Management Analysis Journal

Management Analysis Journal

http://maj.unnes.ac.id

Investment Opportunity Set and Dividend Policy: An Evidence in Indonesia Manufacturing Sector

Anna Zulfatul Ifadah ✉, **Rini Setyo Witiastuti**

Management Department, Faculty of Economics, Universitas Negeri Semarang, Indonesia

Article Information

Article History:
Received January 2021
Approved June 2021
Published June 2021

Keywords:
Investment Opportunity Set, Dividend Policy

Abstract

This study aims to examine whether the investment opportunity set affects the dividend policy of manufacturing companies in Indonesia. The study population is manufacturing companies listed on the IDX during the 2009-2018 period.. The sampling technique was carried out using a purposive sampling method and obtained 140 samples. Data analysis in this study used descriptive analysis, the best panel data estimation model test, and linear regression analysis. The results of the model test show that the best panel data estimation model is the random effect. Hypothesis test results show that the investment opportunity set has a significant negative effect on dividends for manufacturing companies, when the investment opportunity set for the company are greater, the dividends distributed are smaller.

INTRODUCTION

Investment is an activity that is exposed to various kinds of risks and uncertainties that are often difficult to predict by investors. The main objective of investors placing their funds into the company is to get a return on the investment that has been established, either in the form of dividend income or income from the profit from the selling price of shares against the purchase price or capital gain (Dewi, 2016). Investment is simply defined as investing a number of funds at this time with the hope of obtaining profits in the future (Yendrawati & Pratiwi, 2014).

Investors certainly want a higher rate of return. Therefore, dividends are one of the considerations for them to invest in a company to get a return (Halim, 2013). In general, investors invest in stocks in the long term with the intention of obtaining dividends (Khoiruddin & Faizati, 2014). The distribution of dividends is mostly influenced by the behavior of investors who generally prefer high dividend distribution resulting in low retained earnings (Sari, 2015).

Dividend policy is a decision to determine how much part of the company's income will be given to shareholders that are reinvested or retained in the company (Anita & Yulianto, 2016). Dividend stability policy has its appeal in being able to maintain stock market prices at the best conditions. The consideration of this best condition is an effort by the management to improve the welfare of shareholders (Sari, 2016). The profits that will be obtained by shareholders will determine their welfare which is the main objective of the company. The determination of the dividend policy will have an impact on the level of investors' trust in the company (Erfiana & Ardiansari, 2016).

Agustina and Ardiansari (2015) stated that dividend payment is important because it provides certainty about the company's financial position and the dividend policy implemented by the company will raise investors' perceptions of the company. According to Brigham and Houston (2018), dividend policies have different sizes and cannot be used by all companies. A higher dividend percentage reduces the availability of

✉ Correspondence Address:
L2 Building, 1st Floor, Faculty of Economics, Universitas Negeri Semarang
Jalan Taman Siswa, Sekaran, Gunungpati, Semarang, 50229
E-mail: annazulfatulifadah@gmail.com

e-ISSN 2502-1451

funds. When companies need external funding (equity) and have debt, they tend to increase dividend payments to attract investors (Martono, et al., 2020).

Riyanto (2012) stated that in making dividend distribution decisions, companies must consider the survival and growth of the company. Profits should not be distributed as dividends entirely, but some must be set aside to be reinvested, as there are companies that do not want high dividend payments (Yulianto, et al., 2014). Retained earnings are part of the company's net income that is retained by the company and is not paid out as dividends to shareholders (Tastaftiani & Khoirudin, 2015).

Dividend policy is closely related to an investment; companies with high investment tend to result in a low dividend policy. Dividends and investment are opposites in the use of the company's potential cash resources, for those companies need to pay attention to the proportion of company funds used for investment (Smith & Watts, 1992). Harun (2018) stated that dividend policy for companies that have gone public is an important matter to be considered and studied further. The importance of dividends has been substantively proven in the dynamics of the stock market. Companies that consistently increase dividend payments show a clear indication that they are stable and profitable, so they are less likely to be threatened by market uncertainty and economic downturns.

The company's ability to generate profits will make management more likely to make new investments rather than making dividend payments for shareholders (Utama & Gayatri, 2018). In determining the dividend policy, the financial manager must consider how far the need for internal sources of financing is needed to finance operations and must consider the risks and results that will be obtained when deciding not to distribute dividends (Hasnawati, 2017).

Investment opportunity set (IOS) is an alternative for companies to take advantage of their net income. Companies can use profits for reinvestment or be distributed in the form of dividends (Aristantia & Putra, 2015). In general, IOS describes the extent of investment opportunities or opportunities for a company, but it really depends on the company's financing options for future interests (Sumarni, et al., 2014). The greater the investment opportunity, the bigger the additional funds from the profit so that the dividend will be smaller (Cahyaningdah & Ressany, 2012). The greater the company's investment, the higher the company reduces the dividend distribution (Abiprayu & Wiratama, 2016).

Investment options are an opportunity to develop, but often companies are not always able to carry out all investment opportunities in the future (Alamsyah, et al., 2018). The residual dividend theory assumes that if there are remaining internal funds after investment, dividend payments will be made to investors. However, if all internal capital is required to finance the proposed portion of investment capital, the company does not need to pay dividends (Keown, et al., 2000). Dividends paid to shareholders are residual from funding after investment, so funding for dividend policy is closely related to the investment set by the company (Novita & Yulianto, 2017).

In the Indonesia Stock Exchange (IDX) in 2018, there were 11 types of indexes, one of which was the sectoral index. As reported from the website *www.idx.co.id,* companies listed in the sectoral index are divided into several sectors, including the manufacturing, financial, mining, agriculture, property, real estate & construction sector, trade, services & investment, infrastructure, utilities & transportation sectors. About 30 percent of the companies listed on the Indonesia Stock Exchange are in the manufacturing sector. That sector is the largest one compared to others in the IDX. There is an industrial sub-sector in the manufacturing sector that almost dominates the capital market, so it can make it easier to see the effects of the capital market as a whole (Simanjutak, 2011).

