Investment opportunity set, dividend policy, company's performance, and firm's value: Some Indonesian firms evidence

Anggi Angga Resti, Budi Purwanto, Wita Juwita Ermawati

Department of Management Science, Faculty of Economic and Management
IPB Graduate School, IPB University
Kampus IPB Dramaga, Jl. Raya Dramaga, Bogor, 16680, Indonesia

Abstract

The availability of investment opportunity set at state-owned companies and the dividend policy taken by state-owned company management should be signals in the company's efforts to improve performance. Therefore, both the Investment Opportunity Set (IOS) and dividend policy can be factors driving corporate performance. Thus, state owned-companies can further enhance firm value. We examined the effect of the IOS and dividend policy on company performance and firm value. The sample used in this study was the state-owned company listed at the Indonesia Stock Exchange and observed for 5 years, from 2013 to 2017. Data were collected using a purposive sampling method. This study had 13 sample companies that were processed using the panel data regression method. We found the first result revealed that dividend policy had a positive effect on company performance, which had a positive effect on firm value. Besides, the IOS was observed to have a positive impact on firm value. The second result showed that the IOS did not affect the company's performance, and dividend policy did not influence the firm's value. Thus, those results proved that the company's performance could provide a signal to the firm's value.

Abstrak

Pilihan kesempatan investasi yang tersedia pada perusahaan BUMN dan kebijakan dividen yang diambil oleh manajemen perusahaan BUMN seharusnya dapat menjadi sinyal dalam upaya perusahaan untuk dapat peningkatan kinerja perusahaan, Oleh karena itu Investment Opportunity Set (IOS) dan kebijakan dividen dapat menjadi faktor pendorong kinerja perusahaan, sehingga perusahaan BUMN dapat lebih meningkatkan nilai perusahaan. Kami menguji pengaruh Investment Opportunity Set (IOS) dan kebijakan dividen terhadap kinerja perusahaan dan nilai perusahaan. Sample yang digunakan dalam penelitian ini adalah perusahaan BUMN yang terdaftar di Bursa Efek Indonesia selama 5 tahun periode observasi dari 2013 sampai dengan 2017. Data dikumpulkan menggunakan metode purposive sampling. Penelitian ini memilki 13 perusahaan sampel yang diolah dengan menggunakan metode regresi data panel. Kami menemukan hasil pertama bahwa kebijakan dividen berpengaruh positif terhadap kinerja perusahaan, kinerja perusahaan berpengaruh positif terhadap nilai perusahaan dan IOS berpengaruh positif terhadap nilai perusahaan. Hasil kedua bahwa IOS tidak berpengaruh terhadap kinerja perusahaan dan kebijakan dividen tidak berpengaruh terhadap nilai perusahaan dan hasil ini terbukti bahwa kinerja perusahaan dapat memberikan sinyal terhadap nilai perusahaan.

✉Corresponding Author:
Anggi Angga Resti:
Tel. +62 251 862 2642
E-mail: anggianggaresti@gmail.com

1. Introduction

The primary purpose of the company go public is to increase the prosperity of shareholders or owners through the increment of the firm value. The firm value is essential because it reflects the company's performance, which can affect investors' assessment of the company (Meythi, 2013). A company is said to have good value if its performance is also excellent. Financial performance is seen through financial ratios where the level of success of the company's management in managing the company's assets and capital to maximize the firm value. The higher the financial performance, the greater the firm value (Sudiyatno, Puspitasari, & Kartika, 2012). The company's performance is also influenced by managerial aspects such as dividend policy, namely financial decisions made by the company after the company has carried out activities and made profits. It is also influenced by funding decisions as decisions made by financial managers relate to how the investment financing steps will be taken by the company (Aminati & Widyawati, 2016).

In state-owned companies, the amount of dividends is determined at the General Meeting of Shareholders (RUPS) and the government as the largest shareholder determines the number of dividends to be paid (Purba, Suzan, & Mahardika, 2017). The dividend policy if linked to value is a dividend policy of paying dividends to shareholders, causing the firm value to increase which will improve the shareholders' prosperity (Alamsyah & Muchlas, 2018). However, the development of the average dividend income reflected in the dividend payout ratio (DPR) during the 2013-2017 period fluctuated in reality. There were only 13 publicly listed state-owned companies that distributed dividends successively in the 2014-2017 period. In 2014, the average development rate was 0.29%, then 0.27% 2015, and 0.33% and 0.37% in 2016 and 2017 respectively.

