THE IMPACT OF PROFITABILITY, LI QUIDITY, LEVERAGE AND FIRM SIZE ON CASH DIVIDEND PAYMENTS FOR PUBLIC LISTED COMPANIES IN MALAYSIA AND THAILAND

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ABSTRACT

Dividend policy has been examined by researchers in finance and corporate finance to provide insights for corporate management in designing dividend payout policy. Dividend payout is deemed as a reward for the capital invested by shareholders and the market follows the dividend announcement by the company each year. The decision made on dividend payout policy differs from one company to another as there is not one set of determinants that explains the factors determining or influencing dividend payout policy. This study examines the impact of profitability, liquidity, leverage and firm size in determining the annual dividend payout ratio. The proxies used to measure the financial elements are return on equity, net cash flow, the debt to equity ratio and market capitalization. The data consists of 100 publicly listed companies on the stock exchanges of Malaysia and Thailand. The annual data on key financial indicators mentioned above are taken for the period of 11 years from 2004 to 2014. The data is analysed using fixed effect and random effect panel data regressions. The empirical findings show that profitability which is measured by return on equity has a significant negative impact on dividend payout ratio other variables are not statistically significant in influencing the dividend payout ratio. Further analysis is made to observe the impact of profitability, liquidity, leverage and firm size towards dividend payout ratio for each respective country by using separate dataset of Malaysia and Thailand. It is found that not all of the variables influence the decisions made on dividend payout policy for Malaysian public listed companies. On the other hand, it is found that the dividend payout ratio for companies listed on the Thailand stock exchange is influenced by profitability. The findings show that firms with high profitability tend to pay lower cash dividends. The underlying reasons that can be derived from the results obtained are (i) that companies are focusing on achieving sustainable growth rates which can be obtained with a higher percentage of retained earnings; (ii) that companies are retaining their earnings for higher dividend growth over time. Companies in Malaysia and Thailand are operating in an emerging market, thus higher retained earnings are being used for strategic management plan like expansion, mergers and acquisition and diversification in order to strengthen market position in the region.

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INTRODUCTION

Exploring the subject of dividend payout policy is not a new subject matter as the history of past studies shows that the topic of dividend policy has been discussed for a long by finance researchers. The first empirical study on the subject was conducted by Lintner (1956) on how corporate managers derive their dividend policy. He developed a theory known as Lintner's Model that explains that it is quite an uncommon practice for companies to change their dividend policy unless an increase in earnings is sustainable. Therefore, a change in the dividend policy will only occur if managers can see the earnings level for the particular company could sustain the new level.

Essentially, dividend payout is an alternative action for companies when the financial year ends and the net income of the company will either be portioned into retained earnings and distribution to shareholders or solely into retained earnings which will be used for the next financial year as a reinvestment or to execute strategies like expansion, acquisition and venture projects. The decision about paying out dividends to shareholders is totally optional and subject to the agreement of the board members. The decision of reinvestment explains the reason behind the absence of dividend payments in some years. However, the growth of the company for the next few years must justify the decision made earlier in order to satisfy the shareholders following the absent of dividend for that particular year.

Modigliani and Miller (1961) under the theory of dividend irrelevance explain that dividend is irrelevant to the investors under the assumption of perfect capital market and no imposition of tax. Further practical explanation was made on the theory that says that investors are capable of generating its own cash flow form the stock owned regardless of the announcement of dividend pay-out for the year. The important decision that is concerned by the investors would be the investment decision made by the company and not the decision on how the profit is distributed as the investment decision made would affect the cash flow of the firm and will be reflected in the stock price. Thus, dividend policy does not influence the investment decision made by investors. However, the public which is the shareholders would respond otherwise in which that the situation of perfect capital market does not exist and transaction cost would definitely incur to the investors in the process of selling the stocks. Thus, investors would prefer receiving dividend instead. Gordon (1963) and Lintner (1962) under the theory of bird-in-hand contradict the earlier theory of Modigliani and Miller whereby they explain that investors would prefer that a portion of income would be distributed as dividend following the uncertainty of cash flow.

As general as the above, dividend refers to the distribution of the portion of the profit generated by the company in a particular financial year. The most common type of dividend is cash dividend whereby the board of directors has come to a mutual agreement on paying a certain amount in cash as dividend to the shareholders on a specific date. The date of record is the date where the dividends are assigned to the holders and will be issued on the date of payment. Unlike cash dividend, stock dividend, scrip dividend and property dividend do not involve cash settlements.

The ultimate objective in establishing a company would be to maximize shareholders' wealth. Decisions made by the company shall be for the favour of the shareholders which follows the concept of social responsibility of business of Friedman (1970). Following the ultimate objective of the company, formulating dividend policy is deemed as a highly important

decision in ensuring the objective of wealth maximization is met. The dividend policy for shareholders may vary depending on the decision made by the board of directors. Among the types of dividend policy are constant-payout-ratio, regular dividend policy, and low-regular plus extra-dividendpolicy. Constant-payout-ratio dividend policy would refer to dividend policy that based its dividend payment to a constant percentage of earnings of the company for the year. Should the earnings of the company decreases, the dividend paid will also decrease. Unlike constant-payout-ratio, regular dividend policy provides certainty to shareholders whereby the dividend is given out based on a fixed-dollar dividend for each financial period. It is very seldom for the company to reduce the amount of dividend but commonly being increased when there is a confirmed and recognized increase in the level of earnings. The final type of dividend which is the low-regular and extra-dividend policy is quite similar to the regular dividend policy in regard to having a regular dividend but only that the amount of dividend paid is low. However, an additional dividend will be given out to the shareholders when earnings of the company are higher than normal during that financial year. The decision of giving out the additional or extra dividend is optional and the board has the choice to grant shareholders this extra dividend or otherwise. Companies that adopt such dividend policy are commonly among those who experience cyclical shifts in the earnings. The above normal earnings give the opportunity for the shareholders to share the good financial period experienced by the company as well and the regular dividend provide total certainty and stability of income to shareholders.

Modigliani and Miller are known for their contradictory opinion towards dividends but the research on the importance of dividends has been continuously conducted and the many theories with empirical studies made to understand why companies pay dividend and determining factors that influence the decision made on dividend issuance. Earlier part of this section has introduced bird-in-hand theory that also covers the reasoning behind the dividend issuance made by the company. Following that theory, signalling explanations Bhattacharya (1979,1980) explore that dividends would convey a firm's future prospects and such act of issuing dividend would lessen information asymmetry that exists between the management of the company and the shareholders. Mueller (1972) together with Fama and French (2001) suggest that dividend policy would follow a certain life cycle as the firm would experience. Firms that experience a growth stage will begin to pay dividend and as the growth rate increases, the dividend shall increase as well and when the firm starts entering its mature stage in the future, profitability is expected to decrease and so as the dividend which will also expected to decrease.

Despite the decades spent on studying dividendpolicy using various measures and proxies, the factors influencing or the determinants of dividend policy continue to be a puzzle and there is no one set of particular determinants that would be suffice to explain the determinants of dividend that suits all market conditions. The factors may interact differently according to the different market region which brings the idea of exploring the determinants of dividend policy within the Southeast Asia region.

MALAYSIA STOCK MARKET

The stock exchange of Malaysia today is now known by the name of Bursa Malaysia Berhad but was initially established as the Singapore Stockbrokers' Association in 1930 before

independence. The association was re-registered under the name of Malayan Stockbrokers' Association seven years later in 1937. After Malaysia gained its independence, The Malayan Stock Exchange was established in 1960 and the public trading of shares began that year. The days when technology was limited and far from being as fast as today, the board system was designed in such a way that trading rooms in Singapore and Kuala Lumpur were connected and linked by direct telephone lines.

In 1963 where Malaysia was formed after the secession of Singapore and Brunei, the Stock Exchange of Malaysia was established a year later and in 1965 the stock exchange was known as the Stock Exchange of Malaysia and Singapore. As years passed by, the currency interchangeability between these two countries faded which then led to the separation of this exchange into the Kuala Lumpur Stock Exchange Berhad and the Stock Exchange of Singapore. The exchange was incorporated in December 1976 and continues to maintain that name for almost 30 years. In 2004, the name changed to Bursa Malaysia Berhad following the demutualization of the entity in order to improve competitiveness of the exchange and to increase the presence of the exchange in the global market, rivalling other stock exchanges in the region. The strategy of the exchange has changed into being more customer-driven and market-oriented. Bursa Malaysia Berhad entered into a strategic partnership with the Chicago Mercantile Exchange (CME) which bought a 25% equity stake in Bursa Malaysia Derivatives Berhad. The partnership is deemed suitable in strengthening the position of the derivate market globally amid the fact that Malaysia is one of the largest crude palm oil exporters, creating the opportunity for the derivative market to expand across the globe.