The development of manufacturing companies from year to year can be seen from the company's financial performance and prospects in the future. For manufacturing companies listed on the Indonesia Stock Exchange (IDX), dividend policy is very important (Deni, et al., 2016). The export value of manufactured products continues to increase every year, reported on the website www.kemenperin.go.id. Until December 2018, it was able to penetrate USD 130.74 billion or gained an increase of 4.51 percent compared to 2017 achievement of USD 125.10 billion. In 2016, it was around USD 110.50 billion and it was USD 108.60 billion in 2015. The manufacturing industry is an industry that is very attractive to investors to invest their funds, as the manufacturing industry is a mainstay sector for national development continuing to experience significant development for years.

Researchers took the population of manufacturing companies because the investment used in the fixed assets of manufacturing companies is high, so it will have an impact on the dividends

to be distributed. Manufacturing companies need the availability of large assets in place to be able to produce a better production process, so investment opportunities will be greater to produce a positive net present value. The following is data on dividends and investment in manufacturing companies for 2009-2018.

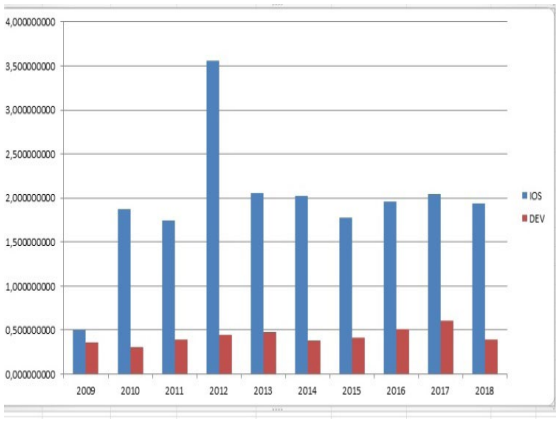

Figure 1. The Average of Investment and Dividends of Manufacturing Companies Listed on the Indonesia Stock Exchange 2009-2018

Dividends in Figure 1 still fluctuate in 2009-2018, while shareholders prefer a stable dividend distribution (Odawo & Ntioti, 2015). Figure 1 shows a gap between IOS and dividends which had a positive relationship in 2012. Dividends have increased. This is also comparable to IOS against dividends in 2016 and 2017 which also increased. Figure 1 also shows that in 2014 dividends decreased as well as IOS decreased in 2014, and this also happened again in 2018 where dividends and IOS also decreased. Meanwhile, according to the residual dividend theory, if the investment increases, the dividends distributed will decrease (Brigham & Houston, 2006), because the dividends distributed are the remainder of the company's investment funds. However in reality, this is not the case.

The more investment opportunities will encourage companies to pay dividends in small amounts, so that the company has internal funds to finance its investments (Erkaningrum, 2013). Thus, based on this background, this study aims to re-examine the effect of the investment opportunity set on dividend policies of manufacturing companies on the Indonesia Stock Exchange.

Hypothesis Development

The company's dividend policy concerns the company's profits to be distributed to shareholders or held for reinvestment. This research discusses dividends as the company's passive residual. The residual dividend theory states that dividends are only paid if there are funds remaining after funding a profitable investment. Dividends are only paid if there is residual from the use of investment funds. The greater the investment opportunity, the smaller the company will pay its dividends (Smith, 2011). Based on this residual dividend theory, companies that are experiencing high growth will pay fewer dividends than ones that have a lower growth rate (Syafiq, 2009).

A residual dividend policy can generate signals that shareholders interpret unconventionally. Investors can interpret an increase in dividends as an indication of a lack of investment opportunities, which would represent a negative signal (Smith, 2011). Managers can determine a stable dividend rate using this residual dividend theory by applying three steps. First, managers must be able to estimate the earnings of their company and the long-term investment opportunities that will be made. Second, they can use past information to estimate the average dividend payout ratio model used. Third as final, managers can set dividend payout ratio targets based on the average projected company data (Baker & Smith, 2002). Research by Baker and Smith (2002) also states that the residual dividend theory can be used to help companies build long-term dividend payout ratios so that even though companies use the concept of residual dividends in their dividend policy, the stability of their payout ratios does not change.

Investment opportunity set (IOS) describes the breadth of investment opportunities. If a company has high growth and gets good investment opportunities, it will tend to hold back the profit earned for its investment financing (Subramaniam & Shaiban, 2011). Companies that experience slow growth and have few investment opportunities can distribute most of the profits they earn as dividends. On the other hand, companies with investment opportunities and operate in countries with legal protection against shareholders may have high dividend payments (Maneh & Naser, 2015). Thus, this is in line with research conducted by Abor and Bokpin (2010), Giriati (2016), Hasnawati (2017), and Wulandari and Suardana (2017), pointing out that there is a negative relationship between investment opportunity set (IOS) and dividend policy.

Based on the descriptions that have been explained on the relationship between variables, a framework of thinking for analyzing the IOS against dividend policy can be described as follows:

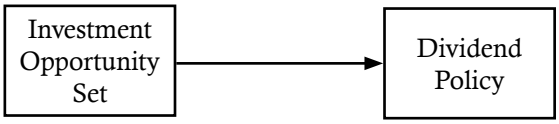

Figure 2. Research Design

METHOD

This research used quantitative methods. Quantitative research is an objective research approach that includes the collection and analysis of quantitative data and uses statistical testing methods (Ferdinand, 2014).

This study used secondary data obtained from financial reports that have been published by www.idx.co.id on manufacturing companies listed on the Indonesia Stock Exchange (IDX). The period carried out in this research started from 2009-2018.

