant positive influence on the dividend payout of Australian dividend paying firms. Unlike Yarram and Dollery (2015), we also consider a full sample including both dividend paying firms and non-dividend paying firms to investigate to what extent CEO duality has been an effective corporate governance mechanism in monitoring managers; or whether CEO duality is simply a reflection of managerial opportunistic behaviour when it comes to the decision whether or not firm should pay dividends to existing shareholders.

Fourth, contrasting with Shamsabadi, Min and Chung (2016) who use aggregate governance index, we take into account the dynamic effect of corporate governance that not all the corporate governance mechanisms are effective in assuring that managers will exercise decision in the best interesting of shareholders. Therefore, instead of focusing on the aggregate corporate governance index, the interplay between the individual elements of corporate governance is crucial because different board characteristics may have a different impact on decision making as whether to pay or not to pay dividends and how much cash should be distributed in the form of dividend. Our

approach by taking a comprehensive examination of 11 individual corporate governance mechanisms captures the dynamic relations between governance and dividend policy. We argue that firms paying higher dividends could signal good governance practices and management commitment in reducing free cash flows and hence reducing agency costs.

Using a sample of 1,438 firm-year observations for the period 2005 to 2011 and the panel data approach, this study reports the significant positive associations between dividend payout and board size, board independence, institutional ownership, and Big-4 audit firm. However, dividend payout is found to have a significant negative relationship with CEO duality and managerial ownership. Moreover, when dividend policy is measured by dividend yield, managerial ownership shows a significant positive impact while foreign ownership is significant negative. The findings of the relationship between corporate governance and dividend policy have important implications for companies, investors and policy makers. These results imply that board size, board independence, institutional ownership, Big-4 firms, and dividend policy can play complementary governance roles and provide more benefits to shareholders and investors. Firms that pay higher dividends are more likely to display good governance of the monitoring and control systems in place. Therefore, both dividend policy and corporate governance are considered an effective tool in reducing agency costs in Australian firms.

The paper is organised as follows: Section 2 considers the literature review, conceptual framework and hypotheses development; Section 3 describes the research method covering data sources and sample selection, variable measurement and model development; Section 4 presents and discusses the results; and Section 5 reports the conclusion and implication of the study.

2. Literature Review and Hypotheses Development

2.1 Board structure and dividend policy

Board structure is an important factor that may influence a firm's payout policy. Board structure includes its size and the proportion of directors who are independent. The board of directors plays a vital role in protecting shareholders' interests and ultimately decides a firm's dividend payout. A number of empirical studies have tested the relationship between board structure and dividend policy but, nonetheless, the results are mixed. Elmagrhi et al. (2017) examines a sample of UK small and medium-sized enterprises from the period of 2010 to 2013 and they find that board size and audit committee size are significantly positively associated with the level of dividend payout. La Porta et al. (2000), Mitton (2004), Kowalewski et al. (2008), and Yarram and Dollery (2015) show that companies with good governance practices pay higher dividends. However, other studies such as Gugler and Yurtoglu (2003), Gugler (2003) and Jiraporn and Ning (2006)

show that firms with poor governance pay higher dividends. Bathala and Rao (1995) and Borokhovich et al. (2005) examine the relationship between corporate governance characteristics and dividend policy in US firms and report a significant negative relationship between board independence and dividend payout ratio. Similar findings were discovered by Al-Najjar and Hussainey (2009), Asamoah (2011), Al-Shabibi and Ramesh (2011), Bathala and Rao(1995), and Benjamin and Zain (2015).

Other studies have found a positive relationship between board independence and dividend policy. Schellenger et al. (1989) examined the effect of board compositionon the dividend payout for a sample of 526 US companies and found a significant positive relationship between board composition and dividend policy. Kaplan and Reishus (1990) studied 160 US firms during the period from 1980 to 1983 and found that outside directors are less likely to reduce dividend payout which is consistent with Schellenger et al. (1989). Adjaoud and Ben-Amar (2010) also confirm that board independence is significant positively related to dividend policy. Alias et al. (2012) found a significant positive impact of board independence on dividends. In Australia, Cotter and Silvester (2003) analysed 109 large companies listed on the ASX in 1997 to examine whether board independence affected dividend policy. The results indicated board independence has no relationship with dividend policy. Yarram and Dollery (2015) found evidence that board independence positively affects dividend payout.

In addition, Belden et al. (2005) investigated the relationship between outside directors and dividend payout for 524 large companies listed in the Forbes 500 for theyears 1998 to 2000. They showed that firms with a higher proportion of outside directors prefer to pay higher levels of dividends. Abdelsalam et al. (2008) examined the top 50 firms on the Egyptian Stock Exchange from 2003 to 2005 and their findings reveal that institutional ownership has a significant positive association with dividend policy, while board composition has no relationship with dividend payout. Elmagrhi et al. (2017) document a significant negative effect of frequency of board meeting on the level of dividend payout in the UK listed SMEs. Benjamin and Zain (2015) also reported firms that meet more frequently usually pay lower dividends. Onthe contrary, a positive view in the literature is that more frequency of board meetingsis beneficial for firms as part of their board monitoring and good corporate governance practice. Based on the above discussion, the hypotheses relating to board size, board independence and board meeting are developed:

H1a: There is a positive relationship between dividend policy and board size.

