

INTERNAL GOVERNANCE MECHANISMS, AGENCY PROBLEMS AND FAMILY OWNERSHIP: EVIDENCE FROM AUSTRALIA

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Abstract

This paper investigates whether family firms use dividends, board composition and debt to expropriate the wealth of minority shareholders or to mitigate agency problems. Utilising panel data on a sample of publicly traded firms in Australia over the period 2000-2005, this study provides evidence that family firms pay optimal and higher levels of dividends and debt compared with their non-family counterparts. The study also finds that family firms have significantly lower proportions of independent directors on the board, but this is consistent with the optimal (value maximization) use of board composition. These results provide evidence that family firms mitigate rather than exacerbate moral hazard problems between owners and minority shareholders in Australia. This study adds to the very limited research into the relationship between family ownership and corporate governance mechanisms in Australia.

Keywords: Family firms, internal governance mechanisms, value maximisation

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1. Introduction

Agency theoretic paradigms provide a mixed perspective on moral hazard problems in family firms. On the one hand, it is assumed that families are better monitors of managers than other types of large controlling shareholders, suggesting that agency problems between managers and owners in family firms are lower than in non-family firms (e.g., Anderson and Reeb, 2003a; Gorton and Kahl, 1999). On the other hand, there is an argument that controlling families may extract private benefits at the expense of minority shareholders (Fama and Jensen, 1983; Shleifer and Vishny, 1997). However, there is mixed evidence on the relationship between family control and firm performance. For example, McConaughy et al. (1998) and Anderson and Reeb (2003a, 2003b) find a positive relationship between family control and firm performance, while Holderness and Sheehan (1988) find a negative relationship. Recently, Villalonga and Amit (2006) found that among large U.S. firms, family ownership creates value only when the founder serves as the CEO or as its chairman with a hired CEO.

The prevalence of family controlled firms (La Porta et al., 1999) and the family's incentives to extract private benefits raise the question of how to control moral hazard conflicts between families and minority shareholders. Extant research (Gomez-Mejia

et al., 2003; Shivdasani, 1993, Kole, 1997) indicates that several conventional corporate governance tools used in controlling agency problems between managers and owners (e.g., takeover market, institutional investors and incentive compensation) are less effective in dealing with conflicts between large and small shareholders. This implicitly suggests that other governance mechanisms which are internally determined such as dividends, debt and boards of directors may play an important role in mitigating agency problems between families and minority shareholders (La Porta et al., 2000; Faccio et al., 2001a; Anderson and Reeb, 2004).

Prior research has examined the influence of family control on firm performance and individual corporate governance variables exogenously. For example, studies on the relationship between family control and performance (Anderson and Reeb, 2003a; Villalonga and Amit, 2006), family control and dividends (Gugler, 2003 and Da Silva et al., 2004) and family control and board independence (Anderson and Reeb, 2004). However, the corporate governance literature (e.g., Jensen et al., 1992; Rediker and Seth, 1995) indicates that governance mechanisms are simultaneously determined. Thus, examining each mechanism separately and ignoring any interdependence among the mechanisms might lead to biased and inconsistent parameter estimates (Agrawal and Knoeber, 1996).

This study extends previous research (e.g., Bartholomeuz and Tanewski, 2006) by studying whether family firms adopt an optimal governance mechanism which includes dividends, debt, board composition in a simultaneous equations framework. The normative literature suggests if families expropriate the wealth of minority shareholders, family firms should demonstrate non-optimal dividend payout levels, debt and board composition.

Using panel data from publicly listed industrial firms in Australia between 2000 and 2005 (1,530 firm-year observations), this study find that family firms utilize substantially different corporate governance structures from non-family firms and that these differences lead to performance differentials. In particular, the result show that family firms pay optimal levels of dividends, use debt optimally and have an optimal proportion of independent directors. In contrast, non-family firms seem to pay higher than optimal dividend payouts, use higher than optimal debt levels and they require more monitoring by independent directors. As such, the results provide no evidence that Australian family firms enhance agency problems between owners and outside or minority shareholders. Instead, the families' dividend, board composition and debt decisions are in line with the shareholder value maximization hypothesis.

The remainder of this paper is organized as follows: Section 2 provides literature review and hypotheses development. Section 3 describes the sample and procedures. Section 4 presents descriptive statistics and univariate test. Section 5 discusses the empirical results. Section 6 concludes the paper.

2. Literature review and hypotheses development

Families, with undiversified family holdings and a desire to pass the firm to their heirs, may have greater incentives to monitor managers than their non-family counterparts. Consequently, family controlled firms encounter lower owner-manager conflict described by Berle and Means (1932) or Jensen and Meckling (1976). Prior studies (e.g. Fama and Jensen, 1983; Shleifer and Vishny, 1997), however, indicate that families have powerful incentives to expropriate wealth systematically from minority shareholders, especially when family control is greater than its cash flow rights. In addition, Villalonga and Amit (2006) suggest that the private benefits of control in family firms are not diluted among several independent owners, which suggests that families have greater incentives to expropriate wealth from minority shareholders than other types of blockholders.

The corporate governance role of dividends is derived from the agency theoretic paradigm. In particular, La Porta, et al. (2000) hypothesise that dividends are an ideal device for limiting minority shareholders wealth expropriation because it guarantees a pro-rata payout for both controlling and minority shareholders and it removes corporate wealth

from controlling shareholders. The authors' dividend outcome model suggests that under a strong legal protection system, minority shareholders use their legal power to force controlling blockholders to distribute more cash. The system also makes rent extraction such as asset diversion legally riskier and more expensive for insiders, thus raising the relative attraction of dividends.

The agency theory also suggests that dividends may serve to reduce agency problems between outside shareholders and insiders by reducing the amount of free cash flow (Jensen, 1986) and it forces insiders to raise funds in the capital markets more frequently, thus subjecting insiders to outside scrutiny (Easterbrook, 1984; Rozeff, 1982).

