The Determinant of Dividend Payout Policy in the Emerging Market of Indonesia: Internal Versus External Factors

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Abstract: Dividend payments allegedly influenced by internal and external factors. There were numerous research concerning the determinant of dividend in the developed markets but there was only a little in the emerging markets. Using panel data analysis, this study aims to find factors that affect the payment of dividends in Indonesia, one of the most dynamic emerging markets in the world. The results showed that internal factors affecting the payment of dividends are the policy of financing (debt to equity ratio and earnings per share), operating policies (sales growth, firm size, return on assets, gross profit margins and liquidity), agency problems (free cash flow and ownership share) and the risks facing the company. Furthermore, inflation as one of the external factors also affects dividend payments. On the other hand, growth of assets as a proxy for the investment policy was no significant impact on the dividend payment.

Key words: Dividend payout, dividend yield, internal-external factors, panel data, sales growth

INTRODUCTION

Company’s financial decisions can generally be categorized into three types: investment decisions, financing decisions and dividend decisions. If the company has made the right investment decisions and selected the optimal combination of financial decisions then the cash flow generated from investment projects needs to be decided whether the funds would be invested back into the business or would be paid out as dividends to investors.

Dividends are distributions of current or accumulated earnings given to shareholders of a company based on the pro-rata of the number of shares owned. Dividends are usually given in the form of cash but they may also be given in the form of stock or other property. Dividends are also defined as a taxable payment declared by the board of directors of the company. Dividends provide an incentive for investors to own stock in a stable company even if the company is not experiencing major growth.

Since, Miller-Modigliani made propositions about the irrelevance of dividend, financial economists developed a number of theories regarding the dividend. Crutchley and Hansen (1989) showed that the presence of tax makes dividend relevant (DeAngelo and Masulis, 1980; Miller, 1988; Chew, 1993). In another theory, the relevance of dividend is associated with information asymmetry where the managers have information that the investors do not have (Myers and Majluf, 1984; Ross, 1977). Furthermore, the theory that states the dividend is relevant relates to the agency theory developed by Jensen and Meckling (1976). It then extended by Rozeff (1982) and Easterbrook (1984). To reduce the cash flow in the hands of managers and thereby reducing agency costs, Jensen (1986) argues that it is better to return excess cash to shareholders as dividends in order to reduce the possibility of the usage of funds in non-profitable ways. Similar findings showed by Kouki and Guizani (2009) in Tunisia.

Starting from Lintner (1956), it is recognized that the earning is one of many important factors in determining the dividend payment. There are many other determinants which vary from one industry to another as well as between a capital markets to another capital market. Some previous research about factors that affect dividend policy has been widely carried out in developed countries. Research on dividend policy in the United States among others has been carried out by Easterbrook (1984), Crutchley and Hansen (1989), Saxena (1999), Fung (2004)

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Several studies concerning the relation between capital markets and macroeconomic conditions have been conducted, primarily in the equity markets of developed countries. Bange (1996) investigated about forecasting of economic growth through capital markets. The studies were conducted on the capital markets of Germany, Japan and the United States. Kramer (1997) explained that a number of macroeconomic variables have affected the profitability and corporate profits and may also affect the expectations on dividends and dividend yield. Carlson (2001) analyzed why the dividend yield so low in the US. It is allegedly due to the influence of macroeconomic factors. In 2002, Fifield et al. (2002) was analyzing the influence of macroeconomic variables on the return of a broad cross-section of Emerging Stock Markets (ESMs). It was found six domestic variables that affect stock return such as inflation, foreign currency exchange rates, short-term interest rates, Gross Domestic Product (GDP), money supply and trade balance.

Indonesia is one of the most dynamic emerging countries located in South-East Asia (the most growing region in the world together with North-East Asia). Together with China and India, Indonesia recorded continuous economic growth, even in the period of subprime mortgage crisis in 2007 to 2008 which had a significant impact to all other countries in the world. Despite of its dynamic economic growth, however, the Indonesian stock exchange market is still relatively unexplored and therefore there is a great challenge for further research. Some studies was already conducted using Indonesian stock market data such as Achsani and Strohe (2002, 2006), Pranowo et al. (2010a, b), Kurniasih et al. (2011a, b) and Pasaribu (2011).