H1b: There is a positive relationship between dividend policy and board independence.

H1c: There is a positive relationship between dividend policy and board meetings.

2.2 CEO duality and dividend policy

According to Agency theory, the separation of board chairman and CEO functions will reduce agency costs and improve firm performance. Moreover, the duality of CEO and board chair is one of the most controversial issues in corporate governance literature. On the contrary, Stewardship Theory argues that leaders are trustworthy, they are not opportunistic and they act in the interests of the company. Advocates of duality argue that CEOs will have a strong leadership in their dual roles and tend to produce a superior firm performance. A number of researchers have investigated the association between CEO duality and dividend policy. Using a sample of 2,081 firms covering the period from 1992 to 2000, Hu and Kumar (2004) examined the effects ofinternal governance mechanisms on dividend payout. The results show a significant positive association between CEO duality and dividend policy. Similarly, Ghosh and Sirmans (2006) found a positive relationship between CEO duality and dividend payout among real estate investment trusts. Feng et al. (2007) and Gill and Obradovich (2013) report that CEO duality has a significant positive effect on dividend policy. Chen et al. (2017) also find a positive relationship between CEO duality and dividend payout, suggesting firms with combined leadership tend to pay high dividends in order to substitute for poor governance reputation. These empirical findings by large are consistent with the substitute theory. However, Sharma (2011) has an opposite finding that shows a negative association between CEO duality and dividend payout policy. Baliga et al. (1996) and Dittmar et al. (2003) found that firms with CEO duality are less effective. CEO duality is negatively correlated with the effectiveness of corporate governance mechanisms, and weak corporate governance mechanisms lead to a higher level of agency cost (D'Souza & Saxena, 1999). The negative association between the CEO duality and corporate dividend policy was also found by Asamoah (2011), Chen et al. (2011), Subramaniam and Devi (2011), Alias et al. (2012) and Abor and Fiador (2013). Moreover, Elmagrhi et al. (2017) examines a sample of UK small and medium-sized enterprises listed on the Alternative Investment Market and they find that CEO role duality has no impact on the level of dividend payout. Considering the mixed findings in the literature, we develop the following hypothesis:

H2: There is a negative relationship between dividend policy and CEO duality.

2.3 Audit committee independence and dividend policy

The audit committee plays a key role in corporate governance and safeguarding the financial interest of shareholders (Abbott et al., 2004). In the vein of Agency theory, Erickson et al. (2003) argued that audit committee independence reduces agency costs. To our best knowledge, there is limited research on the relationship between audit committee and dividend policy and the tests of audit committee independence and dividend payout are inconclusive. For example, La Porta et al. (2000) argue that dividend policy

has a significant negative relationship with governance mechanisms. Chen et al. (2005) found a marginally significant negative association between audit committee independence and dividend payout. Sawicki (2009) found that dividends act as a substitute mechanism for other governance mechanisms in pre-crises contexts; however, a positive association exists between dividend and corporate governance in post-crises situations. This means that the dividend can be used as a substitute for governance mechanisms. Turley and Zaman (2007) examined the effectiveness of audit committees in UK companies and found that audit committee isnot that important an internal control. In a recent study, Al-Najjar and Belghitar (2014) found no significant relationship between audit committee independence and cash dividends in the UK. Similarly, Nimer et al. (2012) found no significant relationship between audit committee independence and dividend payout policies. However, the independence of audit committees increases its strength and reduces the agency problem and the opportunity to misappropriate funds by insiders (Yeh, Chung, & Liu, 2011). Based on the mixed findings in the literature, the hypothesis is formulated as:

H3: There is a positive relationship between dividend policy and audit committee independence.

2.4 Ownership structure and dividend policy

Board structure is not the only factor influencing a firm's payout policy. Researchers suggest that ownership structure, for example, managerial ownership, institutional ownership, government ownership and foreign ownership may also affect dividend policy decisions. Rozeff (1982) and Farinha (2003) analysed the association between managerial ownership and dividend policy and they found that managerial ownership is negatively related with dividend policy. This is because managers tend to minimize dividends in order to increase their personal benefits such as compensations (e.g., Eckbo & Verma, 1994; Moh'd, Perry, & Rimbey, 1995; Short, Zhang, & Keasey, 2002). McConnell and Servaes (1990), Short et al. (2002), Manos (2003), Chen et al. (2005) also provide evidence that managerial ownership is negatively related to dividend payout.

