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DETERMINANTS OF DIVIDEND PAYOUT POLICY IN EMERGING MARKETS: EVIDENCE FROM THE ASEAN REGION

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ABSTRACT

This study examines the determinants of dividend payout policy by analyzing the behavior of 226 nonfinancial firms in three emerging markets in the ASEAN region from 2012 to 2016. The OLS regression model is employed to investigate the impacts of firms' characteristics and countries' factor on dividend payout decisions. The results show that the dividend payout is positively related with profitability. In contrast, growth opportunity has a negative effect on dividend payout. Other factors such as firm size, free cash flow, financial leverage and liquidity have little or no significant relationships with dividend payout decisions. A further contribution of this research is that it considers the impact of law on firms and their investor relationships. The results from this analysis reveal that firms in countries with higher investor protection tend to pay more dividends.

Contribution/ Originality: This research has examined the impact of determinants on dividend payouts. OLS is used in this study. We found that profitability is positively related with dividend payouts but that growth opportunity has a negative effect. Other determinants such as firm size, free cash flow, financial leverage and liquidity have little or no significant relationships with dividend payouts.

1. INTRODUCTION

Since Lintner (1956)'s work on dividend payouts and the dividend irrelevance hypothesis of Miller and Modigliani (1961) dividend payout policy has become one of the most controversial topics and prior research has tried to find out the main determinants of this action resulting in the development of several theories on dividend policy.

Stakeholders and shareholders of a firm seem to have different views concerning whether their firm should pay dividends or retain earnings, and how to determine the time and the volume of dividend payouts. Signaling theory, pecking-order theory, life-cycle theory and agency cost theory are four common theories that have been developed to explain the changes in dividend policy. Based on these theories, a significant number of studies have examined which determinants directly or indirectly impact on dividend payout decisions. The most commonly investigated determinants are free cash flow, firm size, profitability, financial leverage, growth opportunity and liquidity.

Dividend signalling theory formulated by Miller and Modigliani (1961) argues that announcements about dividend payouts provides a signal about a firm's financial health. In line with the signalling theory, the agency cost theory states that the firm is likely to pay more dividends to mitigate this dilemma. In contrast, under asymmetric information, the pecking order theory and the life-cycle theory state that dividend payout policy works in connection with firm's capital structure.

The pecking order theory developed by Myers and Majluf (1984) explains why firm would prefer using internal sources rather than external sources to finance their investments. Meanwhile, the life-cycle theory proposed by DeAngelo et al. (2006) claims that in each development stage, a firm has a different dividend policy because of their growth opportunity.

The relationships between dividend payout policy and other factors is also framed by other theories such as the tax-based theory or the free cash flow hypothesis. These theories have encouraged many studies analyzing to find the answer to the dividend puzzle. However, the findings drawn from previous studies are mixed and controversial so the puzzle of dividends is still a hard question to address.

Previous studies indicated that the patterns of dividend payout policies do not only differ across time periods (Sarig, 2004) but also across countries (Porta et al., 2000; Frankfurter and Wood Jr, 2002) as well as between emerging and developed countries (Adaoglu, 2000; Aivazian et al., 2003). However, an examination of dividend policy practices in emerging countries is currently not well established in the literature. Glen and Singh (2004) argued that in comparison with firms in developed countries, the dividend policies of firms from emerging markets are quite different in nature and characteristics because of various factors. Adaoglu (2000) indicates that the emerging market firms followed unstable cash dividend policies and that the main criterion that determines the amount of cash dividends was the earnings of the firm in that year. Aivazian et al. (2003) highlight that firms in developing countries were shown to be less reluctant to change their dividends than their United States counterparts. These differences of the particular markets themselves raised the question of the extent to which the competing dividend policy theories could apply to such markets.

In previous studies, researchers investigated emerging markets in Africa like Middle East and North Africa countries (Jabbouri, 2016) or Europe like Greece (Patra et al., 2012) or as per the research of Benavides et al. (2016) in Latin American countries. However, there are few studies on Asian emerging markets such as those of Sawicki (2009) and Fairchild et al. (2014). Thus, this study with an emphasis on dividend policy in emerging countries in The Association of Southeast Asian Nations (ASEAN) fills a gap where the literature is currently limited. The three representative countries selected were Indonesia, Thailand and Malaysia.

This research contributes to the literature in several ways. First, it provides a workable test for the determinants of dividend payouts with a more accurate model by examining whether determinants in emerging market are the same as those in the developed markets. Second, this paper also analyses the determinants of dividend payouts in emerging markets in the ASEAN by using a more recent data set of dividend payouts than the previous studies.

Based on theories and previous research, the study chose seven typical determinants to analyze their effect on dividend payout policy including free cash flow, growth opportunities, firm size, financial leverage, profitability, liquidity and rule of law. OLS is used as the main technique for the study. The sample data was collected from 226 firms of three selected countries in the period of 2012-2016 to capture the management view of these firms to make dividend payout decisions and assess the effect of the countries' laws on the firms' corporate governance.

