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JEL Classification: G30, G35

Keywords: Family ownership, control, Payout policy, agency conflicts

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Dividend Policy Decisions and Ownership Concentration: Evidence from Thai Public Companies

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Abstract

In this paper we examine the relationship between ownership concentration and dividend policy for Thai publicly listed companies. High family ownership firms have higher dividend payouts than low family ownership firms, which we interpret to mean high family ownership firms follow a more rational dividend policy. This finding is consistent with the prediction that agency conflicts between the managers and shareholders are lower at firms with a controlling shareholder. The evidence is robust through different econometric specifications, robust when the level used to determine the extent of family ownership (family control) is lowered to 10 percent of the outstanding shares, and robust to the inclusion of the ownership wedge as a proxy for the severity of agency conflicts.

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1. Introduction

Family ownership and management are widespread in listed companies in Thailand. Claessens, et al. (2000) find that of the 167 Thai firms included in their sample, more than 60% have a family as the ultimate controller, when using 20% ownership as the cutoff level. In a larger sample of 270 firms, Wittanakantang (2001) finds that more than 80% of firms have an ultimate controller, with 56% of firms having a family (or families) as the ultimate controller. This has potentially important implications for companies' dividend policy.

An important theoretical basis for the dividend payout policy topic area is agency theory. Specifically, Jensen and Meckling (1976) note that dividends reduce the agency costs of outside equity ownership. Extending this argument, Jensen (1986) notes that dividends reduce the agency costs of free cash flow; the payout removes cash from the managers' control. The managers could otherwise squander the cash in various ways (overinvestment, excessive consumption of perquisites, costly acquisitions, and empire building, among other value-destroying activities). Easterbrook (1984) notes that dividends can force firms to go to capital markets and thus subject managers to monitoring and market discipline.

LaPorta, Lopez-de-Silanes, Shleifer and Vishny (LLSV) (2000) develop a theoretical model for dividend payouts based on agency costs. They develop two competing hypotheses. The protection of shareholder rights and thus the protection of minority shareholders each play central roles in each hypothesis. The outcome hypothesis states that dividends are an outcome of an *effective* system of legal protection of shareholders available in a nation. Minority shareholders can use legal means and other legal powers at their disposal to force firms to pay out cash. The cross-sectional implications of this theory predict that firms in nations with better shareholder protection have higher dividend payouts. The theory also predicts a relation between growth opportunities and payout. In nations with good shareholder protection, the theoretical prediction is that high growth firms have lower payouts than low growth companies. The reason is that shareholders of a high growth firm can wait for the firm's investment projects to pay off, boosting firm value in the future when the firm realizes the benefits

from the value-increasing investment. Thus, shareholders believe they will receive higher dividends in the future. Because of the strong measures to protect shareholders, investors can be reasonably assured of receiving the future rewards and are thus willing to wait before reaping the increase in firm value that results from the good investment opportunities. Firms with low growth opportunities should have higher payouts because these firms lack investment opportunities. If managers at the low-growth firms are not forthcoming with dividends, shareholders can use legal mechanisms to force payouts higher. In countries which afford poor protection to shareholders, theory predicts no relation between payouts and growth. Shareholders, especially minority shareholders, have little legal recourse to force firms to disgorge cash.

In contrast, the substitution hypothesis put forth by LLSV (2000) posits that dividends serve as a substitute for legal protection. A key assumption of this hypothesis is that firms will need to go outside the firm to raise additional capital from time to time. A firm's ability to raise capital depends on its reputation. Thus, firms pay dividends as a way to show that the firm does not exploit its shareholders. Dividend payments also establish a reputation for moderation, should the owners be expropriating wealth from minority shareholders. Thus, in countries with low shareholder protection, dividend payouts should be higher than in high protection countries. For the substitution hypothesis, LLSV (2000) note an ambiguous relation between dividends and growth prospects. High growth firms may have either a high or a low payout, should the substitution hypothesis hold. High growth firms need to establish a reputation in the capital market because they do have or will have a greater need for external finance. The need to establish a reputation implies that high growth firms may pay higher dividends than firms with poor growth opportunities. As a result, the high growth firm can establish a reputation for not exploiting shareholders. Alternatively, the high growth firms could forego paying dividends and instead use the cash to reinvest in the growth opportunities. This explanation leads to the conclusion that firms with high growth opportunities would thus have a lower payout ratio. Hence, the relation between dividends and growth opportunities is ambiguous for the substitution hypothesis.

Aivazian et al. (2003) evaluate dividend policies in emerging market countries to see if dividend policies are different in US firms. The theoretical framework for their paper draws upon two underlying theories (models) for dividends: a signaling

motivation (for example, the "bird in the hand fallacy" explained by Bhattacharya (1979)), and the agency cost explanations. Aivazian et al. (2003) note two potential problems with these dividend theories in emerging markets. First, the theoretical models assume the separation of ownership and control. A second assumption is that external financing comes from capital markets. For emerging markets, there is often very little or no separation of ownership and control. Emerging market companies are typically closely held firms, which depend largely on bank-based financing. This type of financing facilitates direct communication with investors, though more so for the larger shareholders (which are often insiders) than for minority shareholders. Firms can easily have direct contact with creditors, giving lenders access to confidential information. Aivazian et al. (2003) conclude there is less need for dividends as a signal. The agency cost model assumes imperfect and perhaps costly monitoring of managers must be undertaken. Therefore, high levels of dividends act as a substitute for communication between shareholders and managers; managers are forced to interact with shareholders. However, this forced interaction is not needed if ownership is concentrated and/or bank-based financing is used. Owners are intimately aware of the performance and prospects of the business, due to their majority stake and/or management positions. From the theories and prior research the framework of the agency cost explanation for dividends provides the following boundaries and motivation for this paper about dividend policy in Thailand:

Poor shareholder protection: In their multi country cross-sectional study, La Porta et al. (2000) find solid support for the outcome model. They find that companies in nations with better protection of minority shareholders have higher payouts. In addition, high-growth firms in higher-protection nations have lower payouts. The researchers observe lower payouts in countries with lower legal protection. Consistent with the outcome model, the authors interpret these findings as evidence that investors in low-protection countries have no legal mechanisms to force higher payouts; the minority shareholders are at the mercy of the controlling shareholders. This model is assumed to apply in Thailand.[1] As Thailand is a country deemed to have poor shareholder protection, the theoretical prediction is that, in the absence of

[1] Figure 3 (p. 24) in La Porta et al. (2000) shows a negative relation between payout and growth for Thailand, albeit for a very small sample of 10 firms. This is taken as evidence that the outcome model does apply.

other factors which mitigate agency problems, there should be no relation between dividend payout and growth opportunities.

Presence of dominant owners, concentrated ownership, and ultimate controllers: Family-owned, family managed companies are the norm in Thailand, as was documented above.

Control-enhancing structures relatively rare: Among Thai public companies, the deviation between control (voting) rights and ownership (cash flow) rights is fairly low. See Claessens et al. (2000). As cash flow rights rise (i.e. the cash flow rights / voting rights ratio rises, approaching one), there is less expropriation by a majority owner. This is because more of the money of the majority owner – in this case, family owner/managers – is directly at risk from the investments the firm has made. They also show that the incidence of pyramids and cross-holdings are the lowest for Thai firms in their sample of nine East Asian countries. The ratio of cash flow rights to voting rights for Thailand is 0.941, the highest ratio among the nine East-Asian countries surveyed.

Dividends not needed as substitute for communication: High levels of dividends can act as a substitute for communication between shareholders and managers since managers must then interact with shareholders (Aivazian et al. (2003)). However, there would be no need for interaction between managers and shareholders if a firm had a controlling owner owning a significant stake in the firm. This also implies a reduced or non-existent need to signal because the majority owners are insiders and would thus be intimately familiar with the firm and its prospects.

Based on the points above, the theoretical prediction is that agency conflicts between shareholders and managers are lower at firms with high family ownership (a family is the controlling shareholder) compared to low family ownership firms[2]. As a result, we predict higher dividend payout ratios for firms with high family ownership. In contrast, shareholders of firms with low family ownership (and firms considered to be widely held, with outside, professional management) Thai firms cannot force the managers to pay out dividends due to poor shareholder protection. The outcome hypothesis leads to this conclusion.

[2] The vast majority of Thai public companies have some level of family ownership. We include widely held firms (no ultimate controller; professional, outside management) in the group of low family ownership firms.

For the same reasons, among Thai firms with high family ownership, there should be a negative relation between growth opportunities and dividend payout, since a dominant owner would be in the position to dictate a rational dividend policy.[3] In a similar vein, dividend payouts at a low family ownership firm may not exhibit the negative relation to growth opportunities as predicted by agency theory. In a weak shareholder protection environment, shareholders would have little power to force managers at a low family ownership firm to disgorge cash, even if the firm has few growth opportunities.

With respect to financing constraints, financing constraints can be thought of as the absence of internally generated cash flows (Cleary, 2005). Should a firm have an insufficient amount of cash to pay a dividend, a firm has two choices to free up the cash needed to pay shareholders: forego investment or raise additional capital by borrowing or selling new equity. Facing a financing constraint, a firm with high family ownership would not choose to reduce profit-making investments. The family would maintain a rational investment policy and avoid the underinvestment problem (Myers and Majluf, 1984). Similarly, a high family ownership firm could secure additional debt funding, but the firm would be subjected to prohibitive funding costs, plus additional monitoring by lenders and the associated monitoring costs.[4] Lastly, a firm could raise additional equity funding. However, a firm with high family ownership would be hesitant to raise additional funds possibly because of the issue costs, but more likely because of the loss of control.[5]

The same boundaries would impinge on the managers of low family ownership firms. In contrast with the actions of high family ownership firms, managers of a low family ownership firm may be more likely to underinvest and free up cash for dividend payments. However, the issuing costs of new debt or new equity,

[3] A dominant owner could pay excessive dividends and forego needed value-creating investments (the underinvestment problem, described by Myers and Majluf, 1984). However, an excessively high dividend payout would mean the personal wealth of the owner/family would be reduced because the firm would forego the wealth-creating investments. The underinvestment would make the family member(s) worse off since much of the wealth is derived from the market value of the company they own and manage. Ideally, "the wedge", i.e. the cash flow rights to voting rights ratio, could be employed as an explanatory variable to show the relation more clearly.

[4] The public debt market in Thailand is considered small and relatively illiquid. Only a small number of public companies have issued public debt.

