# THE COST OF DEBT CAPITAL AND DIVIDEND PAYOUTS: EVIDENCE FROM THAILAND

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## Abstract

This study aims to investigate the role of dividends in explaining debt pricing decision making. Using data from Thai listed companies spanning the period 2000 through 2016, results from a panel regression analysis indicate that there is no significant association between the cost of debt capital and dividend payouts. The inferences are unchanged even after using alternative measurements for dividends and excluding global financial crisis periods. This study contributes to the stream of research on dividend payout consequences by documenting that dividends do not provide incrementally useful information when there are a few agency conflicts of interests due to a dominant family-run business environment.

**JEL classification:** G3; G32

**Keywords:** Dividend Policies; Dividend Payouts; Cost of Debt Capital; Borrowing Cost

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## 1. INTRODUCTION

This paper aims to investigate the role of dividend payouts in explaining the cost of debt capital. Information asymmetry between firms' managements and capital providers has been used in explaining the efficiency of capital allocation for decades (Loss, 1983; Loss and Seligman, 2001). In this vein, prior studies generally show that capital providers perceive information asymmetry as a source of risk and hence demand a higher cost of capital to compensate (Levitt, 1998; Lambert et al., 2012). In response to this, firms attempt to communicate to capital providers in multiple ways including dividend policy disclosure in order to balance the negative consequence to the cost of capital caused by information imperfection (Jensen, 1986). Nonetheless, mounting evidence suggests that the association between dividends and the cost of debt capital could be more complex than the theoretical model, while it should be noted that the relationship also depends on the context (i.e. Glen et al., 1995; Jiang & Jiranyakul, 2013). Even though this argument is of practical importance, previous studies have mainly focused on the consequence of dividend policy in capital markets. Motivated by the limited amount of evidence on whether dividend payouts affect the cost of debt capital, this research focusses on extending this stream of research in the context of the Thai market.

Thai listed companies were used to form the empirical sample due to the unique characteristics of Thai corporate financing structure. The Thai debt market has been developed and utilized as a major source of domestic fund raising, yet the market is also considered a highly imperfect information environment, with limited alternative underlying assets (Alba et al., 999). In addition, Thai corporate ownership structure is generally formed by highly concentrated founding family ownerships (Fairchild et al., 2014) [3]. Anderson et al. (2003) contend that a founding family ownership is most likely to have a low level of agency conflicts. This suggests that capital providers may consider agency problems to be less severe in family-run businesses. Therefore, the Thai capital market provides a unique research setting for testing the general dividend policy and information asymmetry arguments in the prior literature.

Using a panel OLS regression analysis method and data from Thai listed companies covering the period 2000 - 2016, the insignificant relationship between dividends and the cost of debt capital is documented. This implies that dividend policies are not a significant consideration for debtholders in terms of debt pricing in the Thai market and supports the notion that the association between

[3] Aivazian et al. (2003) report that emerging country-level factors could drive dividend behavior and capital structure decision differently, compared to those developed market contexts.

the cost of debt and dividends is dependent on the setting. It is hereby postulated that debtholders view family-run businesses as less susceptible to agency conflicts (Anderson et al., 2003) and better corporate governance (Ibrahim & Samad, 2011; Mishra et al., 2001). Consequently, dividends do not provide incremental value to debtholders when making debt pricing decisions. These inferences are unchanged after sensitivity analysis using alternative proxies for dividends and excluding financial crisis periods (period of 2008 and 2009).

This study contributes to this thread of research in multiple ways. Firstly, it enriches the evidence on the consequences of dividends on the cost of debt capital which is substantially limited. Secondly, the research extends prior evidence (i.e. Farooq, & Jabbouri, 2015) through the establishment of a data set from a market where the founding family ownership structure is dominant resulting in a low level of agency problems, thus providing evidence that the dividend consequence on borrowing cost is not theoretically explained, but rather practically explained by typical debt determinants. The strong implication is that debtholders in different regions might seek different financial indicators and therefore affect the relationship between dividend policy and borrowing costs.

The remainder of the paper is organized as follows: Section 2 provides the institutional background for the Thai debt market. Section 3 reports the literature review and hypothesis development, while Section 4 presents the research design including the sample description and deployment of empirical equations. Section 5 discusses the main results and sensitivity analysis. Section 6 concludes the key findings of the study.

## 2. INSTITUTIONAL BACKGROUND OF THAI DEBT MARKET

The Thai debt market is considered to be bank-oriented as banks are the main debt capital providers in the Thai debt market (bank lending represents 34%, ranked number 1 in debt market) (The Stock Exchange of Thailand, 2019). Commercial banks continue to maintain their profitability and high capital, consistently playing a key role in debt financing to Thai corporations, while various types of debt instruments are being developed. The growth of the Thai debt market and the development of debt instruments emphasizes the importance of banks (creditors) in resource allocation in the Thai market. This also suggests that banks (creditors) require incremental information, not stated in financial statements such as information about monitoring mechanisms, to ensure that firms' managements do not spend their firm's excess cash flow on unprofitable projects (Jensen & Meckling, 1976; Jensen, 1986) which may impair the banks loan investment.

