

Original Article

# Firm Earning and Dividend Policy: A Case of Malaysian Stock Market

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**Abstract** - The study attempts to address the determinants of one of the most important corporate decisions that may have great impacts on investors' sentiments (dividend policy). This study investigates the determinants of the corporate dividend policy in the context of corporate governance. In order to remove selection biasness, the study applies Tobit and probit model to tackle the censoring problem. For this purpose, a total of 570 firms' data has been obtained, including 210 firms that didn't pay a dividend from 2003 to 2018. The results show government ownership (GO), institutional ownership (IO), and foreign ownership (FO) are positively significant at 5%, 5%, and 10%, respectively. Moreover, the board independence and audit quality are significant positive predictors of dividend policy at the 1% level, which shows their importance. However, managerial ownership (MO) is a significant negative predictor of dividend policy. Among control variables, firm profitability, market to book value, size, and life cycle are significant positive predictors of dividend policy at a 1% level. The free cash flow is also a positive predictor at the 5% level. On the other hand, financial leverage (FL), business risk (BR), growth opportunity (GO), and tangibility (TANG) are significant at 1%, 5%, 10%, and 5%, respectively. The results of the probit model are in line with Tobit regression results which indicate the factors that affect dividend decisions are the same as determinants of dividend policy.

The paper also attempts to test dividend smoothing behavior and target payout ratio of Malaysian firms by applying the Linter model. Results show that Malaysian firms have higher adjustment coefficients with lower target payout ratios. This indicates that Malaysian firm's speed of adjustment to their targets is relatively slow but not as slow as the firms in developed markets such as the USA. This shows that Malaysian firms do smooth and stable their dividends (but not in the same manner and speed as in the developed markets).

**Keywords** - Dividend policy, foreign ownership, institutional ownership, audit quality, board independence, control variables, dividends, developing countries, Malaysia.

## I. INTRODUCTION

Since the seminal work of [48] (M&M), the Dividend policy has remained one of the most controversial and puzzling issues in corporate finance. They asserted that in perfect markets, dividend policy has no impact on firms' value. In doing so, they assumed that the firm's investment is fixed, so all positive net present value projects will be financed regardless of dividend policy. Higher dividend payout ratios lead to lower retained earnings and capital gains, and vice versa, leaving shareholders' wealth unaffected. Contrary to this theory, [43] shows that US companies follow an adaptive process in their dividend policies by smoothing their payouts. Specifically, Lintner (1956) documents that firms maintain the target dividend payout ratio and adjust their dividend policy with respect to their target. He also shows that firms pursue a stable dividend policy and gradually increase dividends given the target payout ratio. Chen et al. (2005) find that maintaining the dividend level is a priority on par with investment decisions for US firms. Using data from the UK, [47] report that dividend smoothing is more pronounced in public firms relative to private firms where potential agency issues and information asymmetries are more pronounced. In the same vein, Leary and Michaely (2009) find that dividend smoothing has been increasing over the past 50 years, suggesting that managers are more concerned about dividend smoothing today. The majority of these studies are conducted using US data. One natural question is whether these stable dividend policies are peculiar to the USA or they are also prominent in countries where the tax regime and/or institutional and economic characteristics are significantly different.

The application and role of dividend policy are supported by different theories like agency theory, transaction cost theory, pecking order theory, trade-off theory, and signaling theory. Mostly, there are two main groups of factors comprising a firm's characteristics and corporate governance. The firm's level characteristics include debt level ([52]; [15]), liquidity ([26]; [49]), asset structure ([53]; [36]), profitability ([43]; [22]), firm size



([23]; [14]), growth opportunities ([37]; [9]), business risk ([4]; [42]) and , industry type ([12]; [54]). Corporate governance consists of ownership concentration ([34]), board of directors ([13]), audit quality ([18]) and management ownership ([28]; [61]). Still, literature provides contradictory results as far as dividend policy is concerned.

#### A. Objectives

1. To find out the main determinants of dividend policy in the Malaysian context.
2. To find out the application of [43] model in the Malaysian market in order to answer the following questions.
  - a. Do Malaysian firms follow a stable dividend policy?
  - b. What is the speed of adjustment of the Malaysian firms?
  - c. What is the target dividend payout ratio of the Malaysian firm?

### II. MALAYSIA as a CASE STUDY

The main feature of the study is that it considers the firm's specific factors, including life cycle, risk, and market to book value of the firm, which has been ignored in the Malaysian context. Secondly, the ownership structure is more precisely focused on as an influential factor in determining dividend policy. Government-linked companies (GLCs) have been established in many countries since independence for many reasons and, at innumerable times, regularly as an integral part of economic and national development ([65]). In Malaysia, many GLCs established as part of the affirmative action policy initiated in 1971 to fetch social balance ([29]; [52]). The study by [1] highlighted four aspects of the formation of GLCs; that is, income generation, competition, social responsibility, and efficiency. In addition to this, the Chinese are also more likely to take over the control of the economy, and a chunk of firms are also established in the country ([1]). Due to the geographical importance, many foreign investors are also interested in the Malaysian capital market, which makes it more competitive and advantageous due to growth and occurrence.

Moreover, Malaysia is examined as a case due to its high concentration of ownership and its unique government policies, legal system, and capital structure that differ from other Asian counterparts in the region. Studies of [39] and [64] observed that in most Asian countries, specifically developing countries, many family-owned firms are closely owned or privately held, with the principal shareholders typically playing an active role in management. Further, Tam and Tan (2007) postulated that state firms in the region are found to have the highest ownership concentration, and these provide an opportunity to examine the dividend policy of government-linked, non-government linked, insider, individual, and family-owned businesses.