The second section of this paper discusses the existing literature on theories related to a firm's corporate governance, determinants of dividend policy and the characteristics of emerging markets. The research methodology and dividend payout data are described in section three. A detailed analysis of the results and discussion are included in section four, followed by a conclusion and the study's future implications in section five.

2. LITERATURE REVIEW AND HYPOTHESES

From the publication of the dividend payout work of Lintner (1956) and the dividend irrelevance hypothesis of Miller and Modigliani (1961) up until now there is no consensus agreement on an answer for the questions: "Why a firm chooses to pay dividends and which determinants do they use to decide on their dividend payout policy?". Black (1976) considered dividends as a puzzle with a hard to find solution. The dividend puzzle is viewed from several angles: transaction costs, taxes, capital ability and interest of investors. Traditionally, the principal hypotheses of dividend policy can be an emerging consensus of free cash flow, signalling models, pecking order theory, agency cost, and tax effects hypotheses (Lintner, 1956; Miller and Modigliani, 1961; Jensen and Meckling, 1976; Myers and Majluf, 1984; DeAngelo *et al.*, 2006).

Initially, the signalling hypothesis was formulated by Miller and Modigliani (1961) which suggested that share prices react positively to the announcement of dividend changes. Earlier, Lintner (1956), testing data of twenty-eight US industrial firms from 1947 to 1953, indicated that the current earnings and the existing dividend rate were the most important factors to determine the amount of any change in dividends. Under the information asymmetry theory, Miller and Rock (1985) also developed a formal model which suggested that a firm with higher current earnings is expected to pay a higher level of dividends than a firm with lower current earnings. In line with this viewpoint, Fairchild (2010) reinforced the signalling hypothesis that the dividend may provide a signal of current earnings to investors and affect the ability of the firm when investing in new projects. Furthermore, Liu and Chen (2015) indicated that managers change dividends for signalling future equity-scaled earnings changes.

The pecking order theory was developed by Myers and Majluf (1984). Under asymmetric information, a firm is likely to use internal capital instead of external financing to avoid possible conflicts with old and new investors and consequences of manager's insider information. To build up financing slack, firms can cut down dividends or issue stock. In comparison between two external financing sources, issuing debt is seen to be better and safer than financing by equity. Thus, dividends are associated with free cash flow and investment prospects.

The life-cycle theory proposed by DeAngelo *et al.* (2006) claimed that new firms tend to pay less dividend due to their capital gains mainly from investors and shareholders instead of their operation. On the other hand, older firms or mature firms are willing to pay more dividend as their capital is earned not contributed and they seem to run out of investment opportunities. Thus, firms in their mature stage and with slower growth opportunity are likely to pay higher dividends (Baker and Kapoor, 2015). A large proportion of no dividend payers are small firms who have a tendency to invest relatively more capital for research and design rather than pay out dividends (Fama and French, 2001). They argued that firms that have better investment opportunities tend to pay less or are more likely to pay nothing.

The agency cost theory suggested that a firm's capital structure is affected by attempts to minimize the costs arising from the separation of control and ownership. Dividend is considered as a part of income they can receive and also a safe channel for them to avoid residual risk if the firm has to face financial distress. No dividend payouts means the free cash flow under managers' control will increase and as a result, agency problems may occur in the firm. Dividend policies can be used as a method to tackle agency problems between firms' managers and outside shareholders because the board of directors who want to prolong their tenure must keep to their promises with their investors by increasing their interests (Porta *et al.*, 2000).

Under the tax-based theory, institutional ownership is related to dividend payout because of the tax differential and clientele effect (Poterba and Summers, 1984). Desai and Jin (2011) examined whether taxation changes affect dividend policy and highlighted that taxable institutions hold shares in low payout firms. The mix of governance and taxation is more likely to affect the dividend payouts with the results showing that firms in countries with high investor protection pay higher dividends, while in countries with weak investor protection, the effect of taxation is weaker (Alzahrani and Lasfer, 2012).

Related literature covers almost all the different theoretical frameworks to explain the dividend puzzle. However, these theories are generated and have been developed based on assumptions and empirical research in developed market. Empirical tests implemented in developed countries' firms gained statistically significant results. However, dividend policy in emerging markets differs from those in developed countries by virtue of differences in terms of corporate governance (Mitton, 2004) ownership structure (Lin *et al.*, 2011) and taxation on dividends and capital gains (Porta *et al.*, 2000). In addition, firms in emerging markets are subjected to more financial constraints than their counterparts in developed markets (Glen and Singh, 2004) and they often have less market efficiency, and have smaller market capitalization (Bekaert and Harvey, 2003).

In their research on dividend payout determinants in MENA region, Jabbouri (2016) employed OLS with fixed-effect regression to analyze the dataset of industrial firms of ten countries from 2004 to 2013. The analysis reveals that size, current profits, and liquidity show a significant positive association with dividend payments. Leverage, growth, free cash flow, and the state of the economy are significantly negatively related to dividend policy. Whereas, the expected level of future profits and pattern of past dividends have no significant influence on a firm's dividend policy. One of the most striking results is that free cash flow has a negative relationship with dividend payout, which raises "a red flag" about serious agency problems and shareholders' expropriation within these firms. Weakness of governance mechanisms, at both country and firm level, and the severity of information asymmetry in MENA markets are why there is a negative relationship between the state of the economy and dividend policy.

