Determinants of Dividend Policy: An Empirical Study of Consumer Goods Firms in Indonesia

Chandra SETIAWAN¹, Vivien VIVIEN²

Received: February 20, 2021 Revised: April 20, 2021 Accepted: May 02, 2021

Abstract

This research aims to figure out the determinants of firms’ dividend policy (propensity to pay dividends as well as the ratio of dividend payout). A dividend policy is a policy used by a company to decide how much it will pay out to shareholders in the form of dividends. Usually, a company retains a part of its earnings and distributes the other part as a dividend. We employed two regression models, Model 1 adopts the logistic regression, while Model 2 adopts the multiple regression to meet the research objectives. Through the purposive sampling technique which complies with the stipulated criteria, a total of 38 samples of Model 1 and 20 samples of Model 2 from the consumer goods sector in the year 2015–2018 are selected to represent the entire population. Among the five independent variables being tested, profitability and firm size reveal a significant impact on both firm’s propensity to pay dividends and dividend payout ratio, while investment opportunity set and capital structure expose a statistically significant effect on dividend payout ratio, yet showed insignificant results on the dividend-paying decision. On the contrary, stock liquidity reveals no effect on both models and therefore fails to espouse the liquidity hypothesis of dividends. All independent variables exhibit a simultaneous influence on both response variables.

Keywords: Propensity to Pay Dividends, Dividend Payout Ratio, Consumer Goods Dividends, Emerging Markets, Dividends Liquidity Hypothesis

JEL Classification Code: E22, G32, G35, M52, O16

1. Introduction

A dividend is a distribution of profits by a corporation to its shareholders. When a corporation earns a profit or surplus, it is able to pay a proportion of the profit as a dividend to shareholders. Any amount not distributed is taken to be re-invested in the business (called retained earnings) (Sofiana et al., 2018). Dividend policy is concerned with financial policies regarding paying cash dividends in the present or paying an increased dividend at a later stage. Management must decide on the dividend amount, timing, and various other factors that influence dividend payments (Brealey et al., 2011).

Dividend policy is important because it outlines the amount, method, type, and frequency of dividend distributions. This is true whether the dividend policy is formally stated, or, informally implied. One of the objectives of dividend policy is to send signals to current investors and attract new investors (Black, 1976). The dividend puzzle is a concept in finance in which companies that pay dividends are rewarded by investors with higher valuations, even though, according to many economists, it should not matter to investors whether a firm pays dividends or not. The reasoning goes that dividends, from the investor’s point of view, should have no effect on the process of valuing equity because the investor already owns the firm and, thus, he/she should be indifferent to either getting the dividends or having them re-invested in the firm. Another reason for economists to be puzzled is that equity holders pay a higher tax rate on dividend payouts compared to capital gains from the firm repurchasing shares as an alternative payout policy.

Although dividend often serves as the mechanism to maximize its shareholders’ wealth and minimize the agency problem or the divergence of interest between the firm’s management and shareholders, yet, its payment shall reduce
the portions of earnings supposedly retained as internal financing to fulfill the funding needs of requisite investment necessities on the next period which potentially hamper or delay the firm’s growth accordingly.

Broadly looking at Indonesia’s economic outlook, Indonesia witnessed a better economic growth in 2018, reaching 5.17% which is respectively higher than 5.02% and 5.07% in 2016 and 2017 (Kemenperin, 2019). Indonesia’s 2018 economic growth is majorly contributed by four main sectors, and among those four, the manufacturing industry reflected the most stable sector, of which growth did not highly deviate for each year. While the coal mining sector is highly dependent on the world’s coal prices, the consumer goods sector (stands under manufacturing industry) is classified as a defensive sector that is inclined to be more stable and resilient to economic turmoil as spurred by stable consumption (Caesario, 2019). In 2018, household consumptions intensified by 5.05% compared to 4.94% and 5.01% in 2017 and 2016 respectively (Musyaffa, 2019). Notwithstanding the favorable characteristics, stable growth of the consumer goods sector, and increment on net sales and/or net income, many firms (even profitable ones) remain reluctant to pay a dividend. In fact, the contradicting industrial growth and dividends were found in several consumer goods sub-sectors (Kemenperin, 2019).

