Nonmonotonic Dividends in the Thai Capital Market[1]

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บทความนี้เสนอทางเลือกของกระบวนการในการกำหนดนโยบายการจ่ายเงินปันผลของประเทศไทย ซึ่งการศึกษาครั้งนี้ใช้วิธีการศึกษาที่ไม่ได้มีความสัมพันธ์ในรูปแบบเดียวตลอด โดยการวิเคราะห์ของต้นทุนตัวแทนและการส่งสัญญาณทางการจ่ายเงินปันผลของบริษัทมหาชนในประเทศไทย ในการหลีกเลี่ยงผลที่ไม่สอดคล้องกับสมมุติฐานของการศึกษา ผู้ศึกษาจึงจำเป็นต้องใช้ทั้งวิธีวิเคราะห์จากต้นทุนตัวแทนและการจ่ายเงินปันผลไปพร้อม ๆ กันเพื่อการทดสอบข้อมูลเชิงประจักษ์ ผลของการศึกษายืนยันสมมุติฐานที่ได้อธิบายไว้ว่าบริษัทมหาชนในประเทศไทยที่มีผลการประกอบการอยู่ในระดับกลางจ่ายเงินปันผลสูงที่สุด ซึ่งแสดงให้เห็นว่าบริษัทมหาชนในประเทศไทยที่มีผลการประกอบการอยู่ในระดับกลางมีความแตกต่างจากบริษัทมหาชนในประเทศไทยที่มีผลการประกอบการอยู่ในระดับต่ำ

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Abstract

This paper presents an alternative approach for the determination of dividends payout policy in Thailand. Using a nonmonotonic approach, both the agency cost and the signaling models of dividends payout are taken simultaneously into consideration and applied to analyze dividends payment of public firms in Thailand. This integrated approach helps to avoid the mixed results found in empirical tests of the signaling and agency cost models. The results confirm the proposed hypotheses and demonstrate that firms of intermediate performance apply dividends as a credible signal that generates a separating equilibrium which allows those firms to convey information about their superior performance to investors and other relevant stakeholders.

Keywords: dividends, nonmonotonic, agency cost, signaling, Thailand

Introduction

The purpose of this study is to determine, using a nonmonotonic approach, the reasons behind firms' dividend policy in Thailand. More specifically, the study aims to identify which hypothesis can better explain dividends payment in Thailand: signaling, agency costs or both simultaneously. The main contribution of the research is to provide further evidence on both hypotheses of dividend policy by examining the non-linear relationship between dividends and earnings in an emerging country set.

Thailand's dataset is used in order to measure the impact of both information asymmetry and agency problems, to which minority shareholders are exposed, in a unique environment which differs from that found in United States and Western Europe, where most of the research on the subject is done. This is necessary because those effects differ greatly across countries, in part due to legal regimes, market characteristics and stage of the market development.

The study is based on the Fuller and Blau (2010) and Faichild (2010) nonmonotonic approach. This method employs simultaneously both the signaling and the agency cost models of dividends payout. The two models commonly treat dividends as being linearly correlated to firm earnings; the higher the earning, the higher the dividends. However, those authors employ a non-linear approach, with low performance firms paying low or no dividends, high performance firms paying dividends according to the agency cost model and, because of information asymmetry and agency problems, intermediate performance firms paying the highest dividends. The result is a nonmonotonic dividend equilibrium. Thus, in order to identify the basic elements impacting firms' dividend policy in terms of asymmetric information and agency problems, the nonmonotonic relationship between dividends and firm quality is evaluated on a database formed by Thai firms' information.

Literature Review

Miller and Modigliani (1961) proposed that dividends are irrelevant and could not change the firm's value or shareholder wealth. However, firms do pay dividends. In finance literature this is known as the 'dividend puzzle', first described by Black (1976). Researchers have analyzed the motives of a firm's dividend policy using two major competing approaches: the signaling hypothesis and the free cash-flow hypothesis.