In Europe, Patra *et al.* (2012) implemented an empirical test with GMM regression to determine the effects of six factors on the dividend policies of 63 Greece nonfinancial firms in the period of 1993 - 2007. These findings reported that firm size, profitability and liquidity related positively to dividend payments, and that investment opportunities, leverage and business risk were inversely associated with dividend decisions.

Determinants of dividend payout policy are also studied in Latin American countries. In the research of Benavides *et al.* (2016) they found each country has a different target payout and speeds of adjustments. Firms in countries with a higher rule of law compliance were more likely to pay a higher rate of dividends. This positive association between the target payout and the rule of law abidance supports the "outcome model" of the agency theory of dividends (Porta *et al.*, 2000). It appeared that investors in more relatively law-abiding countries (Argentina, Brazil, and Chile) were able to extract higher dividends than those investors in countries where the rule of law is weaker (Colombia, Mexico, and Peru).

For evidence from Asia, Labhane (2017) utilized the logit regression model on dataset of 947 Indian firms from 1995 to 2013. These results suggested that firm size, profitability, investment opportunities, firm maturity, leverage, business risk, and dividend distribution tax played a key role in determining a firm's dividend payout policy. However, Baker and Kapoor (2015) with a survey of 500 Indian firms reported that earnings and the pattern of past dividends appear to be the first-order drivers in making dividend decisions. In Asia, the firm's characteristics and legal conditions and regulations also influence the firm's dividend policy. Sawicki (2009) analyzing a dataset of twenty listed firms of each country (Indonesia, Malaysia, Thailand, Hong Kong and Singapore) over a ten year period indicated that dividends were the integrated outcome of both legal and internal mechanisms protecting minority shareholders' interests This finding confirmed that both firm- and country-level governance were important in shaping the nature of investor protection. Related to the ASEAN emerging markets, Fairchild *et al.* (2014) investigated dividend policy in Thailand. He employed regression analysis to test a dataset of 411 firms from 1996 to 2009. Past and current earnings changes had a positive relationship with dividend increases, whereas they did not have a significant effect on dividend decreases. Free cash flows had a positive effect on dividend changes, however, they did not find the significant effect in terms of firm size and future growth. This research supported the free cash flow theory and the lifecycle theory; therefore, dividend stability is found in Thailand, especially in mature firms. In another approach, Baker and Powell (2012) conducted a survey on dividend policy with executives in Indonesia. They revealed that the most important determinants of dividends were the stability of earnings and the

level of current and expected future earnings. From the literature review and recent empirical research on emerging markets, it can be seen that the determinants of dividend payout policy are mixed and complex. The methodology in previous research is quite varied. Hence, in each region and countries, factors are likely to affect firms' dividend decisions in different ways. Based on related reviews, this study suggested hypotheses about the relationships between dividend payout policy and seven determinants as follows:

2.1. Free Cash Flow

Recent studies reinforced cash flow as a main determinant of the dividend payout policy. Chay and Suh (2009) highlighted the negative correlation between dividend policy and cash flow uncertainty as one of the most important determinants of dividend policy. Under the agency cost theory, paying higher dividends can minimize the agency cost and information asymmetry (Porta *et al.*, 2000). However, under the pecking order theory, internal financing as free cash flow is usually prioritised first when firm need capital for their projects (Myers and Majluf, 1984).

H_{a0}. *Free cash flow does not have effect on dividend payout ratio*
H_{a1}. *Free cash flow has significant effect on dividend payout ratio*

2.2. Firm Size

Under the life-cycle theory, dividend payouts have a positive relationship with firm size because the cash flows of big and mature firms are from their earnings not investors' contribution although younger and smaller firms work in contrast to this. Fama and French (2001) in research on US firms indicated that firms paying less or nothing are small. The agency cost theory exposes the same relationship between firm size and dividend payouts. To minimize the agency cost and protect shareholders' interest, dividends could be increased.

H_{b0}. *Firm size does not have effect on dividend payout ratio*
H_{b1}. *Firm size has positive effect on dividend payout ratio*

2.3. Profitability

Many studies reinforce that profitability is one of the most important elements to managers for deciding on dividend policy (Fama and French, 2001; Chay and Suh, 2009; Baker and Jabbouri, 2016). This positive relationship is consistent with the signalling theory that dividends provide signals about a firm's future prospects when current earnings are known. Positive profitability creates more cash flow for firms; therefore, shareholders expect managers to pay more dividends to maximize their wealth as well as mitigate agency costs. Patra *et al.* (2012) and Jabbouri (2016) in their research also indicated the positive relationship between profitability and dividend payouts.

H_{c0}. *Profitability does not have effect on dividend payout ratio*
H_{c1}. *Profitability has positive effect on dividend payout ratio*

2.4. Growth Opportunity

There are different opinions on the relationship between growth opportunities and dividend payouts. The life-cycle theory indicates that in each development stage of a firm, they have a different dividend policy. Meanwhile, in the pecking order theory, Fama and French (2001) highlighted that firms that have better investment opportunities tend to pay less dividend or pay nothing because they can use the available internal capital to finance potential projects. However, in some empirical research, they reveal that growth opportunity has a significant and negative link with dividend policy (Patra *et al.*, 2012; Jabbouri, 2016).

