





## ANALYSIS OF FACTORS AFFECTING CAPITAL STRUCTURE AND THE IMPACT ON LQ-45 SHARE PRICE IN 2015-2018

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### ABSTRACT

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This study aims to test and analyze the factors that affect the capital structure and its impact on the LQ-45 Share Price in 2015-2018. Research data is annual data for an observation period of 4 years (2015 to 2018). The sampling method used was purposive sampling. From a population of 45 companies, 31 companies meet the criteria to be sampled. The analysis method used in this research is regression panel data. The results showed that the Return on Assets, Return on Equity, Net Profit Margin together (simultaneously) have a significant effect on the Debt Equity Ratio and Return on Assets, Return on Equity, Net Profit Margin, and Debt Equity Ratio together (simultaneous) has a significant effect on Share Prices. Partially, Return on Assets has a significant negative effect on Debt Equity, Return on Equity significantly positive effect on Debt Equity Ratio while Net Profit Margin has zero results on Debt Equity Ratio In Part, Return on Assets, Return on Equity and Net Profit Margin have no significant effect because of Share Prices and Debt Equity Ratio has a significant negative result on Share Prices.

**Contribution/Originality:** This study is one of very few studies which have investigated factors affecting capital structure and the impact on share price.

### 1. INTRODUCTION

A capital market is a place where various long-term financial instruments can be traded as well as a place for investing activities so that it has a crucial role for the economy of a country because it is a means for companies to obtain funds from investors and increase business activities in order to generate more profits. A capital market is also a place for people to invest in various existing financial instruments according to the characteristics profit and risk of these financial instruments. One of the most popular and influential stock indexes on the Indonesia Stock Exchange is the LQ45 index because it is the driving force for the Indonesia Composite Index (IHSG) were consists of all stocks on the IDX. When the LQ45 index rises, the ISHG rebound, and vice versa. This because companies that are involved in the LQ45 index have good company performance. In the LQ45 index, every 6 months, to be precise at the beginning of February and August, there is a change in shares of 45 stocks that have entered the LQ45 index, where stocks whose performance has decreased will be excelled on the LQ45 index and replaced by stocks whose performance has increased of course with the criteria and conditions issued by the Indonesian stock exchange for entry in the LQ45 index.

Regarding the importance of an investor to predict Share Price movements, this study root out the factors that affect the capital structure and their impact on the LQ45 Share Price. Thereby, the authors chose LQ45 shares as the object of research because LQ45 stocks are the most actively traded stocks on the Indonesian stock exchange and are the leading stocks selected from each industrial sector it can be more accurate in their time series analysis.

## 2. THEORETICAL REVIEW

### 2.1. Framework

A frame of mind is created to describe the relationship between the independent variable and the dependent variable. In this study, Return on Assets, Return on Equity, and Net Profit Margin as independent variables, although Debt Equity Ratio as an intervening variable and Share Price as the dependent variable.

This research framework can be described in Figure 1.

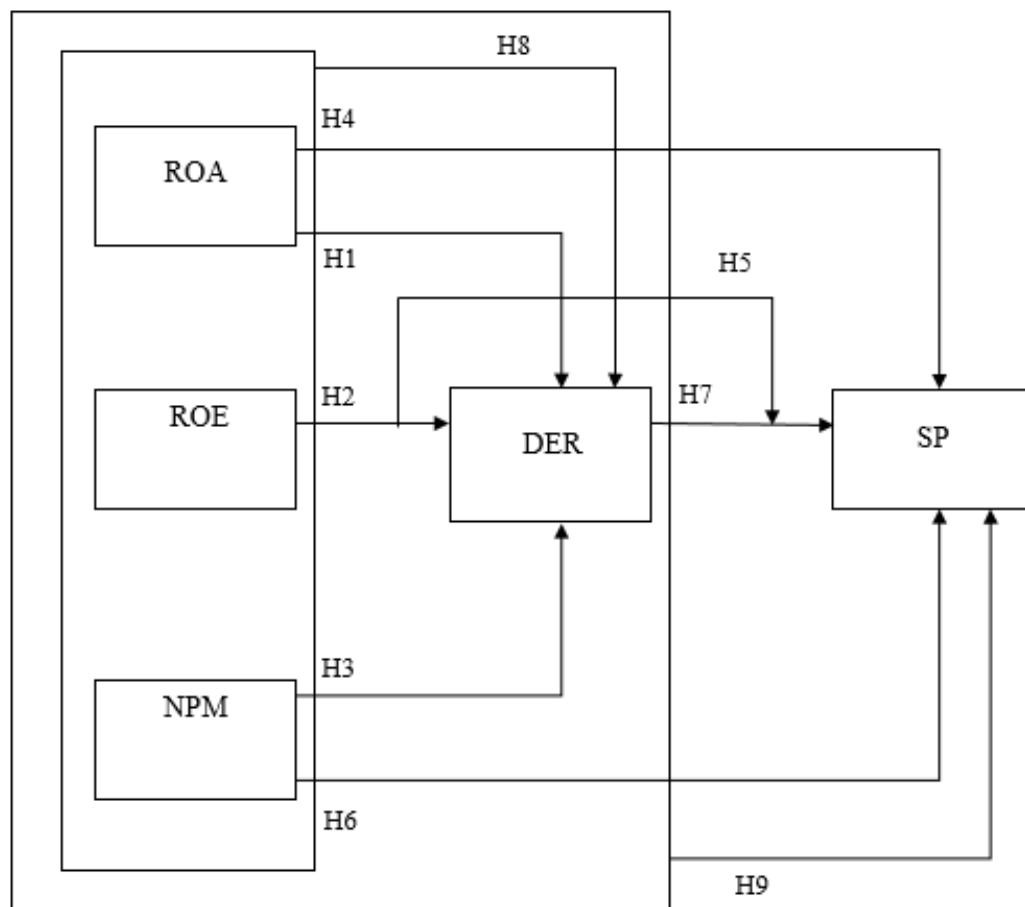


Figure-1. Research Thinking framework.

