International Journal of Business and Society, Vol. 20 No. 3, 2019, 1003-1021

WHICH IS THE BETTER DETERMINANT FOR DIVIDENDS IN THE KUALA LUMPUR COMPOSITE INDEX- PROFITABILITY OR CASH-FLOW?

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ABSTRACT

Investors buy stocks to enhance wealth through gains of portfolio capital or dividend income. Where investors grow their wealth from high dividend-yield stocks, it is important for them to understand the determinants of dividend payouts reflecting a company's financial standing, stream of income and ability to maintain share prices. It is the objective of this paper to identify the determinant for dividends payouts of companies with large market capitalisation in the Kuala Lumpur Composite Index (KLCI); Profitability or Cash-flow, alongside Size, Leverage/Debt-to-Equity, Variations-in-Earnings, Expensiveness of the Stock/Market-to-Book-Value and Growth of Sales/Revenues. The 29 largest market capitalised firms are taken as the samples with data from 2007 to 2016. Results from the Panel Data Analysis reveal that Profitability is the better determinant than Cash-flow for dividend payouts, indicating the domination of the Signalling Theory rather than the Agency Cost Theory. Surprisingly, Expensiveness of Stocks/Market-to-Book ratio plays an influential role showing the presence of Catering Theory, while Size, Growth and Variations-in-Earnings are weak determinants. The results from a Robustness Test undertaken reconfirms the former findings.

Keywords: Dividends; Determinants; Profitability; Cash-flow

Received: 2 February 2018
Accepted: 26 April 2019

1. INTRODUCTION

Dividends are payouts of retained earnings by the companies to their investors. There are several forms of dividends; stock or scrip, property or *in specie* and cash. Stock or Scrip dividends are additional stocks distributed to the shareholders according to the proportion of investors' stock-holdings. There are instances where dividends are paid in the form of goods or services, known as the property dividends or dividends *in specie* (which is "in kind" in Latin). Instead of handing out cash to the investors, companies hand out goods and services. However, these methods of dividends are quite rare and not commonly used. Dividend *in specie* does not necessarily have to

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be in the form of goods or services, but may be distribution of shares of their subsidiaries to shareholders. A recent example would be CIMB Malaysia considered distributing 5.44% of their holdings of the Indonesian Subsidiary to their shareholders. However, the focus of this study is on cash dividends.

Dividends are important to investors. The first reason is that dividends give investors a good understanding of the financial wellbeing of companies (Gill, Biger & Tibrewala, 2010). The rationale is that only firms with good financial health can distribute their earnings as dividends to their owners. The second reason is that dividends allow investors to identify firms with steady stream of income. The rationale here is consistent with the Clientele Effect highlighting investors hunt for stocks with good dividends. And if companies are giving out generous dividends that are better than a risk-free rate, then the investors will invest into those companies. By investing into companies which regularly distribute dividends, the investors will enjoy regular positive cash flows from their investments as steady income. The third reason which is consistent with the Signalling Theory shows that dividends payouts demonstrates the ability of firms in maintaining their share prices (Gill et al., 2010), indicating that companies with consistent dividend payouts form a safety net of margin for their share prices.

The theory of dividends has been around ever since there are firms. All firms struggle with the puzzle of dividends; there are questions such as: should they pay out? How frequent should they pay out? or, should they even pay dividend at all? The study of dividends started all the way from Modigliani and Miller (1961) where they argued that dividends have no bearing at all on firm values. Since then there have been substantive studies that have shed more lights on the puzzles of dividends, and how some financial ratios in firms may be good determinants of firms' dividends payouts.

Most in the academia of finance will be familiar with the old school debate of dividends: Is dividend relevant or irrelevant? However, outside of this debate there is another debate in the study of dividends that is Profitability or Cash-flow, which is a better determinant of dividends? The study of dividends is more lively and extensive than typically thought and this paper wishes to answer the latter question. It is important to identify the determinants of dividends as investors want to increase the capital gains of their investment portfolios, or to have a steady income of dividends. Whether investors want capital gains from value or growth investing, or dividends from high dividend-yield investing, the goal is the same: they wish to increase their wealth. Where investors wish to grow their wealth from high dividend-yield stocks, understanding the determinants of dividends will help both the retail and institutional investors construct or adjust their investment portfolios to maximise their gains.

Recognising the presence of the Clientele Effect, the objective of this study is to answer which factor: Profitability or Cash-Flow, is a better determinant of dividends of the firms in the Kuala Lumpur Composite Index (KLCI). The study will also examine other determinants as control variables to study the effects on dividends.

In order to understand KLCI better, it is important to discuss the Bursa Malaysia which was founded by the Singapore Stockbrokers Association in 1930. Bursa Malaysia was then known as the Kuala Lumpur Stock Exchange, the first securities business organisation in Malaysia which had since changed its name several times. In 1937, it was renamed as the Malayan Stockbrokers'

Association. In 1960, the Malayan Stock Exchange was established, shares where publicly traded, a main board was linked between Malaysia and Singapore. After the Formation of Malaysia in 1963, the Stock Exchange of Malaysia was established a year later. Later, after the secession of Singapore in 1965, the Stock Exchange of Malaysia was renamed Stock Exchange of Malaysia and Singapore. In 1973, the monetary union between Malaysia and Singapore was terminated, and the Stock Exchange of Malaysia and Singapore was divorced into the Kuala Lumpur Stock Exchange Berhad and the Stock Exchange of Singapore. The Kuala Lumpur Stock Exchange which was incorporated in 1976 then took over the operations of the Kuala Lumpur Stock Exchange Berhad. And on 18 March 2005, Bursa Malaysia was listed on the Main Board of Bursa Malaysia Securities Berhad.

