

The Effect of Return on Equity and Investment Opportunity Set to Price Earnings Ratio with Current Ratio as a Moderating Variable in Metal Companies Listed in Indonesia Stock Exchange (*Bursa Efek Indonesia*)

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Abstract—This study aims to empirically examine the effect of return on equity and investment opportunity set on price earnings ratio with the current ratio as a moderating variable. The dependent variable in this study is the price earnings ratio. While the independent variable is return on equity and investment opportunity set. Current ratio is as a moderating variable. This population is 16 metal companies listed on the Indonesia Stock Exchange in the period 2013-2017. Sample selection technique uses purposive sampling method. Based on the criteria obtained, there were 11 manufacturing companies which were the research samples. The data analysis techniques used are multiple, residual, and Moderated Regression Analysis (MRA). To obtain the data needed in this study, the author uses documentation techniques from data published by the company from the official IDX website www.idx.co.id. As well as annual reports owned by the company. The data analysis technique in this study is using path analysis, classical assumption test, hypothesis testing, t-test, f-test, coefficient of determination, moderation regression analysis, residual test which is processed using SPSS version 16. The results of this study show that return on equity has a positive and significant effect on price earnings ratio. The investment opportunity set has a negative effect on price earnings ratio. With MRA analysis, the current ratio is able to moderate the effect of return on equity on price earnings ratio. Current ratio is able to moderate the effect of investment opportunity set on price earnings ratio.

Keywords—*price earnings ratio; return on equity; investment opportunity set; current ratio*

I. INTRODUCTION

A public company in performing financial management faced with three selectable management decisions, i.e. the investment decision (use of funds), the decision of the funder (acquiring Fund) and the dividend decision (Division dividends). The main purpose of the investors in the Fund is concerned with planting for earning income or investment return level, namely in the form of dividend income. In these

conditions, every company is required to be able to operate with a level of efficiency that is high enough so that the stick had a foreign power and excellence in an attempt to generate a net profit of possible. Jensen and Meckling in Suharli says that for creditors, cash dividends can be a signal regarding the adequacy of the company's cash to pay interest or even pay off the loan principal. For the management of cash dividends, cash flow is out of cash that reduce the company [1]. Generally, the management company will withhold cash belonging to pay off debts or increase investment. The meaning of debt reduction will reduce cash interest expense or octosyllabic outflow with the investment will give return in the form of cash inflow for the company. On the other hand, shareholders expect a cash dividend in the amount of relatively large because you want to enjoy the results of investment in shares of the company. This condition is seen as Agency theory conflict between principal and agent. Furthermore, a dividend for shareholders is the rate of return from their investments in the form of the shares of such companies as for management, the dividend is a cash flow that will reduce cash out the company [2]. Dividend policy of a company would involve two parties concerned but conflicting interests i.e. companies with retained profit and shareholders' interests with its dividend.

II. THEORETICAL REVIEW

A. Price Earnings Ratio

Price Earnings Ratio is a market ratio that indicates investor appreciation for company performance as shown in Earning per Share (EPS). This is in line with the rules of singular theory, that investors will be signed with company fundamental reports. The use of PER in the company provides a very important role as a measure of dividend growth in the future and has the ability to calculate the stock return by cross sectional. Sartano argues that "Price Earnings Ratio is a simple ratio obtained by dividing the market price of a stock with EPS

[3]. The amount of dividends paid by the company depends on the amount of EPS and the ratio of dividend payments ". The profit can then be invested in operating assets, used to buy securities, to pay off debts or to be distributed to shareholders. The idea that investors view is one bird in the hand as more valuable than a thousand birds in the air. Thus companies that have a high dividend payout ratio will also have high corporate value.

B. Return on Equity

Return on Equity (ROE) is a ratio to measure net income after tax with own capital. This ratio focuses on how the company's operating efficiency is translated into profits for the owners of the company. Hani states that "Return on Equity shows the ability of equity (generally ordinary shares) owned by the company to generate profits [4]. Other income also states that Return on Equity is used to measure the ability of the own capital owned in generating profits. Own capital is the sum between share capital and retained earnings. "The higher the Return on Equity, the better the profit, because it shows that the capital position of the owner of the company will be stronger, meaning that the profitability of the capital becomes better. Companies that emphasize security more in shopping systems tend to get lower Return on Equity compared to companies that use credit more in buying their activities. Syamsuddin states that "Return on Equity is a measurement of income (income) available for company owners (both ordinary shareholders and preferred shareholders) for the capital they invest in the company" [5].