### 2.2. Hypothesis

#### 2.2.1. The Effect of Return on Assets against Debt to Equity Ratio

ROA (Return on Assets) indicates that the company has a capability to use all its assets to generate a profit after tax (Sudana, 2011). With a high Return on Asset value, it can be the capital used by the company comes from debt is getting smaller and vice versa. If the Return on Assets is low, the capital used by the company comes from the higher debt. It can be concluded that the Return on Assets makes a bleak outcome on capital structure.

The hypothesis proposed for this study is as follows:

$H_{01} = 0$ , Return on Assets has no effect **against** Debt Equity Ratio.

$H_{a1} \neq 0$ , Return on Assets has effect **against** Debt Equity Ratio.

### 2.2.2. The Effect of Return on Equity against Debt Equity Ratio

ROE (Return on Equity) indicates that the company can generate profit after tax using the company capital (Sudana, 2011). The high value of Return on Equity of the company allows the company to use its capital with retained earnings. The hypothesis proposed for this study is as follows:

$H_{0_2} = 0$ , Return on Equity has no effect **against** Debt Equity Ratio.

$H_{a_2} \neq 0$ , Return on Equity has effect **against** Debt Equity Ratio.

### 2.2.3. The Effect of Net Profit Margin against Debt to Equity Ratio

The more benefits, the more the proportion of debt will decrease. The greater the Net Profit Margin value, the bigger company's generating profits. So, it can be concluded that Net Profit Margin has a negative effect on the capital structure.

The hypothesis proposed for this study is as follows:

$H_{0_3} = 0$ , Net Profit Margin has no effect **against** Debt Equity Ratio.

$H_{a_3} \neq 0$ , Net Profit Margin has effect **against** Debt Equity Ratio.

### 2.2.4. The Effect of Return on Assets against Share Price

The Return on Assets ratio is a tool to show how much the company's assets are used so effectively to generate earnings. The more massive value of Return on Assets, the more earnings for the company, then the demand for shareholders will increase. So it can be concluded that Return on Assets (ROA) has a positive effect on Share Prices (Wulandari & Santi, 2018).

The hypothesis proposed to investigate this. as follows:

$H_{0_4} = 0$ , Return on Assets has no effect **against** Share Price.

$H_{a_4} \neq 0$ , Return on Assets has effect against Share Price.

### 2.2.5. The Effect of Return on Equity against Share Price

According to Tandelilin (2010), Return on Equity is a ratio that describes the extent to which the company's ability to generate earnings that shareholders usually receive. In other words, the company can use the liability from shareholders effectively and efficiently to earn profits.

The hypothesis proposed for this study is as follows:

$H_{0_5} = 0$ , Return on Equity has no effect against Share Price.

$H_{a_5} \neq 0$ , Return on Equity has effect against Share Price.

### 2.2.6. The Effect of Net Profit Margin against Share Price

According to Weygandt, Kieso, and D. (2008). Net Profit Margin is a measure of a company's profitability from sales after accounting for all expenses and income taxes. The higher the Net Profit Margin, the better the company's performance. So it can be concluded that the Net Profit Margin (NPM) has a positive effect on Share Prices

The hypothesis proposed for this study is as follows:

$H_{0_6} = 0$ , Net Profit Margin has no effect against Share Price.

$H_{a_6} \neq 0$ , Net Profit Margin has effect against Share Price.

### 2.2.7. The Effect of Debt to Equity Ratio against Share Price

Debt Equity Ratio is a company's capital structure that calculated by dividing a company's total liabilities by its shareholder equity. The smaller a company's funds use debt, the company can provide benefits to investors. If the company uses funds from large debts, the company will prioritize paying liabilities.

So it can be concluded that the Debt to Equity Ratio (DER) has a negative effect on Share Prices.

The hypothesis proposed for this study is as follows:

$H_{07} = 0$ , *Debt Equity Ratio* has no effect against Share Price.

$H_{a7} \neq 0$ , *Debt Equity Ratio* has effect against Share Price.

### 2.2.8. The Effect of Return on Assets, Return on Equity, and Net Profit Margin simultaneously against Debt to Equity Ratio

It is suspected that there is a simultaneous effect of *Return on Assets*, *Return on Equity*, and *Net Profit Margin* on the Debt to Equity Ratio.

The hypothesis proposed for this study is as follows:

$H_{08} = 0$ , *Return on Assets*, *Return on Equity*, and *Net Profit Margin* does not affect simultaneously against Debt to Equity Ratio.

$H_{a8} \neq 0$ , *Return on Assets*, *Return on Equity*, and *Net Profit Margin* simultaneously affecting against Debt to Equity Ratio.

### 2.2.9. The Effect of Return on Assets, Return on Equity, Net Profit Margin and Debt to Equity Ratio simultaneously against Share Price.

It is suspected that there is a simultaneous effect of *Return on Assets*, *Return on Equity*, and *Net Profit Margin* on Share Prices.

The hypothesis put forward to investigate this is as follows:

$H_{09} = 0$ , *Return on Assets*, *Return on Equity*, and *Net Profit* does not affect simultaneously against Share Price.

$H_{a9} \neq 0$ , *Return on Assets*, *Return on Equity*, and *Net Profit Margin* simultaneously affecting against Share Price.