Another important internal governance device is the board of directors. Boards are widely believed to play a significant role in corporate governance, particularly in monitoring executive management (e.g. Fama, 1980; Fama and Jensen 1983). The effectiveness of board monitoring depends mainly on board composition. The normative literature suggests that a board can monitor the firm more closely and take appropriate governance actions if it consists of a large enough number of independent directors from outside the company¹¹. Indeed, Westphal (1998) suggests that since governance mechanisms in family firms are limited, minority shareholders potentially rely on the board of directors to monitor and control families' opportunism. Anderson and Reeb (2004) found that interests of minority shareholders are best protected when independent directors have power relative to family blockholders. The expropriation argument thereby suggests that families, seeking to exploit the firm's assets for their private benefits, are unlikely to appoint boards that will limit their control of the firm's resources.

In widely-held firms, debt can serve as a disciplining mechanism to contain agency problems between managers and dispersed shareholders by imposing fixed obligations on firm cash flow or by reducing free cash flows (Jensen and Meckling, 1976; Jensen 1986). In contrast, in closely-held firms such as family firms, debt can facilitate minority shareholders expropriation by allowing controlling insiders to control more resources without diluting their voting rights (Faccio et al., 2001b).

The governance role of debt in family firms, therefore, depends upon the effectiveness of capital market institutions in containing its abuse. Where capital market institutions are effective (i.e., corporate accounts are transparent and shareholders and creditor rights are well protected), higher debt levels in family firms may serve to mitigate agency problems between controlling and outside minority shareholders. Since

¹¹ See for example, Brickley and James (1987), Weisbach (1988), Rosenstein and Wyatt (1990), Byrd and Hickman (1992), Jensen (1993, p.865), Yermack (1996), Chen and Jaggi (2000), and Sharma (2004).

Australia has strong legal shareholder protection, the expropriation argument predicts that family firms prefer lower levels of debt to minimize the family's monitoring role. In addition, the literature indicates that families are generally not well diversified investors and thus they tend to use more equity than debt in their capital structure (i.e., family firms tend to be under-leveraged). This risk reduction strategy can impose costs on diversified, minority shareholders (Anderson and Reeb, 2003b).

The literature suggests that governance mechanisms such as dividends, boards and debt have benefits and costs. Specifically, higher dividends serve to reduce agency problems and costs. But there are costs for paying dividends such as firms need to raise funds using underwriters to replace the funds paid out (Rozeff, 1982). A higher proportion of independent directors on the board may enhance monitoring of managers, but it can also increase communication and coordination costs among independent directors (Raheja, 2005). Similarly, higher debt may discipline managers by reducing free cash flows, but higher debt also leads to higher default risk or agency costs of debt (Jensen et al., 1992).

According to the optimal governance argument (e.g., Demsetz and Lehn, 1985; Agrawal and Knoeber, 1996; Anderson et al., 2000; Beiner et al., 2004), firms should consider all of the costs and benefits of the internal governance mechanisms. Their optimal use can be determined by utilising them to the point where their marginal benefit equals their marginal cost. This implies that if firms use one mechanism less, they may use other mechanisms more, obtaining equally good performance. Therefore, once firms recognise the interdependence of internal governance mechanisms, and they select these mechanisms optimally, a carefully specified cross-sectional regression should indicate no relation between firm performance and the use of internally chosen mechanisms. This does not suggest that these mechanisms are ineffective, since if chosen optimally, any cross-sectional variation in their use reflects differences in the firms' underlying environments, not inappropriate choice. If these differences are controlled for, or if the mechanism's use is unrelated to the environment, then there should be no cross-sectional relationship between the extent to which these mechanisms are used and firm performance (Agrawal and Knoeber, 1996). Accordingly, to examine whether families use dividends, debt and board composition to expropriate the wealth of minority shareholders, this study proposes the following three null hypotheses:

H1a: Family controlled firms adopt optimal (value maximizing) dividend payout levels. Consequently, dividends will have no significant association with performance.

H1b: Family controlled firms adopt optimal (value maximizing) proportions of independent directors on

the board. Consequently, the proportion of independent directors on the board will have no significant association with performance.

H1c: Family controlled firms adopt optimal (value maximizing) debt levels. Consequently, debt levels will have no significant association with performance.

3. Research design

3.1 Sample selection and data collection

The research design includes annual panel data over a five-year period from 2000 to 2005. We employ a sampling frame of family and non-family controlled firms that were listed on the Australian Stock Exchange (ASX) on 30 June 1998. The study excludes financial firms (218 firms) from the sample because their dividend policies are highly influenced by government regulations. The sample was further restricted to firms which had annual reports available over the 2000 - 2005 period and for firms that were eligible to pay dividends¹². Excluding such firms from the sample removes the possibility that zero dividends were simply the result of a firm's inability to pay dividends. As a result, firms were excluded from the sample because of unavailability of annual reports (n=140) and ineligibility to pay dividends (n=540). The sample includes firms which delisted during this period to avoid survivorship bias, providing these firms had data available one year before delisting. The final sample of 316 firms comprised 302 active companies and 14 delisted companies. With regard to number of observations, the final sample consists of 1,530 firm-year observations over a five-year period. Family firms constitute around 25 percent (78 firms or 375 firm-year observations) of the total sample.