C. Investment Opportunity Set

Investment Opportunity Set is a future investment choice and reflects the growth of assets and equity. Companies experiencing growth will choose many investment opportunities as a way to develop the company. The growth of the company can be seen from certain period of sales growth (sales growth) and the ratio of investment that is increasingly made by the company to fixed assets, so it will be a high level of investment made by the company. According to Mayangsari, it is argued that Investment Opportunity Set is a company value, the amount of which depends on expenditures determined by management in the future, which at present is investment choices that are expected to generate greater returns [6]. Investment Opportunity Set with fixed assets. This is in accordance with the cash flow report format (statement of cash flow) that measures investment in tangible fixed assets and long-term investments. A company is a combination of asset in place and investment choices in the future. This investment opportunity is also influenced by the policies that will be carried out by the company. Companies that have long been operating and running their business activities and are in an established position and are in a stage of maturity usually focus more on efforts to generate profits and share them with shareholders. The company in its current stage has a lot of profit reserves that can be used to re-invest without having to reduce the proportion to be shared with the shareholders.

D. Current Ratio as a Moderating Variable

Research Current Ratio as a moderating variable to factors that influence Price Earnings Ratio of cash dividends has not been found in literature in Indonesia. This study intends to examine whether Current Ratio strengthens or weakens the effect of Return on equity and Investment Opportunity Set on Price Earnings Ratio of the amount of dividends paid. The flow of thinking of the writer is a company that has a better Current Ratio and will be able to pay more dividends. In companies that record higher profits (Return on equity is high), plus a better Current Ratio, the greater the amount of dividends distributed. In companies that invest more funds will cause the amount of cash dividends paid to decrease, but a good Current Ratio can eliminate (weaken) the hypothesis because at that time the company can delay payment of short-term debt. Current Ratio is defined as the company's ability to pay off all its short-term obligations. According to Kasmir, and Current Ratio shows the level of security for short-term creditors [7]. But companies that have a high Current Ratio are not necessarily able to directly pay their obligations that are due. Whereas Rudianto state only companies that have good Current Ratio will share their profits with shareholders in cash [8]. Conversely, the management of the company will use the potential of the Current Ratio to pay off short-term liabilities or support the company's operations. This research is proxy's liquidity with Current Ratio.

E. Conceptual Framework

Based on the background of the problem, the theoretical review and frame of mind above, the conceptual framework of this research is formulated as follows:

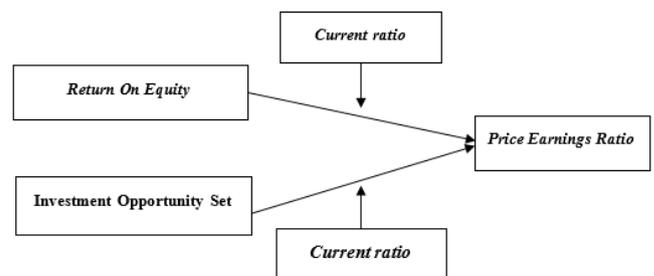


Fig. 1. Conceptual framework.

F. Hypothesis

Based on the conceptual framework developed, the hypotheses in this study are as follows:

- Return On Equity has an effect on the Price Earnings Ratio of companies in metal companies listed on the Indonesia Stock Exchange.
- The Investment Opportunity Set affects the Price Earnings Ratio of companies in metal companies listed on the Indonesia Stock Exchange.
- Current ratio is able to moderate the effect of Return On Equity on Price Earnings Ratio.
- The current ratio is able to moderate the effect of the Investment Opportunity Set on Price Earnings Ratio.

III. METHOD

According to Sugiyono, "Population is a region of generalization consisting of: objects / subjects that have certain quantities and characteristics set by researchers to be studied and then drawn conclusions" [9]. The population of this study is trading companies listed on the Indonesia Stock Exchange (IDX) from 2013 to 2017. Based on IDX until 2017 the Metal company consists of 16 companies listed on the Indonesia Stock Exchange (IDX). So that the population in the study is 16 large Metal sub sector production goods listed on the Indonesia Stock Exchange. The sample used in this study is the Purposive Sampling method, which is a sampling method that is adjusted to certain criteria. The criteria in taking this research sample are:

- The company is engaged in the trade sector in the large trade sub-sector of manufactured goods and listed on the Indonesia Stock Exchange (IDX) from 2013 to 2017
- Issue complete financial statements after being audited every year for the period of 2013 to 2017. So that companies can be included in the sample of this study consisting of 11 metal companies large metal sub-sectors of manufactured goods.