H_{d0}. *Growth opportunity does not have effect on dividend payout ratio*
H_{d1}. *Growth opportunity has significant effect on dividend payout ratio*

2.5. Financial Leverage

Many studies highlighted that capital structure has an impact on dividend policy. The cost of debt will be a financial burden for a firm in the future so they need to cut down on dividends to overcome this difficulty (Gugler and Yurtoglu, 2003). Alternatively, an increase in the leverage ratio means the firm depends too much on external financing so to reduce this ratio, they need to retain more earnings to finance their future investments. The firm would prefer paying less dividends rather than using debt (Mather and Peirson, 2006).

H_{e0}. Financial leverage does not have effect on dividend payout ratio

H_{e1}. Financial leverage has negative effect on dividend payout ratio

2.6. Liquidity

In recent research, they highlighted the important role of liquidity in setting dividend policy (Kato et al., 2002; Deshmukh, 2003). The liquidity ratio represents a firm's ability to pay their debt obligation. To meet the demand for account payables and other debt obligations, a firm needs to cut down on their dividends. In line with the free cash flow theory and the pecking order theory, the relationship is that firms prefer internal to external capital sources to finance their investments.

H_{f0}. Liquidity does not have effect on dividend payout ratio

H_{f1}. Liquidity has positive effect on dividend payout ratio

2.7. Rule of Law

The rule of law is an essential factor to find out whether or not a country's governance has any influence on a firm's governance practice. Harford et al. (2008) argued that firms in countries with high investor protection have the tendency to pay out more dividends than firms in countries with lower investor protection. In the Asian market, Goyal and Muckley (2013) reinforced this argument by testing it in ten Asian countries in the period of 1990 - 2009.

H_{g0}. Rule of law does not have effect on dividend payout ratio

H_{g1}. Rule of law has positive effect on dividend payout ratio

3. RESEARCH METHODOLOGY

The following section outlines the data and methodology used in our paper. We first present the data on ASEAN firms and then discuss in detail the data used in our cross-sectional regressions. The next part briefly demonstrates the methodology used for measuring the determinants of dividend payout policy.

3.1. Data

This study focused on the dividend payout and other factors that have influence on dividend policy of firms in the ASEAN emerging markets in the period $2012 - 2016$. The sample data was collected from 226 non-financial firms from three ASEAN emerging markets including Malaysia, Indonesia and Thailand from $2012 - 2016$ (a total of 1130 observations) from Datastream. All the data was yearly and obtained in the currency of each country. Banks and financial institutions were excluded from the sample as their different accounting practices, financial leverage and regulation compared to industrial firms may significantly affect dividend policy decisions (Fama and French, 1992). To avoid bias, this study only collected data on industrial firms so services as well as property and construction sectors were also excluded. The final sample consisted of all firms listed in five sectors as set out in Table 1. In order to improve the reliability of data in the final sample, the following restrictions were imposed on the selected firms: (1) the firm must be a public firm and listed on the stock market in each country before 2012; (2) the firm must pay dividend frequently in the period of $2012 - 2016$, (the firms which did not pay dividend for at least one year in this period were be dropped as exclusion of the non-dividend paying firms from the analysis may

lead to a selection bias (Li and Zhao, 2008)); (3) the sample is exclusive of delisted firms; and (4) multinational corporations' regional headquarter offices were not included because of their complexity and large size. The study collected the growth opportunity index data of each firm in the period 2012-2016 from Bloomberg. In terms of the rule of law variable, the paper obtained data from World Justice Project annual reports about global rule of law indexes.

2012 was chosen as the beginning year of the sample time due to the influence of the financial crisis in 2007. The global financial crisis started in the United States in 2007 and it influenced the whole world economy, including developed and developing economies. However, as of 2012, most firms had recovered.

Table-1. A number of firms in the final sample in each country and by sectors.

Sectors	Malaysia	Indonesia	Thailand
Beverage, food producer and tobacco	41	13	22
Chemicals and Pharmaceuticals and Biotechnology	20	9	20
Electronic and electrical equipment	9	2	11
Personal goods	12	3	18
Industrial firms (including Industrial engineering and general industrial)	29	2	15
Total sampling	**111**	**29**	**86**

Table 1 presents the descriptive statistics of all the variables employed in the study and it exposes the characteristics of firms in each country.

Table-2. Descriptive statistics.

