



## DOES DIVIDEND POLICY AFFECT FIRM VALUE IN AN EMERGING MARKET: EVIDENCE FROM MALAYSIAN FIRMS

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### ABSTRACT

This study examines the relationship between dividend and firm value in Malaysian firms. The study uses pooled Ordinary Least Square, panel fixed, and random effect to examine the model. Using a sample from 659 firms across Malaysia from 2005 to 2019, the results reveal that dividend has a positive relationship with firm value proxy by Tobin's Q. Moreover, the results are robust even after controlling for endogeneity concerns regarding omitted variables bias.

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### 1. INTRODUCTION

One of the most controversial topics in early research of dividend is whether the dividend is relevant to firm value. Miller and Modigliani (1961) suggest that dividend and firm value are irrelevant, and this topic has become a raging debate among scholars. According to their theory, known as dividend irrelevance theory, in the frictionless market, dividend policy does not create value to shareholders beyond what is created by investment policy. However, friction such as agency cost and information asymmetry can cause the size and the timing of dividend to influence firm value (Kim et al., 2018).

The empirical evidence supported that there is a positive association between dividend and firm value. However, the way past studies interpret the findings are different. For instance, Fama and French (1998) posited that dividend and firm value are positively related because dividend picks up the information about future business prospects not captured by the control variables. However, Pinkowitz et al. (2006), on the other hand, posited that investor provides a high value to a firm that paying a higher dividend to mitigate the agency cost. On the other hand, Baker and Wugler (2004) posited inconsistent relationship between dividend and firm value. Instead, they posited that the relation between dividend and firm value could be positive or negative depending on the dividend premium.

The contradictory theory, as well as findings with regards to dividend and firm value relationship, creates a gap to be filled in. The gaps motivate the study to explore the relation between dividend and firm value, especially in the emerging market context, often neglected in past studies. To ascertain the relationship between dividend and firm value, the study examines the direct relationship between dividend and firm value along with related control variables as investigated in the past studies.

The empirical study analysis is conducted in a non-financial firm across Malaysia between the period 2005 to 2019. To gain more insight, the study uses several methods to examine the relationship. First, the study uses linear regression, namely panel OLS, fixed and random effect. The study also uses robust standards calculation after identifying the significant issues in the data analysis. Finally, the study also adopts a firm fixed effect to mitigate the concern regarding omitted variables bias.

This study contributes to the literature by exploring the dividend and firm value relationship, especially in the emerging market contexts. Despite the importance of addressing the dividend and firm value relationship, a little empirical investigation has been conducted to address this relationship in emerging markets, especially in Malaysia. According to La Porta et al. (2000), most Asian country like Malaysia is owned by family members with the largest shareholders being part of management teams. Furthermore, Chu et al. (2019) posited that in firms owned by the family, the firm manager conducts the monitoring task and relies less on dividend policy to mitigate agency cost. The largely dominant family setting in Malaysian firms may contribute to lower firm valuation since firms controlled by a large shareholder may experience lower valuation and may not paying any dividend (Thomson et al., 2006). The firms setting in Malaysia, which dominate by family firms, motivate the study to examine and ascertain the relationship between dividend and firm value. While past theories and empirical evidence create a raging debate on the relationship between dividend and firm value, this study specifically supported that dividend and firm value is related.

The organization of this paper is as follows. The next section is presenting a literature review. Section 3 and 4 presenting methodology and result, respectively. Finally, section 5 presenting the conclusion discovered from this study.

## **2. LITERATURE REVIEW**

Dividend and firm value have been thoroughly discussed by several theories of dividend. Among the earliest theory discuss this relationship are the free cash flow hypothesis. In this theory, they predicted that dividend and firm value are positively related because free cash flow at management can lead to investment towards the unprofitable project (Jensen, 1986). According to this theory, if the investor is interested in a firm that minimizes the agency cost by mitigating the free cash flow by using a dividend, a firm that pays a higher dividend will receive a better valuation relative to a low and non-paying dividend firm. Pinkowitz et al. (2006) discovered that dividend has a positive relationship with firm value and this effect are more pronounced in a country with weak shareholder protection. Fama and French (1998) also discover that dividend and firm value have a positive relationship. They posited that this relationship is mainly because the investor predicted that the firm future profitability is related to its current ability to pay a dividend.

