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Dividend policy and share price volatility

Abstract

The objective of this study is to examine the relationship between dividend policy and share price volatility in the Malaysian market. A sample of 319 companies from Kuala Lumpur stock exchange were studied to find the relationship between stock price volatility and dividend policy instruments. Dividend yield and dividend payout were found to be negatively related to share price volatility and were statistically significant. Firm size and share price were negatively related. Positive and statistically significant relationships between earning volatility and long term debt to price volatility were identified as hypothesized. However, there was no significant relationship found between growth in assets and price volatility in the Malaysian market.

Keywords: dividend policy, share price volatility, dividend yield, dividend payout.

JEL Classification: G10, G12, G14.

Introduction

Dividend policy is always one of the main factors that an investor will focus on when determining their investment strategy. By having information on dividend yield and dividend payout ratio, an investor may perform a better and more accurate financial analysis on the firm, together with other financial ratios. Since payout ratio and dividend yield are among the key factors that an investor would consider during an investment decision, dividend policy may have an influence on share price volatility. The objective of this study is to examine the relationship between dividend policy and stock price volatility in Malaysia. Components under dividend policy, namely dividend yield and payout ratio, are both examined against stock price volatility. Factors influencing dividend policy such as earning volatility, size, long term debt and growth in assets are introduced as control variables. In order to obtain a better and more accurate research finding that could represent the situation in Malaysia, it is proposed that samples from all industries be selected from the Main Board of Bursa Malaysia, previously known as Kuala Lumpur Stock Exchange (KLSE). Data of years 2003 to 2013 are proposed to use for the analysis.

Investors pay close attention to the dividend yields, and that the riskiness of their investments may affect the evaluation of firm's shares in the long run (Baskin, 1989; Allen and Rachim, 1996; Hussainey et al., 2011; Hashemijoo et al., 2012; Zakaria et al., 2012; Hussainey, Mgbame and Chijoke-Mgbame, 2011). Studies also suggest that monetary policy is a factor that might influence dividend growth. A rise in central bank rates will trigger an increase in firms' retained earnings ratios as reinvesting corporate profits are seen as more favorable compared to the pay-out of earnings (Belke and Polleit, 2006). Besides, firms increase dividend in the higher imputation tax credit

(Wang and Chang, 2011). However, difference in tax structures (Ho, 2003; Ince and Owers, 2012), growth and development (Bulan et al., 2007; Elsady et al., 2012), governmental policies (Belke and Polleit, 2006) and others may cause a difference in dividend policy and hence, affect stock price volatility.

Research conducted in Australia found a positive correlation between stock price volatility and earning volatility and leverage, plus a significant negative correlation with payout ratio (Allen and Rachim, 1996). Study in the USA also found an inverse relationship between dividend yield and stock price volatility (Baskin, 1986). In the Malaysian context, two studies have been conducted on dividend policy and share price volatility. The study by Hashemijoo et al. (2012) focused on consumer product companies from the year 2005 to 2010. They found a negative relationship between share price volatility and dividend policy. Similar research also conducted in the same year by Zakaria, Muhammad and Zulkifli (2012), targeting construction and material companies in Malaysia. Their findings suggested that dividend payout ratio significantly influenced the changes in share price. By considering the Malaysian market as a whole, the relationship between dividend policy and stock price volatility might be different from other countries or even within different sectors in Malaysia. In addition, in terms of market capitalization, a certain sector in Kuala Lumpur Stock Exchange (KLSE) cannot represent the whole market because market capitalization on a certain sector might be too small compared to the whole Bursa Malaysia (KLSE). This study differs from previous studies in two main points. It is covering all the companies in the KLSE regardless of their sectors and the period of study is longer.

