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Assessing determinants of dividend policy of the government-owned companies in Indonesia

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Abstract

Purpose – The purpose of this study is to examine the influences of financial leverage, profitability, the growth of assets and institutional ownerships on the dividend payout of the Indonesian Government-owned companies.

Design/methodology/approach – Annual data from the period 2007 to 2013 of the 15 listed government-owned companies on the main board in the Indonesian Stock Exchange were analyzed using the multiple regressions.

Findings – Except for the growth of assets that has an insignificant effect on the dividend policy, the financial leverage and institutional ownerships were documented to have negative and significant influences on the dividend policy, while the profitability has a positive and significant effect on the dividend policy. These findings imply that the profitability, financial leverage and institutional ownership should be considered as the important factors by the Indonesian Government-owned companies in determining their dividend policy.

Originality/value – Originality in this paper is to establish a model of leverage, profitability, asset growth and institutional ownership of dividend payments of Indonesian Government-owned companies with a panel regression approach.

Keywords Profitability, Financial leverage, Asset growth, Dividend payout, Institutional ownership

Paper type Research paper

1. Introduction

As a developing country, the Indonesian Government needs huge funds to support her development. To accelerate economic development, the government has to generate revenue

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Corrigendum: It has come to the attention of the publisher that the article Basri, H. (2019), "Assessing determinants of dividend policy of the government-owned companies in Indonesia", published in *International Journal of Law and Management*, Vol. 61 Nos 5/6, listed an additional author. The online version has since been updated and the correct citation is now listed. The authors sincerely apologise for this.

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from various sources. One of the potential sources of funds could be from the dividend of the government-owned companies. Thus, for this purpose, the Indonesian Government and supported by her legislative officers has set the payout ratio for the government-owned companies in advance (Sunarsip, 2012). The pre-determined dividend payout is not only believed as the tools to secure state budget on one side but also could affect the ability of government-owned companies to grow on another side (Didu, 2007; Nahadi, 2008). In this context, the government imitative to formulate the appropriate dividend payout policy for government-owned companies plays a pivotal role in promoting the development of the country.

There have been many empirical studies investigated this issue in the developed countries such as Abbott (2001), who found that in general, the contracting policy that most closely follows prediction is dividend policy and specifically, firms that experienced an investment opportunity set expansion (contraction) generally reduced (increased) their dividend payout policy in the US companies. Meanwhile, Baker *et al.* (2005) found that the most important determinants of a firm's dividend policy are the level of current and expected future earnings, the stability of earnings, current degree of financial leverage and liquidity constraints in the Norway companies. Unfortunately, there have been few studies investigated the similar issue of the dividend policy of the government-owned companies in the emerging markets, including Indonesia.

In Indonesia, the studies on this issue have focused more on specific industries, particularly manufacturing and automotive companies. Unlike the dividend policy of those companies, limited studies have been done to empirically explore the dividend policy of the government-owned companies in Indonesia. Different companies, including the government-owned companies, might act differently in terms of setting dividend payout policy. Therefore, further research on different companies would provide comparable findings and vast empirical evidence on the dividend policy. In fact, these companies have been a backbone for developing national prosperity. Considering the importance of the dividend policy of the government-owned companies to the national economy, thus understanding and identifying the potential factors affecting the dividend policy of the companies is highly crucial. Thus, this study aims to empirically explore the determinants of the dividend policy of the government-owned companies in Indonesia. The findings of the study are expected to shed some light for policymakers in regulating the government-owned companies pertaining the dividend policy, and for investors in deciding their investment diversification. Originality in this paper is to establish a model of leverage, profitability, asset growth and institutional ownership of dividend payments of Indonesian Government-owned companies with panel regression approach.

2. Review of the selected previous studies

As the inception of the dividend irrelevance theory by Modigliani and Miller (1961), many studies have been conducted to explore the determinants of dividend policy all over the world. According to the theory, in a perfect market where there are no transaction costs, no taxes, no asymmetry information and no bankruptcy cost, the company's value is determined by its ability to earn the profit and minimize risk. Moreover, the value of the company is not depending on how the company finances its investments or pay dividends. In reality, however, the perfect market never exists. In fact, taxes and bankruptcy costs have significant influences on the price of the stock market.