The signaling hypothesis predicts that payment of dividends signal information about the future cash flows to the firm (Bhattacharya, 1979; John and Williams, 1985; Miller and Rock, 1985). Under this model, an asymmetry exists where managers have information about company performance that is not available to the investors. Thus, managers have an incentive to signal private information to investors when they have projects that will add to the firm's value. The dividends payment serves as a credible signal because firms that do not have valuable projects cannot mimic the dividends payment without the risk of reducing or cutting dividends in the future, an event that is invariably followed by loss of company value.

In contrast, the agency cost hypothesis suggests that dividends are a means to reduce deadweight costs of the agency conflict between agents and principals (Jensen and Meckling, 1976; Easterbrook, 1984; Jensen,

1986, La Porta et al., 2000). This model explains that payment of dividends reduces free cash flow available to managers, thus discouraging them from pursuing zero or negative NVP projects, or using firm's funds for personal benefit. However, empirical tests of both models present inconclusive results. Some papers favored the signaling model (Asquith and Mullins, 1983; Kalay and Lowenstein, 1986; Brooks et al, 1998; Kao and Wu, 1994; Nissim and Ziv, 2001), while other empirical tests (Lang and Litzenberger, 1989; and Jensen, Solberg, and Zorn, 1992) provide support for the agency explanation of dividends. Regarding Thailand, empirical results are also contradictory. Lonkani and Ratchusanti (2005) support the dividend signaling hypothesis as relevant for the Thai market. They found evidence that dividend signal is complete or effective in Thailand when it is measured in terms of surprise from analyst forecast rather than surprise from the past dividend. On the other hand, Aivazian et al. (2003a,b) and Napompech (2010), conclude that dividend policy plays a less significant role in signaling outside the U.S.A. Empirical studies on the relevance of the agency cost model revealed that it can explain, at least partiality, the reasons behind dividends payment in Thailand. According to Thanatawee (2011, 2013) and Fairchild, Guney and Thanatawee (2014), the Thai market presents low shareholder protection and highly concentrated ownership structure. These factors may increase the agency problem in Thai firms, negatively affecting the use of free cash-flow by management. In this sense, the payment of dividends may be used as a form of resolving the agency problem in Thai firms. In general, empirical evidence of dividend changes in Thailand is more consistent with the agency hypothesis than the signaling hypothesis.

In this context, Fuller and Thakor (2002), Fuller and Blau (2010), and Fairchild (2010) argued that empirical evidence for the two traditional models do not fully support that dividend increases are good news and that dividend decreases are viewed negatively by the market; the evidence is often inconclusive. According to those authors, the reason why a solution remains so difficult is because researchers lack an integrated theory that incorporates both the signaling and agency cost motivations for dividends. They proposed that no single theory is dominant and there are multiple motivations for paying dividends with no single reason applying to all firms. Their solution is an alternative approach to the idea that both agency cost and signaling hypothesis have a linear correlation between earnings and dividends. That is, there is a monotonic relationship between earnings and dividends. They suggest that the cross-sectional relationship between dividends and firm value may be complex and non-linear. Thus, a nonmonotonic approach has the potential to reveal which hypothesis, or maybe both simultaneously, better explains dividends payment.

This approach is also relevant to the Thai financial market. According to Napompech (2010), in the period between 1997 and 2008 the percentage of companies in Thailand that paid dividends rose from 25% to 74%. This is a remarkable difference from the United States, where approximately 50% of firms pay dividends (Fuller and Goldstein, 2011). Consistent with Allen et al (2000), the Thai companies paying dividends are revealed to be of higher quality and larger size. Due to this disequilibrium between dividend-paying and non dividend-paying firms, a control for firm quality becomes even more important in the Thai market scenario.

Framework

Firms are divided into three groups according to past performance: (1) Low prior performance; (2) High prior performance; and (3) Intermediate prior performance. The last group is the focal point of this research. Its importance relies on the ambiguous past performance of the intermediate performance companies: firms in the high and low performance groups can be easily identified by investors due to their respectively good and bad past performance. That is, information asymmetry is not a serious issue for these two groups, while inside the intermediate group, good performance firms are difficult to distinguish from inferior performance firms.