The researchers of this study are interested in analyzing what are the determinants considered by firms in determining their dividend policy, that is the decision whether to pay or not (through Model 1) and the decision to raise or lessen its payout ratio to its earnings (through Model 2).

2. Literature Review

2.1. The Theories of Dividend

For decades, many financial economists through theories tried to understand a firm’s dividend policymaking; however, these theories were contradicting one another. Popular and most cited among those theories comprise the bird-in-hand theory, dividend irrelevance theory, clientele theory, signaling theory, agency costs of free cash flow theory, life cycle theory, and the dividends liquidity hypothesis.

2.2. Determinants of Dividend Policy

Several explanatory variables are adopted to explain the propensity to pay a dividend and the payout ratio, comprising the investment opportunity set (proxied by market-to-book-value of assets ratio/MVBVA), capital structure (measured by long-term debt to equity ratio/LDER), profitability (measured by return on asset ratio/ROA), firm size (recognized by the natural logarithm of total assets/LOGTA) and stock liquidity (indicated by trading volume activity ratio/TVA).

Investment Opportunity Set (hereafter IOS) was popularized by Myers (1977). Myers (1977) views the value of a firm as the total value of assets in place and the value of options to make future discretionary investments in positive NPV projects. Discretionary expenditures required in the future to satisfy the future investment opportunities were presently the investment options, hence oftentimes considered as real options. Myers (1977) describes the firm’s future investment opportunities as call options. These options’ values depend on whether management can be expected to exercise them. If the firm has risky debt outstanding, situations can arise where an option’s exercise (taking a positive present value project) reduces the share value because most payoffs go to the debtholders. Unless this conflict between the shareholders and debtholders is controlled, the probability these real investment options will be exercised is reduced and so is the firm’s value. One way to avoid this underinvestment problem and consequent value loss is to issue debt corresponding only to the firm’s assets in place. Hence, Myers predicted that (ceteris paribus) the larger the proportion of firm value represented by assets in place, the lower the firm’s equity/value ratio. IOS was oftentimes regarded as a firm’s growth prospects or opportunities.

High-growth prospect firms were more likely to commence earnings distribution when the requisite high and stable profitability was reached. Propped up by the dividend signaling conjecture and asymmetric information, firms had a higher degree to raise their dividend payout by use of the excess cash flow to signal its high growth potential (Ardestani et al., 2013). Moyer et al. (2017) defined capital structure as the mixture of right-hand side components comprising the combination of a firm’s debts and its equity level. Although many studies including Arko and Abor (2014) revealed the significantly negative impact on dividend payouts, Kim and Gu (2009), Ardestani et al. (2013), and Maladjian and Khoury (2014) and Tahir et al. (2016) found an insignificant impact.

Gibson (2012) defined profitability as the ability of a company to use its resources to generate revenues in excess of its expenses. In other words, this is a company’s capability of generating profits from its operations. Earnings are one indicator of a firm’s performance. Besides dividends distributed as a portion of earnings, enable shareholders to obtain returns of their investment. A considerably positive impact of profitability on dividend-paying propensity and payout was revealed by Arko and Abor (2014). Profitability has a positive impact on the dividend policy because profitable companies with high stable net earnings can reserve larger free cash flows and thus pay higher dividends (Danila, 2020). In contrast, Ardestani et al. (2013) and Maladjian and Khoury (2014) found profitability had negative and significant impacts on dividend decisions.

Size generally refers to how large or small an object is, wherein the “firm size” word indicated how large or small a
firm is based on the number of employees, net profits, total assets, etc. Several analyses were conducted to observe how firm size affects a firm’s dividend policy, including Ferris et al. (2009) and Arko and Abo (2014), and all reached the same positive and significant results. In contrast, some studies revealed a reverse significant influence, concerning larger firms tended to have higher debt component in their capital structure with interest obligations, particularly if the firm size was increased due to the increment of its liabilities. On the other hand, a large firm size does not guarantee that the dividend policy given to investors is also large (Pattiruhu & Paais, 2020).