This study defines family firms as those in which the founding family or family member or private individual controlled 20 per cent or more equity, and was involved in the top management of the firm (La Porta et al., 1999). I downloaded the list of substantial shareholdings of Australian listed firms from DatAnalysis and from this list I determined whether there is a founding family, family member or private individual who controls at least 20 per cent of the firm's equity. The classification of family and/or non family-controlled firms based on the substantial shareholdings was corroborated with the director ownership list which was disclosed in the firm's

¹² Data are eliminated from the sample when a firm makes losses and has negative retained profits in a certain year because firms are ineligible to pay dividends by government regulation. Section 254T of the Australian Corporations Act 2001 states that a dividend may only be paid out of profits, suggesting that a company can still pay dividends even though it makes losses or has made losses and subsequent profits have yet to extinguish accumulated losses.

annual report. Since controlling families are almost always involved in management, their presence in the director ownership list should provide verification of family control. For example, the 2002 annual report of CTI Logistics Ltd indicates that David R. Watson is the largest substantial shareholder holding 21.18 per cent of shares. Thus, CTI Logistics Ltd is categorized as a family-controlled firm. The firm's director interest list shows that David R. Watson holds 21.18 per cent shares, which confirms the classification based on substantial shareholdings.

Ownership is traced back through layers if necessary (La Porta et al., 1999). For example, if the controlling blockholder of Firm A is a publicly listed firm (i.e. Firm B), the ownership structure of Firm B is also analysed before it is classified. If Firm B has a family, or individual, controlling 20 per cent or more equity, Firm A is classified as a family-controlled firm. If Firm B is widely-held, however, then Firm A will be categorized as a non-family-controlled firm. For example, in the 2000 annual report of New Hampton Goldfields Ltd, Normandy Mining Ltd is the largest substantial shareholder, holding 34.17 per cent of shares. Normandy Mining Ltd itself is a listed company which has no substantial shareholder holding 20 per cent or more shares. As a result, New Hampton Goldfields Ltd is categorized as a non family-controlled firm.

Board composition is measured by the proportion of independent directors on the board (denoted as *IND*). This study defines independent directors as "individuals whose only business relationship to the firm is their directorship" (Anderson and Reeb, 2004, p. 219). Independent directors are identified through the corporate governance and directors' statements as well as information on related party transactions in annual reports obtained from *Connect - 4* and *DataAnalysis* databases, and then individually analyzed.

In March 2003, the Australian Stock Exchange (ASX) published *The Principles of Good Corporate Governance and Best Practice Recommendations*, which provide 10 corporate governance principles (ASX, 2003). The ASX recommends that "A majority of the board should be independent directors" and "the chairperson should be an independent director" (Recommendations 2.1 and 2.2, respectively). In addition, the ASX Listing Rule 4.10 requires company annual reports to disclose the extent to which they have followed these best practice recommendations in a given reporting period as well as the firm's reasons for not complying. These reports provided additional corroborating information for classifying independent directors such as whether a non-executive director is a substantial shareholder or is directly related to a substantial shareholder, a professional adviser or consultant to the company, a supplier or customer of the company, contractually related to the company and free from any interest or relationship which could interfere with the director's ability to act in the best interests of the company.

This study classifies the sample firms into economic sectors and industry groups based on the Global Industry Classification Standard (GICS).¹³ Table 1 presents the industry distribution of family and non-family firms and shows that family firms are not uniformly distributed within and across industries. Family firms are more prevalent in the *Capital goods* (19.2%), *Media* (11.5%), *Retailing* (11.5%) and *Real estate management and development* (11.5%) industries. In contrast, non-family firms are more common in the *Materials* (25.3%), *Technology hardware and equipment* (11.2%), *Utilities* (11.2%), and *Pharmaceutical and biotechnology* (8.6%). The Chi square statistic of 38.96, $df = 20$, $p < .007$, indicates significant differences in the industry distributions of family and non-family firms.

Insert Table 1

3.2 Model

Prior studies (e.g., Agrawal and Knoeber, 1996; Mak and Li, 2001) have been concerned with endogeneity problems among governance mechanisms and this study thus analyse their use in a simultaneous equations framework. To examine the interdependence among governance mechanisms, a system of four equations which address dividends, debt, board independence and non-family blockholders is developed and then estimated by using three-stage least squares (3SLS) regressions. Non-family blockholders are included as they may also play a significant monitoring role (Agrawal and Knoeber, 1996). Definitions for all variables used in the models are specified and explained in Tables 4 and 5.

The first equation is related to dividends and includes three other endogenous variables (i.e., debt, board independence and non-family blockholders). Consistent with prior research (e.g., Rozeff, 1982; La Porta et al., 2000; Faccio et al., 2001a), the dividend payout ratio is measured as total ordinary dividends divided by net income before extraordinary items (denoted as dividend).¹⁴ This study controls for firm characteristic variables such as family firms,

¹³ The Global Industry Classification Standard (GICS) was developed by and is the exclusive property and a service mark of Morgan Stanley Capital International Inc. ("MSCI") and Standard & Poors, a division of The McGraw-Hill Companies Inc. ("S&P").

¹⁴ This study excludes observations with negative earnings to avoid negative dividend payout ratios. If net earnings are negative, the dividend payout ratio can be negative, which implies incorrectly that these firms' payout ratio is low. This treatment does not bias the results as it only affects less than 1 percent of the total number of observations.

investment and growth opportunity (Rozeff, 1982; Jensen et al., 1992). As the firms are examined in an imputation environment¹⁵, our model incorporates effective tax rate (i.e., Australian tax paid scaled by taxable income) and DRP (a binary variable which equals one if the firm has a dividend reinvestment plan, zero otherwise) variables to control for the firm's motivation to distribute franking credits via dividends.¹⁶ Both variables are expected to be positively related to dividends. In addition, a two-way fixed effects model is included. The first fixed effect (industry dummy variables based on two digit GICS codes) considers any variation in the dependent variable due to industry differences, while the second fixed effect (i.e., year dummy) removes any secular effects among the independent variables.

Dividend = f (*debt, board independence, non-family blockholders, family firm, investment, growth opportunity, DRP, effective tax rate, industry, year*) (1)

The second equation observes board independence. In addition to incorporating three endogenous variables, this study controls for family firm, lag profitability, firm size, industry and year dummies. The variable lag-profitability is incorporated to control for the possibility that firms appoint more directors following poor profitability.