The Malaysia stock market is divided into two sections which are the Main Market and the ACE Market. Previously, the listing boards consisted of Main Board, Second Board and MESDAQ which represent different sizes of companies ranging from large, medium-sized and small companies, respectively. In 2009, the Main Board and Second Board merged into the Main Market while MESDAQ was renamed the ACE Market. Similarly, the Main Market consists of large, stable and more mature companies while the ACE Market consists of fast growing companies with high potentials.

As of April 2015, there are 815 companies listed in Bursa Malaysia and the number is likely to grow in the future years following globalization of financial market that has taken place in the region. The sectors included in the stock market ranges from consumer products, construction, finance, hotels, industrial products, mining, plantation, technology, trading/ services and properties.

The listing requirements for companies to be listed in Bursa Malaysia differ between Main Market and ACE Market as both listing boards carry different platforms. The summary of the listing requirement for both listing board is tabulated in Table 1 as follows:

THAILAND STOCK MARKET

The involvement of Thailand in the capital market began in the 1960's following the Second National Economic and Social Development Plan which is a five-year development plan that outlines the strategies and action plans to develop the Kingdom of Thailand. Included in the national plan was the creation of Thailand regulated securities market which took place in 1967

Table 1
Listing requirements for Main Market and ACE Market of Bursa Malaysia

Aspect	Main Market	ACE Market

Mode of listing	a. Profit test
	  - Aggregate uninterrupted profit after tax of RM 20 million for three to five years.
	  - Profit before tax of at least RM 6 million for the most recent full year.
	b. Market capitalization test
	  Total market capitalization of at least RM 500 million upon listing.
	c. Infrastructure project corporation test
	  - Operate or have the right to build infrastructure project costs of at least RM 500 million
		No minimum operating track record

Public spread	At least 25% of the company's share capital and minimum of 1000 public shareholders holding at least 100 shares each	At least 25% of the company's share capital and minimum of 200 public shareholders holding at least 100 shares each
Bumiputera equity requirement	Bumiputera holds an allocation of 50% either company's share capital or public shares on best effort basis	No requirement upon initial listing

Source: Bursa Malaysia

to 1971. Previously, Thai capital market was known as The Bangkok Stock Exchange which was a privately owned entity and later became a limited company in 1963. The foundation and basis of the company was quite strong but the stock exchange was not able to keep up and became inactive. Annual turnover value dropped by 28.75% from 1968 to 1969 and trading volumes continued to fall sharply in the early 1970's. The stocks were performing weakly and the exchange hit bottom low at only 26 million baht market capitalization in the early 1970's.

The failure of Bangkok Stock Exchange was partially due to lack of government support and limited understanding of the investor on the knowledge of the capital market. This early period was the phase where the Thailand was not fully ready to embrace the capital market. Such failure finally attracted the attention of the government to step in and appropriate actions been taken to develop the capital market which led to obtaining the service of former Chief Economist of United States Securities and Exchange Commission. Serious discussion and studies resulted in the production of 'A Capital Market in Thailand'; a master plan for the future development of Thai capital market.

In 1972, the government contributed further by announcing the amendment made on the control of commercial undertakings affecting public safety and welfare which resulted in the control of government towards regulation and operations of finance and securities companies. This action was undertaken to promote fair trading between financial institutions in order to help the Thai capital market to grow as one. Two years later in 1974, The Securities Exchange of Thailand (SET) was established and the trading on the exchange was officially started on

April 1975 after regulatory framework and other fundamentals were fully in place. On 1ˢᵗ January 1991, the exchange changed its name to The Stock Exchange of Thailand and maintaining the acronym of SET as we know today.

Thailand stock market is divided into two which are Stock Exchange of Thailand (SET) and Market Alternative Investment (MAI). Similarly like Main Market and ACE Market of Bursa Malaysia, SET and MAI are also differentiated by the sizes of the companies listed in the exchange. SET represents large-sized companies with at least THB 300 million paid-up capital after IPO to raise long-term funds while MAI represents small and medium-sized companies with more than THB 20 million paid-up capital after IPO. Other criteria that differentiate SET and MAI would include that the former requires more minor shareholders upon listing, higher fees and more consecutive years prior to qualify for listing required in comparison to the latter.

As of April 2015, there are 664 companies listed in Stock Exchange of Thailand and the number is likely to grow in the future years following globalization of financial market that has taken place in the region. The sectors included in the stock market ranges from consumer products, agro & food industry, finance, industrials, technology, service, property & construction and resources.

The listing requirements for companies to be listed in Stock Exchange of Thailand differ between SET and MAI as both listing boards carry different platform. The summary of the listing requirement for both listing board is tabulated in Table 2 as follows:

Table 2
Listing requirements for SET and MAI in Stock Exchange of Thailand

Aspect	SET		MAI
Mode of listing	a.	Profit test	a. Profit test
	-	Minimum of THB 50 million net profit for past two or three years.	- Net profit must be compiled prior to listing
	-	Minimum of THB 30 million net profit for the latest full year.	
	b.	Market capitalization	b. Market capitalization
	-	Total market capitalization of at least THB 5 billion.	- Total market capitalization at least THB 1 billion.
Public spread	-	At least 25% company's share and minimum 1000 public shareholders for companies with more than THB 3 billion paid-up capital.	- At least 20% company's share with at least 300 public shareholders
	-	At least 20% company's share and minimum 1000 public shareholders for companies with less than THB 3 billion paid-up capital.	
Management	-	In operation for at least 3 years prior to listing.	- In operation for at least 2 years prior to listing with the same company management.
	-	Must have same company management for at least one year prior to listing.	

Source: Stock Exchange of Thailand

PROBLEM STATEMENT

Explaining dividend policy has become more and more challenging following the fast pace of the economy today and since dividends have a certain effect on the stock price Hussainey *et al.* (2011) and company's future growth and prospects, the dividend policy shall be formulated in an appropriate manner in order to achieve the ultimate objective of establishing the company which is to maximize the shareholders' wealth. Various study have been conducted to determine factors of dividend policy but most of the empirical study conducted was focused on the companies in the stock markets of a developed country and the conclusions made in the previous studies may not be fully applicable in the growing and emerging market like Southeast Asia which practices different corporate cultures and economic framework.

The macroeconomic environment of Southeast Asia is significantly different than a developed region whereby the policies made for the countries within the region are made to support the development and expansion of the business in the region. Asian Development Bank in 2012 recorded the growth in Southeast Asia to increase and pick up to 5.2% and the momentum is expected to continue for several years ahead and as expected that the countries in the region performed well at the average of 4.72% despite the slight decrease in few countries such as Brunei and Thailand. Globalization in financial market that has taken place in the region resulted in the tremendous increase in the economy whereby the economy of Southeast Asia was once worth US$694 billion when the region embarked on the ASEAN Vision 2020 in 1997. The economy has undergone huge increase over the years and has reached the target earlier than expected. The Vision 2020 pictured the region to achieve the target of US$2 trillion by the year 2020 but ASEAN has surpassed the target 9 years earlier on 2011 and by the end of 2015, it is expected to reach US$3 trillion according to IMF (2013). This surprising increase has shown the potentials and prospects of the region and how far Southeast Asia has come towards becoming a major player in the global economy. The huge improvement in the region is jointly contributed and businesses in the region have done great job in realizing the target. This fast-growing economy might require a certain dividend policy that may possess different set of determinants in comparison to developed economy in order to maintain the momentum of growth. Unlike developed economy, emerging economy largely consists of companies which are in the growing stage and are yet to enter maturity stage. Such condition of life cycle provides opportunities for the companies to set certain strategies regarding dividend policy in maintaining the holding investors and attracting new investors to join in the fast-growing market.