[5] This idea is supported by the observation that seasoned equity offerings (SEOs) are extremely rare occurrences among Thai firms.

notwithstanding the subsequent increase in monitoring by investment bankers, creditors, and new equity holders, would overshadow any decision to raise additional external capital. The theoretical predictions are thus a negative relation between financing constraints and dividend payouts for both low family ownership firms and high family ownership firms.

The theoretical predictions between dividend payments, growth opportunities, and financing constraints are summarized in the table below:

	Theoretical Prediction for Variable of Interest Concerning:		
Type of Firm	**Agency Conflicts**	**Growth Opportunities**	**Financing Constraints**
High Family Ownership	Lower; thus higher dividend payout	Negative relation with dividend payout	Negative relation with dividend payout
Low Family Ownership	Higher; thus lower dividend payout	No relation with dividend payout	Negative relation with dividend payout

2. Previous Empirical Research on Dividend Policy

2.1 Ownership Characteristics and the Connection to Dividend Payout Policy

In a study of US firms, Rozeff (1982) finds that dividend payouts are higher at firms where outside owners hold a larger share of the equity and if ownership is more diffuse. This result is consistent with the agency cost explanation of dividends. Rozeff (1982) also notes a relation between dividends and investment policy. He observes that, all else equal, firms with greater investment have lower observed dividend payouts. However, the results by Rozeff (1982) may not be relevant for emerging markets, due to the high costs of external financing in underdeveloped capital markets, the lack of shareholder rights and the prevalence of family ownership.

There are few studies examining the relation between ownership and dividend policy for firms in Asia. Several aggregate studies and a handful of single-country studies have helped illuminate the relation between ownership characteristics

and dividend policy. These studies take an agency cost viewpoint as the motivation for dividend payments.

Faccio et al. (2001) consider the use of dividend payments as a means to limit opportunities for expropriation of minority shareholders at the hands of controlling owner/managers. In contrast with LLSV (2000), Faccio et al. (2001) argue the existence of an equilibrium with no expropriation. Were the potential for expropriation to exist, investors would recognize this potential and require a higher rate of return or refuse to contribute capital. A firm's dividend policy can soothe the concerns of investors whereby managers make a long-term commitment to investors. Their study uses the deviation of cash flow rights from the voting or control rights to measure the severity of the agency conflict. They measure the severity of the agency conflict as the ratio of ownership (voting or control) rights to cash flow rights. From their sample of European and Asian firms, the authors observe higher dividend payments where the agency conflicts are greatest. In their paper, Faccio et al. (2001) state that higher dividend payments show a resolution of the agency conflict. Higher dividend rates are noted in Europe, which reduces expropriation. However, lower dividend rates in Asia make expropriation worse, especially through use of corporate pyramids.

2.2 Ultimate Controllers and the Influence over Dividend Policy

Several recent papers examine the extent to which dominant owner(s) can affect dividend policy. A study by Gugler (2003) yields some insights into the ways owners of a significant portion of the outstanding shares appear to affect dividend policy. The target level of dividend payments, the hesitance to reduce dividends, and the smoothing of dividends over time are found to be related to the type of controlling shareholder. There are a total of Austrian 214 firms in the study and Gugler finds that family firms are least reluctant to reduce dividends and family firms do not smooth dividend payments.

Correia da Silva et al. (2004) highlight the possibility that managers may use a firms' dividend policy differently if firm ownership is not widely dispersed. Dividends may serve a number of functions besides a means of providing a return to shareholders. On one hand, dividends may be used to augment control over a firm's free cash flow, making a direct link to lower agency costs and improved corporate

governance. Secondly, dividends may be used by controlling shareholders as a means of compensation (Correia da Silva et al., 2004; Chen et al., 2005).

Goergen et al. (2005), in their study of German firms, find that the control and ownership structure of a firm does influence dividend policy. The results by Goergen et al. (2005) also show that earnings (specifically, a net loss) has a significant effect on the dividend omission decision but the level of net income is not correlated with the omission decision. They conclude that shareholders have less need for dividends as a monitoring device. The authors argue that banks, which directly or indirectly own a large portion of the voting rights, act as monitors instead. The control of firms by other categories of owners, including families, does not affect the dividend payment decision. They also find that the absence of a large shareholder owning at least 25% has no effect on the dividend decision. These results are in marked contrast to findings by Gugler (2003). Goergen, et al. (2005) attribute this contradictory finding to some sharp differences in the samples. Only one-fifth of the firms in Gugler's (2003) were publicly traded; minority shareholders may be virtually absent at private firms. In addition, private firms are more likely to be family owned and thus the dividend decision could be more flexible.

Chen et al. (2005) examine a sample of 412 Hong Kong public non-financial companies spanning 1995-1998. For the whole sample and a sub sample of large firms, the authors note no relation between ownership concentration and firm value or operating performance. However, for small firms, the authors find a positive relation between family ownership and dividend yield. However, they observe this relation only when the family ownership percentage is between 10 – 35 percent. Small, family-controlled firms also show a lower sensitivity of dividend payouts to performance. The authors note that this one finding can be used to draw two different conclusions. The finding is consistent with the idea that investors demand higher dividend payouts from firms with greater expropriation risk. The finding is also consistent with the idea that the dividend payments paid by family-controlled firms are a way for the dominant owners to extract cash, possibly as additional compensation. The extraction of cash could potentially lead to underinvestment.

To summarize and synthesize, the empirical evidence from studies of US, European, and Asian firms supports the theoretical predictions in these areas:

1. Dividends lower agency costs by removing excess cash from the hands of managers. This limits the expropriation opportunities of controlling shareholders. 2. Firms with more investment (growth) opportunities pay lower dividends. However, the extent of shareholder protection influences the ability of minority shareholders to force dividend payouts.

3. Methodology for Dividend Policy Analyses

Based on the theoretical framework described in the preceding section, the following general model will be used corroborate the theoretical predictions for dividend payout and other variables:

POR = f (growth opportunities, financing constraint, family ownership level, profitability, leverage, size) *(1)*

where POR, the dependent variable, is a measure of dividend payout. From the theoretical background, the expected signs for dividend payout ratio are:

Family Ownership Level	Growth Opportunities	Financing Constraint	Profitability	Size	Leverage
High	(-)	(-)	(+)	(+)	(-)
Low	No relation	(-)	(+)	(+)	(-)

In Equation (1), variables for profitability, size, and leverage are added as controls. As theorized by Lintner (1956), as earnings rise, the dividend payout rises as well. The inference from this relation is that firms which are more profitable distribute more of their profits as dividends. Therefore, the expected relation between dividend payout and profitability is positive. The next control variable is the logarithm of total assets, which controls for firm size. As cited in Hall and Weiss (1967), Baumol (1959) contends that "increased money capital will not only increase total profits of the firm … [but] it may very well also increase its earnings per dollar of investment". Hall and Weiss (1967) assert that Baumol's (1959) contention comes from the idea of returns to scale, implying a positive relation between size and profitability. As mentioned earlier, firms which are

more profitable would have more profits to pay to shareholders. Thus, the expected relation between dividend payouts and size is positive. Lastly, leverage is added as a control variable as well. As mentioned earlier, debt can reduce the agency costs of outside equity (Jensen and Meckling, 1976; Jensen, 1986). Easterbrook (1984) makes a theoretical example. He offers an example where firms make dividend payments in order to force managers to raise additional debt. Managers must return to the capital market whereby they are monitored by suppliers of capital and forced to submit to market discipline. This agency cost-related theoretical argument implies that debt and dividends are substitutes. Thus, the expected sign for leverage is negative.

Previous empirical findings for the size, profitability, and leverage control variables – pertaining to dividend payout – are consistent with the theoretical predictions. Lintner (1956) finds that dividends are positively related to profitability, using a small sample of large US firms. Hall and Weiss use a sample of the 400 largest non-financial US firms covering 1956 to 1962. They find a positive relation between size and profitability. Fama and French (2001) examine a nearly comprehensive sample of US firms from 1963 to 1998. In their words, they find "…three characteristics affect the decision to pay dividends: profitability, investment opportunities, and size. Larger and more profitable firms are more likely to pay dividends. Dividends are less likely for firms with more investments (p. 4)". Lastly, Jensen, et al. (1992) find that for US firms, companies trade off dividend payments with fixed financial obligations; the observed relation between dividend payout and leverage is negative. However, while other researchers have documented a negative relation between leverage and payout ratio, Fama and French (2002) show no relation between leverage and payout for their very large sample of US firms.

The specific models used to test the hypotheses are as follows. The first model is a univariate model, which includes a dummy variable (D_FAMILY_25). The dummy variable equals one if the firm has high family ownership.

$$POR_{i,t} = \beta_1 + \beta_2\, High\ Family\ Ownership\ Dummy_{i,t} + \beta_3\, Growth\ Opportunities_{i,t} + \beta_4\, High\ Family\ Ownership_{i,t} * Growth\ Opportunities_{i,t} + \varepsilon_{i,t} \qquad (2)$$

Equation 2 includes an interaction term between the proxy for growth opportunities and the high family ownership dummy. The purpose of the interaction term is to isolate the effect of high family ownership on growth opportunities.

The second, or full, model is the same as Equation 2, but with the addition of control variables for financing constraints, profitability, size, and leverage, plus dummy variables for industry and year:

$$POR_{i,t} = \beta_1 + \beta_2\, High\ Family\ Ownership\ Dummy_{i,t} + \beta_3\, Growth\ Opportunities_{i,t} + \beta_4\, High\ Family\ Ownership_{i,t} * Growth\ Opportunities_{i,t} + \beta_5\, Financing\ Constraints_{i,t} + \beta_6\, Profitability_{i,t} + \beta_7\, Size_{i,t} + \beta_8\, Leverage_{i,t} + Year_{i,t} + Industry_{i,t} + \varepsilon_{i,t} \quad (3)$$

4. Descriptions of Variables – Dividend Policy Model

This study focuses on regular cash dividends paid to common shareholders; cash payments made as 'special dividends' or other cash distributions of shareholder capital are excluded, as are stock dividends, rights, warrants, or any other non-cash distribution. Dividends paid to preferred stockholders[6] are also not included in the total amount of dividends paid.

The construction of the dependent variable, the dividend payout ratio, merits a special discussion. Some subtleties of Thai company law limit the ability of a firm to pay dividends. Therefore, the method used to construct the payout ratio variable must be carefully considered.