The data analysis method used in this study is quantitative data analysis method. Quantitative data analysis method is a method of data analysis that uses calculation of numbers which will be used to take a decision in solving problems and the data obtained is analyzed using theories that have been applied in general, so that conclusions can be drawn and test whether the formulated hypothesis can be accepted or rejected, while the analytical tools used in this study including:

A. Analysis of Multiple Linear Regressions

Regression analysis aims to predict changes in the value of the dependent variable due to the influence of the value of the independent variable

$$Y = a + b_1X_1 + b_2X_2 + b_3Z + \epsilon$$

The regression model is a regression model that produces a linear estimator that is not the best bias (Best Linear Unbiased Estimate / BLUE). The data analysis method used is a multiple linear regression analysis model with the help of SPSS Version 16 Software for Windows. Before testing the hypothesis proposed in the study it is necessary to test the classical assumptions which include; normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. To test the influence between ROE and PER, a simple regression model is used. As for testing the interaction effects of moderating variables, Moderated Regression Analysis (MRA) is used [10]. To use MRA with a predictor variable (X), we must share the three equations:

$$Y_i = \alpha + \beta_1 X_i + \epsilon$$

$$Y_i = \alpha + \beta_1 X_i + \beta_2 Z_i + \epsilon$$

$$Y_i = \alpha + \beta_1 X_i + \beta_2 Z_i + \beta_3 X_i * Z_i + \epsilon$$

After carrying out the classical assumption test, the MRA test was then carried out. In testing this moderation variable using the pure moderator equation where there are two equations in each independent variable.

B. Classic Assumption Test

Because using multiple linear regression requirements test is called the classic assumption test. The use of regression analysis in statistics must be free from classical assumptions. The testing of the classical assumptions used are the normality test, multicollinearity test, heteroscedasticity test, autocorrelation test, and linearity test.

IV. RESEARCH RESULTS

A. Normality Test

The normality test is done to determine the relationship of independent variables with dependent variables having a normal distribution or not. Regression models are good if the data distribution is normal or near normal. A good regression model is to have normal data distribution data or close to normal. In principle, normality can be detected by looking at the spread of data (dots) on the diagonal axis on the graph or looking at the histogram of the residue. This test is done to find out whether the independent variable and the dependent variable are normally distributed or not. The normality test used is the Kolmogrov-Smirnov test.

TABLE I. NORMALITY TEST

One-Sample Kolmogorov-Smirnov Test

		Standardized Residual
N		40
Normal Parameters ^a	Mean	.0000000
	Std. Deviation	.96076892
Most Extreme Differences	Absolute	.098
	Positive	.098
	Negative	-.053
Kolmogorov-Smirnov Z		.617
Asymp. Sig. (2-tailed)		.841

^a. Test distribution is Normal.

^b. Calculated from data.

^c. Lilliefors Significance Correction.

The table above has shown that the Kolmogrov-Smirnov value variable Return On Equity, Investment Opportunity Set, Current Ratio, and Price Earnings Ratio have been normally distributed because they have a significance level above 0.05. Variable values have met established standards. This can be seen from the Asymp line. Sig (2-tailed) From the table above shows the value of Asymp. Sig (2-tailed) of 0.841.

B. Multicollinearity Test

TABLE II. COEFFICIENTS^A

Model	Collinearity Statistics	
	Tolerance	VIF
1	(Constant)	
	Ln ROE	.895
	Ln IOS	.932
	Ln CR	.584

From the results of the table above it can be seen that:

The vif value of roe = 1.118 <10

Vif value ln ios = 1.073 <10

Vif value ln cr = 1.714 <10

So in this study it can be concluded that between independent variables does not occur the symptoms of multicollinearity.

C. Heteroscedasticity Test

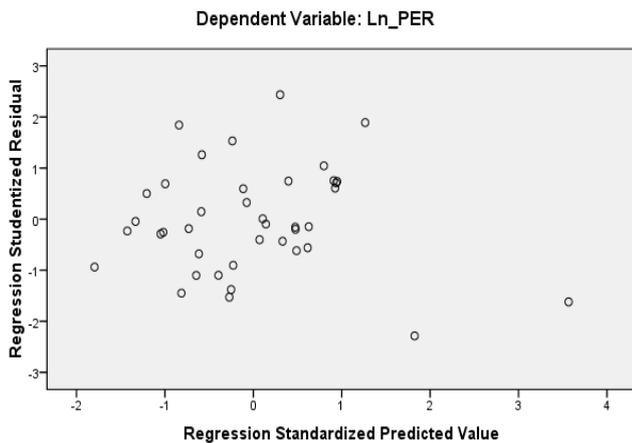


Fig. 2. Scatterplot.