A stock’s liquidity generally refers to how rapidly shares of a stock can be bought or sold without substantially impacting the stock price. Stocks with low liquidity may be difficult to sell and may cause you to take a bigger loss if you cannot sell the shares when you want to. Rasa and Jurgita (2014) defined stock liquidity as (1) velocity of transactions without negatively affecting the price changes; (2) incurred transaction costs; (3) permitting high transaction volume; (4) stock trading frequency in public. Banerjee et al. (2007) who popularized the liquidity hypothesis of dividends suggested that in cross-section comparison, firm’s stock market liquidity significantly and inversely affected the dividend payment likelihood, as illiquid firms’ stock possessed higher liquidity risk and the investors thereby required compensations (such as dividends) for diminishing their exposure to a systematic risk factor.

2.3. Research Gap

Referring to the previous empirical studies, no consensus had been reached for even one variable, either diverse in the coefficient sign or the significance. This inconsistency was presumably owed to the difference in selected samples, comprising industry, period, countries, or proxied variables. Even though many researchers have tried to encounter the dividend issue, there is still a dearth of literature combining models in one research, particularly studies on the Indonesia Stock Exchange. Most research observed one model only, either the determinants of dividend-paying propensity or the dividend payout ratio. Moreover, literature adopting the stock liquidity variable on the subject matter is exceptionally finite, especially in Indonesian literature. Through this occasion, the researcher intended to fill the addressed research gaps and present a more recent study concerning the dividend subject.

3. Methodology

This study adopts a quantitative approach, of which firms listed on the Indonesia Stock Exchange under the consumer goods sector are the focus of this study, particularly from 2015 to 2018. Through purposive sampling technique, Model 1 acquires 38 out of 51 non- and dividend-paying companies as the sample and ready to be studied, whereas in Model 2, 20 companies which are consistently paying dividend throughout the period are selected as the sample. As adopted, a primary data source is combined with the secondary source to carry out this research. The researchers use primary sources in obtaining the financial statements or annual reports of the sample companies; published and accessible through the company’s official website and/or IDX’s website. While secondary sources including electronic textbooks and scholarly journals discussing a topic or other researchers’ findings are employed as a reference in explaining the dividend payout.

This study models the binary logit regression to specify what determinations go into a firm’s dividend payment decision, under which 0 assigned to non-paying firms while 1 for dividend-paying firms. In this study, the determined logistic regression equation adopted to specify the explanatory variables’ impact on the response variable is formulated as:

$$
\ln \left( \frac{P}{1-P} \right) = \beta_0 + \beta_1 \text{IOS} + \beta_2 \text{DER} + \beta_3 \text{PROF} + \beta_4 \text{SIZE} + \beta_5 \text{LIQ}
$$

(1)

Model 2 analyzes the determinants of dividend payout ratio as the portion of earnings distributed to the shareholders through a multiple regression model. Before carrying out the prediction, classical assumption tests are performed to test the model, comprising the normality test, multicollinearity test, autocorrelation test, and heteroscedastic test. The determined multiple regression equation adopted to specify the explanatory variables’ impact on the response variable is formulated as:

$$
Y = \text{DPR} = \beta_0 + \beta_1 \text{IOS} + \beta_2 \text{DER} + \beta_3 \text{PROF} + \beta_4 \text{SIZE} + \beta_5 \text{LIQ}
$$

(2)

Where the response variables are DPAY denoted as the firm propensity of dividend-paying (or non-paying), and DPR denoted as dividend payout ratio; $\beta_0$ is the intercept or constant (value of $Y$ when $X_1-X_5=0$); $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficient of each variable; IOS is investment opportunity set (MVBA); DER is the firm’s capital structure (LDER); PROF is the profitability (ROA); SIZE is the firm size (LOGTA), and LIQ is the stock liquidity (TVA).