Items		Indonesia (Panel 1A)	Malaysia (Panel 1B)	Thailand (Panel 1C)	ASEAN emerging markets (Panel 2)
Number of observations		145	555	430	1130
Number of firms		29	111	86	226
Div	Mean	34.77	44.52	49.94	45.33
	Median	34.17	39.89	51.01	44.40
	Standard Deviation	24.10	28.08	37.40	31.86
	Min	-114.91	-53.64	-116.69	-116.69
	Max	137.01	169.77	140.21	169.77
FCF	Mean	6.45	5.54	6.38	5.98
	Median	6.02	5.81	6.69	5.94
	Standard Deviation	8.77	7.54	9.39	8.45
Size	Mean	9.52	5.72	6.56	6.52
	Median	9.47	5.60	6.43	6.12
	Standard Deviation	0.64	0.64	0.66	1.37
Profit	Mean	15.96	10.44	12.19	11.82
	Median	14.82	9.87	10.96	10.91
	Standard Deviation	8.99	6.51	9.19	8.15
Growth	Mean	10.03	5.80	5.23	6.13
	Median	9.06	5.24	4.70	5.38
	Standard Deviation	6.81	4.88	6.76	6.11
Lev	Mean	36.36	24.60	39.84	31.91
	Median	24.19	12.47	20.88	16.80
	Standard Deviation	41.10	29.88	46.50	39.09
Liq	Mean	2.61	5.00	2.96	3.92
	Median	2.20	2.85	2.07	2.42
	Standard Deviation	1.64	7.88	2.53	5.86

Table 2 shows the dividend payout ratio for the whole sampling which varies from -116.69% to 169.77% with a mean of 45.33%. Among three countries, Thailand has the highest dividend ratio with 49.94%, followed by Malaysia with 44.52% and Indonesia with 34.77%. The highest dividend ratio belongs to a Malaysian firm and the lowest one is a Thai firm. When the dividend payout ratio is less than 0% it means that some firms continue paying dividends even when they have net loss. Whereas, when the dividend payout ratio is more than 100% it means some firms pay

more dividends than their net income after tax and depreciation. The sampling recorded that there are more Thai firms which have negative or high (>100%) dividend payout ratios than in Indonesia and Malaysia, that's why the *Div* standard deviation in *Panel 1C* is the largest one. Notably, one Thai firm had a negative dividend payout ratio for four consecutive years; whereas, one Malaysia firm had a high (>100%) dividend payout ratio for five consecutive years.

The highest *FCF*, *Size*, *Profit* and *Grow* means are in *Panel 1A*. The *Size*, *Profit* and *Grow* median of Indonesia are also the highest. These figures mean that Indonesian firms' sizes are bigger than Thai and Malaysian firms' and they have better profitability and growth opportunities. However, the highest *FCF*, *Size* and *Profit* standard deviation are in *Panel 1C* with value of 9.39%, 0.66 and 9.19%, respectively, which means that Thai firms' *FCF* and *Profit* fluctuate more than Malaysia and Indonesia firms do and the size of Thai firms has a wider range. In addition, Thailand has the highest *Lev* mean and standard deviation. One of the most striking points is that the mean, median and standard deviation of *FCF*, *Size*, *Profit* and *Lev* in *Panel 1B* are the lowest; however, the *Liq* mean, median and standard deviation in it are the highest. They imply that Malaysia firms were more stable than their counterparts in Thailand and Indonesia.

In *Panel 2*, the *FCF* means is 5.98% and median is 5.94 but its standard deviation reached 8.45%. The *Size*, *Profit* and *Grow* are likely to have normal distribution with quite small standard deviation. The mean and median of *Size* are 6.54 and 6.12, which indicate that most of the firms in the sample are medium sizedSo profitability and growth opportunity are modest because the mean and median are not too high or too low. The *Lev* and *Liq* standard deviations are higher than their means and medians which mean that there are a large number of firms with high leverage and liquidity in the sample, even though many firms do not use debt or other liabilities to finance their assets.

3.2. Variables Measurement

The choice of the aforementioned variables was influenced by the available empirical literature and the data was obtained from firms' annual reports. Obviously, the dependent variable is measured by the dividend payout ratio. It is defined as the ratio of total common dividend (cash) divided by net income used to calculate basic earnings per share.

To make the study deeper and clearer, seven independent variables were selected to test whether or not they have a statistically significant effect on dividend payout policy. There were six independent variables in the study's model including cash flow ratio, growth opportunities, firm size, financial leverage, profitability and liquidity. In addition, the rule of law was the last independent variable selected to test. Based on indices from the World Justice Project, the rule of law index of these countries is shown in Appendix 1. The highest rule of law score was encoded by 3, the second was encoded by 2 and the last one was encoded by 1. The description of the independent variables and the expected sign for them based on the literature review and expectation of the author is presented in Appendix 2.

3.3. Models for Cross-Sectional Analysis

First, the study ran a model tested in each country dataset. Based on the results of this model in each country, the study assessed the effect of each factor on the dividend payout ratio and compared the difference in result for each country. A model was built with the dependent variable (dividend payout ratio) and the six explanatory variables set out as follows in Equation 1:

$$Div_{i,t} = \beta_0 + \sum_{k=1}^{6}\left(\beta_k\, X_{k,i,t}\right) + \varepsilon_{i,t} \qquad (1)$$

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where $Div_{i,t}$ is the vector of dependent variable as dividend payout ratio of firm i at the end of year t; $X_{k,i,t}$ is vector of independent variables, which includes free cash flow ratio, growth opportunities, firm size, financial leverage, profitability and liquidity; β_0 is the coefficient for the intercept and β_k is the coefficient for the independent variables; and $\varepsilon_{i,t}$ is the error term in the Equation 2.