This study, as with many prior studies using payout ratio, constructs the ratio based on dividends and earnings in year *t*. I adjust the method used to construct the dividend payout ratio because of the dividend paying habits of Thai firms. More than

[6] Though now not commonly used by Thai public companies, preferred shares are may come into wider use in the future.

half of dividend-paying Thai listed companies pay dividends only one time a year, unlike firms in the US and other countries.[7] Often in prior studies, the payout ratio is recorded as zero if a firm does not pay a dividend. However, Thai law stipulates that dividends must be paid out of profits. A firm with an accumulated loss may not distribute dividends. This means that some firms may not be explicitly choosing to have a zero payout policy; they are legally barred from paying dividends since they have an accumulated loss. To address this issue and ensure the payout ratio is correctly set, it is necessary to determine first if a firm is able to pay a cash dividend before calculating the appropriate payout ratio. We use a decision hierarchy[8] to determine each firms' ability to pay a dividend.

Once the ability to pay has been established, the payout ratio can be calculated. If a firm is unable to pay a dividend, the payout ratio is set as missing – rather than zero – and the firm year observation is not included in the sample. If a firm is able to pay, but chooses not to pay a dividend, the payout ratio is equal to zero.

Dividend payout is measured three ways: a measure based on operating income, a measure based on cash flow, and a measure scaled by revenue. POR_NOI is the cash dividends paid in year *t* divided by net operating income (NOI) in year *t*. Net operating income is defined as revenue minus all operating expenses. Taxes, interest expense, extraordinary items, and preferred stock dividends are not included as operating expenses. POR_CF2 is the cash dividends paid in year *t* divided by the sum of aggregate earnings[9] plus depreciation expense in year *t*. POR_SALES is the cash dividends paid in year *t* divided by sales in year *t*.

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[7] For Thai public companies, dividends are typically declared not long after the beginning a new fiscal year. The dividend decision is approved in turn by the board and shareholders three or four months after the end of the fiscal year. The cash is then distributed to stockholders. Some Thai firms pay interim dividends (two or more times a year) but this not commonly done.

[8] If the total cash dividend paid by a firm in fiscal year *t* is greater than zero, the firm is assumed to be able to pay, as the company would be breaking the law otherwise. If the firm has an accumulated loss (retained earnings at the end of fiscal year *t-1* are less than zero) and net income after tax is positive in period *t*, then the firm is judged to be able to pay. The ability to pay a dividend hinges on the net profit earned in year *t*. The net profit in year *t* may be sufficient to erase the accumulated loss and leave enough profit to be distributed to shareholders as a dividend during year *t*. If retained earnings at the end of fiscal year *t-1* are less than zero and net income after tax is negative in period *t*, then the firm is judged to be unable to pay a dividend.

[9] Aggregate earnings is defined as revenue minus all expenses, including interest and taxes, but before preferred dividends (if any) and extraordinary items.

We make one adjustment to address negative dividend payout ratio values for POR_NOI and POR_CF2. In some years, some firms have a negative payout ratio, which means the firm paid a dividend when it recorded a loss. In other studies, firm-year observations with a negative payout ratio are often deleted from the sample. However, in this study, any negative payout ratios are reset to the 90th percentile and the firm-year observation included in this study. The reason the negative payout ratios are reset to the 90th percentile is because we strive to see the influence of managerial control (be it the managers high family ownership firms or the managers of a low family ownership firm) on the choice to pay a dividend. Thus, if a firm has a loss and yet chooses to pay a dividend, the managers are making a conscious policy choice. This adjustment applies to two payout ratios: POR_NOI, the payout ratio using net operating income, and POR_CF2, the payout ratio using cash flow. The third payout ratio, based on sales[10] cannot be negative and thus no adjustments are made to these payout values. Table 1 presents the variables used in the analyses surrounding dividend policy.

Insert Table 1 about here

Two proxies measure growth opportunities. TA_GROWTH3 is the compound annual growth rate of the change in total assets from the end of three years before year *t* to the end of year *t*. SLS_GROWTH3 is the compound annual growth rate of the change in sales from the end of three years before year *t* to the end of year *t*. D_FAMILY_25 is a dummy variable that equals one if the firm has high family ownership (meaning a family is the ultimate controller, with 25 percent or greater family ownership through chain of control), and zero otherwise. KZ_SCORE is a measure of financing constraint. We use discriminant analysis to construct the KZ_SCORE. Appendix A contains the methodology we use to calculate the measure of financing constraint.

[10] LaPorta et al. (2000) use the ratio of dividends to sales as one of their payout ratio measures. The authors note earnings-based payout ratios are subject to some problems such as accounting conventions, earnings manipulation or earnings smoothing.

We include four control variables: one controlling for profitability, a second to control for firm size, and two variables to control for the effect of leverage. EBIAT_TA, the profitability control measure, is the ratio of earnings before interest but after tax (EBIAT) divided by total assets. SIZE_TA is the natural logarithm of total assets at the end of the fiscal year. The two control variables for leverage are TD_TA and LTD_TA. TD_TA is the book value of total interest-bearing debt (including short-term financing) divided by total assets. LTD_TA is the book value of long-term debt due in more than one year divided by total assets. We also include dummy variables for year and industry classification, to control for time effects and for industry-specific effects. There are a total of nine year dummy variables (2002 -2010, with 2001 excluded and used as the reference year) and a total of 21 industry dummy variables (with "Other" excluded and used as the reference industry).

5. Description of Sample and Data

This study uses a unique dataset describing the ownership characteristics of non-financial public companies in Thailand covering 2001 – 2010. Subsequent years were not made available to us. Company financial data, including dividend payments, are obtained from Datastream, published by Thomson Financial, and from the Stock Exchange of Thailand using the SETSMART data service.

To be included in the sample, a firm must have a complete set of the needed financial and ownership (ultimate controller) data available for a given year in the sample period, 2001 through 2010. Firms entering or leaving the stock market during a year are not included, as the financial data will not cover a complete fiscal year. As noted in the previous section, missing values are recorded for the dividend payout variables in the years when a firm is unable to pay a dividend.

The completed dataset contains 2,104 observations. The data are winsorized at the 1st and 99th percentiles to eliminate extreme values that might bias the results. Table 2, Panel A, presents the descriptive statistics for the variables used in this study, for the whole sample. The three payout ratios, POR_NOI, POR_CF2, and POR_SALES show a significant amount of variation across the sample. The net operating income payout ratio (POR_NOI) has a maximum value of 650 percent, and a minimum value

of zero. The mean value is 55.4 percent while the median value is 34.8 percent. The cash flow-based payout ratio, POR_CF2, is much lower, with mean and median values of 27.2 percent and 21.6 percent respectively. The dividend as a percentage of revenue payout ratio (POR_SALES) is lower still, with a mean value of 4 percent and a median value of 2 percent.

Insert Table 2 about here

On average, publicly traded Thai non-financial services firms over the 10-year sample period in this study show solid growth in total assets and sales. The mean values of the three-year compound growth rate in total assets (TA_GROWTH3) ranges from -24 percent to +80 percent, with mean and median values of 8.1 percent and 5.1 percent respectively. The three-year compound growth rate in sales (SLS_GROWTH3) has a much wider range: from a high of 110 percent to a low of -35 percent, with a mean value of 11 percent.

The measure of financing constraint, KZ_SCORE, has an inverse scale. That is, the higher the value, the *less financially constrained* the firm. The KZ_SCORE ranges from a low of -8.053, indicating a severe financing constraint, to a high of 13, which signifies very little financing constraint.

Thai firms show reasonable profitability, as the mean value of earnings before interest but after tax scaled by total assets (EBIAT_TA) is 6 percent. Leverage, as measured by the ratio of total debt to assets or TD_TA, is 25.4% on average. Some firms have no debt, while the maximum value is nearly 86 percent. The values for the long-term debt to assets ratio (LTD_TA) show a similar range, but the average value is just under 11 percent (10.7).

Panel B of Table 2 shows the full sample, split according by whether the firm has low family ownership or high family ownership (family as the ultimate controller at the 25 percent ownership cutoff level). The largest portion of the sample, 71 percent or 1,493 observations, are firm-year observations for high family ownership firms. Slightly less than 30 percent of the sample (611 observations) are from low family ownership firms.

The differences between the two types of firms start to stand out. On average, high family ownership firms have higher payout ratios, are less financially constrained, are more profitable, slightly smaller, and use less leverage. In terms of growth opportunities, high family ownership firms have a lower average growth rates in total assets and sales.

6 Results

Table 3 presents formal tests of the differences in means and medians between the high family ownership and low family ownership firms. As shown in Panel A of Table 3, the differences in all three payout ratios are statistically significant at the 1 percent level: high family ownership firms have higher payout ratios.

Insert Table 3 about here

The differences in growth opportunities are not consistent between the two types of firms. For example, using one proxy for growth opportunities, low family ownership firms have on average a higher three-year growth rate in sales. However, there is no statistically significant difference between the two types of firms when considering a second proxy for growth opportunities: the three-year growth rate in total assets. The mean value for SLS_GROWTH3 is 12.6 percent for low family ownership firms versus 10.4 percent for high family ownership firms. The difference is significant at the 5 percent level. The difference in the growth rate of total assets (TA_GROWTH3) is not statistically significant.

The observed differences in financing constraint, profitability, and leverage are also shown to be statistically significant at the 1 percent level. High family ownership firms have less financing constraints, are more profitable, and use less leverage. Panel B of Table 3 repeats the analysis, using the median values of low family ownership and high family ownership firms. The results are nearly identical to the results in Panel A, except there is no statistically significant difference between the

median values of growth opportunities for low family ownership and high family ownership firms.

Table 4 contains the univariate regression results from Equation (2). The dependent variables in these regressions are the three measures of dividend payout. The first variable of interest is the dummy variable, D_FAMILY25. This dummy variable equals one if a firm is a high family ownership firm and zero otherwise. The univariate regression results show that the high family ownership dummy variable is positive and significant at the 1 percent level or better in all six regressions. The positive coefficient for the high family ownership dummy variable is consistent with the expected sign. The result holds no matter which dividend payout ratio value is used. This result is clear evidence that high family ownership firms pay higher dividends than low family ownership firms.

Insert Table 4 about here

The next two variables of interest are the two proxies for growth opportunities: growth in total assets (TA_GROWTH3) and growth in sales (SLS_GROWTH3). The univariate regression results in Table 4 show the coefficient for POR_NOI is not significant in two of the regressions, Model 1 and Model 4. However, Models 2, 3, 5, and 6 each show a positive relation between growth opportunities and the payout ratio, when the cash flow-based (POR_CF2) and sales-based (POR_SLS) payout ratios are the dependent variables. For these two dividend payout ratios, the results hold whether the proxy for growth opportunities is measured by the growth rate in total assets or sales. However, the positive coefficient is the opposite of the expected sign. The anticipated relation between payout ratio and growth opportunities was negative for high family ownership firms, and no relation (neither positive nor negative) for low family ownership firms. These results show that firms with more growth opportunities have a higher payout ratio, no matter if the dividend payout ratio is measured based on cash flow or sales.