Investment decisions in the capital market are inseparable from assessments in determining company performance. Financial performance is a way of determining investment decisions in the capital market (Wijaya, 2017). If the company can make the right investment decisions, the company's assets will produce an optimal performance to provide a positive signal for investors which will increase both share prices and firm value (Prasetyo, 2011).

According to Modigliani & Miller (1961), the signaling theory based on which an increase in dividends is more significant than expected represents a "signal" to investors that company management estimates future earnings. Meanwhile, a decrease in dividends indicates low or bad earnings estimates.

Modigliani & Miller (MM) emphasized that investors' reaction to changes in dividend distribution did not indicate that investors preferred dividends over retained earnings. Moreover, changes in stock prices only indicated that important information was contained in dividend announcements.

The company will give a positive signal to investors so that investors can give a positive response to companies that have high IOS and promise higher returns in the future. Investor confidence in companies, accompanied by investment decisions, causes an increase in demand for company shares. Investment opportunities provide a positive signal on the company's growth in the future. This aspect will increase share prices as an indicator of firm value.

Based on the description of this phenomenon, researchers want to re-examine and find empirical evidence of the influence of IOS and dividend policy on company performance and the firm value of state-owned company go public and listed on the Indonesia Stock Exchange in 2013-3017. Research on IOS and dividend policy on company performance and value is still an interesting topic to be examined as there is no research consistency.

The present research relates to IOS, dividend policy, company performance, and firm value. In research conducted by Rizqia, Aisjah, & Sumiati (2013), the IOS and dividend policy affected the firm value each. Further research conducted by Rini,

Sutrisno, & Nurkholis (2017) and Davies, Hillier, & Mc Colgan (2002) revealed that IOS had a positive effect on firm value. Meanwhile, research by Prameswari & Suprihadi (2017) showed that IOS had no significant effect on firm value.

Research conducted by Artini & Puspaningsih's (2011) research proved that dividend policy affected the firm value. Also, increasing dividend payments was a positive signal that proving that the company's prospects are getting better, so investors will be interested in buying shares and the firm's value will increase. Meanwhile, the research by Yuliani, Isnurhadi, & Bakar (2013) showed that dividend decisions did not contribute to an increase in firm value. The results of Astuti & Efni (2015) indicated that dividend policy had a significant direct effect on firm value.

Research on IOS and dividend policy on company performance was carried out by Pratiska (2013). The results showed that IOS and dividend policy did not significantly influence company performance. Meanwhile, Arumsari, Djumahir & Aisjah (2014) indicated that dividend policy influenced financial performance. Research by Safitri & Wahyuati (2015) revealed that IOS had a positive and significant effect on profitability.

Research on the effect of company performance on firm value conducted by Carningsih (2012) indicated that company performance harmed the firm value. Meanwhile, Marsha & Murtaqi (2017) and Luthfiah & Suherman (2018) showed that company performance had a significant positive effect on firm value.

This study aims to analyze the effect of IOS and dividend policy on company performance and firm value in state-owned company go public. This research is expected to provide useful information for investors in making decisions to invest in the stock market by looking at the company's performance reflected in IOS and dividend policy. It is also expected to be used as input and empirical evidence regarding the effect of IOS and dividend policy on company performance and firm value on publicly-listed state-owned companies. This research can be used as reference material for further researches.

2. Hypotheses Development

In the government's effort to improve company performance and the firm value of state-owned companies, the government has programmed projects to be carried out by those companies. Investment decisions in the capital market are inseparable from the company's performance appraisal. One way to determine investment decisions in the capital market is financial performance as investors, in general, will choose companies with excellent financial performance. Good company's financial performance is expected to increase share prices in the capital market (Wijaya, 2017). Implementing policies by reducing the dividend payments of state-owned companies to the state, dividends are considered as a rate of return on investment distributed by companies which will provide right signals and information for investors so that they can trust and continue to invest in the company.

