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Schroder Investment Management

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Abstract

This paper investigates the influence of retail minority shareholders in the determination of corporate dividend policies of Australian companies. While retail investors are typically also minority shareholders and therefore perceived in academic literature to have limited influence on corporate dividend decisions, casual empiricism suggests the contrary. We hypothesise that corporate reputation serves as a device aligning managers' incentives with retail minority shareholder interests, and that the propensity to manage for corporate reputation is positively related to the degree of retail shareholder base. We find empirical evidence of managers of Australian companies catering to the retail investors' preference for dividends when setting dividend policy, even when they are minority shareholders, so long as the proportion of these retail shareholders relative to the total shareholder base is high. Our results are robust when controlled for the factors of size, profitability, financial leverage, signalling, agency costs and franking credits.

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1. Introduction

The topic of corporate dividend policy and its determinants has been extensively discussed in modern corporate finance literature. The irrelevance of dividend policy to firm value was proposed in the seminal paper by Modigliani and Miller (1961) where they demonstrated that in a world of perfect information, full capital mobility, no taxes and no agency costs, the dividend policy of a company should have no impact on its value. However these assumptions rarely hold true in the real world and several theories relaxing these assumptions have been put forward to explain the dividend puzzle.

The clientele effect of dividend policy recognizes that the existence of taxes and capital market imperfections such as transaction costs and differential interest rates in the real world prevents individuals from costlessly adjusting their dividend patterns to fit their preferred consumption patterns (i.e. dividend clientele) or tax positions (i.e. tax clientele). Investors are therefore attracted to different companies that supply them with their desired dividend pattern. When the companies change their policies, investors will readjust their stock holdings accordingly. According to Modigliani and Miller (1961), matching occurs when firms set their payout policies while investors sort based on their preferences for dividends. Empirical evidence for the clientele effect has however been mixed. For example, Jun, Gallagher and Partington (2006) examined a sample of 49 Australian institutional equity funds and found evidence of the existence of the clientele effect, with institutions generally preferring to hold stocks that pay dividends and have full tax credits. Other studies such as Pettit (1977), Scholz (1992), and

Dhaliwal, Erickson and Trezevant (1999) have also found evidence of the existence of clientele effects, while research by Lewellen, Stanley, Lease and Schlarbaum (1978), Richardson, Sefcik and Thompson (1986), and Abrutyn and Turner (1990) have found little or contrary evidence of it.

Early research on the clientele effects has typically either made no assumptions about the direction of causality between dividend policy and investor preferences, or has assumed that investors are responding to pre-specified firm payout policies. While the empirical results are unchanged regardless of the direction of causal relationship, the implications for understanding firm policy can be very different. Indeed if clienteles affect share prices, then it can have a feedback effect on managerial decisions. Later studies have therefore focused more on exploring the clientele effects hypothesis from the perspective of firms adjusting their policies in response to the composition of their current investors. This led to a variant of the clientele effect hypothesis called the catering theory (Baker and Wurgler, 2004) which suggested that the corporate dividend policy is driven by prevailing investor demand for dividend payers. Managers hence cater to investors by paying dividends when investors put a stock price premium on payers, and by not paying dividends when investors prefer nonpayers. In their study of firms in 23 countries over the period of 1996-2004, Ferrisa, Jayaramanb, and Sabherwalc (2009) found empirical evidence of catering among companies, particularly ones incorporated in common law countries including Australia.

Studies on the catering theory have traditionally focused on the influence of large shareholders on dividend policy, particularly institutional investors. There are several reasons why managers may want to cater their firms' dividend policies to maximize the interests of large shareholders. Firstly because large shareholders control a large proportion of the voting rights in a company, they help to facilitate quick and negotiated control, block sales to potential raiders

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(Grossman and Hart, 1980) and have more informed voting and better board communication and representation (Shleifer and Vishny, 1986), thus helping to control agency problems. In addition because large players are better informed and have better ability to detect firm quality, Allen, Bernardo and Welch (2000) have observed that good firms like to signal themselves by attracting large shareholders onto their share register. The tendency for managers to cater to large shareholders is hence empirically supported by Perez-Gonzalez (2003) who found that the tax preferences of large shareholders impacts the payout policy, with payout increasing when dividends are less tax-disadvantageous relative to capital gains for firms whose large shareholders were less affected by the tax system.

There has however been limited research exploring the role of retail minority shareholder demand in shaping firm payout policy, particularly in the market of Australia. Because retail investors are typically also minority shareholders, they are therefore perceived in most academic literature to have limited influence on corporate decisions, thus leading to little work being done in this area. Casual empiricism however suggests that in the real world, retail minority shareholder preferences can be an important determinant of corporate policy. For example, Charles Goode of major Australian financial institution ANZ Bank, noted in his 2009 Chairman's Report [2] his awareness of how "reducing dividends impacts all shareholders particularly individuals", thus highlighting his consideration of retail shareholder preferences when setting dividend policy.

This paper aims to fill part of the gap in academic research by investigating the relationship between retail minority shareholder preference and dividend policy. We theorise that when making corporate dividend policy decisions, managers of Australian companies are

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[2] Available at
http://www.anz.com/resources/7/4/744f6a004eab7ad5ba7abab91b52a0b9/Shareholder_Newsletter_2009.pdf?CACHEID=3a4480804eab7a61bf77ffe6f59f1df3.

motivated, through the influence on corporate reputation, to cater to the retail minority investors' preference for dividends, with their incentive to cater positively related to the proportion of retail shareholder base[3]. Our pooled Tobit regression results show that the proportion of retail shareholders relative to the total number of shareholders is positively related to the dividend policy of Australian companies, and that the relation is statistically significant even when controlled for the factors of size, profitability, financial leverage and signalling. We also show that the shareholding ownership is not a significant factor in the setting of dividend policy, thus highlighting that our result is not a proxy for the dividend substitution hypothesis. Our empirical results are robust to the inclusion of agency costs and franking credits considerations, and robust to the adoption of alternative definitions of the control variables. We therefore show that the proportion of retail shareholder base is an important determinant of corporate dividend policy in Australia.

This paper is structured as follows: Section 2 discusses the effects of retail shareholders on corporate reputation and dividend policy, and introduces our hypothesis. Section 3 describes the data sample and the methodology pursued. The empirical findings are reported in Section 4, while robustness tests are conducted in Section 5. Section 6 concludes the paper.

2. Retail Shareholders, Corporate Reputation and Dividend Policy

2.1 Australian Retail Shareholder Preference for Dividends

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[3] Shareholder base is commonly defined as the number of shareholders on the share register while shareholding refers to the number of shares of the company. In this paper, the proportion of retail shareholder base refers to the number of retail shareholders relative to the total number of shareholders, while the proportion of retail shareholdings refers to the number of shares owned by retail shareholders relative to the total number of shares outstanding.

While Modigliani and Miller (1961) posits that shareholders should be indifferent to dividends versus capital gains, in the real world retail shareholders in Australia generally prefer to receive dividends. There are several reasons why this is so: since 1 July 1987, Australia has operated a dividend imputation system where stockholders can potentially receive a credit for the taxes paid at the corporate level on distributed profits. In essence, stockholders receive a franked dividend that comprises of a cash dividend plus an imputation tax credit. This imputation tax credit reflects the amount of corporate tax paid on the source profit from which the dividend was paid, and can be used to offset Australian personal tax obligations. As shown by Hanson and Ziegler (1990), local residents paying taxes are the main beneficiaries of these franked dividend payments. Given retail investors are predominantly also local residents[4], franked dividends therefore represent a tax-effective form of income for them.

In addition, retail investors also prefer to receive dividends because a portion of shareholders, particularly retirees, do rely on dividends for their income requirements. This is especially significant in Australia which has a rapidly aging population while boasting one of the highest rates of individual share ownership in the world. For example, we calculate[5] that the proportion of direct share owners who are above the legal retirement age of 65 is 20.5% in 2008, while the average age of an Australian direct share owner is 50.8 years old.

