

The Impact of Dividends on Future Earnings: Evidence from Malaysian Public Listed Companies

Chee Ling Chin (Corresponding author), Mohamad bin Jais,
Salawati binti Sahari

Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia
Email: cheelingchin26@gmail.com, jmohamad@unimas.my, ssalawati@unimas.my

Abstract

Dividends are not only a means of regular income but also an important input in the valuation of firm through the information content of dividends. This study investigates the impact of dividends on future earnings among Malaysian public listed companies from 2000 to 2020 with panel data analysis. Overall, the results show insignificant relationships between dividends and future firm performance, which refute the information content hypothesis of the signaling theory. However, sensitivity analysis among subsamples with large market capitalization, high payout frequency and those that also pursue share buyback programs portray positive and significant firm performance in the first year subsequent to dividend payment. Therefore, it is suggested that future research may examine the impacts of dividends on future firm performance over a longer period of time that exceeds one year.

Keywords: Signaling Theory, Information Content Hypothesis, Payout Policy, Dividends, Malaysia

Introduction

Dividends are the proportional cash distribution of profits to shareholders. Directors decide the amount and frequency of dividends paid out by the company, which is outlined in its dividend policy. Dividends require consistent firm commitment and are more rigid, as any adjustment to the size of the dividend payment will easily induce an adverse market reaction. Final dividends are usually declared at the annual general meeting and paid at the end of the fiscal year. On the other hand, an interim dividend is announced and paid in the middle of a fiscal year. Generally, companies with stable earnings pay cash dividends on a regular basis, but they may also issue special dividends on occasion (Moles et al., 2011; Clayman et al., 2012).

In Malaysia, dividends received by shareholders are exempt from personal income tax because dividends are distributed after corporate taxes have been deducted from the company's normal chargeable income. Malaysia does not have any specific rules for distributing dividends. Companies can set their own dividend policy, subject to complying with the Companies Act 2016. In accordance with Section 131 of the Companies Act 2016, a

company can only distribute dividends if it is in a good financial position. According to Section 132 of the Act, the company's directors who authorized dividend payments are required to ensure that the company will remain solvent after dividends are paid. Solvency is determined by the company's ability to pay all its debts when they come due within twelve months after paying the dividend.

For describing dividend changes, Lintner (1956) introduced a dividend behavior model based on current earnings and lag dividends. According to Lintner's model, companies should maintain a consistent dividend policy and only raise dividends when they believe that earnings will rise in the future. Lintner's model uses the ratchet effect to describe how firms gradually adjust dividends at a particular speed in an effort to move towards the target payout ratio without cutting dividends.

Dividend irrelevance theory, put forth by Miller and Modigliani (1961), claims that dividend policies do not affect the value of a stock in an ideal capital market with zero transaction costs and zero taxes. Although Miller and Modigliani (1961) suggested that dividend changes may provide insight into a company's future earnings, they only acknowledged investment policy as the sole determinant of a firm's value. In addition to triggering considerable fluctuations in a firm's stock price, changes in dividends can provide important information about the company's future profitability.

Based on the concept of asymmetric information, Bhattacharya (1979); Vermaelen (1981); Miller and Rock (1985) hypothesized that managers intentionally convey information about future earnings by making payout decisions at the expense of the management. Generally, corporations raise dividend payments when they are confident their revenues will grow permanently (Lintner, 1956). Miller and Modigliani (1961) proposed the information content hypothesis of dividends, which argues that dividends can convey information about future cash flows. Since then, there have been numerous studies investigating the relation between dividends and future earnings, especially in developed markets, yet no consistent conclusions have been drawn.

As the information content hypothesis does not specify which metrics the firm intends to communicate with investors, it is imperative to test the theory using various proxies of future firm performance that reflect the firm's earnings from different perspectives. The majority of prior studies in the Malaysian context have examined dividend signaling from the perspective of the stock market, whereas there are limited studies testing dividend predictive abilities from the perspective of earnings. Hence, the present study aims to fill the research gap by evaluating the relationship between dividends and future performance of Malaysian firms. Specifically, this study examines whether future firm performance can be predicted from the current dividend payment, as well as the type of information managers intend to convey to investors in emerging markets.

