

# THE EFFECT OF FIRM SIZE, PROFITABILITY ON STOCK PRICE (AN EMPIRICAL STUDY ON MINING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE IN 2015-2019)

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## ABSTRACT

*The mining sector on the Indonesia Stock Exchange is one of the most profitable investment places. Therefore, this study aims to analyse the effect of firm size, profitability on stock price (an empirical study on mining companies listed on the Indonesia Stock Exchange in 2016-2020). This study uses quantitative method with descriptive research approach with variables such as company size, profitability, and stock price. This study uses secondary data in the form of annual reports from idx.co.id and firm websites. This study uses multiple regression data analysis technique. The result of the study shows that the firm size and profitability simultaneously affect the stock price significantly. Partially, the firm size affects the firm size positively, meanwhile the profitability does not affect the stock price.*

**Key words:** *firm size, profitability, stock price*

## INTRODUCTION

The growth of economy in Indonesia keeps on increasing, making the number of business opportunities and competitors also increasing. This increase affects the addition in the company's capital sourced from both internal and external funds. One of the approaches the company obtained these external funds is from the capital market. Capital market is a place for trading financial market with a variety of long-term financial devices, usually in the form of bonds (debt) or stocks (capital) [1]. Capital market facilitates the transfer of funds from the party with excess funds to the party that lacks funds[2]. The capital market provides the facility to transfer funds from the investors to the company [3]. The company that receives the funds from the investors can carry out work without having to wait for the funds to be available from the operational results. Whereas the investors hope to gain profits from maximum business results. The Indonesia Stock Exchange is divided into nine main sectors, namely agriculture, mining, basic industry and chemicals, miscellaneous industry, consumer goods industry, property, real estate, and building construction. Nowadays the mining sector has become a profitable investment because there is no substitute for the resources yet and it is assumed to be effective for energy, this condition causes the producing and exporting countries to gain a high foreign exchange. The

fluctuation of the stock price on the mining sector in 2015-2019 can be seen in Graph 1. The highest in 2015-2016 reached around Rp30.000, 2017-2018 had the highest increase reaching around Rp50.000, meanwhile 2019 had a significant decrease of only around Rp4.000 being the highest that year compared to the previous years and the fluctuation of the IHSG stock price in Graph 2 also show a significant decrease in 2019. The falling stock index performance of the mining sector because the price of coals experienced an oversupply in the global market throughout 2019 therefore the selling prices and margins were also depressed [4, 5].



Graph 2 The Fluctuation of the IHSG stock price in 2015-2019

How to maximize the stock price needs to consider its influencing factors [6, 7]. According to [8, 9] the factors that influence the stock price are: the fundamental condition of the company, the law of supply and demand, interest rates, foreign exchange rates, foreign funds on the stock exchange, stock price index, dividends, company's profits, rumors, and other factors. The performance of the company can be seen from the firm size, profitability, leverage, and the market value. The four variables are obtained from financial reports released by the company. The first variable, the firm size, reflects the size of the company seen from the company's total assets, sales, and market capitalization. The larger the size of the company seen from total assets, the higher the company's stock price, whereas if the size of the company is smaller, the company's stock price will be lower [2, 3]. Profitability is a ratio which shows the ability of the company to earn profits from existing resources, namely assets, capital, or sales [4, 10]. Profitability is a major concern for investors because if the condition of the company is profitable or promising in the future, the investors would invest in the company. Profitability is measured by return of equality. A high level of ROE means that the company will provide an opportunity for a large rate of return or profit for the investors so as to provide an opportunity to get the company's stock price.

## LITERATURE REVIEW

### Capital Market

According to [11, 12] the capital market is a place where various parties, especially companies, sell stocks and bonds with the aim that the proceeds from these sales will later be used as additional funds or strengthen the company funds. The capital market is a market for various long-term financial instruments that can be traded, both debt securities (bonds), equities (stocks), mutual funds, derivative instruments, and other instruments. The capital market can be beneficial for investors, issuers, governments, and other supporting institutions [9, 13, 14].

### Shares

Shares are one of the most traded type of securities in the capital market. According to [15, 16], shares are a sign of participation or ownership of a person or entity in a limited company or individual. The form of a share is a piece of paper that

explains that the owner of the paper is the owner of the company that issued the securities. Basically, there are two advantages that investors get by buying or owning shares, namely dividend (profit sharing) and capital gain (the difference between the purchase price and the selling price).

#### **Firm Size**

Firm size is a ratio which shows the size of a company [17]. The parameter of firm size has a book value of equity, total asset, and total sales revenue [8]. Firm size is classified and compiled through the natural log of total assets [15] and natural log of total sales [12]. This research is proxying the firm size with natural log of total sales. The total sales are the indicator to measure the firm size. It is because the company's fortune and resources are reflected in how big the sales are. Easy access to funding is a good information for the investors [18]. This can also reflect good prospects in the future as a positive signal by the investors therefore the value (stock) of the company is affected positively. This positive signal makes the firm size one of the vital variables [19].