## 3. RESEARCH METHOD

### 3.1. Types of Research

The research is using quantitative by analyzing the relationship between variables to the more causal object, so in this research there are independent and dependent variables. (Sugiyono, 2010).

### 3.2. Operational Definition and Variables Measurement

In Table 1, this research using *Return on Assets* (X1), *Return on Equity* (X2) as variables, and *Net Profit Margin* (X3) as independent variables, Share Price (Y) as dependent variables, and *Debt Equity Ratio* (Z) as intervening variables.

Table-1. Operational Definition.

Variables	Indicators	Scales
<i>Return on Assets</i> (X1)	$ROA = \frac{\text{Net Income After tax}}{\text{Total Assets}} \times 100\%$	Ratio
<i>Return on Equity</i> (X2)	$ROE = \frac{\text{Net income after tax}}{\text{Total Equity}} \times 100\%$	Ratio
<i>Net Profit Margin</i> (X3)	$NPM = \frac{\text{Net income after tax}}{\text{Net Sales}} \times 100\%$	Ratio
<i>Debt to Equity Ratio</i> (Z)	$DER = \frac{\text{Total amount of debt}}{\text{Total amount of capital}} \times 100\%$	Ratio
Share Price (Y)	SP = Closing Share Price	Nominal

Based on the research sampling criteria in Table 2, the number of companies that meet the sample criteria was 31 companies.

Table-2. Sample Definition Criteria.

Number	Description	Sample
1.	Companies Registered in LQ45 in 2015-2018	45
2.	Companies that are not registered consistently in LQ45 in 2015-2018	(14)
	Sample Total	31

### 3.3. Data Analysis Method

#### 3.3.1. Inferential Statistical Analysis

According to Salim and Rina (2019), to understand the relationship between variables using in the form of linear regression, or simple linear regression.

$$Y \text{ Equation.} = a + b X_1 + d X_2 + e X_3 + e \dots\dots\dots R^2$$

$$\text{or } Z = Y_1 = a + b X_1 + e \dots\dots\dots R^2$$

## 4. RESEARCH RESULTS AND DISCUSSION

### 4.1. Research Result

#### 4.1.1. Descriptive Statistic

In Table 3, descriptive statistical data has shown 31 samples of companies listed in LQ45 in the period 2015 to 2018, as follow: Return on assets has a maximum value of 46.66% at PT. Unilever Indonesia Tbk. in 2018, has a minimum value of -0.70% at PT. Vale Indonesia Tbk. in 2017 and the mean value of all data from 2015 to 2018 was 9.10%. Return on equity has a maximum value of 160.99% at PT. Matahari Department Store Tbk. in 2015, has a minimum value of -0.84% at PT. Vale Indonesia Tbk in 2017 and the mean value of all data from 2015 to 2018 was 20.96%.

Net profit margin has a maximum value of 60.43% at PT. Bank Rakyat Indonesia (Persero) Tbk. in 2018, has a minimum value of -2.43% at PT. Vale Indonesia Tbk in 2017 and the mean value of all data from 2015 to 2018 was 15.94%. The debt equity ratio has a maximum value of 11.40% at PT. Unilever Indonesia Tbk in 2018, has a minimum value of 0.15% at PT. Vale Indonesia Tbk in 2017 and the mean value of all data from 2015 to 2018 was 2.01%. The stock price has a maximum value of Rp. 83,800 at Gudang Garam Tbk. 2017 has a minimum value of Rp. 254 at Lippo Karawaci Tbk. in 2018 and the mean value of all data from 2015 to 2018 was Rp. 9,414.

Table-3. Research descriptive statistics.

Variable	Maximum	Minimum	Mean
Return on Assets (%)	46.66%	-0.70%	9.10%
Return on Equity (%)	160.99%	-0.84%	20.96%
Net Profit Margin (%)	60.43%	-2.43%	15.94%
Debt Equity Ratio (%)	11.40%	0.15%	2.01%
Share Price (Rp)	Rp 83,800	Rp 254	Rp 9,414

#### 4.1.2. Chow test

In Table 4, it can be said that the equation  $DER_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it}$  shows that the fixed effect model was better used in this equation than the common effect model, evidenced by the F test acquisition that was 0.0000 or p-value  $\leq 0.05$ . In Table 4, it can also be said that the equation  $SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_4 DER_{it}$  shows that the fixed effect model was better used in this equation than the common effect model, evidenced by the acquisition of the F test was 0.0000 or p-value 0.05. After completing the Chow test, researchers need to conduct the Hausman test to find out whether the fixed effect model is better than the random effect model.

Table-4. Chow test results.

Equation	Cross-section Chi-square	Prob	Conclusion
$DER_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it}$	443.697728	0.0000	Fixed effect model
$SP = C + \beta_1 ROA + \beta_2 ROE + \beta_3 NPM + \beta_1 DER$	356.590203	0.0000	Fixed effect model

#### 4.1.3. Hausman test

In Table 5, it can be said that the equation  $DER_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it}$  shows that the fixed effect model was better used in this equation than the random effect model, evidenced by the F test acquisition was 0.0000 or p-value 0.05. From the Chow test and Hausman test carried out on this equation, it was shown that the most appropriate model for this equation was the fixed effect model and the hypothesis decision rejects  $H_0$  so the Lagrange Multiplier test was no need to be conducted. In Table 5 it can also be said that the equation  $SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_1 DER_{it}$  shows that the random effect model was better used in this equation compared to the fixed effect model, evidenced by the acquisition of the F test was 0.9095 or p-value 0.05. For this equation, researchers need to do the next test, the Lagrange Multiplier test to find out whether the random effect model is better than the common effect model.

Table-5. Hausman test results.