The Kuala Lumpur Composite Index (KLCI) was publically unveiled on the 4th of April 1986. It started with a base value of 100, dated on 1 January 1977. The KLCI contains 30 firms from the main market. In 2006, Bursa Malaysia and FTSE partnered to release a number of indices to enhance the KLCI in the Malaysian market. The creation of the FTSE Bursa Malaysia KLCI (FBMKLCI) was to replace the original KLCI. The new index, FBMKLCI was launched on the 6th of July 2009, its opening number was taken from the 3rd of July 2009. Henceforth, the FBMKLCI will be known as The KLCI, consisting of the top 30 Firms by market capitalisation in the Main Market of Bursa Malaysia. Why the KLCI? The 30 Firms of the KLCI are some of the biggest market capitalised and reliable firms of the Bursa Malaysia. They are also among the most liquid firms and have a large percentage of free floats. This means that they have a good mix of institutional, retailers, and insider investors. The KLCI is also the face of Bursa Malaysia, and they are among the first firms to be studied, scrutinised, and purchased by foreign buyers. Because of this, investors can confidently invest in the KLCI to increase their wealth.

In order to have a general view of the KLCI, the top ten Firms with their sector, net market capital and weight as listed by FTSE Russel (2016) are listed in Table 1.

Table 1: Top Ten Firms in the KLCI as at December 2016

Constituent ICB	Sector	Net MCap (MYRmil)	Wgt %
Public Bank BHD	Banks	60,856	12.79
Tenaga Nasional	Electricity	49,500	10.41
Malayan Banking	Banks	42,773	8.99
Sime Darby Bhd	General Industrials	26,189	5.51
CIMB Group Holdings	Banks	25,530	5.37
PETRONAS Chemicals Group Bhd	Chemicals	19,670	4.14
Axiata Group Bhd	Mobile Telecommunications	19,073	4.01
IHH Healthcare	Health Care Equipment & Services	18,434	3.88
Digi.com	Mobile Telecommunications	18,175	3.82
Genting	Travel & Leisure	17,644	3.71
	Totals	**297,844**	**62.61**

***Source*:** FTSE Russel, 2016. *FTSE Bursa Malaysia KLCI.* [Online] Available at: http://www.ftse.com/Analytics/FactSheets/Home/DownloadSingleIssue?issueName=FBMKLCI [Accessed December 2016].

Table 2 shows the member Firms of the KLCI as of 30th of September 2016 (FTSE Publications, 2016) with key information such as the ratios of Price-Earning (P/E), Earnings-Per-Share (EPS), Dividend-Per-Share (DPS) and Payout Ratio and the Dividend Yield.

Table 2: Member Firms of KLCI

Stock name	P/E	EPS	DPS	Payout Ratio	Dividend yield
Malayan Banking	12.8	0.6	0.5	81	6.37
YTL Corp	18.1	0.1	0.1	114	6.33
Bat Malaysia	20.3	2.2	2.33	106	5.24
Astro Malaysia Holdings	21.6	0.1	0.13	110	5.08
MISC Berhad	11.5	0.6	0.32	52	4.48
Digi.com	23.5	0.2	0.21	100	4.24
CIMB Group Holdings	11.4	0.4	0.19	46	4.07
Axiata Group	29.5	0.1	0.17	118	4
IOI Properties	7.6	0.3	0.08	29	3.79
AMMB Holdings	10.3	0.4	0.16	37	3.61
Telekom Malaysia	28.3	0.2	0.21	99	3.49
Maxis	22.6	0.3	0.2	76	3.36
Sime Darby	20.4	0.4	0.27	68	3.32
Hong Leong Bank	13.3	1	0.41	41	3.08
Public Bank	14.5	1.4	0.58	43	2.95
Petronas Gas	24.4	0.9	0.6	70	2.88
Petronas Dagangan	31	0.7	0.6	80	2.59
Hong Leong Financial	12.5	1.2	0.38	32	2.53
FELDA Global Ventures	0	0	0.04	-800	2.48
Petronas Chemicals	20.8	0.3	0.17	51	2.47
Tenaga Nasional	10.8	1.3	0.32	25	2.28
Kuala Lumpur Kepong	16	1.5	0.5	33	2.09
RHB Capital	10.5	0.6	0.12	21	1.97
IOI Corp	19.1	0.2	0.08	35	1.83
Ppb Group	21.3	0.8	0.25	33	1.56
Genting Malaysia	17.4	0.3	0.07	27	1.55
IHH Healthcare	49	0.1	0.03	23	0.47
Genting	22.5	0.4	0.04	10	0.43
SapuraKencana Petroleum	0	-0.2	0	0	0
UMW Holdings	0	-0.4	0	0	0

***Source*:** FTSE Publications, 2016. *FTSE Bursa Malaysia KLCI.* [Online] Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjGibfS5JbRAhXHo48KHZvhBl4QFggaMAA&url=https%3A%2F%2Fwww.ftse.com%2Fanalytics%2Ffactsheets%2FHome%2FDownloadConstituentsWeights%2F%3Findexdetails%3DFBMKLCI&usg=AFQjCNGjNO60jAfw9kOci

While this study contributes additional knowledge largely to investors whom would like to increase their wealth via dividends, it also complements the existing literature of dividend by exploring the gaps identified in the previous studies. Most of the previous studies are done on matured markets. The Malaysian market is not widely studied unlike The New York Stock Exchange, the London Exchange, or the Tokyo Exchange which have been the subject of many scholars of finance. Just

like the previous studies, this paper will be using financial ratios from publicly traded firms' annual reports to study the determinant of dividends but not necessarily limited to: profitability, leverage, cash flow, size, and growth. The previous studies either uses total sales as Size (Holder, Langrehr & Hexter, 1998) or total assets as Size (Consler, Lepak & Havranek, 2011; Arif & Akbar, 2013) while this study investigates both. This is also similar for Cash-flow, where the previous studies either used Free Cash-flow (Guizani & Kouki, 2012) or Operating Cash-flow (Adjaoud & Ben-Amar, 2010) while this paper studies both as well.

