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## Interindustry dividend policy determinants in the context of an emerging market

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### ABSTRACT

This article examines the determinants of the dividend policies of public listed firms in Malaysia for the period 2005 to 2009. A panel regression estimation model is used to identify the determinants of dividend policy within Malaysian firms. These determinants are then examined across eight different industries – *Technology, Industrial, Consumer Noncyclical, Basic Material, Communication, Consumer Cyclical, Diversified and Energy* – to investigate possible divergences in the determinants of dividend payouts in the context of an emerging market. Empirical findings show that firm size, leverage position, and profitability are significantly and inversely related to the dividend policy of firms in Malaysia. However, the industry-specific determinants of dividend policy display a number of variances that could plausibly be used as an indication of the selection of stocks in specific industries by potential investors. The results indicate that agency cost is positively related to dividend policy for the *Basic Material* industry. In addition, size and leverage play an important role in determining dividend payout for firms in the *Technology* and *Consumer Noncyclical* industries. For the *Industrial* sector, the size and profitability significantly affect the dividend policy of firms. However, the results failed to display any significant results for the *Energy* and *Consumer Cyclical* industries.

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## 1. Introduction

Capital budgeting and financing decisions are two important issues that finance managers need to consider. The former are decisions related to a firm's choices regarding the acquisition of assets, while the latter focus on the financing decisions of those acquisitions. Subsequently, when the firm starts to generate profits, another decision arises – that is, whether to distribute a portion of earnings to shareholders or to reinvest the profits back into the business for further use and development (Al-Malkawi, 2008).

*Dividend policy* refers to the distribution of cash to shareholders. Since the level of equity retained in the company is affected by the amount of earnings paid out to shareholders,

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financial managers need to make this decision carefully. Such caution is crucial, as dividend payouts influence the firm's value and, most importantly, the wealth of the shareholders (Lease, John, Kalay, Loewenstein, & Sarig, 2000).

Much theoretical and empirical research has attempted to explain the manner in which dividend payments are made and the factors that influence these payout decisions. However, there is no consensus on the factors that influence firms' dividend payout policies. Studies have nonetheless found that dividend policy patterns differ over time and across countries (e.g., Ramcharan, 2001). According to La Porta, Lopez De Silanes, Shleifer, and Vishny (2000), differences in dividend policy across countries can be explained by the variation in policies, including corporate governance (Mitton, 2004; Sawicki, 2009) and legal systems in these countries (La Porta et al., 2000; Sawicki, 2009).

Emerging markets vary from developed capital markets in many aspects. Undoubtedly, emerging markets are growing in size, quality, and transparency and have been able to attract investors and fund managers for investment. Studies have nonetheless found that emerging markets have lower information efficiency, are more volatile, and are smaller in size. Furthermore, firms in emerging markets have limited financial resources to invest, which may result in lower payout ratios (Kumar & Tsetsekos, 1999). It may be expected that, in emerging markets, the agency problem is a more serious topic for firms due to the nature of their ownership structure and the legal aspects that govern investors in these markets. However, the behaviour of dividends in these markets has not been studied extensively (Reddy & Rath, 2005).

Despite empirical evidence suggesting similarities in macrolevel characteristics within emerging markets,<sup>1</sup> the evidence of firm-level investigations, such as dividend payout determinants, has displayed great empirical disparities. For example, the effect of profitability on dividend payout has been noted to have a significant positive correlation in Pakistan (Batool & Javid, 2014), while a negative relationship was found in China (Zhao, 2014). In addition, while some studies<sup>2</sup> have observed the impact of leverage on dividend policy to be significant and inversely related, others have noted leverage to have no implication for dividend policy.<sup>3</sup> Similar divergences in evidence have also been observed regarding the effect of size on dividend payout. While Batool and Javid (2014) suggested that these variables were significantly positively correlated, other studies have ascertained that the relationship is insignificant (e.g., Fairchild et al., 2014; Sawicki, 2009).