As a theoretical contribution, the findings of the current study will have a significant impact on signaling theory by adding to existing literature on dividend information content, especially in developing markets. Practitioners can benefit from the findings of this study by better understanding private information that is not available publicly and improving their

investment strategies as dividends provide valuable insight into a firm's prospects when valuing a firm.

The rest of the paper is organized as follows. Section 2 reviews existing literature. Section 3 outlines the data description, methodology and empirical model for the study. Section 4 presents the empirical findings, while Section 5 concludes the paper.

Literature Review

One of the earliest studies that examined the information content of dividends was conducted by Benartzi et al (1997), who assessed the correlation between current dividend changes and future earnings changes among U.S. firms from 1979 to 1991. Despite dividend increases, no positive abnormal earnings were detected, thus contradicting the information content hypothesis. Benartzi et al (1997) found that dividend increases were related only to past and current earnings, but earnings only increased after dividend decreases.

Nissim and Ziv (2001) re-examined the information content of dividends in the U.S. between 1963 and 1998 using a modified model that addresses omitted correlated variables and measurement error. Consequently, they found a strong link between dividend changes and future earnings changes two years after dividend changes. After dividend increases, earnings increased in the first and second years, proving the information content hypothesis.

The purpose of the study conducted by Arnott and Asness (2003) was to determine whether the dividend policy, as measured by the dividend payout ratio, is a reliable predictor of future earnings growth for an equity portfolio based on the S&P 500 index for the U.S. equity market. According to the aggregate study, the expected earnings per share are most likely to grow at a faster rate when payout ratios are high, and at a slower rate when payout ratios are low. Strong evidence from this study supported the information content hypothesis.

Grullon et al (2005) criticized Nissim and Ziv's (2001) assumptions of linear mean reversion in earnings and then employed a modified partial adjustment model to investigate the correlation between dividend changes and future profitability among U.S. firms between 1963 and 1997. Even after correcting the nonlinear earnings patterns, dividend changes did not convey any information regarding future earnings changes. Dividend changes and future return on assets were not linked, thus disproving the idea that dividends contain information.

Based on company-level data from 1950 to 2003, Zhou and Ruland (2006) examined the relationship between dividend payout and future earnings growth among U.S. companies. It was discovered that there is a positive statistical correlation between dividend payout ratio and future earnings growth, with a high dividend payout ratio indicating strong dividend growth in the future. A positive correlation between dividend payout and future earnings growth was particularly prominent for companies with limited growth prospects, which is consistent with the information content hypothesis.

Wolff and Auret (2009) examined the information content of dividend changes on future earnings of South African firms from 2000 to 2007. Two analysis methods were used, but both show an insignificant relationship between current dividends and future earnings. In a categorical analysis based on dividends, earnings and market value, the dividend increase was

significantly correlated with current earnings, but it was not predictive of future earnings. Meanwhile, the results from the regression analysis only revealed a significant relationship between current dividends and current earnings changes. It was noticed that future earnings did not change after dividend changes in the first and second years. Therefore, dividends are not used by South African firms to forecast future earnings, since only a concurrent relationship was found between dividend changes and earnings changes.

Choi et al (2011) applied the methodologies of Nissim and Ziv (2001); Grullon et al (2005) to examine the association between dividend changes and future earnings changes among Korean firms between 1991 and 2007. The dependent variable is the future earnings changes based on earnings before extraordinary items. It was found that a statistically significant and positive association between dividend changes and earnings changes in the following year was found through both simple regression and Fama and Macbeth cross-sectional regression, which was consistent with Nissim and Ziv's (2001) findings and supported the information content hypothesis. However, dividend changes had no predictive power on future earnings when using Grullon et al.'s (2005) nonlinear cross-sectional regression model.

Lee et al (2012) examined the relationship between dividend changes and future earnings changes among Malaysian firms from 1998 to 2007. Changes in dividends per share are significantly and positively correlated with changes in earnings per share. As a result, a weak relationship was observed for earnings changes after one year of dividend changes. However, no association was found between future earnings changes and dividend changes in the second and third years after dividend changes.

Using both linear and nonlinear models from Nissim and Ziv (2001); Grullon et al (2005); Al-Shattarat et al (2018) examined the predictive power of dividends on future earnings among Jordanian firms between 2009 and 2015. It was found that dividend changes positively affected the firm's return on assets in the current year and the following year, but not in the second year after dividend announcements, demonstrating the short-run information content hypothesis of dividends.