Board independence = f (*dividend, debt, board size, non-family blockholders, family firm, lag profitability, firm size, industry, year*) (2)

The third equation examines debt. Debt is measured as book value of total debt scaled by book value of total assets (Anderson and Reeb, 2003b). In addition to incorporating three endogenous variables, this study controls for family firm, effective tax rate, profitability, asset tangibility, industry and year dummies.

Debt = f (*dividend, board independence, non-family blockholders, family firm, effective tax rate, profitability, asset tangibility, industry, year*) (3)

The fourth equation is concerned with non-family blockholders. The same set of exogenous variables which are used in Equation (3) are also included. In addition, firm size and business risk are incorporated.

Non-Family blockholder = f (*dividend, board independence, debt, family firm, firm size, business risk, industry, year*) (4)

A system of five equations that address Tobin's Q, dividend, board independence, debt and non-family blockholders is developed to examine whether the impact of dividends, debt and board structure on firm performance is moderated by family control in a simultaneous equations model. That is, equation (5) is incorporated into Equations (1) – (4), which includes Tobin's Q as an additional endogenous variable. This study uses the natural logarithm of Tobin's Q to measure firm performance. The actual definition of Tobin's Q is market value of the firm divided by replacement cost of assets. However, as replacement cost of assets information (the denominator) is not available in Australia, this study defines Tobin's Q as the market value of equity plus the book value of all liabilities and preference shares scaled by total assets.¹⁷ This study also excludes family firm variable from Equations (1) – (4) as it runs the system of five equations for both family and non-family subsamples. In Equation (5), in addition to the inclusion of four endogenous variables which represent corporate governance mechanisms, this study controls for firm size, investment, growth opportunity, business risk and firm age (Mehran, 1995).

Tobin's Q = f (*dividend, board independence, debt, non-family blockholders, firm size, investment, growth opportunity, business risk, firm age, industry, year*) (5)

4. Descriptive statistics and univariate test

Table 2 presents descriptive statistics (i.e., means, medians, standard deviations, maximum and minimum values, skewness and kurtosis) for the sample.

Insert Table 2

On average, firms report dividend-to-earnings and dividend-to-cash flow of 47.4 per cent and 20.3 per cent, respectively. With respect to board structure, the average number of directors is around 6. Of these, 68.8 per cent are non-executive directors (mean of 4.3 directors), and 43.2 per cent are independent directors (mean of 2.8 directors). Of all sample firms, 33.9 per cent have boards with a majority of independent directors, respectively. With regard to ownership structure, family firms hold an average of 40.7 per cent of equity. Non-family blockholders hold an average of 34.4 per cent of equity in all firms. The mean for substantial shareholdings (i.e., shares held

¹⁵ The Australian imputation tax system allows companies to pay dividends that carry imputation credits for income tax paid by the company (known as franked dividends). Imputation credits can be used to reduce income tax paid by resident shareholders.

¹⁶ Credits to a company's franking account arise mainly from payment of company income tax, whereas a dividend reinvestment plan allows firms to pay out a greater proportion of their earnings in dividends while simultaneously maintaining their investment policy as a portion of these funds will be returned via the issue of new shares to participants.

¹⁷ This proxy is highly correlated with the actual definition of Tobin's Q and has been widely used in U.S. studies (e.g., Demsetz and Villalonga, 2001). In Australia, Craswell et al. (1997) also use the market-to-book (equity) ratio as a proxy for Tobin's Q.

by shareholders with at least 5 per cent equity stake) is 44.6 per cent, suggesting that although Australia has stronger legal protection (La Porta et al., 1999), Australian firms tend to have more concentrated ownership than their US or UK counterparts. This is consistent with Lamba and Stapledon (2001), La Porta et al., and Mroczkowski and Tanewski (2007).

With respect to firm characteristics, Table 2 reports that the mean for market-to-book value ratio is 1.16, profitability (measured by ROA) is 5.5 per cent, debt ratio (measured by total debt divided by total assets) is 22.7 per cent, firm size (measured by total assets) is A\$ 1,100 million, growth opportunity (measured by the arithmetic average of growth in revenues over the previous five-year period) is 26.9 per cent, business risk (measured by standard deviation of the previous 5 year EBIT) is A\$ 22 million, investment (measured by capital expenditure scaled by assets) is 6.3 per cent, proportion of firms with Dividend Reinvestment Plan is 24 per cent, tax paid (scaled by assets) is 2.2 per cent, net PPE scaled by assets is 31.7 per cent and the average firm age is 34 years.

Table 3 reports differences in dividend payouts, board composition, debt and other firm characteristics between family and non-family firms.

Insert Table 3

It indicates that, although dividend payout ratios in family firms appear to be higher than in non-family firms, the differences are not statistically significant at conventional levels. Specifically, family firms generally use around 48.3 per cent of net earnings to pay dividends versus 46.9 per cent for non-family firms. The difference in dividend-to-cash flow ratio is 1.56 per cent. With regard to board composition and debt, family firms have a significantly lower proportion of independent directors (30.9 per cent versus 47.2 per cent) and a significantly higher debt to assets ratio (24.9 per cent versus 22 per cent) than their non-family counterparts.

Table 3 also presents the mean values for antecedent variables for family and non-family firms and the test statistics for mean differences. The *t*-test and Mann Whitney U test indicate that family and non-family firms differ on several ownership and firm characteristics such as family ownership, non family blockholdings, market-to-book ratio, leverage, firm size, growth opportunity, business risk, and the use of DRP and investments. In particular, families own on average 40.7 per cent of the equity of firms in which they are present. The average equity ownership by non-family blockholders is significantly lower in family firms than in non-family firms (17 per cent versus 40 per cent). Family firms are significantly smaller in assets and have significantly lower investment and asset tangibility than non-family firms.