Thus, good performance firms in the intermediate prior performance group face two simultaneous problems that lead to the need to pay dividends: (1) Managers want to separate their firms from firms with bad performance. They have incentive to use dividends to signal their better performance, creating a separating equilibrium, in which stronger firms distinguish themselves from weaker firms, which are unable to imitate that signal; (2) Good performance firms in the intermediate group face a free-cash flow problem. They may need to pay dividends as a way to reduce the agency cost related to the non-optimal use of cash flows by managers.

As a consequence of these two motive's interaction, good performance firms in the intermediate group may pay higher dividends than firms in the high prior performance group. At the same time, bad performance firms in the intermediate group do not signal and may or may not pay dividends to solve free-cash flow problems. This result can be visualized in

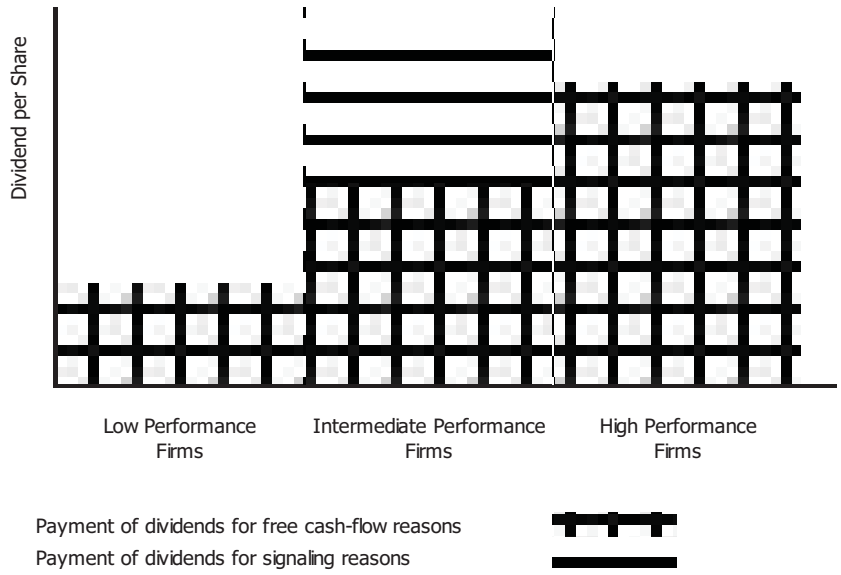

Figure 1 Dividend payout reasons and type of firm

Figure 1 shows that firms pay dividends due to free cash-flow reasons in an increasing and linear form, with low performance dividend-paying firms having the lowest payout. Intermediate firms pay an intermediate dividend-per-share and high performance firms pay the highest dividend. However, firms located in the

intermediate performance group also pay an additional dividend due to signaling reasons: they need to differentiate their better performance from the inferior performance of companies located in the low performance group.

Hypotheses

The behavior demonstrated by the three groups of firms presented in the study framework leads to a nonmonotonic relation between dividends and firm type, that is, a relation that is not linear. This leads to three testable

hypotheses:

Hypothesis 1: Firms in the intermediate prior performance group have the highest dividend payout due to two related factors: information asymmetry and agency problems.

Hypothesis 2: Firms in the high prior performance group have the second highest dividend payout due to agency problems.

Hypothesis 3: Firms in the low prior performance group have the lowest dividend payout. They may have agency problems, but at a lower level than firms in the intermediate and high performance groups due to lower free cash-flow.

Data

The data used in the study was retrieved from the SETSMART database of the Stock Exchange of Thailand (SET). This riate due to the availability of detailed data (such as dividends payment dates) essential to the completion of the study. The period under examination starts in January 2007 and ends in December 2011. For each individual company quarterly, semiannual or annual information on dividend yields, dividend per share, market capitalization, share volume, and book value of equity was gathered. A firm was considered to be dividend-paying if dividends payment was recorded for a given year. In total, 346 firms fulfilled the data requirements to participate in the study leading to a total of 2,614 observations.