In view of the above contradictory evidence, this study contributes to the literature in two ways. First, it attempts to shed light on the issue of dividend policy in the context of an emerging market. Malaysia has been chosen as the context of study, given its macroeconomic stability, reputable leadership, and sound governance. Furthermore, the Malaysian economy has shown a good track record since its independence in 1957 and has been able to endure the major challenges of global economic crises. The second way in which this study fills the gap in the literature is by examining dividend policy across industries, as it can be expected that different business types may plausibly differ in dividend payment policies. Furthermore, it has been noted that there are very few, if any, studies comparing industrial differences in dividend policies.

In this vein, the objective of this study is to examine the determinants of dividend payouts of public listed companies in Malaysia by investigating the relationship between dividend payments and five independent variables – *agency costs, firm size, profitability, financial*

*leverage*, and *growth opportunities*. In addition, the study will compare the dividend policies of companies across industries to examine possible variations in these relationships.

This article is structured as follows: Section 2 discusses the literature on dividend policy. Section 3 explains the methodology employed, while Section 4 discusses the results. Finally, Section 5 concludes the paper.

## **2. Determinants of dividend policy**

### **2.1. Agency costs**

In the dividend irrelevance theory, Miller and Modigliani (1961) argued that there is no disagreement between managers and shareholders. However, the agency theory suggests that managers' interests conflict with those of the shareholders. Easterbrook (1984) argued that there are two forms of agency cost: the cost of monitoring managers (borne by shareholders), and cost of risk aversion (borne by the managers). Risk-averse managers do not like to take risks and will choose projects with lower expected returns over riskier ventures. However, shareholders would want managers to assume high risk ventures with higher expected returns (Easterbrook, 1984).

Firms that enter capital markets expose themselves to close monitoring of their managers' actions by financial analysts and other investment professionals. This lowers the shareholders' cost of monitoring managers. It has been argued that paying dividends enhances the scrutiny of managers by insiders. On the other hand, it might cause managers to make undesirable and possibly risky decisions, such as increasing leverage (Easterbrook, 1984). A rational shareholder, however, would prefer dividends in order to minimise the agency costs of external equity (Harada & Nguyen, 2011; Rozeff, 1982).

### **2.2. Size**

Lloyd, Jahera, and Page (1985) showed that a firm's size plays an important role in its dividend policy. In other words, the larger the firm, the easier its accessibility to the capital market, as large firms are more mature than smaller companies. For this reason, larger firms should be less dependent on internal funds and would be able to pay out higher dividends. Meanwhile, Gugler (1997) contended that, in the US, large companies are inclined to pay dividends to prevent managers from investing for their own self-interest. Since small firms have to reinvest to grow, the funds available for dividend payouts would be reduced (Ingram & Lee, 1997). Brockman and Unlu (2009) found strong evidence of a positive relationship between the size of the firm and the dividend sizes of a large sample of firms across 52 countries, including emerging markets such as Malaysia.

Contradictorily, other studies have failed to find any significant relationship between firm size and dividend payout. In the context of Iran, for example, Valipour, Rostami, and Salehi (2014) found an insignificant relationship between dividend payout and firm size. Mitton (2004), in his study of 365 firms in 19 emerging markets, also revealed similar insignificant results. In the context of Southeast Asian countries including Malaysia, Sawicki (2009) observed that size had an insignificant effect on dividend payout. Similar results were found both for periods before and after the 1997–98 Asian financial crisis.

### 2.3. Profitability

According to the pecking order theory, firms prefer to use their internal resources to invest, and when external financing is needed, debt issuance rather than equity is preferred to reduce information asymmetry and transactions costs (Myers, 1984; Myers & Majluf, 1984). While managers issue risky securities with private information, the existence of asymmetric information helps investors to discount newly issued and existing securities. Managers usually prefer to use retained earnings to finance projects, as no asymmetric information is involved. Since discount prices are expected, managers are hesitant to issue risky debt and equity.