The third variable of interest is interaction term, growth opportunities multiplied by the high family ownership firm dummy. The expected sign is negative,

and the results in Table 4 are largely consistent with this expectation. The coefficient for the interaction term is negative and significant in five of the six regressions. The interpretation of this finding is that high family ownership firms with growth opportunities have slightly lower dividend payout ratios, on average, than low family ownership firms. However, the magnitude of the coefficient for this variable is quite small. The mean values of growth opportunities, measured as percentages, are also quite small.[11] Thus the value of the interaction term for high family ownership firms would not reduce the payout ratio by much.

An example is instructive, using the results from the univariate regressions in Table 4. Using Equation (2), and substituting in the regression coefficients from Model 2 (cash flow payout ratio), the equation is:

CF2_POR = 0.211 + 0.075 (Family Dummy) + 0.226 (Growth Opportunities)

*- 0.181 (Family Dummy * Growth Opportunities interaction term)*

One measure of growth opportunities is the three-year growth rate in total assets or TA_GROWTH3. The mean value for TA_GROWTH3, taken from the whole sample, is 0.081. The mean value for TA_GROWTH3 is 0.081. Thus, the model predicts these payout ratios:

For a low family ownership firm, the value of the family dummy variable is zero:

CF2_POR = 0.211 + 0.075 (0) + 0.226 (0.081) – 0.181 (0)

CF2_POR = 0.2293 or 23%

For a high family ownership firm, the value of the family dummy is one:

*CF2_POR = 0.211 + 0.075 (1) + 0.226 (0.081) – 0.181 (1*0.081)*

CF2_POR = 0.2896 or 29%

A similar calculation using SLS_GROWTH3 as the proxy for growth opportunities yields a similar difference in the predicted payout ratio.

[11] For example, Table 2 shows that the mean value of TA_GROWTH3 is 0.081 (8.1 percent) for the full sample (8.5 percent for low family ownership firms; 7.9 percent for high family ownership firms). The average value for SLS_GROWTH3 is 11 percent for the full sample (12.6 percent for low family ownership firms; 10.4 percent for high family ownership firms).

Looking at the results from Tables 3 and 4, a few observations stand out. On average, the dividend payout ratios at high family ownership firms are greater than the ratios at low family ownership firms, irrespective of which dividend payout ratio measure is used. This result is consistent with the theoretical prediction. Next, on average, firms with growth opportunities have higher payout ratios, irrespective if the firm is a low family ownership or high family ownership firm. This is not consistent with the theoretical prediction. In fact, the result is the opposite of the theoretical prediction. Lastly, high family ownership firms with growth opportunities have *higher* payout ratios compared to low family ownership firms with growth opportunities. As shown in Table 4, the coefficient of the interaction effect of growth opportunities and payout is negative. However, the dominant fact is whether a firm is a high family ownership firm. The net effect is illustrated by the preceding numerical example. The positive coefficient for the high family ownership firm dummy (D_FAMILY_25) means a higher payout ratio. The negative coefficient of the interaction effect of growth opportunities lowers the dividend payout ratio by a small amount. Though the reduction in the payout ratio is quite small, the amount of the reduction is statistically significant[12]. This result is not consistent with the theoretical prediction that high family ownership firms with growth opportunities have lower payout ratios than low family ownership firms.

The univariate regression results in Table 4 provide the first evidence that the *substitution hypothesis* holds for Thai public companies. LLSV (2000) note that a high growth firm may have either a high payout or a low payout, under the terms of the substitution hypothesis. Under the assumption that Thailand is a *low shareholder protection* country, the univariate regression results in Table 4 are consistent with LLSV's (2000) contention. High growth firms may choose to pay higher dividends than

[12] In Table 4, Model 2, for the cash-flow based payout ratio, the coefficient value for TA_GROWTH3 is 0.226, while the coefficient value for the high family ownership firm dummy is 0.075, and the coefficient value for the interaction term (growth opportunities * family firm dummy) is -0.181. The fact that a firm is a high family ownership firm raises the payout ratio for a high family ownership firm by 0.075, while the interaction term *reduces* the payout ratio for the average high family ownership firm by 0.015: or -0.0147 = (-0.181) * 0.081, given that the mean value of TA_GROWTH3 equals to 0.081 for the whole sample. The net effect means that high family ownership firms with growth opportunities have a payout ratio *higher* than low family ownership firms with growth opportunities. The payout ratio for high family ownership firms with growth opportunities is, on average, 0.075 – 0.0147 = 0.0603 or 6 percent higher than low family ownership firms with growth opportunities.

firms with poor growth opportunities. The high growth firms do this to establish a reputation for not exploiting shareholders.

The next step in the analysis is to examine more closely the relation between payout ratios and growth opportunities. Table 5 provides a deeper insight into the differences in means shown in Table 3 and the univariate regression results in Table 4. In Table 5, the sample is divided in two dimensions: by the median value of growth opportunities, and by the level of family ownership (high versus low). One payout ratio is shown, the payout ratio based on net operating income (POR_NOI).[13] Two different measures of growth opportunities are presented, one each in Panel A and Panel B. Panel A uses the three-year growth rate in total assets (TA_GROWTH3) as the proxy for growth opportunities. Panel A shows low family ownership firms have a lower dividend payout ratio overall, based on POR_NOI. Looking at the first main effect (ownership, or low versus high family ownership), the mean value of POR_NOI is 0.444 for low family ownership firms versus 0.599 for high family ownership firms; the difference is significant at the 5 percent level or better. However, the second main effect (high or low growth opportunities, irrespective of ownership classification) shows no difference in the payout ratios between firms with high and low growth opportunities. The mean payout ratio of firms (both low family ownership and high family ownership) with low growth opportunities is 0.521, while the mean payout ratio of firms (both low and high family ownership) with high growth opportunities is 0.588. This difference is not statistically significant.

Insert Table 5 about here

Panel B tells a different story. Panel B repeats the same analysis using the three-year growth rate in sales as the proxy for growth opportunities. In Panel B, the second main effect shows a statistically significant difference in payout ratio between firms with high and low growth opportunities. The mean payout ratio of firms (low and high family ownership combined) with low growth opportunities is 0.610, while the mean payout ratio of firms (both low and high family ownership together) with high

[13] The analysis was repeated with the other two payout ratios and the results are qualitatively similar.

growth opportunities is 0.499. This difference is statistically significant at the five percent level or better. In addition, Panel B shows an interesting "within group" effect. High family ownership firms with low growth opportunities have a mean payout ratio of 0.659 while high family ownership firms with high growth opportunities have a mean payout ratio of 0.538. This difference is statistically significant at the five percent level or better.

Taken together, the results in Table 5 tell a mixed story. The observed relation between payout ratio and growth opportunities appears to depend on the proxy used to measure growth opportunities. For example, the growth in total assets measure shows no difference in the payout ratio between the high and low growth opportunities firms (Panel A). However, the difference between these two same groups is statistically significant when the growth rate in sales is used as a proxy (Panel B). The within-groups effects are not observed, except in Panel B, when comparing the payout ratios of high family ownership firms with high and low growth opportunities. The within-group difference is only observed with the growth rate in sales as the proxy for growth opportunities.

A multivariate regression analysis, with additional control variables, can help further illuminate the relation between payout ratio, family ownership, and growth opportunities. Table 6 presents the Pearson correlation coefficients between the variables used in the regression analyses. The correlations between the different measures of the dividend payout ratio are quite high. However, each of these variables are used the dependent variable in a regression. In general, the values of the correlation coefficients among the predictor variables are low, implying that multicollinearity will not be a problem.

Insert Table 6 about here

Table 7 contains the regression results for Equation (3), the full model. The results from six models confirm that high family ownership firms have higher payout ratios. The dummy variable D_FAMILY25 is positive and significant in all six

regressions. This finding is robust, even after including in the regression models a number of control variables, plus control variables for time (year) and industry.

Insert Table 7 about here

However, the results for the full models show a different relation between payout ratios and growth opportunities, when compared to the univariate regressions in Table 4. The coefficient for TA_GROWTH3 is negative and significant only in Model 3, while the coefficient for SLS_GROWTH3 is negative and significant in Model 6. These results match the theoretical prediction of a negative relation for payout ratio and growth opportunities, but the evidence is weak, since the coefficient is significant in only two out of six models.

The coefficients of one interaction term, TA_GROWTH3 multiplied by the family control dummy, are not significant in Models 1, 2, and 3. To recap, the predictions were as follows: a negative relation between growth opportunities and payout ratio for high family ownership firms, and no relation for low family ownership firms. The findings are not consistent with the theoretical prediction for high family ownership firms, but do match the prediction for low family ownership firms. The interaction term is significant in Models 4 and 5, when SLS_GROWTH3 is multiplied by the high family ownership dummy. This finding matches the theoretical prediction for high family ownership firms. However, the evidence is mixed on balance, as only two of six models show the expected sign.

Looking at the control variables, the coefficient for KZ_SCORE is positive and significant in all six regressions. This is the expected sign, meaning firms with lower financing constraint have higher payouts. The regression coefficient for the profitability control variable, EBIAT_TA, is negative and significant in Models 1 and 4, but positive and significant in Models 3, 5, and 6. These results are mixed. The sign is expected to be positive, indicating that more profitable firms have higher payouts. The last two control variables, for size and leverage, show the expected signs in all six regressions. The coefficient for SIZE_TA is positive and significant, as expected, because larger firms have been shown to have higher dividend payouts. The coefficient

for leverage, TD_TA, is negative and significant in all six regressions, as expected, since firms with higher levels of debt typically have lower dividend payouts.

The results in Table 7 show only weak evidence of a relation between growth opportunities and dividend payout. Only one payout measure (POR_SALES) consistently shows the predicted negative relation between growth opportunities and payout, in Models 3 and 6. The interaction term between growth opportunities and high family ownership also shows weak evidence. The coefficient of the interaction term is negative and significant in two of the six models.

The regression results in Table 7 confirm one relation that was suggested in Table 4: high family ownership firms have higher payout ratios, even after a number of control variables are included. The coefficient for the high family ownership dummy variable (D_FAMILY_25) is positive and significant at the 95 percent level or better in Models 1 through 6.