### III. LITERATURE REVIEW

#### A. Dividend Policy and Firm Characteristics

As Lintner (1956) stated that a current year's earnings are one of the most important determinants of dividend policy. Latter, [28] confirmed this positive association between current year earnings and dividend policy of the firms. [22] argued that this positive association between dividend payout and current year earnings mitigates the agency conflicts between management and stockholders. In addition to this, more profitable firms can still pay higher dividends without financing investments with risky equity and debt in accordance with the pecking order model.

As Myers and Majluf (1984) reported that asymmetric information between investors and managers leads to underinvestment problems. Deshmukh (2003) stated that other things remained constant, the higher the level of asymmetric information that can be shown due to the smaller firm size, the higher probability of underinvestment, so the lower the dividends paid to stockholders. However, Naceur et al. (2006) demonstrated that smaller corporations are willing to disburse more dividends as this may be used as a tool to attract potential investors to lessen their inherent risks.

The debt ratio represents the level of reliance on external financing to support the investment ([9]). The trade-off theory and pecking order theory expect a correlation level between debt ratio and dividend payout ratio. Myers and Bacon (2002) reported a positive association between debt level and dividend payout ratio because they argued that higher financial leverage provides tax shields, so it entices the firm to pay higher dividends. In a similar vein, [56] argued that debt level is still used as a tool to mitigate agency conflicts. In contrast, [28] reported contradictory results and argued that equity financing is an easier task for firms having higher dividend payout ratios. Their fever reliance on debt financing pushes them to lower debt ratios as [14] and [37] argued that firms with high leverage seem not to want to reimburse high dividends and get more loans with the purpose of limiting default risk. Neutrally, [9] reported an insignificant association between debt level and dividend payout ratio. [54] also found an insignificant association between dividend and debt level. This asserts no consensus among researchers on the association between debt level and dividends and entices the author to test the association in the Malaysian context.

Liquidity represents the extent to which a firm can mature its short-term liabilities based on its liquid assets ([51]). [26] reported a significant association between liquidity and dividend payout ratio in Japan. However, [45] found an inverse relationship between liquidity position and dividend payments of the firms listed on the Karachi stock exchange. Moreover, [49] highlighted that corporations are less likely to pay a dividend when they need to read liquidity positions. However, some researchers reported an

insignificant association between dividend payout and a firm's liquidity. In the last decade, [9] provided evidence on non-association between dividend policy and liquidity position of the firm since the liquidity position is debatable because of contradictory evidence in literature in the Malaysian context.

Myers and Majluf(1984) proposed that firms with high intangible asset ratios are less likely to borrow than those owning the most tangible assets, so they have the ability to keep less retained earnings and pay higher dividends according to pecking order theory. This asserts that there is a positive association between dividend payout ratio and asset tangibility. However, Myer and Bacon (2002)reported an inverse relationship between asset tangibility and dividend policy of the firms listed on an emerging market. [9] reported evidence that the more tangibility, the more dependence on retained earnings because of lower financing from debts, so the lesser dividends are paid towards shareholders. The evidence reported results of a positive and negative association between asset structure and dividend payout ratio. Myer and Bacon (2002)divided U.S. companies listed on the NYSE in 1997 into three industry groups involving utility, which belongs to a regulated industry, manufacturing, and wholesale/retail trade, that are less regulated industries. They reported a higher dividend payout ratio in the utility sector than firms in the manufacturing and wholesale/retail trade because shareholders desire current income rather than future income, and managers prefer less risk in regulated industries.

Myers and Majluf(1984) pointed out that high-growth firms are in intense need of cash flow; hence they are reluctant to dividend payout. In a similar vein, Chang and Rhee (1990) also reported that firms having greater growth opportunities prefer to retain earnings as it is considered the cheapest source of financing. More interestingly, some researchers' reported an irrelevant link between these two variables. For example, [54] indicated that the market value of equity to book value of equity ratio, which is a proxy of investment opportunities, does not impact dividend reimbursement in Tunisia. In addition to this, [37] showed a statistically insignificant association between Tobin's q and dividend policy in Poland.

Al-Najjar and Hussainey(2010)explained business risk as the likelihood of a decrease in returns on investment owing to exceptional circumstances. As per transaction cost theory, [58] suggested that the transaction costs of external financing will be higher when the firm has more risk and higher operating and financial leverage that can be measured through the greater beta coefficient. This is in line with [27], who highlighted that riskier firms suffer larger transaction costs. Hence, a lower dividend policy appears to be pragmatic to riskier companies in order to lessen the transaction expenses from outside finance. In addition to this, [62] suggested the reason for this negative relationship is that

a firm with stable earnings or lower risk or has more capacity for paying more dividends in the future ([4]). [42]agreed with the suggestion of [62] in that they presumed that the lower the business risk, the greater the dividends shelled out.

H1. There is a negative correlation between business risk and the dividend of the firms listed on KLSE.

H2: there is a positive association between firms' life cycle and dividend policy of the firms listed on KLSE.

H3. There is a positive association between firm size and the dividend payments of firms listed on KLSE.

H4: There is an association between growth opportunities and the dividend policy of the firms listed on KLSE.

H5. There is a negative link between dividend disbursement and the financial leverage of enterprises listed on KLSE.

H6: There is a positive association between profitability and dividend payout of firms listed on KLSE.

H7: A relationship between tangibility and dividends subsists of the firms listed on KLSE.

H8: there is a positive association between inflation and dividend policy of the firms in the Malaysian stock market.

H9: There is a positive association between the tax and dividend policy of the firms listed on KLSE.

H10: There is a positive association between market-to-book value and dividend policy of the firms listed on KLSE.

H11. There is a positive link between dividend disbursement and the free cash flow of enterprises listed on KLSE.