Methodology

The sample data for the current study comprises publicly listed companies on the main market of Bursa Malaysia that pay dividends and have been active between 2000 and 2020. After excluding financial firms, the final sample consists of 355 dividend-paying firms.

Miller and Modigliani (1961) proposed the information content hypothesis for dividends based on Lintner's (1956) premises, which suggests that dividend changes can be used to predict earnings in the future. This line of argument was followed by Bhattacharya (1979); John and Williams (1985); Miller and Rock (1985), who demonstrated that increasing dividend payments increased future profits, while reducing dividend payments decreased them. Following that, the following empirical model is developed to examine the linear relationship between dividends and future firm performance in the Malaysian context.

$$FUTURE_{i(t+1)} = \alpha_0 + \alpha_1 DIV_{it} + \alpha_2 TA_{it} + \alpha_3 CASH_{it} + \alpha_4 LEVER_{it} + \alpha_5 MTB_{it} + \alpha_6 CUR_{it} + \epsilon_{it}$$

(Equation 1)

Where,

FUTURE	= Future firm performance
DIV	= Dividend ratio
TA	= Total assets
CASH	= Cash flow
LEVER	= Leverage ratio
MTB	= Market-to-book ratio
CUR	= Current ratio

The dependent variable is represented by various proxies of future firm performance based on earnings perspectives. These include earnings per share, return on assets, return on equity and operating income, which are all measured in the following year of dividend payout. The dividend ratio serves as the independent variable, while the control variables that represent the financial characteristics of the firm include total assets, cash flow, leverage ratio, market-to-book ratio and current ratio.

The earnings per share are calculated by dividing the net income available to common shareholders by the number of outstanding shares (Rist & Pizzica, 2014). Return on assets is calculated as net income divided by total assets, while return on equity is calculated as net income divided by total shareholder's equity (Tracey, 2012). A company's operating income is calculated as the difference between sales and operating expenses. To measure the operating performance of firms, operating income will be divided by total assets as per (Lie, 2005). Dividend ratios are calculated as total cash dividends divide by total assets (Lee & Suh, 2011), which shows how much cash has been paid to shareholders relative to a company's assets.

The natural logarithm of total assets is used as a proxy for firm size. The ratio of cash and equivalents to total assets represents the firm's cash flow. Leverage ratios, also known as debt-to-equity ratios, assess a company's ability to meet its financial obligations and are calculated as total liability divided by total equity. As an indicator of a company's growth potential, the market-to-book ratio in this study is computed as market capitalization divided by total book value. Liquidity is indicated by the current ratio, which is calculated as current assets divided by current liabilities (Baker & Powell, 2009; Tracey, 2012).

In order to validate the information content hypothesis and prove that dividends are predictive of future firm performance, the dividend ratio is expected to be positively and significantly related to future earnings per share, future return on assets, future return on equity or future operating income. Based on this assumption, four alternative hypotheses are derived and listed below.

Hypothesis 1: Dividend ratio is significantly and positively related to future earnings per share.

Hypothesis 2: Dividend ratio is significantly and positively related to future return on assets.

Hypothesis 3: Dividend ratio is significantly and positively related to future return on equity.

Hypothesis 4: Dividend ratio is significantly and positively related to future operating income.

Panel data regression analysis is employed to examine the influence of dividends on future firm performance measured in the subsequent year of dividend payout. The Breusch-Pagan Lagrangian Multiplier (LM) test is used to discriminate between pooled ordinary least square (OLS) and random effect models (Hsiao, 2014). The rejection of the null hypothesis for the Breusch-Pagan LM test proves the suitability of the random effect model over the pooled OLS model. The Hausman test is commonly used in applied panel data analysis to determine whether to use a random effect model or a fixed effect model. Rejecting the null hypothesis for the Hausman test proves that the fixed effect model is more suitable than the random effect model (Hsiao, 2014).