So far, researchers couldn’t find the research concerning the determinant of dividend policy using Indonesian stock exchange data. This study, however, aims to examine the determinant of dividend policy in the Indonesia Stock Exchange. This study will explore factors influencing the decision of dividend payments by the companies listed on the Indonesia Stock Exchange both internal and external factors.

MATERIALS AND METHODS

Data and the hypothesis: The research was conducted on the companies listed on the Stock Exchange in 2009 which distributed cash dividends continuously during the period of 2000 to 2008. The data consists of payment of dividend as the dependent variable (proxied by dividend yield) and 13 explanatory variables which consist of 11 internal factor variables and 2 external factor variables (inflation and interest rates). All data compiled from the quarterly and annual report of the companies listed at the Jakarta Stock Exchange. Summary of variables used in this study are presented in Table 1. The hypotheses proposed in this study were:

- Presumably the greater the RE, the higher the company’s ability to pay dividends
- Presumably the greater the DER, the lower the company’s ability to pay dividends
- Presumably the greater the risk (BETA), lower the company’s ability to pay dividends
- Presumably the higher the growth of the company’s assets, the lower the firm’s dividend payment
- Presumably the higher LASE, the higher the company’s ability to pay dividends
- Presumably the higher the SG, the lower the company’s ability to pay dividends
- Presumably the higher the GPM, the higher the company’s ability to pay dividends
- Presumably the higher the EPS, the higher the company’s ability to pay dividends
- Presumably the higher liquidity of the company, the higher the firm’s dividend payment
- Presumably controlling shareholder will influence on dividend payments
- Presumably the higher the FCF, the higher the firm’s dividend payment
- Presumably the higher the rate of inflation, the higher the firm’s dividend payment
- Presumably the higher the interest rate, the higher the dividend payment

Researchers employ the panel data analysis to find out the relationship between dividend yield (as dependent variable) and the 13 independent variables as described earlier. The model can be written as follows:
Table 1: Research variables and measurements

<table>
<thead>
<tr>
<th>Variables</th>
<th>Proxy</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DY</td>
<td>Dividend payment</td>
<td>Yield = Dividend/Stock</td>
</tr>
<tr>
<td><strong>Independent variable</strong></td>
<td></td>
<td>FCF = (Operation)-capital-disposition of property and equipment</td>
</tr>
<tr>
<td>FCF</td>
<td>Agency problem</td>
<td>Dummy variable, 0 = not concentrated</td>
</tr>
<tr>
<td>OWN</td>
<td>Agency problem</td>
<td>1 = concentrated</td>
</tr>
<tr>
<td>Lastet</td>
<td>Size</td>
<td>LASET = ln(Total Aset)</td>
</tr>
<tr>
<td>LIQUID</td>
<td>Operational policy</td>
<td>LIQUID = Current_assets - current_liabilities / sales</td>
</tr>
<tr>
<td>DER</td>
<td>Financing policy</td>
<td>DER = TotalDebt / TotalEquity</td>
</tr>
<tr>
<td>RE</td>
<td>Financing policy</td>
<td>RE = Retained_Earning / Amount_circulated_stock / Sales - base_price</td>
</tr>
<tr>
<td>GPM</td>
<td>Operational policy</td>
<td>GPM = sell / sales</td>
</tr>
<tr>
<td>EPS</td>
<td>Operational policy</td>
<td>EPS = Amount_circulated_stock / Net income</td>
</tr>
<tr>
<td>SG</td>
<td>Operational policy</td>
<td>SG = Sales_year - Sales_year - 1</td>
</tr>
<tr>
<td>AG</td>
<td>Investment policy</td>
<td>AG = Asset current - Asset t - 1</td>
</tr>
<tr>
<td>Beta</td>
<td>Company risk</td>
<td>Rat = a/beta RmF</td>
</tr>
<tr>
<td>INF</td>
<td>Macroeconomic factor</td>
<td>Inflation = Inflation rate</td>
</tr>
<tr>
<td>SBI</td>
<td>Macroeconomic factor</td>
<td>SBI = Interest rate</td>
</tr>
</tbody>
</table>