Firms try to finance investment *first* with retained earnings, *then* with safe debt, and *finally* with equity, so as to minimise asymmetric information and other financing costs (Fama & French, 2002). However, high profitability firms tend to have stable internal sources of funds. When these internal funds are declining, the firm will shift to external financing (Vanacker & Manigart, 2010).

Since outside funds are costly to obtain for companies with less profitable assets, dividends are less attractive. Thus, it can be argued that a firm's profit is positively related to dividend payout (Fama & French, 2002; Han, Lee, & Suk, 1999; Jensen, Solberg, & Zorn, 1992; Lintner, 1956; Valipour et al., 2014). In a study of a large sample of firms across more than fifty countries, Brockman and Unlu (2009) found a significant positive relationship between net income (a proxy for profits) and dividend amounts. Consistent results were found in a study in the context of emerging markets (Mitton, 2004). However, Sawicki (2009) failed to find any significant relationship between profit and dividend payout in the context of five Southeast Asian countries, including Malaysia.

### 2.4. Financial leverage

Studies have found that companies with higher levels of debt tend to pay low dividends in order to reduce transaction costs (DeAngelo & Masulis, 1980; Kashif, 2011; Rozeff, 1982). Agrawal and Jayaraman (1994) suggested that all equity firms pay higher dividends than leveraged firms in order to reduce the agency problem of free cash flows, and the findings display an inverse relationship between dividend payouts and financial leverage. In addition, the results of a study conducted in Japan showed that the debt ratio of high dividend payers was significantly lower than that of low dividend payers (Kato, Loewenstein, & Tsay, 2002).

### 2.5. Growth opportunities

Miller and Modigliani (1961) argued that dividend policy and investment decisions are independent of each other. However, market imperfections imply that there may be a connection between the two. Milgrom and Roberts (1992), p. 507) argued that dividend payments were higher in slow growth industries. However, firms with profitable growth opportunities have limited free cash flows and pay lower dividends in order to decrease their dependence on external financing. Hence, high growth firms need funds to finance investment opportunities, resulting in lower dividends. In contrast, firms with low investment opportunities would reasonably pay more dividends, consistent with the free cash-flow hypothesis (Gul, 1999).

The residual theory suggests that dividends are paid after all investment opportunities have been financed. Hence, a negative relationship between dividends and external financing is expected (Alli, Khan, & Ramirez, 1993). Similar evidence has been found in the context of emerging markets; for example, Mitton (2004) found a significant negative relationship between the growth and dividend payouts of firms, while Brockman and Unlu (2009) observed consistent evidence of a strong negative relationship between sales growth and dividend amounts in firms across countries. Other studies have also found a significant relationship between investment opportunity and dividend policy (e.g., Barclay, Smith & Watts, 1995; Fama & French, 2002), while others have found that investment opportunity does not have any implications for the firm's dividend policy (e.g., Abbaszadeh & Beigi, 2014; Sawicki, 2009).

### 3. Methodology

#### 3.1. Data and selection of firms

Financial data for Malaysian public listed firms in the period 2005 to 2009 was obtained from the Bloomberg database for empirical analysis. To enhance the quality of the data gathered for analysis, we imposed two selection criteria. First, we excluded utility companies (electricity, gas, and water utility firms) and financial institutions (banks, insurance companies, and unit trust firms) from the selection process. Utility firms were omitted because they have fully regulated dividend payout policies (see, Zunaidah & Fauzias, 2008), while financial institutions are governed by specific regulations and have different financial reporting standards to other industries. Second, firms that were selected must have made at least made one dividend payment during the period of study (see, Appannan & Sim, 2011).

Initially, a total of 978 firms were listed on the Bursa Malaysia Stock Exchange. After applying the two selection criteria, a sample of 640 firms was chosen for our dividend policy determinant analysis. Next, these firms were segregated into eight different industry types based on the Global Industry Classification Standard (GICS) consisting of *Basic material*, *Technology*, *Industrial*, *Consumer Cyclical*, *Consumer Noncyclical*, *Communication*, *Energy*, and *Diversified Industries*.