## **B. Dividend Policy and Corporate Governance**

### **a) Dividend Policy and Ownership**

Jensen (1986)stated that managers prefer to retain earnings rather than distribute dividends to the stockholders. Managers are always willing to use the firm resources for growth and control purposes because this enables them to protect their personal interests. Similarly, the availability of free cash flow also helps them in manipulating the firm resources for their private gain. Eckbo and Verma (1994)provided evidence that dividend payout decreases the managerial power of manipulation, and managerial ownership is negatively associated with dividend payout. In a similar vein, [62] provided evidence that managerial ownership is negatively associated with firm performance and dividend policy of the firms in the context of Hong Kong. Moreover, [61] also reported a significant negative relationship between dividend payout and managerial ownership. Wen Andringa (2010)found that institutional and managerial ownership is negatively associated with dividend policy the bank holding companies. In addition to this, Jensen al. (1992) reported a negative relationship

between managerial ownership and dividend policy. They also added that managerial ownership negatively contributes to the firm’s debt. In the light of these mentioned facts and figures, we expect a negative association between managerial ownership and dividend policy of the firms in the Malaysian context. We hypothesize as;

H12: There is a negative relationship between dividend policy and managerial ownership of the firms listed on KLSE.

H13: There is a negative association between institutional ownership concentration and dividend policy of Malaysian firms.

H14: government ownership positively affects the dividend policy of the firms listed on KSE.

**Table 1. Corporate Governance of the Sample Firms**

	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>GOV</b>	18.36	18.36	18.36	17.56	17.42	17.16	16.36	15.92	15.92
<b>MO</b>	4.875	5.898	4.875	5.3865	5.216	5.85325	4.84925	5.2501	5.5746
<b>IO</b>	42.636	43.2104	41.767	41.767	41.767	41.468	43.421	42.767	42.8349
<b>FO</b>	20.086	22.65	19.217	20.2118	20.8802	20.843	21.95	18.94652	20.3174

**b) Dividend Policy and Board Composition**

It is expected that board composition can be used as a tool to limit agency conflicts ([13]). Board composition represents the ratio of independent directors to dependent directors to test the independence of the board of directors ([63]). Stouraitis and Wu (2004) reported that a high level of independent directors is positively associated with dividend policy in the US. This lowers the agency cost and provides more freedom to the investors to spend their money on the firm’s stock. In contrast to this, [13] as well as [9] also supported the negative association between board composition and dividend policy of the firms as they argued that dividend disbursement and independent directors are substitutive mechanisms to reduce interest conflicts between agent and principals. Though, Schellenger et al. (1989) reported that board composition positively contributes dividend policy of the firms. This entices the author to test the contradictory hypothesis of board composition with the dividend policy of the firms. However, the study attempts to test the following hypothesis in the Malaysian context based on literature support.

H15: there is a positive association between board independence and dividend policy of the firms in the Malaysian context.

**c) Dividend Policy and Audit Quality**

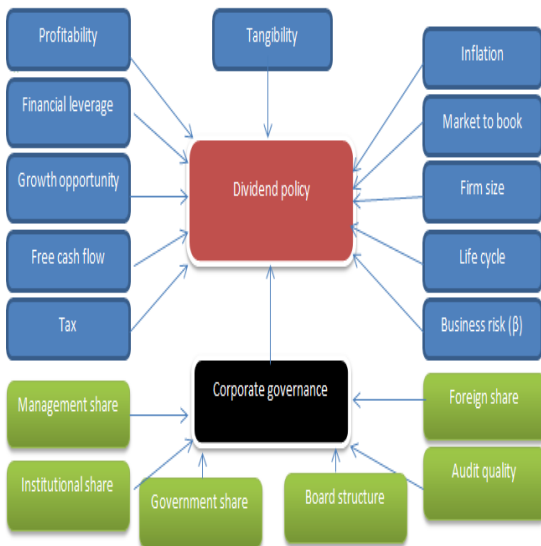
The study of Deshmukh (2003) reported that the higher the level of asymmetric information that can be shown through low audit quality of financial reports, the lower the dividends paid to stockholders when other things remain constant. This may be the outcome of underinvestment according to pecking order theory. Moreover, [18] reported results in accordance with pecking order theory. He argued that asymmetric information levels would become higher when the number of analysts for a company is low, so dividend expense is not invigorated to confine the problem of underinvestment. When a firm is audited by a more reliable accounting firm, it seems to pay higher dividends to the shareholders. In addition to this, [8] reported the higher dividend payout to show the firm’s quality in the long run. Most of the researchers reported a positive association between audit quality and dividend payout of the firm. On the basis of this evidence, the study constructs the least hypothesis for the study is as under:

H16: Audit quality positively affects the dividend policy of an enterprise listed on KLSE.

Table 2. Variables definition

VARIABLE	DEFINITION	REFERENCE
<b>Dependent variable</b>		
<b>DPR</b>	Dividend payout ratio of the firm	
<b>Corporate governance (variables)</b>		
<b>GOV</b>	Percentage of share held by government	Al-Malkawi (2007).
<b>MO</b>	percentage of share held by management	, Mancinelli and Ozkan (2006)
<b>IO</b>	percentage of share held by institutional shareholders	Khan (2006), Short et al. (2002)
<b>AQ</b>	Dummy variables equal to 1 if an audit is conducted by the top 5 firms in Malaysia; otherwise, 0	Lee et al. (2006).
<b>FO</b>	percentage of share held by foreigners	Lee et al. (2006)
<b>Control variable</b>		
<b>BR(β)</b>	Standard deviation on return on asset	Hoberg and Prabhala (2006)).
<b>LC</b>	firm life cycle (year of commencement-year of estimation) of firm	Denis and Osobov, 2007
<b>SIZE</b>	The natural logarithm of sales of the firm	Aivazian et al., 2006,
<b>GOV</b>	Sales/revenues growth rate	Manos, 2002; Travlos, 2002
<b>FL</b>	The debt ratio of the firm	Kania and Bacon (2005)
<b>PF</b>	Net profit after tax of the firm	Aivazian et al., 2006,
<b>TANG</b>	The ratio of total assets minus current assets divided by total assets	Booth et al. (2001),
<b>TAX</b>	Tax paid by the firm the firm	Amidu and Abor (2006)
<b>MB</b>	The ratio of market to book value of the firm	Amidu and Abor (2006)
<b>FCF</b>	The ratio of free cash flow to total asset ratio the firm	La Porta et al., (2000)
<b>INF</b>	Inflation rate in Pakistan	