1. Literature review

1.1. Dividend policy. Dividend is one of the ways a firm diverts its earnings to the shareholders. Dividends can be paid in the form of cash or additional shares. In the case where share dividend

is paid, the total numbers of outstanding shares increase and generally reduce the price per share. In some occasions, companies do give out special dividends on top of the regular payout. Dividend paying companies in Malaysia normally pay out dividends at regular intervals, such as quarterly, semi-annually or annually. Firms' past dividends history, earnings stability, consideration of impact on stock price, forecasted current and future earnings and cash flows are among the important factors in formulating the firms' dividend policies (Chawla, 2008). A significant negative relationship is found between dividend payout and debt in Bangladesh (Rashid and Rahman, 2008). This argument is further supported by another research that provides a negative relationship between dividend and debt in Indonesia (Erkaningrum, 2013). Research by El-Sady et al. (2012) suggest that the most influencing factor of dividend policies of Kuwaiti listed companies is the management perception of the level of current and future earnings as well as liquidity constraints. This is in line with our suggestion that earnings are one of the significant determinants of dividend policy. The life cycle of a firm also contributes a significant effect on the dividend policy. A study by Bulan et al. (2007) found that firms initiate dividends when reaching the maturity stage of life cycle. Large and mature firms are capable of paying higher dividends because they have more access to the capital market to raise fund. However, for the firms experiencing more growth, a negative relationship exists between sales growth to dividend per share (Alzomania and Alkhadhiri, 2013). Government policies on capital market, such as monetary policy and tax structure also play a significant role on firms' dividend policies. According to Belke and Polleit (2006), a rise in interest rate by the central bank in Germany in response to improve investor profit expectations, trigger an increase in the firms' retained earnings ratio. Investors from different countries are receiving different treatments on tax system. Double taxation may make dividends unfavorable. In contrast, partial protection or tax rebates are provided in some countries, like Australia and Taiwan, against double taxation. Double taxation system on dividends exists in some countries like the United States, the United Kingdom and China. Imputation tax system was introduced in Taiwan as the breakthrough from the double taxation system which had been implemented since 1955. Firms are seen to increase dividends with the higher imputation tax credit. After the taxation system reformed, adjustment speed of dividends in Taiwan is inclining to decline and remains stable afterwards (Wang and Chang, 2011).

1.2. Dividend irrelevant theory. Dividend irrelevant theory is introduced by Miller and Modigliani (1961). In order to realize the Miller and Modigliani's (1961) model, assumptions are made that no transaction cost is involved and there is either no tax, or the tax rates are equal for both dividends and capital gains. It is also assumed that a perfect capital market exists where the market price cannot be influenced by a single buyer or seller. Information about the market is available to everybody with no cost. The stocks are fairly priced and managers act as the best agent of shareholders, meaning that there is no agency problem.

1.2.1. Bird-in-hand theory. One of the reasons why investors may prefer dividends over capital gains is due to the certainty of dividends, compared to capital gains which are uncertain. In the world of uncertainty and information asymmetry, dividends are valued differently from retained earnings (Husam-Aldin, 2007). Assumptions are made that outside investors are exposed to imperfect information about firms' profitability and that cash dividends are taxed at a higher rate compared to capital gains. Under these constraints, such dividends function as a signal of expected cash flows (Bhattacharya, 1979).

1.2.2. Agency cost theory. Agency costs arise when conflicts of interest exist between management and shareholders. The management may spend lavishly on perquisites or overinvest to enlarge the size of their firms beyond the optimal size since executives' compensation is often related to firm size (Husam-Aldin, 2007). Debt creation may reduce the agency cost of free cash flow by reducing available cash flow for spending at the discretion of the managers. Default on making debt service payments would act as a motivation force to make organizations more effective (Jensen, 1986).

1.2.3. Signaling theory. Due to imperfect information, investors are sensitive to the information announced by the firms and would make an evaluation on the firms' future prospects based on dividend announcement, potential positive net present value (NPV) projects and others. The information content of dividends predict that dividends can be used to signal firm's future prospects and only good-quality firms can use such a device (Husam-Aldin, 2007). Study by Allen et al. (2000) concluded that the number of transactions increased through the ex-dividend date after announcement of large dividends increased for both individual and institutional investors.