On the other hand, the dividend clientele hypothesis posited that a firm decides several dividend policies to fulfil the need and demands of a particular group with various preferences for current dividend or capital gain (Miller & Modigliani, 1961; Black & Scholes, 1974). The past studies highlighted the sources of dividend clientele are behavioural biases and tax policies. For instance, anti-dividend clientele did not prefer dividend payment because they do not want to pay a higher tax rate, which often charges

to the dividend relative to capital gain, which charges at a lower tax rate (Elton & Gruber, 1970). On the other hand, pro-dividend clientele prefers dividend because of their naive attitude (Shefrin & Statman, 1984) or tax deduction conferred to the dividend paid to the corporation (Moser & Puckett, 2009).

The dividend catering hypothesis posited that the dividend relationship with firm value is unstable over time (Baker & Wurgler, 2004). The catering hypothesis argues that the firm's dividend policy is determined by whether the stock that is paying a dividend is undervalued or overvalued relative to the stock that did not pay any dividend. They discovered that firm is likely to omit dividend premium is negative, and vice versa initiate dividend if the dividend premium is positive.

In short, the theories and hypothesis developed to predict the relationship between dividend and firm value has a different way of explaining the relationship between the variables. The variety of explanations regarding dividend and firm value relationship indicates that dividend complexity is just like a puzzle. Thus, the statement is aligned with Black (1976) statement, where he mentioned that the dividend is like puzzle pieces that do not match and hardly fit together.

## **2.1 Hypothesis development**

Among the earliest theories supporting the positive association between dividend and firm value is agency cost and free cash flow theory. According to the agency cost and free cash flow theory, the agency cost exists when the manager's interest (agent) does not align with the shareholder (principal). The reasons for conflict of interest are that managers behave in their interest to pursue a personal motive, for instance, investing in a non-profitable project or business opportunity, which may only benefit the manager's interest. Consequently, the shareholder must bear the agency cost to ensure that the manager acts in the firm's best interest. In a perfect capital market, where no agency cost involves, a rational investor would prefer to invest excess cash in expanding their business and receiving a better return in the future. However, a problem might arise if the excess cash invests in negative net present value. Thus, investors and shareholders would prefer the excess cash used to pay a dividend.

Among the prominent empirical evidence supporting the agency cost theory and the positive association between dividend and firm value, studies are Jensen and Meckling (1976) and Pinkowitz et al. (2006). According to Jensen and Meckling (1976), under the setting of the contractual relationship between one party (principal) delegate work to other (agent), the agent may pursue with their personal goal, which conflicting with the principal and resulting in a lower firm value. On the other hand, Pinkowitz et al. (2006) posited that investors put more value on a firm that pays dividends to mitigate agency costs. Additionally, much recent empirical evidence also posited that dividend payment could be used to mitigate the agency cost (Yusof & Ismail, 2016).

Besides agency cost and free cash flow theory, signalling theory also explains the positive association between dividend and firm value. In 1979, Bhattacharya (1979) argued the assumption behind the Irrelevance Theory of Dividend on perfect capital market and frictionless idea. The frictionless idea contradicts the real market scenario under information asymmetry, where an insider has more information than the outside stockholder. Under these circumstances, the market without friction could not be achieved. For these reasons, the firm uses dividend announcement as a signal to the outside stockholder. Among the earlier empirical evidence supporting this theory is Fama and French (1998). Fama and French (1998) claim that dividend payment indicates firm ability or signalling about their future business prospects.