#### 3.2. Measurement of variables and model specification

To study the determinants of Malaysian firms' dividend payout policies, an unbalanced panel regression estimation model was used. From the financial data of firms in the sample, the dependent and independent variables were first computed using the measurements specified in Table 1. The dependent variable is *dividend payout*, while the independent variables are *agency cost*, *firm size*, *profitability*, *leverage*, and *growth*.

The dividend payout is estimated using a panel regression model:

$$DIV\_PAYOUT_{it} = \beta_0 + \beta_1 AGENCY_{it} + \beta_2 SIZE_{it} + \beta_3 PROFIT_{it} + \beta_4 LEVERAGE_{it} + \beta_5 GROWTH_{it} + \varepsilon_{it} + v_{it} \quad (1)$$

where  $\beta_0$  is the intercept,  $DIV\_PAYOUT_{it}$  represents dividend yield,  $AGENCY\_COST_{it}$  is the firm's free cash flow,  $SIZE_{it}$  denotes the natural log of the firm's market capitalisation,  $PROFIT_{it}$  refers to earnings per share,  $LEVERAGE_{it}$  represents the debt-to-equity ratio,

**Table 1.** List of variables and their measurements.

Variables Names	Measurement
<i>DIV_PAYOUT</i>	$\frac{\text{Dividend per Share}}{\text{Market Value per Share}}$
<i>AGENCY</i>	EBIT(1-Tax Rate) + Depreciation & Amortisation - Change in Net Working Capital - Capital Expenditure
<i>SIZE</i>	$\ln(\text{Number of Shares outstanding} \times \text{market price per share})$
<i>PROFIT</i>	$\frac{\text{Net Income after tax}}{\text{Number of Share Outstanding}}$
<i>LEVERAGE</i>	$\frac{\text{Total Debt}}{\text{Total Shareholder Equity}}$
<i>GROWTH</i>	$\frac{\text{Market Value per Share}}{\text{Book Value per Share}}$

Note: The dependent variable is *DIV\_PAYOUT*; the independent variables are *AGENCY*, *SIZE*, *PROFIT*, *LEVERAGE*, and *GROWTH*. Source: Created by author based on literature review.

$GROWTH_{it}$  refers to free cash flow,  $\varepsilon_{it}$  is the error term, and  $v_{it}$  is the cross-sectional error term (for the random effects model). To identify the suitability of the fixed or random panel estimation process to the tested series, the Hausman test was employed.

### 3.3. Hypotheses development

#### 3.3.1. Agency cost hypothesis

The agency problem occurs because agents may invest in projects that will maximise their own welfare. On the other hand, managers may take actions that are unprofitable and costly for the shareholders. The agency cost hypothesis suggests that dividend payments can alleviate agency problems (Easterbrook, 1984; Jensen et al., 1992; Rozeff, 1982). When cash resources are distributed, the size of internally generated funds available to the agents are reduced; hence, firms are forced into capital markets to gain external financing (Easterbrook, 1984; Fairchild et al., 2014; Mohd, Perry, & Rimbey, 1995; Zhao, 2014). By reducing the agency costs associated with monitoring managers, dividend payments would benefit the shareholders. Hence, it is hypothesised that:

**Hypothesis 1.** *There is a significant positive relationship between dividend payments and agency costs.*

#### 3.3.2. Firm size hypothesis

Higgins (1972) suggested that larger firms are more likely to pay higher dividends to shareholders than small firms because they have more flexibility in raising funds from capital markets. Similar positive relationships were noted in prior studies (e.g., Batool & Javid, 2014; Brockman & Unlu, 2009; Gugler, 1997; Ingram & Lee, 1997; Lloyd et al., 1985). Thus, it is hypothesised that:

**Hypothesis 2.** *There is a significant positive relationship between dividend payouts and firm size.*

#### 3.3.3. Profitability hypothesis

A firm's net earnings are a significant determinant of dividend payments (Batool & Javid, 2014; Fama & French, 2002; Han et al., 1999; Jensen et al., 1992; Lintner, 1956; Valipour et

al., 2014). Thus, it is expected that profitability is a key determinant of corporate dividend policy among Malaysian public listed companies.