5. Results

5.1 Interrelationship among the internal governance mechanisms

Table 4 shows results of a three-stage least squares (3SLS) regressions on dividend, board composition, debt and non-family shareholdings. The endogenous variables in the model are dividend, board independence, debt and non-family blockholders, which are presumed to be jointly determined.

Insert Table 4

In Table 4, there appears to be a simultaneous relationship among the governance mechanisms. In particular, there is bi-directional relationship between dividend payout ratio and proportion of independent directors on the board. In the dividend equation (column 1), the coefficient on *board independence* is positive and significant at the one per cent level. The finding indicates that independent directors positively affect the dividend payout ratio. The coefficient on *dividend* in the board independence equation (column 2) suggests that the dividend payout ratio has a positive and statistically significant influence on board independence. Taken together, this suggests that, in terms of governance, dividends are used as a complement for independent directors.

Table 4 also indicates that there is a negative bi-directional relationship between *dividend* and *debt* and a positive bi-directional relationship between *board independence* and *debt*. There is also a positive bi-directional relationship between *non-family blockholders* and *dividend* as well as *non-family blockholders* and *debt*. Meanwhile, the relationship between *non-family blockholders* and *board independence* is positive and bi-directional. As such, the results are consistent with the notion that governance mechanisms are interdependent.

Table 4 shows that the combination of internal governance mechanisms differs between family and non-family firms. Family firms seem to pay higher dividends, use higher debt and have lower proportion of independent directors. In particular, the coefficient estimates on family firm variable in the dividend, board independence and equations are significant at the one per cent level; positive for dividend and debt, and negative for board independence. Family firm also appears to have lower non-family blockholdings. The coefficient estimates on family firm variable in the non-family blockholders equations are significant at the one per cent level.

Overall, the results provide mixed evidence on whether Australian family firms use dividends, debt and board composition to exacerbate or mitigate agency problems between families and minority shareholders. On the one hand, family firms seem to reduce moral hazard conflicts between owners and

minority shareholders by adopting higher dividend payout and debt levels. These policies reduce free cash flows that otherwise can be used for expropriation. On the other hand, the fact that family firms tend to avoid the presence of independent directors on the board may suggest that families attempt to maintain their control over the firm's resources. In addition, the less prevalence of non-family blockholders in family firms suggests that outside monitoring by large shareholders is less effective. Therefore, additional analyses were conducted to examine this assertion and whether family firms adopt an optimal combination of governance mechanisms.

5.2 Family control and optimal governance mechanisms

Agrawal and Knoeber (1996) suggest that once the interdependence of internal governance mechanisms is recognised and these mechanisms are selected optimally, a carefully specified cross-sectional regression should find no relation between firm performance and the use of internally chosen mechanisms. Thus, positive coefficients on endogenous variables suggest that increasing the use of control mechanisms would improve performance, while negative coefficients suggest that reducing the use of control mechanisms would lead to performance improvement. Table 5 reports results of pooled and three-stage least squares (3SLS) regressions on firm performance and governance mechanisms for family and non-family controlled firms.¹⁸

Insert Table 5

The regression reported in the first and third column of Table 5 is pooled estimations of Tobin's Q and governance mechanisms (i.e., Equation (5)). This regression does not allow for any interdependence in the choice of governance mechanisms, but it does take into account the availability of alternative control mechanisms. For family firms (see column 1), performance is positively associated with *dividend*, but is not significantly associated with *board independence*, *debt* and *non-family blockholders* at the conventional level. For non-family firms (see column 3), performance is positively associated with *dividend* and *board independence*, but is not significantly associated with *debt* and *non-family blockholders* at the conventional level.

The regression coefficients reported in the second and fourth columns of Table 5 are 3SLS estimations of Tobin's Q and governance mechanisms (i.e., Equation (5) and Equations (1) to (4) which includes Tobin's Q as an additional endogenous variable - see

Section 3.2. This system treats firm performance and use of the governance mechanisms as endogenous. Thus, it allows for the interdependence among alternative governance mechanisms. Agrawal and Knoeber (1996) suggest that, once the optimal determinants of each endogenous regressor are derived in the first stage (pooled regression), any significance that persists into the second stage (3SLS) is inconsistent with the notion of optimal use. Comparing the 3SLS estimates with the pooled regression estimates, for family firms, the coefficient on *dividend* becomes not significant, whereas the coefficients on *board independence* and *debt* remain not significant. For non-family firms, the coefficient on *dividend* and *debt* become negative and significant, while coefficient on *board independence* remains positive and significant.

The result suggests that family firms, on average, adopt optimal dividends, debt and proportions of independent directors on the board. As such, the higher levels of dividend payout of family firms discussed in Section 5.1 is consistent with the wealth maximisation hypothesis and the smaller proportions of independent directors on the board of family firms is inconsistent with the wealth expropriation argument. The positive influence of family control on debt levels is also consistent with shareholder value maximisation.

For non-family firms, the result indicates that non-family firms adopt sub-optimal dividend, board composition and debt mechanisms. Specifically, the negative and significant coefficients on *dividend* suggests that non-family firms could improve performance by reducing dividends, while the positive and significant coefficient on *board independence* suggests that non-family firms could benefit from performance improvements by increasing the proportion of independent directors on the board. In addition, the negative coefficient on *debt* suggests that non-family firms could improve performance by reducing debt.

The coefficient on *non-family blockholders* for family firms is negative and statistically significant, suggesting that family firms could benefit if non-family blockholdings decreases. Interestingly, the coefficients on *non-family blockholders* are positive and significant for non-family firms, which implies that non-family firms could perform better if monitoring by outside blockholders is enhanced.

Overall, the results of the 3SLS regressions suggest that family firms adopt an optimal combination of dividend, board composition and debt. In contrast, non-family firms seem to pay too much dividends, employ higher than optimal debt levels and these firms require more monitoring from independent directors on the board and outside large shareholders.