Despite earlier theory such as dividend irrelevance theory by Miller and Modigliani (1961), suggested dividend is irrelevance on firm value determinants; however, this theory receive a huge critique, especially in the assumption of the perfect capital market. This theory assumes that no agency cost or friction involves which contradicts the reality of the capital market. Thus, this study specifically supports and stands with later theories such as agency cost and free cash flow and signalling theory on the relationship between dividend and firm value. As such, the study hypothesizes:

*H1. Dividend has a positive and significant relationship with firm value*

### 3. METHODOLOGY

The present study samples consist of 659 firms with 8660 firm-year observations obtained from DataStream from 2005 to 2019. The main justification for selecting the study period is to examine the current impact of dividend on firm value with the latest data. Besides, a firm within the financial sector was excluded because these firms are often highly regulated. The study also excludes a firm with incomplete financial data for the particular year of observations, resulting in unbalanced panel data. The data were analyzed using Stata software version 13. Specifically, the regression analysis was conducted using several different types of analysis, including pooled Ordinary Least Square, panel random, and a fixed effect. Several diagnostic tests are also conducted to ensure that the data are free from multicollinearity, heteroskedasticity, and autocorrelation, which could make the results biased and unreliable.

As the title suggests, the dependent variable use in this study should proxy for firm value. The study chooses Tobin's Q as a proxy for firm value which has also been used in several past studies (Carter et al., 2003; Zeume, 2017; Kim et al., 2018). The independent variables for this study are dividend. Specifically, the study chooses dividend per share as a proxy for independent variables. The remaining control variables used in this study, including profitability, size, free cash flow, beta and leverage which has been used in several studies (Naceur & Goaid, 2002; Yusof & Ismail, 2016; Jiang et al., 2017; Kim et al., 2018) as control variables in examining dividend and firm value relationship. Table 1 shows a proxy for each variable used in this study. The model used in this study are as follow:

$$Tobin's\ Q_{i,t} = \beta_0 + \beta_1 DIV_{i,t} + \beta_2 ROA_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 FCF_{i,t} + \beta_5 Beta_{i,t} + \beta_6 Leverage_{i,t} + \delta_{i,t} + \mu_{i,t} + \varepsilon_{i,t}$$

Where,

*Tobin's Q<sub>i,t</sub>* = Firm value

*DIV<sub>i,t</sub>* = Dividend

*ROA<sub>i,t</sub>* = profitability

*SIZE<sub>i,t</sub>* = Firm size

*FCF<sub>i,t</sub>* = Free cash flow

*Beta<sub>i,t</sub>* = Risk

*Leverage<sub>i,t</sub>* = Ratio of total liabilities to total asset

*δ<sub>i,t</sub>* = Dummy variable equals 1 for different industry

*μ<sub>i,t</sub>* = Dummy variable equals 1 for different year

*ε<sub>i,t</sub>* = Error term

*β<sub>0</sub>, β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub>, β<sub>5</sub>, β<sub>6</sub>* are the coefficient of the regression model.

**Table 1: Variables definition of dividend and firm value relationship.**

Variables	Represent by	Proxy by
Tobin's Q	FV	(Book value of total asset-Books value of equity-deferred taxes+market value of common stock) / Book value of total assets
Dividend	DIV	Dividend Per Share
Profitability	ROA	Net Income / Total Asset
Firm size	SIZE	Natural logarithm of total asset
Free cash flow	FCF	Free cash flow
Risk	Beta	1 Year of Market Beta
Debt level	Leverage	The ratio of total liabilities to total asset
Industry fixed effect	Industry	Dummy equal to 1 for different industry
Year fixed effect	Year	Dummy equal to 1 for different year