Malaysia and Thailand would be the choice of country that this study is focused on as these two countries possess great potentials in the near future. Thailand according to IMF (2013) would be the second country behind Indonesia to contribute largely to the share in global GDP of Southeast Asia. Meanwhile, Malaysia stands behind Thailand in contributing its share towards combined GDP for the next three years. Therefore, the study conducted on the subject of these two countries, Malaysia and Thailand is expected to provide significant impacts towards dividend policy in Southeast Asia.

RESEARCH QUESTIONS

1. Does profitability have a significant and positive impact towards companies' dividend payout ratio and does it differ for Malaysia and Thailand?

2. Does leverage have a significant and negative impact towards companies' dividend payout ratio and does it differ for Malaysia and Thailand?

3. Does liquidity have a significant and positive impact towards companies' dividend payout ratio and does it differ for Malaysia and Thailand?

4. Does firm size have a significant and positive impact towards companies' dividend payout ratio and does it differ for Malaysia and Thailand?

5. Do profitability, leverage, liquidity and firm size have a significant impact towards companies' dividend payout ratio and does it differ for Malaysia and Thailand?

RESEARCH OBJECTIVES

The objective of this research is to explore the determining factors of dividend payout which could help managements, investors, creditors and academicians in designing dividend policy of a company. In particular, this research aims to examine whether dividend payout is positively influenced by profitability, liquidity and firm size while negatively influenced by leverage. This study further extends its objective to compare the significant impact of profitability, liquidity, leverage and firm size towards the two respective countries of Malaysia and Thailand.

IMPORTANCE AND SIGNIFICANCE OF THE STUDY

This empirical study of dividend payout intends to analyse the factors that determine companies' dividend payout decision. This will help to act as a guideline for corporate management in Malaysia and Thailand to design their dividend policy. This study also aims to benefit the investors in making investment decision as they could get a glimpse of the stock market behaviour especially in terms of dividend policy. In regards to the creditors, this study would help them in assessing the potentials of the companies listed in the exchange as dividend payout signals the future performance of the companies. Lastly, this study aims to add some insights on the topic of dividend policy in the region of Southeast Asia and with a hope that this study would benefit future research on similar or related financial ground.

SCOPE OF STUDY

This study is focused on assessing only four determinants of dividend payout, namely profitability, leverage, liquidity and firm size. Other factors that may influence companies' dividend payout decision would include life-cycle variable, growth, investment opportunities, managerial ownership, and institutional ownership. The sample taken in this study is limited to public companies listed in Main Market listing board of Bursa Malaysia and SET listing board of Stock Exchange of Thailand.

LITERATURE REVIEW - DIVIDEND PAYOUT

Investors invest in the hope of earning a return either in the form of capital gain or dividend. It is the main consideration for investors before making any investment decision. Capital gain according to Gitman (2009) is defined as the difference between the sale price and the purchase price when a firm sells a capital asset (such as stock held as an investment) for more than its

initial purchase price. Meanwhile, according to Malaysia Accounting Standard Board, Standard 9 6(c), dividend is referred as the distribution of profits to holders of equity investment in proportion to their holdings of a particular class of capital. Weygandt, Kimmel and Kieso (2011) define dividend as a corporation's distribution of cash or shares to its shareholders on a pro rata (proportional) basis. Hence, the cash dividend policy explains how much cash dividend that the management in agreement to pay its shareholders.

Weygandt, Kimmel and Kieso (2011) state that dividend can be paid in the form of cash, share, scrip and property. Cash dividend is the payment of dividend in the form of money. According to Sjahrial (2007), dividend is generally paid in this form. Share dividend is the payment of dividend in the form of shares with certain proportion. Meanwhile, according to Weygandt, Kimmel and Kieso (2011), *scrip dividend* is dividend paid in the form of promissory notes in which that the company will pay cash in the future. Lastly, property dividend is the dividend paid in the form of trading goods, real estate, or other form of investments that have been designed by the board of directors.

Dividend payout decision can be measured by the Dividend Payout Ratio (DPR). Weygandt, Kimmel and Kieso (2011) states that cash dividend is a pro rata distribution of cash to shareholders, and if a company intends to pay cash dividend, it must have 3 things: retained earnings, sufficient cash, and dividend declaration. Dividend payout ratio can be calculated using the following formula:

$$DPR = \frac{\text{Cash Dividend per Share}}{\text{Earnings per Share}}$$

According to Weygandt, Kimmel and Kieso (2011), dividend payout ratio is calculated by finding the percentage of earnings distributed in the form of cash dividend which is as follow:

$$DPR = \frac{\text{Cash Dividend}}{\text{Net Income}}$$

As supported by Weygandt, Kimmel and Kieso (2011), this study also uses the latter formula in finding the dividend payout ratio of the sample companies included in the study.

LITERATURE REVIEW - PROFITABILITY

Profitability as a determining factor of dividend payout ratio has been discussed regularly in most of the studies conducted under the topic of dividend payout and dividend policy. Profitability according to Gitman (2009) defined probability as the relationship between revenue and cost that resulted through the use of companies' assets, both current and non-current in nature, in its productive activities. Meanwhile, Weygandt, Kimmel and Kieso (2011) mentioned that profitability conveys the earnings or operational success of the company within a period of time.

There are several proxies being used to measure profitability. One of the main proxies to measure profitability is Return on Equity (ROE). It measures profitability from the common

shareholders' point of view. This ratio shows the amount of net income earned by the company for every dollar being invested by the shareholder. Other proxies would include return on asset (ROA), earnings per share (EPS) and return on investment (ROI). However, studies that adopted ROE in measuring profitability resulted in significant and positive relationship towards dividend payout ratio, Kuwari (2009) and Zaipul (2012). Another argument that would support the adoption of ROE as the proxy of profitability is the study conducted by Suharli (2007) where ROE is derived from ROI (Return on Investment) and therefore it would be a better measure of profitability. Dewi (2008) in her study on the stock market of Indonesia used ROA as a proxy of profitability and found that profitability has significant negative influence towards dividend payout ratio, instead of positive which contradicts with earlier theory. Similarly, Al-Twaijry (2007) also found that EPS has insignificant impact on dividend payout. Hence, this study also adopts ROE as a proxy of profitability. According to Weygandt, Kimmel and Kieso (2011), ROE can be measured using the following formula:

$$ROE = \frac{Net\ Income - Preference\ Dividend}{Average\ Ordinary\ Shareholders'\ Equity}$$

Earlier studies by Gitman (2009) as mentioned in the above stated that dividend payout is associated with the earnings gained by the company. Thus, firms that have higher profitability would have higher dividend payout ratio following higher earnings that the firm generated during the financial year. Kuo *et al.* (2013), Afza and Mirza (2011), Kadir (2010), Kuwari (2009), Marlina and Danica (2009), Zaipul (2012), Ahmed (2014), Malkawi (2007) and Ammer (2008) support the theoretical concept of profitability towards dividend payout ratio whereby the studies conducted show that profitability has significant positive relationship towards dividend payout. Unlike other empirical study, Baker and Powell (2009) conducted an analysis on 22 possible determinants of dividend payout ratio using Spearman rank correlation and it is found that profitability has the highest ranked. Based on the following research made upon the relationship between profitability and dividend payout ratio, this study attempts to test the following hypothesis:

Ha_1: Profitability has a significant and positive impact on dividend payout ratio for companies listed in Malaysia and Thailand.

Ha_2: Profitability has a significant and positive impact on dividend payout ratio for companies listed in Malaysia.

Ha_3: Profitability has a significant and positive impact on dividend payout ratio for companies listed in Thailand.