Research model



IV. DATA

The study used data stream as the main source to obtain data of the variable selected for the purpose of regression. Secondly, the companies’ financial reports are also used for extracting the data variables. The source for financial reports

used is the bank Negara websites and some personal contacts. As there are many firms that don’t distribute dividends, and study becomes a biased one if we neglect them. In order to cope up with this issue, the study also used those firms that don’t distribute dividends. For this purpose, a total of 570 firms’ data has been obtained, including 210 firms that didn’t pay a dividend. There are many firms that provided insufficient data, hence for the purpose of this study, the firms are selected only on the availability of data.

A. Model Specification

In order to test the relationship between dependent and independent variables, the study used the following model:

$$DPR = \alpha + \beta_1 * Firm\ Characteristics + \beta_2 * Ownership\ Structure + \epsilon \dots \dots \dots (1)$$

The variables are described in table1. The study aimed to analyze data in two major steps: (1). The magnitude of influence of these factors on dividend policy by using pooled Tobit and random effect Tobit models (see, e.g. [35]; [56]) and (2) What are probable factors that influence the management to pay a dividend by using pooled logit and random effect logit models?

a) Tobit and Probit Model:

The feature of the study is that it focuses on a different aspect of dividend payout. Mainly, the study focuses on two aspects of dividend policy in the Malaysian context; the

firm’s likelihood to distribute dividends and the level of significance of these factors on dividend payout ratio. The study focuses on the seminal work of [22], where the probability of a firm’s dividend payout is measured by a dummy variable, which is one of the firms paying a dividend in the year t and zero otherwise. The study applies panel and pooled Tobit models to inspect the determinants of dividend policy in Malaysia (amount and level). The formula of the Tobit model is as under:

$$\left[ D_{it} = \alpha + \beta'X_{it} + \varepsilon_{it} \quad \text{if right hand side} > 0 \right. \\ \left. \dots \text{otherwise} = 0 \right] \dots (1)$$

In the above equation,  $D_{it}$  Represents the dividend payout ratio as measured by DPS/EPS (dividend per share/earnings per share). Moreover, the panel and pooled logit models are applied for the purpose of analysis in order to determine the probability of dividend payout. This probability has the following form:

$$P_i = (E \left( Y = \frac{1}{X_i} \right) = \frac{\text{Exp}(X_i^T \beta)}{1 + \text{Exp}(X_i^T \beta)} \\ = \frac{1}{1 + \text{Exp}(-X_i^T \beta)} \dots \dots \dots (2)$$

In equation 2,  $X_i^T \beta$  represent the matrix of unknown parameters. Basically, equation 2 is for the logistic distribution function  $X_i^T \beta$  Ranges from  $-\infty$  to  $+\infty$ ,  $P_i$  Is between 1 and 0. Moreover,  $P_i$  is non-linear to  $X_i^T \beta$ . In case the probability of a firm to dispense dividends is  $P_i$ , then  $(1 - P_i)$  is the firm’s probability of not distributing dividends is:

$$P_i = \frac{1}{1 + \text{Exp}(X_i^T \beta)} \dots \dots \dots (3)$$

Thus

$$\frac{P_i}{1 - P_i} = \frac{1 + \text{Exp}(X_i^T \beta)}{1 + \text{Exp}(-X_i^T \beta)} = \text{Exp}(X_i^T \beta) \dots \dots \dots (4)$$

As given the truth that  $(\frac{P_i}{1-P_i})$  is the odds ratio for dividend payout, the ratio of the prospect that a firm will distribute dividends to the likelihood that it will not distribute dividends. So, the natural log of this ratio is  $L_i = \ln(\frac{P_i}{1-P_i}) = X_i^T \beta$  Where L is measured to be logit; hence it’s logit model. The logit model equation used in the study is as under:

$$L_{it} = \ln(\frac{P_i}{1-P_i}) = X_i^T \beta + \varepsilon_i \dots \dots \dots (5)$$

For the purpose of analysis, the dependent variable is a dummy variable, which takes value 1 if the firm pays dividends and zero in case of non-payment of dividend.  $X_{it}$  represents the vector of financial variables for the time of firm I, and this vector is a composite of the following variables:

$L_{it}$ . Represents the residual error for the firm I at year t

**V. RESULTS and DISCUSSIONS**

**A. Descriptive Statistics**

The descriptive statistics for the sample firms are presented in table 3. The dividend payout ratio is quite on the higher side as compared to 46.9 percent for Thailand ([56]), 33.5 percent reported in [3] for Canadian firms, and 32.80 percent reported in [46] for Japanese firms. For dividend-paying firms, the average dividend payout ratio is 46.9 percent, which is significantly higher than 33.5 percent reported in [3] for Canadian firms and 32.80 percent reported in [46] for Japanese firms. The results indicate that the average ownership variables of dividend-paying firms are significantly different from those of no-paying firms. Particularly, dividend-paying firms have higher institutional ownership and foreign ownership. At the same time, the audit quality and board independence are also on the higher side in the dividend-paying firm as compared to their counterpart.