Besides this, the uniqueness of the debt market in Thailand's economy is driven by family business (on average, 80% of companies on the Stock Exchange of Thailand are family-run companies) (PwC, 2019). Generally, a family-run business is most likely to establish a long-term strategic business plan as it has future generations in mind. For example, a family business with family members on the board tends to engage in hedging activities, eliminating unnecessary risks that could harm the firm's value (Suehiro & Wailerdsak, 2004). The evidence suggests that the dominant founding family ownership structure in Thailand perhaps enhances debtholders confidence in future debt collection and hence debtholders do not seek for dividend payouts as primary information in debt pricing decision making.

## 3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This study stems from two literature threads: (i) reporting the role of dividend policy in enhancing the information environment and (ii) investigating the relationship between dividend payout and a firm's cost of debt capital.

### 3.1 Dividend Payout and Asymmetric Information

Dividend policy and the quality of information environments for firms, have both been a puzzle in financial theory for quite some time (Li & Zhao, 2008). Allen and Michaely (2003) summarized the theoretical explanations for the dividend payout policy behaviors of firms reported by empirical studies. Among these explanations, their summary indicated that a change in payout policy seems to be made when firms have excess cash flow, preventing the firms' managers from overinvestment. Consistent with this line of explanation regarding dividend policy and behavior, Grossman and Hart (1980) contend that dividend payout information can eliminate agency problems through the reduction of a firm's excess cash flow, which may otherwise be spent on unprofitable projects. That is, the dividend payout information tends to provide relevant and incremental information to stakeholders about whether firms have an additional monitoring mechanism to reduce conflicts of interest among groups of stakeholders.

The dominant strand of literature on dividend announcements suggests that firms are likely to establish dividend payout policy to signal the firm's true worth and financial conditions to the market (Allen & Michaely, 2003; Farooq & Jabbori, 2015). Under this line of theories, it is assumed that firms' managements have more insightful information on the firms' cash flow and value than outsiders, consequently using dividend payout information to communicate this to outsiders (John & Williams, 1985; Miller & Rock, 1985). Miller and Rock (1985) also note that dividend announcements provide important predictive contents,

rather than just dividend dollar amounts in relation to current earnings. That is, the dividend acts as an additional piece of information, reflecting the firm's current earnings and likely future performance, helping to mitigate the information gap problem between the management and other stakeholders.

### 3.2 The Linkage between Dividend Payout and Cost of Debt Capital

Whether the cost of debt capital is associated with a firm's dividend policies is among the interesting issues in finance (Brigham & Gordon, 1968). Yet, the relationship between the two variables seems to be inconclusive and this inconclusive relationship could be explained by two plausible perspectives. Firstly, dividend payouts can be viewed as an additional monitoring mechanism (Byun, 2007; Jabbouri & Attar, 2017). That is, dividend payouts limit management's access to excess cash flow, preventing investment in unprofitable projects and resulting in better alignment to capital providers' interests (Jensen & Meckling, 1976; Jensen, 1986). On the other hand, high dividend payouts can cause a low level of free cash flow, leading to a greater need for debt financing, and thus increasing additional financial risk (Farooq & Jabbouri, 2015). Therefore, the literature introduces empirical evidence on both sides of the argument.

Given that dividend payouts can signal debt capital providers regarding the firm's current earnings and prospects, higher dividend payouts can be interpreted as reflections of the firm's confidence regarding future performance. In turn, creditors may assess the firm's default risk to be lower than others and charge lower interest accordingly. Consistent with this signaling mechanism, Mathur et al. (2013) report that creditors view dividend payouts as conveying predictive information about the firms' future financial conditions. As a result, the higher the dividend payouts, the lower the cost of debt capital incurred by the firm. Consistent with Mathur et al. (2013) findings, Farooq and Jabbouri (2015) showed that higher dividend payouts result in lower costs of debt capital for a firm. That is, higher dividends lead to lowering the cost required for raising debt capital for the firm (Bhattacharya, 1979; Ofer & Thakor, 1987).

Since dividend payouts may be viewed as an additional monitoring mechanism of corporate governance practice (Byun, 2007), this may lead to adjustments in the level of firm risk and financing cost as assessed by capital providers (Easterbrook, 1984). As noted previously, dividend payout limits management's access to excess cash flow, preventing investment in unprofitable projects and resulting in better alignment with capital providers' interests (Jensen & Meckling, 1976; Jensen, 1986). In other words, dividend payout disclosure reveals information which provides additional monitoring on a firm's cash flow, alleviating information asymmetry. By reducing

the possibility of investing in negative present value projects, dividend information helps creditors to be more certain about a firm profitability and default risk. Under this notion, Booth and Cleary (2003), and Byun (2007) empirically reported a negative association between the cost of debt capital and dividend payouts. Hence, grounded by the notion that dividend payments can be established as an additional corporate governance practice, it is expected that an inverse association exists between dividends and the cost of debt capital.

However, the contradicting argument regarding the effect of dividends on the cost of debt capital does exist. High dividend payouts create conflicts between shareholders and debtholders (Easterbrook, 1984). In other words, shareholders may demand direct dividends and/or stock repurchases to prevent management from spending free cash flow on negative net present value projects, resulting in a reduction in the firm's future cash flow. As a result, debtholders view firms with high dividends as having a high default risk, consequently charging a higher cost of debt capital. Additionally, the reduction of free cash flow according to dividend payments, may lead firms to engage with debt financing and therefore increase leverage risk and the financial cost incurred (Farooq & Jabbouri, 2015). Despite this argument appearing rational, Glen et al. (1995) point out that dividend policies and their consequences depend on the research context. For instance, dividend payment and its consequences in the U.S can be significantly different from those in the Shanghai Stock Exchange (Jiang & Jiranyakul, 2013). That is, the association between the cost of debt capital and dividend payouts is more complex than generally argued, though the relationship between the two is shown in the mentioned studies.