2.2 Casual Empiricism of Retail Shareholder Base as a Determinant of Dividend Policy

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[4] According to the 2008 ASX Share Ownership Study, of the 35% of Australian population who directly invest in shares, 82.9% of them own shares only on ASX while 11.4% of them own shares on ASX and overseas, thus leaving 5.7% of them who invest in overseas equity markets only. This tendency to invest only in their home country explains why retail investors are predominantly also local residents, and is a phenomenon that is also observed in various other international markets including the US. French and Poterba (1991) hence term this phenomenon the equity home bias puzzle.
[5] Calculations are performed by combining the figures for the proportion of direct share owners in each age group provided by the 2008 ASX Share Ownership Study with data of the number of Australian persons within each age group across the population provided by the Australian Bureau of Statistics.

While retail shareholders may have a strong preference for dividends in Australia, they are usually also minority shareholders and are therefore assumed in academic literature to have limited influence on corporate policies, thus leading to the theory of the "rational apathy" of retail shareholders. Casual empiricism however strongly suggests that managers of Australian companies are keenly aware of domestic retail investors' preference for dividends, and are more likely to take this preference into account in their dividend decisions when the proportion of retail shareholder base is high. For example, Thomas Park, chief executive officer of Australian paper company Paperlinx, highlighted in an open briefing[6] in 2005 that "when determining the dividend payout, [the company] takes into account that 60 percent of [their] shareholders are retail and [. . .] are investing for the yield." This consideration is similarly reflected by Richard Goyder, chief executive of major Australian diversified company Wesfarmers, in a 2009 interview with Australian newspaper The Age[7] when he commented on the small likelihood of further dividend cuts because Wesfarmers has "got a significant retail shareholder base and are cognisant of their desire for [the company] to pay dividends." In his Chairman's Address during the 2002 Annual General Meeting[8], Kevin McCann of leading Australian intergated energy provider Origin Energy also expressed that the proportion of retail shareholder base is a factor in the determination of the corporate dividend policy when he pointed out that "many shareholders particularly [the company's] large base of retail shareholders, rely on the payment of dividends to meet their income requirements."

It is worth noting that when alluding to the significant retail shareholder bases of their companies, Park, Goyder and McCann were referring to the large number of retail shareholders as

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[6] Available at
http://www.paperlinx.com.au/cpa/dat/download_file/CEO%20Park%20on%20Business%20Conditions%2031.03.05.pdf
[7] Available at http://news.theage.com.au/breaking-news-business/wesfarmers-says-expects-lower-dividend-20090122-7n08.html
[8] Available at http://www.originenergy.com.au/1774/files/Chairman'sAddress17-10.pdf

a proportion of the total number of shareholders, and not to the percentage of retail shareholdings as a proportion of the total shareholdings ownership. This point is evident as share registry records show that all three companies were substantially held by institutional and large shareholders during those respective mentioned times while retail shareholders accounted for only minority holdings within the companies despite forming a greater proportion of the shareholder base.

2.3 Corporate Reputation As a Device Aligning Managerial Motivation With Retail Minority Shareholder Preference

If company management is indeed taking into account the dividend preference of retail investors despite their minority shareholdings, then there must exist a mechanism that aligns managerial incentives with retail minority shareholder interests. This mechanism may be in the form of a strong level of corporate governance that motivates managers to protect the minority shareholder interests, or some other mechanism through which retail shareholders can exert their influence on managers despite their minority shareholdings.

We note that during Goyder's interview, he made particular reference to the "potential for a backlash from retail investors" in response to his company's change in dividend policy. This suggests that the potential for reputation damage and bad publicity created by angry retail investors may be a reason why the preferences of retail minority shareholders are taken into consideration by managers when setting dividend policy. This is understandable given the importance of corporate reputations to firm values, a conclusion widely supported in academic literature. Fombrun (1996) hence defines corporate reputation as "a set of collectively held beliefs about a company's ability and willingness to satisfy the interests of various stakeholders."

Various academic research including Hammond and Slocum (1996), Fombrun (1996), and Little and Little (2000) have shown that a good corporate reputation represents a company's most important intangible asset as it allows the company to attract customers to products, charge premium prices, attract high quality applicants for its workforce, and attract investors which helps to lower its cost of capital. This is particularly important in industries where shareholders are frequently also customers. As highlighted by Wilson (2009), "retail investors have trouble differentiating their experience. The way they are treated, both in store and as an owner, melds to create a hybrid view of the company, its brand and reputation." He suggests that managers of companies should therefore not ignore the preferences of retail investors despite their minority shareholdings because of "the damage that can be done to brand and reputation by upsetting these shareholders who are also likely to be consumers and some of a company's best ambassadors." Gupta (2002) hence found empirical evidence of firms with favourable corporate reputation having a better competitive advantage in terms of customers' willingness to purchase, willingness to pay premium prices, customer satisfaction and customer loyalty, while Nguyen and Leblanc (2001) also found that customers are more inclined to buy goods and services from companies whom they perceive as having a good reputation. The effectiveness of good corporate reputation in enhancing firm profitability is thus empirically supported by Roberts and Dowling (2002) who found evidence of the better ability of firms with relatively good reputations to sustain superior profit outcomes. In addition, studies by Shefrin and Statman (1995), Srivastava et al. (1997) and Larsen (2002) have also found that investors are more willing to ascribe higher share price premiums to companies with favourable corporate reputations.

Corporate reputation thus provides the incentive for managers to cater their corporate policies to retail minority shareholder preferences. The importance of corporate reputation, and therefore the propensity to cater, is observed by Chajet (1997) to be positively correlated to the number of shareholders in the company. Chajet (1997) hence commented that "the more

stakeholders there are, the more people will be sensitive to the reputations of the companies in which they are investing." The implication is therefore that the higher the retail shareholder base, the greater the corporate reputation impact and hence the greater the managerial incentive to cater to the retail shareholder preference.

2.4 Hypothesis of Retail Shareholder Base, Corporate Reputation and Dividend Policy

We hypothesise in this paper that managers are motivated to cater to the dividend preferences of retail investors despite their minority shareholding because of the managers' desire to establish a good corporate reputation which is perceived to then translate into stronger profitability for their companies and higher premiums for their share prices. The higher the proportion of retail shareholder base, the more sensitive shareholders will be to the company's reputation and hence the greater the motivation for managers to cater to the preferences of these retail shareholders. Where retail minority shareholders have a strong preference for dividend payments, we should observe that the propensity to pay dividends (i.e. managerial incentive to cater to retail minority shareholders) is positively correlated to the degree of retail shareholder base (i.e. degree of influence on corporate reputation). We apply our theory to the market of Australia where the dividend imputation system, aging population and high equity participation has created a strong preference for dividend payments by retail shareholders, and derive a testable hypothesis as follows:

Hypothesis: The greater the proportion of retail shareholder base, the higher the dividend payout of the company.

It is worth highlighting that in our hypothesis, corporate reputation forms the incentive for managers to cater to the dividend preferences of retail minority investors. Managers take into consideration the dividend preferences of minority shareholders because their numbers make up a large proportion of the shareholder base and hence they have greater influence on the corporate reputation. This is in contrast to the dividend substitution hypothesis by La Porta et al. (2000) where dividends act as a substitute monitoring device for minority shareholders. In that hypothesis, managers take into consideration the dividend preference of minority shareholders because they want to minimise the agency problems associated with minority shareholdings. The difference is therefore that in our hypothesis, it is the proportion of retail shareholder base that is important while it is the proportion of retail shareholding (as a proxy of the degree of agency cots) which is important in the dividend substitution hypothesis.

We note that the main object of this paper is to investigate the importance of retail minority shareholder base in influencing dividend policy. While we hypothesise that corporate reputation serves as the device aligning managerial motivations for dividend policy with retail minority shareholder interests, an in-depth investigation into this particular relationship is not within the scope of this paper, nor is it critical to our purpose of establishing the importance of retail shareholder base as a determinant of dividend policy in Australia. Further research into the role of corporate reputation in this linkage, including the relation between corporate reputation and the degree of retail shareholder base, is left for the future.

3. Data Sample and Methodology

This section briefly discusses the data sources and the variables' definitions. The dividends data is obtained from Aspect Huntley and Bloomberg, and all other financial data is

obtained from Datastream. Shareholding information for the companies in the sample is obtained

from the annual reports of the companies. The time period employed in this study is the five-year

period of 2004 to 2008 which represents the time period of available dividends data from Aspect

Huntley.