**Table 3. Descriptive Statistics of Malaysian Firms**

	Dividend-Paying Firms			Non-dividend paying firms			Mean Diff.
	Mean	Median	SD	Mean	Median	SD	
<b>DPR</b>	0.473	0.376	0.271				
<b>INF</b>	2.013	4.092	0.142				
<b>BR</b>	0.0113	0.2365	0.39	0.017	0.296	0.43	0.0057
<b>LC</b>	1.3846	1.3979	0.109	0.2264	0.041	1.388	-1.158
<b>SIZE</b>	19.326	14.345	1.45	14.66	14.473	1.204	-4.666
<b>GO</b>	13.68	12.981	0.315	1.21	20.1	1.15	-12.472
<b>FL</b>	2.392	3.399	0.192	0.525	0.548	0.225	-1.8672
<b>PF</b>	0.111	0.096	0.072	-0.012	0.011	0.109	-0.1233
<b>TANG</b>	9.2934	17.96	2.436	0.262	0.432	0.0324	-9.0314
<b>TAX</b>	28.74	24.42	1.59	13.77	11.61	35.82	-14.971
<b>MB</b>	1.518	1.162	1.206	0.231	0.764	1.361	-1.518
<b>FCF</b>	0.106	0.104	0.109	0.035	0.041	0.128	-0.071
<b>GOV</b>	1.0511	1.2312	1.051	0.9831	0.7865	1.0121	-0.068
<b>MO</b>	2.5213	3.7521	2.125	2.66	3.625	3.49	-0.101

<b>IO</b>	46.72	48.82	27.16	35.24	28.87	26.58	-11.48
<b>BI</b>	33.43	30.03	26.08	40.55	39.38	26.92	7.125
<b>AQ</b>	0.011	0.12	0.04	0.06	0.15	0.06	0.050
<b>FO</b>	16.13	9.75	18.51	12.85	3.94	17.36	-3.284

**Table 4. Multicollinearity Diagnostic (Variance Inflation Factor)**

	<b>D P</b>	<b>IO</b>	<b>M O</b>	<b>BI</b>	<b>FO</b>	<b>AQ</b>	<b>PF</b>	<b>FL</b>	<b>GO V</b>	<b>BR</b>	<b>MB</b>	<b>FCF</b>	<b>GO</b>	<b>IN F</b>	<b>TA NG</b>	<b>LC</b>	<b>TA X</b>	<b>SIZ E</b>
<b>VIF</b>	2.92	1.82	2.8	1.34	2.88	2.56	2.68	2.18	2.98	2.56	2.56	1.66	1.98	3.08	1.45	1.56	1.67	1.98
<b>1/VIF</b>	0.33	0.5	0.3	0.7	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.6	0.5	0.32	0.6	0.6	0.6	0.5

**a) Regression Results**

This section reveals the regression analysis using Tobit and logit models. The study aims to explore two types of outcomes: firm characteristics as the determinants of dividend policy and the influence of corporate

governance variables. First, Tobitis applied to explore the potential determinants of dividend policy in the Malaysian corporate sector. Secondly, the study also endeavored to find out the probable determinates through the application of the probit model.

**Table 5. Results of Tobit model**

Dependent Variable: DPS						
Variable	Coefficient	z-Statistic	Prob.	Coefficient	z-Statistic	Prob.
GOV	3.1E-02**	2.32451	0.02412	2.2E-02**	2.02341	0.04345
MO	-0.0231**	-0.8234	0.0452	-0.0305**	-0.29451	0.05234
IO	0.0031**	1.3247	0.0123	0.0038**	1.8247	0.0321
BI	0.0945***	0.1231	0.0001	0.0863***	0.5031	0.0032
AQ	0.00542	0.17861	0.0000	0.0016***	0.1231	0.0000
FO	2.2E-08*	0.92001	0.0676	7.77E-03*	0.7516	0.0676
PF				3.3E-07***	4.087785	0.0000
FCF				1.55E-08*	1.54101	0.0633
FL				-0.0037***	-2.63972	0.0083
GO				-2.29E-08*	0.920014	0.0576
LC				0.0091***	2.197538	0.008
BR				-0.00524**	-0.598075	0.0198
MB				4.1E-03***	0.66914	0.0034
INF				3.815E-08	2.47483	0.3133
TAX				-2.318E-07	-1.58257	0.1135
TNG				-7.83E-09**	-1.32643	0.0347
SIZE				0.01467***	2.24846	0.0045
C				0.228568**	1.74396	0.0212
LR statistic	121.4343			442.4505		
Prob(LR statistic)	0.00000			0.00000		
Log likelihood	-251.63			-6453.95		
Wald Test[χ <sup>2</sup> (9)] <sup>a</sup>	45.6436			95.5700		
P-value	0.0000			0.0000		
Significant at 10% = *, 5% = ** and 1% = ***						

**b) Control Variables**

As per evidence from literature, Profitable firms are hypothesized to be more able to pay dividends. Our results are in line with our hypothesis as the coefficients on profitability (PF) is positive and statistically significant at the one percent level. This result is similar to [43] (1956, p. 107), where he stated that "...net earnings were the dominant

element which determined current changes in dividends". It is also consistent with the results documented by [28], [62], [21, 22], and [4], [5]. Larger firms have easier access to capital markets and face lower transaction costs compared to smaller firms ([44], [27], [22], [6], among others). Accordingly, we hypothesized a positive relationship between dividends and size. Our results are consistent with

this prediction and reported by [57], [22], and [6]. Highly levered firms depend on external financing to a greater extent than the ones with lower leverage ratios because leverage produces fixed charge requirements. Consequently, levered firms should pay fewer dividends. We test this hypothesis using the debt ratio as a surrogate for leverage. As predicted, the coefficients on leverage (DR) are negative and statistically significant at the one percent level. This finding accords with the results of [17], [28], [6], and [7]. Risky firms should pay fewer dividends. Hence, we predict a negative association between dividends and business risk. To test this hypothesis, we utilize the standard deviation of return on investment as a proxy for business risk. Our results are consistent with this prediction.