The population in this study was manufacturing sector companies listed on the Indonesia Stock Exchange (BEI) in 2009-2018. There were 109 manufacturing companies, but the researcher only used several companies as research samples.

This study used two variables, namely the independent and the dependent variables. The dependent variable in this study is dividend dividend policy with investment opportunity set as an independent variable.

Dividend Policy

Dividend policy is measured by net income minus retained earnings for investment, where dividends to be distributed to shareholders are the residual profit that the company receives after funding new investments (Brigham & Houston, 2018). Dividend policy is calculated using the following formula:

Dividend = net income – retained income to invest

Investment Opportunity Set

Investment opportunity set (IOS) is proxied using Tobin's Q. Tobin's Q is selected because it represents a number of variables that are important in measuring performance, including the company's recorded assets, adequate market trends such as analytical views on company prospects, and intellectual or intangible asset model variables (Setianto, 2017). IOS is calculated by this formula:

Tobins' Q = (MVS+D)/TA

The data analysis method is a method used in processing research data so that it can find out the results of the research and then interpret them. The data analysis method used in this study was descriptive analysis, model determination, classical assumption test, multiple linear regression analysis, simultaneous f or *f test*, determination coefficient test, and t-test (Ghozali & Ratmono, 2013).

Descriptive statistics provide an overview or description of data seen from the average (mean), standard deviation, variance, maximum, minimum, sum, range, kurtosis, and skewness or the slope of the distribution (Ghozali & Ratmono, 2013). In the descriptive analysis, the data used were minimum, maximum, mean, and standard deviation.

After the descriptive analysis, the research model was tested because the data in this study was panel data. Panel data is a combination of cross-section data and time-series data, where the same cross-section unit is measured at different times. Panel data, in other words, is data from several individuals who are observed over a certain period of time. If the amount of time is the same for each individual, then the data is called a balanced panel. Conversely, if the number of time units is different for each individual, it is then called an unbalanced panel (Ghozali & Ratmono, 2013).

The estimation model selection test on panel data is used to determine the best model to be used in panel data regression among three approaches, namely the common effect model, fixed effect model, and random effect model.

Common Effect Model or Pooled Least Square (PLS) is the simplest panel data model approach because it only combines time series and cross-section data. In this model, neither time nor individual dimensions are considered, so it is assumed that the behavior of company data is the same in various time periods

Fixed Effect Model focuses on the differences between individuals which can be accommodated from differences in the intercept. To estimate panel data, this model uses dummy variable techniques to capture differences in the company's intercept. However, the slope is the same between companies.

The Random Effect Model is to estimate panel data where the disturbance variables may be interrelated between times and individuals (Ghozali & Ratmono, 2013).

The choice of the estimation model is determined through the chow test, hausman test, and lagrange multiplier test.

Chow test is used to select a panel data regression model, which is to choose which model is better between the ordinary pooled OLS model (common effect model) and the fixed effect model (Ghozali & Ratmono 2013). If the probability score of F is less than 0.05, then H_0 is rejected and Ha is accepted. On the contrary, if the probability score is greater than 0.05, then H_0 is accepted and Ha is rejected. This means that if the F score is significant < 0.05, the fixed-effect model is better than the usual pooled OLS model. In other words, the fixed-effect model provides significant added value compared to pooled OLS. On the other hand, if the F score is significant > 0.05, the pooled OLS model is better than the fixed effect one.

Hausman test is used to select a panel data regression model, namely to choose which model is better between the fixed effect model and the random effect model. Hausman statistical test uses the Chi-square distribution (Ghozali & Ratmono 2013). If the Chi-square probability score is smaller than 0.05, then H_0 is rejected and Ha is accepted. On the other hand, if the probability score is greater than 0.05, then H_0 is accepted and Ha is rejected. If H_0 is rejected and Ha is accepted, it can be concluded that the random effect model is not appropriate so that we can use the fixed effect model. Conversely, if Ha is rejected and H_0 is accepted, it can be concluded that the fixed effect model is not appropriate so that we can use the random effect model.

Lagrange Multiplier test is used to select the panel data regression model, which is to choose which model is better between the common effect model (ordinary pooled OLS) and the random effect model. Lagrange Multiplier statistical test can be seen with the Breusch-Pagan method. If the probability score of Both of Breusch-Pagan is less than 0.05, then H_0 is rejected and Ha is accepted. On the contrary, if the probability score is greater than 0.05, then H0 is accepted and Ha is rejected. This means that if H_0 is rejected and Ha is accepted, it can be concluded that the common effect model (ordinary pooled OLS) is not appropriate so that we can use the random effect model. Conversely, if Ha is rejected and H_0 is accepted, it can be concluded that the random effect model is not appropriate so that we can use the common effect model (Ghozali & Ratmono, 2013).

After doing the model test above, what follows is the classical assumption test. According to Ghozali and Ratmono (2013), the classical assumption test is one of the models used in a study. It is used to determine whether the regression model used can be said to be good or not. The classical assumption test in this study consists of normality test, heteroscedasticity test, and autocorrelation test.

The normality test aims to test whether in the regression model confounding or residual variables have a normal distribution. As it is known, the t-test and F test assume the residual value follows a normal distribution. If this assumption is not fulfilled, then the statistical test results will be invalid, especially for small sample sizes. The residual normality test that is widely used is the Jarque-Bera (JB) test. The JB test is a normality test for large (asymptotic) samples (Ghozali & Ratmono, 2018). If the data has a Jarque-Bera (JB) probability score which is greater than 0.05 or 5%, it can be concluded that H_0 is accepted so that the residual is said to be normally distributed. On the contrary, if the probability score is less than 0.05 or 5%, then the residual is not normally distributed (Ghozali & Ratmono, 2013).