Our paper focuses on the large-capitalisation companies in Australia. This is appropriate

because retail investors in the Australian market have historically invested predominantly in large,

well-known companies. For example, in the 2006 ASX Share Ownership Survey[9], it is found that

44% of direct investors held shares only in large companies while 50% held shares in a mixture

of large and small companies. This means that 94% of retail investors held shares in large

companies. We have hence chosen our sample to comprise of all the Australian companies that

were in the large-cap focused S&P/ASX 50 Leaders index[10] at any point over the time period of

2004 - 2008. Listed property trusts and stapled securities are however excluded from the sample

because these vehicles are required by regulation to fully distribute their taxable income as

dividends to security holders in order to maintain their tax-exempt status

(PriceWaterhouseCoopers, 2009). As such, the dividend policies of these companies are more

likely to be driven by their need to meet regulatory requirements, and their inclusion in the

sample may distort results.

Our dataset therefore consists of 63 companies over the five-year period of 2004-2008,

and includes newly-listed companies as well as ones that were taken over and de-listed during the

study period. This means that the number of observations for each company may not necessarily

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[9] ASX Share Ownership Studies represent the results of telephone interviews with a sample size of around 2,000 randomly selected households and individuals within the population. The 2006 study is available at http://www.asx.com.au/about/pdf/2006_australian_share_ownership_study.pdf. The 2006 survey is the latest available survey with a breakdown of the size of companies in an average retail portfolio. The 2008 survey does not provide this statistic.

[10] The S&P/ASX 50 Leaders index comprises of the 50 largest companies by market capitalization that are listed on the Australian Stock Exchange.

be identical. To ensure the maximum number of observations, we construct an unbalanced panel dataset using the pooled cross-sectional and time series data available, giving a final sample of 315 observations. This study includes both dividend-paying and non-dividend-paying companies so as to avoid the selection bias problem that occurs when non-dividend paying firms are excluded. (Kim and Maddala, 1992; Deshmukh, 2003)

Following the definitions adopted in Lipson, Macquieira and Megginson (1998), this paper measures dividend policy as (1) dividends to sales, and (2) dividends to assets. The dividends numerator used to calculate these ratios represent all cash dividends paid by the company over the fiscal year, including ordinary dividends, special dividends and return on capital. The denominator for the dividends to sales ratio is the net revenues of the company for the respective fiscal year, while the denominator for the dividends to assets ratio is the total asset value of the company as of fiscal year-end.

In Australia, companies are required to disclose basic details of shareholdings in various disclosure bands. There are five disclosure bands: 0–1,000 shares, 1,001–5,000 shares, 5,001-10,000 shares, 10,001-100,000 shares or greater than 100,000 shares. Companies report the total number of investors with a total individual shareholding that falls within each of the bands. The 2008 ASX Share Ownership Study[11] found that the average retail portfolio has a value of AUD 130,100 consisting of an average of 7 stocks. This means that the average stock holding is about AUD 18,586, which equates to around 770 shares assuming the average share price of AUD 24.17 of the companies in our sample. Taking into consideration that high net worth individuals and self-managed super funds are likely to have significantly higher individual holdings, this paper therefore defines retail shareholdings as the sum of the two smallest disclosure bands, i.e.,

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[11] The 2008 study is available at
http://www.asx.com.au/about/pdf/2008_australian_share_ownership_study.pdf.

total number of shareholders with individual holdings of 0-1,000 shares and 1,001-5,000 shares. The two smallest disclosure bands are more than likely to capture retail holdings. Our definition of retail holdings is also consistent with that adopted in Comerton-Forde and Rydge (2006). We thus derive the proportion of retail shareholder base (Retail shareholder base %) by dividing the number of retail shareholders in the two smallest disclosure bands by the total number of shareholders.

A number of control factors that have been observed in academic literature to influence dividend policy are included in our regression analysis. These control variables are financial leverage, size, profitability and signalling.

Financial leverage has been shown to impact dividend policy due to the debt covenants and related restrictions imposed by debtholders. In addition, Jensen and Meckling (1976) and Jensen (1986) have also pointed to the role of leverage in mitigating agency costs arising from principal-agent conflicts. We therefore include the ratio of total debt to total assets (Total debt to total assets), as a proxy for financial leverage in the regression. A negative relation between financial leverage and dividend policy is expected.

The size effect is controlled here through the inclusion of the natural logarithm of market capitalization (Market capitalisation). It is often argued that because large companies are typically well diversified businesses whose further growth opportunities are already exhausted, they are therefore more likely to pay their free cash flows out as dividends than to invest in growth opportunities. Ho (2003) hence found empirical evidence of dividend policies being positively affected by size in Australia. Smith and Watts (1992) however highlighted that the theoretical grounding for the influence of the size effect on dividend policy is not strong. In fact, studies by Allen and Michaely (1995) and Keim (1985) have observed a negative relationship between firm

size and dividend payout. As such while we include size as a control variable, we do not have any particular expectation for its sign.

Profitability is also found in literature to impact dividend policy. Studies by DeAngelo and DeAngelo (1990) and DeAngelo, DeAngelo, and Skinner (1992) have found that a significant proportion of companies having losses over a five-year period tend to omit dividends entirely. Jensen, Solbery and Zoun (1992) also find evidence of a positive association between return on assets and dividend payouts. We use return on assets (Return on assets) in our paper as a proxy for profitability.

Lintner (1956) observed that companies prefer to maintain stable dividends, thus creating a persistent pattern over time. This reluctance to cut dividends has been shown by Kalay (1980) to be a pre-requisite for the existence of informational content in dividends as hypothesised in various dividend signalling theories. A positive relation is therefore expected between a firm's dividend policy and its lagged value. The lagged value of the dividend measure from the previous year is hence included as a control variable. To recognise the focus on a progressive dividend policy by firm management, the lagged values of dividend policies are calculated as the dividends paid in the preceding year divided by the respective denominator in the current fiscal year.

To capture any sector or seasonality effects, we also include dummy variables for the financial sector and each fiscal year in our regression. The separation of firms into financial and non-financial is standard practice in many areas of corporate finance. This is particularly so in the study of dividend policy because dividends are perceived to be more important in the financial industry due to its purpose as one of several indicators of financial health. This split of financial versus non-financial is therefore supported by the findings of Baker, Dutta and Saadi (2008) who surveyed managers of Canadian firms and discovered that the perceptions of the factors

influencing dividend policy differ between managers of financial and non-financial companies. The separation between financial and non-financial companies is also apt for our hypothesis on corporate reputation. This is because corporate reputation is comparatively more important for service industries, particularly banks, than for other industrial sectors. Bloemer and de Ruyter (1998) and Martensen et al . (2000) have thus focused much of their work on the influence of corporate image on customer satisfaction and loyalty in retail banking.

Because the measures of dividend policy can never be negative, using Ordinary Least Squares regression for analysis will be inappropriate due to the truncated nature of the dependent variables. This paper therefore employs pooled Tobit estimation, as supported by Kim and Maddala (1992), Anderson (1986), Huang (2001), Kouki (2009), Kowalewski, Stetsyuk and Talavera (2007), Dahlquist, Robertsson and Rydqvist (2006) and Bebczuk (2007), to examine the relationship between dividend policy and the proportion of retail shareholder base. The Tobit model is expressed as:

$$
\begin{aligned}
Div^*_{it} \quad = \quad & \beta_0 + \beta_1 \ (\textit{Retail shareholder base \%})_{it} \\
& + \beta_2 \ Div_{it\text{-}1} + \beta_3 \ (\textit{Market capitalisation})_{it} \\
& + \beta_4 \ (\textit{Return on assets})_{it} + \beta_5 \ (\textit{Total debt to total assets})_{it} \\
& + \beta_6 \ (\textit{Dummy financials sector}) + \sum_{t=2004}^{2008} \beta_j \ (\textit{Dummy t}) \\
& + \varepsilon_{it}
\end{aligned}
$$

(1)

where Div^*_{it} is the latent dividend variable

β is the regression coefficient,

i is the ith firm in the sample,

t is the fiscal year of the firm,

ε is the error term and assumed to be *iid* $N(0,\sigma^2)$, and

the observed dividend variable, Div_{it}, is defined as

$$Div_{it} \quad = 0 \qquad\qquad \text{if } Div^*_{it} \leq 0, \text{ and}$$

$$= Div^*_{it} \qquad \text{if } Div^*_{it} > 0$$

The treatment of all the data follows the convention employed in Fama and French (2001) of assigning financial data to years based on the calendar year in which the fiscal year-end falls.