LITERATURE REVIEW - LIQUIDITY

Liquidity management is one of the important factors that not only matter to management and creditors but also shareholders as well. Liquidity of a company represents the ability of the company to manage its asset and liabilities and a good liquidity management prevent the company from the inability to meet its obligation Eljelly (2004). There are several measures of liquidity that past research have been using in measuring the variable. The most common and quick calculation used to measure liquidity is common and quick ratio. However, it is not sufficient to

measure liquidity Kamath (1989). On the other hand, cash flow matters more in terms of providing the information of the company on the ability of the company to expand its subsidiaries, develop on new product line, pay dividend and others. Zaipul (2012) and Marlina and Danica (2009) used cash position which is the net income after tax to measure liquidity. On the other hand, Ahmed (2014), Amidu and Joshua (2006), Hussain (2011) and Twaijry (2007) used net cash flow as the measure of liquidity. Following these past research, this study also undertake net cash flow (NCF) in measuring the liquidity of the sampled companies. The formula in calculating net cash flow is as follows:

$$NCF = \text{Cash Flow from Operation} + \text{Cash Flow from Investing} + \text{Cash Flow from Financing}$$

Marlina and Danica (2009), Amidu and Joshua (2006), Ajmi and Hussain (2011), Ahmed (2014) and Twaijry (2007) in their study found that liquidity has a significant positive relationship with dividend payout. The variable is tested using OLS panel regression and mean comparison. On the other hand, Yarram and Dollery (2014) in their recent study using random effect panel logit regression, suggest a contradictory opinion on liquidity whereby liquidity has a significant negative influence towards dividend policy. Kadir (2010) and Zaipul (2012) in their study in Indonesia stock market during similar period using regression found that liquidity is not significant in determining dividend payout ratio. Based on the following studies conducted, this study attempts to test the following hypothesis.

Ha$_4$: Liquidity has a significant and positive impact on dividend payout ratio for companies listed in Malaysia and Thailand.

Ha$_5$: Liquidity has a significant and positive impact on dividend payout ratio for companies listed in Malaysia.

Ha$_6$: Liquidity has a significant and positive impact on dividend payout ratio for companies listed in Thailand.

LITERATURE REVIEW–LEVERAGE

It can be observed from extensive literature that leverage is often used as proxy variables in designing dividend policy of a company. Theoretically, a firm that acquires debt financing has put the company in a certain commitment whereby the company has to meet its obligations when it is due. This main element of leverage is one of the important elements for company to raise fund aside from having equity to finance the company. Solvability (leverage) shows the comparison of how far a company's asset is being financed by debt and equity (Ross, Westerfield, Jaffe and Jordan, 2009). Firms that opt for leverage to finance the companies would have an advantage in terms of tax shield but high level of debt would leave the management in a position to prioritize between liabilities and dividend. Liability is an obligation while dividend is an option and Weygandt, Kimmel and Kieso (2011) mentioned that the law requires creditor claim to be paid before ownership claim. Thus, leverage has a negative impact on dividend policy.

Leverage can also signal risk possess by the company. Hence, the higher leverage would reflect greater investment risks. Asymmetric information caused external financing to be too expensive for companies; therefore companies prioritize the use of internal fund rather than

external fund. Only when internal funding is not sufficient, companies would then look for external funding.

Among the proxies that are commonly used to measure leverage are debt-to-equity ratio, total debt divided by total asset and capital gearing ratio. The most common leverage ratio being used is the debt ratio towards equityor more widely known as the debt-equity ratio. According to Ross, Westerfield, Jaffe and Jordan (2009), Debt-Equity Ratio can be calculated by using the following formula:

$$DER = \frac{Total\,Debt}{Total\,Equity}$$

Dewi (2008), Afza and Mirza (2011), Kadir (2010) and Kuwari (2009) have used leverage in their study in testing the proxy in determining the dividend policy using OLS regression and it is found that leverage have significant negative relationship with dividend payout. It is under the argument that firms that have higher leverage tends to have low payout ratios as the firm would have higher interest payment due which will lower down earnings. Lower earnings then resulted in lower dividend payout. However, Hussainey (2011), Yarram and Dollery (2014) proved otherwise where they found that leverage has significant positive relationship with dividend payout. Unlike the studies mentioned above, Kuo *et al.* (2013), Marlina and Danica (2009), Zaipul (2012), Ajmi and Hussain (2011), Abor and Bokpin (2010) and Al Twajiry (2007) found that leverage is insignificant in determining dividend policy. The statistical method adopted varies from correlation, panel regression and Tobit modelling. Kuo *et al.* (2013) found that leverage is not significant in most markets but different result is produced when same method is tested for sample of developed nations which include Canada, USA, Singapore, France and Germany. Therefore, this study attempts to test the following hypothesis using the sample of companies listed in Malaysia and Thailand stock exchange.

Ha_7: Leverage has a significant and negative impact on dividend payout ratio for companies listed in Malaysia and Thailand.

Ha_8: Leverage has a significant and negative impact on dividend payout ratio for companies listed in Malaysia.

Ha_9: Leverage has a significant and negative impact on dividend payout ratio for companies listed in Thailand.

LITERATURE REVIEW - FIRM SIZE

The size of the firm portrays more than just the potentials of a company in the short, medium and long run but also the ability to continuously maximizing shareholders' value. Previous studies have shown that there are several proxies that can be used to measure the variable such as market capitalization and total asset. The former can be found as follows:

Market Capitalization = Number of Shares Available in the Market x Current Share Price

While the latter can be defined as follows:

Total Asset = Fixed Asset + Current Asset

Kuo *et al.* (2013), Dewi (2008), Kuwari (2009), Malkawi (2007) Hussainey *et al.* (2011) and Yarram and Dollery (2014) used market capitalization as the proxy to measure firm size and their study produced positive and significant result which brings about the similar proxy of market capitalization being used in this study as well.

Larger firms are deemed to have more capability to afford paying dividend in comparison to smaller and medium sized firms. Furthermore, larger firms would have better opportunity and access to capital market which makes it easier for them to raise funds from the public with lesser cost and constraints. Kuo *et al.* (2013) suggest in their study that the probability of a firm in paying dividend increases as the size percentile of the firm increases. Dewi (2008), Kuwari (2009), Twajiry (2007), Malkawi (2007), Perretti *et al.* (2013), Hussainey *et al.* (2011) and Yarram and Dollery (2014) found that firm size has significant positive relationship with dividend payout which supports the earlier study mentioned above. However, Zaipul (2012) in his study in Indonesia found that firm size has negative relationship with dividend payout ratio which contradicts the earlier studies that concluded that firms with larger size would pay higher dividend. Ajmi and Hussain (2011) and Tangjitprom (2013)do not follow any of the opinion mentioned above as their study resulted that firm size has no significant relationship; thus, does not influence dividend policy of the company. Based on the following studies conducted, this study attempts to test the hypothesis as follows:

- Ha_{10}: Firm size has a significant and positive impact on dividend payout ratio for companies listed in Malaysia and Thailand.

Ha_{11}: Firm size has a significant and positive impact on dividend payout ratio for companies listed in Malaysia.

Ha_{12}: Firm size has a significant and positive impact on dividend payout ratio for companies listed in Thailand.

Based on the following literature reviewed on the factors associated in determining dividend payout ratio, this study will further conclude the significance of the selected variables towards dividend payout as described in the hypothesis below.

Ha_{13}: Profitability, leverage, liquidity and firm size have significant impact on dividend payout ratio for companies listed in Malaysia and Thailand.

Ha_{14}: Profitability, leverage, liquidity and firm size have significant impact on dividend payout ratio for companies listed in Malaysia.

Ha_{15}: Profitability, leverage, liquidity and firm size have significant impact on dividend payout ratio for companies listed in Thailand.

The above hypotheses listed described the initial assumptions and suggestions toward the relationship between profitability, leverage, liquidity and firm size towards dividend payout ratio. Figure 1 below describes the proposed model that includes all the constructs included in this study.