2. LITERATURE REVIEW

Since the publishing of Modigliani & Miller's paper in 1961, a debate if dividends are relevant or irrelevant has since been ignited. This can be observed in the behaviour of various investors with some preferring high dividend-yield stocks while others, low dividend-yield stocks depending on their tax brackets. For example, in a market where there are high taxes in dividends, some shareholders of higher tax bracket may avoid high dividend-yield stocks and prefer low dividend-yield stocks. While some shareholder of lower tax bracket may prefer high dividend-yield stocks and avoid low dividend-yield stocks (Kalay, 1982). Also institutional investors who are more disciplined and have better knowledge if the firm is well managed tend to favour high dividend-yield stocks compared to individual investors. This demonstrates the relevance of dividends among investors and also clearly demonstrating the Clientele Effect of dividends (Allen, Bernardo & Welch, 2000). This paper recognises this effect and would like to explore the better determinant of dividend payouts - Profitability or Cash-flow.

Studies have shown that shareholders value firms differently based on the dividend yield of the firms (Kalay, 1982; Allen et al., 2000). This implies that firm value is tied closely to dividend payout policy of the firms. Companies who want to increase their values will increase their dividend payout to cause investors to revaluate them. Basically to signal to the investors that the assets of the firms are generating steady stream of cash flow that can be partially paid out to shareholders (Bhattacharya, 1979). This will be a signal to investors that the firm is performing "well" and "safe" to invest on it. Thus, investors would have to rely only on dividend announcement in order to make their decisions to buy or sell a stock, basically the dividend as a signalling instrument. Dividend policy varies from country to country; it is more evident when comparing developed vis-a-vis emerging markets. There are studies showing that firms in the emerging markets have dividend payout ratio which is about two-thirds that of those in the developed markets (Glen, Karmokolias, Miller & Shah, 1995). More importantly, firms in emerging markets put more emphasis on dividend payout ratio; this means that the dividend level will be very volatile.

Profitability is reported to be a determinant of a firm's dividend payout across industries (Services and Manufacturing) in the United States (Gill et al., 2010). The study found Profitability to be related to the firm's dividend Standard Payout Ratio, defined as the Yearly dividends divided by net income after tax for firm. Additionally, the study also found firms Profitability to be related Adjusted Payout Ratio, defined as the Yearly dividends divided by net income after tax plus depreciation for firm, for the entire sample. The same study found interesting results in the Services industries, Profitability and Adjusted Payout Ratio are related. While the study also studied the manufacturing industries, Profitability and Standard Payout Ratio is found to be related. What

makes profitability to be a popular and reliable determinant is mostly due to the Signalling Theory. Basically, the idea is that profitability is the strongest measure of the firms' wellbeing and reliability to pay out earnings in the forms of dividends to investors.

However, there is a separate school of thought which has suggested Cash-flow of a firm as the better determinant of a firm's dividend. Consler et al. (2011) found that Cash-flow per share of a firm is a good predictor of a firm's dividend per share. There is a reason why some in the finance academia suspect Cash-flow to be a more accurate determinant. Cash-flow is a measure of Agency Cost. The idea is that if a firm has a higher level of Free Cash-flow, the higher is the degree of Agency Cost of the firm. Thus to mitigate this Agency Cost, investors (owners of the firms) will force firms to pay out a portion of their cash in the form of dividends to investors. This will reduce the cash available to managers of the firms and in turn reduce the Agency Cost, basically instilling discipline into the managers.

Despite the different school of thoughts, the two (Profitability and Cash-flow) are not polar opposites. Instead, the studies are suggesting that one determinant is more reliable or stronger than the other. The aim of this study is to confirm this for an emerging market like Malaysia. The study of the determinant are not just limited to Profitability vis-a-vis Cash-flow. There are other determinants that will be studied. In one study, Leverage (Debt-Equity ratio) was studied to see if there is a relationship with a firm's dividend payout. John and Muthusamy (2010) found that Leverage has a relationship with a firm's dividend payout where the study found that Indian paper firms are highly leveraged and are forced to retain more earnings which influences firms' external financing decisions. Growth was studied in Portugal and found to be influencing the distribution of dividends (Almeida, Pereira & Tavares, 2015). Tax and Size are also found to be influential on dividend payouts in the Pakistani firms (Arif & Akbar, 2013). Also, it is found that the determinants to pay dividends are similar across countries (Denis & Osobov, 2008). In the same study, it is found that Agency Cost Theory may possibly be better in explaining dividend compared with other known theories such as Signalling, Clientele, or Catering.

Previous studies on Malaysia were few and far. Yusof and Ismail (2016) have investigated the dividend payouts of public listed companies in Malaysia. Their results suggested that earnings have a positive impact on the dividend payouts. Furthermore, Chu, Ali and Yeo (2019) found nonlinear relationship between dividend payout and firms owned by substantial shareholders.