In addition to the complexity of the association between dividends and the cost of debt capital, attention should be paid to whether dividend payments are useful in practice for making decisions when there are few agency conflicts present. Naturally, privately-owned and operated companies have less severe agency problems than public companies (Maury, 2006). For instance, the management and majority shareholders of family-run firms are generally the same group of people; therefore, the interests of the management and shareholders are highly aligned. Neubauer and Lank (2016) also note that family firms are likely to make effective board meetings as they meet regularly, leading to succession planning and thus, stronger firm performance. In most cases, these highly concentrated holdings constitute large proportions of the funding families' net worth and are difficult to diversify. As a result, these companies tend to make operation and investment decisions from a more long-term perspective and have less incentive to take excess risk. Consequently, debtholders view such founding family ownership as an organizational structure which better

protects their interests (Anderson et al., 2003). In addition, the observed relationship between dividend policy and the cost of debt may be a result of the credit lending criteria adopted by local creditors. Banks operated in markets dominated by family businesses or when dividend payouts are generally undesirable (e.g. dividend tax-disadvantaged markets) may not include dividend policy in their credit assessment procedures. Therefore, when the level of agency problems is low, dividends may not be an essential piece of decisive information to debtholders regarding debt pricing.

Altogether, the theories introduce the complexity of the relationship between dividends and the cost of debts. Besides this, the literature also suggests that when there are few conflicts of interest among stakeholders, dividends do not appear to be an essential piece of information in debt pricing. In Thailand, where the founding family ownership structure is dominant (about 80% of all businesses are family-run businesses), resulting in a low level of conflicts of interest among stakeholders and a more long-term focused environment, the established strategies are about the next generations' wealth, thereby reducing the likelihood of taking unnecessary risks to boost short-term performance (Cracknell, 2019; Ibrahim & Samad, 2011). In turn, in the Thai context where a family run environment offers low agency problems and a better corporate governance environment, it is of academic and practical interest to determine if dividends are useful for decision making regarding debt pricing. Hence, the primary hypothesis is:

Null Hypothesis: For firms with high ownership concentration, the cost of debt capital reported by firms with a high dividend payout ratio is not different from the cost paid by firms with a low dividend payout ratio.

## 4. RESEARCH DESIGN AND DATA

### 4.1 Data and Sample

The population for this study consisted of all companies listed in the Thai Stock Exchange excluding the banking industry; of this population a sample cross-section containing 456 firms was used for data collection. The required data were obtained through the Thomson Reuters-DataStream. The data used in the analysis covered a period of 16 years, from 2000 through 2016. As a result, the initial firm-year observations included a total of 7,752 observations. Observations with missing data were then dropped, leading to a final sample consisting of 4,043 firm-year observations.

### 4.2 Regression Model

Following research regarding dividends and the cost of debt capital, including the cost of determinant research, the following cost of debt model was used to test the null hypothesis:

$$INTRATE_{i,t} = \beta_0 + \beta_1 DP_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 GROWTH_{i,t} + \beta_4 PROFIT_{i,t} + \beta_5 COLASSET_{i,t} + \beta_6 WORKCAP_{i,t} + \beta_7 SOLVEN_{i,t} + \beta_8 INTCOV_{i,t} + \beta_9 OPRISK_{i,t} + FIRM\_FE + YEAR\_FE + \varepsilon_{i,t} \quad (1)$$

All variables used in the study are defined in Appendix A.

A panel regression analysis was used to regress the cost of debt capital (*INTRATE*) on *DP* (Dividend Payouts) and included multiple identified determinants for the cost of debt capital. *INTRATE* was measured by dividing the reported interest expense by the average of the beginning and ending debt levels (Al-Hadi et al., 2017; Gul et al., 2013; Minnis, 2011). *DP* expresses the dividend payout ratio estimated by yearly dividends divided by net operating income, following previous studies (i.e. Amidu & Abor, 2006; Lloyd et al., 1985). The null hypothesis predicts no association between *INTRATE* and *DP*.

Several control variables related to the cost of debt financing were included, following previous research (Demerjian et al., 2016; Magnan et al., 2016; Minnis, 2011). *SIZE* is the natural logarithm of the market value equity of a firm, a negative coefficient was expected for *SIZE* (Magnan et al., 2016). *GROWTH* represents the revenue growth of the firm; the associated prediction is unclear as growth of a firm can pose investment risks, while it can also be viewed as a firm with a high growth opportunity (Al-Hadi et al., 2017). *PROFIT* is a proxy for a firm's profitability and a negative coefficient on *PROFIT* is expected. *COLASSSET* is the capital intensity measured as the total carrying value properties scaled by total assets. A negative coefficient is predicted for *COLASSET*, as firms with larger underlying assets are less risky and hence, charge lower borrowing costs (Bwembya, 2009). *WORKCAP* refers to working capital, measured as the ratio of current assets to current liabilities, and is included in the model, as firms with higher liquidity are likely to be perceived as less risky (Demerjian et al., 2016). However, liquidity position is one aspect used for the assessment of default risk by debtholders and may not be very reliable when liquidity arising from the current asset value is not at the optimal level. When such circumstances appear, debtholders may prefer to focus on the operating cash flow generated by such assets (Soenen, 1993), thereby viewing improper working capital management as a risk factor when financing borrowing firms. Thus, a negative (positive) coefficient for *WORKCAP* is expected. Firm leverage (*SOLVEN*), measured as the ratio of total debt to total assets, captures the firm's capital structure. Some argue that financial risk increases with an increase in firm leverage (Minnis, 2011), while others argue that family-run firms could move toward an optimal debt ratio causing no marginal financial risk (Kim & Sorensen, 1986). In other