DATA AND METHODOLOGY

The data used in this study is obtained from Datastream global financial and macroeconomic database that consists of data for 175 countries and 60 markets. The specific type of data that is

Figure 1: The conceptual framework linking profitability, liquidity, leverage and firm size with dividend payout ratio
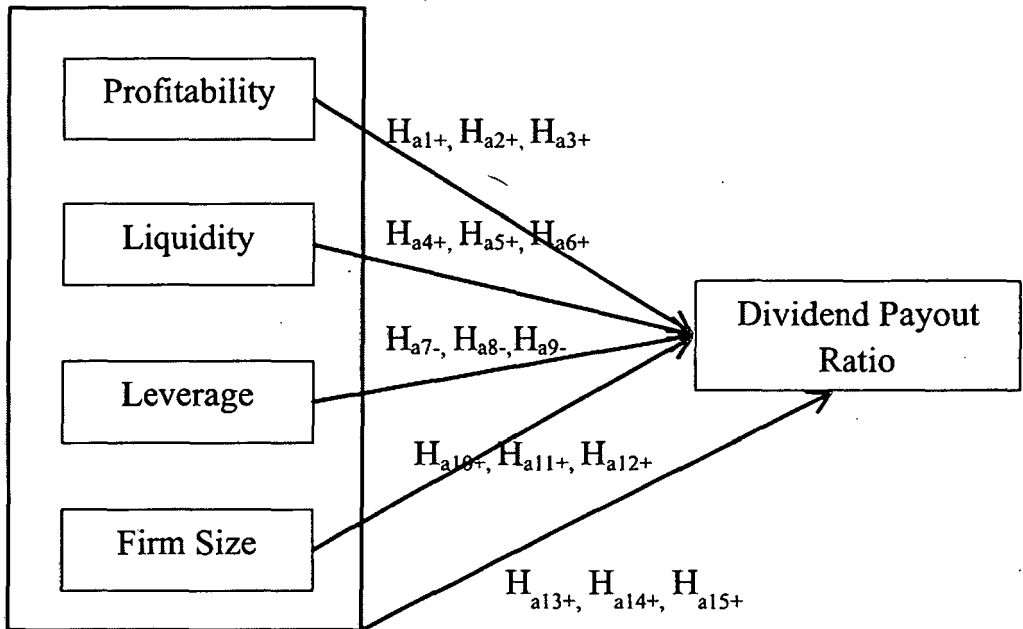
chosen to be included for this study is the annual key financial indicators for public listed companies in Bursa Malaysia (BURSA) and Thailand Stock Exchange (TSE) from the year 2004 onwards. The companies in the database are categorized according to Industry Classification Benchmark (ICB) sector classification which consists of oil and gas, basic materials, industrials, consumer goods, healthcare, consumer services, telecommunication, utilities, financials and technology. This study is conducted for the period of 11 years, from 2004 to 2014.

Based on the financial data from all public listed companies in Bursa and TSE, the population for this study is all companies that pay consistent cash dividend to its shareholder for the period of 11 years from 2004 to 2014. From that population, a sample of 100 companies is selected using simple random sampling method. The underlying reason that based the population to have a full 11-year dividend payout is to examine the determining factors that continue to influence the decision made on dividend payout each year. Out of 936 companies listed in Bursa Malaysia, 502 of them are paying dividends and 95 paid dividends for the full 11-year. Of 538 companies listed on Thailand Stock Exchange, 490 of them are paying dividend for the period between the year 2004 to year 2014 and 50 paid consistently. 50 companies for each country that paid dividends consistently for the 11 years period of study were selected which makes a total of 100 sample companies included in the study. The sample consists of 24 industrials companies, 22 consumer goods companies, 21 financials companies, 11 consumer services companies, 9 basic materials companiesand 6 healthcare companies, 4 utilities and 1 from technology, telecommunications and oil and gas respectively.

The data collected is arranged into as a panel data that combines the cross-section data on companies and time-series data on years. Despite the consistent dividend payout made by each company selected, there is some missing information of the explanatory variables. Therefore, the number of observations may differ from one company to another, thus resulted in an unbalanced panel data.

MODEL SPECIFICATION AND ESTIMATION

This study attempts to study the impact of profitability, liquidity, leverage and firm size towards dividend payout ratio. Therefore, the function of dividend payout ratio can be written and rearranged as follows:

$$DPR = f(ROE, NCF, DER, MCAP)$$

-Or-

$$DPR = f(DER, NCF, MCAP, ROE)$$

Where,

    DER: Debt-to-equity ratio expressed in percentage

    NCF: Net cash flow expressed in dollar

    MCAP: Market capitalization expressed in dollar

    ROE: Return on equity ratio expressed in percentage

In the attempt to determine the impact of the independent variables towards dividend payout ratio, this study adopts a panel data regression method that will give more data variation, less collinearity and more degrees of freedom, thus providing better estimates of the variables. Apart from that, panel data method has the ability to control individual heterogeneity among the firms which is ignored in time-series or cross-section regression method.

Based on the function above, numbers of panel data regression models have been preliminary ran using Stata statistical software to observe which model would best estimates the variables. It is found that the variation in dividend payout ratio can be best explained by the independent variables in the form of log-linear model which can be written as below:

$$DPR_{it} = \beta_0 \, DER_{it}^{\beta 1} NCF_{it}^{\beta 2} MCAP_{it}^{\beta 3} \, e^{\beta 4 \, ROE_{it} + u_{it}} \qquad \text{(eq1)}$$

$$\ln(DPR_{it}) = \ln(\beta_0 \, DER_{it}^{\beta 1} NCF_{it}^{\beta 2} MCAP_{it}^{\beta 3} \, e^{\beta 4 ROE_{it} + u_{it}} \qquad \text{(eq2)}$$

$$\ln DPR_{it} = \beta_0 + \beta_1 \ln DER_{it} + \beta_2 \ln NCF_{it} + \beta_3 \ln MCAP_{it} + \beta_4 \, ROE_{it} + u_{it} \qquad \text{(eq3)}$$

Where subscript i represents company ($i = 1, 2, 3...100$) and t represents time ($t = 2004, 2005, 2006 ...2014$) respectively while u_{it} is the error term.

Equation 3 is used to estimate the variables through panel data regression analysis. Based on theory of corporate dividend, all explanatory variables would have a positive impact towards dividend payout ratio except debt-to-equity ratio (DER). The appropriate choice for model

estimation for panel data regression with fixed effect or random effect is conducted using Hausman specification test. Besides that, Breusch Pagan Lagrange Multiplier specification test is also conducted in the attempt to identify the appropriate model estimation between ordinary least square (OLS) or random effect.

In the effort to estimate the impact of profitability, liquidity, leverage and firm size towards dividend payout ratio, the elasticity for each variable is observed to measure the responsiveness or sensitivity of the percentage change in the explanatory variables towards the percentage change in the response variable. The elasticity of each explanatory variable towards dividend payout ratio can be derived as below:

i. Partial elasticity of DPR with respect to DER

$$\beta_1 = \frac{\Delta(\ln DPR)}{\Delta(\ln DER)}$$

$$= \frac{\partial DPR}{\partial DER} \times \frac{DER}{DPR}$$

ii. Partial elasticity of DPR with respect to NCF

$$\beta_2 = \frac{\Delta(\ln DPR)}{\Delta(\ln NCF)}$$

$$= \frac{\partial DPR}{\partial NCF} \times \frac{NCF}{DPR}$$

iii. Partial elasticity of DPR with respect to MCAP

$$\beta_3 = \frac{\Delta(\ln DPR)}{\Delta(\ln MCAP)}$$

$$= \frac{\partial DPR}{\partial MCAP} \times \frac{MCAP}{DPR}$$

iv. Partial elasticity of DPR with respect to ROE

$$\beta_4 = \left[\frac{\Delta(\ln DPR)}{\Delta ROE}\right] \times \overline{ROE}$$

$$= \left[\frac{\partial \ln DPR}{\partial ROE}\right] \times \overline{ROE}$$

$$= \left[\frac{1}{DPR} \times \frac{\partial DPR}{\partial ROE}\right] \times \overline{ROE}$$

The above model noted by Equation 3 is initially used to study the impact of profitability, liquidity, leverage and firm size towards dividend payout ratio for companies listed in both Malaysia and Thailand to get the overall overview on the determining factor of dividend payout ratio. Subsequently, panel data analysis on the same model is further regressed to study the impact that the explanatory variables have towards dividend payout ratio with respect to each country by separating the data set according to country.

EMPIRICAL RESULTS AND DISCUSSION - DESCRIPTIVE STATISTICS

Table 3 shows the summary of descriptive statistics of dividend payout ratio as dependent variable and debt-to-equity ratio, net cash flow, market capitalization and return on equity as independent variables. The sample on Malaysia and Thailand consists of 100 companies over 11-year period from 2004 to 2014. Following the cross section of 100 companies and time series of 11 years, the observation is deemed to have 1100 observations. However, there are missing data on market capitalization and return on equity which make 1089 and 1095 observations respectively.