T-test on multiple regression and Wald-test on logistic regression are employed to scrutinize the individual or partial significance of each independent variable by comparing the significance value of regression outputs to the significance value. Besides, overall significance is indicated by carrying out the $F$-test or omnibus test and the result of the Coefficient of determination $R$-squared or Adjusted $R$-squared.
4. Results and Discussion

4.1. Descriptive Statistics

Model 1 comprises 152 observation data derived from 38 firms in a 4-year period, including those dividends paying and non-paying firms. From the result, it indicated that the mean of IOS was 3.817 with the highest IOS position achieved by IIKP in 2015, which was 37.231, and the lowest IOS was acquired by MRAT in 2015 with only 0.421. Capital structure as measured by the long-term debt to equity ratio was highest for MGNA in 2018 (9,011), while the lowest debt to equity structure was 0.005, acquired by IIKP in 2015, and SIDO in 2015 and 2016; this ratio had an average value of 0.388. Besides that, the average value of return on asset ratio as a measure of the firm’s profitability was 0.083. MERK had the highest percentage on ROA in 2018 (92.5%), while the lowest return on asset was by MGNA in 2016 as it recorded a net loss that year. In terms of the size of the company, INDF in 2018 was the largest, with 32,201 logs of total assets, and KICI in 2015 (25,620) was the smallest among the predicted data, of which the size mean was 28.498.

For the last predictor variable which averaged at 0.237₧, BTEK in 2015 recorded the most liquid stock with a share turnover of 5.34₧x, significantly different from that of PSDN in 2015, STTP in 2015–2018, and SKLT in 2015, 2017, 2018 (0.000x). Overall, it presented that dividend-paying firms possess greater investment opportunities, profitability, and size mean value as compared to those non-paying firms.

Model 2, moreover, encompasses lesser data than Model 1 from 20 dividend-paying companies in a 4-year period, which amounted to 80 observation data in total. The dividend payout ratio was averaged at 53.84%, with the highest payout being 100% of the net earnings by MLBI in 2015, and DLTA, HMSP, MLBI in 2018. The least payout percentage during the period was 15.1%, reported by TCID in 2015. The explanatory variables indicated that the mean of IOS was 4.16₧ with the highest IOS position achieved by UNVR in 2017, which amounted to 23.28₧, and the lowest IOS was otherwise encountered by CINT in 2018 with only 0.78₧. Capital structure as measured by the long-term debt to equity ratio was highest for TBLA in 2018 (1.72₧), while the lowest debt to equity structure was 0.005 for SIDO in 2015 and 2016; this ratio had an average value of 0.242. Besides that, the average value of return on asset ratio as a measure of the firm’s profitability was 0.150. MERK had the highest percentage on ROA in 2018 (92.5%), while the least percentage of return on asset was by TBLA in 2015 (2.2%). In terms of the size of the company, INDF in 2018 was the largest, with 32,201 logs of total assets, and SKLT in 2015 (26.65₧) was the smallest among the predicted data, of which the size mean was 29.36₧. For the last predictor variable which averaged at 0.14₧_xt, CINT in 2018 recorded the most liquid stock with a share turnover of 1.16₧_xt, significantly different from that of SKLT in 2015, 2017, 2018 (0.000x).

### Table 1: Regression Output of Model 1 and Model 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>−29.44₁</td>
<td>0.00₁</td>
<td></td>
<td>Constant</td>
<td>−0.49₧</td>
<td>0.19₁</td>
</tr>
<tr>
<td>IOS</td>
<td>−0.34₁</td>
<td>0.13₇</td>
<td></td>
<td>IOS</td>
<td>0.01₇</td>
<td>0.00₂</td>
</tr>
<tr>
<td>DER</td>
<td>−1.5₪₁</td>
<td>0.0₪₃</td>
<td></td>
<td>DER</td>
<td>−0.₁₉₄</td>
<td>0.0₀₂</td>
</tr>
<tr>
<td>PROF</td>
<td>32.€₧₀</td>
<td>0.₀₀₀</td>
<td></td>
<td>PROF</td>
<td>0.₮₮€</td>
<td>0.₀₀₀</td>
</tr>
<tr>
<td>SIZE</td>
<td>1.₀₩₆</td>
<td>0.₀₀₁</td>
<td></td>
<td>SIZE</td>
<td>0.₀₩₁</td>
<td>0.₀₂₀</td>
</tr>
<tr>
<td>LIQ</td>
<td>1.₀₇₅</td>
<td>0.₀₇₆</td>
<td></td>
<td>LIQ</td>
<td>−0.₁₄₂</td>
<td>0.₀₇₉</td>
</tr>
</tbody>
</table>