Another notable study on Malaysia by Benjamin, Wasiuzzaman, Mokhtarinia, and Nejad, (2016) found that small dispersed level of share ownership has led to lower dividend payouts. Similarly, Benjamin, Zain, and Wahab (2016) examined the type of shareholders on the dividend payouts. Their findings indicated that political connected firms tended to pay lower dividend. On the other hand, firms which were owned by institutions paid higher divided. Subramaniam (2018) also examined how family owned listed firms affect dividend payouts. The estimated results generated thorough OLS supports the notion of family owned firms paid higher dividend. These studies focused on how can the characteristics of shareholder structures affect dividend payouts with little attention on how the earnings or cash-flow affect the dividend payouts. Thus, this study will address this issue.

3. METHODOLOGY

It is important that all the measurements of the independent and dependent variables in this study are consistent with those in the literature. The detail information for Dividend, Profitability, Cash-flow, Size, Debt-to-Equity Ratio, Variations-in-Earnings, Expensiveness, and Growth can be obtained from Table 3.

Table 3: Variables Used in the Study

Variable	Symbol	Description	Unit of Measurement	Previous Studies	Source
Dividend	DPS	Dividend-per-share , Total Dividend over total share	RM	(Liu et al., 2007; Consler et al., 2011)	I3Investor
Profitability	ROA	Return of total asset, total net profit over total asset	%	(Guizani & Kouki, 2012)	Morning Star
Cash-flow (Operating Cash-flow)	OPB	Cash-flow from operations divided by the book value of assets	%	(Adjaoud & Ben-Amar, 2010)	Morning Star
Cash-flow (Free Cash-flow)	FCB	Cash-flow from operations minus CAPEX divided by the book value of assets	%	(Guizani & Kouki, 2012)	Morning Star
Size (Total Asset)	LOGTA	Natural Log of Total Asset	Log	(Consler et al., 2011; Arif & Akbar, 2013)	Morning Star
Size (Sales)	LOGSALES	Natural Log of Total Sales	Log	(Holder et al., 1998)	Morning Star
Debt	DE	Total Debt over total Equity	%	(Gul, 1999; Adjaoud & Ben-Amar, 2010; Gill et al., 2010)	Morning Star
Variations - in-Earnings	VARE	Change of net earnings-per-share	%	(Amidu & Abor, 2006)	Morning Star
Expensiveness	MBR	Market-to-book Ratio	%	(Fama & French, 2001; Denis & Osobov, 2008; Adjaoud & Ben-Amar, 2010; Gill et al., 2010)	Morning Star
Growth	GRSALES	Net Change of sales, Y1 sales minus Y0 sales divided by Y0 Sales	%	(Amidu & Abor, 2006; Gill et al., 2010; Guizani & Kouki, 2012)	Morning Star

Variable	Symbol	Description	Unit of Measurement	Previous Studies	Source
Growth	GRTA	Net Change of total asset, Y1 sales minus Y0 total asset divided by Y0 total asset	%	-	Morning Star

The data were collected mainly online from the Morning Star housing data from. Since this study is only interested in the constituencies of the KLCI, the Bursa Malaysia data from the Morning Star is sufficient. The data are basically the Balance Sheet, Income Statement, and Statement of Cash Flow. The i3Investor website is also used to supplement missing data from the Morning Star such like the Dividend per share. The i3Investor website is a company that provides financial data for UK, US, Singapore, Canada, Australia, and the Malaysian stock markets.

There are hundreds of company listed in the Bursa Malaysia, but for the purpose of this study, the sample firms will be the 29 firms in the KLCI. The reason for this is because the 29 firms in the KLCI are among the biggest firms in terms of market capitalisation in Malaysia, and it is a good representation of the Malaysian economy. Every firm in KLCI have market capitalisation exceeding RM1 billion and almost all of them pay dividends. Table 4 shows the list of firms in the KLCI and their key indicators. The year of study is from the financial year of 2007 until 2016. A special note that since the KLCC Properties & REIT is a stapled security, it is excluded from the study.

Table 4: Firms Listed in KLCI

Firms	Sector	Market Cap (billion)
AMMB Holdings	Finance	13.1410
Astro Malaysia Holdings	Trading/Services	15.2500
Axiata Group	Trading/Services	50.1650
British American Tobacco (Malaysia)	Consumer Products	14.5390
CIMB Group Holdings	Finance	42.9460
Digi.com	Infrastructure	39.4970
Felda Global Ventures Holdings	Plantations	8.2810
Genting	Trading/Services	30.4870
Genting Malaysia	Trading/Services	26.8400
Hong Leong Bank	Finance	28.5270
Hong Leong Financial	Finance	17.9470
IHH Healthcare	Trading/Services	54.7400
IOI	Plantations	28.9480
IOI Properties Group	Properties	11.4130
KLCC PROP&REITS-STAPLED SEC	Properties-REITs Stapled	14.098
Kuala Lumpur Kepong	Plantations	25.5130
Malayan Banking	Finance	79.5700
Maxis	Trading/Services	47.0140
MISC	Trading/Services	34.1480
PETRONAS Chemicals Group	Industrial Products	53.5200

Petronas Dagangan	Trading/Services	23.1470
Petronas Gas	Industrial Products	43.5320
PPB Group	Consumer Products	19.2050
Public Bank	Finance	77.1760
RHB Capital	Finance	20.2500
SapuraKencana Petroleum	Trading/Services	9.6470
Sime Darby	Trading/Services	49.7300
Telekom Malaysia	Trading/Services	25.8540
Tenaga Nasional	Trading/Services	82.1710
UMW Holdings	Consumer Products	6.8690
YTL Corp	Trading/Services	18.5770