Equation	Cross-section Random	Prob	Conclusions
$DER_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it}$	23.321823	0.0000	Fixed effect model
$SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_1 DER_{it}$	1.001910	0.9095	Random effect model

#### 4.1.4. Lagrange Multiplier test

In Table 6, it can be said that the equation  $SP_{it} = C + \beta_1 ROA + \beta_2 ROE + \beta_3 NPM + \beta_1 DER$  shows that the random effect model was better used in this equation compared to the common effect model, evidenced by the acquisition of the F test was 0.0000 or p-value 0.05 which means that the most appropriate model for this equation was the random effect model and the hypothesis decision was to accept  $H_a$ .

Table-6. Lagrange Multiplier test results.

Equation	Cross-section Breusch-Pagan	Prob	Conclusion
$SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_1 DER_{it}$	158.7985	0.0000	Random effect model

#### 4.1.5. Fixed Effect Model Test

Based on Table 7, Return on Assets (ROA) has a regression coefficient of  $\beta_1 -0.059726$  and the probability value of  $0.0000 < 0.05$ , which means that Return on Assets (ROA) has a negative relationship and has a significant effect on the Debt Equity Ratio (DER). This can be interpreted if the Return on Assets (ROA) increases by 1%, it will reduce the Debt Equity Ratio (DER) by 0.059726% with a 95% confidence level, which means the alternative hypothesis ( $H_{a1}$ ) was accepted and the null hypothesis ( $H_{01}$ ) was rejected.

Return on Equity (ROE) has a regression coefficient of  $\beta_1 0.027475$  and the probability value of  $0.0000 < 0.05$ , which means that Return on Equity (ROE) has a positive relationship and has a significant effect on the Debt Equity Ratio (DER). This can be interpreted if the Return on Equity (ROE) increases by 1%, it will increase the Debt Equity Ratio (DER) by 0.027475% with a 95% confidence level, which means the alternative hypothesis ( $H_{a2}$ ) was accepted and the null hypothesis ( $H_{02}$ ) was rejected.

Net Profit Margin (NPM) has a regression coefficient of  $\beta_1 -0.008393$  and the probability value of  $0.2026 > 0.05$ , which means that Net Profit Margin (NPM) has a negative relationship and has no significant effect on the Debt Equity Ratio (DER). This means that if the Net Profit Margin (NPM) increases by 1%, it will reduce the Debt Equity Ratio (DER) by 0.008393% with a 95% confidence level, which means the alternative hypothesis ( $H_{a3}$ ) was rejected and the null hypothesis ( $H_{03}$ ) was accepted.

**Table-7. Fixed Effect Model Testing Results on the DER Equation.**

Variable	Coefficient	Std. Error	t-Statistic	Prob	Conclusions
C	2.112884	0.082298	25.67357	0.0000	
ROA	-0.059726	0.011070	-5.395321	0.0000	Ha1 Accepted
ROE	0.027475	0.002392	11.48719	0.0000	Ha2 Accepted
NPM	-0.008393	0.006539	-1.283562	0.2026	Ha3 Rejected

#### 4.1.6. Random Effect Model Test

Based on Table 8, Return on Assets (ROA) has a regression coefficient of  $\beta_1 -38.85681$  and the probability value of  $0.8804 > 0.05$ , which means that Return on Assets (ROA) has a negative relationship and has no significant effect on Stock Price (SP). This can be interpreted if the Return on Assets (ROA) increases by 1%, it will reduce the Stock Price (SP) by 38.85681% with a 95% confidence level, which means the alternative hypothesis ( $H_{a4}$ ) was rejected and the null hypothesis ( $H_{04}$ ) was accepted.

Return on Equity (ROE) has a regression coefficient of  $\beta_1 148.3126$  and the probability value of  $0.0725 > 0.05$ , which means that Return on Equity (ROE) has a positive relationship and has no significant effect on Stock Price (SP). This can be interpreted if the Return on Equity (ROE) increases by 1%, it will increase the Stock Price (SP) by 148.3126% with a 95% confidence level, which means the alternative hypothesis ( $H_{a5}$ ) was rejected and the null hypothesis ( $H_{05}$ ) was accepted.

Net Profit Margin (NPM) has a regression coefficient of  $\beta_1 1.611353$  and the probability value of  $0.9687 > 0.05$ , which means that Net Profit Margin (NPM) has a positive relationship and has no significant effect on Stock Price (SP). This means that if the Net Profit Margin (NPM) increases by 1%, it will reduce the Stock Price (SP) by 1.611353% with a 95% confidence level, which means that the alternative hypothesis ( $H_{a6}$ ) was rejected and the null hypothesis ( $H_{06}$ ) was accepted.

The Debt Equity Ratio (DER) has a regression coefficient of  $\beta_1 -758.5015$  and the probability value of  $0.0233 < 0.05$ , which means that the Debt Equity Ratio (DER) has a negative relationship and has a significant effect on Stock Price (SP). This can be interpreted if the Debt Equity Ratio (DER) increases by 1%, it will reduce the Stock Price (SP) by 758.5015% with a 95% confidence level, which means the alternative hypothesis ( $H_{a7}$ ) was accepted and the null hypothesis ( $H_{07}$ ) was rejected.