However, the regression results in Table 7 do not reveal a clear relation between payout ratio and growth opportunities. Table 5 showed mixed results, and the same mixed results hold in Table 7. In Panel A of Table 5, there was no relation between the dividend payout scaled by net operating income (POR_NOI) and growth opportunities, when using asset growth as the proxy for growth opportunities. However, Panel B of Table 5 showed a negative relation between POR_NOI and sales growth. Panel B of Table 5 also showed a lower payout ratio for high family ownership firms with higher growth opportunities.

The results in Table 7 are mixed at best, confirming the mixed results shown in Table 5. Models 1 and 4 in Table 7 are directly comparable to the relations shown in Table 5. Specifically, Models 1, 2, 4, and 5 show there is no relation between growth in total assets (TA_GROWTH3) and the payout ratios based on net income (POR_NOI) and cash flow (POR_CF2). Model 3 and Model 5 shows a negative relation between growth opportunities and the payout ratio scaled by total sales (POR_SALES). In Models 1, 2, 3, and 6 the interaction term between growth opportunities and high family ownership firms is not significant in any regression. In Models 4 and 5, however, the interaction term is negative and significant, showing a negative relation between payout ratio and the level of family ownership.

The regression results, with controls for financing constraint, profitability, size, leverage, plus industry and year dummy variables, clearly show that high family ownership firms have higher payout ratios. This is consistent with the theoretical prediction. However, there is no relation between payout and growth opportunities. The theoretical prediction was a negative relation, so this finding is quite different than the predicted finding. Also, the relation between payout, level of family ownership, and growth opportunities is weak. The theoretical prediction is a negative relation; the findings do not conclusively match the theoretical prediction. There is some evidence that high family ownership firms with higher growth opportunities have lower payout ratios, but on balance the evidence is weak. There does not appear to be any consistent difference between the payout ratios of low family ownership firms and high family ownership firms when each type of company has higher growth opportunities.

7 Robustness Checks

We have completed a series of robustness checks on the previous results. The four robustness checks include two different econometric specifications: a Tobit model and a random effects model. We also repeat the previous analyses using a lower cutoff level to determine the extent of family ownership. Lastly, we repeated the analyses using a new ownership-wedge variable as proxy for the level of agency conflicts with firms. In the interest of space, these empirical results are not reported in this article, but are available from the authors upon request. Suffice it to say that the evidence in Section 6 above is generally robust through different econometric specifications, robust when the level used to determine the extent of family ownership (family control) is lowered to 10 percent of the outstanding shares, and robust to the inclusion of the ownership wedge as a proxy for the severity of agency conflicts.

8. Summary of Results, Synthesis, and Conclusions

The following two tables summarize our empirical findings. Table 8 confronts theoretical predictions with our empirical results and Table 9 summarizes the predicted and actual signs of the regression coefficients.

The results show high family ownership firms do have higher dividend payouts than low family ownership firms. The effect size is strong and the evidence is robust. The results hold through different econometric specifications. The results also hold if the level of family control is lower. For example, high family ownership firms have higher payout ratios whether the controlling owner cutoff level used to designate a high family ownership firm is set at 25 percent or lowered to 10 percent.

The theoretical prediction is that the agency conflicts between the managers and shareholders are lower at firms with high family ownership. Our results show high family ownership firms do have higher payout ratios. Thus, firms with a controlling shareholder (family) would be able to follow a more rational dividend policy. In contrast, the agency conflicts between managers and shareholders at a low family ownership firm are higher. Disgruntled shareholders would have little recourse to force managers to adopt a higher payout, especially in a nation with low shareholder protection.

In contrast, the results show no solid evidence of a relation between growth opportunities and dividend payout. This finding is not consistent with the predicted negative relation for high family ownership firms, but the finding is consistent with the predicted outcome of "no relation" for low family ownership firms. Further tests, with different types of econometric specifications, show no consistent relation between growth opportunities and payout. For high family ownership firms, the lack of a relation between growth opportunities and payout ratio means that there is no statistically significant difference in the payout ratios of low family ownership firms and high family ownership firms, when the firms are facing growth opportunities.

One implication of these findings is that the substitution hypothesis, put forth by LLSV (2000), does hold in Thailand. In low shareholder protection countries, like Thailand, the hypothesis predicts no relation between dividend payout and growth opportunities. High growth firms may have either a high payout or a low payout. As

LLSV (2000) note, high growth firms may pay higher dividends because they need capital, and want to demonstrate that they will not take advantage of shareholders. On the other hand, high growth firms may select a low payout because they want to reinvest to take advantage of their growth opportunities. The evidence (or rather, the *lack* of a clear relation between growth opportunities and payout) in my study provides support for the substitution hypothesis. The hypothesis holds for both high family ownership firms and low family ownership firms. A second implication for this finding is that both low family ownership firms and high family ownership firms pay out dividends no matter what growth opportunities they face. The finding is especially puzzling for high family ownership firms in particular, since high family ownership firms do not appear to follow a rational investment strategy. The high family ownership firms appear to prefer paying out cash instead of cutting back on dividends when the company has growth opportunities. Managers at high family ownership firms could be motivated to deviate from a rational investment strategy if the dividends they receive represent part of their compensation package. Correia da Silva, et al. (2004) and Chen et al. (2005) suggest that controlling shareholders use dividends as a means of compensation. The downside to this policy may lead to an underinvestment problem.

A final interesting result is the positive and significant coefficient for the wedge variable, used as one of the robustness tests. As shown in the results, high family ownership firms with pyramidal ownership structures have *lower* payout ratios than low family ownership firms and high family ownership firms which do not exhibit pyramidal ownership. High family ownership firms with wedge values less than one have more severe agency conflicts between the majority (family) owners and small shareholders. These firms exhibit a greater chance of expropriation of the minority shareholders at the hands of the major owners. At this type of firm, the managers set a lower dividend payout ratio, retaining cash inside the firm instead of paying out dividends to majority and minority shareholders. The pyramidal shareholding structure (wedge less than one) enables the controlling shareholder to retain control of company resources.

This finding is consistent with the findings of Faccio et al. (2001) for Thai companies. Faccio et al. (2001) find that for their sample of 137 Thai firms surveyed in

1997, affiliated corporations[14] in Thailand have a positive and statistically significant relation between the wedge (O/C ratio) and one dividend payout ratio measure (the other three measures are not significant). As Faccio et al. (2001) note:

> *Strikingly, […] corporations that are affiliated to groups at the 20-percent level exhibit a significantly positive relationship between O/C and one of the measures of the dividend rate. Thus, […] the controlling shareholders of corporations affiliated to groups at the 20-percent level that have a lower O/C ratio can pay lower dividends, leaving wealth within the corporation that they could expropriate by intragroup transactions.* (p. 67)

Our findings, when compared with the findings from Faccio et al. (2001) imply that the use of pyramidal ownership structures grew to be more widespread among Thai firms, at least when comparing their sample drawn in 1997 to my measurement of the wedge taken in 2005. We confirm their findings for firms which employ a pyramidal ownership structure: the managers set a lower payout ratio.

In conclusion, our evidence for agency conflicts, as manifested in dividend payouts, is consistent with the theoretical predictions for high family ownership firms and low family ownership firms. High family ownership firms have a lower level of agency conflict and thus have higher dividend payouts on average. In contrast, agency conflicts at low family ownership firms are higher, and dividend payouts are lower because shareholders have little or no means to force managers to increase the payout. The results also show support for the substitution hypothesis (LLSV, 2000). However, there are some lingering issues with the interaction of growth opportunities and payout. Specifically, high family ownership firms may have underinvestment problems, since high family ownership firms do not appear to pay lower dividends on average when they have greater growth opportunities.

[14] Faccio et al. (2001) use a 20 percent cutoff to determine an ultimate controller (group affiliation), and thus any resultant pyramidal ownership. We use a 25 percent cutoff.

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Table 1. Variables Used to Test Dividend Policy Hypotheses

Variables of Interest	Variable Name	Definition
Dividend payout ratios		
Dividend payout ratio	POR_NOI	Cash dividends paid in year *t* divided by net operating income (NOI) in year *t*. Net operating income is defined as revenue minus all operating expenses. Taxes, interest expense, extraordinary items, and preferred stock dividends are not included as operating expenses.
Dividend payout ratio	POR_CF2	Cash dividends paid in year *t* divided by the sum of aggregate earnings plus depreciation expense in year *t*. Aggregate earnings is defined as revenue minus all expenses, including interest and taxes, but before preferred dividends (if any) and extraordinary items.
Dividend payout ratio	POR_SALES	Cash dividends paid in year *t* divided by total revenue in year *t*.
Proxies for growth opportunities		
Change in total assets, 3-year rate	TA_GROWTH3	Compound annual growth rate of the change in total assets from the end of *t-3* to the end of year *t*.
Change in sales, 3-year rate	SLS_GROWTH3	Compound annual growth rate of the change in sales from the end of *t-3* to the end of year *t*.
Control Variables		
High family ownership firm dummy variable	D_FAMILY_25	Equals one if the firm is a high family ownership firm (25% or greater family ownership through chain of control), and zero otherwise
KZ Score	KZ_SCORE	Measure of financing constraint; calculated by discriminant analysis
Profits / total assets	EBIAT_TA	Ratio of earnings before interest but after tax (EBIAT) divided by total assets
Total assets	SIZE_TA	Natural logarithm of total assets at the end of fiscal year
Total debt / total assets	TD_TA	Book value of total interest-bearing debt (including short-term financing) divided by total assets
Long-term debt / total assets	LTD_TA	Book value of long-term debt due in more than one year divided by total assets

Table 2. Descriptive Statistics

Table 2 presents summary statistics of variables used in the study. The sample consists of non-financial services firms listed on the Stock Exchange of Thailand from 2001–2010. Financial services companies (banks, finance and securities companies, and insurance firms) are not included in the sample. The sample has been winsorized at the 1 and 99th percentiles to eliminate extreme values. Negative payout ratios have been set to 90th percentile. Panel A shows the full sample, while Panel B divides the sample depending on whether the firm has a family as the ultimate controller (high family ownership) or not (low family ownership). POR_NOI is the cash dividends paid in year t divided by net operating income (NOI) in year t. Net operating income is defined as revenue minus all operating expenses. Taxes, interest expense, extraordinary items, and preferred stock dividends are not included as operating expenses. POR_CF2 is the cash dividends paid in year t divided by the sum of aggregate earnings plus depreciation expense in year t. Aggregate earnings is defined as revenue minus all expenses, including interest and taxes, but before preferred dividends (if any) and extraordinary items. POR_SALES is the cash dividends paid in year t divided by total revenue in year t. TA_GROWTH3 is the compound annual growth rate of the change in total assets from the end of t-3 to the end of year t. SLS_GROWTH3 is the compound annual growth rate of the change in sales from the end of t-3 to the end of year t. D_FAMILY_25 is a dummy variable that equals one if the firm is a family firm (25% or greater family ownership through chain of control), and zero otherwise. KZ_SCORE is a measure of financing constraint. EBIAT_TA is the ratio of earnings before interest but after tax (EBIAT) divided by total assets. SIZE_TA is the natural logarithm of total assets at the end of the fiscal year. TD_TA is the book value of total interest-bearing debt (including short-term financing) divided by total assets. LTD_TA is the book value of long-term debt due in more than one year divided by total assets.