***Source*:** FTSE Publications, 2016. FTSE Bursa Malaysia KLCI. [Online] Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjGibfS5JbRAhXHo48KHZvhBl4QFggaMAA&url=https%3A%2F%2Fwww.ftse.com%2Fanalytics%2Ffactsheets%2FHome%2FDownloadConstituentsWeights%2F%3Findexdetails%3DFBMKLCI&usg=AFQjCNGjNO60jAfw9kOci

There are a few models used in this study. All the β_0 denotes the intercept; DPS is the dependent variable. All the β_1, β_2, β_3, β_4, β_5, β_6, and β_7 are the coefficients of the respective independent variables. The "i" denotes the entities, and "t" denotes the year. And the "μ" denotes the error term.

Model 1 Sales as Size and Operating Cash-flow:

$$DPS_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 LOGSALES_{it} + \beta_3 DE_{it} + \beta_4 VARE_{it} + \beta_5 MBR_{it} + \beta_6 GRSALES_{it} + \beta_7 OPB_{it} + \mu_{it} \quad \text{.....(1)}$$

The first model displayed above uses ROA as the measurement of profitability, DE ratio as the measure of debt level, VARE and MBR as the company's variations-in-earnings and expensiveness respectively. The model uses Sales as Size of the company and the measurement of Growth, and Operating Cash-flow (OPB) as the measurement of liquidity.

Model 2 Sales as Size and Free Cash-flow:

$$DPS_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 LOGSALES_{it} + \beta_3 DE_{it} + \beta_4 VARE_{it} + \beta_5 MBR_{it} + \beta_6 GRSALES_{it} + \beta_7 FCB_{it} + \mu_{it} \quad \text{..... (2)}$$

The second model displayed above uses ROA as the measurement of profitability, DE ratio as the measure of debt level, VARE and MBR as the company's variations-in-earnings and expensiveness respectively. The model uses Sales (LOGSALES) as Size of the company and the measurement of Growth, and Free Cash-flow (FCB) the measurement of liquidity.

Model 3 Total Asset as Size and Operating Cash-flow:

$$DPS_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 LOGTA_{it} + \beta_3 DE_{it} + \beta_4 VARE_{it} + \beta_5 MBR_{it} + \beta_6 GRTA_{it} + \beta_7 OPB_{it} + \mu_{it} \quad \text{.....(3)}$$

The third model displayed above uses ROA as measurement of profitability, DE ratio as measure of debt level, VARE and MBR as the company's variations-in-earnings and expensiveness respectively. This model differs from the first two and will use Total Asset (LOGTA) as Size of the company and the measurement of Growth, and Operating Cash-flow as the measurement of liquidity.

Model 4 Total Asset as Size and Free Cash-flow:

$$DPS_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 LOGTA_{it} + \beta_3 DE_{it} + \beta_4 VARE_{it} + \beta_5 MBR_{it} + \beta_6 GRTA_{it} + \beta_7 FCB_{it} + \mu_{it} \quad \ldots\ldots (4)$$

The fourth model displayed above uses ROA as the measurement of profitability, DE ratio as measure of debt level, VARE and MBR as the company's variations-in-earnings and expensiveness respectively. The model is similar with the third model and will use Total Asset as Size of the company and the measurement of Growth, but with Free Cash-flow as the measurement of liquidity.

The data collected from the secondary sources are Panel or Longitudinal Data, where each of the variables of all the Firms are collected over a period of time. This is ideal for the Panel Data Analysis where the Fixed Effect (FE) test can account for unobserved effects and the Random Effect (RE) test can help decide if the dependent variables across the Firms are uncorrelated with the independent variables. The results from running Panel Data Analysis will be less biased and can account for heterogeneity and random effects. For the purpose of this study, the Panel Data Analysis is used. The Ordinary Least Square (OLS) is the first estimator in Panel Data Analysis, and it ignores the structure of the data and assumes the intercept is constant regardless the types of firms. The FE can measure the relationship between the dependent and independent variables, and analyse the impact of the variables over time and the results are not biased from unobserved effects. The FE will remove those effects from time-invariant characteristics and are absorbed by the intercept, thus only net effects of predictor on the outcome can be assessed. This study looks into the constituency Firms of the KLCI over time, and by using the FE to take into account the "burst" of irregularity of data over time, the net effect of the predictor on the outcome can be assessed. The RE will be a good test to investigate if the DPS is random and uncorrelated to the independent variables for the Firms in the KLCI. The Hausman test in the RE test will help determine between the FE and RE as the model to be used for the purpose of this study.

4. RESULTS AND DISCUSSIONS

The first set of results based on OLS as shown in Table 5. The OLS assumes that the intercept is constant regardless the firm types. Pooled Regression may have unobserved effects, resulting in biasedness of results.

Table 5: Results of Ordinary Least Square (OLS)

OLS	Model 1	Model 2	Model 3	Model 4
ROA	4.433282***	4.33974***	4.26720***	4.177956***
OPB	-0.182660***		-0.15964***	
FCB		-0.18846***		-0.154102***
LOGSALES	0.000000**	0.00000**		
LOGTA			0.00000**	0.000000***
DE	0.027242***	0.02324***	0.01626***	0.010184**
VARE	-0.106416***	-0.10222***	-0.09527***	-0.091718***
MBR	0.000849***	0.00080***	0.00084***	0.000797***
GRSALES	0.096189	0.10207		
GRTA			-0.12453	-0.116924
C	-0.080264	-0.08950	0.00709	-0.006817
R-squared	0.730716	0.706881	0.731702	0.713221
Adjusted R-squared	0.722412	0.697842	0.723429	0.704377

Note: The asterisks ***, **, * denote p-values of <1%, <5%, and <10% respectively.