Black (1976, p. 8) stated that "the harder we look at the dividends picture, the more it seems like a puzzle, with pieces that just do not fit together." It means that there is no single factor that can explain why companies pay or not to pay dividends (Brook *et al.*, 1998). Although dividend policy is one of the most important issues in finance, it still remained a

puzzle in corporate finance (Ooi, 2001). This shows that there have been so many controversies surrounding the dividend policy.

In their study, Juma'h and Pacheco (2008, p. 23) stated that "on average, companies that pay cash dividends are associated with companies of higher liquidity, higher profitability, larger sized and higher researching and developmental activities than those of companies that did not provide dividends." They also found that some companies that were in financial distress still paid dividends, while some companies with solid financial performances did not pay dividends. This indicated that the managerial and behavioral issues have been considered as the important factors determining the dividend policy.

Studies on the dividend policy have become an interesting topic, at least for two reasons. Firstly, the amount of money that is paid as dividends is one of the major financial decisions that a firm's management has to decide. Secondly, a comprehensive understanding of dividends is important for many other areas of financial economics. In particular, theories of asset pricing, capital structure, merger and acquisitions and capital budgeting all rely on views of how and why dividends are paid (Allen and Michaely, 1995). However, literature have identified several factors that might influence dividend policy i.e. financial leverage, profitability, asset growths and institutional ownerships (Abor and Bokpin, 2010).

According to the previous study, the first factor that influences dividend payout could be financial leverage. Financial leverage is the use of external funding sources to finance, its investment that is expected to lever additional profit to maximize shareholder's welfare (Sartono, 2010). The use of external funding sources will increase interest expense, and interns reduce the company's net profit. Meanwhile, it would also reduce the monitoring cost by the principal by the supervision of creditors (Jensen and Meckling, 1976). The reduction of net income because of the emergence of debt interest expense would ultimately reduce the number of dividends that can be paid to shareholders. On the other hand, the reduction in the monitoring cost by the principal would reduce the presumption that the agent will perform the placement of resources into unprofitable instruments, so the dividends are tools to reduce conflicts of interest become less relevant. In this case, the principal may accept a lower dividend payment. Ahmed and Javid (2008) found that financial leverage had a significant negative effect on cash dividends. Lily *et al.* (2011) found that financial leverage affected dividend payout negatively and significantly. Accordingly, it is argued that companies with higher risk and leverage would pay lower dividends to shareholders. Meanwhile, Mollah (2011) also found that financial leverage had a negative and significant relationship with dividend payout. Other findings also support that companies with higher financial leverage tend to set lower dividend policy (Higgins, 1972; Rozeff, 1982; Farinha, 2003; Zeng, 2003; Fenn and Liang, 2001; Nash, Netter and Poulson, 2003; Asif Rasool and Kamal, 2011).

The second factor that influences dividend payout could be profitability. Profitability is the ability to earn profits (Brigham, 2006). Profitability is considered as the primary indicator of the company's capacity to declare and pay dividends. Profitability provides a brief description of the comparison between the earnings and assets used in generating income. Profitability also can be a guide for investors whether to/not to invest in the companies. Abor and Bokpin (2010) explained that profitability is an important factor in influencing dividend payout. Profitability affected dividend payout positively and significantly. It means that profitable firms are more likely to have high dividend payments to shareholders. The same findings are also shown by Amidu and Abor (2006). They found that profitability has a significant positive effect on cash dividends significantly. It is understood that companies with a higher level of profitability will pay higher dividends. Other results also support that companies with higher profitability tend to set higher dividend policy (Baker *et al.*, 1985; Pruitt and Gitman, 1991; Renneboog and Trojanowski, 2008).

The third factor that influences dividend payout could be asset growth. Asset growth is the increase in total assets divided by total assets. The higher asset growth may come from retained earnings. By retaining profit higher, it means the portion of the profit, which is available for shareholder become smaller. Abor and Bokpin (2010) found that investment opportunities have a negative and significant effect on cash dividends. It could be inferred that firms with high growths are more likely to exhibit low dividend payout ratio. In other words, firms with high growths are more likely to pursue a low dividend payout ratio, as dividends and their growth represent potential uses of a firm's resources. Amidu and Abor (2006) found similar results. Their findings support the fact that growing firms require more funds to finance their growth, and therefore, would typically retain a higher portion of their earnings by paying lower dividends. Other findings also support that companies with higher asset growths tend to pursue a lower dividend policy (Gaver and Gaver, 1993; Rozeff, 1982; Lloyd *et al.*, 1985; Collins *et al.*, 1996; Abbott, 2001; Jones and Sharma, 2001; Aivazian and Booth, 2003).