Apart from managerial ownership, institutional shareholders may also have an impacton a firm's dividend policy. Jensen's (1986) free cash flow theory points out that institutional investors play an effective role in monitoring managers as they will put pressure on managers to distribute free cash flow as dividends. Dividends, therefore, can be also viewed as the reward to compensate institutional investors for monitoring management activities (Shleifer & Vishny, 1986). However, empirical studies of the relationship between institutional ownership and dividend policy show mixed results, for example including Alli, Khan, and Ramirez (1993), Moh'd et al. (1995), Short et al. (2002), Grinstein and Michaely (2005), and Khan (2006). In the emerging markets, Abdelsalam et al. (2008), Sharif et al. (2010), and Al-Nawaiseh

(2013) finda significant positive relationship. On the other hand, Han et al. (1999), Thomsen and Pedersen (2000), Gugler and Yurtoglu (2003), Mancinelli and Ozkan (2006), Kouki and Guizani (2009), Mehrani et al. (2011), and Gill and Obradovich (2013) find a negative relationship between institutional ownership and dividend payout. In addition, Zeckhauser and Pound (1990) and Al-Najjar (2010) show no significant association between institutional shareholders and dividend policy.

Government ownership is also documented to have an impact on a firm's dividend policy. Gul (1999) provided evidence that the number of shares owned by the government is significant positively associated with dividend policy. A similar relationship was found by Al-Malkawi (2007) that a higher level of government ownership is associated with higher levels of cash dividends. Other studies, such as Wei, Zhang, and Xiao (2004) and Bradford, Chen, and Zhu (2013) also show a significant positive association between the number of shares owned by government and dividend policy.

Foreign investors may also influence the level of dividend payout. Firms with higher proportions of shares held by foreign investors are more likely to pay higher dividends (Easterbrook, 1984; Jensen, 1986). Gedailovic, Yoshikawa, and Hashimoto(2005) found that the number of shares owned by foreign investors has a significant positive relationship with the level of dividends. Similarly, Jeon, Lee, and Moffett (2011) confirm a significant positive effect of foreign investors on dividend policy. The positive relationship between foreign ownership and dividend policy is also supported by Kang and Stulz (1997), Manos (2003), Chai (2010), Jeon et al. (2011), Warrad, Abed, Khriasat, and Al-Sheikh (2012), Chiang and Lai (2013), and Gong (2015). Thus, we develop the following hypothesis:

H4a: There is a negative relationship between dividend policy and managerial ownership.
H4b: There is a positive relationship between dividend policy and institutional ownership.
H4c: There is a positive relationship between dividend policy and government ownership.
H4d: There is a positive relationship between dividend policy and foreign ownership.

2.5 External audit and dividend policy

Mitton (2004) found a significant positive relationship between audit quality as measured by Big-4 audits and dividend policy. Similarly, Trang (2012) found that audit quality has a significant positive effect on dividend policy. Big-4 audit firms tend to provide quality-auditing services because they are highly skilled with more experiences and incentives to defend their reputation (DeZoort, Hermanson, Archambeault, & Reed, 2002; Fan & Wong, 2005; Kane & Velury, 2004; Piot, 2005).Deshmukh (2003) reports that companies

with weak audit quality are more likely to show information asymmetry and pay lower cash dividends. This implies there should be a significant positive association between audit quality, as measured by involvement of Big-4 audits, and dividend polices. Therefore, the following hypothesis is proposed:

H5: There is a positive relationship between dividend policy and audit quality.

3. Research Method and Data

This study collected data from multiple secondary sources. The financial data are hand-collected from the annual reports published by Australian listed companies. Corporate governance data are collected from DataStream and SIRCA databases. Thefinal sample is a balanced panel data set consisting of 1,438 firm-year observations for 206 listed companies across the period from 2005 to 2011. The main reason for this sample period is the adoption of ASX Corporate Governance Guidelines in 2003 (first edition) and its subsequent revision in 2007 and 2010 (second edition) rather than third edition (2014) or fourth edition (2019) that include wide range of recommendations. These guidelines are generally voluntary in nature that firms have followed since then. The base period 2005 represents corporate governance practices with one-year lag from 2003 while 2011 being the last period before a comprehensive review of guidelines occurred in 2012 reflecting global developments on corporate governance (ASX, 2013). In addition, the study period 2005-2011 represents relatively stable economic conditions, notwithstanding Global Financial Crisis (GFC), with series of interest rate cuts as well as volatility spikes in the stock market and exchange rate fluctuations from time to time.

With panel data pooled OLS regression, the estimation may be problematic because the process ignores the panel structure and only treats data as cross-sectional (Arellano & Honoré, 2001; Roodman, 2009). Many empirical studies have used OLS regression to estimate the relationship between corporate governance and dividend policy. However, the OLS estimates are inconsistent and inefficient if there exists heterogeneity across firms (Hsiao, 2003). In addition, using OLS in a panel data structure may lead to temporary and spatial problems and spurious results (Beck & Katz, 1995). The fixed effects model may be used to analyse the impact of variables that change over time. The fixed effects model removes the effects of those time- invariant characteristics. The random effects model can be used to analyse the special features of panel data. It is also known as the error components model. In the random effects regression, the intercepts are similar for all cross-sectional units and the random variation of each entity's intercept is captured by the error term ε_i. In choosing whether to use the fixed effects and random effects model, we applied the Hausman test (Hausman, 1978; Cameron & Trivedi, 2009). The null hypothesis is that random effects is preferred and the alternative

hypothesis is that fixed effects is preferred. A significant p-value leads to the rejection of the null hypothesis and indicates that the fixed effects is more appropriate. We model dividend policy as a function of board size, board independence, board meeting frequency, CEO duality, audit committee independence, managerial ownership, institutional ownership, government ownership, foreign ownership and audit quality.