Heteroscedasticity test in a research model can be seen with the Glejser test, by looking at the residual absolute regression significance score (Ghozali & Ratmono 2018). If the significance score is greater than 5%, then H_0 is accepted, meaning that there is no heteroscedasticity. Conversely, if it is less than 5%, then Ha is accepted, as the heteroscedasticity occurs.

The autocorrelation test aims to test the existence of a correlation between confounding errors in the t-1 period in a linear regression model. Autocorrelation arises because observations are sequential, interrelated. This problem arises due to residuals (confounding errors) that are not free from one observation to another. This is often found in time series data which shows the similarity of up and down movements. A good regression model is a regression model that is free from autocorrelation (Ghozali & Ratmono, 2018). According to Ghozali and Ratmono (2013) there are several ways that can be used to detect the presence or absence of autocorrelation, namely through the Durbin Watson (DW) test, which is a test that is often used to see autocorrelation symptoms.

The accuracy of the sample regression function in determining the actual score can be measured using its goodness f fit. Statistically, this analysis can be measured from the statistical score of F and the coefficient of determination R^2 (Ghozali & Ratmono, 2013).

In essence, the coefficient of determination (R^2) measures how far the model's ability

to explain variations in the dependent variable, with the coefficient of determination between zero and one. The magnitude of R^2 is known as the coefficient of determination (sample), which is the most common measure used to gauge the goodness of fit of a regression. This value looks at how big the proportion or presentation of the influence of the independent variable on the dependent one. The level of regression accuracy is determined by the score of R^2 between 0 and 1. The more R^2 approaches the number 1, the more independent variable can explain the effect on the dependent variable (Gujarati & Porter, 2013).

The F-statistic test basically shows whether all the independent variables included in the model have a joint or simultaneous influence on the dependent variable. This test is carried out using the F distribution test, by looking at the F-statistic score and the Prob score (F-statistic). With the provisions, if the probability score is < significance level of 5%, it can be concluded that the regression coefficient model is not equal to 0, meaning that the independent variable simultaneously affects the dependent variable (Gujarati & Porter, 2013).

The last test is the research hypothesis test with panel data regression analysis. Simple regression analysis is applied to test data regarding the dependency of the dependent variable with the independent variable, aiming to estimate the population mean or average score of the dependent variable based on the known score of the independent variable. The simple regression equation in this study is as follows:

$$LnDiv_{it} = \boldsymbol{\alpha} + \boldsymbol{ß}_1 IOS + \boldsymbol{\mu}$$

The description of this equation is:

α = constant

ß = independent variable regression coefficient

LnDivit = dividend

μ = significant error on the dependent variable

The significance test is a procedure used to examine the truth or error of the null hypothesis from the sample. The basic idea of significance test is based on the statistical test (estimator) of the sample distribution of a statistic under the null hypothesis. In this study, the hypothesis test on the regression coefficient used t statictic test. The t statistic test was conducted to determine the significant effect of the independent variable on the dependent one (Gujarati & Porter, 2013). The level of significance in this study is 5%, so the probability of the score of t count > 0.05. H_0 is accepted. On the contrary, if the probability of t is < 0.05, then H_0 is rejected and Ha is accepted.

RESULT AND DISCUSSION

Descriptive Statistic

The results of descriptive statistics test using Eviews 10 which are presented in table 1 below provide an overview or description of the data including the mean, maximum, minimum, and standard deviation.

Table 1. Results of Descriptive Statistics Test

	Dividen	**IOS**
Mean	27.181	130.127
Median	27.485	2.582
Maximum	32.020	3826.260
Minimun	19.090	0.481
Std. Dev.	2.2145	654.434
Observation	140.000	140.000

Table 1 shows that the amount of data used in this study is 140 units of analysis. This number is the total sample of manufacturing companies for 10 years of observation, from 2009 to 2018, with 14 companies sampled annually.

Determination of the panel data estimation model in this study used the Chow test, Hausman test, and Lagrange Multiplier test. The results from the Chow test are as follows:

Table 2. Chow Test Results

	Prob.
Cross-section F	0.0000
α	0.0500

From Table 2 it can be seen that the probability score of Cross-section Chi-Square < α with a score of 0.0000 < 0.05. It can be concluded that H_0 is rejected and Ha is accepted. It means that between the common effect and fixed-effect models, the best model to use as a panel data regression model is the fixed effect. Then the next step is to choose the best model between fixed effects and random effects with the Hausman test.

The next test is the hausman test. The results from the Hausman test are as follows:

Table 3. Hausman Test Results

	Prob.
Cross-section random	0.4684
α	0.0500

From Table 3, it is known that the score of the random cross-section > α, pointing out the score of 0.4684 > 0.05. It can be concluded that H_0 is accepted and Ha is rejected. This means that the best model used as panel data regression is random effect. The next step is to choose the best model between random effect and common effect by using the Lagrange Multiplier test.

The third test which was carried out namely Lagrange Multiplier test. The results from the LM test are as follows:

Table 4. Lagrange Multiplier Test Results

Criteria	Cross-section
Breusch Pagan	455.6094
	(0.000)

From table 4 it is known that the score of the Breucsh-Pagan Cross-section < α, specifically with the score of 0.0000 < 0.05. It can be concluded that H_0 is rejected and Ha is accepted. This means that the best model used as panel data regression is the random effect.

Based on the Chow test, the Hausman test, and the Lagrange Multiplier test, the selected model is the random effect. If the selected model is the random effect, there is no need to use classical assumptions because it uses the GLS method. GLS is the OLS on the transformed variables which fulfill the standard least-squares assumptions. The estimator that is then obtained is called the GLS estimator and that estimator is BLUE (Gujarati, 2013).

The next is the goodness of fit test. This test is intended to determine how far the model's ability to explain variations in the dependent variable (Ghozali & Ratmono, 2013). We can see how far the model's ability to explain the dependent variable from the R-Square score in Table 5.