words, the coefficient on *SOLVEN* could be either positive or negative, depending on whether the respective firm has reached its target leverage. *INTCOV* is defined as the earnings before interest and taxes divided by the interest expense for the related fiscal year; it captures a firm's ability to pay its financial costs. The greater the interest coverage, the more capable the firm will be of paying its interest expenses, a negative coefficient is therefore expected for the *INTCOV* variable (Pittman & Fortin, 2004). Operating risk (*OPRISK*) is the three-year rolling standard deviation of *PROFIT*, capturing the volatility of a firm's performance; a positive coefficient for *OPRISK* is therefore predicted.

## 5. THE COST OF DEBT CAPITAL AND DIVIDEND PAYOUTS

### 5.1 Descriptive Statistics

Table 1 reports the descriptive statistics of the variables used in the empirical testing. In Panel A, the descriptive statistics for the final sample of 4,043 firm-year observations involving 456 firms show that the average interest rate (*INTRATE*) paid by Thai listed companies is 0.052. The dividend payout (*DP*) is around 0.464 and the dividend yield (*DY*) is about 0.036. Surprisingly, the mean value of *SOLVEN* is only 0.26, suggesting a relatively low level of debt for the average firm in Thailand during the sample period. The mean value of *COLASSSET* is 0.379, while the mean value of *WORKCAP* is 1.98. The average firm's capability to meet interest payments (*INTCOV*) is about 76 times, indicating that the firms have good faith. Concerning the firms' profitability, the mean value of *PROFIT* is 0.098, with a mean value of *GROWTH* at 0.084.

To understand whether firms with dividends payments, differ from those without dividend payments, the sample was split using *DIV*, a binary variable, taking a value of one when *DP* is positive, and zero otherwise. Panel B of Table 1 reports the descriptive statistics of variables from the sample in which DIV = 1, while Panel C reports the descriptive statistics of variables from the sample in which DIV = 0. *INTRATE* in Panel B is 5.0%, while the mean value of *INTRATE* in Panel C is 5.7%. *INTCOV* in Panel B is 87 times, while the mean value of *INTCOV* in Panel C is 38 times. *SOLVEN* in Panel B is 0.235, while the mean value of *SOLVEN* in Panel C is 0.342. *WORKCAP* in Panel B is 2.019, while the mean value of *WORKCAP* in Panel C is 1.839. The mean value of *PROFIT* in Panel B is 0.106, while the mean value of *PROFIT* in Panel C is 0.068. It was observed that the mean value of *OPRISK* in Panel B is 0.773, which is lower than the mean value of *OPRISK* (1.376) in Panel C.

Tests for the equality of the means between the two subsamples were conducted, indicating that there was no significant difference in the mean values for *COLASSSET,* but