## 4. RESULTS

### 4.1 Descriptive statistics

Table 2 portrays the total number of observations, mean, standard deviation, minimum, and maximum value of variables used in this study. As shown in Table 2, the average firm value (FV) of a firm in Malaysia is 1.21, whereas the average dividend per share (DIV) by a Malaysian firm is 0.04. The firm profitability (ROA), size (SIZE), free cash flow (FCF), risk (Beta) and debt level (leverage) are at 3.73, 12.66, 0.01, 1.06 and 0.37, respectively. The mean for Malaysian firms' dividend found in this study is significantly lower than developed countries found by Thomsen (Thomsen, 2005). It may contribute by the use of different proxies of dividend from the study. However, the mean for Q ratio is not significantly different from developed countries found by Thomsen. The whole sample mean of 1.46 (Thomsen, 2005) compared to 1.21 in Malaysia found in this study. It indicates a relatively similar Malaysian firm value compared to developed market countries.

**Table 2: Descriptive statistics of dividend and firm value in Malaysia.**

Variable	Obs	Mean	Std. Dev.	Min	Max
FV	8660	1.210809	0.9235533	0.362177	6.501125
DIV	8660	0.0398152	0.0889838	0	0.59
ROA	8660	3.732323	9.636155	-35.42	32.12
SIZE	8660	12.65652	1.6267	4.969813	19.00135
FCF	8660	0.0101222	0.1520673	-0.619	0.569
Beta	8660	1.055038	0.724949	-0.73	3.353
Leverage	8660	0.3735421	0.2021346	0.0238192	0.9281929

Prior proceed to the main analysis, the study conducts several diagnostic tests. Firstly, the study conducted the normality test. Using Jarque-Bera, the result indicates a non-normality distribution of data. A non-normally distributed data indicates a potential outlier. Therefore, the study winsorizing the top 1 per cent and the bottom 99 per cent to mitigate the concern for the potential outlier. Secondly, the study conducts Breusch Pagan-Heteroscedasticity and White test to identify the heteroscedasticity in the data. The results indicate that the data influence by heteroscedasticity. Thirdly, the study conducts the Breusch-Godfrey LM test to identify the potential autocorrelation in the data. The result also shows that the data suffer from autocorrelation. To correct the potential problem as discovered in the second and third diagnostic test, the study applies robust standard error calculation to correct the standard errors, which solves the

heteroscedasticity. Whereas to mitigate the concern of autocorrelation, the study applies Cochrane-Orcutt analysis. The results presented in the main analysis (Table 5) using robust standard errors and Cochrane-Orcutt analysis (Table 6) to mitigate those concerns.

#### 4.2 Pearson correlation matrix

Before examining the relationship between dividend and firm value, several diagnostic tests were conducted to ensure the robustness of the results. Firstly, the study conducted a multicollinearity test using Pearson Correlation Matrix and Variation Inflation Factors. Table 3 demonstrates the Pearson correlation matrix, which identifies the existence of multicollinearity in the data. The highest value in table 3 is 0.3982. According to Hair et al. (2010), any value that exceeds the value of 0.60 is considered high multicollinearity. Thus, based on table 3, no variables with a value exceeds 0.60, and this shows that the Hair et al. (2010) criteria are meet. In short, the risk of multicollinearity does not exist in the data of analysis.

**Table 3: Pearson correlation matrix of dividend and firm value in Malaysia.**

Variables	FV	DIV	ROA	SIZE	FCF	Beta	Leverage
FV	1						
DIV	0.3982***	1					
ROA	0.3359***	0.3254***	1				
SIZE	0.0099	0.3709***	0.2241***	1			
FCF	0.0038	0.095***	0.2202***	0.073***	1		
Beta	-0.0518***	-0.1617***	-0.1145***	0.09***	-0.0248**	1	
Leverage	0.0307***	-0.0316***	-0.1272***	0.2895***	-0.1128***	0.0858***	1

\*Denotes significance at the 10% level.

\*\* Denote significance at the 5% level.

\*\*\* Denote significance at the 1% level.