The firms were divided into three groups according to their past performance: high prior performance firms, low prior performance firms and intermediate prior performance firms. This last group also includes high and low performance firms. Firms were classified by prior earnings, measured as the firm's earnings relative to the median earnings in the industry (industry affiliation is that indicated by the Stock Exchange of Thailand). The summary statistics in Table 1 show the general profile of the dividend paying firms in the sample during the period under analysis.

The intermediate performance group presents the highest dividend per share (2.108 baht), and the highest dividend yield mean value (5.829%) in the period, followed by the high performance group (1.474 baht and 5.793 baht respectively). Low performance firms appear in last place, with 0.895 baht and 4.200 baht.

Table 1

Descriptive Statistics

Prior Performance Group		Dividend per Share (Baht)	Dividend Yield (%)	Market Value ('000 Baht)	Book Value ('000 Baht)
High	Mean	1.474	5.793	27,500,000	15,130,000
	Median	0.520	5.310	6,480,000	4,515,000
Intermediate	Mean	2.108	5.829	17,440,000	9,995,000
	Median	1.000	5.030	2,020,000	1,830,000
Low	Mean	0.895	4.547	3,430,000	3,215,000
	Median	0.499	4.200	755,000	930,500
Total	*Mean*	*1.551*	*5.458*	*16,500,000*	*9,580,000*
	Median	*0.650*	*4.890*	*1,970,000*	*1,810,000*

These numbers present the nonmonotonic form expected from the theoretical argument. On the other hand, the average market value and the book value of the groups show a linear quality relationship, with high performance presenting both the highest market value and book value, followed by the intermediate performance firms and low performance firms.

Methodology

The methodology follows closely that found in Fuller and Blau (2010). In order to carry out the empirical analysis and determine if dividend-paying stocks outperform non dividend-paying stocks in declining markets, the study utilizes both univariate analysis and panel data regressions. For the relevant tables, p-values are reported by ***, **, *denoting statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Univariate tests determine if the differences between intermediate and high, intermediate and low, and high and low performance firms are significant. The predictions are also tested by the multivariate regression presented below:

$$\boldsymbol{Dividend} = \beta_1 \boldsymbol{Low} + \beta_2 \boldsymbol{Intermediate} + \beta_3 \boldsymbol{High} + \beta_4 \boldsymbol{Lsize} + \beta_5 \boldsymbol{Mktbk} + \beta_6 \boldsymbol{DivYld} + \varepsilon$$

Where *Dividend* is a measure of dividends payment for either dividend-per-share or dividend yield. Three dummy variables that classify the firms based on prior performance are created: (1) Low, is 1 if the firm has low prior performance and 0 otherwise; (2) Intermediate, is 1 if the firm has intermediate prior performance and 0 otherwise; (3) High, is 1 if the firm has high prior performance and 0 otherwise.

Growth opportunities are represented by the market-to-book ratio, *Mktbk*. *Lsize* is the log of the market capitalization, *DivYld* is the firm's previous dividend yield. *Mktbk* and *Lsize* information is collected for the quarter before dividends payment, *DivYld* is for the previous year. *Mktbk* is the market-to-book ratio before the dividend is announced.

Lsize has a significant positive effect on the dividend paid, whereas *Mktbk* has a significant negative effect on

the dividend paid. These results can be explained in the context of Fama and French (2001): large firms and firms with few growth opportunities generally pay more in dividends. Thus, a positive relationship between *Lsize* and both dividend-per-share and dividend yield exists. A negative relationship between the firm's *Mktbk* and both the dividend per share and the dividend yield exists. The firm's lagged dividend yield does not have a significant effect on the dividend-per-share or the dividend yield.

Empirical results

The tests for the difference in mean value between dividend-per-share and dividend yield presented in Table 2 confirm that there is a nonmonotonic relationship between firms' quality and dividends payment. For dividend-per-share, the difference between high and intermediate performance firms' mean values is significant at the 1% level.