According Marinda, Dzulkirom, & Saifi (2014), IOS is an investment decision in the form of a combination of assets owned by the company and future investment choices that will positively affect company performance. High IOS will affect the rate of profit. Investment choice is a developing opportunity in the company. Thus, the present research proposes the following hypothesis:

H_1: Investment Opportunity Set (IOS) positively affects the company performance

According to Modigliani & Miller (1961) in the signaling hypothesis theory, a decrease in dividends will generally cause share prices to decline, and vice versa. Increases in dividends are often followed by a rise in stock prices that have increased. So, dividend distribution can be a signal from companies about future earnings (Aminati & Widyawati, 2016).

Relating to the signal theory, if the company's policy of not paying dividends adversely affects the company's performance, leading to bad performance compared to companies that make dividend payments (Sukendro & Pujiharjanto, 2012).

According to Khan et al. (2016), when a company pays a dividend, it will affect the retained earnings, which will reduce the company's internal profit as well as research. According to Sudiyatno, Puspitasari, & Kartika (2012), the incentives provided by company manager aim to make the company's management operate to its full potential, which in turn will benefit the owner. Thus, the following hypothesis can be assumed:

H_2: dividend policy has a positive effect on company performance

Managers will formulate investment decisions that can generate positive net present value to optimize firm value (Modigliani & Miller, 1961). Research conducted by Suartawan & Yasa (2016) on Signaling Theory stated that investors would receive positive signals from companies that have high IOS values   because they are considered to have good growth prospects in the future.

According to Rizqia, Aisjah, & Sumiati (2013), increasing and decreasing investment opportunities can change the firm value. Thus, it is vital to determine the management of the company in the future because it can increase or decrease the firm value, which will affect investor interest. According to Rini, Sutrisno, & Nurkholis (2017), investment decisions are important factors in adding value to shareholders. The market positively values companies that have high investments in the hope of future growth. Based on those descriptions, a hypothesis can be formulated as follows:

H_3: Investment Opportunity Set (IOS) has a positive effect on firm value

Dividend policy concerns decisions regarding the use of profits representing the rights of share-holders. The amount of dividends distributed has an impact on the high value of the company according to information signaling stating that investors consider that changes in dividends are a signal about the prospects of the company's cash flow in the future. Thus, increasing the dividend will increase the firm value (Alamsyah & Muchlas, 2018).

Afza & Tahir (2012) showed that investors are willing to pay great companies that pay significant dividends to their shareholders. According to Rizqia, Aisjah, & Sumiati (2013), an increase or decrease in dividend policy can change the firm value, increasing or decreasing the firm value will affect investor interest to determine the management of the company in the future. According to Handriani & Robiyanto (2018), investors still expect dividends from companies, so it is better for the management of the company to regularly distribute dividends as a form of the company commitment to shareholders. From this statement, a hypothesis can be formulated as follows:

H_4: dividend policy has a positive effect on firm value

The company's performance is a signal for investors to decide whether the investment will be made or not. Excellent company performance will attract investors to invest in the capital market by buying company shares. The higher the company's performance, the more investors it will attract to buy company shares, resulting in a rise in the company's stock price. The stock price is an illustration of the firm value, so the rise in the company's stock price increases the firm value (Wibowo, 2012).

According to Luthfiah & Suherman (2018), the firm value will increase in line with the increase in financial performance. Sudiyatno, Puspitasari, & Kartika (2012) stated that company performance is considered a positive signal by market participants as a sign of return on investment. Thus, the hypothesis can be formulated as follows:

H_5: company performance has a positive effect on its firm value

3. Method, Data, and Analysis

The present research used a quantitative method with secondary data collected using literature study and observation. The data came from the company's financial statements. The samples used were registered in the Indonesia Capital Market Directory (ICMD), the Indonesia Stock Exchange (IDX) or on the company's website. This study will use population data of 20 state-owned companies go public and listed in the Indonesian Stock Exchange (IDX). Meanwhile, the sample used was 13 companies. The sampling technique was a purposive sampling method, while the sample criteria were as follow: (1) state-owned companies listed in the Indonesia Stock Exchange. (2) Companies with complete financial statements related to the research variables. (3) State-owned companies that distributed dividends in 2013-2017.