$$\begin{aligned} \textit{Dividend Policy} = {} & \alpha + \beta_1\, BSIZE + \beta_2\, BIND + \beta_3\, BMEET \\ & + \beta_4\, DUALITY + \beta_5\, ACIND + \beta_6\, INSID + \beta_7\, INS + \beta_8 \\ & STATE + \beta_9\, FRGN + \beta_{10}\, BIG\text{-}4 + \sum X + \mu \end{aligned}$$

Where, dividend policy is a dependent variable measured by dividend payout ratio (POUT) and dividend yield (DY). The independent variables are corporate governance variables and include board size (BSIZE), board independence (BIND), board meetings (BMEET), CEO duality (DUALITY), audit committee independence (ACIND), managerial ownership (INSID), institutional ownership (INS), government ownership (STATE), foreign ownership (FRGN), and audit quality (BIG-4). ∑X is avector of other control variables and includes firm size, leverage, growth prospect, firm risk, firm age and profitability, and μ is the error term. Table 1 below provides the measurement of variables and data sources.

Table 1: Variable Measurements and Data Sources

Variables	Measurements	Symbols	Data Sources
Dependent variables			
Dividend Payout Ratio	The percentage of earnings paid to shareholders in dividends. Calculated as the dividends per share divided by earnings per share.	POUT	DataStream & Annual Reports
Dividend Yield	The percentage of a company pays out in dividends	DY	DataStream &
Independent variables			
Board Size	The board size for firm *i* in time *t*. It is calculated as the numbers of board directors.	BSIZE	DataStream, Sirca & Annual Reports
Board Independence	The independent of board of directors for firm *i* in time *t*. It is calculated as the proportion of outside independentdirectors.	BIND	DataStream, Sirca& Annual Reports
Board Meetings	Calculated as the numbers of board directors meeting during a financial year *t*.	BMEET	Annual Reports
CEO Duality	Dummy variable taking the value of 1 if a firm's CEO is the Chairman of the Board of Directors, and 0 otherwise.	DUALITY	Annual Reports
Audit Committee Independence	The proportion of independent directors on the auditcommittee for firm *i* in time *t*.	ACIND	DataStream & Annual Reports
Managerial Ownership	The percentage of shares owned by board of directors for firm *i* in time *t*.	INSID	Annual Reports

Institutional Ownership	The percentage of shares owned by institutions investors for firm *i* in time *t*.	INS	Annual Reports
Government Ownership	The percentage of shares owned by government for firm *i* in time *t*.	STATE	Annual Reports
Foreign Ownership	The percentage of shares owned by foreign individuals and institutional investors for firm *i* in time *t*.	FORGN	Annual Reports
Audit Quality	Dummy variable taking the value 1 if a firm is audited by a big four audit firm, and 0 otherwise.	BIG_4	Annual Reports
Control variables			
Firm Size	Calculated as the natural logarithm of the total assets for firm *i* in time *t*.	FSIZE	DataStream
Leverage Ratio	Calculated by total liabilities over total assets for the firm *i* in time *t*.	LR	DataStream
Growth	Calculated as the natural logarithm of the ratio of a firm's market value per share to its book value per share.	MBVE	DataStream
Firm Risk	Standard deviation of earnings (Beta). It is calculated as the historical beta local index for firm *i* in time *t*.	FRISK	DataStream
Firm Age	Calculated as the number of years elapsed since the firm was incorporated.	FAGE	Company Website
Profitability	Calculated as the earnings before taxes to book value of the firm's total assts.	ROA	DataStream
Industry Dummy	The industry classification is based on Global IndustryClassification Standards (GICS) for Australian listed companies and equals to 1 if firm *i* is from the GICSindustry, and 0 otherwise.	INDS-DUM	ASX Website
Year Dummy	Year dummy equals to 1 if year 2005, and 0 otherwise.	YR-DUM	

4. Empirical Results

4.1 Descriptive statistics

Table 2 presents the descriptive statistics of variables used in the study. Panel A shows that the mean (median) values of POUT and DY are 58% (60%) and 5% (4%) respectively. Panel B shows that average board size (BSIZE) and board independence (BIND) of Australian firms is between 7 to 8 directors with 59.7% independent members. The average number of board meetings (BMEET) is 9 to 10 times in a year.Only 4.2% of the Australian firms are characterized as CEO-Chairman duality, whichmeans that most Australian firms have separate positions for a chairman and chief executive officer. The mean (median) of the proportion of audit committee independence is 85.7% (100%). More than 80% of firms use Big-4 audit firms that indicates high audit committee independence and high audit quality. In the ownershipcategories, it appears that both institutional (25.2%) and foreign ownerships (28.1%) are dominating over insider managerial ownership (15.2%).