However, the results based on OLS may not be considered as they may have biases or unobserved effects. Therefore, to determine these, the data was analysed using the FE and RE. The FE analyses the impact of the dependent and independent variables over time and the results are not biased from unobserved effects. RE will assume that the entities to be random and uncorrelated to the independent variables to test if the differences across entities have influence on the dependent variable. Table 6 shows the results of FE.

Table 6: Results of Fixed Effects Model (FE)

Fixed Effect	Model 1	Model 2	Model 3	Model 4
ROA	0.877471***	0.876934***	0.848084***	0.846698***
OPB	-0.005219		-0.007762	
FCB		-0.004449		-0.005759
LOGSALES	0.000000	0.000000		
LOGTA			0.000000	0.000000
DE	-0.018467**	-0.018890**	-0.016344	-0.017173*
VARE	-0.023840**	-0.023816**	-0.021037*	-0.021047*
MBR	0.001418***	0.001422***	0.001417***	0.001423***
GRSALES	0.056312	0.056590		
GRTA			-0.036379	-0.035256
C	0.338989	0.339704	0.366573	0.368593
R-squared	0.938084	0.938075	0.937473	0.937448
Adjusted R-squared	0.927194	0.927183	0.926475	0.926447
Redundant Fixed Effect Test Chi Square Statistics	345.445562***	365.342515***	342.27553***	357.839629***

***Note*:** The asterisks ***, **, * denote p-values of <1%, <5%, and <10% respectively.

ROA and MBR across all models in both the OLS and FE are significant determinants of dividends. However, OPB and FCB are not significant at all in the FE but significant in the OLS results. GRSALES and GRTA are both not significant in all models in both the tests. DE and VARE are significant in varying significance level across all models in both the test. The Adjusted R-Squares are 0.9 and above across all the models in the FE, indicating its good model fit. The Pearson Chi-Square tests for unobserved effects in the Panel Data models are all significant and thus the Null Hypothesis (No Unobserved effects) in all the models are rejected, recognising the presence of unobserved effects in all the models. The data is also analysed for RE, checking if the variables in the models have no correlation with the dependent variables. Table 7 shows the results of RE model.

Table 7: Results of Random Effects Model (RE)

Random Effect	Model 1	Model 2	Model 3	Model 4
ROA	2.275469***	2.217319***	2.171764***	2.133087***
OPB	-0.039877**		-0.031234*	
FCB		-0.030140		-0.019493
LOGSALES	0.000000	0.000000		
LOGTA			0.000000**	0.000000**
DE	0.004078	0.001910	0.000381	-0.001712
VARE	-0.057706***	-0.056206***	-0.050268***	-0.049281***
MBR	0.001479***	0.001504***	0.001490***	0.001513***
GRSALES	0.072512	0.073075		
GRTA			-0.075518	-0.071500
C	0.139325	0.142759	0.161837	0.161163
R-squared	0.539868	0.535694	0.543047	0.540325
Adjusted R-squared	0.525679	0.521376	0.528956	0.526150
Hausman Test Statistics	121.9791***	124.2271***	103.9082***	107.11072***

Note: The asterisks ***, **, * denote p-values of <1%, <5%, and <10% respectively.

The results from the RE show that ROA, MBR and VARE are significant across all the models, like those in the FE. OPB is shown to be significant in RE but not in FE. Also, DE is revealed to be not significant in the RE but significant in the FE. The Hausman test is used to determine which: FE or RE should be used. The Hausman test rejects the Null Hypothesis and hence would mean that the FE should be used. The FE of all the four models shows that ROA, which is profitability, is significant and has the strongest positive coefficient. This is mostly in line with findings in the literature (Baker & Powell, 1997; Fama & French, 2001; DeAngelo, DeAngelo & Skinner, 2004). However, note that most firms in the KLCI are some of the biggest firms in Malaysia, Fama and French (2001) did note that large firms tend to pay out dividends, so the results may be a confirmation of their findings.

Profitability being most determinant for dividends is not surprising. If a firm is profitable, they are in a more comfortable position to pay out a portion of the earnings as dividends. Say if a firm is not making any profit, it is unlikely they can pay any dividends, because and dividends from this

scenario will come out from assets, fixed or liquid. This will be detrimental to the future of the firm. However, if a firm is profitable, a portion of the extra earnings may be distributed to the Investors without affecting the Firm's balance sheet. Thus, the firm's financial wellbeing is not impacted.

Whilst the unprofitable firm will be less incline to allocate a portion of their earnings as dividends. Instead, they are more inclined to allocate a portion of their earnings as retained earnings or to use it to grow their business. There may be firms that have committed a dividend policy may pay out a portion of their earnings as dividends no matter what the earnings is. Investors will expect a lower dividend per share for such an example. Regardless, a lower profitability will no doubt yield lower dividends.