**Table 1:** Summary Statistics for the Final Sample

| Variable | Mean | Median | Min. | Max. | S.D. | Obs. |
|---|---|---|---|---|---|---|
| **Panel A: All variables** | | | | | | |
| *INTRATE* | 0.052 | 0.048 | 0.013 | 0.124 | 0.027 | 4,043 |
| *DP* | 0.464 | 0.389 | 0.000 | 1.614 | 0.439 | 4,043 |
| *DY* | 0.036 | 0.033 | 0.000 | 0.103 | 0.031 | 4,043 |
| *SIZE* | 14.831 | 14.634 | 12.260 | 18.223 | 1.623 | 4,043 |
| *GROWTH* | 0.084 | 0.075 | -0.264 | 0.496 | 0.185 | 4,043 |
| *PROFIT* | 0.098 | 0.087 | 0.017 | 0.232 | 0.059 | 4,043 |
| *COLASSET* | 0.379 | 0.377 | 0.038 | 0.779 | 0.219 | 4,043 |
| *WORKCAP* | 1.979 | 1.479 | 0.512 | 6.027 | 1.428 | 4,043 |
| *SOLVEN* | 0.259 | 0.248 | 0.001 | 0.601 | 0.188 | 4,043 |
| *INTCOV* | 76.015 | 8.713 | 1.167 | 782.579 | 187.042 | 4,043 |
| *OPRISK* | 0.907 | 0.920 | -0.789 | 2.572 | 0.895 | 4,043 |
| **Panel B: DIV=1** | | | | | | |
| *INTRATE* | 0.050 | 0.046 | 0.013 | 0.124 | 0.027 | 3,147 |
| *DP* | 0.596 | 0.493 | 0.000 | 1.614 | 0.411 | 3,147 |
| *DY* | 0.046 | 0.042 | 0.000 | 0.103 | 0.028 | 3,147 |
| *SIZE* | 15.040 | 14.837 | 12.260 | 18.223 | 1.605 | 3,147 |
| *GROWTH* | 0.080 | 0.074 | -0.264 | 0.496 | 0.173 | 3,147 |
| *PROFIT* | 0.106 | 0.096 | 0.017 | 0.232 | 0.058 | 3,147 |
| *COLASSET* | 0.379 | 0.377 | 0.038 | 0.779 | 0.217 | 3,147 |
| *WORKCAP* | 2.019 | 1.535 | 0.512 | 6.027 | 1.403 | 3,147 |
| *SOLVEN* | 0.235 | 0.223 | 0.001 | 0.601 | 0.178 | 3,147 |
| *INTCOV* | 86.662 | 11.204 | 1.167 | 782.579 | 197.122 | 3,147 |
| *OPRISK* | 0.773 | 0.803 | -0.789 | 2.572 | 0.847 | 3,147 |
| **Panel C: DIV=0** | | | | | | |
| *INTRATE* | 0.057 | 0.055 | 0.013 | 0.124 | 0.026 | 896 |
| *DP* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 896 |
| *DY* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 896 |
| *SIZE* | 14.097 | 13.876 | 12.260 | 18.223 | 1.466 | 896 |
| *GROWTH* | 0.100 | 0.084 | -0.264 | 0.496 | 0.220 | 896 |
| *PROFITABILITY* | 0.068 | 0.054 | 0.017 | 0.232 | 0.052 | 896 |
| *COLASSETS* | 0.376 | 0.381 | 0.038 | 0.779 | 0.227 | 896 |
| *WORKCAP* | 1.839 | 1.266 | 0.512 | 6.027 | 1.505 | 896 |
| *SOLVEN* | 0.342 | 0.353 | 0.001 | 0.601 | 0.196 | 896 |
| *INTCOV* | 38.620 | 3.137 | 1.167 | 782.579 | 140.044 | 896 |
| *OPRISK* | 1.376 | 1.424 | -0.789 | 2.572 | 0.901 | 896 |

there were significant differences in the mean values for *INTRATE*, *SIZE, GROWTH*, *PROFIT*, *COLASSET*, *WORKCAP*, *SOLVEN*, *INTCOV* and *OPRISK*. Firms with dividend payments have higher *WORKCAP*, PROFIT, and INTCOV than firms without dividend payments. Firms without dividend payments have higher *SOLVEN*, *INTRATE*, *GROWTH*, and *OPRISK* than firms with dividend payments.

Panel A of Table 1 reports the summary statistics for the final sample. Panel B of this table reports the summary statistics of the key variables for the sample group classified as positive for dividend payments (DIV is measured as one for businesses making dividend payments, while it is zero for all other businesses, forming an alternative proxy for the dividend payout ratio as an additional test). Panel C reports the summary statistics of the key variables for the sample group classified as negative for dividend payments and assigned to the Zero DIV category. All variables used in this study are defined in Appendix A.

**Table 2:** Dividend Payout Ratio Sorted by Mean Value Classified by TRBC Business Sector

| Group Number | Sector Name | Mean | Median | Max | Min. | S.D. | Obs. |
|---|---|---|---|---|---|---|---|
| 5620 | Pharmaceuticals & Medical Research | 0.705 | 0.510 | 1.356 | 0.443 | 0.435 | 4 |
| 5720 | Software & IT Services | 0.657 | 0.662 | 1.614 | 0.000 | 0.459 | 76 |
| 5330 | Cyclical Consumer Services | 0.612 | 0.575 | 1.614 | 0.000 | 0.478 | 374 |
| 5910 | Utilities | 0.587 | 0.535 | 1.614 | 0.000 | 0.367 | 114 |
| 5210 | Industrial Goods | 0.569 | 0.452 | 1.614 | 0.000 | 0.518 | 188 |
| 5410 | Food & Beverages | 0.540 | 0.481 | 1.614 | 0.000 | 0.409 | 365 |
| 5810 | Telecommunications Services | 0.504 | 0.377 | 1.614 | 0.000 | 0.525 | 113 |
| 5320 | Cyclical Consumer Products | 0.489 | 0.406 | 1.614 | 0.000 | 0.471 | 359 |
| 5710 | Technology Equipment | 0.479 | 0.346 | 1.614 | 0.000 | 0.458 | 122 |
| 5340 | Retailers | 0.477 | 0.406 | 1.614 | 0.000 | 0.398 | 179 |
| 5230 | Industrial Conglomerates | 0.471 | 0.445 | 1.614 | 0.000 | 0.287 | 33 |
| 5430 | Food & Drug Retailing | 0.462 | 0.389 | 1.138 | 0.000 | 0.279 | 38 |
| 5130 | Applied Resources | 0.450 | 0.398 | 1.614 | 0.000 | 0.433 | 182 |
| 5420 | Personal & Household Products & Services | 0.449 | 0.454 | 1.614 | 0.000 | 0.326 | 32 |
| 5010 | Energy - Fossil Fuels | 0.446 | 0.369 | 1.614 | 0.000 | 0.398 | 170 |
| 5110 | Chemicals | 0.427 | 0.355 | 1.614 | 0.000 | 0.399 | 216 |