Finally, the fourth factor that influences dividend payout could be institutional ownership. Institutional ownerships are the percentage of share owned by institutional investors (Mamduh, 2004). Institutional investors play an important role in decision to pay the dividend. The ownership and control structure of the firms affects their dividend payout decision. In companies with higher institutional ownership, stakeholders try to control the agency problem by controlling the decision to pay dividends. Maury and Pajuste (2002) explained that the motivation for the agency models of the dividend is if the firms pay smaller dividends, it will lead the management to invest the resources into unprofitable projects. However, with higher institutional ownership will encourage management to invest in profitable projects. Therefore, companies will be able to pay larger dividends. Ahmed and Javid (2008) found that institutional ownership has a positive and significant relationship to the cash dividend. The firms with higher institutional ownership tend to pay the dividend to reduce the cost associated with agency conflict. The same results were also found by Manos (2002), Al-Gharaibeh *et al.* (2013) and Ali-Shah (2009). It means that institutional investors expected larger dividend payments because of their big portion of investments (Figure 1).

Based on the above literature review, the following hypothesized relationships are predicted for each variable with respect to the dividend payout ratio:

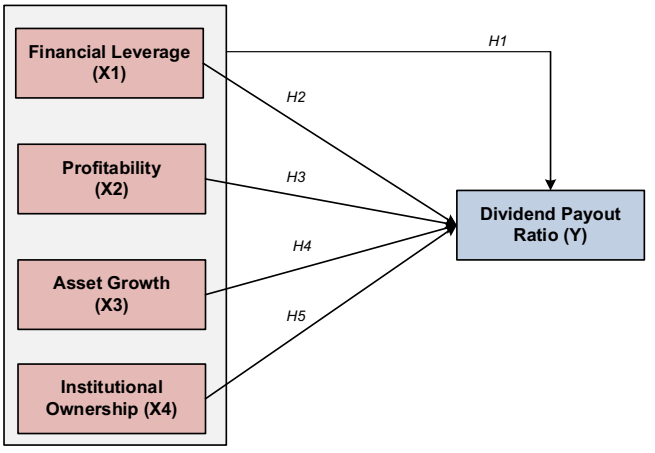

Figure 1.
Conceptual framework

H1. Financial leverage, profitability and asset growth has simultaneously positive significantly effect to dividend payout ratio.

H2. Financial leverage has partially positive significantly effect to dividend payout ratio.

H3. Profitability has partially positive significantly effect to dividend payout ratio.

H4. Asset growth has partially positive significantly effect to dividend payout ratio.

H5. Institutional ownership has partially positive significantly effect to dividend payout ratio.

3. Research method

This study is undertaken based on the quantitative approach and aimed at examining the determinants of the dividend policy of the government-owned companies in Indonesia. The data of the study consist of financial leverage, profitability, asset growths and institutional ownerships. Thus, the quantitative approach will be the appropriate model adopted for this study. In total, 15 Indonesian Government-owned listed companies in the Indonesian Stock Exchange were selected for the period of analysis from 2007 to 2016. Annual data were collected from the Indonesian Stock Exchange's database. In addition, the annual financial reports from the company's websites were also referred.

In this study, the dividend payout is treated as the dependent variable, which is calculated by the ratio of the dividend per share to earnings per share. Dividend payout gives useful information to the investors about the performance of the firms and how much of the investors would get the share of the dividend. Financial leverage, profitability, asset growths and institutional ownerships were treated as the independent variable in this study. As for financial leverage, this study calculates it by the ratio of the total debt to the total equity. These figures show the proportion of the debt as opposed to equity of the firms in financing their activities. Profitability is calculated by earnings before interest and taxes divided by total assets. Asset growths are measured by the changes in total assets divided by total assets. Finally, the institutional ownerships are measured by the percentage of shares owned by the institution.

To investigate the impacts of financial leverage, profitability, asset growths and institutional ownerships to the dividend payout of the government-owned companies in Indonesia, this study adopts the multiple regression models of the panel data, as follows:

$$Y_{it} = \alpha + \lambda X_{1it} + \beta X_{2it} + \gamma X_{3it} + \theta X_{4it} + e$$

Where Y is the dividend ratio, α is the constant term, λ, β, γ and θ are the estimated parameters for financial leverage (X_1), profitability (X_2), assets growths (X_3), institutional ownerships (X_4), e is the error term, i is the cross-section dimension for each company and t is the time-series component.