1.2.4. Clientele effect. Clustering the shareholders in companies in order to match their investment appetite is defined as the clientele effect. Investors under the

low tax bracket or tax-exempted organizations that need current cash flow tend to invest into companies who pay high dividend. In general, dividend yields decrease as the tax disadvantages of dividends increase (Pettit, 1977). Another research also provides support on clientele effect where the results show that difference between tax rate for capital gains and dividends have an impact on investors' preference for having high dividends or low dividends stocks in their portfolio (Scholz, 1992).

1.2.5. Tax preferences theory. Return on stock either in terms of cash dividends or capital gains is subjected to its tax payment. Double taxation on dividends is also seen in some countries across the world. Again it is found that investors prefer capital gains to cash dividends under double taxation system. In order to eliminate double taxation practice, some countries are introducing partial or full tax relief to individuals who receive dividends. Research conducted by Ince and Owers (2012) on different tax regimes stated that if dividend tax rate exceeded capital gains tax rate, dividend payout could partially offset value-enhancing effects of leverage. If both rates are at the same level, dividend payout loses its moderating influence.

1.3. Impact of dividend policy to share price volatility. There are a number of studies examined the relationship between dividend policy and share price volatility. Allen and Rachim (1996) in Australia, Nazir et al. in Pakistan (2010) and Hussainey et al. (2011) in UK found a significant and negative relationship between the payout ratio and dividend yield with the stock price volatility. Baskin (1989), on the other hand, found that payout is not related to stock price volatility. In addition, Rashid and Rahman (2008) studying Dhaka stock exchange found a positive but insignificant result between stock price volatility and dividend yield. Asghar et al. (2011) found the relationship to be positive and significant in Karachi stock exchange.

2. Data and methodology

According to Bursa Malaysia, as of 31 March 2014, there are a total of 798 companies listed on the Main Board of Kuala Lumpur Stock Exchange (KLSE) where ETFs and REITs are excluded. In order to simulate the whole Malaysian market, a total of 550 companies first selected from Data Stream. The analysis period covers from the year 2003 to 2013. By taking data for the past 11 years in addition to a large sample of companies listed on the Main Board of KLSE, a more comprehensive result is anticipated.

The following constraints are the eligibility requirements for a company to enter into the sample and companies which do not fulfill any of the following constraints are dropped from the sample:

1. Firms must have at least one cash dividend during period 2003 to 2013;
2. Firms with complete data;
3. Firms listed in KLSE since 2003.

After data filtering through the above constraints, a total of 196 companies have been dropped and the final sample size is 354 companies. Any company with potential outliers was removed from the sample. This had brought the final sample size for this research of 319 companies listed on the main board of KLSE ranging from the period 2003 to 2013.

2.1. Price volatility. Price volatility (PV) is the dependent variable in the regression model and is calculated based on the annual range of stock price after adjusting for stock splits and stock dividends. For each year, the range is divided by the average between high and low and is then raised to the second power. These measures of variance are averaged for all available years, and then a square root is applied so as to provide a variable equivalent to a standard deviation.

$$PV = \sqrt{\frac{\sum_{i=1}^n \left(\frac{(H_i - L_i)}{(H_i + L_i)/2} \right)^2}{n}}, \quad (1)$$

where, H_i = Highest stock price for year I , L_i = Lowest stock price for year I , n = Number of years.

2.2. Dividend yield. Independent variables for the regression model are Dividend yield (DY) and Dividend payout ratio (Pout). DY is defined as the sum of cash dividends paid to common stockholders divided by the market value of each company at the end of the year. The average for the total number of years is then obtained.

$$DY = \frac{\sum_{i=1}^n (D_i / MV_i)}{n}, \quad (2)$$

where D_i = Dividend yield for year I , MV_i = Market value for year I , n = Number of years.