4.2. Discussion of Findings

4.2.1. Determinants of the Propensity to Pay Dividends

Concerning the regression result of Model 1 as shown in Table 1, IOS, DER, and LIQ are found to be insignificant in influencing a firm’s propensity to pay dividends, which shown by 0.1₮₳, 0.₮₮₳, and 0.₮₮₳ respectively. Wald significance is observably higher than the significance level of 0.₮₮₳ in this study. Besides, a firm’s propensity to pay or not pay dividends is strongly influenced by its profitability and the size of the firm. Considering the signaling theory of dividends that might plausibly explain this result, dividend initiation is inclined to be an essentially permanent commitment in the whole firm’s life. In other means, once the management decides to initiate dividends, they are reluctant to omit the dividend payment to avoid bad market sentiment of worst performance. Firms often turn out to be extremely conservative in deciding the initiation. Furthermore, the decision of first-time dividend initiations becomes essentially most considered in formulating its dividend policy.

These results are consistent with the finding of DeAngelo et al. (200₧₮) who suggested that larger and more stable firms with high profitability have a higher degree to initiate (or pay) dividends. Growing profitability in the long-term horizon is more favored as consistently increased profitability permits a firm’s long-run capability to preserve
its dividend payment, hence convincing the management to pay dividends. Higher profitability is associated with higher firms’ operating cash flow and internal reserves. Firm size has a positive and significant impact on a firm’s propensity to pay dividends, espousing the life cycle theory of Mueller (1972). This result is also consistent with the findings of Kim and Gu (2009) and Ardestani et al. (2013), positing that larger firms are more mature and more profitable than smaller firms. As a firm becomes more profitable by the time it grows larger, both greater dividend initiation capability and larger cash reserves are consequently permitted. The second plausible explanation is that larger firms possess more convenient access to external funds and less likely to rely on the mere internal reserves to satisfy their funding necessities; therefore, a barrier that refrains firms to initiate and pay dividends is presumably lessened.

However, IOS and debt components in capital structure refrain firms to pay dividends. It is presumably due to the nature of IOS which are perceived as options and might or might not be exercised. If the discretionary expenditures are not carried out, it would not affect the firm’s cash flow as a basis in paying dividends regardless of how great the investment opportunities are. On the other hand, even if future discretionary investments are made, it does not necessarily suggest refrained dividend payment. First, concerning the firm’s ability to generate tremendous earnings, satisfying growth necessities through internal reserves would still leave partial cash flow remains for possible distribution. Second, investment needs might be met by external funds (such as debt). However, the obligations levied would be pointless so long as the firm is still able to report net profits and no working capital shortage. For these reasons, profitability precisely turns out to matter the most in impacting a firm’s decision to initiate or pay dividends, whilst IOS and DER reveal an insignificant effect. Stock liquidity moreover reveals the same result in not influencing a firm’s propensity to pay dividends and likewise the dividend payout ratio. The insufficiency effects are consistent with the studies of Kim and Gu (2009) and Ardestani et al. (2013).

4.2.2. Determinants of the Dividend Payout Ratio

Referring to Table 1, the regression result of Model 2 is inferred that 4 out of 5 independent variables have less than 0.05 probability value, implying a significant effect on the distributed earnings proportion. The first variable is the IOS which is highly related to the firm’s growth prospects. Yet, it unexpectedly signifies a positive coefficient sign instead of a negative, suggesting that an increase of IOS would lead to an increase in DPR as well. This regression outcome failed to support the residual theory. The theory suggests that investors are indifferent to which form of return they receive from a company—whether it be dividends or capital gains. Under this theory, the residual dividend policy does not affect the company’s market value since investors value dividends and capital gains equally. The residual theory suggested that dividends are paid as non-reinvested earnings after the fulfillment of investment necessities; in which IOS is supposed to adversely affect the DPR. Existing as a subsequent finding, this result consistently upholds several previously conducted research, such as Ardestani et al. (2013). Firms in this sector are steadily propped up by stable consumptions and auxiliary lucrative growth because rapid penetration of Internet commerce permits firms to outreach wider geographical areas (McKinsey & Company, 2015). This lucrative growth seems to come into force on dividend-paying firms’ profitability in this sector, demonstrated by the consistently rising sales and net profit mean during 2015–2018 as revealed in Table 2. Complementing this argument, as the IOS increase coupled with the earnings increase, firms would be more likely to increase the dividends. Considering high asymmetry information in emerging markets (including Indonesia), dividends are distributed more, following the higher IOS as to signal the high growth prospects of the firms.