Yield = a_0 + a_1 AG + a_2 BETA + a_3 DER + a_4 EPS + a_5 FCF + a_6 GPM + a_7 INF + a_8 Last + a_9 LIQ + a_10 OWN + a_11 RE + a_12 SBI + a_13 SG + e  

(1)

Where:

Yield = Dividend yield  
AG = Asset growth  
Beta = Company risk  
DER = Ratio of debt/equity  
EPS = Earning Per Share  
FCF = Free Cash Flow  
GPM = Gross Profit Margin  
INF = Inflation rate  
LASET = Company size  
LIQUID = Liquidity  
OWN = Percentage of stock ownership  
RE = Retained Earning  
SBI = Interest rate  
SG = Sales growth  
a_0 = Constant  
a_1, ..., a_13 = Regression coefficient  
e = Error term

Results and Discussion

Descriptive statistics: Statistical descriptions of all variables are presented in Table 2. Table 2 shows that the average dividend yield of the companies listed on the Stock Exchange during the period of 2004 to 2008 was 5.30% with a range of 0.08-14.59%. The maximum value of the dividend yield suggests that there are large companies that pay dividends higher than year-end closing stock price.

The company’s growth in terms of assets (AG) has a negative minimum value. This means that there is a dividend paying company which has a negative asset growth. In terms of risk (BETA), some companies have negative risk (return the company has a direction opposite to the market return) and others have positive risk (the direction the company returns with the market return). On the average, the risk of the firms is positive.

Companies which are paying the dividend have an average value DER of 1.86 whereas the minimum value is -33.82. This shows that among the companies which are paying the dividend, there are who have debt or a negative value of equity. EPS of the companies that pay
dividends is ranging from -1.77 to 15.484 with an average of 66.7. Those EPS values show that among the companies who are paying the dividend, there are some companies which experience a loss. The minimum value of GCF of the companies is negative while the average value is 0.0512 or 5%. The companies’ profitability based on GPM is ranged from 0.04-0.86 while the average value is 33%. This means using the gross profit, the companies which are paying the dividend have a positive gross profit.

The average of company's Liquidity (LIQUID) is 22% of sales value. LIQUID minimum negative value indicates that among the companies which are paying the dividend, there are some companies that have the value of current debts greater than the value of current assets or illiquid corporate position. The size of companies based on the natural logarithm of the value of corporate assets (LASET) is varied from 10.6-19.3. The average value of LASET is 14.6. Company Ownership (OWN) can be classified into two, i.e., concentrated and distributed. The tendency is that the ownership of companies listed on BEI that pay dividends is concentrated.

Minimum Retained Earnings (RE) is also negative, i.e., -591 which shows that there are some companies that pay dividends but they have negative retained earnings. In 2007, the Government of Indonesia issued Law No. 40 on Limited Liability Companies. Chapter IV of the legislation is containing about the Work Plan, Annual Reports and Use of Income. In Article 71, paragraph 3 states that: "Dividends referred to in paragraph (2) may only be distributed if the company has positive retained earnings". However, it is found that the companies with negative retained earnings is paying dividends so it is necessary to note that the period of observation of this study is from 2004 to 2008.

Growth companies based on the value of sales (SG) has a negative minimum value. This means that there are companies that experience negative sales growth. The average value of sales growth is 63%.

Panel data analysis: Researchers simulate the model using panel data analysis, relating the dependent variable of dividend yield as function of 13 explanatory variables. In the final model, researchers exclude interest rates (SBI) due to its high multicollinearity with the inflation (INF).

Table 3 presents the results of the regression estimation on the determinants of dividend payments using the three static methods of panel data. The coefficient estimates presented are the result of three methods of estimation which are Pooled Least Square (PLS), Fixed Effect Method (FEM) and Random Effects Method (REM).