**Hypothesis 3.** *There is a significant positive relationship between paying dividends and profitability.*

#### **3.3.4. Financial leverage hypothesis**

Financial leverage is posited to affect dividend policy. By acquiring debt, a firm commits itself to repay fixed financial charges in the form of interest payments and the principal amount. Firms need to pay for their obligations, and they thus need to maintain their internal cash flow rather than paying dividends to shareholders. Hence, other things being equal, an inverse relationship between dividend payouts and financial leverage is posited (Agrawal & Jayaraman, 1994; Batool & Javid, 2014; DeAngelo & Masulis, 1980; Kashif, 2011; Kato et al., 2002; Rozeff, 1982; Zhao, 2014)

**Hypothesis 4.** *There is a significant negative relationship between dividend payments and financial leverage.*

#### **3.3.5. Growth and investment opportunities hypothesis**

Miller and Modigliani (1961) argued that, with market imperfections, dividend payments and investment opportunities may be related to each other. As firms with higher growth and investment opportunities need to generate funds for investment, they would prefer to pay low dividends. In contrast, there are firms with slower growth that are likely to pay greater dividends. This notion is consistent with the free cash-flow hypothesis and the pecking order theory, and is also supported by the literature (e.g., Alli et al., 1993; Barclay, 1995; Batool & Javid, 2014; Brockman & Unlu, 2009; Fama & French, 2002; Gul, 1999; Milgrom & Roberts, 1992). Hence, it is postulated that:

**Hypothesis 5.** *There is a significant negative relationship between dividend payments and growth opportunities.*

## **4. Results**

### **4.1. Determinants of dividend payment: full model**

This study investigates the role of firm-specific characteristics in determining the dividend decisions of Malaysian firms using estimates from panel regression models. Table 2 presents the results of the full model that estimates the relationship between *DIV\_PAYOUT* and the five independent variables (*AGENCY*, *SIZE*, *PROFIT*, *LEVERAGE*, and *GROWTH*).

Table 2 suggests that three out of the five independent variables are significantly related to *DIV\_PAYOUT*. Specifically, the posited hypotheses H2, H3, and H4 failed to be rejected, whereby the variables *SIZE*, *LEVERAGE*, and *PROFIT* were found to be significantly related to dividend payout. However, the signs of the relationships for H2 and H3 were found to be negative, contrary to expectations. Meanwhile, the results show that there is no significant relationship between *DIV\_PAYOUT* and two independent variables, *AGENCY* and *GROWTH*, thereby rejecting H1 and H5.



**Table 2.** Determinants of dividend payment (full model).

Variable	$\beta$	Std. Error	t-Statistic	Prob.
C	33.323	4.002	8.328	0.000
AGENCY	0.001	0.000	1.351	0.177
SIZE	-1.468	0.209	-7.034	0.000***
PROFIT	-0.439	0.266	-1.652	0.099*
LEVERAGE	-0.001	0.000	-2.412	0.016**
GROWTH	-0.015	0.015	-0.978	0.328
$R^2 = 0.588$ , Adj. $R^2 = 0.436$				

Note: Dependent Variable is *DIV\_PAYOUT*.

\*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% level.

Source: Author's calculations using E-views version 8.

The evidence reveals a significant inverse relationship between *DIV\_PAYOUT* and *SIZE* ( $\beta = -1.468$ ,  $p < 0.01$ ). Although significant, this finding contradicts the positive relationship observed in prior studies (for example, in Lloyd et al. (1985) in the context of a developed market; in Brockman and Unlu (2009), who examined dividend policy in 52 countries; and in Batool and Javid (2014), in the context of emerging markets). A possible explanation for these results is that shareholders in larger firms have less power to control their manager's decisions in managing the firm's excess free cash flow, as suggested by Mahadwartha (2007). Furthermore, there is a tendency for these managers to restrict the firm's free cash flow for their own interest. Thus, as the results suggest, larger firms tend to have a smaller dividend payout for their shareholders.