**Table-8. Test Results of Random Effect Model on SP equations.**

Variable	Coefficient	Std. Error	t-Statistic	Prob	Keputusan
C	8159.024	3724.325	2.190739	0.0304	
ROA	-38.85681	257.7760	-0.150739	0.8804	Ha4 declined
ROE	148.3126	81.85502	1.811894	0.0725	Ha5 declined
NPM	1.611353	40.97541	0.039325	0.9687	Ha6 declined
DER	-758.5015	330.1593	-2.297380	0.0233	Ha7 Accepted

#### 4.1.7. Coefficient of Determination and Simultaneous Test

In Table 9, it can be seen that from the Equation  $DER = C + \beta_1 ROA + \beta_2 ROE + \beta_3 NPM$ ,  $R^2$  value was 0.985970 which means that 98.5970% of the debt equity ratio acquisition can be explained by the independent variables, namely, return on assets, return on equity and net profit margin. While the remaining 1.40300% was explained by other factors that cannot be explained in this equation.



To measure the effect of return on assets, return on equity and net profit margin simultaneously on the debt equity ratio, it can be seen from the results in Table 9 that the probability value of the Equation  $DER = C + \beta_1 ROA + \beta_2 ROE + \beta_3 NPM$  was  $0.000000 < 0.05$ , thus, it can be concluded that there was a significant effect on return on assets, return on equity and net profit margin simultaneously on the debt equity ratio, which means the alternative hypothesis ( $H_{a8}$ ) was accepted and the null hypothesis ( $H_{08}$ ) was rejected.

Table-9. Results of coefficient of determination and simultaneous test.

Equation	Coefficient of Determination		Simultaneous Test (Test F)	
	R-square	Adj R <sup>2</sup>	Fstat	Prob Fstat
$DER_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it}$	0.985970	0.980825	191.6589	0.000000
$SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_4 DER_{it}$	0.086159	0.055441	2.804890	0.028775

In Table 9, for the equation  $SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_4 DER_{it}$  it can be seen that the value of  $R^2$  was 0.086159 which means 8.6159% Stock prices acquisition can be explained by independent variables, namely, return on assets, return on equity, net profit margin, and debt equity ratio. While the remaining 91.38410% was explained by other factors that cannot be explained in this equation.

To measure the effect of return on assets, return on equity, net profit margin, and debt equity ratio simultaneously on stock prices, it can be seen from the results in Table 9 that the probability value of the Equation  $SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_4 DER_{it}$  was  $0.028775 < 0.05$ , thus, it can be concluded that there was a significant effect on return on assets, return on equity, net profit margin, and debt equity ratio simultaneously on stock prices, which means the alternative hypothesis ( $H_{a9}$ ) was accepted and the null hypothesis ( $H_{09}$ ) rejected.

4.1.8. DER Equation Multicollinearity Test

In Table 10 above, the correlation coefficient value between return on assets (ROA) and return on equity (ROE) was  $0.8857 < 0.9$  which means that there was no multicollinearity, the value of the correlation coefficient between return on assets (ROA) and net profit margin (NPM) was  $0.2100 < 0.9$  which means that there was no multicollinearity and the value of the correlation coefficient between return on equity (ROE) and profit margin (NPM) was  $0.1854 < 0.9$  which means that there was multicollinearity. Therefore, it can be concluded that there was no multicollinearity in this equation.

Table-10. DER Equation Multicollinearity Test.

Variable	ROA	ROE	NPM
ROA	1.0000	0.8857	0.2100
ROE	0.8857	1.0000	0.1854
NPM	0.2100	0.1854	1.0000

4.1.9. Multicollinearity Test of SP Equations

In Table 11, the correlation coefficient value between return on assets (ROA) and return on equity (ROE) was  $0.8857 < 0.9$  which means that there was no multicollinearity, the value of the correlation coefficient between return on assets (ROA) and net profit margin (NPM) was  $0.2100 < 0.9$  which means that there was no multicollinearity, the value of the correlation coefficient between return on equity (ROE) and net profit margin (NPM) was  $0.1854 < 0.9$  which means there was multicollinearity, the value of the correlation coefficient between return on assets (ROA) and debt equity ratio (DER) of  $-0.2851 < 0.9$  which means that there was no multicollinearity, the value of the correlation coefficient between return on equity (ROE) and debt equity ratio (DER) was  $0.0063 < 0.9$  which means that there was no multicollinearity, and the value of the correlation



coefficient between net profit margin (NPM) and debt equity ratio (DER) of  $0.0063 < 0.9$  which means that there was no multicollinearity. Therefore, it can be concluded that there was no multicollinearity in this equation.

**Table-11.** Multicollinearity Test of SP Equations.

Variable	ROA	ROE	NPM	DER
ROA	1.0000	0.8857	0.2100	-0.2851
ROE	0.8857	1.0000	0.1854	0.0063
NPM	0.2100	0.1854	1.0000	0.2570
DER	-0.2851	0.0063	0.2570	1.0000

#### 4.1.10. Heteroskedasticity Test

In Table 12, in the equation  $DER_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it}$ , the return on assets (ROA) coefficient value was  $-135.8546$  with a probability of  $0.0836 > 0.05$  which means it does not contain heteroscedasticity problems, the return on equity (ROE) coefficient was  $-148.3126$  with a probability of  $0.0725 > 0.05$  which means that it does not contain heteroscedasticity problems, and the value of the net profit margin (NPM) coefficient was  $0.00000501$  with a probability of  $0.9976 > 0.05$  which means that it does not contain heteroscedasticity problems. For this reason, it can be concluded that this equation does not contain a heteroscedasticity problem.