Diagnostic tests are conducted to detect multicollinearity, heteroskedasticity and serial correlation as robustness checks for the equation model. Multicollinearity is detected using the mean variance inflation factor (VIF). The rule of thumb states that if the mean VIF is greater than 10, then there is a multicollinearity problem. The Modified Wald Test is used in a fixed effect regression model to test for groupwise heteroskedasticity, where rejection of the null hypothesis indicates that heteroskedasticity exists. The heteroskedasticity problem will be addressed by generating robust standard errors for the model (Daniel, 2014). A Woolridge Test is used to test for autocorrelation in panel data, in which rejection of the null hypothesis indicates serial correlation. The serial correlation and heteroskedasticity problems can be corrected by computing cluster standard errors for the model (Wooldridge, 2013; Daniel, 2014).

The sensitivity test is conducted to test parameters that might affect the output and stability of the results. So, the sample data will be divided into several subsamples based on different criteria, and the empirical model will be rerun to determine if the results differ. The current study uses quartile analysis to test for sensitivity by dividing the sample data into four portions according to the frequency of payout. In ascending order arranged by payout frequency, the bottom 25% of the sample is to be compared with the top 25% of the sample. In total, 95 dividend-paying companies fall within the top 25% payout frequency category, with 20 dividend payments per company throughout the sample period. In the meantime, 96 dividend-paying firms fall into the bottom 25% of payout frequency, which shows a count of 1 to 8 dividend payments for each company. Next, the sample data are divided by market capitalization according to the FTSE market indices. The filter resulted in subsamples of 327 dividend-paying firms listed under the FTSE Bursa Malaysia Small Cap Index and 45 dividend-paying firms listed under the FTSE Bursa Malaysia Top 100 Index. Besides, it is essential to distinguish between repurchasers and non-repurchasers among dividend-paying firms, as it may affect individual corporate decisions. As a result, 144 mutual samples which constitute of dividend-paying firms that also engage in share buybacks were retrieved from the primary sample for sensitivity analysis.

Results and Discussions

Descriptive Statistics

Table 1 displays the information on number of dividend-paying firms and total cash dividend paid by sample firms from 2000 to 2020. As statistics shown, there has been an increase in cash dividends paid by Malaysian public-listed companies over the past several years. In 2000, the cash dividend paid was only about RM4.8 billion, but by 2020 it was about RM28 billion.

The total amount of cash dividends paid in 2006 was approximately RM10 billion, and in 2012 it was approximately RM21 billion. During the sample period, not all Malaysian listed companies paid dividends, but dividend-paying firms would generally outnumber non-dividend-paying firms. 2008 recorded the highest number of dividend-paying firms, with 259, compared to just 207 in 2000. The highest record for total cash dividends paid, as shown in 2018, is RM29 billion.

Table 1

Statistics of Dividends among Sample Firms from 2000 to 2020

Year	Dividend-Paying Firms	Non-Dividend-Paying Firms	Total Cash Dividend Paid (RM' 000)
2000	207	148	4,771,765
2001	242	113	5,391,331
2002	240	115	5,359,304
2003	236	119	6,198,204
2004	242	113	7,636,370
2005	241	114	8,399,145
2006	252	103	10,306,789
2007	249	106	16,217,611
2008	259	96	18,364,609
2009	245	110	17,081,308
2010	247	108	18,027,233
2011	246	109	18,249,607
2012	247	108	21,146,520
2013	242	113	21,823,924
2014	247	108	20,864,031
2015	236	119	22,812,918
2016	234	121	22,123,872
2017	231	124	25,337,868
2018	239	116	29,232,306
2019	222	133	24,562,238
2020	209	146	27,969,963

Dividend and Future Firm Performance

Table 2 shows the results of panel data analysis between dividends and various proxies of future firm performance measured in the year following dividend payout for a sample of 7100 observations. The Hausman test is rejected at 1% significance level which suggests that the most appropriate model would be a fixed effect model. The mean VIF of 1.08, which is less than 10, indicates no multicollinearity problem. As the p-value exceeds the significance level for the Wooldridge test, the null hypothesis cannot be rejected, so there is no serial correlation problem. However, there is a heteroskedasticity problem followed by rejection of the null hypothesis for the Modified Wald test at a significance level of 1%.