H1: There is a negative relationship between dividend yield and share price volatility.

2.3. Payout ratio. For computing Pout, the sum of cash dividend paid to common stockholders is divided by the net income after tax for each year. The average for the total number of years is then obtained.

$$Pout = \sum_{i=1}^n \frac{(D_i / E_i)}{n} \quad (3)$$

where, D_i = Cash dividend paid to common stockholders for year i , E_i = Net income after tax for year i , n = Number of years.

H2: There is a negative relationship between payout ratio and share price volatility.

2.4. Control variable. *2.4.1. Market value (Firm size).* Firm size is one of the main factors that might influence a firm's decision on dividend policy. Large firms are likely to pay more dividends because they may have better access to capital market for fund raising (Alzomania and Al-Khadhiri, 2013). Therefore, dependency on retained earnings as source of fund is reduced and is more likely to pay higher dividend. A number of studies have come to the same conclusion that firm size is significantly influencing dividend policy. Rashid and Rahman (2008), affirm that dividend yield is positively significant to firm size in Bangladesh. Similar research in Malaysia also cannot accept the hypothesis that company size has no effect on dividend per share (Al-Twajiry, 2007).

The market value at the beginning of each year for every company is obtained and the average of each company is calculated. A natural logarithm is then applied to the average market value for each company.

$$Size = \ln \frac{\sum_{i=1}^n Market Value_i}{n}, \quad (4)$$

where $Market Value_i$ = Market value at beginning of year i , n = number of years.

H3: There is a negative relationship between firm's size and share price volatility.

2.4.2. Earning volatility (EV). Dividends paid by firms are generated from the firms' profit and is one of the ways that firms distribute earnings back to the shareholders. Therefore, earnings of firms are expected to be one of the significant factors that will influence dividend policy decisions. Positive relationships between profit and dividend policy show that firms are willing to pay higher dividends when they experience an increase in their profitability level with high consideration of the level of last year dividends (Alzomania and Al-Khadhiri, 2013). For earning volatility calculation, the average of operating earnings (before interest and tax) to total asset ratio for all years is first obtained. The second step is to obtain the average of the squared deviation from the overall average. Square root transformation is then applied to the mean squared deviation for standard deviation.

$$EV = \sqrt{\frac{\sum_{i=1}^n (R_i - R_a)^2}{n}}, \quad (5)$$

where, R_i = Ratio of operating income to total assets for year i , $R_a = \sum_{i=1}^n \frac{R_i}{n}$, n = number of years.

H4: There is a positive relationship between earning volatility and share price volatility.

2.4.3. Long term debt (Debt). Most companies raise funds through debts to finance their operations and potential projects. Another reason that a firm raises debts is to reduce the agency cost. By having debts, a firm is limiting its free cash flow available for spending at the discretion of managers. This, in turn, will reduce the agency cost of free cash flow (Jensen, 1986). A significant negative relationship is found between dividend payout and debt in Bangladesh (Rashid and Rahman, 2008). This argument is further supported by another research that provides a negative relationship between dividend and debt in Indonesia (Erkaningrum, 2013). Research by El-Sady et al. (2012) suggest that the most influencing factor of dividend policies of Kuwaiti listed companies to be the management perception of the level of current and future earnings as well as liquidity constraints. This is in line with our suggestion that earnings are one of the significant determinants of dividend policy.

Ratio for sum of each company's long term debt includes all obligations with maturity more than one year to total assets is calculated for each year. The average of each company is then computed.

$$Debt = \frac{\sum_{i=1}^n Long Term Debt_i / Total Asset_i}{n}. \quad (6)$$

H5: There is a positive relationship between long term debt and share price volatility.