The differences are also significant between intermediate and low performance firms (at 1% level of significance) and high and low performance (at 5%). With respect to dividend yield, intermediate firms present a higher value than high performance firms. However, this difference is not significant. On the other hand, differences between intermediate and low, and between high and low are significant at 5%.

Table 2

Difference in mean value test for dividends and dividend yield

Prior Performance Group	Dividend-per-Share (Baht)		Dividend Yield (%)	
High	1.474		5.793	
Intermediate	2.108		5.823	
Difference	*-0.634*	***	*-0.030*	
Intermediate	2.108		5.823	
Low	0.895		4.547	
Difference	*1.213*	***	*1.276*	**
High	1.474		5.793	
Low	0.895		4.547	
Difference	*0.579*	**	*1.246*	**

***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively

The results found in Table 2 confirm all three hypotheses previously formulated: among those Thai firms that pay dividends, firms in the intermediate prior performance group have the highest payout at 2.108 baht per share. This finding supports Hypothesis 1 above. Hypothesis 2 is confirmed by the finding that firms in the high prior performance group have the second place in terms of dividend payout, with 1.474 baht per share. Additionally, they also have higher dividend yield than low performance firms. Finally, firms of low prior

performance pay the lowest dividend of all three groups (0.895 baht per share), as described in Hypothesis 3. All of these results are in line with those found in Fuller and Blau (2010), with intermediate performance firms paying the highest dividends, followed by high performance, and at the end, by low performance firms.

The regression model presents similar results to that found in the univariate analysis. Dividend-per-share in Table 3 shows the expected nonmonotonic outcome, with intermediate performance firms presenting the highest value, followed by high performance firms and, finally, low performance firms. As in the univariate test in Table 2, these results confirm the study hypotheses 1, 2 and 3, respectively.

Table 3

Multiple Regressions – Dividend-per-Share and Dividend Yield

Explanatory variable	Dividend-per-share	Dividend yield
Low	0.4019	1.8245
	(0.045)	*(0.000)*
Intermediate	1.5484	3.5168
	(0.000)	*(0.000)*
High	0.8052	3.2915
	(0.008)	*(0.000)*
Lsize	0.0927	0.3721
	(0.023)	*(0.000)*
Mktbk	-0.0470	0.1604
	(0.319)	*(0.059)*
DivYld	-0.0062	0.3465
	(0.414)	*(0.000)*
N	2614	2614
Adjusted R^2	10.61%	10.38%
F	123.73	50.09
	(0.000)	*(0.000)*

Tests for the differences between the coefficients reveal that the difference between intermediate and low has a p-value of 0.0295, while the difference between intermediate and high has a p-value of 0.000. However, the difference between high and low is shown to be non-significant, although the coefficient for dividend-paying high performance firms (0.8052) is higher than the coefficient for low performance firms

(0.4019). *Lsize* and *Mktbk* have the expected signals, positive and negative, respectively, but the last one is not significant.

The findings for dividend yield are less conclusive. Although the coefficients show a nonmonotonic behavior, the difference between intermediate and high is not significant. The differences between intermediate and low, as well as high and low, have p-values of 0.000 and 0.027, respectively. *Lsize* and *Mktbk* are both significant. However, the signal for the last one is the inverse of the prediction.

Conclusion

The empirical tests support the prediction that dividends payout is non-linear when a firm's performance is included as a variable affecting the firm's dividend policy: it is clear that firms that have intermediate prior previous performance pay the highest dividends. However, differences between intermediate and high performance firms are not significant for dividend yield. Additionally, results seem to be stronger for dividend-per-share. The analysis of the Thai market shows that, overall, there is a nonmonotonic relationship between firms' quality and dividends.

Furthermore, some results did present low statistical significance – or had no significance at all – particularly with respect to dividend yield. It is possible that the sample period used for the study – five years – was not of adequate size. Another drawback related to the short sample period is that results may be specific to that period of time (2007 to 2011) and cannot be generalized to other time periods. To overcome these shortcomings, future studies should use a longer period of analysis, opening the possibility to compare different sub-periods.

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