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Pooled LS</th>
<th>FEM</th>
<th>REM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constants</td>
<td>0.0472***</td>
<td>-0.0097</td>
<td>0.0159</td>
</tr>
<tr>
<td>AG(-1)</td>
<td>-0.0035</td>
<td>-0.0098</td>
<td>-0.0178</td>
</tr>
<tr>
<td>Beta</td>
<td>-0.0156***</td>
<td>-0.0144***</td>
<td>-0.01202</td>
</tr>
<tr>
<td>DER(-1)</td>
<td>-0.000038</td>
<td>-0.00034</td>
<td>-0.000066</td>
</tr>
<tr>
<td>EPS</td>
<td>0.000003</td>
<td>0.000050**</td>
<td>0.000004</td>
</tr>
<tr>
<td>PFCF</td>
<td>0.0033</td>
<td>0.0092***</td>
<td>0.0039</td>
</tr>
<tr>
<td>GPM</td>
<td>0.0045***</td>
<td>0.0712***</td>
<td>0.0883</td>
</tr>
<tr>
<td>INF</td>
<td>-0.0002</td>
<td>0.0013***</td>
<td>0.0067</td>
</tr>
<tr>
<td>LASET(-1)</td>
<td>-0.0012</td>
<td>0.0017***</td>
<td>0.0004</td>
</tr>
<tr>
<td>OWN</td>
<td>0.0169***</td>
<td>0.0119***</td>
<td>0.0111</td>
</tr>
<tr>
<td>RE(-1)</td>
<td>-0.000008</td>
<td>0.000002**</td>
<td>-0.000003</td>
</tr>
<tr>
<td>SG(-1)</td>
<td>0.000018</td>
<td>-0.000002**</td>
<td>0.000002</td>
</tr>
<tr>
<td>WC</td>
<td>0.0086***</td>
<td>0.0064*</td>
<td>0.0268*</td>
</tr>
</tbody>
</table>

F-test       | 7.1555 [0.0000] | 4540.191 [0.0000] | 3.3935 [0.0601]
Chow F-test  | -20.7124 [0.0000] | -20.7124 [0.0000] |
Hausman test | -4.2699 | 0.0990 [0.1000] |
R²          | 31.39% | 99.96% | 17.89% |
Adj R²      | 26.97% | 99.94% | 12.56% |

The results above show that the coefficient of AG variable in the previous year (AG(-1)) has a coefficient of -0.0003 but the p = 0.2386 (greater than α = 10%). This means that asset growth does not significantly affect the company’s dividend policy.

Asset Growth (AG): The growth of assets in this study is the variable of investment policy. The results of estimation show that the coefficient of AG variable in the previous year (AG(-1)) has a coefficient of -0.0003 but the p = 0.2386 (greater than α = 10%). This means that asset growth does not significantly affect the company’s dividend policy.

Beta: Beta as a measure of value of corporate risk has a coefficient -0.0214 which is significant at α = 1% level. It means that the higher the risk of the company, the lower its paid dividend. One unit increases in Beta, ceteris paribus will be followed by the dividend yield fall 0.0214 (2.14%). This result is consistent with the hypothesis and similar with the finding of Kowalewski and Oleksandr (2007). The greater the risks, the lower the dividend paid by the company.

DER: The debt to equity ratio of the previous year (lagged DER) has a coefficient of -0.0003 and significant at α = 5%. This means that the increase of previous year’s
DER by 1 unit, ceteris paribus will be followed by the decrease of the dividend yield by 0.0003 units (0.03%). Negative effect of DER on the dividend payment is in line with the hypothesis and similar with the findings of Adelegan (2000), Saxena (1999), Al-Malkawi (2007) and Gill et al. (2010).

**EPS**: The ability of the company in generating profits in the current year by using the size of the EPS has a coefficient of 0.00005 and significant at $\alpha = 5\%$. An increased of EPS by one unit will increase the dividend yield by 0.0005%. This finding is with the hypothesis and similar with the results of Al-Malkawi (2007) as well Ahmed and Javid (2009).

**FCF**: The coefficient of the variable Free Cash Flow (FCF) is 0.0092 and statistically significant at $\alpha = 1\%$. It indicates that if the increase of FCF will followed by the increase of the company's dividend yield by 0.0092. This outcome is consistent with the hypothesis and similar with the results of Chen and Dhiensiri (2009) as well as Kouki and Guizani (2009).

**GPM**: Policy of the company’s operations through the establishment of the base price determines the yield of Gross Profit (GPM). The results show that the coefficient of GPM is 0.0712 and statistically significant. This means that if the increase of GPM by one unit will increase dividend yield by 0.0712 or 7.12%. This condition is line with the theory that states income affects the ability to pay dividends. Higher income will increase the company’s ability to pay dividends. In this study, GPM is the most influencing factor that affects the company’s dividend payment.