4. Empirical Findings

Table 1 shows the descriptive statistics[12] of the various dividend measures and the explanatory variables while Table 2 shows the correlation matrix between these variables. Figures 1 to 5 show the time series plots of the two dividend measures and the explanatory variables over the five-year period of period of 2004 to 2008 for interested readers.

Column 1 in Table 3 shows the results of the pooled Tobit[13] regression of dividends to sales against the proportion of retail shareholder base and the control variables, while Column 1 of Table 4 shows the pooled Tobit regression of dividends to assets against the same explanatory vairables. Our findings show that as consistent with casual empiricism, the proportion of retail

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[12] Readers will note the large maximum dividends to sales number of 70.583 and large maximum lagged dividends to sales number of 63.599. Both these numbers relate to the company Australian Stock Exchange (ASX) whose dividends to sales numbers have been consistently high for the entire period of 2004-2008. These are caused by the company's substantial net non-operating gains which are not included in the sales figures under conventional accounting definitions but on which management had paid out dividends. When the company is excluded from the sample, the mean and maximum values of both the dividends to sales variable and the lagged dividends to sales variables falls to 6.988 and 35.335, and 5.919 and 28.402 respectively.

[13] We have also performed Tobit regressions on both a winsorised data sample as well as a data sample that excludes outlier ASX, and have found both results to be very similar to the results of the Tobit regressions run on an unwinsorised data sample with no outlier-exclusions. We have therefore chosen to show the results of the Tobit regressions run on the unwinsorised data with no outlier-exclusions in this study.

shareholders on the share register of companies is a statistically significant determinant of dividend policy, with significance levels of 5% and 1% for dividends to sales and dividends to assets respectively.

In addition, the lagged dividend measures are also significant at 1% level for both dividend measures. The positive regression coefficients also support Lintner's sticky dividends observation. Return on assets is positively related at 1% significance levels for both dividend measures, thus highlighting the importance of profitability as a factor driving dividend policy. Size, as represented by market capitalisation, is not significant for both dividend measures while financial leverage, represented by total debt to total assets, is negatively related as hypothesised by theory and significant at 5% level for dividends to assets but not significant for dividends to sales.

Our empirical findings therefore support a form of catering theory where managers' dividend policy decision is influenced by the proportion of retail shareholder base, with firms more likely to pay higher dividends when the proportion of retail shareholders relative to the total shareholder base is high, even if the proportion of retail shareholdings is minor.

5. Robustness Checks

5.1 Alternative Control Variables

While our chosen variables of market capitalisation, return on assets and total debt to total assets are commonly accepted measures of the control factors of size, profitability and financial leverage respectively, we want to check that our empirical finding is robust to

alternative definitions of the control variables. We therefore adopt different measures of these factors, and these alternative measures are: total assets (expressed as a natural logarithm), return on invested capital and long-term debt to equity[14].

Column 2 of both Table 3 and 4 shows the results of the pooled Tobit regressions of dividends to sales and dividends to assets against the proportion of retail shareholder base and the alternatively defined control variables. The results show that the proportion of retail shareholder base continues to be a positive determinant at 5% and 1% significance levels for dividends to sales and dividends to assets respectively. The respective lagged dividend measures and the alternative profitability measure, return on invested capital, are also significant at 1% levels and bear the expected positive signs. Size, as represented by the natural logarithm of total assets, is significant at 5% level for dividends to assets but is not significant for dividends to sales, while financial leverage as represented by long-term debt to equity is not significant for both measures of dividends.

5.2 Ownership and Control

The incentive for management to cater their dividend policy to the preferences of large shareholders is commonly highlighted in academic research (Allen, Bernardo and Welch, 2000; Perez-Gonzalez, 2003). It is therefore conceivable that the influence of the large proportion of retail shareholder base is in reality exacted through the substantial combined holdings of these retail investors and that the common assumption that retail shareholders are also minority shareholders does not hold true in Australia. An examination of our data shows that for the firms in our sample, on average the percentage of retail investors as a proportion of the total number of

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[14] The equity measure used in the calculation of the long-term debt to equity refers to common equity which is defined here as the common shareholders' investment in a company, and includes common stock value, retained earnings and capital surplus.

shareholders is 88.4% while they control only a minority stake of 16.2% of the company's total shareholding ownership. While this suggests that it is unlikely that managers of these Australian companies are catering to the retail shareholders' preference for dividends because these retail shareholders are able to influence the decisions through their substantial holdings of the company, we have nevertheless chosen to test for the importance of retail shareholding as a determinant. In addition, even though we will be investigating the effects of agency costs in more depth in the next section, we want to check that the importance of the retail shareholder base is not a proxy for the dividend substitution effect arising from its minority shareholdings. We therefore replace the proportion of retail shareholder base with the percentage of the company's shareholdings that is held by those retail investors as one of the explanatory variables.

Column 3 of both Tables 3 and 4 shows the results of the pooled Tobit regressions. It can be seen that the percentage of retail shareholding is not a significant determinant of dividends to sales or dividends to assets. This means that the proportion of shareholder base is more important than the proportion of shareholdings i.e. when managers cater to the preferences of retail shareholders in their dividend decision, they do so not because these retail investors are large shareholders, but because they represent a large proportion of the shareholder base. The lack of significance of retail shareholding also does not support the argument by Johnson and Shleifer (2004) that firms pay higher dividends as a means to establish a reputation of adequate treatment of minority shareholders. This implies that dividends are not used as a substitute monitoring device by Australian minority shareholders as hypothesised by La Porta et al. (2000).

5.3 Agency Costs and Corporate Governance

The interaction between agency costs and dividend policy was introduced by Rozeff (1982) who hypothesised that dividend policy is a function of agency effects in addition to the

traditional variables. His basic tenet is that the payment of cash dividends reduces the cash available for reinvestment by companies, and therefore forces them to turn to capital markets more frequently This places the firms under closer scrutiny by market capital participants when new securities are offered, and ensures that managers make decisions in shareholders' interests. Rozeff (1982) hence captures these agency effects through two measures: insider ownership and the number of shareholders. Where insiders hold a large percent of the company, they are in a position to know the true condition of the company, and therefore external monitoring is unnecessary. Conversely where the dispersion of shareholders is wide, the cost of monitoring management becomes too large for a single owner to bear. Consequently these dispersed owners are more likely to engage the monitoring mechanism of capital markets by forcing payment of higher dividends. Rozeff (1982) therefore hypothesised a negative relationship between insider ownership and dividend policy, and a positive relationship between the number of shareholders and dividend policy.

An alternative aspect of the agency cost theory of dividend policy is put forward by Jensen (1986) in his free cash flow theory where he suggested that managers make decisions that enhance their own interests which may not necessarily be aligned to shareholders, such as overinvesting to enlarge the size of their firms beyond the optimal points given their compensations are often related to firm sizes. The payment of dividends therefore helps to mitigate these problems by reducing the cash flow under management control.

To capture the degree of agency costs, Holder, Langrehr, and Hexter (1998) therefore adopted three measures, namely free cash flow to assets, the proportion of closely-held shares and the number of shareholders. We have chosen to test the robustness of our results by including agency costs measures as one of our explanatory variables. Indeed, the correlation of 26.1% between the total number of shareholders and the respective proportion of retail shareholder base

for the companies in our sample is positive and has a statistically significant t-statistic of 4.51. This raises the possibility that our chosen explanatory variable of proportion of retail shareholder base is only approximating for the degree of agency costs in the company. We hence perform further robustness checks using three measures of agency costs: the free cash flow to assets, the proportion of closely-held shares and the natural logarithm of the total number of shareholders.

Column 4 of Tables 3 and 4 shows the results of the pooled Tobit regressions between the dividends to sales and dividends to assets against the proportion of retail shareholder base, the control variables and the first agency costs measure of free cash flow to assets. The proportion of retail shareholder base is significant at 5% and 1% levels for dividends to sales and dividends to assets respectively, and is positively related to both dividend measures. The respective lagged dividend measures are also significant at 1% levels for both dividend variables while total debt to total assets is significant at 10% and 5% levels for dividends to sales and dividends to assets respectively. Market capitalisation is not significant for both measures. Free cash flow to assets is significant at 5% level and is positively related to dividends to sales as hypothesised by Jensen's free cash flow theory although it is not significant for dividends to assets.