**Table-12.** Heteroskedasticity Test Results.

Equation	Variable	Coefficient	Prob
$DER_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it}$	ROA	-135.8546	0.0836
	ROE	148.3126	0.0725
	NPM	5.01E-06	0.9976
$SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_1 DER_{it}$	ROA	186.3964	0.5267
	ROE	22.36211	0.8221
	NPM	-29.27376	0.7719
	DER	-725.6421	0.2192

While in the equation  $SP_{it} = C + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 NPM_{it} + \beta_1 DER_{it}$ , the return on assets (ROA) coefficient value was  $186,3964$  with a probability of  $0.5267 > 0.05$  which means it does not contain heteroscedasticity problems, the return on equity (ROE) coefficient was  $-22,36211$  with a probability of  $0.8221 > 0.05$  which means that it does not contain heteroscedasticity problems, the value of the net profit margin (NPM) coefficient was  $-29.27376$  with a probability of  $0.7719 > 0.05$  which means that it does not contain heteroscedasticity problems, and the value of the debt equity ratio (DER) coefficient was equal to  $-725.6421$  with a probability of  $0.2192 > 0.05$  which means that it does not contain heteroscedasticity problems. Therefore, it can be concluded that this equation does not contain heteroscedasticity problems.

#### 4.1.11. Direct and Indirect Impacts

Table 13 shows the calculation of the coefficient of direct and indirect influence, it can be concluded as follows:

a. The direct effect of the return on assets variable on stock prices was  $-38,85681$  while the indirect effect that is influenced by the debt equity ratio variable was  $45.302261$ . These results indicate that it was better to measure the increase in stock prices indirectly through the debt equity ratio variable, because if conducted through the intervening variable, every 1% return on assets will increase the stock price by  $45.302261$  rupiah, but if conducted directly, every 1% return on assets will decrease the stock price by  $38,85681$  rupiah.

b. The direct effect of the return on equity variable on stock prices was  $148.3126$  while the indirect effect influenced by the debt equity ratio variable was  $-20.839829$ . These results indicate that it was better to measure the increase in stock prices directly without going through the debt equity ratio variable, because if measured directly,

every 1% return on equity will increase the share price by 148,3126 rupiah, but if measured through intervening variables, every 1% return on equity will decrease the share price by 20,839829 rupiah.

c. The direct effect of the net profit margin variable on stock prices was 1.611353 while the indirect effect influenced by the debt equity ratio variable was 6.366103. These results indicate that it was better to measure the increase in stock prices indirectly through the debt equity ratio variable, because if measured through the intervening variable, every 1% increase in net profit margin will increase the share price by 6.366103 rupiah but if measured directly, every 1% return on assets will decrease the stock price by 1.611353 rupiah.

**Table-13.** Direct and indirect impacts.

Between variables	Direct Impact	Indirect Impact
ROA > DER	-0.059726 (0.0000)	
ROE > DER	0.027475 (0.0000)	
NPM > DER	-0.008393 (0.2026)	
ROA > Share Price	-38.85681 (0.8804)	
ROE > Share Price	148.3126 (0.0725)	
NPM > Share Price	1.611353 (0.9687)	
DER > Share Price	-758.5015 (0.0233)	
ROA > DER > Share Price		-0.059725 x -758.5015 45.302261
ROE > DER > Share Price		0.027475 x -758.5015 -20.839829
NPM > DER > Share Price		-0.059725 x -758.5015 6.366103

## 4.2. Discussion

### 4.2.1. The Effect of Return on Assets against Debt Equity Ratio

The results of this study are in accordance with the theory of Brigham and Houston (2006) which suggests that companies that have a high profitability ratio in the use of funds will reduce funds coming from outside the company, because a high level of profit allows the company to get more funds from within the company in the form of retained profits, before the company gets funds from outside the company such as debt.

### 4.2.2. The Effect of Return on Assets against Debt Equity Ratio

Based on the results of this study, Return on Equity (ROE) has a positive relationship and has a significant effect on debt equity ratio (DER). This result is in agreement with the research of Dewi and Gede (2017) and Wulandari and Santi (2018) who stated that Return on Equity has a significant positive effect on Debt Equity Ratio. The results of this study are different from Sari and Haryanto (2013) which proves that Return on Equity has a significant negative effect on Debt to Equity Ratio and also Novianto (2016) which states that Return on Equity has no effect on Debt to Equity Ratio.

### 4.2.3. The Effect from Net Profit Margin against Debt Equity Ratio

Based on the results of this study, Net Profit Margin (NPM) has a negative and insignificant relationship to debt equity ratio (DER) or it can be said that Net Profit Margin (NPM) has no effect on Debt Equity Ratio (DER).

The results of the study agree with Faleria, Linda, and Stanley (2017) and Prasetyo (2016) stated that Net Profit Margin has no effect on Debt to Equity Ratio. The results of this study are different from Hidayah and

Ferawati (2018) which proves that Net Profit Margin has a significant negative effect on Debt to Equity and also Gunawan (2011) which states that Net Profit Margin has a significant positive effect on Debt to Equity Ratio.

#### *4.2.4. The Effect of Return on Assets against Share Price*

Based on this study, Return on Assets (ROA) has a negative and insignificant relationship to the Share Price (SP) or it can be said that Return on Assets (ROA) has no effect on the Share Price (SP). This result agrees with Ramdhani (2013), Egam, Ventje, and Sonny (2017), Wulandari and Santi (2018) and Prasetyo (2016) stated that Return on Assets has no effect on The Share Price.

#### *4.2.5. The Effect of Return on Equity against Share Price*

Based on this study, Return on Equity (ROE) has a positive and insignificant relationship to the Share Price (SP) or it can be said that Return on Equity (ROE) has no effect on the Share Price (SP). This result agrees with Hidayat and Thamrin (2019), Wulandari and Santi (2018), Hunjra, Muhammad, Muhammad, Sabih, and Umer (2014), Noor and Rosyid (2018), Egam et al. (2017), and Kabajeh, Said, and Firas (2012) states that Return on Equity has no effect on the Share Price. The results of this study are different from Mikrawardhana, Raden, and Devi (2015) and Ircham, Siti, and Muhammad (2014) which proves that Return on Equity has a significant negative effect on the Share Price as well as research by Yumia and Khairunnisa (2015), and Kamar (2017) which states that Return on Equity has a significant positive effect on the Share Price.