The panel data regression equation model in this study is a combination of data from the times series data and the cross-section. There are two structural models, as follows:

Model One:
$$ROA_{it}=C+b_1 MVBVA_{it}+b_2 DPR_{it}+e_{it} \qquad (1)$$

Model Two:
$$PBV_{it}=C+b_1 MVBVA_t+b2DPR_{it}+b_3 ROA_{it}+e_{it} \qquad (2)$$

Where: ROA: Return on Assets; PBV: Price to Book Value; MVBVA: Market to Book Value of Assets; DPR: Dividend Payout Ratio; C: Constant; b: the regression coefficient of the independent variables; e: error term; i: cross-section data; t: time series data

IOS proxies are used based on prices to measure the company's growth prospects based on the number of assets used in carrying out business. This proxy is a material for investors to consider in evaluating the company's condition. The higher the MVBVA, the greater the assets used by the company in its business, the more likely the stock price will increase along with stock returns (Grace 2009). The MVBVA formula is as follows:

$$MVBA = \frac{Asset-Equity+(Outstanding\ shares \times Closing\ price)}{Total\ Assets} \times 100\% \qquad (3)$$

Dividend policy is a decision taken by company management to share cash dividends by looking at the amount of retained earnings and the company's cash availability. Dividend policy is proxied by the Dividend Payout Ratio (DPR) (Yendrawati & Adhianza 2013). The DPR is a proxy for measuring company policy to pay dividend payout to the firm value (Brigham & Joel 2011). The formula is as follows:

$$DPR = \frac{Dividend\ Per\ Share}{Earnings\ Per\ Share} \times 100\% \qquad (4)$$

This proxy is used to measure the effectiveness of the total use of resources by the company. Overall, it represents the ability to generating profits with the total amount of assets available in the company. The higher the ratio, the better the condition of a company (Marinda, Dzulkirom, & Saifi). The formula is as follows:

$$ROA = \frac{Net\ Profit}{Total\ Assets} \times 100\% \qquad (5)$$

Firm value is defined as a market value because it can make maximum shareholder welfare if the price of a company's shares continues to increase. The proxy used is Price to Book Value (Nurcahyani & Suardika 2017). The formula is as follows:

$$PBV = \frac{Market\ Price\ Per\ Share}{Book\ Value\ Per\ Share} \qquad (6)$$

4. Result

After the data from various sources were collected, they were then processed using data analysis panel (regression analysis) from state-owned

companies' gone public and listed on the Indonesia Stock Exchange in the 2013-2017 period. The data were then processed using the eviews 8 software program.

Descriptive Statistical Analysis

Before analyzing panel data, it is necessary to look at descriptive statistics. Descriptive statistical analysis can be seen in Table 1.

Table 1. It focuses on IOS, dividend policy, financial performance, and firm value as follows: Table 1 showed the descriptive statistical output of research variables from 2013 to 2018 using E-views 8. Within 5 years, the IOS variable had the highest maximum value of 35.950 and the smallest minimum value of -1.280 with a mean value of 2.015, the median value of 0,870000 and a standard deviation of 5.757. Those digits were obtained through the values of 65 observations from 13 samples multiplied by the study of 5 years.

Tabel 1. Descriptive Statistics

	Firm Value	*IOS*	*Dividend Policy*	*Company Performance*
Mean	2.490	2.015	0.328	0.058
Median	2.060	0.870	0.300	0.040
Maximum	6.840	35.950	0.750	0.210
Minimum	0.700	-1.280	0.130	0.010
Std. Dev.	1.315	5.757	0.141	0.052
Observations	65	65	65	65

Tabel 2. Result of the IOS and dividend policy on the company's performance with FEM Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.039	0.006	6.655	0.000
DPR?	0.058	0.018	3.200	0.002
MVBVA?	-0.000	0.000	-1.579	0.1205
Fixed Effects (Cross)				
_AK--C	-0.025			
_BA--C	0.081			
_BNI--C	-0.035			
_BRI--C	-0.030			
_BTN--C	-0.041			
_JM--C	-0.020			
_KF--C	0.020			
_MANDIRI--C	-0.040			
_SIG--C	0.058			
_TELKOM--C	0.076			
_TIMAH--C	-0.014			
_WASKITA--C	-0.017			
_WK--C	-0.010			
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.975	Mean dependent var		0.096
Adjusted R-squared	0.968	S.D. dependent var		0.095
S.E. of regression	0.018	Sum squared resid		0.016
F-statistic	140.692	Durbin-Watson stat		1.918
Prob.(F-statistic)	0.000			

Panel data model selection

According to Nachrowi & Usman (2006), there are several techniques to estimate the model parameters with panel data, namely Common Effect Model or Pooled Least Square (PLS), fixed effect method (fixed effect) and random effect method (random effect).