From the plotter results above, it can be seen that there is an unclear pattern, such as points that spread above and are assumed by members 0 on the Y axis, thus identifying no heteroscedasticity in the regression model so that the regression model is feasible to see the dividend policy (PER) of listed metal companies on the Indonesia Stock Exchange with the independent variable Return On Equity and Investment Opportunity Set and Current Ratio as moderating variables.

D. Autocorrelation Test

TABLE III. MODEL SUMMARY^D

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.414 ^c	.171	.102	1.40568	1.876

^d Predictors: (Constant), Ln_CR, Ln_ROE, Ln_IOS

^c Dependent Variable: Ln_PER

From the results of SPSS above it is known that the Durbin-Waston value = 1.876. Then it can be concluded that the data above does not occur autocorrelation.

E. Linearity Test

1) Linearity return on equity test for price earnings ratio

TABLE IV. ANOVA

			Sum of Squares	df	Mean Square	F	Sig.
PER* ROE	Between Groups	(Combined)	13.699	44	.311	12.062	.000
		Linearity	.259	1	.259	10.030	.010
	Deviation from Linearity	13.440	43	.313	12.109	.000	
	Within Groups		.258	10	.026		
	Total		13.957	54			

2) Linearity test of investment opportunity set against price earnings ratio

TABLE V. ANOVA

			Sum of Squares	df	Mean Square	F	Sig.
PER* IOS	Between Groups	(Combined)	13.889	52	.267	7.801	.120
		Linearity	.093	1	.093	2.716	.241
	Deviation from Linearity	13.796	51	.271	7.901	.119	
	Within Groups		.258	.068	2	.034	
	Total		13.957	13.957	54		

From the data above, there is a significance value = 0.119 > 0.05, which means that there is a significant linear relationship between the independent variables X2 Investment Opportunity Set and the dependent variable Y Price Earnings Ratio.

The object of the research used is a trading company in the large-scale trade sub-sector of goods during the period 20013-2017 (5 years). This study looked at whether Return On Equity (ROE) and Investment Opportunity Set (IOS) had a significant effect on Price Earnings Ratio.

F. Regression

TABLE VI. COEFFICIENTS^F

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.452	1.235		2.796	.008
	Ln_ROE	.150	.071	.305	2.102	.042
	Ln_IOS	-.218	.091	-.318	-2.396	.020
	Ln_CR	.711	.372	.380	1.914	.064

^f Dependent Variable: Ln_PER

V. DISCUSSION

Based on the table above, the regression equation is obtained as follows:

$$Y = 3,452 + 0,150 X1 - 0,218 X2 + 0,711 Z$$

Explanation:

- Constanta (a) worth 3,452. This shows that if the Return On Equity (X1) and Investment Opportunity Set (IOS) values are equal to Zero (0), then the Price Earnings Ratio value will increase by 3,452.
- The regression coefficient of Return On Equity (X1) is = 0,150 with the direction of a positive relationship indicating that if the Return On Equity is increased by 100%, the value of Price Earnings Ratio (Y) will increase by = 0,150 with the assumption that the other variables are constant.
- The Investment Opportunity Set (X2) regression coefficient of - 0.218 with the direction of the negative relationship indicates that if the Investment Opportunity Set is increased by 100%, the Price Earnings Ratio (Y) value will decrease by -0.218 assuming that the other variables are constant.
- The regression coefficient of Current Ratio (Z) of 0.711 with the direction of a positive relationship shows that if the Current Ratio is increased by 100%, the Price Earnings Ratio (Y) will increase by 0.711 assuming that the other variables are constant.

The results of multiple linear equations also show the influence of each independent Return On Equity variable, Investment Opportunity Set and Current Ratio to the Price Earnings Ratio, which is shown by the respective independent coefficient values. Coefficient value that has a positive sign means having a direct influence on Price Earnings Ratio. and vice versa, the coefficients that have a negative sign mean having an opposite effect on the Price Earnings Ratio.