Panel A

Variable	Mean	Median	Std Dev	Maximum	Minimum	Skewness	Kurtosis
POR_NOI	0.554	0.348	0.871	6.500	0.000	4.377	24.713
POR_CF2	0.272	0.216	0.288	1.400	0.000	1.421	2.402
POR_SALES	0.040	0.020	0.056	0.300	0.000	2.420	6.818
TA_GROWTH3	0.081	0.051	0.161	0.800	-0.240	1.782	5.154
SLS_GROWTH3	0.110	0.080	0.212	1.100	-0.350	1.724	5.668
KZ_SCORE	2.116	1.755	2.322	13.000	-8.053	0.796	3.529
EBIAT_TA	0.060	0.064	0.088	0.300	-0.340	-1.260	5.307
SIZE_TA	14.761	14.583	1.304	19.081	11.220	0.439	-0.065
TD_TA	0.254	0.230	0.213	0.857	0.000	0.431	-0.856
LTD_TA	0.107	0.039	0.143	0.811	0.000	1.596	2.345

There are 2,104 firm-year observations.

Panel B

	N	Variable	Mean	Median	Std Dev	Max	Min	Skewness	Kurtosis
Low Family Owner-ship	**611**	POR_NOI	0.444	0.257	0.738	6.500	0.000	4.831	33.149
		POR_CF2	0.230	0.164	0.271	1.400	0.000	1.528	3.008
		POR_SALES	0.031	0.013	0.047	0.300	0.000	2.607	8.795
		TA_GROWTH3	0.085	0.048	0.187	0.800	-0.240	1.616	3.703
		SLS_GROWTH3	0.126	0.084	0.243	1.100	-0.350	1.537	4.084
		KZ_SCORE	1.601	1.600	2.266	11.962	-8.053	0.249	3.936
		EBIAT_TA	0.037	0.057	0.104	0.300	-0.340	-1.590	3.789
		SIZE_TA	14.790	14.579	1.299	19.081	11.226	0.433	-0.127
		TD_TA	0.276	0.273	0.206	0.857	0.000	0.331	-0.842
		LTD_TA	0.116	0.055	0.141	0.718	0.000	1.466	1.911
High Family Owner-ship	**1,493**	POR_NOI	0.599	0.383	0.916	6.500	0.000	4.219	22.365
		POR_CF2	0.289	0.228	0.292	1.400	0.000	1.385	2.217
		POR_SALES	0.043	0.023	0.059	0.300	0.000	2.318	6.026
		TA_GROWTH3	0.079	0.052	0.149	0.800	-0.240	1.842	5.819
		SLS_GROWTH3	0.104	0.078	0.197	1.100	-0.350	1.784	6.423
		KZ_SCORE	2.327	1.822	2.313	13.000	-7.403	1.033	3.301
		EBIAT_TA	0.070	0.067	0.079	0.300	-0.340	-0.709	5.028
		SIZE_TA	14.749	14.589	1.307	18.652	11.220	0.442	-0.036
		TD_TA	0.245	0.216	0.215	0.844	0.000	0.481	-0.841
		LTD_TA	0.104	0.029	0.145	0.811	0.000	1.655	2.550

Table 3. Comparison of Variable Means for High Family Ownership versus Low Family Ownership Firms

Table 3 presents a comparison of the mean values for the variables used in the study, divided based on low family ownership versus high family ownership. The sample consists of non-financial services firms listed on the Stock Exchange of Thailand from 2001–2010. Financial services companies (banks, finance and securities companies, and insurance firms) are not included in the sample. The sample has been winsorized at the 1 and 99th percentiles to eliminate extreme values. Negative payout ratios have been set to 90th percentile. Panel A shows a comparison of median values for the low family ownership and the high family ownership groups, while Panel B shows a comparison of median values for the same two groups. POR_NOI is the cash dividends paid in year t divided by net operating income (NOI) in year t. Net operating income is defined as revenue minus all operating expenses. Taxes, interest expense, extraordinary items, and preferred stock dividends are not included as operating expenses. POR_CF2 is the cash dividends paid in year t divided by the sum of aggregate earnings plus depreciation expense in year t. Aggregate earnings is defined as revenue minus all expenses, including interest and taxes, but before preferred dividends (if any) and extraordinary items. POR_SALES is the cash dividends paid in year t divided by total revenue in year t. TA_GROWTH3 is the compound annual growth rate of the change in total assets from the end of t-3 to the end of year t. SLS_GROWTH3 is the compound annual growth rate of the change in sales from the end of t-3 to the end of year t. D_FAMILY_25 is a dummy variable that equals one if the firm is a high family ownership firm (25% or greater family ownership through chain of control), and zero otherwise. KZ_SCORE is a measure of financing constraint. EBIAT_TA is the ratio of earnings before interest but after tax (EBIAT) divided by total assets. SIZE_TA is the natural logarithm of total assets at the end of the fiscal year. TD_TA is the book value of total interest-bearing debt (including short-term financing) divided by total assets. LTD_TA is the book value of long-term debt due in more than one year divided by total assets. Standard deviations are shown in parentheses. In Panel A, *, **, and *** denote statistical significance at the 10, 5, and 1 percent level (two-tailed) respectively for the t-statistic testing the difference in means. In Panel B, *, **, and ***

denote statistical significance at the 10, 5, and 1 percent level (two-tailed) respectively for the Z-statistic testing the difference in medians.

Panel A: Comparison of Mean Values

Variable	Low Family Ownership (1)	High Family Ownership (2)	Difference (1) – (2)	t-statistic
POR_NOI	0.444 (0.74)	0.599 (0.92)	-0.155 (0.87)	-4.08***
POR_CF2	0.230 (0.27)	0.289 (0.29)	-0.059 (0.29)	-4.42***
POR_SALES	0.031 (0.05)	0.043 (0.06)	-0.012 (0.06)	-4.95***
TA_GROWTH3	0.085 (0.19)	0.079 (0.15)	0.006 (0.16)	0.72
SLS_GROWTH3	0.126 (0.24)	0.104 (0.20)	0.022 (0.21)	1.96**
KZ_SCORE	1.601 (2.27)	2.327 (2.31)	-0.726 (2.30)	-6.57***
EBIAT_TA	0.037 (0.10)	0.070 (0.08)	-0.032 (0.09)	-6.82***
SIZE_TA	14.790 (1.30)	14.749 (1.31)	0.041 (1.30)	0.66
TD_TA	0.276 (0.21)	0.245 (0.22)	0.031 (0.21)	3.02***
LTD_TA	0.116 (0.14)	0.104 (0.14)	0.012 (0.14)	1.81*

Panel B: Comparison of Median Values

Variable	Low Family Ownership (1)	High Family Ownership (2)		Z-statistic
POR_NOI	0.257	0.383		-5.71**
POR_CF2	0.164	0.228		-5.13 ***
POR_SALES	0.013	0.023		-5.56 ***
TA_GROWTH3	0.048	0.052		-0.84
SLS_GROWTH3	0.084	0.078		1.40
KZ_SCORE	1.600	1.822		-6.01 ***
EBIAT_TA	0.057	0.067		-5.14 ***
SIZE_TA	14.579	14.589		0.71
TD_TA	0.273	0.216		3.85 ***
LTD_TA	0.055	0.029		4.91 ***

Table 4. Univariate Regression Results

Table 4 presents ordinary least squares regression results with three dividend payout ratios as the dependent variables. The sample consists of non-financial services firms listed on the Stock Exchange of Thailand from 2001 – 2010. Financial services companies (banks, finance and securities companies, and insurance firms) are not included in the sample. The sample has been winsorized at the 1 and 99th percentiles to eliminate extreme values. Negative payout ratios have been set to 90th percentile. POR_NOI is the cash dividends paid in year t divided by net operating income (NOI) in year t. Net operating income is defined as revenue minus all operating expenses. Taxes, interest expense, extraordinary items, and preferred stock dividends are not included as operating expenses. POR_CF2 is the cash dividends paid in year t divided by the sum of aggregate earnings plus depreciation expense in year t. Aggregate earnings is defined as revenue minus all expenses, including interest and taxes, but before preferred dividends (if any) and extraordinary items. POR_SALES is the cash dividends paid in year t divided by total revenue in year t. TA_GROWTH3 is the compound annual growth rate of the change in total assets from the end of t-3 to the end of year t. SLS_GROWTH3 is the compound annual growth rate of the change in sales from the end of t-3 to the end of year t. D_FAMILY_25 is a dummy variable that equals one if the firm is a high family ownership firm (25% or greater family ownership through chain of control), and zero otherwise. TA_GROWTH3 * Family and SLS_GROWTH3 * Family are interaction terms, multiplying TA_GROWTH3 and SLS_GROWTH3 with the D_FAMILY_25 dummy variable, respectively. The standard errors of the coefficients have been adjusted for heteroskedasticity. t-Statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent level (two-tailed) respectively.