Table 3
Summary of descriptive statistics for public listed companies in Malaysia and Thailand

variable	Obs	Mean	Std. Dev.	Min	Max
dpr	1100	38.73408	19.55804	.83	99.85
der	1100	52.59296	80.76232	0	726.51
ncf	1100	5985007	3.10e+07	-1.40e+07	4.12e+08
mcap	1089	2.42e+07	9.25e+07	33098	1.06e+09
roe	1095	14.36312	8.197094	1.19	99.36

The table describes the mean, standard deviation, minimum and maximum data of the variables used in the study. The dividend payout ratio is expressed in percentage and has a mean of 38.73 which denotes that public listed companies in Malaysia and Thailand give out 38.75% of their earnings as dividend. However, throughout the period of 2004 to 2014, the maximum dividend payout ratio that has been made is 99.85% of firm's earnings while the minimum dividend payout ratio is 0.83%.

Leverage which is measured by debt-to-equity ratio has a mean of 52.59% with a standard deviation of 80.76%, implies that public listed companies in Malaysia and Thailand are financing their companies with 52.59% debt and the remaining is financed by equity. Weygandt, Kimmel and Kieso (2011) mentioned that leverage would have higher priority to be served in comparison to dividend. However, there is one company which has a debt financing of over 726% which could signal high risk of bankruptcy. On the other hand, there is a company with 0% of debt-to-equity ratio which indicates that the assets of the company are 100% financed by equity.

The net cash flow value of public listed companies in Malaysia and Thailand is 5 million on average with a standard deviation of 31 million. The highest net cash flow possessed by a company is 412 million and the lowest net cash flow possessed by one of the companies listed in either Malaysia or Thailand is (14 million).

On average, the market capitalization for public listed companies in Malaysia and Thailand is 24.2 million with a standard deviation of 92.5 million. The largest firm in the sample has a market capitalization of 1.06 billion while the smallest firm has a market capitalization of only 33 098.

Return on equity which is the measure of profitability has a mean value of 14.36 which denotes that the average return on equity towards shareholders is 14.36%. The highest return on equity that has ever been received is 99.36% while the lowest return on equity throughout the period of 11 years is 1.19%. The standard from the mean value for ROE is 8.19%.

Table 4
Summary of descriptive statistics for public listed companies in Malaysia

variable	Obs	Mean	Std. Dev.	Min	Max
dpr	550	31.84024	18.01469	1.84	99.82
der	550	42.05407	63.1023	0	623.43
ncf	550	1125876	4883635	-1861673	5.05e+07
mcap	549	2606613	5797035	33098	4.46e+07
roe	546	12.16734	7.911001	1.19	99.36

Table 5
Summary of descriptive statistics for public listed companies in Thailand

variable	Obs	Mean	Std. Dev.	Min	Max
dpr	550	45.62793	18.60049	.83	99.85
der	550	63.13185	94.08795	0	726.51
ncf	550	1.08e+07	4.31e+07	-1.40e+07	4.12e+08
mcap	540	4.62e+07	1.28e+08	166500	1.06e+09
roe	549	16.5469	7.894092	1.95	71.98

Table 4 and Table 5 show the comparison on descriptive statistics between public listed companies in Malaysia and Thailand. Based on the table above, it can be observed that on average, public listed companies in Thailand give out higher dividend in comparison to Malaysia by 13.83% whereby the former pays 45.62% of their earnings as cash dividend while the latter only pays 31.84% of their earnings. Dewi (2008), Afza and Mirza (2011), Kadir (2010)and Kuwari (2009) in their research found that firm with higher leverage tends to give lower cash dividend. On the contrary, despite higher leverage for public listed companies in Thailand, they still managed to give out higher cash dividend in comparison to Malaysian public listed companies. The average liquidity and market size for public listed companies in Thailand is more liquid and bigger in relative to Malaysian public listed companies. Further observation that can be made following the return on equity value is that, shareholders for public listed companies in Thailand have higher profitability following the higher value of ROE where the shareholders in Thailand enjoys 4.38% higher return on every dollar invested in comparison to that for Malaysia.

EMPIRICAL RESULTS AND DISCUSSION - PRELIMINARY TEST FOR MULTI-COLLINEARITY

Multi-collinearity is one of theproblems that may arise while running an econometric model. Under the assumption of classical linear regression model, the regression model is assumed to have low collinearity or otherwise it will affect the estimates of the variables and other regression output. Therefore, it is important to have preliminary test conducted on the data to ensure that this problem will not affect the process and finally produce unbiased and efficient estimates.

The degree of multi-collinearity among the variables is tested using Pearson correlation matrix which is presented in Table 6. Multi-collinearity is encountered when two or more independent variables in a model are highly correlated. The degree of multi-collinearity is very important to deal with as serious multi-collinearity may increase the standard error of the estimates causing the explanatory variable to be insignificant following high t-value. According to Sekaran and Bougie (2009), the problem of serious collinearity occurs when the correlation between the independent variables are higher than 0.70. Thus, several corrective actions might be taken into consideration.

Table 6
Pearson correlation matrix on variables for sample of public listed companies in Malaysia and Thailand

	dpr	der	ncf	mcap	roe
dpr	1.0000				
der	0.0078	1.0000			
ncf	0.0948	0.1976	1.0000		
mcap	0.1077	0.1759	0.8747	1.0000	
roe	-0.0292	0.0809	0.1484	0.2415	1.0000

Based on the table above, dividend payout ratio (DPR) shows a low positive correlation with net cash flow (NCF) and market capitalization (MCAP). Therefore, high cash dividend is paid if the company is highly liquid and large in size. However, it can be observed that DPR has a low positive correlation with debt-to-equity ratio which contradicts with the hypothesis developed earlier. Similarly, return on equity (ROE) has a negative correlation towards DPR which again conflicts with the hypothesis developed. All independent variables show low correlation towards one another except for market capitalization and net cash flow where they are correlated by 0.8747. According to Sekaran and Bougie (2009), these two independent variables have exceeded the cut-off point of acceptable correlation coefficient. However, further test for collinearity is conducted to have a better grip on the problem of collinearity. Variance inflation factor (VIF) test is conducted for all independent variables to further analyse the problem of collinearity which is presented in Table 7 below.

Table 7 shows the variation inflation factor test of multi-collinearity for all independent variables. According to Gujarati and Porter (2009), the rule of thumb on VIF is that, if the VIF of a variable exceeds 10, the degree of collinearity is high. Based on the table above, net cash

Table 7
Variation inflation factor test on variables for sample of public listed companies in Malaysia and Thailand

```
        Variable  |       VIF        1/VIF
     -------------+-------------------------
             mcap |       4.50     0.222117
              ncf |       4.38     0.228467
              roe |       1.08     0.922303
              der |       1.04     0.958209
     -------------+-------------------------
         Mean VIF |       2.75
```

. flow and market capitalization both have a value less than 10 which denotes that both variables do not have serious or high collinearity. Therefore, the overall model does not have the problem of high degree collinearity.

Table 8 and Table 9 show comparison on correlation analysis on the dependent and independent variables in separate data of Malaysia and Thailand. Based on Table 8 and Table 9, DPR has a negative low correlation with DER in Malaysia and otherwise for Thailand. The negative correlation for DER supports the hypothesis developed and research by Weygandt, Kimmel and Kieso (2011) where debt-to-equity is negatively related with dividend payout ratio. Similarly, DPR has a negative correlation with NCF for Malaysia but otherwise for Thailand. Return on equity for both countries indicate negative correlation with DPR. Overall correlation analysis on sample of public listed companies in Malaysia shows no serious collinearity problem based on the magnitude of the correlation. On the other hand, net cash flow and market capitalization for sample of public listed companies in Thailand shows high correlation of 0.8773. Further test for collinearity is conducted using VIF and the result is presented in Table 10. It can be observed that the VIF values for all independent variables are less than 10 which imply no serious collinearity problem. Therefore, the overall model shows no serious collinearity problem for both countries.