Table 5. Results of Determination Test

Criteria	Prob.
Adjusted R^2	0.034573

In Table 5, the R-Square score is 0.034573 or 3.46%, which means that the ability of the independent variable in this study, namely the investment opportunity set, can explain the dividend policy of 3.46%. The remaining 96.54% is explained by other variables outside this research model.

The small R-Square score means that the ability of the independent variables to explain the variation in the dependent variable is very limited because of the large variation between each observation. For each additional one independent variable, the R^2 score must increase regardless of whether the variable has a significant effect on the dependent variable. It is good if in the process, we get a high R^2 score. But, if the R^2 score is low, it does not mean the regression model is bad (Ghozali, 2017).

F statistical test is used to find out whether all the independent variables entered into the model have a joint or simultaneous influence on the dependent variable. If the F-statistic probability score < significance α = 0.05, then it can be concluded that all independent variables proposed in the study have a simultaneous effect on the dependent variable (Ghozali, 2017). The following are the results of the F-statistic test on the research model:

Table 6. Results of F-Statistic Test

Criteria	Prob.
F-statistic	4.942000
Prob (F-statistic)	0.027838

Based on the results of the F-statistic test above, it can be seen that the F-statistic probability score in the model is 0.027838. So, it can be concluded that the F-statistic probability score in this model is < of significance α = 0.05. H_0 is rejected and Ha is accepted. This means that the independent variables used in this study simultaneously have a significant effect on the dependent variable.

After the goodness of fit test, the next step is regression analysis. Based on the results of the Chow test, Hausman test, and Lagrange Multiplier test that have been carried out, a random effect model is selected, then panel data regression will be carried out in this study using the random effect model. The following are the results of the random effect model regression using Eviews version 10:

Table 7. Results of Random EffectRegression Test

Variable	Coefficient
C	27.22370
IOS	-0.000328

Based on Table 7, the regression equation for panel data model random effect is as follows:

LnDIV = 27,22370 – 0,000328 IOS +μit

A constant (α) of 27.22370 means that if the investment opportunity set variable is zero, then the average manufacturing company listed on the Indonesia Stock Exchange will pay dividends of 27.22370 of the total net profit owned by the company.

The regression coefficient for the investment opportunity set is –0.000328 which shows that the relationship between dividend policy and investment opportunities in the company is negative. This is because each increase of one dividend unit will decrease the value of investment opportunities by 0.000328. The investment opportunity score of 0.000328 means that the total asset value is greater than the debt and the value of the outstanding stock market capitalization. The company's investment opportunity is greater because there are many total assets that can be used to explore growth opportunities. When the company's total assets are greater than debt and market capitalization value, the investment opportunity is greater to produce a positive net present value. When the total assets and the investment opportunity for the company are greater, the dividends distributed are smaller.

The next step to conduct is research hypothesis test (t statistic test). Here is the results of the t test on the research model.

Table 8. Results of Hypothesis (t-Test)

	Value
Coefficient of IOS	-0.0003
Prob	0.0281

Based on Table 8, the t count was obtained from the IOS independent variable in this study, which was tested partially of -0.000328 with a significance level of 0.0281 < 0.05. Therefore, H_0 is rejected, which means that the investment opportunity set (IOS) variable partially has a significant negative effect on the dependent variable of dividend policy.

The Impact of Investment Opportunity Set on Dividend Policy

The results show that the investment opportunity set has a significant negative effect on the dividend policy of manufacturing companies listed in the Indonesia Stock Exchange (IDX) from 2009 to 2018. Thus, the Ha hypothesis is accepted. Based on the results of statistical regression of the investment opportunity set variable, it is known that IOS regression coefficient is -0.000328 which shows that IOS has a negative effect on dividend policy. Then if we see from the significance probability score of 0.0281, it shows a smaller score than the predetermined significance level of 0.05 (0.0281 < 0.05). This means that the investment opportunity set has a significant negative effect on dividend policy.

The results of this study are in line with research conducted by Abor and Bokpin (2010), as well as research by Hasnawati (2017), exemplifying that the investment opportunity set has a negative and significant effect on dividend policy. However, these results contradict the results of research by Suartawan and Yasa (2016) and research by Prihatini (2018) which states that IOS has a positive and significant effect on dividend policy.

CONCLUSION AND RECOMMENDATION

The purpose of this study is to determine the effect of the investment opportunity set (IOS) on dividend policy in manufacturing companies listed in the Indonesia Stock Exchange in the 2009-2018 period. The results of this study found that IOS has a significant negative effect on dividend policy. Based on the results of this study, the bigger the IOS, the smaller the dividends received by investors. This means that companies with a large number of profitable investment opportunities tend to result in a low dividend payout ratio target and vice versa. If there are only a few profitable company investment opportunities, the dividend payout ratio will also be high. This statement is in accordance with Smith and Watts (1992) that companies with high investment tend to result in low dividend distribution, because dividends and investment are opposites in the use of the company's cash resources potential. For that, companies need to pay attention to the proportion of company funds used for investment. If the company applies the residual dividend theory, dividend stability will be maintained. Dividend prediction for the next year will be easier to see and the accuracy in calculating the proper investment and dividends to be paid will also be stable. However, based on the results of this study, it is not known what percentage of company funds are used for investment and paying dividends because researchers did not conduct interviews and surveys directly with company managers. In addition, the R^2 score of this study is low. The next researcher should do similar research but

by adding other independent variables such as investment policy because in this study, the investment opportunity set does not have such a big influence on dividend policy. Further research is also expected not only to focus on manufacturing companies listed in the IDX, but to be expanded to examine other indices as the population.

REFERENCES

Abiprayu, K. B., & Wiratama, B. (2016). Does Ceo's Hubris Affecting Dividens Payout?. *Jurnal Dinamika Manajemen*, Vol. 7 No. 1: 66–75.