#### *4.2.6. The Effect of Net Profit Margin against Share Price*

Based on the results of this study, Net Profit Margin (NPM) has a positive and insignificant relationship to the Share Price (SP) or it can be said that Net Profit Margin (NPM) has no effect on the Share Price (SP). This result agrees with the study of Faleria et al. (2017) and Prasetyo (2016) stated that Return on Equity has no effect on the Share Price. The results of this study are different from Egam et al. (2017) proves that Net Profit Margin has a significant negative effect on The Share Price and also research Watung and Ventje (2016), Suparningsih (2017) and Zulkarnaen and Aisyah (2016) stating that Net Profit Margin has a significant positive effect on the Share Price.

#### *4.2.7. The Effect of Debt Equity Ratio against Share Price*

Based on the results of this study, Debt Equity Ratio (DER) has a negative relationship and has a significant effect on the Share Price (SP). This result is in agreement with Wulandari and Santi (2018) and Ramdhani (2013) research which proves that Debt to Equity Ratio has a significant negative effect on Share Price. The results of this study are different from Ircham et al. (2014), Prasetyo (2016), Suparningsih (2017), and Purnamawati (2009) stated that debt to equity ratio has no effect on Share Price.

#### *4.2.8. Return on Assets, Return on Equity, Net Profit Margin Simultaneously against Debt to Equity Ratio*

Based on this study, there is a significant influence on return on assets, return on equity and net profit margin simultaneously on debt equity ratio.

#### *4.2.9. Return on Assets, Return on Equity, Net Profit Margin Simultaneously Against Share Price.*

Based on the results of this study there is a significant influence on return on assets, return on equity, net profit margin, and debt equity ratio simultaneously on the Share Price. The results of this study agree with Amalya (2018) which states that there is a significant influence on return on assets, return on equity, net profit margin, and debt equity ratio simultaneously on the Share Price.

#### 4.2.10. Direct and Indirect Effect

Based on the study, the indirect effect of return on equity on Share Price through debt equity ratio is smaller than the direct effect of return on equity on share price. Therefore, to measure the share price is better done directly, although from the results of sobel test variable debt equity ratio is able to intervening variable between variable return on equity and share price.

### 5. CLOSING CONCLUSIONS

Based on the research in Chapter 4, analyzing the effect of the independent variable is the return on assets, return on equity, net profit margin and also debt-equity ratio as intervening variables for dependent variables that is the Share Price, so the conclusions are following:

1. *Return on Assets* (ROA) has a negative and significant effect on the *Debt Equity Ratio* (DER).
2. *Return on Equity* (ROE) has a positive and significant effect on the *Debt Equity Ratio* (DER).
3. *Net Profit Margin* (NPM) does not affect the *Debt Equity Ratio* (DER).
4. *Return on Assets* (ROA) does not effect the Share Price (SP).
5. *Return on Equity* (ROE) does not effect the Share Price (SP).
6. *Net Profit Margin* (NPM) does not effect the Share Price (SP).
7. *Debt Equity Ratio* (DER) has a negative and significant effect on the Share Price (SP).
8. There is a significant effect on the *return on assets*, *return on equity* and *net profit margin* simultaneously to the *debt equity ratio*.
9. There is a significant effect on the *return on assets*, *return on equity*, *net profit margin*, dan *debt equity ratio* simultaneously to the Share Price.

### 6. SUGGESTION

Based on the Conclusions, the researchers give some pieces of advice to consider and that is:

1. For the investor, hope they consider to buy Share Price when *the debt-equity ratio* go up because when it happened the *Share Price* will go down, so the investor can get stock with the low price
2. For the investor, hope they pay attention to return on assets and return on equity variables because these variables affect the Share Prices through intervening variables, that is debt-equity ratio because these variables directly affect the Share Prices.
3. For the next researchers, it's required to add some variables that affect the Share Price because financial ratios that are not involved in this study may influence Share Price changes.

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### REFERENCES

- Amalya, N. T. (2018). Pengaruh return on asset, return on equity, net profit margin dan debt to equity ratio terhadap harga saham. *Jurnal Sekuritas Saham, Ekonomi Keuangan dan Investasi*, 1(3), 157-181. Available at: <https://doi.org/10.32493/skt.v1i3.1096>.
- Brigham, E. F., & Houston, J. F. (2006). *Fundamentals of financial management*. Jakarta: Salemba Four.
- Dewi, D. A. I. Y. M., & Gede, M. S. (2017). Effect of profitability, firm size, and asset growth on capital structure and firm value. *E-Journal of Unud Management*, 6(4), 2222-2252.
- Egam, G. E. Y., Ventje, I., & Sonny, P. (2017). The effect of return on assets (ROA), return on equity (ROE), net profit margin (NPM), and earning per share (EPS) on the stock prices of companies included in the LQ45 index on the Indonesia stock exchange 2013-2015 period. *Called the Journal*, 5(1), 105-114.