**Table 2:** Dividend Payout Ratio Sorted by Mean Value Classified by TRBC Business Sector (Continued)

| Group Number | Sector Name | Mean | Median | Max | Min. | S.D. | Obs. |
|---|---|---|---|---|---|---|---|
| 5310 | Automobiles & Auto Parts | 0.425 | 0.313 | 1.614 | 0.000 | 0.422 | 163 |
| 5610 | Healthcare Services & Equipment | 0.423 | 0.423 | 1.614 | 0.000 | 0.285 | 178 |
| 5240 | Transportation | 0.377 | 0.308 | 1.614 | 0.000 | 0.399 | 123 |
| 5540 | Real Estate | 0.366 | 0.295 | 1.614 | 0.000 | 0.403 | 357 |
| 5120 | Mineral Resources | 0.361 | 0.161 | 1.614 | 0.000 | 0.465 | 353 |
| 5220 | Industrial & Commercial Services | 0.347 | 0.203 | 1.614 | 0.000 | 0.433 | 289 |
| 5020 | Renewable Energy | 0.105 | 0.000 | 0.729 | 0.000 | 0.242 | 15 |
| **Overall mean value of the final sample** | | **0.464** | **0.389** | **1.614** | **0.000** | **0.439** | **4,043** |

Table 2 demonstrates the dividend payments sorted by the mean value of the relevant sector, as classified by The Thomson Reuters Business Classification (hereafter, TRBC). According to Table 2, the largest sector is Pharmaceutical and Medical Research with a mean value of 0.705. Software and IT Services, Cyclical Consumer Services, Utilities, Industrial Goods, Food and Beverages, Telecommunications Services, Cyclical Consumer Products, Technology Equipment, Retailers, and Industrial Conglomerates, all have a mean value of DP higher than the mean value of the total sample. The lowest mean value for DP is reported by firms classified in the sector of Renewable Energy.

Table 3 reports the results from the matrix correlation metric analysis. It was found that the correlations between the explanatory variables were very low with the highest correlation value being 0.30. Therefore, there are no concerns about a multicollinearity problem and all variables were used in the regression analysis. Without considering the typical cost of debt determinants, the analysis shows that the correlation coefficients of *DP* and *DY* are negatively associated with statical significance, while the cost of debt capital suggests an inverse relationship supporting the arguments for signaling and corporate governance practice. However, as previously discussed, the association between dividends and interest expenses is too complex to make a clear conclusion while overlooking typical debt pricing factors. The correlation coefficients of *SIZE*, *COLASSET*, *SOLVEN*, and *INTCOV* were found to have a statistically significant negative association with the cost of debt capital, while those of *PROFIT*, *WORKCAP*, and *OPRISK* were found to have a statistically significant positive association with the cost of debt capital.

**Table 3 Correlation Matrix**

This table reports the correlation coefficients between the variables for the total sample of 4,043 firm-year observations. Symbols *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels respectively. See Appendix A for variable definitions.

| VARIABLES | *INTRATE* | *DP* | *DY* | *PROFIT* | *SIZE* | *GROWTH* | *COLASSET* | *WORKCAP* | *SOLVEN* | *INTCOV* | *OPRISK* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *INTRATE* | 1.00 | | | | | | | | | | |
| *DP* | -0.03** | 1.00 | | | | | | | | | |
| *DY* | -0.04** | 0.68*** | 1.00 | | | | | | | | |
| *PROFIT* | 0.10*** | 0.00 | 0.27*** | 1.00 | | | | | | | |
| *SIZE* | -0.10*** | 0.10*** | -0.01 | 0.26*** | 1.00 | | | | | | |
| *GROWTH* | 0.02 | -0.20*** | -0.11 | 0.15*** | 0.07*** | 1.00 | | | | | |
| *COLASSET* | -0.05*** | -0.03** | -0.06 | -0.02 | 0.05 | -0.02 | 1.00 | | | | |
| *WORKCAP* | 0.11*** | 0.06*** | 0.13*** | 0.14*** | -0.08 | -0.10*** | -0.30*** | 1.00 | | | |
| *SOLVEN* | -0.21*** | -0.16*** | -0.24*** | -0.28*** | 0.08 | 0.08*** | 0.15*** | -0.46*** | 1.00 | | |
| *INTCOV* | -0.05** | 0.06*** | 0.14*** | -0.28*** | 0.00 | -0.01 | -0.16*** | 0.42 | -0.46*** | 1.00 | |
| *OPRISK* | 0.13*** | -0.12*** | -0.14*** | 0.10*** | -0.11* | 0.05*** | -0.02 | 0.06*** | 0.02 | -0.02 | 1.00 |

## 5.2 Results of Panel OLS Regressions

Table 4 presents the panel OLS regression results for the effect of dividend payouts on the cost of debt capital. The dependent variable in Columns (1) to (4) is the cost of debt capital (*INTRATE*) which is computed as the interest expense divided by the average of the beginning and ending debt levels. The interest independent variable in Column (2) reports the effect of *DP*, the variable of interest, on *INTRATE.* Column (3) demonstrates the effect of *DY* on the cost of debt capital; these results form a robust test, through the use of an alternative proxy (*DY*) for dividend payments. Column (4) shows the findings from the robust test, the use of an alternative measurement (DIV) for dividend payments. Robust standard errors are clustered at the firm level.