The second model was built to test the effect of rule of law (*Rule*) as well as other determinants on dividend payout policy. This model was tested on the sampling of all three countries. The model was as follows:

$$Div_{i,t} = \beta_0 + \sum_{k=1}^{7}\left(\beta_k\, X_{k,i,t}\right) + \varepsilon_{i,t} \tag{2}$$

Where $X_{k,i,t}$ is vector of independent variables, which includes rule of law variable and six explanatory variables in model (1)

The study used panel data with FE and employed OLS regression with robust standard errors clustered by firm for three main reasons: (i) OLS estimation provides a practical benchmark (Boțoc and Pirtea, 2014) (ii) model will not be influenced by heteroscedasticity and multicollinearity problem of simple OLS model, and (iii) the study wants to collate results with the previous findings (Mitton, 2004).

The correlation matrix among variables is shown in Table 3. The results in Table 3 illustrate that Div had a significantly positive correlation with *FCF*, *Profit* and *Liq* and a negative correlation with *Size*, *Growth* and *Lev*; however, *Rule* did not seem to correlate with *Div*. The correlation coefficients between independent variables were significant, which implied that the regression may suffer from multicollinearity. However, running OLS regression for panel data in Stata could fix this problem because it would automatically omit collinearity variables.

Table-3. Correlation matrix.

Variables	Div	SL	FCF	SL	Size	SL	Profit	SL	Growth	SL	Lev	SL	Liq	SL	Rule
Div	1														
FCF	0.232	*	1												
Size	–0.100	*	–0.025		1										
Profit	0.138	*	0.354	*	0.157	*	1								
Growth	–0.269	*	0.109	*	0.188	*	0.746	*	1						
Lev	–0.173	*	–0.207	*	0.242	*	–0.099	*	–0.015		1				
Liq	0.132	*	–0.039		–0.172	*	–0.117	*	–0.117	*	–0.331		1		
Rule	0.014		–0.040		–0.577	*	–0.156	*	–0.064	*	–0.173	*	0.158	*	1

* SL (significant level): at 5%.

4. RESULTS AND DISCUSSION

4.1. Empirical Results

As mentioned above, this study used two models to test the relationships between dividend payout ratio and other determinants in each country and in all their countries in the period of 2012 – 2016.

Determinants on Dividend Payout Policy in Each Country

To investigate the determinants affecting dividend payout policy in Indonesia, Malaysia and Thailand, multiple regressions were generated between the dividend payout ratio and free cash flow, firm size, profitability, growth opportunities, financial leverage and liquidity. Table 4 reports the empirical estimation of model (1) based on the

OLS method. Based on the results of the Hausman test (Hausman, 1978) for differentiating between the fixed effects model and the random effects model in panel data, the FE model was used to run the model.

Table-4. Regression model (1) result.

Items	Indonesia (Panel 1A)	SL	Malaysia (Panel 1B)	SL	Thailand (Panel 1C)	SL
FCF	0.3328		-0.1536		0.4746	**
Size	-13.6038		-5.2270		-11.8774	
Profit	1.8157	***	1.861678	***	2.4191	***
Grow	-3.0496	***	-3.749428	***	-2.6503	***
Lev	0.07339		-0.0318		-0.2834	*
Liq	-2.7035		-0.3574		1.3934	
Intercept	168.0567	*	80.1282	**	116.3375	
R-square	0.3626		0.3592		0.1906	
Number of observations	145		555		430	

Notes: SL means significant level. ***, ** and * indicate statistically significant at 1%, 5% and 10% level, respectively.

To address the heteroskedasticity problem, the study obtained heteroskedasticity-robust standard errors also known as Huber/White estimators (Hoechle, 2007). The result of regressions for four panels with robust standard errors are shown in Table 5. The serial correlation problem did not show up on any regression model as statistically significant at the 5% level and the results are listed in Appendix 3.

Table-5. Regression model (1) heteroskedasticity-robust standard errors with results.

Items	Indonesia (Panel 1A)	SL	Malaysia (Panel 1B)	SL	Thailand (Panel 1C)	SL
FCF	0.3329		-0.1536		0.4746134	*
Size	-13.6038		-5.2270		-11.8774	
Profit	1.8157	***	1.8617	***	2.4191	***
Grow	-3.0496	***	-3.7494	***	-2.6503	***
Lev	0.0734		-0.0318		-0.2834	*
Liq	-2.7035		-0.3574		1.3934	
Intercept	168.0567	*	80.1282	**	116.3375	
R-square	0.3626		0.3592		0.1906	
Number of observations	145		555		430	

*Notes: ***, ** and * indicate statistically significant at 1%, 5% and 10% level, respectively.

The number of observations in the three panels are not equal. Malaysia was first with 555 observations, followed by Thailand with 430 observations and Indonesia with 145 observations. R-square in *Panel 1A* and *Panel 1B* were reliable with 0.3626 and 0.3592. R-square in *Panel 1Cwas* equal to 0.1906 but it was acceptable.