This research used panel data (a combination of 15 companies in 10 years (2007-2016), annual data). Panel data or longitudinal data typically refer to data containing time series observations of a number of individuals. Therefore, observations in panel data involve at least two dimensions; a cross-sectional dimension. In panel data where longitudinal observations exist for the same subject, fixed effects represent the subject-specific means. In panel data analysis, the term fixed effects estimator (also known as the within estimator) is used to refer to an estimator for the coefficients in the regression model including those fixed

effects (one time-invariant intercept for each subject). This research use fixed effect panel data models has a flexible model based on bootstrapping method for small sample size. Panel data model by fixed effect estimator, also much sensitive and flexible to violations, the assumption with small sample, compared with cross-sectional data (Solimun *et al.*, 2017). Fernandes *et al.* (2015) show that panel data (longitudinal data), by blending the inter-individual differences and intra-individual dynamics have several advantages over cross-sectional or time-series data: more accurate inference of model parameters.

4. Empirical results and discussion

4.1 Assumption of model

Before performing fixed effect panel data models, the study first examines the data appropriateness to be used in the model of analysis, i.e. the tests of multicollinearity, heteroscedasticity and normality. Table I provides the correlation coefficients for all the investigated variables. Multicollinearity exists if the correlation coefficients are smaller than −0.9 or larger than 0.9 (Gujarati, 2005). Overall, the magnitudes of the correlation coefficients of independent variables indicate that multicollinearity is not existed, as the value of correlation coefficients of less than 0.9, thus, these variables can be used for further analysis.

Furthermore, the results of the heteroscedasticity test of the variables are shown in Figure 2. The scatter plots show that there is no specific pattern of irregular-borne points above and below the *x*-axis and the *y*-axis. Therefore, it can be concluded that there are no symptoms of heteroscedasticity in the data. The normality assumption for this model used Kolmogorov–Smirnov model, with p-value = 0.911 > 0.05 indicates that the assumption of normality residual is fulfilled.

Variables	Financial leverage	Profitability	Asset's growth	Institutional ownership
Financial leverage (X_1)		−0.537	0.129	0.262
Profitability (X_2)	−0.537		0.209	0.139
Assets growth (X_3)	0.129	0.209		0.006
Institutional ownership (X_4)	0.262	0.139	0.006	

Table I.
Multicollinearity test

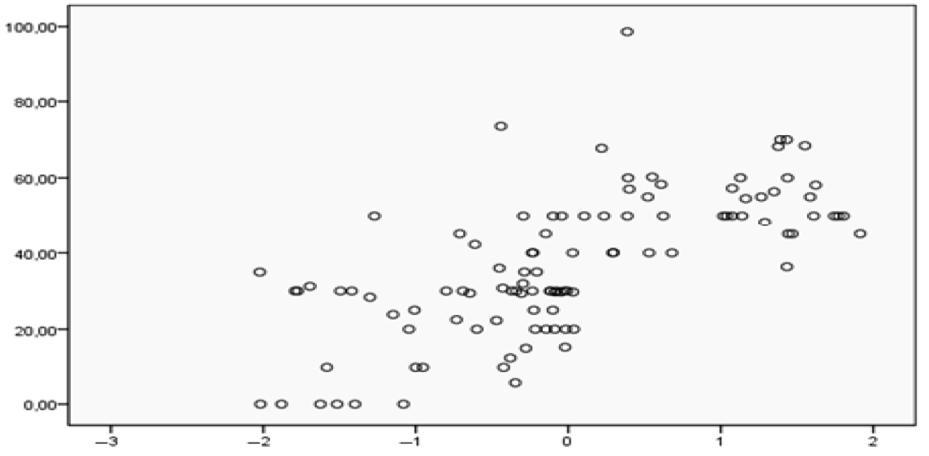

Figure 2.
Scatter plot

4.2 Fixed effect panel data model

The first part of analysis stage is the examination of the goodness of fit test. By using predictive relevance (R^2) is equal to 76.15 per cent. That is, the model can explain the dividend payout ratio phenomena at 76.15 per cent explained by financial leverage profitability, asset growth and institutional ownership, while the remaining 13.85 per cent is unexplained. Solimun *et al.* (2017) showed the $Q^2 > 75$ per cent, the model is in criteria of good fit, and suitable for further analysis.