Table 3 shows the correlation between corporate governance mechanisms and dividend variables for Australian firms. The results suggest that the degree of correlation between the independent variables is low which suggests there are no multi-collinearity problems between independent variables. This study also used the variance inflation factors (VIF) of variables to determine if the multi-collinearity problem exists between independent variables. Again, coefficients of correlation are within an acceptable range of VIF results 1.03 – 1.50 for Australian listed firms, that are smaller than 10 (see Appendix). The results of VIF support the Pearson's correlation coefficients and provide no indication of multi-collinearity problems in the regression models.

Table 2: Summary Statistics of the Variables (N = 1438)

Variables	Obs	Mean	Std	P25th percentile	P50th percentile	P75th Percentile	Min	Max	Skewness	Kurtosis
Panel A: dividend policy										
Dividend Payout Ratio (POUT)	1438	0.577	0.274	0.400	0.600	0.790	0.000	1.000	-0.4305	2.3917
Dividend Yield (DY)	1438	0.045	0.034	0.024	0.040	0.059	0.000	0.279	2.0136	10.4808
Panel B: Corporate Governance Variables										
Board Size (BSIZE)	1438	7.640	2.706	6.000	7.000	9.000	2.000	23.000	0.7328	4.1862
Board Independence (BIND)	1438	0.597	0.196	0.500	0.625	0.750	0.000	1.000	-0.3483	2.3447
Board Meetings (BMEET)	1438	9.578	4.839	6.000	9.000	12.000	0.000	37.000	0.9695	4.9990
CEO Duality (DUALITY)	1438	0.042	0.200	0.000	0.000	0.000	0.000	1.000	4.5837	22.0102
Audit Committee Independence (ACIND)	1438	0.857	0.205	0.750	1.000	1.000	0.000	1.000	-1.2698	3.7178
Managerial Ownership (INSID)	1438	0.152	0.112	0.070	0.120	0.210	0.000	0.770	1.2524	4.9040
Institutional Ownership (INS)	1438	0.252	0.126	0.159	0.232	0.332	0.029	0.872	1.0171	5.1582
Government Ownership (STATE)	1438	0.005	0.041	0.000	0.000	0.000	0.000	0.520	10.1012	112.9688
Foreign Ownership (FORGN)	1438	0.281	0.134	0.180	0.270	0.378	0.000	0.930	0.3716	2.9904
Audit Quality (BIG-4)	1438	0.808	0.394	1.000	1.000	1.000	0.000	1.000	-1.5645	3.4477
Panel C: Control Variables										
Log Firm Size (FSIZE)	1438	13.101	2.257	11.500	13.140	14.800	4.750	18.930	-0.1042	2.7421
Leverage Ratio (LR)	1438	0.235	0.204	0.089	0.213	0.332	-1.634	1.653	0.6768	14.6667
Log Growth (MBVE)	1438	0.758	0.786	0.223	0.732	1.255	-1.897	3.999	0.1674	3.4091
Firm Risk (FRISK)	1438	1.245	0.801	0.720	1.130	1.650	-2.570	5.640	0.8669	6.0653

Firm Age (FAGE)	1438	43.258	42.106	13.000	26.000	56.000	0.000	187.00	1.3925	3.9935
Profitability (ROA)	1438	0.053	0.240	0.006	0.068	0.145	-1.727	1.351	-1.6206	13.0262

Table 3: Pearson Correlation of Variables (N = 1438)

	POUT	DY	BSIZE	BIND	BMEET	CEO Duality	ACIND	INSID	INS	STATE	FORGN	BIG-4	LOG FSIZE	LR
POUT	1.000													
DY	0.495***	1.000												
BSIZE	0.042*	0.070***	1.000											
BIND	0.080***	0.002	-0.012	1.000										
BMEET	0.101***	0.074***	0.191***	0.108***	1.000									
CEO DUALITY	-0.025	-0.045*	-0.008	-0.085***	-0.088***	1.000								
ACIND	-0.010	0.018	-0.054**	0.098***	0.007	0.006	1.000							
INSID	-0.033	-0.009	0.018	-0.114***	-0.018	0.193***	-0.001	1.000						
INS	0.044*	-0.040	0.003	0.004	-0.080***	-0.023	-0.004	-0.008	1.000					
STATE	0.017	0.024	-0.045*	0.032	0.072***	-0.027	-0.038	-0.072***	-0.024	1.000				
FORGN	0.021	0.015	0.020	-0.026	0.071***	-0.030	0.048**	0.033	-0.033	0.017	1.000			
BIG-4	0.168***	0.076***	0.287***	0.153***	0.242***	-0.013	0.027	-0.012	0.002	0.035	0.121***	1.000		
LOG FSIZE	0.096***	0.041	0.385***	0.205***	0.382***	-0.104***	0.078***	-0.063**	-0.078***	0.112***	0.085***	0.443***	1.000	
LR	0.097***	0.085***	0.065**	0.078***	0.174***	-0.072***	-0.016	0.067**	-0.016	0.011	-0.034	0.138***	0.300***	1.000
LOG MBVE	0.044*	0.213***	-0.012	-0.019	-0.108***	0..008	-0.032	0.047*	0.127***	0.017	0.001	-0.007	-0.129***	-0.046*
FRISK	-0.104***	-0.047*	-0.072***	-0.109***	-0.091***	0.081***	-0.067**	0.003	-0.066**	-0.004	-0.034	-0.155***	-0.225***	-0.140***
FAGE	0.060**	-0.059**	0.218***	0190***	0.090***	-0.030	0.010	-0.139***	0.022	0.047*	-0.062**	0.205***	0.396***	0.059**

ROA	0.004	-0.065***	0.120***	0.069***	0.129***	-0.077***	-0.009	0.044*	0.001	0.014	0.057**	0.178***	0.282***	0.103***

*** Denotes correlation is significant at the 0.01 level (2-talied); ** Denotes correlation is significant at the 0.05 level (2-talied); * Denotes correlation is significant at the level 0.10 level (2-talied). All variables are as previously defined.