#### **Profitability**

The ratio that expresses the combination of the effects of liquidity, asset management, and debt on operating results is called the profitability ratio [18]. The profitability ratio used in this research is Return on Assets (ROA). Return on Assets is used to assess the ability of the capital being invested in the total assets owned as a profit generator to also see the extent of the company's performance. The ability of the company to get high profit can be interpreted that the company has a high level of performance. The bigger the company's ability in making profit, therefore what must be done is to return the assets of the company in a large amount too [11]. A large return on assets is an interesting factor for the investors to buy shares of the company, automatically the company's stock price will skyrocket. A low return on assets is not always bad because it could be the result of a deliberate policy to use a large amount of debt [6, 16]. This factor automatically causes the high interest expense which makes the net profit smaller. The supervisor must be more careful in assessing the industry's performance according to ROA. They must look and observe the situation thoroughly in order to overcome the losses that may occur by interpreting other ratios (Li-Ju Chen Shun-Yu Chen n.d.).

#### **Stock Price**

Stock price is the price that occurs in the stock market at a particular time which is determined by the market participants, namely market supply and demand. The stock price is affected by four aspects: income, dividend, cash flow, and growth [10] defined stock market price as the selling price from one investor to another after the shares are listed on the stock exchange [17].

#### **HYPOTHESIS**

H<sub>1</sub>: The firm size and profitability simultaneously affects positively to the stock price

H<sub>2</sub>: The firm size simultaneously affects positively to the stock price

H<sub>3</sub>: profitability simultaneously affects positively to the stock price

#### **RESEARCH METHODS**

This research aims to determine whether the independent variables cause effect on the dependent variable. The design in this research uses associative problem formulation with causal relation to determine the effect of the firm size and profitability on stock price on mining companies listed on the Indonesia Stock Exchange in 2015-2019. This research uses causal design, which is a research useful to measure the relations between research variables to analyse how a variable affects the other variables [18]. The data used in this research is secondary data collected from the Indonesia Stock Exchange website (www.idx.co.id) and the companies' respective

websites. Population is a total number consists of objects or subjects that have particular characteristics and qualities determined by the researcher to be studied then draw conclusions [16]. The population in this research is the companies listed on the Indonesia Stock Exchange in 2015-2019. Sample is a part of a number and characteristics possessed by population and must be representative, meaning that the samples owned must represent all characteristics of the population [11]. Purposive sampling is a sampling technique with certain considerations.

The criteria set by the writer in this research are:

1. Companies listed on the Indonesia Stock Exchange in 2015-2019
2. Companies that are not consistent listed on the Indonesia Stock Exchange for the period 2015-2019.
3. Companies that do not consistently report their financial reports in the company's website throughout 2015-2019.

### **Firm Size Calculation**

Firm size variable is calculated by natural log of total assets, the natural log is chosen to flatten the data or to avoid overlying data ranges, moreover total assets is assumed to have more stable numbers than total sales or market capitalization [4].

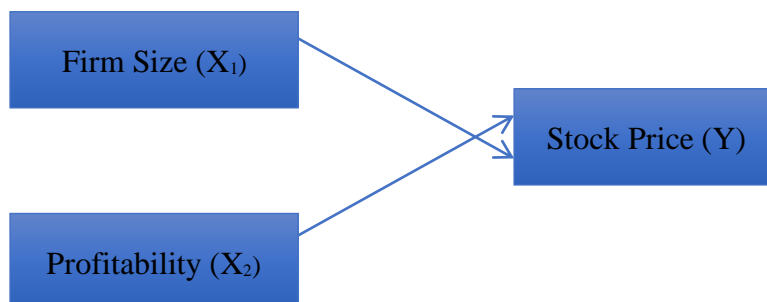
### **Profitability Calculation**

In this research, the profitability is calculated with return of equity because it describes the company's ability to gain profit which can be obtained by the shareholders by using their own capital. This ratio shows the percentage of net profit is obtained when measured by the owner's capital, the bigger the better [2] Return of equity is calculated by this formula.

### **Stock Price Calculation**

According to [13] stock price is the price that occurs on the stock market at a particular time determined by market participants and the demand and supply of the relevant shares on the stock market. The stock price is calculated from the closing price at the end of the transaction year. The data analysis uses descriptive statistical method which aims to determine the average, maximum, minimum, and standard deviation value of the variables studied. Before the test is carried out, the classical assumptions used are normality, multicollinearity, heteroscedasticity, and autocorrelation tests. This research uses multiple regression linear used to test the effect of liquidity, solvability, profitability, market ratio, and firm size on stock price.