Abor, Joshua., & Bokpin, G. A. (2010). Investment Opportunities, Corporate Finance, and Dividend Payout Policy. *Economics and Finance*, Vo. 27 No. 3: 180–194.

Agustina, Cahyati dan Ardiansari, A. (2015). Pengaruh Faktor Ekonomi Makro dan Kinerja Kuangan terhadap Nilai Perusahaan. *Management Analysis Journal*, Vol. 4 No. 1: 10–21.

Alamsyah, A.R., dan Zainul, M. (2018a). Pengaruh Struktur Kepemilikan, Struktur Modal, dan IOS terhadap Nilai Perusahaan dengan Kebijakan Dividen sebagai Variabel Intervening pada Perusahaan Manufaktur Terdaftar di BEI. *Jurnal JIBEKA*, Vol. 12 No. 1: 9–16.

Anam, B. S., Muhammad, A. & M. S. (2016). Pengaruh Profitabilitas dan Set Kesempatan Investasi terhadap Kebijakan Dividen Tunai pada Perusahaan Manufaktur di Indonesia. *Jurnal Magister Akuntansi Pascasarjana Universitas Syiah Kuala*, Vol. 5 No. 3: 20–29.

Anita, Aprilia dan Yulianto, A. (2016). Pengaruh Kepemilikan Manajerial dan Kebijakan Dividen terhadap Nilai Perusahaan. *Management Analysis Journal*, *5*(1), 17–23.

Arif Yulianto, Kiswanto, Widiyanti, A. Y. (2014). Linear and Non Linear Approaches in Testing Managerial Ownership on the Firm Value Evidence Indonesian Firms. *Journal of Business and Management*, Vol. 16 No. 9: 1–5.

Aristantia, Dwi dan Putra, I. M. P. D. (2015). Investment Opportunity Set dan Free Cash Flow pada Tingkat Pembayaran Dividen. *E-Jurnal Akuntansi Universitas Udayana*, Vol. 11 No. 1: 220–234.

Baker, H.K dan Smith, D. M. (2002). In Search of a Dividend Policy Residual. *Working Paper.* Universitas Kogod School of Business Departemen Keuangan Massachusetts Avenue, NW Washington.

Bangun, N., & Hardiman, S. (2012). Analisis Pengaruh Profitabilitas, Cash Position, Debt To Equity Ratio (DER), dan Kesempatan Investasi Terhadap Kebijakan Deviden Pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (BEI) Pada Tahun 2008-2010. *Journal of Capital Market and Banking*, Vol. 1 No. 2.

Brigham, Eugene F and Houston, J. F. (2006). *Dasar-dasar Manajemen Keuanngan Buku 2*. Jakarta: Salemba Empat.

Brigham, Eugene F and Houston, J. F. (2018). *Dasar-dasar Manajemen Keuanngan Buku 2 Edisi 14.* Jakarta: Salemba Empat.

Deni, F. F., Aisjah, S., & Djazuli, A. (2016). Analisis Variabel-Variabel yang Mempengaruhi Kebijakan Dividen (Studi pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia). *Journal Aplikasi Manajemen (JAM)*, Vol. 14 No. 2.

Devi, N. S. (2019). Pengaruh Investment Opportunity Set, Free Cash Flow, Kebijakan Hutang, Pertumbuhan Perusahaan terhadap Kebijakan Dividen. *Jurnal Perbanas Institutional Repository STIE Perbanas Surabaya*.

Dewi, A. C. (2016). Pengaruh Investment Opportunity Set , Free Cash Flow , Struktur Modal , Profitabilitas dan Likuiditas terhadap Kebijakan Dividen. *Skripsi.* Universitas Muhammadiyah Surakarta.

Cahyaningdyah, D., Ressany, Y. D. (2012). Pengaruh Kebijakan Manajemen Keuangan terhadap Nilai Perusahaan. *Jurnal Dinamika Manajemen*, Vol. 3 No. 1: 20–28.

Edrick, Druce. (2016). Analisis Pengaruh Debt to Equity Ratio, Return On Asset, Ukuran Perusahaan, dan Kesempatan Investasi Terhadap Kebijakan Dividen Pada Perusahaan Manufaktur. *Jurnal Bisnis Dan Manajemen*, Vol.53 No. 12: 229–241.

Erfiana, D., Ardiansari. A. (2016). Pengaruh Masalah Keagenan, Kebijakan Dividen, dan Variabel Moderasi Growth Opportunity terhadap Nilai Perusahaan. *Management Analysis Journal*, *5*(3), 244–256.

Erkaningrum, I. (2013). Interactions Among Insider Ownership, Dividend Policy, Debt Policy, Investment Decision, And Business Risk. *Journal of Indonesian Economy and Business,* Vol.28 No.1:132-148.

Ferdinand, A. (2014). *Metode Penelitian Manajemen: Pedoman Penelitian Untuk Penulisan Skripsi, Tesis, dan Disertasi Ilmu Manajemen*. Semarang: Universitas Diponegoro.

Fidhayatin, S. K. dan Dewi, N. (2012). Analisis Nilai Perusahaan,Kinerja Perusahaan Dan Kesempatan Bertumbuh Perusahaan Terhadap Return Saham pada Perusahaan Manufaktur yang Listing Di BEI. *The Indonesian Accounting Review,* Vol. 2 No.2: 203–214.

Ghozali, Imam dan Ratmono, Dwi. (2013). *Analisis Multivariat dan Ekonomitrika: Teori, Konsep, dan Aplikasi dengan Eviews 8*. Semarang: UNDIP.

Ghozali, Imam. (2011). *Aplikasi Analisis Multivariate Dengan Program SPSS*. Semarang: Universitas Diponegoro.

Ghozali, Imam. (2017). *Analisis Multivariat dan Ekonometrika*. Semarang: Universitas Diponegoro.