In Table 2, the second column shows the results of panel data analysis between dividends and future earnings per share in the first year after dividends are paid. The heteroskedasticity problem is rectified by producing a robust standard error for the fixed effect model. According to the final model, there is no significant relationship between dividend ratio and future

earnings per share. In terms of the control variables, the current ratio is negatively correlated with future earnings per share at a 5% significance level, while cash holdings are positively correlated at a 1% significance level. The dividend does not affect future earnings per share, but companies with higher cash holdings and lower liquidity tend to earn higher earnings per share in the year following the dividend payout.

The third column of Table 2 shows the analysis of panel data between dividends and future return on assets measured one year after dividend payment. The heteroskedasticity problem for the fixed effect model is resolved by producing a robust standard error for the model. Based on the final model, the independent variable of dividend ratio and the dependent variable of future return on assets do not show any significant relationship. In terms of control variables, cash holdings have a positive relationship with future return on assets at a significance level of 1%, whereas current ratio has a negative relationship with future return on assets at a significance level of 10%. Even though dividends do not seem to affect future return on assets, dividend-paying firms with higher cash holdings and lower liquidity tend to yield a higher return on assets after dividend payouts.

In Table 2, the fourth column shows the results of panel data analysis between dividends and future return on equity in the first year following dividend payments. The fixed effect model is corrected for heteroskedasticity by constructing robust standard error. As a result of the final model, the independent variable of dividend ratio does not show any significant relationship with the dependent variable of future return on equity. With respect to the control variables, cash holdings have a positive correlation with future return on equity at a significance level of 1%, whereas leverage and current ratios have a negative correlation with future return on equity at a significance level of 10%. The amount of dividends paid does not seem to affect future return on equity, but dividend-paying companies with higher cash holdings, lower leverage ratios, and lower liquidity tend to produce a higher return on equity after dividend payout.

The last column of Table 2 shows the results of the panel data analysis between dividends and future operating income measured in the first year following dividend payout. A robust standard error is produced for the fixed effect model in order to remedy the heteroskedasticity problem. The final model indicates that dividend ratio, the independent variable, has no significant impact on future operating income, the dependent variable. Among the control variables, cash holdings are positively related to future operating income, while current ratios are negatively related, both at 1% significance level. Even though dividends do not seem to affect future operating income, firms with more cash on hand and less liquidity generate higher operating income following a dividend payout.

Overall, Table 2 does not show any significant relationship between dividends and all proxies of future firm performance. Thus, Hypothesis 1, Hypothesis 2, Hypothesis 3 and Hypothesis 4 are all repudiated due to the insignificant correlation between dividend ratio and future earnings per share, future return on assets, future return on equity and future operating income. Accordingly, the information content hypothesis cannot be validated based on the insignificant relationship between dividends and all proxies of future firm performance.

Table 2

Regression Results between Dividend and Future Firm Performance

	Earnings per Share (t+1)	Return on Assets (t+1)	Return on Equity (t+1)	Return on Operating Income (t+1)
Constant	-0.1267 (0.396)	0.0450 (0.419)	0.0663 (0.203)	0.0996 (0.174)
Dividend ratio	0.1461 (0.398)	0.0110 (0.863)	0.1934 (0.416)	0.0692 (0.339)
Total assets	0.0092 (0.224)	-0.0014 (0.614)	-0.0025 (0.382)	-0.0033 (0.376)
Cash flow	0.3602*** (0.001)	0.1418*** (0.001)	0.2542*** (0.001)	0.0698*** (0.001)
Leverage ratio	-0.0038 (0.188)	-0.0012 (0.185)	-0.0033* (0.064)	-0.0005 (0.190)
Market-to-book ratio	0.0003 (0.244)	0.0001 (0.239)	0.0004 (0.302)	0.0001 (0.345)
Current ratio	-0.0017** (0.011)	-0.0007* (0.051)	-0.0020* (0.091)	-0.0007*** (0.002)
Observations	7100	7100	7100	7100
Breusch-Pagan LM Test	1410.02*** (0.000)	87.42*** (0.000)	50.49*** (0.000)	625.86*** (0.000)
Hausman Test	184.15*** (0.000)	307.46*** (0.000)	124.16*** (0.000)	289.67*** (0.000)
Multicollinearity (Mean VIF)	1.08	1.08	1.08	1.08
Heteroskedasticity (Modified Wald Test)	9.1e+07*** (0.000)	1.3e+07*** (0.000)	8.7e+07*** (0.000)	4.8e+06*** (0.000)
Serial Correlation (Woolridge Test)	1.82 (0.178)	0.00 (0.991)	0.00 (0.976)	1.32 (0.252)

Note: Figures in the parentheses represent p-values while *, ** and *** indicate the respective

10%, 5% and 1% significance levels.