**Inflation**: Inflation (INF) has a statistically significant coefficient of 0.0013. This means that 1% if increase in inflation will be followed by the increased of dividend yield of 0.13%. Company increases its dividend payment because of the rising of prices (inflation) so that the real value of dividends will be adjusted. Another meaning, inflation simply increases the nominal value of the volume of corporate profits therefore it allows the company to pay higher dividends. Alternatively, inflation causes the purchasing power goes down then people's desire to invest in stocks also declined. In order to maintain the interest of people to stay in the market, companies give an incentive through the payment of dividends. The result is in line with those of Basse (2009) who found that inflation contributed to the growth of dividends.

**Size of the company**: The previous year’s firm size (LASET) positively affected the current year dividend payment. The coefficient of LASET variable (-1) is 0.0017 and statistically significant at 5\% level. The greater the size of the company is the higher the dividend is paid. Research done by Llyod et al. (1985) also indicated the same thing. The size of the company has a role in explaining the dividend-payout-ratio of the company. The company which is growing tends to become mature so it tends to have easier access to enter the capital markets. As a result, the company's dependence on internal financing is reduced and therefore increase its ability to pay higher dividends. Crotchley and Hansen (1989) also found a positive effect of firm size on dividend. They noted that the impact of the scale of firm size is consistent with the view that the flotation cost for large companies is worth less, so they are economically more able to pay dividends. Other studies also showed similar results such as Saxena (1999), Kowalewski Oleksandr (2007) as well as Hedensted and Raaballe (2008).

**The company liquidity**: Liquidity of the company which is proxies by current assets minus current liabilities divided by sales (LIQUID) has positive influence on corporate dividend yield. LIQUID coefficient is 0.0064 and statistically significant at 10\% level. This figure shows that if the company's liquidity is increased by one unit, ceteris paribus, then the dividend yield will be increased by 0.0064 or 0.64%. This finding is consistent with the hypothesis. The more liquid the company is the more the ability to pay dividends. Mehar (2002) also expect a positive effect of the liquidity position on the dividend but he found in Pakistan that it is not positively related but negative.

**Company ownership**: Company Ownership (OWN) significantly influences the company’s dividend payment. This means that the companies listed on the stock exchange during the period of 2004 to 2008 which are paying the dividend are those the more concentrated shareholder company and therefore it can be concluded that the stock ownership affects dividend yield of the companies listed on the stock exchange. This findings is similar with those of Kouki and Guizani (2009).

**Retained earnings**: The prior year Retained Earnings (RE (-1)) has a statistically significant coefficient of 0.000002. This means that an increase of the previous year company’s retained earnings will increase the current year’s dividend yield by 0.0002%. In this sense, the Limited Liability Company Act of 2007 which requires the company may pay dividends if the balance of earnings is positively supported by the market. The similar results are also found for example by Hedensted and Raaballe (2008) in Germany and Ahmed and Javid (2009) in Pakistan.
Sales growth: This study shows that the Sales Growth (SG) significantly affects the payment of dividends with the coefficient of -0.00002 indicating that a one unit increase of SG will be followed by the decrease of dividend yield by 0.00002 (0.002%). Increasing sales need funds to finance the cost of operation. Consequently, the ability to pay dividends is decrease. However, it has a relatively small effect (only 0.002%). The same results were also documented by Chen and Dhiensiri (2009) and Gill et al. (2010).

CONCLUSION

Dividend policy set by the company is influenced by many factors, both within the company and outside the company. Generally, the determinant of dividend payment in the Indonesian Stock Exchange is similar with those of the developed markets. The biggest factor influencing a firm’s dividend policy on the Indonesian Stock Exchange is the ability of the company to generate gross profit. While, the factor that has the smallest effect is retained earnings.

In this study, researchers did not include factors such as dividend initiation and dividend omission due to the incompleteness of the data. Researchers, therefore, suggest that these variables should be included in the future research. Moreover, impact of the different ownership by international versus local investors as well as institutional versus retail or individual investors would be very interesting.

REFERENCES