In the FE results shown in Table 6, Cash-flow or Liquidity is not significant. This is surprising because theoretically, increase in liquidity would increase the agency cost and thus the shareholders will demand firms to give out more dividends. This is contrary to the findings of Amidu and Abor (2006) and Consler et al. (2011). Both of these studies showed that cash-flow or liquidity is a good predictor for dividend per share. Logically, cash-flow should lead to more dividends. If the free cash-flow or operating cash-flow of a firm is positive, the management should be more comfortable to pay out dividends. However, the results disagree with this notion. The explanation for this is that Insiders in Malaysia may have very strong holding over the company. Often these Insiders are the founders or family members of the firms, and they usually hold senior managerial roles. The Insiders would not be so inclined to allocate a large portion of their cash flow as dividends, and would ensure that they are given larger salaries. Thus, this Insiders with their considerable power of the firm can control the cash-flow by preventing a large part of it to be distributed as dividends. Outsider investors will have weaker holdings and will have less influence over the firm to compel them to give out more dividends. Jensen, Solberg and Zorn (1992) found that Insider ownership has a negative influence on a firm's dividend level. Many firms in Malaysia, including the firms of the KLCI, may be owned largely by families or by a small number of individuals who are usually the founders and the managers of the firms. In the event where a company is largely dominated by one or two shareholders, it is unlikely that the minority shareholders can exert enough control over the firm to give out dividends. Firms that the founders/managers have enough influence to pay themselves higher salaries will avoid giving out too much dividends to the minority shareholders.

Going back to the objective of the study: that is to determine if Profitability or Cash-flow is a better determinant of dividends in the KLCI, the answer is obvious- it is Profitability. This does not suggest that Profitability is settled, and it is the best determinant of dividend but does suggest that in the KLCI, Profitability is a better signal for investors to rely as a determinant of dividends when adjusting their portfolios of investments.

In Table 6, the FE results show that Leverage (a.k.a DE) is found to be significant and negatively corresponding with dividends for Models 1, 2, and 4. This may show that Firms avoid debt if they have dividend commitments and it is consistent with the results of Jensen et al. (1992). The results show that using debt as a way to discipline managers to give out more dividends may not be applicable in the KLCI where powerful Insiders dominate many firms. VARE is found to be significant across all models of the FE test. This is consistent with the findings of Amidu & Abor (2006) where they found variations-in-earnings to be a weak and negative predictor of dividends indicating that firms facing uncertainties in their earnings will be careful with dividend payout.

This is an interesting finding in the Models, because in many studies, VARE is found to be insignificant or unconvincing determinant like in Jensen et al. (1992). Like Profitability, Expensiveness is a strong determinant across all Models. This is not at all surprising: high stocks tend to yield dividends and this is consistent with the findings of Baker and Wurgler (2004). This suggest that the Catering Theory may be at work in the KLCI. A premium or "*miss-pricing"* of a stock is a measure of extreme Investor demand that the Managers have to "Cater" (Baker & Wurgler, 2004). In this case, the demand is dividends and investors put a high price on a stock to demand it from the managers. Growth is found to be not significant across all Models and this is true when sales or total asset is used as the measure of growth. This is consistent with some studies that shows that managers are not incline to cut dividends to fund growth (Ghosh & Woolridge, 1989). Dividends tend to be sticky, thus if growth of a company does not influence dividends negatively, it may not influence it positively too; and the most reliable measure would be Profitability. Many of the firms in the KLCI are quite matured and they tend to have slower growth and have dividend payout policies.

Miller (1995) mentioned how government regulation insures depositor's money in the bank and how this means that a government is basically a creditor to the banks. It also means that the government can now dictate capital requirements on the banks and has an implication on how banks pay out dividends. After all, if the capital requirements of the government are to maintain a certain level of equity in the banks, they will need to make proper adjustments to ensure the capital structure requirements are adhered. In this case, banks will prioritise capital structure over dividend payout. Miller's point is also applicable to Malaysia and the Banks listed in the KLCI, as Bank Negara (Central Bank of Malaysia) also sets regulations of stringent capital structure requirements for banks. Also in Malaysia, depositors' money are insured by the Government of Malaysia.

The Robustness test (RT) of this study is to obviously remove Bank data from the Panel Data Analysis. Banks are in a heavily regulated industry and thus there is reason to suspect that the data may be influenced by that. The regulation or framework in question is the Basel Committee and their Basel Framework. The Basel Framework has capital requirements on banks that may negatively impact their decision to pay dividends. Banks may have a number of ways to adjust their capitals structure. Banks can look for external source of funds, but this may be expensive. Or they can reduce their lending, but policy makers do not favour such measure because it may negatively impact economic growth. Banks can also reduce or eliminate dividends (Hsiao & Tseng, 2016). Banks' capital structure is fragile and vulnerable to bank runs (Diamond & Rajan, 2001), thus any consideration for dividends are carefully considered.

One more important reason for taking bank data out for the RT is because banks tend to have very large cash holdings. The first reason is that it is a regulatory requirement (Hsiao & Tseng, 2016) and also, banks treat deposits as liabilities. This means DE ratio (Leverage) for banks is expected to be slightly higher compared to non-banks. The second reason is that bank treat cash as "stock" or "commodities" that they "sell" as loans, or they "buy" as deposit, indicating that banks may have very high cash-flow.

After removing all the Bank data, there are 22 firms left in the sample for the RT. Table 8, 9 and 10 show the results of OLS, FE and RE of RT, respectively. The similar results with the earlier set of Panel Data Analysis with 29 firms once again confirm that Profitability is the better dividend determinant compared to Cash-flow in the KLCI.