Payout Frequency

Based on a total of 1900 observations, Table 3 shows the regression results between dividends and future firm performance among dividend-paying firms under the category of top 25% payout frequency. The result shows that the explanatory variable of dividend ratio is positively related to future return on assets, future return on equity and future operating income, all with a 1% significance level, while dividend ratios are positively correlated with future earnings per share at a 5% significance level, indicating that the information content hypothesis is supported. Comparatively, the dividend ratio exerts a stronger association with future earnings per share, as evidenced by the highest magnitude coefficient of 1.3821. It has been observed that dividend-paying firms within the top 25% payout frequency, which tend to be smaller and with lower liquidity, but higher leverage, will generally have a higher return on assets and a higher return on equity in the following year. Table 3 shows significant findings

among dividend-paying firms with a higher frequency of payouts, in contrast to the results from the primary analysis, which are insignificant.

Based on a total of 1920 observations, Table 4 shows the regression results between dividends and future firm performance measured in the first year after dividend payout for dividend-paying firms under the category of bottom 25% payout frequency. It was found that the independent variable of dividend ratio did not have a significant relationship with any of the proxies for future firm performance. In terms of the control variables, dividend-paying companies within the bottom 25% of payout frequency, with lower leverage but higher growth potential, tend to generate higher return on assets and operating income in the future than others.

Overall, the results reveal that higher frequency of dividend payouts provide better insight into future firm performance than lower frequency dividend payouts. Dividend-paying firms with the top 25% payout frequency show improved performance in future earnings per share, future return on assets, future return on equity and future operating income.

Table 3
Regression Results between Dividend and Future Firm Performance For Top 25% Payout Frequency

	Earnings per Share (t+1)	Return on Assets (t+1)	Return on Equity (t+1)	Operating Income (t+1)
Constant	-1.4646*** (0.000)	0.3309*** (0.000)	0.5263*** (0.000)	0.2961*** (0.000)
Dividend ratio	1.3821** (0.025)	0.4660*** (0.000)	0.9851*** (0.000)	0.5673*** (0.000)
Total assets	0.0774*** (0.000)	-0.0139*** (0.000)	-0.0226*** (0.000)	-0.0116*** (0.001)
Cash flow	0.3868*** (0.004)	0.0620** (0.017)	0.0657 (0.295)	0.0418 (0.216)
Leverage ratio	-0.0013 (0.415)	0.0010*** (0.003)	0.0075*** (0.000)	-0.0001 (0.898)
Market-to-book ratio	0.0122 (0.262)	0.0014 (0.162)	0.0118*** (0.002)	0.0022 (0.121)
Current ratio	-0.0034 (0.207)	-0.0012** (0.013)	-0.0029*** (0.003)	-0.0015** (0.025)
Observations	1900	1900	1900	1900

Note: Figures in the parentheses represent p-values while *, ** and *** indicate the respective

10%, 5% and 1% significance levels.

Table 4

Regression Results between Dividend and Future Firm Performance for Bottom 25% Payout Frequency

	Earnings per Share (t+1)	Return on Assets (t+1)	Return on Equity (t+1)	Operating Income (t+1)
Constant	-0.4112 (0.248)	-0.0727* (0.053)	0.0337 (0.303)	-0.0201** (0.046)
Dividend ratio	-0.3037 (0.538)	-0.0381 (0.894)	0.6577 (0.158)	0.2263 (0.158)
Total assets	0.0169 (0.360)	0.0023 (0.221)	-0.0075** (0.013)	0.0004 (0.552)
Cash flow	0.3564* (0.052)	0.1629 (0.135)	0.3637** (0.041)	0.0270 (0.498)
Leverage ratio	-0.0096*** (0.000)	-0.0021*** (0.000)	-0.0043 (0.376)	-0.0014*** (0.000)
Market-to-book ratio	0.0209*** (0.000)	0.0047*** (0.000)	0.0019 (0.863)	0.0032*** (0.000)
Current ratio	-0.0007 (0.509)	-0.0010 (0.342)	-0.0026 (0.454)	-0.0002 (0.497)
Observations	1920	1920	1920	1920

Note: Figures in the parentheses represent p-values while *, ** and *** indicate the respective

10%, 5% and 1% significance levels.