One of the most noticeable points is that in the regressions of all three panels, and statistically significant at the 1% level, the dividend payout ratio (*Div*) was positively related to profitability (*Profit*) but negatively related to growth opportunities (*Grow*). In Indonesia and Malaysia, only these two factors had a significant effect on dividend payout. However, in Thailand, the free cash flow (*FCF*) and leverage (*Lev*) were also significantly related to *Div*. *FCF* was positively related to *Div* (statistically significant at the 5% level); whereas *Lev* was negative related to *Div* (statistically significant at the 1% level). The results in Table 6 indicate that firm size (*Size*) and liquidity (*Liv*) were insignificant determinants for dividend changes in three countries.

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For deeper insight into the drivers of paying dividends behavior in the ASEAN emerging markets, the regression model (2) demonstrates some remarkable points in Table 6.

Table-6. Regression model (2) result (Panel 2).

Items	Coefficient	*t* statistic	*p* value
FCF	0.1559	1.58	0.114
Size	–4.2023	–0.48	0.634
Profit	2.2060	9.83	0.000
Grow	–3.0701	–12.37	0.000
Lev	–0.1664	–3.32	0.001
Liq	–0.2792	–0.75	0.453
Rule	4.9149	2.30	0.022
Intercept	59.3438	1.03	0.302
R-square	0.2641		
Number of observations	1130		

After testing for heteroskedasticity, this *Panel 2* had presence of heteroskedasticity. The results of the regressions with heteroskedasticity-robust standard errors for *Panel 2* with robust standard errors are shown in Table 7. The serial correlation problem also did not show up in the regression model (2) in Appendix 4.

Table-7. Regression model (2) heteroskedasticity-robust standard errors with result.

Items	Coefficient	*t* statistic	*p* value
FCF	0.1559	1.21	0.226
Size	–4.2023	–0.57	0.570
Profit	2.2060	9.15	0.000
Grow	–3.0701	–13.80	0.000
Lev	–0.1664	–1.96	0.052
Liq	–0.2792	–0.77	0.440
Rule	4.9149	1.69	0.092
Intercept	59.3438	1.22	0.222
R-square	0.2641		
Number of observations	1,130		

From Table 7, it can be seen that profitability had a significant and positive relationship with dividend payout. Meanwhile, growth opportunities and financial leverage were negative drivers of the magnitude of dividend changes. Free cash flow, firm size and liquidity did not seemto impact dividend payout policy. Table 7 reveals that the rule of law (*Rule*) had a little significantly positive effect on dividend decisions at the 10% level.

Integrating the empirical results from Table 5 and 7, highlights some remarkable figures. First, profitability and dividend payout have a significant and positive relationship. Second, growth opportunity is a negative determinant on dividend changes.

Firm size and liquidity are insignificant factors for dividend payout policy in the ASEAN emerging markets. To conclude, when statistically significant at 5% level, the findings cannot reject the null hypotheses of the firm size and liquidity assumptions as well as reject the null hypotheses of the growth opportunity and profitability assumptions. At the 5% and 1% levels of statistically significance, the assumptions of free cash flow and financial leverage cannot reject the null hypothesis in *Panel 1C*, respectively. However, they are rejected in *Panel 1A*, *1B* and *Panel 2*. The rule of law assumption rejects the null hypothesis and is statistically significant at the 10% level but it cannot reject the null hypothesis at 5% level.

4.2. Discussion

As the results of empirical tests show, each determinant of dividend payout policy in the ASEAN emerging markets provides an explanation for a firm's characteristics and the theoretical framework discussed in the previous section.

Free Cash Flow

In line with the free cash flow theory, the study expected that free cash flow and dividend changes would have a significant relationship. However, as the empirical test results show, only the Panel C regression shows a little positive relationship between them which means Thai firms with higher free cash flow tend to pay more dividend. This result is associated with the free cash flow hypothesis (Jensen, 1986) that dividends play an important role in corporate governance and mitigating agency costs. This finding is consistent with the result of Fairchild *et al.* (2014) examining dividend changes in Thailand. In contrast with previous research suggesting that free cash flow has a negative impact on dividend payout policy (Chay and Suh, 2009; Jabbouri, 2016) no evidence of the negative impact is shown in the study's results. In other words, in the ASEAN emerging market, firms may not prefer keeping potential capital than paying dividend when increasing the amount of free cash flow.

Firm Size

From the results of given regressions as shown above, there is no significant correlation between the firm size and dividend payout. Most of the firms in the sample are medium sized so maybe their sizes have no effect on their dividends payout behavior. This finding is different from other recent research due to the difference in research scope but similar to Fairchild's suggestions. In comparison with developed countries and other emerging market regions, this result implies that firms in emerging countries in the ASEAN may have different views on firm size when making dividend payout decisions.

Profitability

All the regression results reveal that the higher growth opportunity the firm has, the more dividends they pay. This result is consistent with the signalling theory because a firm is likely to provide a signal about their future prospects. One point is that a considerable number of firms still pay dividends even when they experience net losses. A plausible argument for this tendency is that managers in these firms have an incentive to cater to their investors and keep their firm's reputation intact. This finding is also consistent with the previous research on developed countries and other emerging markets (Baker and Jabbouri, 2016; Jabbouri, 2016).