In Malaysia, there are many firms where the government acts as a controlling shareholder. We predict a positive association between dividends and government ownership. Our hypothesis is based on the argument that government-controlled firms are subject to “double agency costs”. As predicted, the estimates of government ownership (GO) are positive and significantly consistent with those reported by [25] for Shanghai Stock Exchange, [24] for Austria, [67] for China, and [16] for Brazil. As far as the maturity hypothesis is concerned, mature firms experience a contraction in their growth which may result in a decline in capital expenditure. As a result, these firms should have the more free cash flow to pay in dividends. Hence, we should observe a positive association between dividends and maturity. As a surrogate for maturity, we use the firm age defined as the difference between the current year of the observation and the year of incorporation ([59]).

In the same way, if a firm has more free cash flow available, it leads to a higher dividend payout. Higher cash availability entices the managers to distribute more dividends and ultimately reduces agency conflicts ([58]). At the same time, the firm value has a positive relationship with the dividend payouts due to the fact that the investors in emerging economies prefer to have more dividends because of the environmental uncertainty. If a firm distributes more earnings as a dividend, the investors are more likely to invest in the stock, and hence the stock prices move in the upward direction. The variable of tax has no effect on the dividend payout of the firms. The firms with a high tangibility ratio are expected to distribute fewer dividends because a portion of cash flow is always tied with a tangible asset. The results are in line with the tangibility hypothesis. Lastly, inflation also doesn't impact the dividend policy of the firms in the Malaysian context.

### ***c) Corporate Governance Variables***

The results on corporate governance variables show a statistically significant association with the dividend payout ratio. Firstly, the results show a negative relationship between the dividend payout ratio and the managerial share

ownership, and the coefficient is significant at a 1% confidence interval. This indicates that the higher the managerial ownership, the lower the dividend policy of the firms in the Malaysian context. The negative relationship between the dividend payouts and managerial share is because of an increase in the managerial share ownership as used as an internal governance mechanism in the opportunistic behavior of the firm manager and to align the interest of the shareholders with that of the managers.

Secondly, institutional ownership has also been included with managerial ownership in order to check for the impact of institutional ownership on the firm corporate dividend policy. In Malaysia, major investors in the firm stocks are the financial institution. That is why we include this variable in order to see the corporate dividend policy in the presence of institutional ownership. As far as institutional shareholders are concerned, the coefficient has a positive value and has statically significant at 1%. So there is a positive relationship between the dividend payouts and institutional shareholders, which implies that the higher is the number of institutional shareholders in the firm shareholdings, the higher will be the dividend payout ratio [69].

According to the agency theory, the foreign investors are away from the firm to monitor the manager's activities. Therefore, they cannot directly monitor the firm managers, and thus they will enforce these managers to pay dividends in order to reduce the free cash flows available with the opportunist's manager and thus control their behavior. The results also suggested the significant positive relationship between the dividend payouts and the foreign shareholders' at 1%, so thus the higher is the foreign shareholders in the firm, the higher would be the dividend payout ratio of the firm. The audit quality is also significant as 1%, which shows that firms audited by the top five audit firms in Malaysia are more likely to distribute dividends; Similarly, board independence also affects dividend policy in a significantly positive way.

### ***d) Determinants of the Decision to pay Dividends***

In this section, we examine the likelihood that a firm will pay dividends. In order to do so, we estimate probit regressions, where the dependent variable is a binary variable equal to one if the firm pays dividends and zero otherwise. As regressors, we employ the same variables as described used in the Tobit model. The objective of the analysis is to examine whether the factors that determine the number of dividends paid also have an impact on the probability that a firm will pay dividends. Our results for the determinants of the decision to pay dividends are consistent with those reported for the determinants of dividend policy. In particular, we find that the factors that influence the probability of paying dividends are the same factors that determine the number of dividends paid. The results are presented in the table below for probit regression.



**Table 6. Results of Probit Model**

Dependent Variable: DPS						
Variable	Coefficient	z-Statistic	Prob.	Coefficient	z-Statistic	Prob.
GOV	3.3E-02**	2.32451	0.0241	2.42E-02**	2.02341	0.04345
MO	-0.02341	-0.8234	0.0452	-0.03053	-0.29451	0.05234
IO	0.003245	1.3247	0.0123	0.003877	1.8247	0.0321
BI	0.09345	0.1231	0.0001	0.086328	0.5031	0.0032
AQ	0.005462	0.17861	0.0000	0.00166	0.1231	0.0000
FORGN	2.29E-08	0.920014	0.0576	7.77E-03	0.7516	0.0576
PF				2.1E-06***	7.189529	0.0000
FCF				5.48E-10**	0.00771	0.0438
FL				0.048119	4.275116	0.0000
GO				-3.72E-08	-0.409975	0.0818
INF				0.01043	0.632293	0.7272
LC				0.01835**	2.340949	0.0192
MB				0.0014***	3.81981	0.0001
BR( $\beta$ )				-2.41E-07***	-4.111629	0.0011
TAX				-1.39E-06	-2.99502	0.4327
TNG				-1.74E-07***	-6.61311	0.00231
BS				0.059501	2.068548	0.0386
C				-0.30959	-1.25276	0.2103
LR statistic	121.4343			311.4505		
Prob(LR statistic)	0.00000			0.00000		
Log likelihood	-251.63			-6453.95		
Wald Test[ $\chi^2$ (9)] <sup>a</sup>	45.6436			95.5700		
P-value	0.0000			0.0000		