Table 8: Robustness Test Based on Ordinary Lease Squares

OLS	Model 1	Model 2	Model 3	Model 4
ROA	4.618792***	4.372802***	4.544464***	4.303627***
OPB	-0.202817***		-0.207733***	
FCB		-0.135004		-0.134020
LOGSALES	0.000000**	0.000000**		
LOGTA			0.000000	0.000000
DE	0.014288	-0.022433	0.015291	-0.023380
VARE	-0.131940***	-0.126797***	-0.124246***	-0.120718***
MBR	0.000863***	0.000819***	0.000856***	0.000813***
GRSALES	0.069037	0.069337		
GRTA			-0.108186	-0.082721
C	-0.070932	-0.046137	-0.006215	0.010780
R-squared	0.767397	0.754273	0.763383	0.749862
Adjusted R-squared	0.757469	0.743785	0.753283	0.739185

***Note*:** The asterisks ***, **, * denote p-values of <1%, <5%, and <10% respectively.

Table 9: Robustness Test Based on Fixed Effect Model

Fixed Effect	Model 1	Model 2	Model 3	Model 4
ROA	0.949702***	0.965548***	0.941620***	0.960536***
OPB	0.022278		0.021784	
FCB		-0.001201		-0.007531
LOGSALES	0.000000	0.000000		
LOGTA			0.000000	0.000000
DE	-0.048078	-0.037486*	-0.048038	-0.035825
VARE	-0.033835**	-0.034000**	-0.031584**	-0.031531**
MBR	0.001379***	0.001366***	0.001376***	0.001360***
GRSALES	0.024850	0.025703		
GRTA			-0.026816	-0.033420
C	0.320996	0.312360	0.314511	0.307668
R-squared	0.945262	0.945192	0.945523	0.945463
Adjusted R-squared	0.934544	0.934461	0.934856	0.934785
Chi Square	248.845765***	258.066883***	252.609579***	261.980769***

***Note*:** The asterisks ***, **, * denote p-values of <1%, <5%, and <10% respectively.

Table 10: Robustness Test Based on Random Effect Model

Random Effect	Model 1	Model 2	Model 3	Model 4
ROA	2.276709***	2.246648***	2.162174***	2.125470***
OPB	0.028354		0.026694	
FCB		0.064585		0.057622
LOGSALES	0.000000	0.000000		
LOGTA			0.000000	0.000000
DE	-0.048218	-0.054134***	-0.047693**	-0.052355***
VARE	-0.070894***	-0.070102***	-0.065958***	-0.065322***
MBR	0.001462***	0.001467***	0.001462***	0.001467***
GRSALES	0.043092	0.043085		
GRTA			-0.042745	-0.034637
C	0.172893	0.180867	0.203669	0.209608
R-squared	0.593434	0.596273	0.591324	0.592904
Adjusted R-squared	0.576080	0.579041	0.573881	0.575528
Hausman	75.09065***	76.597742***	67.340757***	67.063578***

Note: The asterisks ***, **, * denote p-values of <1%, <5%, and <10% respectively.

5. CONCLUSIONS

The implication of this study is obvious - Profitability is a Signalling Theory-determinant. The most reliable way of determining which stocks to buy that will promise good returns in the future is the Profitability of the firms which can be obtained from the quarterly and annual reports. This implies that the average investors in Malaysia do not obtain sufficient and reliable information of the firms and coupled with most retail investors are not well-educated in the matters of corporate finance, have made them resorting to limited sources of information.

Among the Firms with large market capitalisation, Cash-flow or Liquidity is revealed to be not significant as a determinant of dividends in the KLCI. The implication is that the Agency Cost Theory may not be applicable to the Firms of the KLCI to predict dividends. This can be due to the strong holdings of the founders or insiders, or the weak minority shareholders' rights in the local exchange. This study did not try to answer this question, but it does reveal this as a valid question worthy to explore. Investors that want dividends should not pay too much attention to the cash-flow or liquidity of the company. It is still a good measure of Agency Cost, but it is just not a determinant of dividends in the Firms of the KLCI. Because they are found to be not significant, Size and Growth of total asset or total sales can be ignored by investors when they decide on which KLCI firm to invest for dividends. Likewise for Leverage (DE) and VARE.

What is surprising for this study is Expensiveness of the stock or the Market-to-Book-Ratio (MBR) is a strong determinant of dividends. What this means for the average investors is that the expensiveness of the stock is in itself a vote of confidence of a firm's ability to generate future earnings and dividends. The implication here is that the Catering Theory is present and work well in the KLCI where investors will put a high premium on a share price of the firm and expecting future dividends from that company. This also implies that when investors are faced with a decision

to buy shares in a firm that is quite expensive but have reliable and regular dividend yields, the investors should confidently buy the share.

This study is useful for investors who wish to increase their wealth by investing in high dividend yielding stocks. By investing in companies that consistently pay high dividends, investors will be able to form a safety net of margin for their share prices. In other words, during bearish market, there is an invisible support line for the share price of a company that pays high dividend. In order to help investors to detect a high dividend payout company, the results suggest that earnings can be used to identify such company. The policy makers can also reduce the impact of bearish market by encouraging companies to pay higher dividend. This can be done by altering the corporate tax structure. Similar to the tax policy on the earnings generated by REITS, it will be a bold move if the government provides tax exemption on the portion of income that will be payout as dividend. This will encourage firms to retain less profits. In addition, this study reveals to policy makers that insiders have a lot of power in determining dividend policies in Malaysia. Thus, policy makers can put up regulations to foster more positive and healthy interaction between the insiders and investors and make insiders more accountable on their actions for greater benefits to all.

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