#### 4.3 Variation inflation factor

To ensure the robustness of the multicollinearity test, the study also adds additional analysis, namely Variation Inflation Factors (VIF). According to Hair et al. (2010), any VIF value exceeding 4.0 can be considered to have high multicollinearity. Based on table 4. The alternative test of multicollinearity test using VIF value also indicates that no multicollinearity issues within the data or model of analysis with the highest VIF Score is 1.37 and the mean VIF Score is 1.20.

**Table 4: Variation inflation factor of dividend and firm value in Malaysia.**

Variable	VIF	1/VIF
SIZE	1.37	0.729309
DIV	1.31	0.765854
ROA	1.22	0.822349
Debt	1.17	0.858277
Beta	1.06	0.940277
FCF	1.06	0.94108
Mean VIF	1.20	

#### **4.4 Regression results**

The result of the regression analysis consists of panel Pooled OLS, random and fixed effect analysis are presented in Table 5. The result revealed that dividend significantly affecting firm value within all three models with pooled OLS has the highest t-value of 20.05 followed by panel random-effect analysis with t-value of 7.30 and panel fixed effect with t-value of 6.63. Despite having the lowest t-value, the fixed-effect analysis was the most appropriate model, as shown through Hausman test analysis. Prior Hausman test, the study used Breusch and Pagan LM test to determine whether pooled OLS or panel random effect are more appropriate. The result indicates that the panel random effect is more appropriate. Thus, among the three analyses, panel fixed-effect analysis is the most appropriate. The result presented in Table 5 is presented mainly for comparison purpose.

The rest of the control variables are also shown to have a significant relationship with firm value. As shown in Table 5, the remaining control variables have a mixed relationship with firm value. ROA and leverage have a significant and positive relationship with firm value. For instance, ROA has a t-value of 16.10, 6.48 and 6.09, respectively, for model I, II and III. On the other hand, Leverage has a t-value of 13.47, 6.22 and 6.10 and model I, II and III, respectively. SIZE and FCF, on the contrary, have a negative relationship with firm value. For example, SIZE has a t-value of -14.75, -6.59 and -5.74 in all three models.

In contrast, FCF only demonstrates a significant negative relationship with firm value in the model I with a t-statistic value of -4.98. Like FCF, Beta demonstrate a non-consistent significant result with the positive and significant relationship only shown in models II and III. In contrast, no significant relationship exists in model I.

Overall, the entire model revealed that dividend and firm value are significantly related as per hypothesize. It shows that dividend and firm value are positively related, rejecting the dividend irrelevance theory by Miller and Modigliani (1961) and supporting the free cash flow hypothesis and agency cost theory that claims dividend can be used as tools to mitigate agency cost concern and as a result a firm that paying higher dividend will experience better valuation. On the contrary, a firm that ignores or does not have the initiatives to mitigate the agency cost and not pay or pay a lower dividend will suffer the cause by punishment through market supply and demand equilibrium, which eventually results in a lower firm valuation.

#### **4.5 Autocorrelation correction**

To mitigate the autocorrelation issue, the study also adds additional analysis using Cochrane-Orcutt to correct for autocorrelation issues. The results for this additional analysis are presented in Table 6, model IV. Based on table 6, model IV, the result shows that dividend has a significant relationship with firm value with a significant level of 1 per cent with t-statistic 7.58 and coefficient of 1.970206. The results demonstrate in this section that the model in this study is robust using alternative autocorrelation correction methods.

#### **4.6 Endogeneity test - omitted variables bias**

The results present in Table 5 may influence by endogeneity with regards to omitted variables bias. According to Jiang et al. (2017), the use of firm fixed effect may mitigate the concern of endogeneity regarding omitted variables bias. Therefore, to ensure the robustness of the result, firstly, the study checks whether the firm fixed effect presence. The study uses F-test in the fixed effect analysis to identify the presence of a firm-fixed effect. Then, the study regress with firm dummies followed by a joint test (F-test) to identify the presence of a firm-fixed effect. The results revealed that the firm fixed effect

does exist. Then, the study re-examines the model in this study using firm dummies to creates the firm fixed effect. Thus, the study examines firm fixed effect to mitigates omitted variables bias (Jiang et al., 2017; Bakri et al., 2019; Bakri et al., 2020) in Table 6. The results on Table 6, model V reveals that dividend and firm value relationship remain persistent with t-statistic surpass 1.96, which is at 6.63 and coefficient regression value of 3.162186 even after controlling for endogeneity concerns with regards to omitted variables bias.