Column (1) of Table 4 presents the results of the baseline regression for the common cost of debt determinants in the Thai market. Findings are consistent with prior studies. *GROWTH* is positively associated with *INTRATE* (coefficient = 0.00, $p < 0.01$) implying that growth firms report comparatively higher interest expenses. This could be explained by the empirical evidence that when external capital is needed for business expansion, and there is no concern over debt capacity, debt financing is preferred by the corporation, resulting in a large amount of debt and accordingly higher interest expenses (Lemmon & Zender, 2010). As previously discussed, it is noted that the relationship between *WORKCAP* and the debt of capital can be explained by the working capital management efficiency argument or solvency argument. The positive correlation observed supports the working capital management efficiency argument. However, it should be emphasized that even though the relationship is statistically significant, the economic impact is small (coefficient = 0.00, $p < 0.01$).

*SIZE* was found to have a significant inverse relationship with *INTRATE* (coefficient = - 0.00, p-value < 0.10) suggesting that debtholders view larger firms as less risky, thereby charging lower financial costs (Magnan et al., 2016). Firms having a larger amount of collateral assets paid lower borrowing costs (Bwembya, 2009), as the coefficient of *COLASSET* is significantly and negatively associated with cost of debt (coefficient = - 0.02, $p < 0.01$). Consistent with the prior literature, *INTCOV* is negatively related with the cost of debt (coefficient = - 0.01, $p < 0.01$), suggesting that a high ability to pay interest obligations, and low cost of debt is required. Interestingly, leverage level (*SOLVEN*) is negatively associated with the cost of debt (coefficient = -0.06, $p < 0.01$). This is perhaps because the majority of family-run firms are trying to move toward a target debt ratio causing no marginal financial risk; instead, debtholders prefer to be insiders (Kim & Sorensen, 1986). As a result, a low

cost of debt is described.

To test the null Hypothesis, *DP*, the ratio of dividends to net operating income was added in column (2). *DP* was then replaced with *DY*, the ratio of dividends to the market value of equity, in column (3), to test whether variation in dividends paid is associated with the cost of debt. Finally, *DP* was replaced with *DIV*, a binary variable, taking a value of one when dividends are positive, and zero otherwise, in column (4). The results in Table 4 (column 2) demonstrate the report findings for the primary hypothesis which states that there is no relationship between dividends and the cost of debt capital in the Thai

**Table 4:** The Effect of Dividend Payouts on the Cost of Debt Capital
This table presents the panel OLS regression results for the effect of dividend payouts on the cost of debt capital. The dependent variable is *INTRATE*. Robust standard errors are clustered at the firm level. Variable definitions are presented in Appendix A.

| Coefficient Standard Error | Column (1) | Prob. | Column (2) | Prob. | Column (3) | Prob. | Column (4) | Prob. |
|---|---|---|---|---|---|---|---|---|
| *DP* | | | 0.00 | 0.62 | | | | |
| *DY* | | | | | 0.01 | 0.63 | | |
| *DIV* | | | | | | | -0.001 | 0.658 |
| *GROWTH* | -0.00** | 0.065 | -0.00* | 0.060 | -0.00* | 0.068 | -0.00* | 0.076 |
| *PROFIT* | 0.11*** | 0.000 | 0.12*** | 0.000 | 0.11*** | 0.000 | 0.11*** | 0.000 |
| *GROWTH* | 0.01*** | 0.000 | 0.09*** | 0.000 | 0.09*** | 0.000 | 0.08*** | 0.000 |
| *COLASSET* | -0.01*** | 0.001 | -0.02*** | 0.001 | -0.02*** | 0.001 | -0.02*** | 0.001 |
| *WORKCAP* | 0.00*** | 0.000 | 0.00*** | 0.000 | 0.00*** | 0.000 | 0.00*** | 0.000 |
| *SOLVEN* | -0.06*** | 0.000 | -0.06*** | 0.000 | -0.06*** | 0.000 | -0.06*** | 0.000 |
| *INTCOV* | -0.01*** | 0.000 | -0.01*** | 0.000 | -0.01*** | 0.000 | -0.08*** | 0.000 |
| *OPRISK* | 0.00 | 0.720 | 0.00 | 0.722 | 0.00 | 0.755 | 0.00 | 0.679 |
| Firm-fixed effects | Yes | | Yes | | Yes | | Yes | |
| Year-fixed effects | Yes | | Yes | | Yes | | Yes | |
| $R^2$ | 0.527 | | 0.527 | | 0.527 | | 0.527 | |
| Adjusted $R^2$ | 0.464 | | 0.464 | | 0.464 | | 0.464 | |
| F-Stat | 8.296 | | 8.278 | | 8.278 | | 8.278 | |
| P-value of F | 0.000 | | 0.000 | | 0.000 | | 0.000 | |
| Firm-included | 456 | | 456 | | 456 | | 456 | |
| Observations | 4,043 | | 4,043 | | 4,043 | | 4,043 | |

**Note:** Symbols *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively. See Appendix A for variable definitions.

setting. As expected, the coefficient of DP is positive and insignificantly related to the cost of debt (coefficient = 0.00 and non-statistically significant t-stat). The results therefore imply that the dividend payout ratio is neither a good signal of corporate governance practice, nor a piece of information regarding firms' cash flow limitations.