G. MRA Test

TABLE VII. COEFFICIENT^g

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.571	.481		3.265	.002
Ln_ROE	.311	.135	.301	2.299	.027
Ln_IOS	-.151	.040	-.494	-3.777	.001

^g Dependent Variable: Ln_CR

Based on the table of the results of the first MRA test the ROE variable obtained a value of tcount of 2.132 with a Return on Equity significance of 0.038, then the first hypothesis (H1) is accepted and it can be concluded that there is an effect of Return On Equity on Price Earnings Ratio. While the results of the MRA test of the two IOS variables obtained a t-count of -3,777 with an Investment Opportunity Set of 0.001, then the effect of the Investment Opportunity Set on Price Earnings Ratio.

A. The Effect Return on Equity to Price Earnings Ratio

The Result of study shows that the first hypothesis was accepted. This shows that there is an effect of the significance of Return On Equity on Price Earnings Ratio which is indicated by the value of tcount> ttable which is 2.102> 2.005 with a significance value of 0.042 <0.05 and a positive β coefficient value of 0.305. This shows that the Return On Equity (X1) variable has a significant positive effect on Price Earnings Ratio (Y) in metal companies listed on the Indonesia Stock Exchange for the period 2013-2017. This means that if the Return On Equity increases, the value of the company will increase. If a company's ability to generate profits increases, dividend policy will also increase. Thus, the higher the ratio, the better the position of the company, which means that the company's ability to cover the investment is used. This can allow companies to finance investments from funds originating from internal sources available in retained earnings. Company profits can be held as retained earnings and can be distributed as dividends. Return On Equity is obtained from net income divided by total assets. The acquisition of high Return On Equity means the greater the amount of dividends to be shared with shareholders.

According to Kasmir which states that the ratio of Return on Equity is a ratio to assess a company's ability to seek profits [7]. Another research result that is in line with this research is the research conducted by Nawangwulan et al. which states that Return On Equity has a positive significant effect on Price Earnings Ratio [11]. Then Riadi's research states that Return On Equity has a positive significant effect on Price Earnings Ratio [12]. From the results of research conducted by researchers and the opinions of previous research, the study can conclude that Return On Equity has an effect on Price Earnings Ratio.

B. The Effect Investment Opportunity Set to Price Earnings Ratio

The Result of the study shows that the first hypothesis was accepted. This shows that there is a significant effect of Investment Opportunity Set on Price Earnings Ratio which is indicated by the value -counted-t <-ttable that is (-2,396 <-2,005), then the Investment Opportunity Set partially negatively affects Price Earnings Ratio. The significance of the study also showed Sig <0.05 (0.020 <0.05), and a negative β value of -0.305. This shows that the Investment Opportunity Set (X2) variable has a significant negative effect on Price Earnings Ratio (Y) in metal companies registered in Indonesian Stock Exchange for the period 2013-2017. Declining investment opportunities can cause a decrease in dividend distribution. This is because investment opportunities and dividend policies are both sourced from company profits. The company's profits are used to pay dividends to shareholders and the remainder is held as retained earnings which will be used for company investment for future growth, so companies that have high investment opportunities also have high growth opportunities. Therefore, when companies make more investment opportunities, dividend distribution will decrease.

This means that the Investment Opportunity Set variable has a significant negative effect on Price Earnings Ratio.

According to Pangestuti, the Investment Opportunity Set Proxy correlates with growth, so companies that have a high Investment Opportunity Set also have high growth opportunities [13]. As one alternative to finance these opportunities is to reduce dividend distribution, which means that the Investment Opportunity Set variable has a significant negative effect on Price Earnings Ratio. Another research result that is in line with this research is the research conducted by Hidayat which states that the Investment Opportunity Set has a significant negative effect on Price Earnings Ratio [14]. Then the study of Azmi and Listiadi which states that Investment Opportunity Set has a significant negative effect on Price Earnings Ratio [15]. From the results of research conducted by researchers and the opinions of previous studies, the study can conclude that the Investment Opportunity Set has a significant negative effect on Price Earnings Ratio.