Consistently with the literature on developed markets<sup>4</sup> and emerging markets,<sup>5</sup> *LEVERAGE* is negatively related to a firm's dividend payout, significant at the 5% level ( $\beta = 0.001$ ,  $p < 0.05$ ). This suggests that highly leveraged firms have lower dividend payouts. Reasonably, when firms rely more on debt than on equity, they tend to expose themselves to financial distress risk. A higher level of financial leverage will overburden the firm with high interest payments in the long run. Since they are burdened with these interest payment obligations, firms may not be able to sustain stable profits in the long run. Hence, firms face a higher risk of bankruptcy since they are not able to fulfil their long-term debt obligations. Additionally, firms place higher priority on their debt obligations than on their obligations to shareholders; therefore, more highly leveraged firms tend to have lower dividend payout.

Studies have shown that profitability is one of the most important variables in influencing the level of dividend payout in the US, as well as in many emerging markets (Aivazian, Booth, & Cleary, 2003; Batool & Javid, 2014; Brockman & Unlu, 2009; Mitton, 2004). However, in the Malaysian context, the same does not hold true. In contrast to Fama and French (2002), *PROFIT* shows a significant inverse relationship with dividend payout for Malaysian firms ( $\beta = -0.439$ ,  $p < 0.10$ ). Similar findings were reported in Gupta and Banga (2010), in which *PROFIT* displayed an inverse though insignificant relationship with dividend payouts in Indian corporations.

In summary, the results suggest that size and leverage play a significant positive influence, while profitability has a significant negative impact on the dividend payout for Malaysian firms. On the other hand, agency cost and growth do not determine dividend payment policies in the context of Malaysian firms.

**Table 3.** Determinants of dividend policy across industries.

Model	1	2	3	4	5	6	7	8
Industry	Technology	Industrial	Consumer Noncyclical	Basic Material	Communication	Consumer Cyclical	Diversified	Energy
C	77.268 [23.978]***	56.447 [6.749]***	38.927 [11.341]***	40.873 [17.390]**	4.909 [26.051]	19.749 [9.517]**	-77.166 [26.554]***	-3.836 [26.862]
AGENCY	-0.003 [0.015]	0.001 [0.001]	-0.000 [0.001]	-0.010 [0.005]**	0.001 [0.001]	-0.000 [0.001]	0.001 [0.001]	-0.001 [0.002]
SIZE	-3.679 [1.299]***	-2.693 [0.357]***	-1.749 [0.579]***	-1.891 [0.937]**	0.011 [1.341]	-0.711 [0.509]	4.058 [1.323]***	0.372 [1.290]
PROFIT	0.819 [1.477]	-0.862 [0.309]***	1.883 [1.261]	-1.704 [1.849]	6.451 [3.700]**	1.224 [1.396]	-4.457 [2.747]	-0.183 [0.894]
LEVERAGE	-0.002 [0.001]***	0.0003 [0.001]	-0.002 [0.001]*	-0.000 [0.001]	-0.001 [0.001]	0.001 [0.005]	-0.010 [0.017]	0.002 [0.013]
GROWTH	0.048 [0.089]	-0.029 [0.023]	-0.017 [0.031]	-0.021 [0.070]	-0.108 [0.073]	-0.063 [0.045]	0.011 [0.136]	0.045 [0.070]
R <sup>2</sup>	0.645	0.653	0.586	0.597	0.588	0.683	0.676	0.766
Adj. R <sup>2</sup>	0.455	0.517	0.406	0.403	0.347	0.542	0.421	0.532

Notes: Dependent Variable is *DIV\_PAYOUT*. Standard Errors are provided in parentheses.

\*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels.

Source: Author's calculations using E-views version 8.