Structure of equation I
Estimations with the Fixed Effect Model (FEM)

Discussing the IOS and dividend policy on company performance, the results can be seen in Table 2.

Based on Table 2, the R-squared had a value of 0.975 meaning that 97.5% of company performance can be explained by IOS and dividend policy, while the remaining 2.48% is explained by other variables not included in the model. Using the FEM Model, the result of dividend policy had a p-value = 0.0024 < 0.05 thus Ho was rejected, meaning that dividend policy had a significant effect on company performance. IOS had no significant effect on company performance because IOS had a p-value of 0.1205 > 0.05, accepting Ho.

Chow test

Based on the results of the chow test, the probability value was 0.000 because of the probability value <0.05. Thus, Ho is rejected, and the alternative hypothesis is accepted. The fixed effect model is then chosen.

Estimations with Random Effect Model (REM)

Estimations with REM, the R-squared of 0.4059 or 40.59% of the company's performance variable can be explained by IOS and dividend policy. Meanwhile, the remaining 59.41% is explained by other variables outside the research model. If tested using the REM model, the IOS variable and the dividend policy had significant effects on company performance because the p-value was 0.000101 <0.05.

Hausman test

The results revealed a probability value of 0.0332 <0.05, rejecting the Ho hypothesis. The alternative hypothesis is accepted, and the fixed effect model was chosen. The conclusion of the model selection was based on two chow tests and the Hausman test. It can be concluded that the fixed effect model is good at interpreting panel regression data.

Structure of equation II
Estimation with Fixed Effect Model (FEM)

Discussing the IOS variables and dividend policy on company performance and firm value. The results of the R-squared was 0.8448, meaning that 84.48% of the firm's value can be explained by IOS and dividend policy and company performance, while the remaining 15.52% is explained by other variables not included in the model. Using the FEM model, the IOS results had a p-value of 0.0002 <0.05. H_0 was then rejected, meaning that IOS had a significant influence on firm value. Dividend policy did not significantly influence the company's performance because the dividend policy had a p-value of 0.4210> 0.05, validating Ho. Meanwhile, the company's performance variable had a p-value of 0.0000 <0.05, signifying that Ho is rejected, which means that the company's performance had a significant influence on the firm's value.

Chow test

The results of the chow test showed that the probability value was 0.0676> 0.05, accepting Ho. The alternative hypothesis was rejected, then the standard effect model was chosen.

Estimation with Common Effect Model

Table 3 showed that the R-squared value was 0.4541, meaning that 45.41% of the firm's value variable can be explained by IOS, dividend policy, and company performance, while other variables outside the model explain the remaining 54.59%. The results with the Common Effect Model test showed that the company's performance p-value was 0.000 < 0.05 thus, Ho was rejected, meaning that the company's performance had a significant influence on firm value. Meanwhile, the dividend policy had a p-value of 0.7567> 0.05, accepting Ho and meaning that dividend policy did not significantly influence the firm's value. For the IOS the results, the p-value was 0.0041 <0.05, rejecting Ho, meaning that IOS had a significant influence on firm value.

Lagrange Multiplier Test

The output showed that the Breusch-Pagan (BP) probability value was 0.0835. The BP probability was 0.0835 > 0.05, accepting Ho and the alternative hypothesis was rejected, and meaning that the common effect model is suitable.

4. Discussion

The effect of IOS on company performance

The IOS did not have a significant effect on company performance. These results were not following previous studies conducted by Safitri & Wahyuati (2015) and Pratiwi (2016). The results of those researches showed that IOS influenced company performance. However, the results of the study are following the research findings of Marinda, Dzulkirom, & Saifi (2014) and Pratiska (2013) stating that capital owned by the company can be used as reinvestment so that capital for operations is reduced, resulting in a reduced ability of the company to obtain insignificant profits. Reinvestment does not improve company performance when an investment is made, but rather, an increase in investment will be obtained in the future. Thus, the current high and low IOS had negative and but not significant effect on company performance soon.