Pearson Correlation of Variables (N = 1438)

	LOG MBVE	FRISK	FAGE	ROA
LOG MBVE	1.000			
FRISK	0.020	1.000		
FAGE	-0.019	-0.0210***	1.000	
ROA	0.108***	-0.107***	0.098***	1.000

*** Denotes correlation is significant at the 0.01 level (2-talied); ** Denotes correlation is significant at the 0.05 level (2-talied); * Denotes correlation is significant at the level 0.10 level (2-talied). All variables are as previously defined.

4.2 Panel regression results

Tables 4 and 5 present the panel regression results for the relationship between corporate governance variables and dividend policy for Australian firms. Both the pooled OLS and panel (i.e. random and fixed-effects) regression results are shown to enable comparisons between results.

Table 4 presents both the pooled OLS and random effect (RE) regression results of the relationship between corporate governance variables and dividend policy measured by dividend payout (POUT). The first test Lagrange Multiplier Test is 971.26 with the P-value at the 1% significance level. This means that the panel modelis better than the pooled OLS model. In addition, the Hausman Test for regression is 22.83 with the P-value equal to 0.4111, which is insignificant, thus supporting thatthe random effects model is more efficient than the fixed effects model. Both the OLSand RE models yield similar the results. Board size (BSIZE) and board independence(BIND) have significant positive effects on dividend policy, indicating that firms witha large board size and more independent directors are more likely to pay higher dividends. The result of board meeting (BMEET) in the RE model is different to the finding in the OLS regression. It is positive but not statistically significant at any levels. Again, the result of the RE model is similar to the finding in the OLS regression showing significant negative relationships between CEO duality and dividend policy. With respect to the ownership variables, the results of the REregression suggest that institutional ownership (INS) has a significant positive relationship with POUT. However, managerial ownership (INSID) has a significant negative effect on POUT, indicating that the greater managerial ownership, the lower the dividend payout. In addition, the results of the RE model show that an audit firm (BIG-4) has a significant positive effect on dividend policy and this result is similar to the pooled OLS results. However, unlike the pooled OLS results, firm age (FAGE) and profitability (ROA) have no effect on dividends in the RE model.

Table 4: Panel Regression Results of the Relationship between Corporate Governance Mechanisms and Dividend Policy (POUT)

Independent Variables	Pooled OLS Model	Random Effects Model
Const.	0.583*** (9.06)	0.512*** (5.72)
BSIZE	0.004* (1.82)	0.002* (1.67)
BIND	0.035** (1.97)	0.017** (2.02)
BMEET	0.004** (2.25)	0.001 (0.69)
DUALITY	-0.005* (-1.68)	-0.011* (-1.71)
ACIND	-0.043 (-1.25)	-0.014 (-0.51)
INSID	-0.143*** (-2.39)	-0.007** (-2.11)
INS	0.081* (1.63)	0.026* (1.79)
STATE	-0.123 (-0.74)	-0.271 (-1.01)
FORGN	-0.028 (-0.49)	-0.050 (-1.01)
BIG-4	0.061*** (2.88)	0.016*** (2.97)
LOG FSIZE	0.001 (0.08)	0.004 (0.66)
LR	0.046 (1.42)	0.031 (0.75)
LOG MBVE	0.011 (1.14)	0.009 (0.97)
FRISK	-0.005 (-0.54)	0.005 (0.59)
FAGE	0.001* (1.80)	0.001 (1.02)
ROA	0.099*** (3.05)	0.027 (1.00)
INDS-DUM	Yes	Yes
YR-DUM	Yes	Yes
Observations	1438	1438
Adj-R-square	0.114	0.140
Lagrange Multiplier test		971.26***
Lagrange Multiplier test (P-value)		(0.000)
Hausman test		22.83
Hausman test (P-value)		(0.411)

Note: ***, **, * represents statistical significance at 0.01, 0.05 and 0.10 levels, respectively. T-statistics are in the parenthesis. All variables are as previously defined.