Column 5 of both Table 3 and 4 shows the results of the pooled Tobit regressions between dividends to sales and dividends to assets against the proportion of retail shareholder base, the control variables and the second measure of agency cost which is the proportion of closely-held shares. The proportion of retail shareholder base continues to be significant at 5% and 1% levels for dividends to sales and dividends to assets respectively and is positively related, while the proportion of closely held shares is not significant for both dividend measures.

Column 6 of Tables 3 and 4 shows the results of the pooled Tobit regressions between the dividends to sales and dividends to assets against the proportion of retail shareholder base, the

control variables and the third measure of agency cost which is the logarithm of the number of shareholders. The results show that the proportion of retail shareholders continue to be a significant determinant of dividend policy at 5% and 1% levels for dividends to sales and dividends to assets respectively. The number of shareholders is also significant at 1% and 5% levels for dividends to sales and dividends to assets respectively. While the negative relation between the number of shareholders to both dividend measures runs contrary to the expectations of Rozeff (1982), it does provide support for the dividend outcome hypothesis of agency cost versus the competing dividend substitution hypothesis. La Porta et al. (2000) similarly found empirical support for the outcome model versus the substitute model in their study of the dividend policies of companies in 33 countries including Australia, while Lin (2002) found empirical evidence that is consistent with the outcome model in his study focusing on the dividend policies of companies operating in the 11 Asian-Pacific countries including Australia.

Our empirical results therefore show that the proportion of retail shareholder base is a major determinant of dividend policy even when agency cost is taken into consideration.

5.4 Franking Credits

As highlighted earlier, Hanson and Ziegler (1990) have shown that local residents paying taxes prefer the payment of dividends under an Australian dividend imputation system. This means that both Australian retail and institutional investors prefer higher dividend payouts. Empirical evidence is generally supportive of the investor preference for the transfer of these imputation credits by companies to them via dividend payments (Jun, Gallagher and Partington, 2006; Chan, McColough and Skully, 1992). The level of franking credits available for companies may therefore also be a major influence of corporate dividend policy in Australia. Bellamy (1994), for instance, found the development of shareholder clienteles in response to the introduction of

the dividend imputation into the Australian capital markets, with companies paying franked dividends significantly increasing their dividend payments relative to companies paying little or not imputation tax credits. Pattenden and Twite (2008) similarly observed that all dividend payout measures and dividend reinvestment plans increased with the introduction of imputation taxation system in Australia. If retail shareholders are simply responding to the amount of franked dividends that companies are paying, then the proportion of retail shareholder base may be only a proxy for the amount of franking credits available to be paid out by companies. We have therefore included the proportion of franked dividends paid by companies as an additional explanatory variable of dividend policy.

Column 7 of both Table 3 and Table 4 shows the results of the pooled Tobit regressions of dividends to sales and dividends to assets against the proportion of retail shareholders, the control variables and the proportion of franked dividends. The results show that as hypothesised, under a dividend imputation system, the proportion of franked dividends paid by companies is an important determinant of dividend policy at 1% and 5% significance levels for dividends to sales and dividends to assets respectively, with the positive regression coefficient reflecting the finding of Bellamy (1994) that companies with franking credits pay higher dividends. However, the proportion of retail shareholder base continues to be an important factor influencing dividend policy, with significance level at the 1% level for both dividend measures. This highlights that the proportion of retail shareholder base is a strong determinant of dividend policy even after controlling for the amount of distributable franking credits available to companies.

Our robustness checks have therefore confirmed that our earlier finding of the proportion of retail shareholder base as a major determinant of dividend policy holds even when we employ alternative measures of the control variables, and when additional considerations such as agency cost and franking credits are included.

6. Conclusions

This paper investigates the influence of retail minority shareholders in the determination of corporate dividend policies of Australian companies. There has been traditionally been little research done on the influence of retail shareholders on dividend policy as retail investors are typically also minority shareholders and therefore perceived to have limited influence on corporate decisions in most academic literature. Casual empiricism however suggests the contrary.

We hypothesise in this paper that corporate reputation serves as a device aligning managers' incentives with retail minority shareholder interests, and that the incentive to manage for corporate reputation is strong when the retail shareholder base is high. Our hypothesis therefore predicts that managers of companies are influenced by the retail investors' preference for dividends in their payout decision, even when they are minority shareholders, so long as the proportion of the retail shareholder base is high.

Our hypothesis is tested in the market of Australia where we find evidence of the retail minority shareholder base being an important determinant of corporate dividend policy. Our results are robust when controlled for the factors of size, profitability, financial leverage, signalling, agency costs and franking credits.

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Table 1: Descriptive Statistics

	Observations	Mean	Standard Deviation	Maximum	Minimum
Dividend measures					
Dividends to sales	243	7.887	8.115	70.583	0.000
Dividends to assets	260	4.506	4.704	29.455	0.000
Explanatory variables					
Lagged dividends to sales	243	6.809	6.964	63.599	0.000
Lagged dividends to assets	260	3.912	4.358	28.541	0.000
Retail shareholder base %	260	87.927	10.807	99.698	39.398
Market capitalisation	260	15.955	1.051	19.309	11.057
Assets	260	16.066	1.667	20.299	9.743
Return on assets	260	8.487	10.635	52.840	-65.740
Return on invested capital	260	12.807	14.244	65.300	-88.260
Total debts to total assets	260	25.486	15.534	165.290	0.000
Long-term debts to equity	260	105.150	170.327	1119.670	0.000
Dummy 2005	260	0.200	0.401	1.000	0.000
Dummy 2006	260	0.200	0.401	1.000	0.000
Dummy 2007	260	0.212	0.409	1.000	0.000
Dummy 2008	260	0.196	0.398	1.000	0.000
Dummy Financials	260	0.231	0.422	1.000	0.000

Table 2: Correlation Matrix

	Div to sales	Div to assets	Lagged div to sales	Lagged div to assets	Retail s/hldrs base %	Market cap	Assets	Return on assets	Return on invested capital	Total debts to total assets	Long-term debts to equity	Dummy 2005	Dummy 2006	Dummy 2007	Dummy 2008	Dummy fin sector
Div to sales	1.000	0.526***	0.873***	0.401***	0.101	0.109*	0.033	0.205***	0.262***	-0.182	-0.013	-0.036	-0.003	0.071	0.030	0.237***
Div to assets	0.526***	1.000	0.424***	0.791***	0.044	-0.106	-0.395	0.523***	0.495***	-0.136	-0.296	0.040	0.020	0.005	-0.036	-0.228
Lagged div to sales	0.873***	0.424***	1.000	0.550***	0.076	0.089	0.046	0.116*	0.165***	-0.139	0.012	-0.064	-0.010	0.061	0.075	0.222***
Lagged div to assets	0.401***	0.791***	0.550***	1.000	0.030	-0.131	-0.368	0.393***	0.360***	-0.071	-0.256	-0.009	0.023	0.021	-0.001	-0.220
Retail s/hldr base %	0.101	0.044	0.076	0.030	1.000	0.369***	0.311***	-0.037	0.054	-0.032	0.202***	-0.024	0.006	0.045	0.007	0.324***
Market cap	0.109*	-0.106	0.089	-0.131	0.369***	1.000	0.811***	-0.017	0.056	0.154**	0.349***	-0.076	-0.014	0.162**	0.067	0.340***
Assets	0.033	-0.395	0.046	-0.368	0.311***	0.811***	1.000	-0.260	-0.176	0.071	0.557***	-0.066	-0.021	0.058	0.109*	0.604***
Return on assets	0.205***	0.523***	0.116*	0.393***	-0.037	-0.017	-0.260	1.000	0.937***	-0.284	-0.162	0.034	0.028	0.091	-0.179	-0.197
Return on invested capital	0.262***	0.495***	0.165***	0.360***	0.054	0.056	-0.176	0.937***	1.000	-0.308	-0.124	0.033	0.013	0.111*	-0.170	-0.066
Total debts to total assets	-0.182	-0.136	-0.139	-0.071	-0.032	0.154**	0.071	-0.284	-0.308	1.000	0.327***	-0.037	0.034	0.040	0.073	-0.209
Long-term debts to equity	-0.013	-0.296	0.012	-0.256	0.202***	0.349***	0.557***	-0.162	-0.124	0.327***	1.000	-0.082	0.109*	0.079	0.012	0.486***
Dummy 2005	-0.036	0.040	-0.064	-0.009	-0.024	-0.076	-0.066	0.034	0.033	-0.037	-0.082	1.000	-0.250	-0.259	-0.247	0.000
Dummy 2006	-0.003	0.020	-0.010	0.023	0.006	-0.014	-0.021	0.028	0.013	0.034	0.109*	-0.250	1.000	-0.259	-0.247	0.000
Dummy 2007	0.071	0.005	0.061	0.021	0.045	0.162**	0.058	0.091	0.111*	0.040	0.079	-0.259	-0.259	1.000	-0.256	0.007
Dummy 2008	0.030	-0.036	0.075	-0.001	0.007	0.067	0.109*	-0.179	-0.170	0.073	0.012	-0.247	-0.247	-0.256	1.000	0.005
Dummy financials sector	0.237***	-0.228	0.222***	-0.220	0.324***	0.340***	0.604***	-0.197	-0.066	-0.209	0.486***	0.000	0.000	0.007	0.005	1.000