#### 4.2. Determinants of dividend payment: interindustry analysis

According to Al-Malkawi (2008), industry effects do not seem to have any impact on corporate dividend decisions in Jordan. However, different industries have different business natures and operate differently. Certain industries, such as *Consumer Noncyclical* industries, for example, tend to maintain higher levels of cash provision than other industries. Some industries are highly leveraged with minimal profitability, such as the *Aviation* industry, which falls under the *Industrial* sector. Emery, Finnerty, and Stowe (2004) highlight that the *Diversified*, *Industrial*, and *Basic Materials* industries in the US tend to have lower dividend payouts than the *Utility* industry. Hence, it is conjectured that corporate dividend patterns and dividend payout policies may vary across industries.

To test the possible variations in dividend policy across industries, firms in the sample were classified by industry as *Basic Material*, *Technology*, *Industrial*, *Consumer Cyclical*, *Consumer Noncyclical*, *Communication*, *Energy* and *Diversified*. The estimations of equation (1) were run and the results are presented in Table 3.

The results show that agency cost is generally not a significant determinant of dividend policy for most of the industries, which is consistent with results of the full model. However, *agency cost* is found to be a significant determinant for one particular industry – the *Basic Material* industry ( $\beta = 0.010$ ,  $p < 0.01$ ). For this industry, firms with higher levels of free cash flow tend to pay lower dividends to their shareholders. A likely explanation for this is that when these commodity-related manufacturing firms have larger amounts of free cash flow, internal sources of funds for their new project developments are more abundant, as less cash flow is allocated to the shareholders. However, this result contradicts the existing literature. This divergence might be due to differences in the proxy used for agency cost. Most of the other studies used insider ownership and dispersion of ownership as proxies for agency cost, while this study used free cash flow as the proxy, causing variances in the results.

From the findings, it can be noted that *firm size* has a significant negative relationship with dividend payout in five out of eight industries – namely, the *Technology* ( $\beta = -3.679$ ,

$p < 0.01$ ), *Industrial* ( $\beta = -2.693, p < 0.01$ ), *Consumer Noncyclical* ( $\beta = -1.749, p < 0.01$ ), *Basic Material* ( $\beta = -1.891, p < 0.05$ ), and *Diversified* sectors ( $\beta = 4.058, p < 0.01$ ). Zhao (2014) observed that firm size had the opposite significant relationship with dividend payout in China. Consistent with Zhao (2014), the results of the present study also reveal significant inverse relationships for the first four industries, suggesting that larger firms in these four industries are less willing to pay higher dividends. However, a positive relationship between size and dividend payout is displayed in the *Diversified* industry, similar to results of past studies (e.g., Barclay, Smith, & Watts, 1995; Lloyd et al., 1985). Smaller firms tend to have limited funds and are restricted in raising their capital via external sources. Having limited internal funds to finance their projects, only a small proportion is left to be allocated to their shareholders. Hence, these smaller firms are likely to pay smaller dividends to their shareholders.

The evidence shows that profitability has a significant influence on dividend policy for only two industries – *Industrial* ( $\beta = -0.862, p < 0.01$ ) and *Communications* ( $\beta = 6.451, p < 0.05$ ). However, the signs of the relationship are opposite, being negative for *Industrial* and positive for *Communications*. The negative sign for the *Industrial* industry is consistent with the full model, while results for the *Communications* sector are consistent with past studies (e.g., Aivazian et al., 2003; Brockman & Unlu, 2009; Fama & French, 2002; Han et al., 1999; Jensen et al., 1992; Mitton, 2004; Valipour et al., 2014). Firms with higher profitability levels are more likely to pay higher dividends to their shareholders (Fama & French, 2002; Han et al., 1999; Jensen et al., 1992).