Although capital structure (DER) resulted in an insignificant impact on a firm’s probability of paying dividends, it conversely shows a negative and statistically significant effect on dividend payout, expectedly in line with the theoretical premise; given that the relatively high long-term debt component of (dividend-paying) consumer goods firms reaches almost 25%.

Consistently inferring the same evidence of profitability and firm size conjecture as Model 1, Model 2 results in a positively and statistically significant impact of profitability and firm size on dividend payout ratio. It is due to the increase of cash flow available as the firm becomes more profitable, permitting them to declare higher dividend payments. Concerning the agency cost theory previously explained, presuming that firms are unwilling to raise costly external funding to reduce the agency problem, they will consequently adopt the dividend mechanism to shrink the agency problem of management’s dissipation following the greater amount of earnings generated. This finding is in line with the findings of Arko and Abor (2014). Similar to the firm size which is

<table>
<thead>
<tr>
<th>Year</th>
<th>Avrg. Net Revenue (IDR)</th>
<th>Avrg. Net Earnings (IDR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>17,888,721</td>
<td>1,839,000</td>
</tr>
<tr>
<td>2016</td>
<td>19,521,054</td>
<td>2,105,176</td>
</tr>
<tr>
<td>2017</td>
<td>20,673,997</td>
<td>2,230,113</td>
</tr>
<tr>
<td>2018</td>
<td>22,351,817</td>
<td>2,507,821</td>
</tr>
</tbody>
</table>
Among the five independent variables being tested, profitability (PROF) and firm size (SIZE) appear to influence firms’ effort positively and significantly in formulating their dividend policy. Despite no effect disclosed in Model 1, investment opportunity set (IOS) and capital structure (DER) do significantly influence the portion of earnings distributed as a cash dividend, as revealed in Model 2. Stock liquidity, however, had an insignificant effect on determining both the dividend-paying propensity as well as the dividend payout ratio of the firm.

A firm’s propensity to pay dividends is extremely affected by its profitability and firm size, and additionally IOS and capital structure on the dividend payout ratio. Firms possessing growing profitability in the long-term horizon are permitted to initiate dividends as it reflects the firm’s affordability in preserving its dividend payments. Similarly, as the net earnings increased, in ceteris paribus, cash flow available for dividend payments becomes larger, enabling firms to pay higher dividends. Besides that, lucrative growth of the consumer goods sector espouses firms’ ability under this sector to generate enormous amounts of net earnings which allow firms to pay out dividends regardless of how great the investment opportunities are.

5. Conclusion

Among the five independent variables being tested, profitability (PROF) and firm size (SIZE) appear to influence firms’ effort positively and significantly in formulating their dividend policy. Despite no effect disclosed in Model 1, investment opportunity set (IOS) and capital structure (DER) do significantly influence the portion of earnings distributed as a cash dividend, as revealed in Model 2. Stock liquidity, however, had an insignificant effect on determining both the dividend-paying propensity as well as the dividend payout ratio of the firm.

A firm’s propensity to pay dividends is extremely affected by its profitability and firm size, and additionally IOS and capital structure on the dividend payout ratio. Firms possessing growing profitability in the long-term horizon are permitted to initiate dividends as it reflects the firm’s affordability in preserving its dividend payments. Similarly, as the net earnings increased, in ceteris paribus, cash flow available for dividend payments becomes larger, enabling firms to pay higher dividends. Besides that, lucrative growth of the consumer goods sector espouses firms’ ability under this sector to generate enormous amounts of net earnings which allow firms to pay out dividends regardless of how great the investment opportunities are.

References