Market Index

Table 5 shows the regression results between dividends and future firm performance for 900 dividend-paying firms listed under the FTSE Bursa Malaysia Top 100 Index. It is found that the dividend ratio is positively and significantly related to future earnings per share, future return on assets, future return on equity and future operating income at a significance level of 1%. Thus, the information content hypothesis of dividends is validated by the positive and significant relationship found among large capitalization dividend-paying firms. In comparison, the dividend ratio has a greater impact on future earnings per share, as it has the highest magnitude of coefficient which is recorded at 0.8676. However, only a few control variables, including firm size, leverage ratio and growth opportunity, have a significant impact on future firm performance among large capitalization dividend-paying firms. As can be seen from Table 5, the result differs from the main analysis, which found no significant relationship between any of the proxies of future firm performance.

Table 6 shows the regression results between dividends and future firm performance for 6200 dividend-paying firms listed under the FTSE Bursa Malaysia Small Cap Index. Based on the results, dividend ratios are not significantly related to any of the proxies for future firm performance, such as future earnings per share, future return on assets, future return on equity or future operating income. Due to the insignificant relationship obtained in this instance, the information content hypothesis of dividends is not supported. In terms of control variables, cash holdings are positively related to all future firm performance proxies, while current ratios are negatively related. Thus, dividend-paying firms with higher cash

holdings and lower liquidity tend to have higher earnings per share, returns on assets, returns on equity and operating income in the subsequent year. In short, dividend-paying firms with a small market capitalization do not provide significant insight into future firm performance, consistent with the primary analysis.

The positive and significant relationship implies that the higher the dividend payment, the higher the earnings per share, return on assets, return on equity and operating income will be the following year. Obviously, this result is in line with the information content hypothesis of dividends, and in this case, it only applies to dividend-paying firms with large market capitalization.

Table 5

Regression Results between Dividend and Future Firm Performance under FTSE Bursa Malaysia Top 100 Index

	Earnings per Share (t+1)	Return on Assets (t+1)	Return on Equity (t+1)	Operating Income (t+1)
Constant	-0.0057 (0.927)	0.0401*** (0.006)	0.0586* (0.052)	0.0540*** (0.001)
Dividend ratio	0.8676*** (0.000)	0.5158*** (0.000)	0.7600*** (0.009)	0.6641*** (0.000)
Total assets	0.0094*** (0.002)	-0.0001 (0.989)	-0.0009 (0.572)	0.0005 (0.531)
Cash flow	0.2914 (0.120)	0.0175 (0.730)	0.0365 (0.766)	0.0225 (0.692)
Leverage ratio	0.0053 (0.235)	0.0015* (0.067)	0.0149 (0.115)	-0.0005** (0.030)
Market-to-book ratio	0.0039 (0.505)	0.0005 (0.268)	0.0230*** (0.000)	0.0008 (0.214)
Current ratio	0.0118 (0.271)	0.0042 (0.335)	0.0020 (0.792)	-0.0008 (0.793)
Observations	900	900	900	900

Note: Figures in the parentheses represent p-values while *, ** and *** indicate the respective

10%, 5% and 1% significance levels.

Table 6

Regression Results between Dividend and Future Firm Performance under FTSE Bursa Malaysia Small Cap Index

	Earnings per Share (t+1)	Return on Assets (t+1)	Return on Equity (t+1)	Operating Income (t+1)
Constant	-0.1492 (0.356)	0.0421 (0.484)	0.0596 (0.286)	0.0991 (0.210)
Dividend ratio	0.0797 (0.533)	-0.0242 (0.508)	0.0231 (0.780)	0.0278 (0.479)
Total assets	0.0089 (0.287)	-0.0017 (0.589)	-0.0034 (0.289)	-0.0038 (0.359)
Cash flow	0.3693*** (0.002)	0.1534*** (0.001)	0.2974*** (0.000)	0.0775*** (0.000)
Leverage ratio	-0.0040 (0.172)	-0.0013 (0.173)	-0.0038* (0.051)	-0.0005 (0.203)
Market-to-book ratio	0.0002 (0.236)	0.0001 (0.222)	0.0001 (0.115)	0.0001 (0.399)
Current ratio	-0.0017** (0.013)	-0.0008** (0.046)	-0.0021* (0.082)	-0.0007*** (0.001)
Observations	6200	6200	6200	6200

Note: Figures in the parentheses represent p-values while *, ** and *** indicate the respective

10%, 5% and 1% significance levels.