2.4.4. Growth in assets (Growth). Rate of growth on firm assets are highly dependent on their life cycle. Firms that are on the startup or rapid growth stage are foreseen to experience a high growth in assets. Firms which experience higher growth opportunity tend to reduce their dividends per share, since there is a negative relationship between increase in growth and dividend per share (Alzomania and Al-Khadhiri, 2013). Firms normally start to pay dividends when they have arrived at the mature stage. At the mature stage, especially for large firms, they may have better ability to pay dividends due to the stable growth and better profit. Dividend initiators are large firms with relatively high profitability and cash balances and low growth rate (Bulan et al., 2007).

Growth in assets is calculated by first taking the ratio of change in total assets at the end of the year to the level of total of assets at the beginning of the year for each company. These ratios are then averaged.

$$Growth = \frac{\sum_{i=1}^n \frac{\Delta Asset_i}{Asset_i}}{n}, \quad (7)$$

where $\Delta Asset_i$ = change of assets in year i , $Asset_i$ = Total assets at the beginning of year i , n = number of years.

H6: There is a positive relationship between growth in assets and share price volatility.

The purpose of this research is to examine dividend policy and share price volatility in Malaysia market. Both dividend yield and dividend payout are expected to carry a negative relationship against price volatility. Therefore, control variables which are likely to influence dividend policy and share price volatility are added to the model. Control variables that are added are firm size, earning volatility, long term debt, and assets growth.

$$PV = a_1 + a_2DY + a_3Pout + a_4Size + a_5EV + a_6Debt + a_7Growth + e, \quad (8)$$

where, PV is the price volatility, DY is the Dividend Yield, $Pout$ is the dividend payout ratio, $Size$ is the natural log firm size (market value), EV is the earnings volatility, $Debt$ = long term debt, $Growth$ = assets growth.

3. Results

3.1. Descriptive statistic. Descriptive statistic is done to study the characteristics of all the parameters and the results were tabulated in Table 1. Price volatility of stock market during period 2003 to 2013 was 0.45. This result is comparable to the finding obtained by Allen and Rachim (1996) which presented price volatility of 0.49 in Australia market from year 1972 to 1985. However, this result is inconsistent with the research proposed by Zakaria et al. (2012), which found that price volatility of 0.95 for Malaysian construction and material companies within period 2005 to 2010. Price volatility is expected to be higher for Malaysian construction and material companies during 2005 to

2010 because of the credit crisis in 2007, subprime mortgage crisis 2007-2008, bankruptcy of Lehman Brother 2008, Sime Darby scandal 2010 and others (Zakaria et al., 2012). Dividend yield and dividend payout recorded are 0.03 and 0.30 respectively. These results are close to research conducted earlier in Malaysia by Zakaria et al. (2012) who presented dividend yield and dividend payout of 0.02 and 0.18. Hashemijoo et al. (2012) also presented similar results stated dividend yield of 0.04 and dividend payout of 0.37.

By comparing with findings by Allen and Rachim (1996), dividend yield and dividend payout for Australia are recorded at 0.07 and 0.495 respectively. Firms in Australia are paying out higher dividend compared to Malaysia. The higher dividends in Australia could be due to different life cycles of growth and tax system. Australia with an imputation tax system, which favors dividends over capital gains, has a significantly higher dividend payout (Ho, 2003). Among the control variables, mean recorded are size (logarithm market value) 19.5, earning volatility 0.04, debt (long term debt over assets) 0.08 and growth (growth in assets) 0.05. A closer look on earning volatility found that the results presented in this research is in line with the other two researches of 0.04 (Hashemijoo et al., 2012) and 0.06 (Zakaria et al., 2012) which are conducted earlier during the period of year 2005 to 2010 in the consumer product industry as well as construction and material industry. Research by Zakaria et al. (2012) pointed that construction and materials companies carried a much higher leverage, with leverage level recorded at 0.64 compared to the study by Hashemijoo et al. (2012) for consumer product companies of 0.09. It can be noticed that the leverage level in Malaysia different across industries and the long term debt to total assets ratio for the whole Malaysian market is 0.08.