The relationship between financial leverage and dividend payout is significant for firms in two industries – *Technology* ( $\beta = -0.002, p < 0.01$ ) and *Consumer Noncyclical* ( $\beta = -0.002, p < 0.10$ ), both with negative signs. One possible explanation for this is that debt obligations for smaller firms are more important than shareholder obligations. More highly leveraged firms will have low dividend payouts, since these highly leveraged firms need to fulfil their fixed debt obligation first. These results are consistent with the literature (e.g., Agrawal & Jayaraman, 1994; Batool & Javid, 2014; DeAngelo & Masulis, 1980; Kashif, 2011; Kato et al., 2002; Rozeff, 1982; Zhao, 2014).

Overall, it can be concluded that the determinants of dividend policy vary across industries in Malaysia. For the *Technology* and *Consumer Noncyclical* industries, size and leverage play an important role in determining dividend payout for firms. For the *Industrial* sector, size and profitability significantly affect the dividend policy of firms. For the *Basic Material* industry, two variables – agency cost and size – are important factors influencing dividend policy. For the *Communications* and *Diversified* industries, only one out of five of the independent variables is significant for each – profit and size, respectively. However, for the *Consumer Cyclical* and *Energy* industries, none of the posited relationships are statistically significant in determining the dividend policy. Possibly, the *Energy* (petrol, gas, coal, power) and *Consumer Cyclical* (housing, retail, entertainment) industries are more sensitive to macroeconomic and business cycle conditions, and hence their dividend policies may have a more significant impact on macroeconomic variables than firm-specific factors. Lastly, the results of the segregated models show that growth opportunity is not a significant determinant of dividend payout policies in any of the industries in Malaysia.

## 5. Conclusion

This study examined the determinants of dividend policy in the context of Malaysia as an emerging market, and further scrutinised these relationships across eight different industries. In general, firm size, leverage position and profitability were found to be significantly related to dividend policy of firms in Malaysia, all with negative signs of relationship. However, when segregated by industry, divergences in the findings were evident. While agency cost was discovered to be an insignificant driver of the dividend policy of Malaysian firms in general, the same variable was found to be positively related to dividend policy for *Basic Material* industry. As with the full model, firm size, profitability, and financial leverage were found to be significantly related to several of the industries. The signs, however, were mixed.

Overall, it can be noted is none of the independent variables were significant determinants of dividend policy for the *Consumer Cyclical* or *Energy* industries. Furthermore, growth opportunities during the period of study (2005–2009) had no impact on the level of dividend payment for any of the industries, whether singularly or collectively.

The results of this study provide objective indications to investors regarding the factors that determine dividend policies of Malaysian firms. For example, to make new investment decisions, an investor may want to pay attention to profit (earnings per share), as the empirical results provide evidence that this factor is indeed an important factor determinant of dividend policy in Malaysian public listed companies. In addition, investors should also consider looking at the size of a firm in determining the selection of stocks. On the other hand, a firm's free cash flow may be ignored by potential investors, as this factor appears to be irrelevant to the dividend policies of Malaysian firms.

Finally, the results demonstrate that most of the theoretical underpinnings on dividend policy that are typically based on advanced economies can be applied to emerging markets such as Malaysia. This is because most of the factors that were found to be important in determining dividend payments in Malaysia were consistent with those found in developed markets. However, future research may investigate the impact of other firm-specific factors encompassing corporate governance aspects on the dividend policy of emerging markets.

## Notes

1. See for example, De Santis (1997) on the topic of stock market volatility; Hull and McGroarty (2014) on the issue of stock market efficiency; Felman et al. (2014) focusing on capital market structures; and Mendoza and Smith (2014) on the area of contagion effects of global financial shocks.
2. For example, in the context of China (Zhao, 2014); and in the context of Pakistan (Batool & Javid, 2014).
3. For example, in the context of Thailand (Fairchild, Guney, & Thanatawee, 2014).
4. See, for example, Jensen et al. (1992), Agrawal and Jayaraman (1994), Faccio, Lang, & Young (2001), and Gugler and Yurtoglu (2003).
5. See, for example, Batool and Javid (2014), Zhao (2014), and Arko, Abor, Adjasi, and Amidu (2014).

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