5.3 Robustness tests

To examine the robustness of these results, this study directly examined the relationship between firm

¹⁸ To preserve space, only coefficient estimates on performance equation are reported.

performance (Tobin's Q) and family control in a simultaneous equations framework. To achieve this objective, Equation (5) was altered by including family firm as an exogenous variable. This equation and Equations (1) to (4) were then estimated using 3SLS regression. The altered Equation (5) is also estimated using pooled regression. Table 6 presents the result.

Insert Table 6

Pooled regression (column 1 of Table 6) shows that family control has an insignificant relationship with firm performance, suggesting that family firms do not expropriate minority shareholders' wealth. However, in the simultaneous equations model (column 2), the family firm coefficient is positive and significant at the one per cent level, suggesting that family firms mitigate agency problems. The results, therefore, are consistent with the argument that family firms adopt an optimal combination of internally determined governance mechanisms.

To examine whether the results in prior sections are sensitive to alternate measurements, this study re-estimated Equations (1) to (5) using alternate proxies for dividends and debt. Specifically, define dividend payout ratio as ordinary dividends scaled by operating cash flows (La Porta et al., 2000), and define debt as the ratio of total liabilities to total liabilities plus market value of equity, and the ratio of long-term debt to total assets (Anderson and Reeb, 2003b). While not presented, the 3SLS regression results are generally consistent with our earlier analyses.

To remove the possibility that firms with positive retained earnings but negative net earnings were unable to pay dividends due to cash shortages, the analysis was repeated using a subset of firms with only non-negative net earnings (consequently, the sample size was reduced to 1,355 observations). The results are consistent with earlier analyses. Finally, we test the sensitivity of the findings in the presence of outliers and influential observations by truncating the largest one percent probability levels for each tail of the distribution for the model variables. In general, the results are not substantially different from earlier analyses.

6. Conclusion

The literature is ambivalent on whether family control mitigates or enhances moral hazard conflicts. On the one hand, agency problems between professional managers and owners in family firms are perceived to be lower than in non-family firms. On the other hand, controlling families may extract private benefits at the expense of minority shareholders, creating agency problems between controlling owners and outside or minority shareholders.

This study uses panel data on a sample of publicly traded firms in Australia over the period 2000-2005 to examine whether family firms use dividend, board composition and debt to mitigate or enhance agency problems. Using a simultaneous equations framework, this study provides evidence that family firms pay higher levels of dividends than their non family counterparts and that family firms pay dividends optimally, while non-family firms do not. In addition, this study also finds that family firms have significantly lower proportions of independent directors on the board, but this relationship is consistent with the optimal (value maximization) use of board composition. This study also finds that family firms use debt optimally and could improve performance if they reduce their non-family blockholdings, whereas non-family firms use higher than optimal debt levels and require more monitoring by independent directors on the board and outside large shareholders.

As such, in terms of dividend, board composition and debt decisions, the results in this paper provide no evidence that family firms in Australia enhance agency problems between owners and outside or minority shareholders. Instead, the 3SLS results indicate that controlling families' dividend, board composition and debt decisions are in line with shareholder value maximization.

This study adds to the very limited research into the relationship between family ownership and corporate governance mechanisms in Australia. It also provides important contribution to the family literature. As researchers continue to explore the severity of agency problems in family firms by focusing on performance, our findings shed light on this issue by examining the interacting roles that both family control and specific corporate governance mechanisms play in mitigating or exacerbating agency issues, particularly among public firms which operate in a country which has high investor protection and high private benefits of control (La Porta et al., 1999; Nenova, 2003). The findings have practical implication for investors. That is, as far as agency costs are concerned, investments in Australian family firms are sensible.

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Appendices

Table 1. Sample Distribution by Industry

GICS Code	INDUSTRY GROUP	Family		Non-Family		All firms	
		No	%	No	%	No	%
1010	Energy	1	1.3%	19	8.5%	20	6.4%
1510	Materials	5	6.4%	59	25.3%	64	20.6%
2010	Capital Goods	15	19.2%	28	12.0%	43	13.8%
2020	Commercial services & Supplies	3	3.8%	11	4.7%	14	4.5%
2030	Transportation	4	5.1%	11	4.7%	15	4.8%
2510	Automobiles & components	2	2.6%	6	2.6%	8	2.6%
2520	Consumer durables & apparels	2	2.6%	4	2.6%	6	1.9%
2530	Consumer services	5	6.4%	10	4.3%	15	4.8%
2540	Media	9	11.5%	12	5.1%	21	6.7%
2550	Retailing	9	11.5%	9	3.9%	18	5.9%
3010	Foods & staples retailing	1	1.3%	5	2.1%	6	1.9%
3020	Food, beverage & tobacco	5	6.4%	22	9.4%	27	8.7%
3030	Household & personal products	1	1.3%	0	0%	1	0.3%
3510	Health care equipment & services	5	6.4%	8	3.4%	13	4.2%
3520	Pharmaceutical & biotechnology	0	0%	2	8.6%	2	6.4%
4040	Real estate [†]	9	11.5%	16	6.9%	25	8.0%
4510	Software & services	2	2.6%	4	1.7%	6	1.9%
4520	Tech. Hardware & equipment	0	0%	5	11.2%	5	2.1%
4530	Semi conductor & equipment	0	0%	1	4.3%	1	0.3%
5010	Telecommunication services	0	0%	1	4.3%	1	0.3%
5510	Utilities	0	0%	5	11.2%	5	2.1%
TOTAL		78	100%	238	100%	316	100%

Chi square test

$\chi^2 = 38.96, df=20, p\text{-value} = 0.007$

[†] Includes only Real Estate Management and Development (GICS code 40401020, i.e., companies engaged in real estate ownership, development or management).