Note: Significance levels: *** = 1%, ** = 5%, * = 10%.

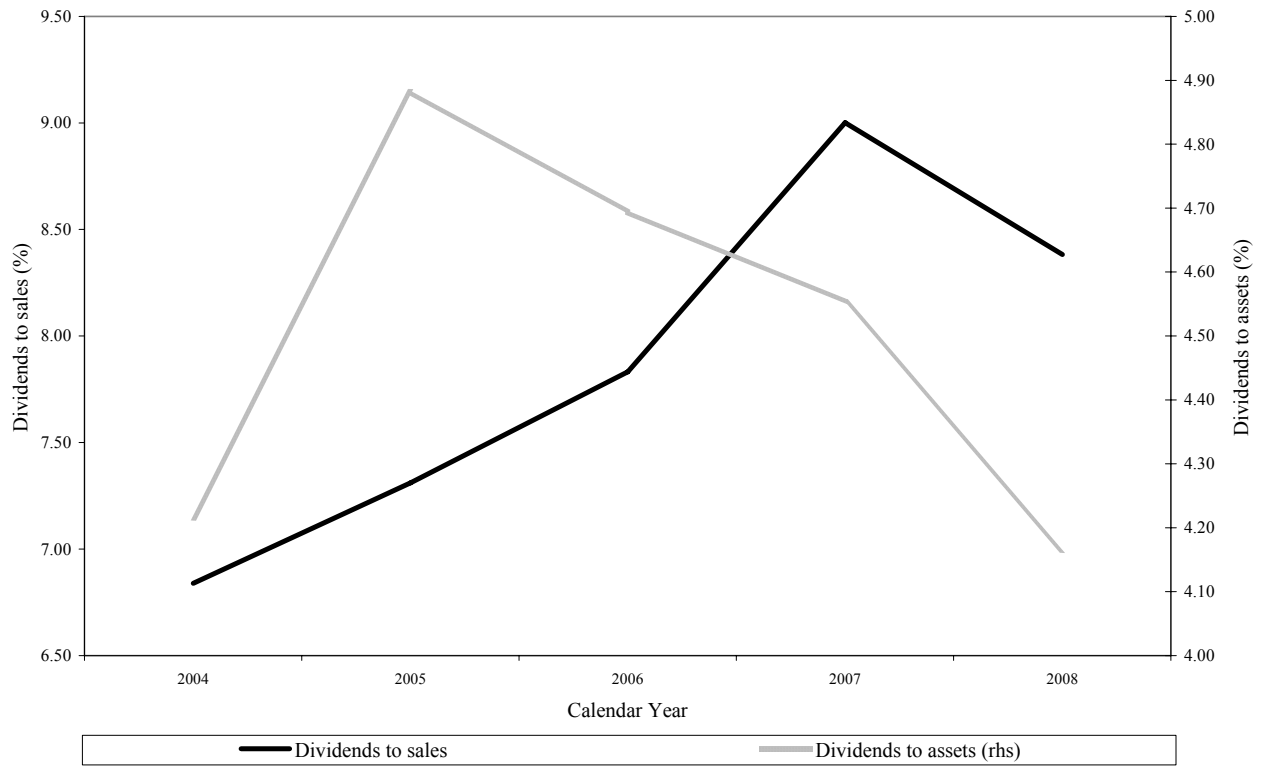**Figure 1: Time Series Plots of Dividend Measures, 2004 - 2008**

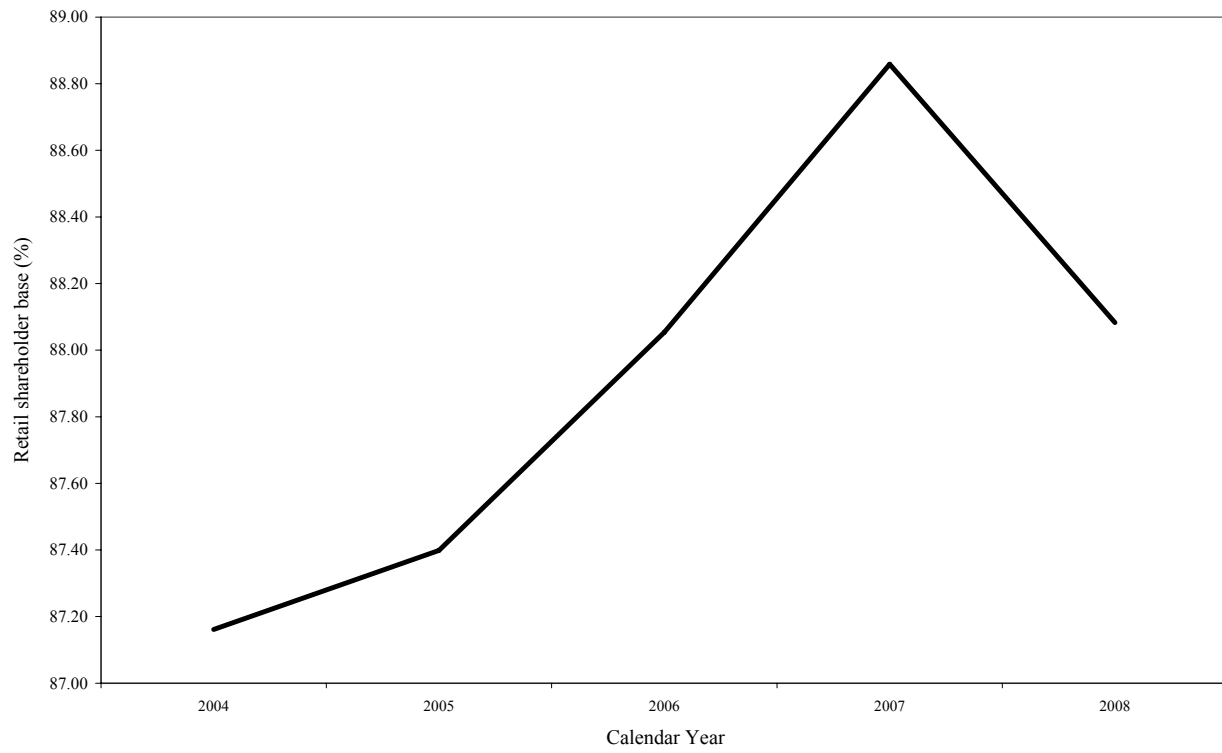**Figure 2: Time Series Plot of Proportion of Retail Shareholder Base, 2004 - 2008**