The effect of dividend policy on company performance

The dividend policy had a significant effect on company performance. The dividend policy can improve company performance. These results are consistent with research conducted by Khan et al. (2016) stating that when companies pay dividends, it will affect the retained earnings, which will reduce the company's internal profit. Sukendro & Pujiharjanto (2012) mentioned that dividend policy indicates that the company's policy to continue paying dividends can still increase company performance.

Tabel 3. Result of the IOS, dividend policy on the company's performance and firm value with Common Effect Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.929	0.273	7.058	0.000
ROA?	10.507	2.116	4.963	0.000
DPR?	-0.263	0.846	-0.311	0.756
MVBVA?	-0.047	0.015	-2.986	0.004
R-squared	0.454	Mean dependent var		3.522
Adjusted R-squared	0.427	S.D. dependent var		2.220
S.E. of regression	1.127	Sum squared resid		77.580
F-statistic	16.912	Durbin-Watson stat		1.651
Prob(F-statistic)	0.000			

The effect of IOS on firm value

The results of the third hypothesis had a p-value of 0.0041 $<\alpha$ = 0.05, indicating that IOS had a significant influence on firm value. This result was not consistent with the research by Suharli (2007) show that IOS had no significant effect on firm value. However, the results of the study were under research conducted by Rini, Sutrisno, & Nurkholis (2017), Yuliani & Muizuddin (2014) and Davies et al. (2002). The IOS had a positive direction towards the firm value, meaning that increasing the firm's value growth will cause an increase in the firm value. The prospects for the company's growth and investment of state-owned companies had increased so that it can be responded by the market, which results in an opportunity for rising stock prices.

Effect of dividend policy on firm value

Dividend policy had no significant effect on the firm value. These results were not under the research of Handriani & Robiyanto (2018) and Afza & Tahir (2012), where the dividend policy did not influence firm value. These results were consistent with the research of Astuti & Efni (2015), Asmawati & Amanah (2013) stating that dividend policy had not been proven to have a significant effect on firm value, meaning that low or high dividend payments do not affect firm value. The high dividend payments do not always reflect good firm value.

Effect of company performance on firm value

The results of testing the fifth hypothesis showed that the company performance had a significant influence on the firm value, which can be seen at p-value = 0.000 $<\alpha$ = 0.05. So, it can be said that the higher the company's performance, the higher the firm's value. According to the research of Sudiyatno, Puspitasari, & Kartika (2012), Wibowo (2012) and Luthfiah & Suherman (2018), the results

provided understanding to the management. If the company's performance rises, it will cause an increase in company revenue so that company profits will also increase. The increase in corporate profits is a positive signal for investors. So, it is expected that share prices will rise.

5. Conclusions, Limitations and Suggestions

Conclusion

The results showed that the dividend policy variable had a positive effect on company performance, which had a positive effect on firm value. The researcher concluded that the dividend policy set out in the company's RUPS gave a good signal to the company's performance improvement. Investors responded to good corporate performance as a signal enabling them to invest in the company by increasing the value of the company in the stock market. The IOS variable had a positive effect on firm value. The research concluded that government projects carried out by state-owned companies had given a good signal for investors to continue investing in the company. Meanwhile, the IOS variable on company performance did not affect the company's performance. The authors suspected that an increase in reinvestment would be obtained in the future because the current capital is used for operational costs of company projects. The dividend policy variable did not affect the firm's value. The author suspected that a high or low dividend change does not always signal good firm value.

Limitation and suggestions

Based on the results and discussion above, there are few recommendations for practitioners and academics who will take advantage of this research. The management of state-owned companies can better utilize the investment opportunities that exist in the company and consider dividend policies appropriately in order to improve company perfor-

mance and firm value. For investors or prospective investors who will invest in the stock market in a state-owned company, they can first pay attention to the firm value. Further researchers can focus other sectors not only limited to state-owned companies go public with more extended sample period.

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