Table 2. Descriptive Statistics

Variable	Mean	Median	Std. Dev.	Min.	Max.	Skewness	Kurtosis
Dividend Policy							
Dividend-to-Earnings [†]	0.473	0.489	0.462	0	5.411	3.14	24.25
Dividend-to-Cash Flow	0.203	0.195	0.174	0	0.940	0.74	0.46
Board Structure							
Number of directors	6.08	6.00	2.10	3	15	0.83	0.83
% of independent directors	0.432	0.428	0.245	0	1	-0.15	-0.74
Ownership Structure							
Family ownership ^{††}	0.407	0.378	0.162	0.200	1	1.82	2.41
Non-family blockholdings	0.344	0.304	0.239	0	1	0.59	-0.38
% of substantial holdings	0.446	0.441	0.237	0	1	0.15	-0.76
Firm Characteristics							
Market-to-book ratio	1.16	0.93	0.98	0.120	15.79	6.52	74.28
Net income/ Assets	0.055	0.053	0.103	-1.36	0.840	-2.04	38.86
Total debt / Assets	0.227	0.222	0.171	0	1.448	1.10	3.54

Total assets (A\$ million)	1100	150	3591	55000	0.933	0.26	-0.44
Business risk (A\$ million)	22.03	4.55	62.99	0.043	1636	13.05	290.6
Capital expenditure / Assets	0.063	0.039	0.074	0	0.587	2.89	11.68
% DRP firms*	0.240	-	-	-	-	-	-
Tax paid / Assets	0.022	0.018	0.023	0	0.182	0.01	6.94
Net PPE / Assets	0.317	0.293	0.227	0	0.97	0.50	-0.53
Firm age	34.02	21.00	28.24	3	168	1.53	2.17
Number of observations	1530	1530	1530	1530	1530	1530	1530

* This indicates proportion of firms, rather than the mean proportion for associated variable.

† Based on firms having non negative net income (1,500 observations).

†† Based on family firms (381 observations).

Table 3. Mean Differences for Dividend Payouts, board Independence and debt by Family Control

Measure	Family Firm	Non-Family Firms	Difference	t-statistic	Mann-Whitney U test
Dividend-to-Earnings	0.4829	0.4692	0.0137	0.620	-0.484
Dividend-to-Cash Flow	0.2149	0.1993	0.0156	1.502	-1.301
% of Independent Directors	0.3095	0.4722	-0.1627	-11.70***	-10.897***
Debt / Assets	0.2495	0.2202	0.0293	2.897***	-1.803*
Non Family Blocks.	0.1713	0.4008	0.2296	-17.782***	-16.90***
Market-to-book ratio	1.0952	1.1837	-0.0885	-1.518	-2.172**
Net income/ Assets	0.0507	0.0569	-0.0062	-1.014	-0.935
Total assets (in A\$ m)	440	1400	-960	-4.474***	-7.507***
Business risk	8.4149	26.5519	-18.1370	-4.907***	-8.691***
Capital-exp. / Assets	0.0440	0.0699	-0.0259	-5.991***	-6.73***
DRP Dummy	0.1259	0.2785	-0.1526	-	36.43***†
Tax paid / Assets	0.0213	0.0225	-0.0012	-0.848	-0.295
Net PPE / Assets	0.2732	0.3318	-0.0586	-4.391***	-4.315***
Firm age	33.37	34.23	-0.86	0.605	-2.506***
Number of observation	381	1149			

†Chi Square test

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

Table 4. 3SLS Estimations of the Interdependence among Governance Mechanisms

This table reports results of three-stage least squares (3SLS) regressions on the interdependence among governance mechanisms. The endogenous variables are *Dividend* measured by total ordinary dividend divided by earnings after tax and interest but before extraordinary items, *Board independence* defined as the proportion of independent directors on the board, *Debt* measured by book value of total debt divided by total assets, and *Non-family blockholders* defined as the aggregate fractional holdings of non-family shareholders holding at least five percent of the firm's shares. *Family firm* is a dummy variable which takes the value of one if the founding family or family member or private individual controls 20 percent or more equity, and is involved in executive management, zero otherwise. *Investment* is total capital expenditure scaled by total assets. *Growth opportunity* is natural logarithm of arithmetic average of growth in revenue over the previous five-year period. *DRP* is a binary value which takes the value of one if a firm has Dividend Reinvestment Plan and zero otherwise. *Effective tax rate* is Australian tax paid divided by taxable income. *Firm size* is natural logarithm of total assets. *Profitability* is earnings after tax scaled by assets. *Lag (Profitability)* is previous year earnings after tax scaled by assets. *Asset tangibility* is net PPE scaled by total assets. *Industry dummy* consists of twenty dummy variables to represent twenty one industry groups based on two digit GICS codes. *Year dummy* consists of five dummy variables. The *t*-statistic is reported in parentheses.

Variable	Dividend	Board Independence	Debt	Non-family blockholders
	(1)	(2)	(3)	(4)
Dividend	-	0.185*** (5.84)	-0.145*** (-2.77)	0.287*** (5.88)
Board independence	3.322*** (7.74)	-	0.898*** (7.54)	-1.539*** (-15.26)
Debt	-2.102*** (-4.67)	0.429*** (3.39)	-	0.661*** (3.57)
Non-family blockholders	3.145*** (4.73)	-0.653*** (-15.60)	0.647*** (5.75)	-
Family firm	1.395*** (5.83)	-0.322*** (-17.38)	0.334*** (7.43)	-0.495*** (-18.78)
Investment	0.073 (0.39)	-	-	-
Growth opportunity	-0.027 (-1.01)	-	-	-
DRP	0.161*** (2.78)	-	-	-
Effective tax rate	0.286*** (2.87)	-	-0.051 (-1.43)	-
Lag profitability	-	-0.000 (-0.05)	-	-
Firm size	-	0.015*** (3.08)	-	0.022*** (2.98)
Profitability	-	-	-0.177*** (-4.08)	-
Assets tangibility	-	-	0.075*** (3.31)	-
Business risk	-	-	-	0.000 (0.23)
Industry	0.063 (1.08)	-0.014 (-1.03)	-0.020 (-1.48)	-0.022 (-1.06)
Constant	-1.957*** (-4.60)	0.257*** (3.35)	-0.380*** (-4.54)	0.399*** (3.77)
Year Dummy	Included	Included	Included	Included