EMPIRICAL RESULTS AND DISCUSSION - PANEL DATA REGRESSION ANALYSIS

The result of correlation matrix is not rigorous enough to testify the relationship between the response and explanatory variables. Therefore, panel data regression analysis is conducted on the sample in order to have better estimation of the models. In the attempt to find the specification

Table 8
Pearson correlation matrix on variables for sample of public listed companies in Malaysia

```
            |       dpr       der       ncf      mcap       roe
------------+----------------------------------------------------
        dpr |    1.0000
        der |   -0.1423    1.0000
        ncf |   -0.0536    0.5939    1.0000
       mcap |    0.0943    0.1833    0.4016    1.0000
        roe |   -0.0349   -0.0126    0.0291    0.1443    1.0000
```

Table 9
Pearson correlation matrix on variables for sample of public listed companies in Thailand

```
         |    dpr       der       ncf      mcap      roe
---------+-------------------------------------------------
     dpr |  1.0000
     der |  0.0269    1.0000
     ncf |  0.0669    0.1748    1.0000
    mcap |  0.0349    0.1772    0.8773    1.0000
     roe | -0.2325    0.0941    0.1582    0.2664    1.0000
```

Table 10
Variation inflation factor for sample of public listed companies in Thailand

```
  variable |      VIF        1/VIF
-----------+----------------------------
    mcap · |     4.60      0.217518
      ncf  |     4.39      0.227596
      roe  |     1.11      0.903691
      der  |     1.04      0.963729
-----------+----------------------------
  Mean VIF |     2.78
```

that would best explain the model, Hausman and Breusch Pagan LM test are carried out and the result is presented in Table 13 below.

Table 11
Summary of regression analysis for pooled OLS, fixed effect and random effect for
public listed companies in Malaysia and Thailand

Variable	OLS	FE		RE
lnder	-.03360696*	-.00120489		-.01427034
lnncf	.00001433	.0262903		.02635256
lnmcap	.0962348***	-.0153531		.04155158
roe	-0.00947758***	-.01353606***		-.01372775***
cons	2.2950451***	· 3.5466312***		2.774853***
R²	0.01	0.01		0.07
F-Statistics	22.76	7.90		38.17
Prob > F	· 0.0000	0.0000		0.0000 ·
Breusch Pagan	610.74			610.74
LM test (χ²)	(0.0000)****			(0.0000)****
Hausman test			11.82	
(χ²)			(0.0187)**	

Significant at: * p<0.05; ** p<0.01; ***p<0.001

The Breusch Pagan test shows that random effect model is preferred over OLS model following chi-square that has a significant value of p<0.05. However, the Hausman test shows fixed effect model is more preferred over random effect model following the significance of the chi-square is less than 0.05 (p<0.05). Therefore, the study using sample data of Malaysia and

Thailand is best explained using fixed effect model. The table below is the panel regression analysis output with fixed effect model.

Table 12
Regression analysis output with fixed effect specification for sample on public listed companies in Malaysia and Thailand

```
Fixed-effects (within) regression        Number of obs      =       826
Group variable: name                     Number of groups   =        95

R-sq:  within  = 0.0417                   Obs per group: min =         1
       between = 0.0013                                  avg =       8.7
       overall = 0.0013                                  max =        11

                                          F(4,727)           =      7.90
corr(u_i, Xb)  = -0.1860                  Prob > F           =    0.0000
```

lndpr	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lnder	-.0012049	.0187805	-0.06	0.949	-.0380754	.0356656
lnncf	.0262903	.020136	1.31	0.192	-.0132414	.065822
lnmcap	-.0153531	.030908	-0.50	0.620	-.0760327	.0453265
roe	-.0135361	.0025617	-5.28	0.000	-.0185653	-.0085069
_cons	3.546631	.4202955	8.44	0.000	2.721493	4.371769

sigma_u	.49168795	
sigma_e	.45923061	
rho	.5340929	(fraction of variance due to u_i)

```
F test that all u_i=0:     F(94, 727) =     7.80          Prob > F = 0.0000
```

Table 12 shows the output of fixed-effect regression for overall sample on public listed companies in Malaysia and Thailand and the result for the model can be written as follows:

$$\ln DPR_{it} = 33.67 - 0.0012 \ln DER_{it} + 0.0263 \ln NCF_{it} - 0.0154 \ln MCAP_{it} - 0.0135\ ROE_{it} + u_{it}$$
$$\quad\quad\quad (0.0187) \quad\quad (0.0201) \quad\quad\quad (0.0309) \quad\quad\quad (0.0025)^{***}$$

*** Significant at 99.99% confidence level

The result shows that at 95% confidence level, profitability, liquidity, leverage and firm size jointly have a significant impact towards dividend payout ratio for companies listed in Malaysia and Thailand stock exchange following the F-statistics of 7.90 with $p<0.05$. Therefore, hypothesis Ha_{13} is accepted.

Based on t-statistics, the result further indicates that all independent variables are individually insignificant in determining dividend payout ratio except for return on equity. Therefore, Ha_4, Ha_7 and Ha_{10} are rejected. The insignificant result for net cash flow supports research findings made by Kadir (2010) and Zaipul (2012) where liquidity has no significant impact towards dividend payout ratio. Similarly, the insignificant results for debt-to-equity ratio and market capitalization support the study by Kuo *et al.* (2013), Marlina and Danica (2009), Zaipul (2012), Ajmi and Hussain (2011) and Al Twajiry (2007) and Tangjitprom (2013) that leverage and firm size do not influence decision making on dividend payout ratio.

On the contrary, return on equity has a significant negative relationship with dividend payout ratio. It can be inferred that a 1% increase in return on equity, the dividend payout ratio decreases by 1.35% per year. The sensitivity of return on equity towards dividend payout ratio is calculated by multiplying the beta coefficient with the mean of return on equity. Thus, a 1% change in return on equity leads to 0.19% change in dividend payout ratio.

The negative relationship that is displayed in the output result contradicts with the hypothesis developed earlier saying that profitability has a significant and positive impact on dividend payout ratio, thus, Ha_1 is rejected. The result supports the study by Dewi (2008) where profitability has significant negative influence towards dividend payout ratio. It can be inferred for public listed companies in Malaysia and Thailand that the high earnings that the companies earned are rather kept as retained earnings in comparison to giving it out as cash dividend.

There are two (2) underlying conclusions that can be derived from the inference made in which, (i) the companies are focusing on having sustainable growth rate that can be achieved with higher percentage of retained earnings, (ii) the companies are retaining their earnings for higher dividend growth over time. High dividend payout ratio could be a sign that the company is doing a great job at managing and increasing the wealth of the shareholders but it does not necessarily means that having a low or zero cash dividend signals trouble. On the other hand, high ROE is a signal of high profitability and efficient management of the money invested, thus, if the strategy undertaken by the company involves in ensuring sustainable growth in the long run, the cash dividend for the year may be low or even zero as the money retained will be used for reinvestment, expansion and other strategic management plans. Moreover, higher dividend growth over time is deemed more rewarding and attractive towards investors. Companies in Malaysia and Thailand are operating in an emerging market which brings about the strong reason that the companies are currently concentrating on strengthening their position in the market through expansions, merger and acquisitions, diversification and others; hence, the negative relationship between return on equity and dividend payout ratio.

Table 13
Summary of regression analysis for pooled OLS, fixed effect and random effect for public listed companies in Malaysia

Variable	OLS	FE	RE
lnder	-0.01132701	0.01840431	0.00498712
lnncf	-0.07106292**	0.02259019	-0.00100766
lnmcap	0.13234988***	-0.2229825	0.04365148
roe	-0.0211637	-0.00042985	-0.00123651
cons	2.3907894***	3.2332728***	2.6932097***
R^2	0.05	0.02	0.03
F-Statistics	5.95	0.34	2.23
Prob > F	0.0001	0.85	0.69
Breusch Pagan	224.31		224.31
LM test (χ^2)	(0.0000)****		(0.0000)****
Hausman test		11.08	
(χ^2)		(0.0256)**	

Significant at: * $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 13 above shows the summary of regression analysis with for OLS, fixed and random effect on sample of public listed companies in Malaysia. The Breusch Pagan test shows that random effect model is preferred over OLS model while Hausman test indicates that fixed effect model is more preferred over random effect model following the significance of the chi-square that is less than 0.05 ($p<0.05$). Therefore, the study using sample data of Malaysia is best explained using fixed effect model. The table below is the panel regression analysis output with fixed effect model. On the contrary, random effect model is chosen over fixed effect model and pooled OLS model for Thailand dataset which is presented in Table 14.