To test whether the findings are sensitive to the choice of proxies for the dividend payments, the main findings were reassessed by re-running equation (1) using the alternative variables of *DY*, the ratio of dividends to the market value of equity; and *DIV*, a dummy variable measured as one if dividends were positive and zero otherwise. Column (3) and Column (4) in Table 4 show that there is an insignificant relationship with the cost of debt for both *DY* and *DIV* (coefficient = 0.09, insignificant t-statistic, coefficient = -0.00, insignificant t-statistic). The findings from the sensitivity analyses therefore report consistent results with the main test results. Thus, the inferences support the null hypothesis.

One plausible explanation for the findings of an insignificant relationship between the dividend payout ratio and cost of debt capital, is the fact that the Thai market is dominated by family-run businesses. Family-run businesses seem to have inherently low agency problems, compared to non-family run companies where ownership is spread widely among the public, meaning that additional monitoring through the dividend payout ratio is not as relevant. Consequently, debtholders view family-run business as a favorable organizational structure, better protecting their interests and having less long-term accruals discretion (Anderson, Mansi & Reeb, 2003; Neubauer & Lank, 2016; Setia-Atmaja, Haman, & Tanewski, 2011). In terms of control variables, the inferences are consistent with the previous discussion.

## 5.3 Additional analyses

### 5.3.1 Levels of financial leverage

This section examines whether the level of financial leverage (*SOLVEN*) affects the effects of dividend payouts on the cost of debt for Thai firms, as the financial leverage level may potentially alter the debtholders' behavior (due to, e.g. firm credit risk). The main OLS estimation was repeated for two subsamples: (1) firms with higher financial leverage, and (2) firms with lower financial leverage. To conserve space, the results are not tabulated, but are discussed in detail below. The sample of firms with higher financial leverage was analyzed first (*SOLVEN* > = the mean value of *SOLVEN*), followed by the sample of firms with lower financial leverage (*SOLVEN* < the mean value of *SOLVEN*). Consistent with the results shown in Table 4, it was found that the coefficient of dividends variable was still statistically insignificant, suggesting that the level of financial

leverage does not affect the effect of dividend payouts on the cost of debt for Thai firms. Consistent with the results in Table 4, there is still a positive and insignificant effect of dividend payouts on the cost of debt for the subsample of firms with lower financial leverage. In addition, it was found that for the subsample of firms with higher financial leverage, there was a negative but insignificant effect of dividend payouts on the cost of debt.

### 5.3.2 Levels of free float

This section examines whether the level of free float affects the effect of dividend payouts on the cost debt among Thai firms, as the ownership structure may potentially alter debtholders' behavior (due to, e.g. family-run business). The main OLS estimation was repeated for two subsamples: (1) the firms with higher free float, and (2) the firms with lower free float. To conserve space, the results are not tabulated, but are discussed below. The sample of firms with higher free float were first analyzed (free float >= the mean value of free float), followed by the sample of firms with a lower free float (free float < the mean value of free float). Consistent with the results shown in Table 4, it was found that the coefficients of dividends variable was still statistically insignificant, suggesting that the level of free float does not affect the effect of dividend payouts on the cost of debt among Thai firms. Consistent with the results in Table 4, there was still a positive and insignificant effect of dividend payouts on the cost of debt for the subsample of firms with higher free float. In addition, it was found that for the subsample of firms with lower free float there was a negative and insignificant effect of dividend payouts on the cost of debt.

## 6. CONCLUSION

Motivated by the complexity of the relationship between dividends and the cost of debt, and the limited amount of evidence on this matter, this study investigated the association between dividends and the cost of debt capital. Thai listed companies were selected as the empirical population due to the unique characteristics of the common ownership structure and the development of the Thai debt market. Using this unique set of data, covering the period from 2000 through 2016, it was expected to find an alternative implication of the effect of dividends on debt financing cost. As expected, the findings showed that the relationship between dividend payouts and the cost of debt capital is insignificant. The results suggest that the association of these two variables is dependent on the context. Markets in different regions could be driven by different behavior and culture resulting in different levels of usefulness regarding dividend information in debt financing decisions. However, this was not examined in the study. Therefore, this research not only enriches the literature regarding the effect of dividends on the cost of debt, but also

indirectly offers evidence regarding the positive side of family-run businesses, specifically their improved corporate governance and the associated reduction of agency problems.

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## Appendix A: Variable Definition

| Variable | Variable Definition |
|---|---|
| *INTRATE* | is measured by dividing the reported interest expense by the average of the beginning and ending debt levels. |
| *DP* | is the ratio of dividends to net operating income. |
| *DY* | is the ratio of dividends to the market value of equity. |
| *DIV* | is measured as a binary variable, taking a value of one when dividends are positive, and zero otherwise. |
| *PROFIT* | is the ratio of the net operating income to total operating assets |
| *SIZE* | is the natural logarithm of the market value of equity. |
| *GROWTH* | captures the growth of revenue, measured as the first difference in the natural logarithm of a firm's net sales. |
| *COLASSET* | is defined as the ratio of property, plant, and equipment, to total assets. |
| *WORKCAP* | represents a firm's liquidity and is estimated as the ratio of current assets to current liabilities. |
| *SOLVEN* | captures financial risk, and is measured as the ratio of total debt to total assets. |
| *INTCOV* | is defined as the ratio of earnings before interest and taxes to interest expense. |
| *OPRISK* | is the natural logarithm of the three-year rolling standard deviation of *ROA.* |
| *FIRM_FE* | proxy for firm fixed effect. |
| *YEAR_FE* | captures yearly fixed effect. |