The potential failure of the regression assumption also raises some doubts about the use of the Hausman test as a statistical tool for determining whether a fixed or random effect model is most appropriate (Wooldridge, 2002). This is because the test itself is based on the difference between the regression coefficients for equivalent fixed and random effects models (i.e. with the same covariates included in the model) under the null hypothesis that both models are correctly specified. If the test is significant, then the alternative hypothesis is often interpreted as evidence for the failure of the random effects assumption. In panel data analysis and other scenarios where the regression assumption can be taken to hold, it is reasonable to use this test to choose between the fixed or random effects approaches. However, if the regression assumption fails then a significant Hausman test result cannot be so easily interpreted; the alternative hypothesis confounds failure of the random effects assumption with all other aspects of model misspecification, and so cannot reliably be used to choose between approaches (Fielding, 2004). The Hausman test for this research shows that the *p*-value = 0.05, indicates that the fixed effect is better than random effect, and choose the fixed effect model for this research.

After ensuring all the variables are free from multicollinearity, heteroscedasticity and autocorrelation problem, the study then proceeds to test the impacts of financial leverage, profitability, asset growth and institutional ownership to the dividend policy using panel multiple regression. Table II provides the results of multiple regression analysis.

Standardize coefficient for each model as follow:

$$Y = 0.632\,X_1 + 0.472\,X_2 + 0.150\,X_3 + 0.653\,X_4$$

Based on Table II and Figure 3, it is clear that financial leverage has a negative and significant effect on the dividend ration at the level of significance of 5 per cent. Meanwhile, asset growths have no effect on the dividend ratio. Meanwhile, profitability and institutional ownership have positive and significant effects on the dividend ratio at the level of significance of 1 per cent. In addition, the study also found that the independent variables were able to explain 45.9 per cent variations in the dependent variable as shown by the value of the coefficient of determination of 0.459. Meanwhile, the remaining 54.1 per cent variations in the dependent variables were predicted by other independent variables, which

Table II.
Analysis result: multiple fixed effect panel data model

Hyp no.	Relationship	Standardize coefficient	Critical ratio	*p*-value
1	Financial leverage, profitability, asset growth and institutional ownership → dividend payout ratio			0.001
2	Financial leverage → dividend payout ratio	0.632	6.519	0.001
3	Profitability → dividend payout ratio	0.472	4.861	0.001
4	Asset growth → dividend payout ratio	0.150	1.546	0.122
5	Institutional ownership → dividend payout ratio	0.653	6.730	0.001

Note: $R^2 = 0.7615 = 76.15\%$

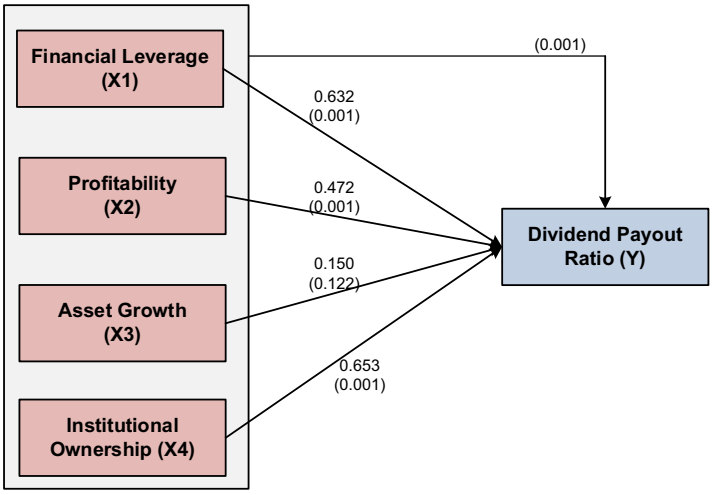

Figure 3.
Analysis result: multiple fixed effect panel data model

are not included in this study. These other variables may include debt management ratios, the share of prices and other macroeconomic variables.

Specifically, the financial leverage has a value of a regression coefficient of −0.012, indicating that if the financial leverage increased by one percent, it will reduce the value of cash dividend by 1.2 per cent, with the assumption that the other variables are constant. In other words, the higher financial leverage of the companies, the lower would be the cash payout ratio. The increases in financial leverage would lead to increase in the interest expenses incurred by the companies. By increasing the interest expense, the net income will be reduced, so that the portion of profit that can be distributed to the shareholders will also be lower. The results of this study support the hypothesis stated earlier that financial leverage has a negative effect on cash dividends. These results are also consistent with previous findings by Ardestani *et al.* (2013), Mollah (2011) and Lily *et al.* (2011). However, this result contradicted the findings by Abor and Bokpin (2010).