Table 14
Summary of regression analysis for pooled OLS, fixed effect and random effect for public listed companies in Thailand

Variable	OLS	FE	RE
lnder	-0.02701667	-0.0100848	-0.01674416
lnncf	0.06201138**	0.01958619	0.03024333
lnmcap	-0.01513883	0.02618695	-0.01337736
roe	-0.02311647***	-0.03611618***	-0.03436231***
cons	3.5322344***	3.6341402***	3.6935979***
R^2	0.12	0.10	0.10
F-Statistics	12.90	30.16	121.33
Prob > F	0.0000	0.0000	0.0000
Breusch Pagan	388.59		**388.59**
LM test (χ^2)	(0.0000)****		**(0.0000)****
Hausman test (χ^2)		4.07	
		(0.3969)**	

Significant at: * $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 15
Regression analysis output with fixed effect specification for sample on public listed companies in Malaysia

```
Fixed-effects (within) regression          Number of obs      =        427
Group variable: name                       Number of groups   =         46

R-sq:  within  = 0.0036                     Obs per group: min =          2
       between = 0.0472                                    avg =        9.3
       overall = 0.0172                                    max =         11

                                           F(4,377)           =       0.34
corr(u_i, Xb)  = -0.2943                    Prob > F           =     0.8488

------------------------------------------------------------------------------
     lndpr |     Coef.    Std. Err.      t    P>|t|     [95% Conf. Interval]
-----------+------------------------------------------------------------------
     lnder |   .0184043   .0295581     0.62   0.534    -.0397151    .0765237
     lnncf |   .0225902   .0287329     0.79   0.432    -.0339066    .079087
    lnmcap |  -.0222982   .0537606    -0.41   0.679    -.1280065    .08341
       roe |  -.0004298   .0035772    -0.12   0.904    -.0074637    .006604
     _cons |   3.233273   .6607488     4.89   0.000     1.934058    4.532488
-----------+------------------------------------------------------------------
   sigma_u |  .44677685
   sigma_e |  .50981202
       rho |  .43438912   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Based on the result output above, the fixed-effect regression model for sample on public listed companies in Malaysia can be written as follows:

$$\ln DPR_{it} = 25.36 + 0.0184 \ln DER_{it} + 0.0225 \ln NCF_{it} - 0.023 \ln MCAP_{it} - 0.0004 \, ROE_{it} + u_{it}$$
$$\qquad\qquad (0.0296) \qquad\quad (0.0287) \qquad\quad (0.0538) \qquad\quad (0.0036)$$

The result shows that at 95% confidence level, profitability, liquidity, leverage and firm size jointly do not have significant impact towards dividend payout ratio for companies listed in Malaysia stock exchange following the F-statistics of 0.34 with $p > 0.05$. Therefore, hypothesis Ha_{14} is rejected.

Based on t-statistics, the result shows that all independent variables are individually insignificant in determining dividend payout ratio for sample of public listed companies in Malaysia. Therefore, Ha_2, Ha_5, Ha_8 and Ha_{11} are rejected. Twajiry (2007) previously conducted a similar study on dividend payout ratio and dividend policy using the same population of public listed companies in Malaysia and it is found that leverage is insignificant in determining dividend policy and dividend payout ratio. The result of this study supports the findings obtained by the previous researcher.

Comparative impact is observed by estimating the same variables and model on different data set which is the data for public listed companies in Thailand. The table below is the panel regression output using Thailand dataset.

Table 16
Regression analysis output with random effect specification for sample on public listed companies in Thailand

```
Random-effects GLS regression              Number of obs      =       399
Group variable: name                       Number of groups   =        49

R-sq:  within  = 0.2578                     Obs per group: min =         1
       between = 0.0814                                    avg =       8.1
       overall = 0.1047                                    max =        11

Random effects u_i ~ Gaussian              Wald chi2(4)       =    121.33
corr(u_i, X)       = 0 (assumed)           Prob > chi2        =    0.0000
```

lndpr	coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
lnder	-.0167442	.0174794	-0.96	0.338	-.0510031	.0175148
lrincf	.0302433	.0229601	1.32	0.188	-.0147577	.0752443
lnmcap	.0133774	.0275925	0.48	0.628	-.0407029	.0674577
roe	-.0343623	.0032079	-10.71	0.000	-.0406498	-.0280749
_cons	3.693598	.3615821	10.22	0.000	2.98491	4.402286
sigma_u	.38696684					
sigma_e	.36344871					
rho	.53130939	(fraction of variance due to u_i)				

Based on the random effect regression output above, the model can be written as follows:

$$\ln DPR_{it} = 40.19 - 0.0167 \ln DER_{it} + 0.0302 \ln NCF_{it} + 0.0134 \ln MCAP_{it} - 0.0344 ROE_{it} + u_{it} + \varepsilon_{it}$$
$$\quad\quad (0.0175) \quad\quad\quad (0.0229) \quad\quad\quad (0.0276) \quad\quad\quad (0.0032)$$

*** Significant at 99.99% confidence level

The result shows that at 95% confidence level, profitability, liquidity, leverage and firm size jointly have a significant impact towards dividend payout ratio for companies listed in Thailand stock exchange following the F-statistics of 121.33 with p<0.05. Therefore, hypothesis Ha_{15} is accepted.

In comparison to the regression output in Table 12, similar observation on the individual significance of independent variables can be made whereby it can be observed that all independent variables are individually insignificant in determining dividend payout ratio except for return on equity. Therefore, Ha_6, Ha_9 and Ha_{12} are rejected. Following that, it can be said that leverage, liquidity and firm size do not influence the decision on dividend payout ratio.

In contrast, return on equity has a significant but negative relationship with dividend payout ratio. It can be inferred that 1% increase in return on equity, the dividend payout ratio decreases by 3.45% per year. The sensitivity of change in ROE towards change in DPR is measured through elasticity which results in the value 0.57%, thus, a 1% change in ROE leads to 0.57% change in DPR.

Despite the significant impact that return on equity has towards dividend payout ratio, the negative beta coefficient indicates negative relationship between the two mentioned variable. Therefore, Ha_3 is rejected. Similar inference and judgement can be made upon the result in Table 12 and Table 16 as both regression output produce similar results and supports the research findings by Dewi (2008) where profitability has significant negative influence towards dividend payout ratio.

Based on Table 15 and Table 16, it can be concluded that from the variables and proxies involved in estimating the model, only profitability has a significant impact on dividend payout ratio in Thailand. However, at 90% confidence level, none of independent variables have a significant impact on dividend payout ratio in Malaysia, suggesting that perhaps all key financial indicators used in the study may not highly influenced the decision made on constructing dividend policy in Malaysia.

SUMMARY ANDCONCLUSIONS

This paper studies the impact of profitability, liquidity, leverage and firm size on cash dividend payout policy for publicly listed companies in Malaysia and Thailand for the period of 11 years from 2004 to 2014 with the aim of finding the determining factors that influence the decision making for establishing annual dividend payout ratio policy. The empirical resultssuggest that profitability has a significant impact on annual cash dividends. However, the relationship that return on equity has towards dividend payout ratio opens up new perspectives in regards to companies in emerging markets because profitability has an inverse relationship with cash dividends which contradicts the initial theoretical relationship between profitability and dividend

payout ratio. The findings imply that companies with high earnings would practice low dividend payout policy to retain earnings to increase the sustainable growth and higher dividend growth over time.

In observing the impact of profitability, liquidity, leverage and firm size on cash dividends for companies in both countries, similar regression analysis is conducted but using datasets from both Malaysia and Thailand. The empirical results indicate that only profitability has a significant impact on the dividend payout ratio for publicly listed companies in Thailand while all key financial indicators have no influence in determining dividend payout policy in Malaysia. This supports previous results reported by Dewi (2008) that profitability has a significant negative relationship on the dividend payout ratio. Moreover, the results support studies by Kadir (2010), Zaipul (2012) that liquidity has no significant impact towards dividend payout ratio. Similarly, Kuo et al. (2013), Marlina and Danica (2009), Zaipul (2012), Ajmi and Hussain (2011), Abor and Bokpin (2010) and Al Twajiry (2007) and Tangjitprom (2013) were in agreement that leverage and firm size do not influence decision making on dividend payout ratio.

This study of dividend policy has been extensive over the past years in an attempt to find the appropriate determining factors that could explain the dividend payout ratio decision. There are no standardized determining factors or specific rules of thumb in designing dividend policy. Similar financial indicators might become the key determining factor for dividend policy in certain markets and otherwise if the company is located in a different type of market. Therefore, this opens up room for future research to be conducted on this topic of determining factor of dividend payout policy in Malaysia and Thailand in an attempt to provide valuable insight to corporate management in designing dividend payout policy and also investors in examining financial health of the companies.

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