Table 5 presents the panel regression results of the association between governance mechanisms and dividend policy measured by dividend yield (DY). The Lagrange Multiplier Test is 345.55 and statistically significant at the 1% level, indicating that the panel models are more appropriate than the pooled OLS model. Again, the Hausman Test is 36.98 with the P-value significant at the 5% level. This result supports that the fixed effects (FE) model is preferred over the RE model. Using DY as the dividend policy measure, the results of FE regression show that board size (BSIZE) and board meeting (BMEET) have no significant positive influence on DY. This is

inconsistent with the results from the pooled OLS model. Similarly, CEO duality has no significant effect in the FE model. However, the results of the FE model show that insider managerial ownership (INSID) has a significant positive influence on DY, and foreign ownership (FORGN) has a significant negative influence on DY but Big-4 shows no effect in the FE model. With respect to control variables, both OLS and FE regressions show that market to book value (MBVE) and firm risk (FRISK) have significant negative effects on DY, indicating that firms with unstable profitability may have more fluctuations in the firm's stock price and, hence, are more likely to pay lower dividends. Again, unlike pooled OLS estimates, leverage ratio (LR) and profitability (ROA) have no significant effect in the FE regression.

Table 5: Panel Regression Results of the Relationship between Corporate Governance Mechanisms and Dividend Policy (DY)

Independent Variables	Pooled OLS Model	Fixed Effects Model
Const.	0.054*** (7.68)	
BSIZE	0.001*** (3.75)	-0.0001 (-0.52)
BIND	-0.007 (-1.58)	-0.004 (-0.81)
BMEET	0.001** (1.94)	0.001 (0.41)
DUALITY	-0.007* (-1.87)	-0.002 (-0.44)
ACIND	0.001 (0.14)	0.002 (0.58)
INSID	-0.03 (-0.47)	0.032*** (2.89)
INS	0.005 (0.93)	0.001 (0.31)
STATE	-0.002 (-0.11)	0.026 (0.46)
FORGN	-0.007 (-0.92)	-0.012* (-1.65)
BIG-4	0.006*** (2.42)	-0.004 (-0.67)
LOG FSIZE	0.0001 (0.03)	0.0001 (0.28)
LR	0.008** (2.12)	-0.002 (-0.30)

LOG MBVE	-0.006*** (-5.60)	-0.004*** (-2.55)
FRISK	-0.002* (-1.67)	-0.002* (-1.70)
FAGE	-0.0001 (1.58)	-0.004 (-0.26)
ROA	0.012*** (3.05)	0.003 (0.78)
INDS-DUM	Yes	No
YR-DUM	Yes	Yes
Observations	1438	1438
Adj-R-square	0.163	0.164
Lagrange Multiplier test		345.55***
Lagrange Multiplier test(P-value)		(0.000)
Hausman test		
Hausman test (P-value)		36.98**(0.023)

Note: ***, **, * represents statistical significance at 0.01, 0.05 and 0.10 levels, respectively. T-statistics are in the parenthesis. All variables are as previously defined.

5. Discussion on Panel Regression Results

This study examined whether the corporate governance variables affect dividend measures in Australian listed firms. The regression results of panel models show that board size (BSIZE), board independence (BIND), CEO duality (DUALITY), managerial ownership (INSID), institutional ownership (INS), foreign ownership (FORGN) and audit firms (Big-4) have significant relationships with dividend policy. The significant positive relationship between board size (BSIZE) and dividend payoutis consistent with the argument that board size can influence a firm's dividend policy,that is, the larger the number of board members in Australian firms, the higher the dividend payout. The result suggests increasing the board size would increase shareholders' wealth significantly. Large Australian firms tend to have a large sized board but they also have widespread shareholdings and higher degrees of agency costs. So one explanation is that those firms paying higher dividends have good governance and monitoring and control mechanisms in place. This result is consistentwith the findings of La Porta et al. (2000a) who predicted that a large board would provide a better governance environment, and thus ensure higher dividends. The obtained results are also consistent with the findings of Bokpin (2011), Chen et al. (2011), Gill, and Obradovich (2012). Therefore, this study supports the hypothesis H1a.

Similarly, board independence (BIND) has a significant positive influence on dividend policy, implying the higher proportion of board independence in Australian firms can encourage a higher dividend policy. This finding supports the argument thatmore active involvement of independent directors would lead to greater protection of shareholders' interests and thus result in higher dividends. A significant positive relationship between board independence and dividend policy could be viewed strongly as both mechanisms play a similarly important role in corporate governance in Australian firms. The result is consistent with Easterbrook (1984), Schellenger et al. (1989), and Setia-Atmaja et al. (2009) who document strong evidence that the board

independence influences dividend policy. Therefore, this study supports hypothesis H1b that Australian firms with a higher number of independent directors on the board tend to pay higher dividends.

The study finds a significant negative relationship between CEO duality (DUALITY) and dividend policy, suggesting that Australian firms with CEO duality tend to pay lower dividends compared to firms who separate the roles of CEO and board chairman. In other words, firms with role separation in CEO and board chairman are more likely to protect shareholders' interests, and hence pay more dividends. The negative significant relationship between CEO duality and dividend policy is consistent with the findings of Baliga et al. (1996) and Dittmar et al. (2003). Therefore, the hypothesis H2 is supported.