Ghozali, Imam & Ratmono, Dwi. (2018). *Analisa Multivariat dan Ekonometrika Teori, Konsep, dan Aplikasi dengan Eviews 10* (Edisi 2). Semarang: Universitas Diponegoro.

Giriati. (2015). Free Cash Flow, Dividend Policy, Investment Opportunity Set, Opportunistic Behavior and Firm's Value. *Procedia- Social and Behavioral Science,* 219:248-254.

Gujarati, N Damodar, dan Porter, D. C. (2013). *Dasar-Dasar Ekonometrika Buku 1 dan Buku 2 Edisi 5. Penerjemah: Raden Carlus Mangunsong*. Jakarta: Salemba Empat.

Halim, Junaedi Jauwanto. (2013). Faktor-Faktor yang Mempengaruhi Kebijakan Dividen Perusahaan yang terdaftar di Bursa Efek Indonesia pada Sektor Industri Barang Konsumsi. *Jurnal Ilmiah Mahasiswa Universitas Surabaya*, *2*(2), 1–19.

Harun, Sulfikram. (2018). Pengaruh Profitabilitas, Free Cash Flow, Leverage, Likuiditas dan Size terhadap Dividen Payout Ratio (DPR) pada Perusahaan Manufaktur yang terdaftar di Bursa Efek Indonesia. *Jurnal Riset Akuntansi*, *5*(2), 122–137.

Hasanuh, Nanu. (2019). Pengaruh Investment Opportunity Set dan Ukuran Perusahaan terhadap Deviden Kas. *Jurnal Sekuritas,* Vol. 3 No.1: 33-44.

Hasnawati. (2017). Kebijakan Dividen di Bursa Efek Indonesia pada Perusahaan Kelompok LQ 45. *Jurnal Manajemen*, *21*(1), 132–145.

Hidayah, Nurul. (2015). Pengaruh Investment Opportunity Set (IOS) dan Kepemilikan Manajerial terhadap Nilai Perusahaan pada Perusahaan Property dan Real Estate di BEI. *Jurnal Akuntansi,* Vol. XIX No. 3: 420-432.

Horne, Van.C. James dan Wachowicz, J. . (2014). *Prinsip- Prinsip Manajemen Keuangan*. Jakarta: Salemba Empat.

Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review,* 76:2, 323-329.

Keown, A. J., Scott, D. F., Martin, J. D., & Petty, J. W. (2000). *Dasar-Dasar Manajemen Keuangan Buku 2*. Jakarta: Salemba Empat.

Khoiruddin, M., dan Faizati E. R. (2014). Reaksi Pasar terhadap Dividend Announcement Perusahaan yang Sahamnya Masuk Daftar Efek Syariah. *Jurnal Dinamika Manajemen*, *5*(2), 209–219.

Kurniawan, W. A., dan Tjhai, F. J. (2017). Faktor-Faktor yang Mempengaruhi Kebijakan Dividen pada Perusahaan Non Keuangan yang terdaftar di BEI. *Jurnal Bisnis Dan Akuntansi,* Vol. 19 No.1: 191-199.

Maharsi, A. V. N. (2017). Pengaruh Investment Opportunity Set terhadap Kebijakan Dividen dengan Firm Size sebagai Variabel Moderasi pada Perusahaan Manufaktur. *Jurnal Magisma,* Vol. 5 No.2: 39-49.

Maneh, M. A., & Naser, K. (2015). Determinants of Corporate Dividends Policy: Evidence from an Emerging Economy. *International Journal of Economic and Finance,* Vol. 7 No.7.

Martono, S., Yulianto, A., Witiastuti, R. S., & Wijaya, A. P. (2020). The Role of Institutional Ownership and Industry Characteristics on the Propensity to Pay Dividend : An Insight from Company Open Innovation. *Journal of Open Inovation: Technology, Market, and Complexity*, 6 (74), 1-16.

Miller, M. H. and F. M. (1961). Dividend Policy, Growth, and the Valuation of Shares. *Journal of Business 34:4, 411-433.*

Natalia, Desy. (2013). Pengaruh Profitabilitas Dan Kesempatan Investasi Terhadap Kebijakan Dividen Pada Perusahaan Manufaktur Yang Terdaftar Di BEI. *Skripsi.* Universitas Negeri Padang.

Novita, Intan dan Yulianto, A. (2017). Kebijakan Investasi dan Dividen. *Management Analysis Journal*, 1–17.

Odawo, C. & Ntioti, J. (2015). Detreminants of Dividend Payout Policy in Public Ltd Banks In Kenya: A Case Study Of CFC Stanbic Bank. *The Strategic Journal of Business and Change Management, 2(2): 182-191.*

Pagalung, Gagaring. (2003). Pengaruh Kombinasi Keunggulan dan Keterbatasan Perusahaan terhadap Set Kesempatan Investasi (IOS). *Jurnal Riset Akuntansi Indonesia Vol. 6 No. 3 249-264*.

Prasetyo, T. (2013). Dividen, Hutang, Dan Kepemilikan Institusional Di Pasar Modal Indonesia: Pengujian Teori Keagenan. *Jurnal Dinamika Manajemen,* Vol. 4 No. 1: *10-22.*

Preinreich, G. A. D. (1932). Stock Yields, Stock Dividends and Inflation. *Accounting Review 7:4, 273-289.*

Prihatini, Puteri., Rahmiat dan Dessi, S. (2018). Pengaruh Profitabilitas, Investment Opportunity Set, dan Kepemilikan Manajerial terhadap Kebijakan Dividen. *Jurnal Ecogen*, Vol. 1 (2), 298–307.

Purnamasari, Imas dan Waspada, I. P. & M. (2019). Pengaruh Kesempatan Investasi dan Kebijakan Hutang terhadap Kebijakan Dividen. *Jurnal Riset Akuntansi Dan Keuangan, Vol. 7 No.1: 187 – 194.*

Puteri, F. C., Ari B. K., dan P. I. N. (2012). Analisis Faktor – Faktor Yang Mempengaruhi Kebijakan Dividen. *Jurnal Conference In Business, Accounting and Management (CBAM)*, Vol. 1(1), 269–282.