	Expected Sign	Dependent Variable is Payout Ratio, based on: (1) NOI	(2) CF2	(3) SALES
D_FAMILY_25	(+)	0.178***	0.075***	0.015***
		(4.15)	(4.94)	(5.67)
TA_GROWTH3	(-)	0.183	0.226***	0.048***
		(1.33)	(3.54)	(3.93)
TA_GROWTH3 * Family Dummy	(-)	-0.271	-0.181**	-0.030*
		(-1.48)	(-2.14)	(-1.79)
SLS_GROWTH3	(-)			
SLS_GROWTH3 * Family Dummy	(-)			
Intercept		0.428***	0.211***	0.027***
		(12.65)	(17.37)	(14.38)
Adj. R-squared		0.006	0.014	0.017
F-Statistic		5.05***	10.91***	13.27***
No. of observations		2,104	2,104	2,104

	Expected Sign	Dependent Variable is Payout Ratio, based on: (4) NOI	(5) CF2	(6) SALES
D_FAMILY_25	(+)	0.190***	0.081***	0.015***
		(4.38)	(5.32)	(6.00)
TA_GROWTH3	(-)			
TA_GROWTH3 * Family Dummy	(-)			
SLS_GROWTH3	(-)	-0.041	0.102**	0.027***
		(-0.46)	(2.23)	(3.04)
SLS_GROWTH3 * Family Dummy	(-)	-0.345***	-0.188***	-0.026**
		(-2.83)	(-3.20)	(-2.26)
Intercept		0.449***	0.217***	0.028***
		(13.33)	(17.73)	(14.67)
Adj. R-squared		0.011	0.012	0.012
F-Statistic		8.51***	9.40***	9.61***
No. of observations		2,104	2,104	2,104

Table 5. Dividend Payout Ratios and Growth Opportunities, Categorized by Family Ownership

Table 5 presents the average dividend payout and growth opportunities as categorized by firm ownership characteristics. The sample consists of firms listed on the Stock Exchange of Thailand in 2001–2010. Financial services companies (banks, finance and securities companies, and insurance firms) are not included in the sample. The sample has been winsorized at the 1 and 99th percentiles to eliminate extreme values. Negative payout ratios have been set to 90th percentile. The sample is split by family ownership: *low family ownership firms* do not have a family as the controlling shareholder at the 25% cutoff level, while *high family ownership firms* are firms where family and affiliated members own more than 25% of the outstanding shares. The sample is also split by the median value of growth opportunities. Two different proxies for growth opportunities are used: the three-year rate of change in total assets (TA_GROWTH3), and the three-year rate of change in sales (SLS_GROWTH3). Three different measures of dividend payout are used: cash dividends paid in year t divided by net operating income in year t (POR_NOI); cash dividends paid in year t divided by the sum of aggregate earnings plus depreciation expense in year t (POR_CF2); and cash dividends paid in year t divided by total revenue in year t (POR_SALES). Standard deviations are shown in parentheses. N denotes the sample size for each group.

Panel A: Payout Ratio using Net Operating Income (POR_NOI) and Growth in Total Assets (TA_GROWTH3)

TA_GROWTH3	Low Family Ownership Firms	High Family Ownership Firms	Total
Low growth opportunities	0.389 (0.724) n=311	0.576 (0.919) n=741	0.521 (0.871) n=1,052
High growth opportunities	0.501 (0.748) n=300	0.622 (0.913) n=752	0.588 (0.871) n=1,052
Total	0.444 [a] (0.738) n=611	0.599 [a] (0.916) n=1,493	0.554 (0.871) n=2,104

[a] Main effect 1: Difference in group means is significant at the five percent level or better; mean POR NOI for low family ownership firms = 0.444 versus 0.599 for high family ownership firms.

Panel B: Payout Ratio using Net Operating Income (POR_NOI) and Growth in Sales (SLS_GROWTH3)

SLS_GROWTH3	Low Family Ownership Firms	High Family Ownership Firms	Total
Low growth opportunities	0.483 (0.845) n=294	0.659 [c] (0.993) n=758	0.610 [b] (0.957) n=1,052
High growth opportunities	0.408 (0.621) n=317	0.538 [c] (0.826) n=735	0.499 [b] (0.772) n=1,052
Total	0.444 [a] (0.738) n=611	0.599 [a] (0.916) n=1,493	0.554 (0.871) n=2,104

[a] Main effect 1: Difference in group means is significant at the five percent level or better; the mean POR NOI for low family ownership firms equals 0.444 versus 0.599 for high family ownership firms.

[b] Main effect 2: Difference in group means is significant at the five percent level or better; the mean POR NOI for firms with low growth opporutnities equals 0.610 versus 0.499 for firms with high growth opportunities.

[c] Within-group effect: Difference in group means is significant at the five percent level or better; the mean POR NOI for high family ownership firms with low growth opporutnities equals 0.659 versus 0.538 for high family ownership firms with high growth opportunities.

Table 6. Pearson Correlation Coefficients

Table 6 presents a Pearson correlation coefficients for the variables used in the study, divided based on low family ownership versus high family ownership. The sample consists of non-financial services firms listed on the Stock Exchange of Thailand from 2001–2010. Financial services companies (banks, finance and securities companies, and insurance firms) are not included in the sample. The sample has been winsorized at the 1 and 99th percentiles to eliminate extreme values. Negative payout ratios have been set to 90th percentile. POR_NOI is the cash dividends paid in year t divided by net operating income (NOI) in year t. Net operating income is defined as revenue minus all operating expenses. Taxes, interest expense, extraordinary items, and preferred stock dividends are not included as operating expenses. POR_CF2 is the cash dividends paid in year t divided by the sum of aggregate earnings plus depreciation expense in year t. Aggregate earnings is defined as revenue minus all expenses, including interest and taxes, but before preferred dividends (if any) and extraordinary items. POR_SALES is the cash dividends paid in year t divided by total revenue in year t. TA_GROWTH3 is the compound annual growth rate of the change in total assets from the end of t-3 to the end of year t. SLS_GROWTH3 is the compound annual growth rate of the change in sales from the end of t-3 to the end of year t. D_FAMILY_25 is a dummy variable that equals one if the firm has high family ownership (25% or greater family ownership through chain of control), and zero otherwise. KZ_SCORE is a measure of financing constraint. EBIAT_TA is the ratio of earnings before interest but after tax (EBIAT) divided by total assets. SIZE_TA is the natural logarithm of total assets at the end of the fiscal year. TD_TA is the book value of total interest-bearing debt (including short-term financing) divided by total assets. LTD_TA is the book value of long-term debt due in more than one year divided by total assets. Standard deviations are shown in parentheses. Correlations that are statistically significant at the 10 percent level or better are shown in **bold**.

	Variable	(1)	(2)	(3)	(4)	(5)
(1)	POR_NOI	1.00				
(2)	POR_CF2	**0.51**	1.00			
(3)	POR_SALES	**0.31**	**0.62**	1.00		
(4)	TA GROWTH3	0.00	**0.06**	**0.08**	1.00	
(5)	SLS GROWTH3	-0.07	**-0.01**	**0.04**	**0.62**	1.00
(6)	KZ SCORE	**0.21**	0.42	**0.46**	**0.11**	**0.00**
(7)	EBIAT_TA	**0.04**	**0.21**	**0.39**	**0.19**	**0.21**
(8)	SIZE_TA	**0.01**	**0.01**	**0.10**	**0.22**	**0.16**
(9)	TD_TA	-0.17	-0.27	**-0.26**	**0.08**	**0.08**
(10)	LTD_TA	**-0.14**	**-0.21**	**-0.08**	**0.08**	**0.13**

	Variable	(6)	(7)	(8)	(9)	(10)
(1)	POR_NOI					
(2)	POR_CF2					
(3)	POR_SALES					
(4)	TA GROWTH3					
(5)	SLS GROWTH3					
(6)	KZ SCORE	1.00				
(7)	EBIAT_TA	0.36	1.00			
(8)	SIZE_TA	**-0.09**	**0.16**	1.00		
(9)	TD_TA	**-0.56**	**-0.21**	**0.35**	1.00	
(10)	LTD_TA	**-0.39**	**-0.02**	**0.42**	**0.67**	1.00

Table 7. Regressions Results, Full Sample

Table 7 presents ordinary least squares regression results with three dividend payout ratios as the dependent variables. The sample consists of non-financial services firms listed on the Stock Exchange of Thailand from 2001 – 2010. Financial services companies (banks, finance and securities companies, and insurance firms) are not included in the sample. The sample has been winsorized at the 1 and 99th percentiles to eliminate extreme values. Negative payout ratios have been set to 90th percentile. POR_NOI is the cash dividends paid in year t divided by net operating income (NOI) in year t. Net operating income is defined as revenue minus all operating expenses. Taxes, interest expense, extraordinary items, and preferred stock dividends are not included as operating expenses. POR_CF2 is the cash dividends paid in year t divided by the sum of aggregate earnings plus depreciation expense in year t. Aggregate earnings is defined as revenue minus all expenses, including interest and taxes, but before preferred dividends (if any) and extraordinary items. POR_SALES is the cash dividends paid in year t divided by total revenue in year t. TA_GROWTH3 is the compound annual growth rate of the change in total assets from the end of t-3 to the end of year t. SLS_GROWTH3 is the compound annual growth rate of the change in sales from the end of t-3 to the end of year t. D_FAMILY_25 is a dummy variable that equals one if the firm is a high family ownership firm (25% or greater family ownership through chain of control), and zero otherwise. TA_GROWTH3 * Family and SLS_GROWTH3 * Family are interaction terms, multiplying TA_GROWTH3 and SLS_GROWTH3 with the D_FAMILY_25 dummy variable, respectively. KZ_SCORE is a measure of financing constraint. EBIAT_TA is the ratio of earnings before interest but after tax (EBIAT) divided by total assets. SIZE_TA is the natural logarithm of total assets at the end of the fiscal year. TD_TA is the book value of total interest-bearing debt (including short-term financing) divided by total assets. The standard errors of the coefficients have been adjusted for heteroskedasticity. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent level (two-tailed) respectively.