Table 1. Descriptive statistics and correlation between variables

	Mean	Std. dev.	PV	DY	POUT	SIZE	EV	DEBT
PV	0.45	0.15	1					
DY	0.03	0.02	-0.52*	1				
POUT	0.3	0.21	-0.58*	0.76*	1			
SIZE	19.48	1.74	-0.31*	0.20*	0.45*	1		
EV	0.04	0.03	0.29*	-0.21*	-0.18*	-0.21*	1	
DEBT	0.08	0.08	0.20*	-0.16*	-0.13**	0.25*	-0.01	1
GROWTH	0.05	0.06	-0.09	0.19*	0.14**	0.31*	-0.31*	0.15**

Note: * and ** significant at 1% and 5% respectively.

Correlation between price volatility (PV) and dividend yield (DY) is -0.52, and correlation between price volatility (PV) to dividend payout (Pout) is -0.58 as indicated in Table 1. The mentioned correlations are found to be statistically

significant and are negatively correlated. The negative correlation provides a basis to support hypothesis in this research that dividend yield and dividend payout ratio have a negative relationship with share price volatility individually.

The findings on this correlation also tally with correlation published by Baskin (1986) which marked -0.64 for price volatility to dividend yield and -0.54 for price volatility to dividend payout. When comparing studies conducted in Malaysia, the values of correlations slightly varied but the negative correlations still intact. Correlation between dividend yield and price volatility was reported at -0.52 while correlation between dividend payout and price volatility is reported at -0.38 (Hashemijoo et al., 2012). Hashemijoo et al. (2012) studied only 84 companies from 2005 to 2010, this could be the reason our results and their results are different. On the other hand, a contradictory finding is proposed by Allen and Rachim (1996) where a positive correlation is found between price volatility and dividend yield in Australia.

Multicollinearity problem can also be identified through correlation analysis. From Table 1, a positive significant correlation between dividend yield and dividend payout is found and leveled at 0.76. The high value of correlation provides an indication that multicollinearity problem exists between dividend yield and dividend payout. High value of correlation between dividend yield and dividend payout provides a concrete support to this study that control variables have to be added to the model. Multicollinearity problem existing in the model will increase the standard errors of the coefficients since, coefficients for some independent variables may be found not to be significantly different from zero. Under the situation without multicollinearity and with lower standard errors, some coefficients may be found to be significant compared to null findings in the first place.

3.2. Hypotheses testing. Due to high correlation between dividend yield and payout ratio the multicollinearity problem is identified and therefore separate regression are run. Hence, two new equations will be formulated:

$$PV = a_1 + a_2DY + a_3Size + a_4EV + a_5Debt + a_6Growth + e, \quad (9)$$

$$PV = a_1 + a_2Pout + a_3Size + a_4EV + a_5Debt + a_6Growth + e. \quad (10)$$

The above two new regression equations serve as robustness model to the original regression model. Regression is first run on dividend yield as the independent variable and results are tabulated in Table 2. Table 2 presented the regression results with control variables included. A negative and statistically significant relationship is found between price volatility and dividend yield as well as dividend payout. Coefficient of dividend yield is