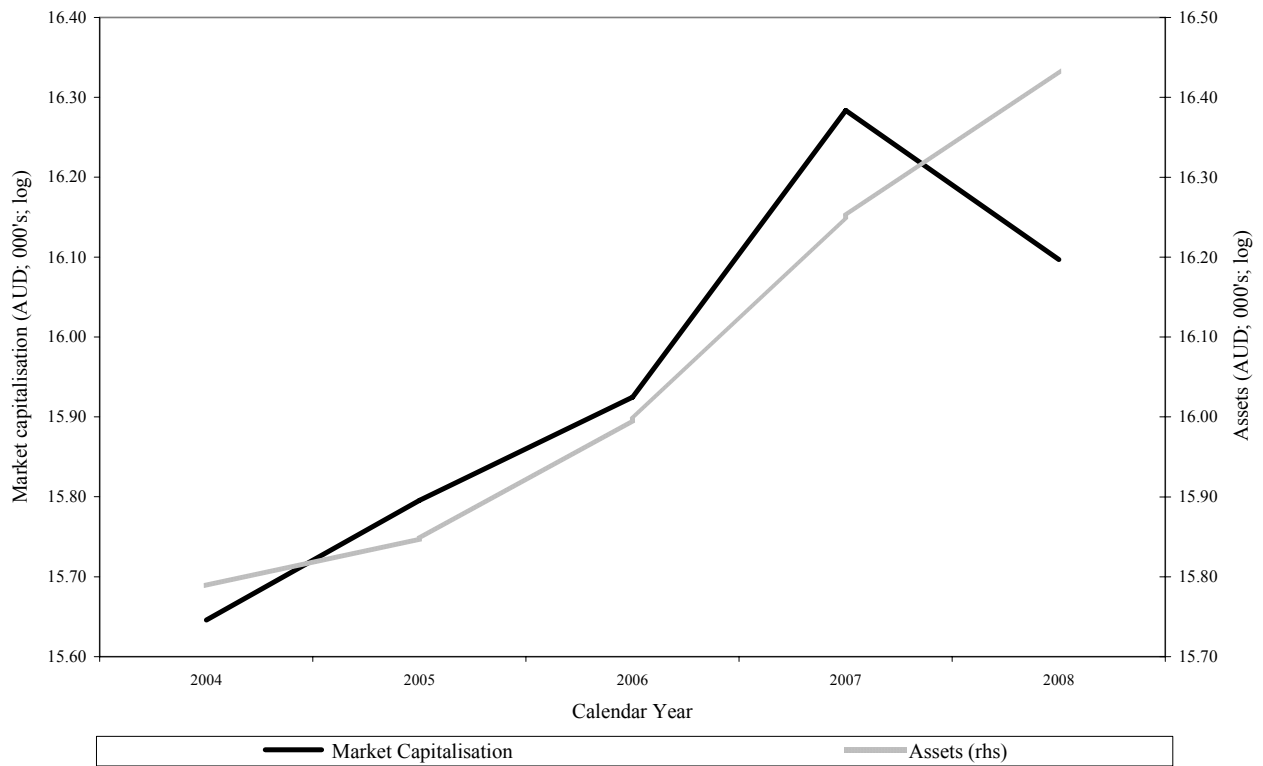**Figure 3: Time Series Plots of Assets and Market Capitalisation, 2004 - 2008**

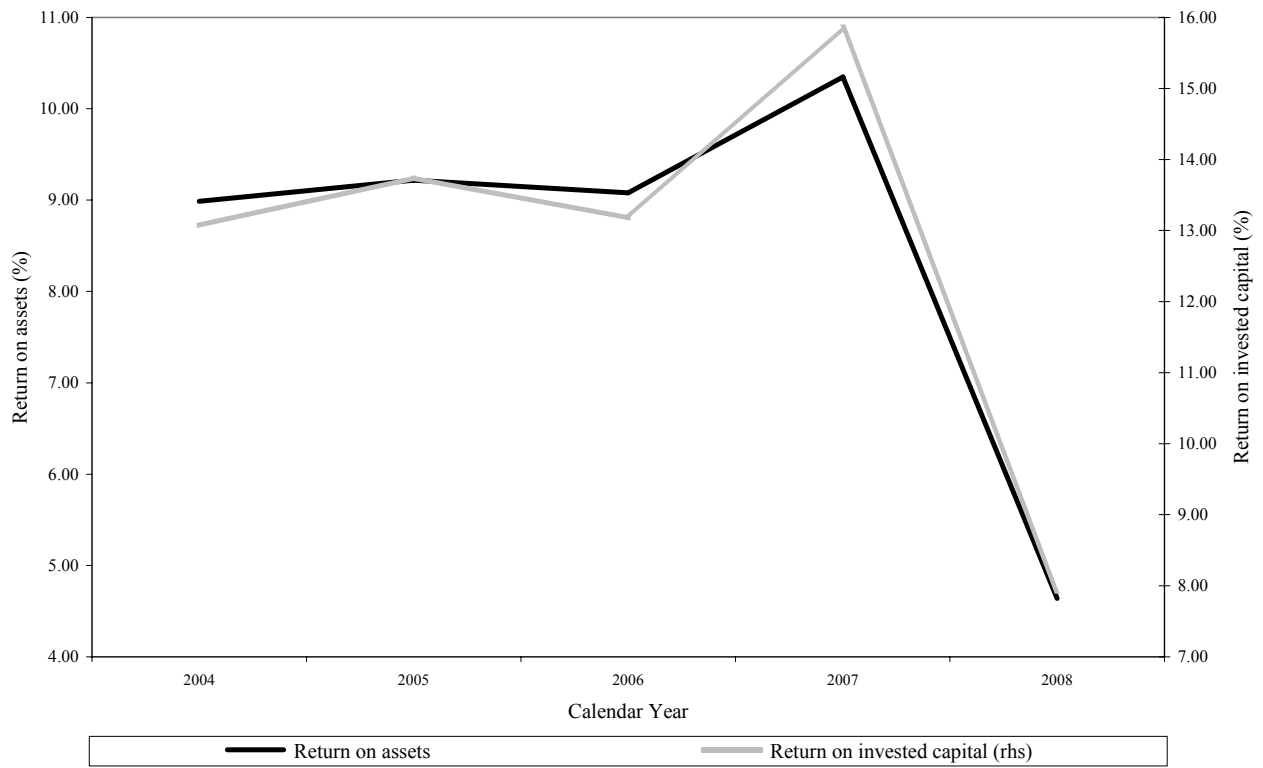**Figure 4: Time Series Plots of Return on Assets and Return on Invested Capital**

Figure 5: Time Series Plots of Total Debt to Total Assets and Long-term Debt to Eqiuty
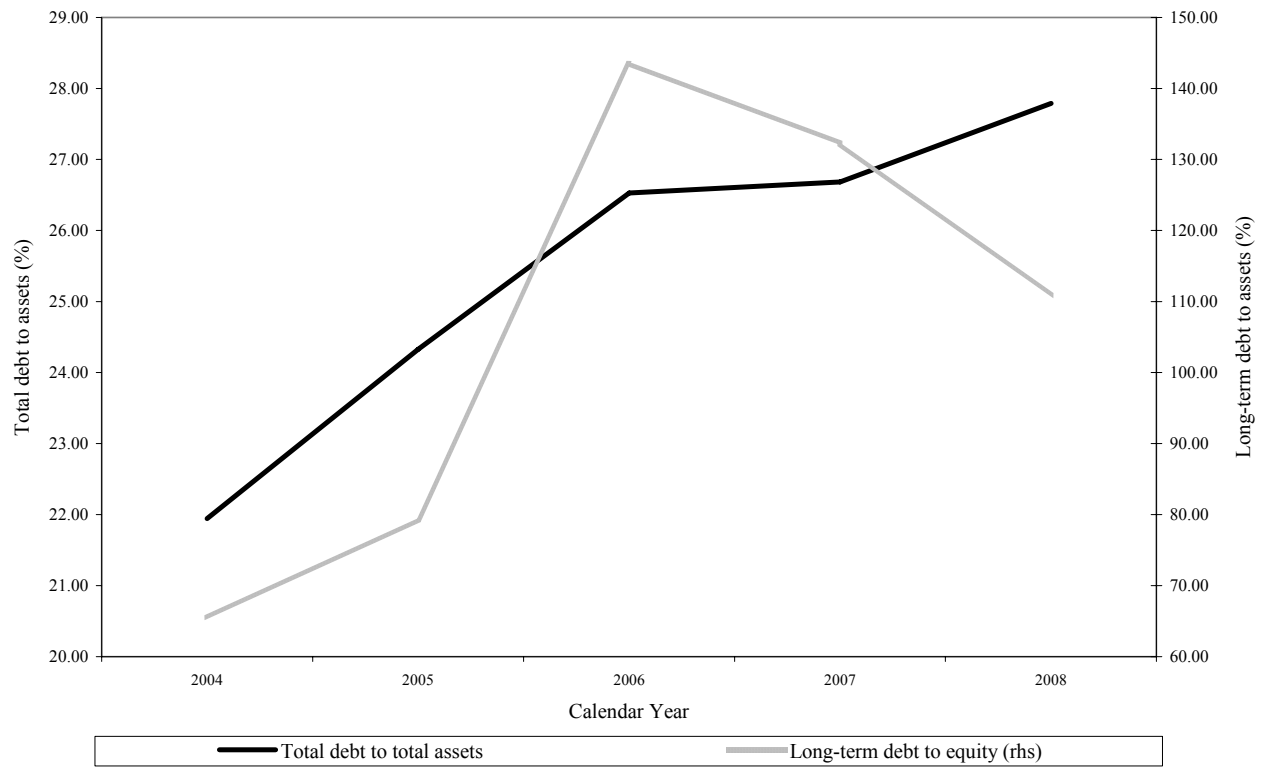
Table 3: Pooled Tobit Regression of Dividend to Sales Against Proportion of Retail Shareholder Base, Control Variables and Robustness Test Variables, 2004 - 2008