- Faleria, R. E., Linda, L., & Stanley, K. W. (2017). Effect of current ratio, net profit margin and earning per share on stock prices on the Indonesia stock exchange (Case Study on Food and Beverages Sub-Sector). *Journal of Accounting Research Going Concern*, 12(2), 204-212.
- Gunawan, A. (2011). Effect of profitability and asset turnover on capital structure. *Journal of Management & Business*, 11(1), 12-24.
- Hidayah, N., & Ferawati, D. (2018). Analysis of the effect of company size and net profit margin on the capital structure of a public cement industry company on the Indonesia stock exchange. *Journal of Management and Accounting*, 2(12), 4-11.
- Hidayat, M. S., & Thamrin, H. (2019). Determinant of ROE, CR, EPS, DER, PBV on share price on mining sector companies registered in IDX in 2014 -2017. *International Journal of Innovative Science and Research Technology*, 4(6), 171-177.
- Hunjra, A. I., Muhammad, S. I., Muhammad, I. C., Sabih, U. H., & Umer, M. (2014). Impact of dividend policy, earning per share, return on equity, profit after tax on stock prices. *International Journal of Economics and Empirical Research*, 2(3), 109-115.
- Ircham, M., Siti, R. H., & Muhammad, S. (2014). The effect of capital structure and profitability on stock prices (Study on Food and Beverage Companies Listed on the Indonesia Stock Exchange 2009-2012). *Journal of Business Administration*, 11(1), 1-8.
- Kabajeh, M. A. M., Said, M. A. A. N., & Firas, N. D. (2012). The relationship between the ROA, ROE and ROI ratios with Jordanian insurance public companies market share prices. *International Journal of Humanities and Social Science*, 2(11), 115-120.
- Kamar, K. (2017). Analysis of the effect of return on equity (ROE) and debt to equity ratio (DER) on stock price on cement industry listed In Indonesia stock exchange (IDX) in the year of 2011-2015. *Journal of Business and Management (IOSR-JBM)*, 19(5), 66-76. Available at: <https://doi.org/10.9790/487x-1905036676>.
- Mikrawardhana, M. R., Raden, R. H., & Devi, F. A. (2015). The effect of profitability and liquidity on the capital structure of multinational companies (Study on Multinational Companies Listed on the Indonesia Stock Exchange 2010-2013). *Journal of Business Administration*, 28(2), 1-7.
- Noor, M. I., & Rosyid, P. I. (2018). Effect of capital adequacy ratio (CAR), loan to deposit ratio (LDR) and return on equity (ROE) on share price PT Bank Danamon Indonesia, TBK. *International Journal of Business and Applied Social Science (IJBASS)*, 4(1), 87-101.
- Novianto, N. H. (2016). The effect of profitability and company growth on firm value with capital structure as a mediating variable in manufacturing companies on the Indonesia stock exchange. *Journal of Business and Management*, 52(11), 92-114.
- Prasetyo, R. (2016). The effect of profitability on company stock prices in the manufacturing sector period 2009-2013 by using capital structure as an intervening variable. *UNESA Accounting Journal*, 5(1), 1-22.
- Purnamawati, I. G. A. (2009). The effect of capital structure and profitability on stock price (Study of The Manufacturing Sector in Indonesia Stock Exchange). *International Journal of Business, Economics and Law*, 9(1), 10-16.
- Ramdhani, R. (2013). The effect of return on assets and debt to equity ratio on stock prices in financial institutions on the Indonesia stock exchange. *The Winners*, 14(1), 29-41. Available at: <https://doi.org/10.21512/tw.v14i1.642>.
- Salim, M. N., & Rina, S. (2019). The effect of internal factors on capital and it's impact on firm value: Empirical evidence from the food and baverages industry listed on Indonesian stock exchange 2013-2017. *International Journal of Engineering Technology and Management Research*, 6(7), 173-191. Available at: <https://doi.org/10.29121/ijetmr.v6.i7.2019.434>.
- Sari, D. V., & Haryanto, A. M. (2013). The effect of profitability, asset growth, company size, asset structure and liquidity on capital structure in manufacturing companies on the Indonesia stock exchange in 2008-2010. *Journal of Management & Business*, 11(1), 12-24.
- Sudana, I. M. (2011). *Corporate financial management theory and practice*. Surabaya: Erlangga X
- Sugiyono. (2010). *Business research methods*. Jakarta: Alfabeta.

- Suparningsih, B. (2017). Effect of debt to equity ratio (DER), price earnings ratio (PER), net profit margin (NPM), return on investment (ROI), earning per share (EPS) in influence exchange rates and Indonesian interest rates (SBI) share price in textile and garment industry Indonesia stock exchange. *International Journal of Multidisciplinary Research and Development*, 4(11), 58-62.
- Tandelilin, E. (2010). *Portfolio and investment*. Yogyakarta: Canisius.
- Watung, R. W., & Ventje, I. (2016). The effect of return on assets (ROA), net profit margin (NPM), and earning per share (EPS) on stock prices in banking companies on the Indonesia stock exchange for the period 2011-2015. *Called the Journal*, 4(2), 518-529.
- Weygandt, J. J., Kieso, D. E., & D., K. P. (2008). *Introduction to accounting* (7th ed.). Jakarta: Salemba Empat.
- Wulandari, R., & Santi, P. V. (2018). The effect of profitability on stock prices with capital structure as an intervening variable in the property & real estate sector listed on the Indonesia stock exchange for the 2012-2016 period. *Prosiding Working Paper Series in Management*, 10(1), 144-159.
- Yumia, M. N., & Khairunnisa. (2015). Effect of return on equity (ROE), earning per share (EPS), and price earning ratio (PER) on stock prices (Case Study on Metal and Mineral Mining Companies 2010-2014). *e-Proceeding of Management*, 2(3), 3178-3191.
- Zulkarnaen, & Aisyah, H. (2016). Muhammad syamsun, dan tb nur ahmad maulana. analysis of fundamental and technical factors to share price on residential property sector companies listed in indonesia stock exchange. *International Journal of Scientific and Research Publications*, 6(12), 315-319.

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