found to be -1.459 while dividend payout is -0.232. This is expected since they are measured in different scale. These findings are in line with the research by Baskin (1989) who stated that coefficient of dividend yield is large and highly significant, whereas coefficient of dividend payout is marginally significant. Both the independent variables exhibited a negative relationship. However, the findings are inconsistent with another two studies done locally that focused on certain industries with different time period. Research by Zakaria et al. (2012) could not indicate any significant relationship on dividend yield and dividend payout to price volatility at confident level of 5%. However, at a confidence level of 10%, coefficient of dividend payout is found to be positively significant. Their results are in contrast with findings of both Baskin (1989) as well as Allen and Rachim (1996). Hashemijoo et al. (2012) on the other hand presented that coefficient of dividend yeild is negatively significant but payout is not significant. As a control variable, coefficient of size is -0.013 and is statistically negatively significant. The regression result confirms our hypothesis that there is a negative relationship between firm size and share price volatility. Earning volatility and debt are found to be positively and significantly related to price volatility respectively as hypothesized. Coefficient of earning volatility is 0.979 and debt is 0.281. Results obtained for size, earning volatility and debt are in line with most of the researches conducted previously (Allen and Rachim, 1996; Hashemijoo et al., 2012; Baskin, 1989). The last control variable, growth, is found to be positively related but is insignificant. Our hypothesis that there is a positive relationship between growth in assets and share price volatility cannot be accepted. Similarly, Zakaria (2012) also concluded that growth is not significant. Adjusted R squared for the regression was recorded at 40% and was an improvement compare to the crude model of 34.6% where control variables are not included. This finding is close to research results by Zakaria et al. (2012) with adjusted R squared of 43.4%. However, it is lower than the other two researches where adjusted R squared recorded are 66.2% (Baskin, 1989) and 55.4% (Hashemijoo et al., 2012). Research by Allen and Rachim (1996) on the other hand showed a much lower adjusted R squared which is only leveled at 24%.

Coefficient of dividend yield is -3.149 and is statistically significant negatively. Among other control variables, all the relationships are found to be in line with the original regression model. These provide a support to our hypotheses testing based on the original equation. Regresion on the model with dividend yield dropped means that dividend payout as an independent variable also suggests the same

finding where coefficient of dividend payout were negatively related to price volatility and is statistically significant. Table 2 presented the comparison of regression results of the original model and with dividend payout and dividend yield dropped

respectively. The results showed that all the control variables tally with the original equation. The results from these two equations provide a concrete and robust support to the findings in the original model and the conclusion on the hypotheses testing.

Table 2. Regression results

Variable	Full model		DY		POUT	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
DY	-1.459	0.007	-3.149	0.000	-	-
POUT	-0.232	0.000	-	-	-0.346	0.000
SIZE	-0.013	0.008	-0.022	0.000	-0.009	0.050
EV	0.979	0.000	0.960	0.000	1.047	0.000
DEBT	0.281	0.001	0.334	0.000	0.291	0.001
GROWTH	0.198	0.110	0.272	0.031	0.134	0.275
C	0.729	0.000	0.899	0.000	0.649	0.000
R ²	0.411		0.377		0.397	
Adj R ²	0.400		0.368		0.387	
F-statistics	36*		38*		41*	

Note: * significant at 1%.

4. Discussion

From the results presented on hypotheses testing, the dividend yield, dividend payout and firms' size are found to be negatively related to price volatility. Expected return from a stock is the sum of dividend plus the stock price appreciation. Investors certainly evaluate dividend policy of a firm before any transaction is decided. Corporate dividend policy is a key driver of stock price changes in the UK where dividend policy is relevant in determining share price changes for a sample of firms listed in London Stock Exchange (Hussainey, Mgbame and Chijoke-Mgbame, 2011). An inverse relationship between dividend yield and stock price volatility is determined and the relationship is not reduced much even after controlling for size, earning volatility, and debt ratio as well as for growth. Dividend policy intrinsically affected stock price volatility in the United States (Baskin, 1989). A later research by Profilet and Bacon (2013) in the United States also came to the same finding that dividend related negatively to the stock price volatility. However, contradictory studies are also presented in some other countries where evidence of positive, but not significant, relationship between stock price volatility and dividend is found after controlling for earning volatility, payout ratio, debt, firm size and growth in assets (Rashid and Rahman, 2008). (Their research was targeting Bangladesh market and share price reaction to the earning announcement is not similar to that of other developed countries.) Azeem et al. (2011) mentioned in their study performed in Pakistan that firms in Pakistan are reluctant to pay dividends as a disbursement of their profit. Under

such situation, using dividend policy to gauge share price volatility may not provide a concrete outcome.