Riyadhoh, Siti., Rita, Andini dan Patricia, D. P. (2018). Pengaruh Kepemilikan Manajerial, Kepemilikan Institusional, dan Kesempatan Investasi terhadap Kebijakan Dividen sebagai Variabel Moderating pada Perusahaan Industri Barang Konsumsi yang terdaftar di BEI. *Jurnal Of Accounting Universitas Pandanaran Semarang*, Vol. 4 No. 4

Riyanto, Bambang. (2012). *Dasar- Dasar Pembelanjaan Perusahaan Edisi 4, Fakultas Ekonomi UGM*. BPFE:Yogyakarta.

Roos, N. M., dan Elisabeth, S. M. (2019). Pengaruh Kepemilikan Manajerial, Kepemilikan Institusional, dan Kesempatan Investasi terhadap Kebijakan Dividen dengan Likuiditas sebagai Variabel Pemoderasi. *Journal of Accounting and Business Studies, Vol. 4 No.1: 24-39.*

Sage, G. H. (1937). Dividend Policy and Business Contingencies. *Harvard Business Review 15:2, 245-252*.

Sanusi, Anwar. (2014). *Metodologi Penelitian Bisnis*. Jakarta: Salemba Empat.

Sari, K. A. N., dan Sudjarni, L. K. (2015). Pengaruh Profitabilitas terhadap Kebijakan Dividen pada Perusahaan Manufaktur di BEI. *E-Jurnal Manajemen Unud*, Vol. 10 No. 10: 3346–3374.

Sari, N. K. A., & Budiasih, I. G. A. (2016). Pengaruh Kepemilikan Managerial, Kepemilikan Institusional, Free Cash Flow dan Profitabilitas pada Kebijakan Dividen. *E-Jurnal Akuntansi Universitas Udayana*, Vol. 15 No. 3: 2439–2466.

Setianto, R. H., & Sari, P. K. (2017). Perusahaan Keluarga dan Kebijakan Dividen di Indonesia. *Jurnal Siasat Bisnis,* Vol.21 No.2: 107-118.

Simanjutak, Payaman J. (2011). *Manajemen & Evaluasi Kinerja.* Jakarta: Fakultas Ekonomi Universitas Indonesia.

Simanjutak, W. A. (2011). Pengaruh Economic Value Added, Return on Assets, Net Profit Margin, dan Earning per Share terhadap Harga Saham Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *Skripsi.* Universitas Sumatera Utara.

Smith, C. W. and R. L. W. (1992). The Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies. *Journal of Financial Economics*, *32*(3), 263–292.

Smith, M. D. (2011). Residual Dividend Policy. *Working Paper*, University at Albany. New York.

Suartawan, I. G. N. P. A., dan Y. G. W. (2016a). Pengaruh Investment Opportunity Set dan Free Cash Flow pada Kebijakan Dividen dan Nilai Perusahaan. *E-Jurnal Akuntansi Universitas Udayana*, *14*(3), 2014–2044.

Suartawan, I. G. N. P. A., dan Yasa. G. W. (2016b). Pengaruh Investment Opportunity Set dan Free Cash Flow pada Kebijakan Dividen dan Nilai Perusahaan. *E-Jurnal Akuntansi Universitas Udayana,* Vol. 14 No.3: 2014-2044.

Subramaniam, R., Devi, S. S., & Marimuthu, M. (2011). Investment Opportunity Set and Dividend Policy. *Malaysia African Journal of Business Management,* Vol. 5 No.24.

Sumarni, I., Yusniar, M. W., & Juniar, A. (2014). Pengaruh Investment Opportunity Set terhadap Kebijakan Dividen. *Jurnal Wawasan Manajemen*, *2*(2), 201–212.

Syafiq, Ahmad. (2009). Pengujian Teori Dividend Signaling di Pasar Modal Indonesia: Analisis pada Perusahaan Publik di Bursa Efek Indonesia. *Skripsi.* Universitas Indonesia.

Tastaftiani, Muftia dan Khoiruddin M. (2015). Analisis Pengaruh Pengumuman Dividen Tunai terhadap Abnormal Return dan Variabilitas Tingkat Keuntungan Saham. *Management Analysis Journal*, *4*(4), 333–340.

Utama, N. P. S. P., dan Gayatri. (2018). Pengaruh Profitabilitas , Investment Opportunity Set dan Free Cash Flow pada Kebijakan Dividen. *E-Jurnal Akuntansi Universitas Udayana*, *22*(2), 976–1003.

Wulandari, D. U., dan Ketut, A. S. (2017). Pengaruh Profitabilitas, Kesempatan Investasi, Free Cash Flow, dan Debt Policy pada Kebijakan Dividen Perusahaan Manufaktur. *E-Jurnal Akuntansi*, *20*(1), 202–230.

Yendrawati, Reni dan Pratiwi, R. S. I. (2014). Relevansi Nilai Informasi Laba dan Arus Kas terhadap Harga Saham. *Jurnal Dinamika Manajemen*, *5*(2), 161–170.

Yudiana, I. G. Y., dan Yadyana. (2016). Pengaruh Kepemilikan Manajerial, Leverage, Investment Opportunity Set dan Profitabilitas pada Kebijakan Dividen Perusahaan Manufaktur. *E-Jurnal Akuntansi Universitas Udayana,* Vol. 15 No.1: 112-141.

Yulianto, A., Kiswanto, Widiyanti, A. Y. (2014). Linear and Non Linear Approaches in Testing Managerial Ownership on the Firm Value Evidence Indonesian Firms. *Journal of Business and Management*, *16*(9), 1–5.