### **Conceptual Framework**



To test the hypotheses, this research uses data analysis technique which is descriptive statistics analysis and uses the F statistic and T statistic tests. The F statistic test is used to determine whether two independent variables together affect

the dependent variable. Whereas the T statistic test is used to determine the effect of an independent variable individually in explaining the variety of dependent variable.

**RESULTS AND DISCUSSION**  
**Descriptive Statistics**

Data analysis is carried out on the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019. From the observation, there are only five companies that fit the criteria proposed and eventually become the samples for this research. From five samples, the lowest stock price value is 0,69 of PT. Resource Alam Indonesia Tbk, the highest stock price value is 10,42 of PT. Adro Energy Tbk, with a mean of 6,32. Whereas the standard deviation is 2,69. The lowest value for the firm size variable is 13,98 of PT. Indo Tambangraya Megah Tbk, while the highest value is 20,64 of PT. J Resources Asia Pasifik Tbk, with a mean of 17,53. Whereas the largest standard deviation is 2,37. The lowest value of the profitability variable is 2,09 of PT. Mitrabara Adiperdana Tbk, the highest value of the profitability is 182,31 of PT. Resource Alam Indonesia Tbk, with a mean of 16,91. Whereas the largest standard deviation is 34,96.

*Table 1*

**The Results for Descriptive Statistics Analysis**

	N	Minimum	Maximum	Mean	Std. Deviation
X1	25	13.98	20.64	17.5252	2.36837
X2	25	2.09	182.31	16.9096	34.95882
Y	25	.69	10.42	6.3238	2.68486
Valid N ( Listwise)	25				

**Classical Assumptions Test**  
**Normality Test**

On the Kolmogorov-Smirnov test, the guideline used in the decision making is if the significance value <0.5 then the data distribution is not normal, and if the significance value >0.05 then the data distribution is normal. Based on the normality test by the Kolmogorov-Smirnov test, obtained a significant result of 0,200. Considering the significance value > than 0,05, therefore that the residual data distributed normally. It can be concluded that the data used for this research has a normal distribution.

*Table 2*

**Results for Normality Test**

		Unstandardized Residual
N		25
Normal parameter, a, b	Mean	.000000000
	Std. Deviation	2.20952137
Most Extreme Difference	Absolute	.107
	Positive	.071
	Negative	-.107
Test Statistics		.107
Asymp. Sig. ( 2-tailed)		.200

### Heteroscedasticity Test

In this research, to detect the presence of heteroscedasticity is to look at the graph plot generated from the data processing by using SPSS. The bases of the decision making are (1) if there is a particular pattern, such as dots that formed into particular regular pattern (wavy, widened then narrowed), it indicates that heteroscedasticity is occurred. (2) if it does not have a clear pattern, such as dots spread above and below the number 0 on the Y axis, then heteroscedasticity does not occur, or homoscedasticity occurs. Based on Figure 3, the result of Scatterplot shows that the dots spread randomly and do not create a particular pattern and spread either above or below the number 0 and the Y axis, therefore it can be concluded that heteroscedasticity does not occur on the regression model, hence the regression model is feasible to use.

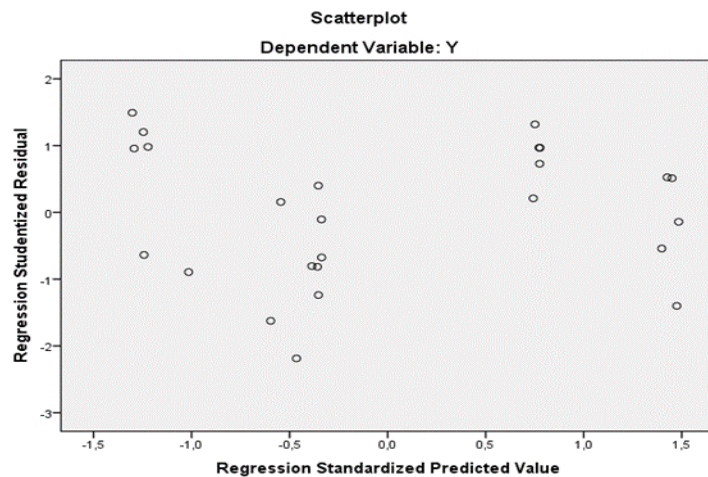


Figure 3 The Results for Scatterplot

### Multicollinearity Test

Based on Figure 3 above, it can be concluded that the indications for multicollinearity do not occur between the indicated independent variables from the tolerance value of every variable higher than 0,1. The tolerance value of X1 0,983, X2 0,983 are higher than 0.1. The VIF value of both independent variables are also lower than 10, namely the value of X1 1,017, X2 1,017, so it can be concluded that further analysis can be proceed by using multiple regression model.