Significant at 10%=\*, 5%=\*\* and 1%=\*\*\*

**A. Dividend policy and Linter (1956) model**

Dividend policy remains one of the most controversial and puzzling issues in corporate finance. Miller and Modigliani (1961)(M&M) lay the theoretical foundation of dividend policy, and they asserted that in perfect markets, dividend policy has no impact on firms' value. Higher dividend payout ratios lead to lower retained earnings and capital gains, and vice versa, leaving shareholders' wealth unaffected. Contrary to this theory, [64] shows that US companies follow an adaptive process in their dividend policies by smoothing their payouts. Specifically, Linter documents that firms maintain the target dividend payout ratio and adjust their dividend policy to this target. He also shows that firms pursue a stable dividend policy and gradually increase dividends given the target payout ratio. Stouraitis and Wu (2004) provide further support for dividend stability. Using data from the UK, [47] report that dividend smoothing is more prominent in public firms relative to private firms where potential agency issues and information asymmetries are more pronounced. In the same vein, [41] found that dividend smoothing has been increasing over the past 50 years, suggesting that managers are more concerned about dividend smoothing today. More recent empirical papers have also supported dividend stability ([33]; [40]; [19]; [4] among others). The majority of these studies are conducted using US data.

The question is whether these stable dividend policies are peculiar to the USA or they are also prominent in countries where the tax regime and/or institutional and economic characteristics are significantly different.

The purpose of this paper is to investigate the stability of dividends of firms listed in the Malaysian stock market over the period 2002-2013. There are several important economic and institutional features that make Malaysia a unique and interesting environment to examine the stability of dividend policy. There are certain reasons that Malaysian firms follow a smooth dividend policy, and there are also reasons that may suggest the inverse outcome. Firstly, the ownership structure in Malaysia is very complex, and it may force the firm to follow a smooth dividend policy in order to retain the confidence of stockholders. Secondly, the government has adopted some policies to mitigate the issues in Malaysia, which may be a cause of dividend smoothing in Malaysia.

Thirdly, geographical location may also be a reason because the dividend payout in Thailand, Singapore, and Taiwan is on the higher side. In addition to this, the Malaysian tax system also allows investors to set the dividend tax payment against other tax liabilities. Investors also consider dividends as the principal component of their stock return. The firms also finance their project through

banks loan in Malaysia, which may also restrict them from following a smooth dividend policy and maturing the loan payment accordingly ([10]).

In contrast to this, there are reasons to believe that banks may be ineffective in monitoring ([46]). Moreover, relatively weak corporate governance is also poor in managing disclosure and transparency requirements, creditor rights, enforcement of contracts, regulations, oversight, and minority shareholder rights. LaPorta(2008) claim that the lack of transparency, inadequate legal infrastructure, and weak investment protection in emerging markets all enhance the role of dividends as a reputation mechanism. In this case, and even with the close banking relations and closely held nature of firms, the dividend payment is extremely important to attract capital([4]). John and Knyazeva(2008)claim that firms will use payout policy to mitigate the agency conflict due to poor governance. Rozeff(1982) argues that dividend payments are part of the firm's optimal monitoring/bonding package and serve to reduce agency costs. Jensen (1986) claims that managers with substantial free cash flow can increase dividends and thereby pay out cash that could otherwise be invested in low-return projects or wasted.[24] examines the potential impact of a range of different types of shareholders dividends for a sample of Austrian firms and report evidence that government-controlled firms have the highest dividend payout and practice dividend smoothing.

**VI. METHODOLOGY**

Lintner develops in his study a statistical model to consider the smoothing process in dividend payments. He assumes that firms will always stick to their target payout ratios. Therefore, the expected (target) dividend payments are a proportion of the firms' earnings per share:

$$Dps_{it}^* = r_i Eps_{it} \text{-----} 6$$

Where for firm  $Dps_{it}^*$ , is the expected dividend payment in period t,  $r_i$  is the target payout ratio;  $Eps_{it}$  is the earnings per share in period t. dividend change is equal to:

$$Dps_{it} - Dps_{i(t-1)} = c_i (Dps_{it}^* - Dps_{i(t-1)}) \text{-----} 7$$

$$Dps_{it} - Dps_{i(t-1)} = c_i Dps_{it}^* - c_i Dps_{i(t-1)} \text{-----} 8$$

Knowing that  $Dps_{it}^* = r_i Eps_{it}$

$$Dps_{it} - Dps_{i(t-1)} = c_i r_i Eps_{it} - c_i Dps_{i(t-1)} \text{-----} 9$$

Therefore, Lintner partial adjustment model is:

$$Dps_{it} = \alpha_0 + r_1 Eps_{it} + \alpha_2 Dps_{i(t-1)} + \mu_{it} \text{-----} 10$$

**A. Data**

The study used data stream as the main source to obtain data of the variable selected for the purpose of regression. Secondly, the companies' financial reports are also used for extracting the data variable. The source for financial reports used is the bank Negara websites and some personal contacts. For this purpose, a total of 360 firms' data has been obtained. There are many firms that provide insufficient data, so for the purpose of the study, the firms are selected only on the availability of data. The data has been obtained for the period from 2002 to 2013.

**VII. Results on dividend smoothing (Lintner Model, 1956)**

The study investigates the dividend behavior of Malaysian firms by testing the Lintner model for the period from 2002 to 2013. In addition, the study also investigates whether Jordanian firms have target dividend payouts and if they adjust to their target ratios. The results of the Lintner model are presented below in the table.