*** significant at the 0.01 level **significant at the 0.05 level *significant at the 0.10 level

Table 5. Regression and 3SLS Estimations of Firm Performance and Governance Mechanisms – Family and Non-Family Firms

This table reports results of regressing firm performance on governance mechanisms and other antecedent variables using pooled and 3SLS regression. The dependent variable is *Tobin's Q* measured by natural logarithm of market value of equity plus book value of all liabilities and preference shares scaled by total assets. *Dividend* is defined as total ordinary dividend divided by earnings after tax and interest but before extraordinary items. *Board independence* is the proportion of independent directors on the board. *Debt* is book value of total debt divided by total assets. *Non-family blockholders* is the aggregate fractional holdings of non-family shareholders holding at least five percent of the firm's shares. *Firm size* is natural logarithm of total assets. *Investment* is total capital expenditure scaled by total assets. *Growth opportunity* is natural logarithm of arithmetic average of growth in revenue over the previous five-year period. *Business risk* is natural logarithm of standard deviation of EBIT over the previous five-year period. *Firm age* is natural logarithm of the number of years since the firm's incorporation. *Industry dummy* consists of twenty dummy variables to represent twenty one industry groups based on two digit GICS codes. *Year dummy* consists of five dummy variables. The *t*-statistics reported in parentheses are corrected for serial correlation and heteroskedasticity (Huber-White).

Variable	Family Firms		Non-Family Firms	
	Pooled Regression (Huber-White)	3-SLS	Pooled Regression (Huber-White)	3-SLS
Dividend	0.138** (2.02)	-0.746 (-1.57)	0.112** (1.99)	-1.134*** (-2.82)
Board independence	0.179 (1.01)	1.257 (0.39)	0.305** (2.23)	12.823*** (5.68)
Debt	0.142 (0.53)	-2.802 (-1.31)	-0.244* (-1.67)	-6.497*** (-6.23)

Non-family blockholders	-0.187 (-0.48)	-10.285*** (-5.95)	-0.194* (-1.71)	8.135*** (6.65)
Firm size	-0.019 (-0.41)	-0.213 (-1.49)	-0.059* (-1.82)	-0.238*** (-4.08)
Investment	1.813** (2.19)	1.103 (0.85)	1.285*** (5.17)	1.304** (2.55)
Growth opportunity	0.074 (0.55)	0.288 (0.83)	0.019 (0.27)	0.088* (1.69)
Business risk	0.160*** (2.85)	0.407*** (4.07)	0.100*** (3.01)	0.042 (0.86)
Firm age	-0.054 (-0.85)	-0.173** (-1.96)	-0.061* (-1.73)	-0.209*** (-2.57)
Constant	0.191 (0.22)	6.789*** (3.42)	1.063* (1.93)	-2.072** (-2.35)
Industry Dummy	-0.183 (-1.55)	-0.815*** (-2.78)	-0.009 (-0.15)	0.249** (2.07)
Year Dummy	Included	Included	Included	Included
R ²	0.274	-	0.316	-

*** significant at the 0.01 level

** significant at the 0.05 level

* significant at the 0.10 level

Table 6. Regression and 3SLS Estimations of Firm Performance and Family Control

This table reports results of regressing firm performance on family control and other antecedent variables. The dependent variable is *Tobin's Q* measured by natural logarithm of market value of equity plus book value of all liabilities and preference shares scaled by total assets. *Dividend* is defined as total ordinary dividend divided by earnings after tax and interest but before extraordinary items. *Board independence* is the proportion of independent directors on the board. *Debt* is book value of total debt divided by total assets. *Non-family blockholders* is the aggregate fractional holdings of non-family shareholders holding at least five percent of the firm's shares. *Firm size* is natural logarithm of total assets. *Investment* is total capital expenditure scaled by total assets. *Growth opportunity* is natural logarithm of arithmetic average of growth in revenue over the previous five-year period. *Business risk* is natural logarithm of standard deviation of EBIT over the previous five-year period. *Firm age* is natural logarithm of the number of years since the firm's incorporation. *Industry dummy* consists of twenty dummy variables to represent twenty one industry groups based on two digit GICS codes. *Year dummy* consists of five dummy variables. The *t*-statistics reported in parentheses are corrected for serial correlation and heteroskedasticity (Huber-White).

Variable	Pooled Regression (Huber-White)	3-SLS
Family Control	0.027 (0.38)	6.546*** (3.71)
Dividend	0.133*** (3.11)	-3.354*** (-3.68)
Board independence	0.258** (2.29)	20.848*** (3.27)
Debt	-0.119 (-0.81)	-10.487*** (-4.60)
Non-family blockholders	-0.169 (-1.51)	12.854*** (3.99)
Firm size	-0.059** (-2.08)	-0.291* (-1.87)
Investment	1.332*** (5.59)	0.763 (1.38)
Growth opportunity	0.031 (0.48)	0.179 (1.12)
Business risk	0.123*** (4.25)	-0.009 (-0.18)
Firm age	-0.064** (-2.07)	-0.096 (-0.75)
Constant	1.020** (2.08)	-5.132 (-4.00)
Industry Dummy	-0.053 (-1.01)	0.202 (0.82)
Year Dummy	Included	Included
R ²	0.161	-

*** significant at the 0.01 level

** significant at the 0.05 level

* significant at the 0.10 level