Table 3

The Results for Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Collinearity Statistics	
	B	Std. Error	Beta		Tolerance	VIF
constant	17.437	3.524		.000		
X1	-.629	.201	-.555	.005	.983	1.017
X2	-.005	.014	-.070	.698	.983	1.017

**Autocorrelation Test**

This test aims to see if there is a correlation in a linear regression model between the confounding error in period t and the error in period t-1. A means that can be used to detect autocorrelation problem is to use the Run Test test value. The Run Test has provisions, which are if the significance value <0.05 then the indications of autocorrelation occur, and if the significance value >0.05 then the indications of autocorrelation do not occur. Based on the autocorrelation test by the Run Test, obtained the significance value of 0,223. Because the significance value > than 0.05, the indications of autocorrelation do not occur. So it can be concluded that the data used for this research do not contain the indications of autocorrelation.

*Table 4*

**The Results of Autocorrelation Test**

	Unstandardized Residual
Test value	.34829
Cases < Test Value	12
Cases >=Test Value	13
Total Cases	25
Number of Runs	10
Z	-1.220
Asymp. Sig, (2-tailed)	.223

**Multiple Regression Linear Analysis**

According to Figure 5 the output of regression linear, the model of multiple regression linear used for this research can be formulated as follows:

$$Y = 17,437 - 0,629 X1 - 0,005 X2$$

Interpretation :

- The constant is 17,437, this means that if the independent variables is equal to zero then the stock value will increase by 17, 437.
- The firm size shows the number 0,629, this means that if the profitability is constant then every escalation of the firm size by 1% will decrease the company's value by 0,629.
- The profitability shows the number 0,005, this means that if the firm size is constant then every escalation of the profitability by 1% will decrease the company's value by 0,005.

*Table 5*

**The Results of Multiple Regression Linear Analysis**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Collinearity Statistics	
	B	Std. Error	Beta		Tolerance	VIF
constant	17.437	3.524		4.949		
X1	-.629	.201	-.555	-3.135	.983	1.017
X2	-.005	.014	-.070	-.394	.983	1.017

**Coefficient of Determination Test (R2)**

Figure 6 shows the number of the coefficient of determination (R square) of 0,323. This means that the effect of the independent variables (firm size and profitability) on the dependent variable (stock price) which can be explained by the equation is 32,30% while the remaining 67,70% is affected by other factors that are not used in the regression model.

Table 6

**The Results for Coefficient of Determination Test**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.568a	.323	.261	1.30777
a. Predictors: (Constant), X2, x1				
b. Dependent Variable : y				

**Hypothesis Test  
Simultaneous Test (F Test)**

To determine the presence of the effect of firm size and profitability on stock price simultaneously, the researcher will carry the F test with the hypotheses as follows:

$H_0$ : There is no simultaneous effect of firm size and profitability on stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

$H_1$ : There is simultaneous effect of firm size and profitability on stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

According to the results for the simultaneous test on figure 8 above, the results obtained are calculated F of 5,242 and significance value of 0,014. Since the significance value < than 0.5,  $H_0$  is declined. Therefore, it can be concluded that the firm size and profitability simultaneously affect the stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

Table 7

**The Results for Simultaneous Test**

Model 1	Sum of Square	df	Mean Square	F	Sig.
Regression	55.835	2	27.918	5.242	0.014b
Residual	117.168	22	5.326		
Total	173.003	24			

**Partial Test (T Test)**

To determine the presence of the effect of firm size and profitability on stock price partially, the researcher will carry the T test with hypotheses as follows:

**The Firm Size on Stock Price**

$H_0$ : There is no effect of firm size on stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

$H_1$ : There is effect of firm size on stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019. According to the partial test on Figure 9, the results obtained are calculated T of -3,135 and significance value of 0,005. Since the significance value < than 0,05,  $H_0$  is declined. Therefore, it can be



concluded that the firm size affects the stock price on the mining companies listed on the Indonesia Stock Exchange for the periode 2015-2019.

#### The Profitability on Stock Price

$H_0$ : There is no effect of profitability on stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

$H_1$ : There is effect of profitability on stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019. Accordint to the partial test on Figure 9, the results obtained are calculated T of -0,394 and significance value of 0,698. Since the significance value > than 0,05,  $H_0$  is accepted. Therefore, it can be concluded that the profitability does not affect the stock price on the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

Table 8

The Results for Partial Tes

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Toleranc e	VIF
constant	17.437	3.524		4.949	.000		
X1	-.629	.201	-.555	-3.135	.005	.983	1.017
X2	-.005	.014	-.070	-.394	.698	.983	1.017

#### CONCLUSIONS

1. The firm size and profitability simultaneously significantly affect the stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

2. The firm size partially positively affects the stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

3. The profitability partially does not affect the stock price of the mining companies listed on the Indonesia Stock Exchange for the period 2015-2019.

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