With respect to ownership variables, the finding is consistent with the argument that managerial ownership and dividends could act as a substitutive monitoring device. The negative relationship between managerial ownership (INSID) and dividend policy suggests that the greater the managerial ownership the lower the payout. One possible reason is that managers with higher ownership tend to behave opportunistically and self-interest driven, and when making finance decisions managers are more likely to use free cash flows for their own benefits rather than paying higher dividends. This finding is consistent with those of Rozeff (1982), Jensen (1986), Eckbo and Verma (1994), Moh'd et al. (1995), Short et al. (2002), Chen et al. (2005), and Mehrani et al. (2011). Therefore, the hypothesis H4a is marginally supported that Australian companies with high managerial ownership prefer lower levels of payout, but higher levels of dividend yield. Again, this study finds a significant positive relationship between institutional ownership (INS) and dividend policy, which implies that firms with a higher percentage of shares held by institutional investors are more likely to pay higher dividends. The positive relationship also suggests that institutional ownership and dividend policy are not substitute monitoring mechanisms rather they perform complementary governance roles in Australia. This result is consistent with those found by Zeckhauser and Pound(1990), Moh'd et al. (1995), Short et al. (2002). However, it is different from signalling theory that proposes that institutional investors and dividends may be viewed as substitute signalling devices (Zeckhauser & Pound, 1990). Therefore, hypothesis H4b is supported. Further, the findings of this study show that Big-4 affiliated audit firms have a significant positive influence on dividend policy, suggesting that high audit quality may restrict opportunistic behaviour of mangers and boards of directors, decrease information symmetry, and hence restore investors' confidence. This result is consistent with those found by Mitton (2002) and Lee, Cox, and Roden (2007). Therefore, the hypothesis H5 is supported.

On the other hand, the results show that there is no significant relationship between board meetings (BMEET) and dividend policy in Australian firms. Therefore, hypothesis H1c is not supported. The results also show that audit committee independence (ACIND) does not have a significant effect on dividends. Thus, the good practices of the audit committee have no effect on dividend policy. The finding is consistent with Beasley and Salterio (2001), Cotter and Silvester (2003), Turley and Zaman (2007), and Al-Najjar and Belghitar (2014) who do not find evidence to support a significant effect for the audit committee. This result suggests that looking only at audit

committee independence may not be sufficient to assess the effectiveness of the audit committee; there might be a need to look at other factors such as audit committee financial expertise and education of audit committee. Therefore, hypothesis H3 is not supported. This study does not find any significant relationship between government (STATE) and dividend policy but finds a negative relation for foreign ownership (FORGN). Therefore, the hypothesis H4c is not supported while H4d is accepted.

6. Conclusion and Implications

This study investigated the impact of corporate governance mechanisms, namely board characteristics, audit committee and ownership on dividend policy measured as dividend payout and dividend yield for 206 ASX listed firms for the period from 2005 to 2011. The purpose is to provide a more comprehensive examination of the relationship between dividend policy and corporate governance mechanisms in all aspects. Using the random effects model, the results show that the corporate governance mechanisms of board size, board independence, institutional ownership and audit quality have significant positive influences on firm dividend payout decisions. This positive relationship implies that the board and institutional investors use dividends as a complementary mechanism to mitigate agency problems in Australian firms. However, the results of the random effects model show that CEO duality and managerial ownership have significant negative relationships with dividend payout. When dividend yield is used as proxy for firm dividend policy, the results from fixed effects model show only managerial ownership and foreign ownership have positive but insignificant and significant negative effects respectively. No other governance variable has a significant effect on dividend yield, which is contrary to expectations.

The findings of the relationship between corporate governance and dividend policy have important implications for companies, investors and policy makers. It suggests that dividend policy and corporate governance mechanisms are complementary, thatis firms paying higher dividends are more likely to engage in good governance practices as well as having strong monitoring and control systems in place. Specifically, board size, board independence, institutional ownership, Big-4 firms, and dividend policy can play complementary governance roles and provide more benefits to shareholders and investors. On the other hand, shareholders and investors should be cautious about CEO duality and managerial ownership, although fewer Australian firms have CEO duality, and managerial ownership is at a reasonable level. As such, the possibility of opportunistic behaviour of managers may not be ruled out when it comes to the decision whether or not they should pay dividends to existing shareholders. This study is not without limitations. The tests disregard the impact of the Global Financial Crisis (GFC) as Australia had not been severely affected by the GFC but the effect on governance mechanisms and dividend decisionsis possible. Sample period is also limited up to 2011 covering second edition of the ASX Corporate Governance Guidelines rather than third or fourth editions. Future research may extend study period up to fourth edition of the ASX Corporate Governance Guidelines covering issues that are more complex. Future research may also examine the effects of corporate governance on dividend policy for pre-GFC and post-GFC periods. Again, future research can investigate the interactions between internal and external corporate governance mechanisms and ownership structure and their joint impact on dividend policy.

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Appendix:

Variance Inflation Factors of the relationship between corporate governancemechanisms and dividends

Dependent variables: POUT and DY	
Independent Variables	**VIF**
BSIZE	1.33
BIND	1.15
BMEET	1.34
DUALITY	1.11
ACIND	1.35
INSID	1.12
INS	1.12
STATE	1.09
FORGN	1.15
BIG-4	1.42
LOG FSIZE	1.50
LR	1.20
LOG MBVE	1.09
FRISK	1.27
FAGE	1.41
ROA	1.03