C. Current Ratio can moderate the effect of Return On Equity on Price Earnings Ratio

The Result of study shows that the first hypothesis was accepted. This shows that there is an effect of the significant Return On Equity of 2.299 with a significant value of 0.027 while the table is 2.005, so that $t_{count} > t_{table}$ ($2.299 > 2.005$), then partially Return on Equity affects the Current Ratio. The significance of the study also showed Sig < 0.05 ($0.027 < 0.05$), and a positive β value of 0.301. This shows that the Current Ratio variable is able to moderate the effect of Return On Equity on Price Earnings Ratio on metal companies listed on the Indonesia Stock Exchange for the period of 2013 - 2017. Current Ratio is the company's ability to fulfill its short-term obligations and fulfill company operations. The management will use the potential of the Current Ratio to fund the company's operations or pay off short-term liabilities. In companies that have higher profits and a better Current Ratio, the greater the amount of dividends to be distributed.

According to Rahmiati and Rahim argue that companies that invest more funds will cause the amount of dividends paid to decrease, but a good Current Ratio is able to strengthen that opinion because companies can delay payment of short-term debt [16]. Only companies that have a good Current Ratio can share profits with shareholders in cash. Thus the Current Ratio can strengthen the effect of Return On Equity on Price Earnings Ratio. Another research result that is in line with this research is the research conducted in Pangestuti's research states that return on equity has an effect on Price Earnings Ratio [13]. and in the study by Suharli, states that there is an influence between return on equity towards the Current Ratio [1]. From the results of research conducted by researchers and the opinions of previous studies, the study can conclude that the Current Ratio can strengthen the effect of return on equity on Price Earnings Ratio.

D. Current Ratio is able to moderate influence of Investment Opportunity Set to Price Earnings Ratio.

The study conducted show that the first hypothesis was accepted. This shows that there is a significant effect of

Investment Opportunity Set of -3.777 with a significant value of 0.001 while t table is -2.005, so $-counted-t < -t_{table}$ ($-3.777 < -2.005$), the Investment Opportunity Set partially affects the Current Ratio. The significance of the study also showed Sig < 0.05 ($0.001 < 0.05$), and the negative β value was -0.449. This shows that the Current Ratio variable is able to moderate the effect of Investment Opportunity Set on Price Earnings Ratio for metal companies registered in Indonesian Stock Exchange for the period 2013-2017. If the Current Ratio of the company is good, the company will tend to use existing cash funds to finance the high Investment Opportunity Set. Therefore, it will reduce the cash funds available to pay cash dividends. So, the Current Ratio will strengthen the Investment Opportunity Set's negative influence on Price Earnings Ratio. The greater the value of IOS, indicates that the opportunity for future corporate investment to grow. Funding needs for large investment opportunities, so that retained earnings are greater than dividends are distributed small, which means the Investment Opportunity Set variable against Price Earnings Ratio.

According to Hantono states that Current Ratio is the company's ability to meet its short-term obligations [17]. Companies that are able to pay all short-term debt are said to be liquid companies. Thus the Current Ratio can strengthen the negative influence of the Investment Opportunity Set on Price Earnings Ratio. and in the study by Suharli, stated that there was an influence between the Investment Opportunity Set against the Current Ratio [1]. From the results of research conducted by researchers and the opinions of previous studies, the study can conclude that the Current Ratio can strengthen the effect of the Investment Opportunity Set on Price Earnings Ratio.

VI. CONCLUSION

- In the results of the Hypothesis test it is known that profitability as measured by Return On Equity has a significant effect on dividend policy as measured by Price Earnings Ratio with a positive direction. This shows that this can allow companies to finance investments from funds originating from internal sources available in retained earnings. Company profits can be held as retained earnings and can be distributed as dividends, so information in Return On Equity will be a positive value for investors and can increase the value of the company.
- In the results of the Hypothesis test, it is known that the Investment Opportunity Set has a significant effect on the dividend policy measured by the Price Earnings Ratio with a negative direction. This shows that company profits are used to pay dividends to shareholders and the remainder is held as retained earnings which will be used for company investment for future growth, so companies that have high investment opportunities also have high growth opportunities.
- In the results of the Hypothesis Current Ratio test, it is able to moderate the positive effect of Return On Equity on Price Earnings Ratio. This shows that Current Ratio is the company's ability to fulfill its short-term obligations and fulfill the company's operations. The

management will use the potential of the Current Ratio to fund the company's operations or pay off short-term liabilities. In companies that have higher profits and a better Current Ratio, the greater the amount of dividends to be distributed.

- In the results of the Hypothesis Current Ratio test, it is able to moderate the negative effect of the Investment Opportunity Set on Price Earnings Ratio. This shows the greater the value of IOS, indicating that the opportunity for future corporate investment to grow. Funding requirements for large investment opportunities, so that retained earnings are greater than small dividends distributed.

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