Mutual Payer

Table 7 presents the regression results between dividends and future firm performance among dividend-paying firms with mutual payout for a total of 2880 observations. Based on the results, the dividend ratio is positively related to future return on assets, future return on equity and future operating income at a 5% significance level, while it is positively related to future earnings per share at a 10% significance level. Hence, the information content hypothesis of dividends is supported. In comparison, the dividend ratio has the strongest impact on future return on equity, as demonstrated by the highest coefficient value of 0.4773. In regard to the control variables, dividend-paying companies with greater cash holdings and growth prospects tend to achieve higher future return on equity. Table 7 indicates that dividend-paying firms that also repurchase shares tend to display predictive power towards future firm performance, which differs from the results of the primary analysis that indicate insignificant outcomes.

Table 7

Regression Results between Dividend and Future Firm Performance with Mutual Payout

	Earnings per Share (t+1)	Return on Assets (t+1)	Return on Equity (t+1)	Operating Income (t+1)
Constant	0.0070 (0.803)	0.1263 (0.390)	0.0123 (0.349)	0.2355 (0.228)
Dividend ratio	0.3696* (0.071)	0.2469** (0.015)	0.4773** (0.048)	0.3191** (0.021)
Total assets	0.0033** (0.025)	-0.0052 (0.488)	0.0012 (0.127)	-0.0097 (0.328)
Cash flow	0.2177*** (0.003)	0.0906** (0.019)	0.1435*** (0.003)	0.0680 (0.104)
Leverage ratio	0.0002 (0.871)	0.0001 (0.641)	0.0011 (0.676)	0.0004 (0.202)
Market-to-book ratio	0.0001 (0.150)	0.0001 (0.705)	0.0001*** (0.006)	-0.0001 (0.619)
Current ratio	-0.0009* (0.061)	-0.0004 (0.290)	-0.0013** (0.015)	-0.0017*** (0.000)
Observations	2880	2880	2880	2880

Note: Figures in the parentheses represent p-values while *, ** and *** indicate the respective

10%, 5% and 1% significance levels.

Conclusion

According to the panel regression analysis conducted on the primary sample regarding dividends and future firm performance, no significant relationship exists between the dividend ratio and all proxies for future firm performance, which include the earnings per share, return on assets, return on equity and operating income. Hence, the information content hypothesis of dividends is refuted. The findings of this study are consistent with those by Grullon et al (2005), who found that dividend changes have no significant impact on future profitability.

There is, however, a positive and significant relationship between dividend ratios and future firm performance among all dividend-paying companies in the FTSE Bursa Malaysia Top 100 Index. Furthermore, dividend-paying firms with mutual payouts also have a positive and significant relationship with all proxies of future firm performance. Meanwhile, dividends are only predictive of future firm performance among dividend-paying firms within the top 25% payout frequency, which shows a significant and positive relationship with each proxy for future firm performance. Based on the findings from the sensitivity analyses, the dividend information content hypothesis can be verified.

In spite of the insignificant result in the primary analysis, the positive association obtained from the sensitivity analysis consistently indicates that dividends result in improved earnings per share, return on assets, return on equity and operating income in the following year. The information content hypothesis is therefore only valid in Malaysia when certain criteria are

met, especially when it comes to dividend-paying firms with large capitalizations. Besides, it has also been shown that firms that pay dividends frequently possess greater predictive power to predict future performance of the firm. Furthermore, dividend-paying firms that also participate in share buyback programs at the same time tend to offer better insight into the firm's prospects. As a result, it shows that Malaysian companies disclose private information about their earnings prospects through dividends. Hence, it can be concluded that dividends serve as a signaling mechanism for investors and market participants in Malaysia.

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