**Table 5: Panel pooled, random and fixed effect analysis of dividend and firm value in Malaysia.**

Model	Model I: Pooled Ordinary Least Square		Model II: Panel Random Effect (robust standard errors)		Model III: Panel Fixed effect (robust standard errors)	
	Regression coefficient	t-statistics	Regression coefficient	z-statistics	Regression coefficient	t-statistics
Constant	2.780289	17.26***	3.088381	9.26***	3.455561	7.47***
$DIV_{i,t}$	3.906362	20.05***	3.423402	7.30***	3.162186	6.63***
$ROA_{i,t}$	0.029069	16.10***	0.0148517	6.48***	0.0138583	6.09***
$SIZE_{i,t}$	-0.143409	-14.75***	-0.1866397	-6.59***	-0.2193664	-5.74***
$FCF_{i,t}$	-0.2718635	-4.98***	0.0063368	0.14	0.023124	0.52
$Beta_{i,t}$	0.0219476	1.48	0.0565004	2.75**	0.0598346	2.80**
$Leverage_{i,t}$	0.7658039	13.47***	0.7556637	6.22***	0.7781573	6.10***
Industry	Yes		No		No	
Year	Yes		No		No	
R-Squared	0.3749		0.2214		0.1840	

\*Denotes significance at the 10% level.

\*\* Denote significance at the 5% level.

\*\*\* Denote significance at the 1% level.

**Table 6: Robustness test- autocorrelation correction and endogeneity of omitted variables bias.**

Model	Model IV: Cochrane- Orcutt (Correction for auto- correlation)	t-statistic	Model	Model V: Control for omitted variables bias (Firm Fixed Effects)	t-statistic
Regressors	Regressions coefficients		Regressors	Regressions coefficients	
Constant	4.209547	10.8***	Constant	3.455561	7.47***
DIV	1.970206	7.58***	DIV	3.162186	6.63***
ROA	0.0074862	6.21***	ROA	0.0138583	6.09***
SIZE	-0.2713061	-8.18***	SIZE	-0.2193664	-5.74***
FCF	0.0520665	1.41	FCF	0.023124	0.52
Beta	0.0886624	4.63***	Beta	0.0598346	2.80**
Leverage	0.7527991	5.63***	Leverage	0.7781573	6.10***
Industry	No			No	
Year	No			No	
R-Square	0.1684			0.1205	

\*Denotes significance at the 10% level.

\*\* Denote significance at the 5% level.

\*\*\* Denote significance at the 1% level.

## 5. CONCLUSION

This study identifies a positive association between dividend and firm value. This relationship persists even after controlling for heteroscedasticity and autocorrelation issues in the main analysis. The relationship was remarkably consistent even after controlling for endogeneity concerns with regards to omitted variables bias. The results' persistence indicates that the results are robust, even considering the main issues that may arise regarding panel data analysis. The empirical evidence in this study suggested that dividend and firm value relationship in the context of emerging markets, especially Malaysia, demonstrate a supported towards prior theories such as the free cash flow hypothesis, agency cost theory and signalling theory where dividend act as a tool to



mitigate agency cost by reducing cash available for manager to do any wrongdoing with regards to the earnings of the firm.

The study contributes to the literature in two ways. First, it explores the dividend and firm value relationship, especially in emerging markets that neglect in the past studies. Second, it contributes to the literature of the dividend puzzle by supporting the past theories and empirical findings regarding the dividend study.

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