Profitability has an estimated regression coefficient of 0.685, meaning that if profitability increases by 1 per cent, it will increase the cash dividend by 68.5 per cent, with the assumption that the other variables are constant. In other words, the greater the profitability recorded by the companies, the higher the cash dividend paid to the investors. Increased profitability can occur because of an increase in revenue, which is greater than the burden of the companies so that corporate profit will increase. With increasing profits, the share of profits that can be distributed to the shareholders will also be greater. The results of this study support the hypothesis stated earlier that profitability has a positive effect on cash dividends. The results of this study reinforce the findings of previous studies by Abor and Bokpin (2010), Amidu and Abor (2006), Baker *et al.* (1985), Pruitt and Gitman (1991), Anil and Kapoor (2008) and Renneboog and Trojanowski (2008), but this finding in contrary with the finding by Ardestani *et al.* (2013), who found a negative relationship between profitability and dividends.

Furthermore, asset growth has no effect on the cash dividend paid to the shareholders. This indicates that the growth of the companies did not constitute a higher dividend payment to the investors. This finding does not support our earlier stated hypothesis. This could mean that asset growth is not an important determinant of the dividend behavior of

Indonesian Government-owned companies. In other words, it may suggest that dividend decisions are taken independently from companies' growth. Unexpectedly, the finding of this study contradicted the previous literature, which documented that the asset growths affected dividend payout in a negative and significant way (Abor and Bokpin, 2010; Samuel and Gbegi, 2010; Amidu and Abor, 2006). In addition, this finding also contradicts the finding by Ardestani *et al.* (2013) and Jensen (1986), who found a positive and significant relationship between profitability and dividends.

Finally, institutional ownerships has an estimated regression coefficient of 1.497, indicating that if institutional holdings increase by 1 per cent, it will increase the payment of cash dividends by 149.7 per cent, with the assumption that the other variables are constant. The result proves that if the companies record greater institutional ownership, the companies tend to set a higher cash dividend. This variable is found to be the most dominant factor in determining the dividend policy among the government-owned companies in Indonesia. This could be partly because of the institutional investors who are usually able to encourage management to invest in profitable investments by providing incentives to the majority shareholders to use their influence in maximizing the value of the companies. By placing resources on profitable investment instruments, the greater the profit, the companies could produce. Therefore, the portion of profits that can be distributed to the shareholders will also be greater. The results of this study support the hypothesis stated earlier that institutional ownership, i.e. institutional ownership has a positive effect on the cash dividends. These results are consistent with previous findings, such as by Ahmed and Javid (2008), Manos (2002) and Al-Gharaibeh *et al.* (2013), who found that the institutional ownership has a positive effect on the cash dividends. However, the result is contrary to the finding by Obradovich (2013), who found that institutional ownership negatively affects cash dividends.

5. Conclusions

This study aimed at empirically examining the effects of financial leverage, profitability, asset growth and institutional ownership on the cash dividend of the selected Indonesian Government-owned companies during the period 2007-2016. The results suggest that financial leverage, profitability, asset growth and institutional ownership influenced simultaneously the dividend policy. The results also indicate that profitability and institutional ownership have positively and significantly affected the cash dividends; meanwhile, the financial leverage has a negative effect on the cash dividend. The asset growth is the only variable found to have an insignificant effect on the dividend policy. As the dividend policy is known as an important element in finance, thus the management should decide dividend policy with a comprehensive consideration in designing the firms' business strategies covering both their decisions on finance and investment. In determining the dividend policy, the government-owned companies in Indonesia should take into consideration the financial leverage, profitability and institutional ownership as an important factor affecting it. A change in business environment may push the firm to change its dividend policy to maximize value for shareholders.

Similar to the previous studies on these issues, this study also has some limitations. The coefficient of determination multiple fixed effect panel data model obtained from financial leverage, profitability, asset growth and institutional ownership of the cash dividend of 45.9 per cent, suggesting that the next study should include more other variables in determining the dividend policy. The further study of this issue should also use a longer period of data and more companies on the model of analysis. In addition, further research should also consider including more independent variables that could affect cash dividend policy of the companies.

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