It is reasonable that firm size has a negative relationship with share price volatility. Large firms normally have a better access to the capital market to raise funds hence dependency on retained earnings as source of income will reduce. Research by Profilet and Bacon (2013) seconded the finding that firms' size is negatively related to stock price volatility. Another research conducted in the United States also recommended that size contributes slightly to variations in stock returns (Shubita, 2011). Earning volatility and long term debt are found to be positively and statistically significant to share price volatility in Malaysia market as discussed in the hypotheses testing. These findings are in line with most of the studies conducted in the past. Before investments are made, fundamental analyses are normally conducted by the investor and investment will be made on potential good earning companies. Wild and Kwon (1994) suggested the existence of a positive correlation between price changes in year t and earning changes in year $t + 1$ which represented that earning changes lagged price changes. Another research proposed that stock prices reflected reasonable accurate forecasts of long term earning growth rate (Callaghan, Murphy, Parkash, and Hong, 2009). Research conducted in the United Kingdom proposed that size and debt had the highest correlation with price volatility. Size is found to be significantly negatively related to price volatility indicating that the larger the firm, the less volatile the stock price. Debt, on the other hand, showed a significant positive relationship with price volatility, suggesting that the more leveraged a firm is the more volatile the stock price would be (Hussainey et al., 2011).

Conclusion and recommendations

The objective of this study is to identify the relationship between dividend policy and share price volatility in the Malaysian market. The relationship between share price volatility to the control variables added to the regression model, namely, earning volatility, firm size, long term debt and growth in assets are also observed and included as the research objective. A total of 319 companies listed in the main board of (KLSE) are finally identified after applying restrictions and removing outliers. A total of eleven years of data from the period of 2003 to 2013 are used for the analysis. This large number of companies as well as over ten years of market data can provide a well-represented sample size of the whole Malaysian market. Due to the multi-collinearity issue between dividend yield and dividend payout, control variables are introduced to the model where regression was conducted. Both elements under the dividend policy, dividend yield and dividend payout, are found to be negatively related to share price volatility and are statistically significant. Our analysis also could not reject the hypothesis that firm size and share price is negatively related. Positive and statistically significant relationship between earning volatility and long term debt to price volatility are identified as hypothesized. However, no significant relationship is developed between growth in assets and price volatility in the Malaysian market. Adjusted R squared for the regression is recorded at 40% and was significant.

Limitations of the study

There are a total of 798 companies listed on the main board of (KLSE) as of 31 March 2014 which ETFs and REITs are excluded as reported by Bursa Malaysia. The initial sampling design is to include all the companies categorized under FTSE Bursa

Malaysia Top 100 where total market capital for these companies comprises 90% of the total KLSE capitalization. However, a number of companies which initially selected are forced to be dropped due to unavoidable retractions rules applied. Giant companies like British American Tobacco, Maxis, Axiata, Petronas Chemical and others are forced to be dropped. Removing giant companies from the sample will cause the total represented capitalization of the sample to drop at a higher percentage.

Other factors influencing dividend policy decisions may still exist. However, some of the factors are hard to be measured and to be included in this model. Company future expansion plans and investment into positive net present value project are among the important factors that might influence dividend policy decision. Information on all these investments may be kept as confidential to the public until a solid agreement has been made for investment but preparation work may have started long before the announcement is made. Elements like signaling effect, clientele effect, tax preference and others are all considered while determining dividend policy decision for a firm. However, there are difficulties in measuring the level of the above influences mathematically and thus, difficult to include them into the regression model.

Suggestion for future study

This study concentrates on the Malaysian market as a whole. However, different industries may act or perform in a different manner due to the different nature of business. Future studies can be conducted to each and every industry in Malaysia in order to examine the different characteristics on dividend policy and share price volatility. Comparison can be done across all the industries as well the Malaysian market as a whole.

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