The pooled and the fixed effects model are tested and corrected for both corrected for heteroskedasticity using Breusch-Pagan and White methods, respectively; panel models are favorable than the pool model because the Lagrange multiplier is statistically significant. The figures in parentheses are probability levels of each variable in the model.

From the table below, it can be concluded that:

1. Dps(-1) and Eps are both statistically significant at 5%, with the expected positive sign.
2. The constant term is positively statistically significant with the expected sign.
3. The results of pooled and random effect models are rejected on the basis of decision criteria of the Lagrange multiplier test and Hausman test. The results of the fixed effect model are favorable.

It is the most valuable to compare the results with those of the Lintner model for justification. When profits are adjusted for inventory gains then (Lintner, 1956, p. 109):

$$Dps = 352.3 + 0.15Eps + 0.70Dps_{-1}$$

When profits are not adjusted (Lintner, 1956, p. 109):

$$Dps = 106 + 0.145Eps + 0.788Dps_{-1}$$

This indicates that the values of adjustment coefficients are 0.30 [1-0.70] and 0.212 [1 -0.788], respectively, and the target payout ratios are 0.50 [0.15/0.30] and 0.683 [0.145/0.212]. As per the fixed-effect model, the adjustment coefficient and target payout ratio are calculated as under for Malaysian firms.

**Table7.Calculation**

Model	Dps	Calculation	Adjustment coefficient	Eps	Calculation	target payout ratio
Pooled	0.5849	1-0.5849	0.4151	0.1631	0.1631/0.4151	0.39291736
Random	0.5609	1-0.5609	0.4391	0.2070	0.207/0.4391	0.47141881
Fixed	0.5534	1-0.5534	0.4466	0.2014	0.2014/0.4466	0.45096283

The formula for adjustment coefficient= 1- Dps and target payout ratio is calculated as Eps/adjustment coefficient

In the Malaysian context, the firms have a higher adjustment coefficient (0.4151, 0.4391, and 0.4466) with a target payout ratio on the lower side (0.39291736, 0.47141881, and 0.45096283). This indicates the speed of adjustment to the target payout is relatively slow, 0.4466 (as per fixed effect model) as compared to the value reported by Linter 0.50. The adjustment speed reflects how swiftly the firms adjust dividends towards the target payout ratio; the higher the speed of adjustment, the less the smoothness and the less dividend stability. In this study, the speed of adjustment is 0.44, which is much higher than 0.30 reported by Linter for the USA. In addition to this, [51] reported the mean speed of adjustments for US firms with valid

Compustat data is 0.67, 0.4, and 0.33 for the 1950-1964, 1965-1983, and 1984-2002 periods, respectively. Our estimate is close to reported in the second period but lower than the first and higher than the third period. Similarly, the speed of adjustments is much higher than 0.25 reported by [46] for Germany. However, it is a little bit nearer to 0.66 reported by [15] for Switzerland. In the case of an emerging market, the speed of adjustment is near 0.52, reported by [55] for Jordan and much lower than 1.00 reported by [2] for Turkey. In the case of the Indian market, [50] reported 0.71 speed of adjustments.

**Table 8. Results of Linter Model**

Independent variables	Pooled model	Random effects	Fixed effects
<b>Dependent variable= Dps</b>			
constant	0.01743 * (0.000)		0.0113 * (0.000)
Dps (-1)	0.5849 * (0.004)	0.5609 * (0.002)	0.5534 * (0.003)
Eps	0.1631 * (0.003)	0.2070 * (0.001)	0.2014 * (0.001)
target payout ratio (C )	0.39291	0.47141	0.45096
the adjustment coefficient	0.4151	0.4391	0.4474
Number of observations	4320	4320	4320
R2(%)	70.536	70.735	74.051
Lagrange multiplier test	0.36* (0.0048)	0.6543*(0.0543)	
Lagrange multiplier test			
Hausman test			

Significant at 1%= \* and values in parenthesis represent p-values.

Another aspect of interest is whether Malaysian firms follow a target payout ratio or not. Lintner (1956) hypothesizes that firms set a long-term target payout ratio and move gradually towards the target. We calculate the target payout ratio and find that Malaysian firms have a target payout ratio of 0.45096. This value is lower than the 0.50 reported by Linter for the USA and equal to the 0.459 documented by [21].

**VIII. CONCLUSION**

The study highlights the determinants of dividend policy of the firms listed on KLSE. The variables are divided into two groups, i.e., corporate governance and control variables. The corporate governance variables showed the results in support of null hypotheses, which means in line with literature support. The Malaysian firms are exposed to agency conflict with respect to managerial ownership (MO), as it shows significant impacts on the dividend policy of the firms in a negative direction. However, institutional and government ownership play a mitigating role in reducing conflict between stockholders

and management. The results of board composition and audit quality are also very exciting because results predict the positive role of this variable in protecting the right of shareholders by enforcing the firm to distribute more dividends.

The size is positively significant, which shows that the large-sized firms find themselves easy candidates to find financing from the market, and ultimately, they distribute more dividends. This paper contributes to the literature on the determination of dividend payout policies, where we find a significant effect of ownership on dividend payouts in the case of emerging markets like Malaysia. There is a need to further analyze this issue with respect to corporate governance and the dividends payout policy. In addition to this, the study can be expanded in relation to stock price reaction and management views. However, the study recommends that corporate governance rules need to address the issue of managerial ownership in Malaysia so as to reduce agency conflicts.

Lastly, the study also highlights the smoothening behavior and target payout ratio of Malaysian firms. Malaysian firms have higher adjustment coefficients with lower target payout ratios. This indicates that Malaysian firms' speed of adjustment to their targets is relatively slow but not as slow as the firms in developed markets such as the USA. This shows that Jordanian firms smooth and stable their dividends (but not in the same manner and speed as in the developed markets).

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