Growth Opportunity

In line with the life-cycle theory proposed by DeAngelo *et al.* (2006) a firm tends to pay more dividend when they are more mature and have less growth opportunity. That is a reliable reason to justify why growth opportunity has a negative effect on dividend changes. Empirical results in the previous section are similar to the expectation. These selected firms show that growth opportunity plays an important role in making their dividend policy decisions. This finding is consistent with other research about emerging markets such as the MENA region and Greece.

Financial Leverage

Only in Panel 1C and Panel 2, do the findings reveal a significant and negative relationship with dividend changes, however, it is statistically significant at the 10% level, which is consistent with the previous studies (Patra *et al.*, 2012; Benavides *et al.*, 2016; Labhane, 2017). This is an appropriate result because no firm wants to suffer from financial stress in the future, which means they need to cut down on dividends to serve the cost of debt. Under the

tax-based theory, the difference in panels' results shows that the determinants of dividend payout policies of firms are different across countries.

Liquidity

There is no statistically significant relationship between liquidity and dividend payout ratio present in the study's empirical results. Most of the firms in the sample have a good liquidity ratio, which can be understood as their financial health being quite good. Thus, liquidity does not matter when the selected firms decide on dividend policy. This result is not the same as other findings on this relationship in Europe and the MENA emerging markets (Patra *et al.*, 2012; Jabbouri, 2016).

Rule of Law

Even though, the relationship between rule of law and dividend payout in the empirical test has significant results at the 10% level, it cannot deny that the rule of law is an essential determinant in the magnitude of dividend changes. The significant and positive relationship between them is associated with literature framework on tax-based theory and previous studies (Sawicki, 2009; Benavides *et al.*, 2016). It can be understood that in ASEAN emerging markets, firms in different countries have different corporate governance and firms in countries with higher investor protection tend to pay more dividend.

5. CONCLUSION

This study aimed to find out the determinants of dividend payout policy in emerging markets by analysing a sample of 226 firms in the ASEAN region (Thailand, Malaysia and Indonesia) over the period of 2012 − 2016. We used the OLS regression with the fixed-effect method to estimate the relationships between dividend payout and seven explanatory variables including free cash flow, growth opportunities, firm size, financial leverage, profitability, liquidity and the rule of law. The findings drawn from this study illustrates that in line with signalling theory and agency cost theory, the dividend payout is positively related to profitability. A noticeable number of firms keep their dividend payout ratio stable even when they experience losses in net income. This action means that firms in the ASEAN emerging markets avoid cutting dividends to protect their firm's reputation. Meanwhile, growth opportunity has negative effect on dividend payout as predicted by the pecking order theory and the life-cycle theory. This finding implies that these financing investment behaviours of firms in emerging market are the same as those in developed countries. However, the findings demonstrate that free cash flow and leverage only have a significant impact on making dividend decisions in Thai firms, which is consistent with the findings of Fairchild *et al.* (2014). Unlike previous results in developed countries, this study does not find a significant relationship between firm size and a dividend payout decision. Liquidity and dividend payout are not shown to have a significant relationship. A large number of firms in the sample have a liquidity ratio of zero, which implies that they would not suffer from financial burdens and that liquidity is not an important driver of dividend changes.

The impact of country based factors on firms and their investor relationships is shown in the results. The relationship is not quite significantly positive but it partly reveals that firms in different countries have different corporate governance. Firms in countries with higher investor protection tend to pay more dividends. This can be seen in that the dividend payout ratio mean in Malaysia is higher than in Indonesia and Thailand.

Along with these findings, the study has significant theoretical and practical implications. The empirical results support the literature on dividend payout policy in the case of emerging markets in the ASEAN. Based on the results, expanded research can be carried out in other countries and quantitative research can be tested on larger scales.

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Appendix-1. Rule of law indices on the period 2012-2016.

Year	Malaysia	Indonesia	Thailand
2012	0.6	0.52	0.53
2013	0.6	0.52	0.53
2014	0.58	0.52	0.52
2015	0.57	0.52	0.52
2016	0.54	0.52	0.51

Source: World Justice Project.

Appendix-2. Description of the predictor variables.

Variables	Calculations	Expected sign
Dividend ratio	Total common dividend (cash)/net income after tax and depreciation	
Free cash flow	Free cash flow ratio (free cash flow/total assets)	+/-
Growth opportunities	Sustainable growth ratio forecasted by Bloomberg	+/-
Size	Firm size (Natural logarithm of total assets)	+
Leverage	Financial leverage ratio (book value of debt/total assets)	-
Profitability	Net Income divided by shareholder's Equity	+
Liquidity	Current ratio (current assets/current liabilities)	+
Rule of law	Rule of law index ranking	+

Appendix-3. Serial correlation test result for model (1).

Wooldridge test	Indonesia (Panel 1A)	Malaysia (Panel 1B)	Thailand (Panel 1C)
Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation			
Prob > F	0.1258	0.0931	0.7614

Appendix-4. Serial correlation test result for model (2).

Wooldridge test	Panel 2
Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation	
Prob > F	0.1258