				Column			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable				*Dividends to sales*			
Explanatory variables							
Retail shareholder base %	0.041**	0.042**	-	0.046**	0.042**	0.046**	0.051***
	(2.082)	(2.203)	-	(2.455)	(2.256)	(2.532)	(2.613)
Lagged dividend measure	0.993***	0.989***	0.996***	0.986***	0.997***	0.995***	0.927***
	(26.243)	(25.978)	(23.408)	(26.311)	(25.828)	(26.504)	(23.134)
Market capitalisation	0.185	-	0.230*	0.096	0.204*	0.54***	-0.015
	(1.629)	-	(1.671)	(0.871)	(1.881)	(4.752)	(-0.125)
Return on assets	0.100***	-	0.084***	0.088***	0.099***	0.088***	0.148***
	(3.72)	-	(2.796)	(3.249)	(3.673)	(3.301)	(4.681)
Total debt to total assets	-0.031	-	-0.031	-0.037*	-0.031	-0.035*	-0.036*
	(-1.479)	-	(-1.296)	(-1.743)	(-1.476)	(-1.686)	(-1.676)
Assets	-	0.056	-	-	-	-	-
	-	(0.525)	-	-	-	-	-
Return on invested capital	-	0.076***	-	-	-	-	-
	-	(4.136)	-	-	-	-	-
Long-term debt to equity	-	-0.002	-	-	-	-	-
	-	(-1.352)	-	-	-	-	-
Retail ownership %	-	-	-0.010	-	-	-	-
	-	-	(-0.315)	-	-	-	-
Free cashflow to assets	-	-		3.038**	-	-	-
	-	-		(2.521)	-	-	-
Closely-held shares	-	-		-	0.006	-	-
	-	-		-	(0.468)	-	-
No. of shareholders	-	-		-	-	-0.468***	-
	-	-		-	-	(-3.177)	-
Franking %	-	-		-	-	-	0.025***
	-	-		-	-	-	(3.194)
Dummy 2005	0.406	0.373	1.063	0.402	0.403	0.351	0.323
	(0.517)	(0.477)	(1.12)	(0.518)	(0.513)	(0.453)	(0.417)
Dummy 2006	0.248	0.37	0.700	0.273	0.287	0.15	0.358
	(0.315)	(0.467)	(0.738)	(0.349)	(0.361)	(0.192)	(0.458)
Dummy 2007	0.301	0.354	0.706	0.341	0.297	0.109	0.537
	(0.382)	(0.449)	(0.755)	(0.435)	(0.374)	(0.139)	(0.686)
Dummy 2008	-0.009	0.011	0.231	0.09	-0.009	-0.139	0.14
	(-0.011)	(0.014)	(0.24)	(0.112)	(-0.011)	(-0.172)	(0.174)
Dummy financials sector	0.922	1.319*	1.301*	1.18*	0.905	0.951	1.411**
	(1.411)	(1.849)	(1.689)	(1.807)	(1.37)	(1.454)	(2.139)
Constant	-6.076***	-4.856***	-3.300	-4.864***	-6.649***	-6.598***	-5.933***

	(-3.463)	(-2.851)	(-1.591)	(-2.869)	(-3.899)	(-3.933)	(-3.296)
Observations	243	243	196	243	241	243	241
Pseudo R-squared	0.782	0.784	0.790	0.787	0.782	0.786	0.794

Note: t-statistics are in parentheses. Significance levels: *** = 1%, ** = 5%, * = 10%.

Table 4: Pooled Tobit Regression of Dividend to Assets Against Proportion of Retail Shareholder Base, Control Variables and Robustness Test Variables, 2004 - 2008

	Column						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable	*Dividends to assets*						
Explanatory variables							
Retail shareholder base %	0.032***	0.030***	-	0.032***	0.032***	0.034***	0.034***
	(2.819)	(2.755)	-	(2.92)	(2.947)	(3.137)	(3.012)
Lagged dividend measure	0.736***	0.727***	0.761***	0.737***	0.739***	0.738***	0.677***
	(17.211)	(16.83)	(16.323)	(17.244)	(17.032)	(17.308)	(16.039)
Market capitalisation	0.042	-	0.043	0.012	0.061	0.196***	-0.075
	(0.609)	-	(0.527)	(0.171)	(0.897)	(2.787)	(-1.104)
Return on assets	0.125***	-	0.106***	0.121***	0.124***	0.119***	0.18***
	(6.517)	-	(5.06)	(6.233)	(6.445)	(6.277)	(8.244)
Total debt to total assets	-0.03**	-	-0.027*	-0.031**	-0.03**	-0.032**	-0.026**
	(-2.228)	-	(-1.796)	(-2.323)	(-2.22)	(-2.389)	(-2.017)
Assets	-	-0.161**	-	-	-	-	-
	-	(-2.446)	-	-	-	-	-
Return on invested capital	-	0.085***	-	-	-	-	-
	-	(6.453)	-	-	-	-	-
Long-term debt to equity	-	-0.002	-	-	-	-	-
	-	(-1.499)	-	-	-	-	-
Retail ownership %	-	-	-0.001	-	-	-	-
	-	-	(-0.051)	-	-	-	-
Free cashflow to assets	-	-	-	1.078	-	-	-
	-	-	-	(1.334)	-	-	-
Closely-held shares	-	-	-	-	0.003	-	-
	-	-	-	-	(0.425)	-	-
No. of shareholders	-	-	-	-	-	-0.203**	-
	-	-	-	-	-	(-2.142)	-
Franking %	-	-	-	-	-	-	0.012**
	-	-	-	-	-	-	(2.534)
Dummy 2005	0.496	0.441	1.023*	0.493	0.491	0.472	0.441
	(0.954)	(0.847)	(1.701)	(0.952)	(0.944)	(0.917)	(0.88)
Dummy 2006	0.203	0.258	0.467	0.203	0.232	0.163	0.218
	(0.387)	(0.487)	(0.775)	(0.387)	(0.439)	(0.313)	(0.431)
Dummy 2007	-0.114	-0.103	0.145	-0.102	-0.116	-0.197	-0.094
	(-0.219)	(-0.197)	(0.247)	(-0.196)	(-0.222)	(-0.379)	(-0.185)
Dummy 2008	0.241	0.281	0.437	0.26	0.256	0.199	0.18
	(0.453)	(0.527)	(0.726)	(0.489)	(0.477)	(0.375)	(0.35)
Dummy financials sector	-0.620	-0.096	-0.335	-0.53	-0.625	-0.596	-0.405
	(-1.412)	(-0.203)	(-0.677)	(-1.194)	(-1.391)	(-1.342)	(-0.947)
Constant	-2.298**	0.467	0.169	-1.756*	-2.717***	-2.529**	-1.978*

	(-2.168)	(0.453)	(0.135)	(-1.717)	(-2.61)	(-2.421)	(-1.921)
Observations	260	260	213	260	258	260	258
Pseudo R-squared	0.705	0.702	0.710	0.706	0.705	0.707	0.734

Note: t-statistics are in parentheses. Significance levels: *** = 1%, ** = 5%, * = 10%.s