		Dependent Variable is Payout Ratio, based on:		
	Expected Sign	**(1) NOI**	**(2) CF2**	**(3) SALES**
D_FAMILY_25	(+)	0.110**	0.033**	0.005**
		(2.42)	(2.31)	(2.16)
TA_GROWTH3	(-)	0.087	0.042	-0.019*
		(0.60)	(0.73)	(-1.77)
TA_GROWTH3 * Family Dummy	(-)	-0.203	-0.117	-0.004
		(-1.18)	(-1.57)	(-0.30)
SLS_GROWTH3	(-)			
SLS_GROWTH3 * Family Dummy	(-)			
KZ_SCORE	(-)	0.062***	0.045***	0.009***
		(6.47)	(12.73)	(11.86)
EBIAT_TA	(+)	-0.617***	0.118	0.144***
		(-3.13)	(1.58)	(9.06)
SIZE_TA	(+)	0.043**	0.015***	0.006***
		(2.10)	(2.84)	(5.10)
TD_TA	(-)	-0.333***	-0.095***	-0.022***
		(-3.06)	(-2.66)	(-3.29)
Intercept		-0.454	-0.097	-0.073***
		(-1.55)	(-1.27)	(-4.76)
Time (Year) Dummies		Yes	Yes	Yes
Industry Dummies		Yes	Yes	Yes
Adj. R-squared		0.071	0.211	0.366
F-Statistic		5.33***	16.17***	33.83***
No. of observations		2,104	2,104	2,104

		Dependent Variable is Payout Ratio, based on:		
	Expected Sign	**(4) NOI**	**(5) CF2**	**(6) SALES**
D_FAMILY_25	(+)	0.118***	0.036**	0.005**
		(2.67)	(2.50)	(2.17)
TA_GROWTH3	(-)			
TA_GROWTH3 * Family Dummy	(-)			
SLS_GROWTH3	(-)	-0.044	0.003	-0.019**
		(-0.45)	(0.08)	(-2.39)
SLS_GROWTH3 * Family Dummy	(-)	-0.238**	-0.115**	-0.004
		(-2.05)	(-2.28)	(-0.46)
KZ_SCORE	(-)	0.061***	0.044***	0.009***
		(6.34)	(12.69)	(11.67)
EBIAT_TA	(+)	-0.517***	0.151**	0.150***
		(-2.69)	(2.04)	(9.37)
SIZE_TA	(+)	0.044**	0.015|***	0.005***
		(2.17)	(2.88)	(5.00)
TD_TA	(-)	-0.330***	-0.096***	-0.023***
		(-2.99)	(-2.70)	(-3.48)
Intercept		-0.447	-0.089	-0.068***
		(-1.55)	(-1.19)	(-4.52)
Time (Year) Dummies		Yes	Yes	Yes
Industry Dummies		Yes	Yes	Yes
Adj. R-squared		0.073	0.213	0.368
F-Statistic		5.47***	16.39***	34.13***
No. of observations		2,104	2,104	2,104

Table 8. Summary of theoretical predictions and empirical findings

	Theoretical Prediction for Variable of Interest Concerning:		
Type of firm	**Agency Conflicts**	**Growth Opportunities**	**Financing Constraints**
High Family Owner-ship	Lower level of agency conflict; thus higher dividend payout ☑ *Univariate tests and regression results confirm*	Negative relation with dividend payout ☒ *Univariate tests show positive relation; regression results show weak evidence that growth opportunities reduce the payout ratio slightly at high family ownership firms*	Negative relation with dividend payout ☑ *Univariate tests and regression results confirm*
Low Family Owner-ship	Higher; thus lower dividend payout ☑ *Univariate tests and regression results confirm*	No relation with dividend payout ☑ *Univariate tests show positive relation, but regression results confirm no relation*	Negative relation with dividend payout ☑ *Univariate tests and regression results confirm*

Table 9. Summary of predicted and actual regression coefficients

	Effect of Family Ownership on Payout Ratio	**Growth Oppor-tunities**	**Financing Constraints**	**Profit-ability**	**Size**	**Lever-age**
PREDICTED						
High Family Ownership	(+)	(-)	(-)	(+)	(+)	(-)
Low Family Ownership	No relation	No relation	(-)	(+)	(+)	(-)
ACTUAL						
High Family Ownership	(+)	No relation	(-)	Mixed	(+)	(-)
Low Family Ownership	No relation	No relation	(-)	(+)	(+)	(-)

Appendix A. Ownership characteristics of public non-financial companies in Thailand, 2001–2010

To keep the ownership statistics in this study as comparable as possible with previous studies of ownership, we use the same classification categories described by La Porta et al. (1999). These authors identify six types of ultimate controllers: widely held (the firm has no ultimate controller); family (members of the same family with the same last name); state (government ownership); widely held financial institutions (financial institutions that do not have a single controlling large shareholder);widely held corporations (corporations that do not have a single controlling large shareholder); and widely held groups (other widely held entities not fitting into the above categories; examples would be a voting trust or a cooperative). The thresholds for determining control (ownership) may be set by the researchers or by law. For example, 50 percent ownership is the cut off for absolute control; other researchers have used 20 percent or even as low as 10 percent ownership of the voting rights to determine the extent of the control that a firm's owners have over the company. The lower level(s) are also important because prior research has shown that it is possible to control a firm by owning a significantly lower portion of the shares. Wiwattanakantang (2001) notes that 25 percent can be used to give practical control of Thai firms. Thai law states that rather than having an absolute majority of shares (greater than 50 percent), the ownership threshold for effective control is 25 percent. I set the designation of control at 25 percent of the outstanding shares, since this is the threshold for control by Thai law. We use 25 percent ownership to determine high versus low family ownership. We also use lower cut off values (10 percent and 5 percent) and re-determine the high versus low family ownership classifications. The main source for the ownership data is the SETSMART data service, published by the Stock Exchange of Thailand. In addition to company shareholding records and annual reports, it is often necessary to consult outside sources to trace the ownership chains. Examples of these outside sources are company filings at the Ministry of Commerce, an online database of company records provided by Business Online Co., Ltd., and numerous business directories (for example, Brooker Group, 2003). For each sample firm, the owner(s) of the voting rights determines the ultimate controller (owner-ship) classification. Though it is possible to have differences in voting

rights and cash flow rights, Thai law requires one share, one vote. We classify each firm into one ownership category based on the available shareholder records that are closest to the end of the fiscal year. We examine the list of the top ten shareholders to see if any individual, family, or organization owns 25 percent or more of the outstanding shares. If no ultimate controller is present, the firm is classified as 'low family ownership'. As needed, ownership of the shares is traced upwards through a network of companies, both private and public. Individual family members and family-controlled firms are all grouped together as "family". Shareholders with the same last name are counted as family, as are known familial relationships (relatives, spouses, children, and other relatives) even if the last names are different. Corporations that are part of a family-controlled network are classified as 'family'. Firms classified as 'corporate controlled' are companies that have another non-family company as the ultimate controller, whether the company is public or private, domestic or foreign. If an ultimate owner of the shares can be determined, the company is classified into one of the five remaining categories depending on the type of ultimate controller. Table A1 shows the number (Panel A) and percentages (Panel B) of non-financial publicly-traded Thai firms based on the type of ultimate controller. Six ultimate controller classifications are used: Low family ownership (no ultimate controller at the given ownership cut off level), State (government), Family, Widely held financial institution, Widely held corporation, or some other type of controller (Other). We exclude firms with missing or incomplete data, or if the firm is undergoing financial rehabilitation. New listings and delisted firms are not included because the ownership information for these firms was not complete for a full year. Table A1 shows that for the vast majority of Thai public non-financial companies, a family is the ultimate controller. From 2001 through 2010, covering over 3,100 firm-year observations, on average more than one-half (53.2 percent) of Thai public non-financial companies have a family as the con-trolling shareholder. The next largest group is firms that can be considered low family ownership, that is, no ultimate controller owns more than 25 percent of the voting rights. Firms controlled by other widely held corporations, such as foreign or domestic subsidiaries, comprise the third largest group at about 16 percent of firms. Table A1 shows the other types of organizations or institutions (the state, widely held financial institutions, and other types of organizations) are not commonly ultimate controllers. The combined percentage of

these three categories is about 9 percent of firms. These percentages do not vary much from year to year across the 10 year period. In this paper, only two groups are of interest: the low family ownership group and the high family ownership group. The other ultimate controller categories (the state, widely held financial institutions, and other types of organizations) are not included in the analyses. See La Porta et al. (1999) who find that 80% of firms can be controlled by stockholders owning less than 20% of the shares Ownership characteristics of Thai public non-financial companies, 2001–2010. Panels A and B show the number and percentages of firms for which the ultimate controller can be determined, covering 2001–2010. All financial services companies (banks, finance and securities companies, and insurance firms) have been deleted from the sample. The classification of ultimate controller is based on ownership of 25 percent or more of the voting rights. Six ultimate controller classifications are used: Low family ownership (no ultimate controller), State (government), High family ownership, Widely held financial institution, Widely held corporation, and some other type of controller (Other).

Appendix A: The KZ Score, History and Calculation

The development of the financial constraint measure has its origins in the study of firms' investment decisions. Fazzari et al. (1988) find that financing factors affect firms' investment decisions. Investment cash flow sensitivity was used as a measure of financing constraint. Kaplan and Zingales (1997) return to this issue, examining the relation between investment-cash flow sensitivities and financing constraints for firms previously studied Fazzari, Hubbard, and Petersen. Kaplan and Zingales (1997) found that firms appearing less financially constrained had higher investment-cash flow sensitivities, and conclude that sensitivities cannot be used to show financial constraints. A lively debate ensued.[15] Cleary (1999) strives to resolve the debate, finding that investment decisions are related to financial factors, supporting the findings of Kaplan and Zingales (1997). While Kaplan and Zingales (1997) use financial statements and qualitative information such as annual reports to categorize firms according to the degree of financial constraint, Cleary classifies firms based on financial variables. The variables that Cleary (1999) selects are easily measured and are clearly connected to financing constraints. A multiple discriminant analysis yields a univariate measure of firm financial status, Z_{FS}.

Discriminant analysis is used to produce a function to distinguish between two groups: firms that are financially constrained and firms that are not. The function, using common financial indicators, takes the form:

$$KZ\ Score = \beta_1\, CURRENT + \beta_2\, TIE + \beta_3\, ROE + \beta_4\, NI\_PCT + \beta_5\, SLS\_GROWTH + \beta_6\, DEBT \qquad (A1)$$

where CURRENT is the current ratio, TIE is times interest earned, ROE is return on equity, NI_PCT is the net income margin, SLS_GROWTH is the percentage growth in sales compared with the previous year, and DEBT is the debt ratio.

The six variables and the corresponding Worldscope data codes are as follows:

[15] See Fazzari et al. (2000) and Kaplan and Zingales (2000) for dissections of each other's work.

CURRENT = Current ratio, $\frac{\text{Current Assets (WC02201)}}{\text{Current Liabilities (WC03101)}}$

TIE = Times interest earned, $\frac{\text{Earnings before interest and taxes (WC18191)}}{\text{Interest expense on debt (WC01251)}}$

ROE = Return on equity, $\frac{\text{Return}}{\text{Common equity (WC03501)}}$

NI_PCT = Net income margin, $\frac{\text{Return}}{\text{Net Sales (WC01001)}}$

For ROE and NI_PCT, Return = Net income before extraordinary (XO) items minus or plus any extraordinary charges: WC01551 – WC01254 + WC01253

SLS_GROWTH = Percentage growth in sales compared with the previous year using Net Sales (WC01001), $\frac{\text{Sales in year t - Sales in year t - 1}}{\text{Sales in year t - 1}}$

NI_PCT = Net income margin, $\frac{\text{Return}}{\text{Net Sales (WC01001)}}$

DEBT = Debt ratio, $\frac{\text{Total debt; all interest - bearing obligations (WC03255)}}{\text{Total assets (WC02999)}}$