

# The Determinant Variables of Stock Prices in Jakarta Islamic Index (JII) Stock Group

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**Keywords:** Earnings per Share, Price Earnings Ratio, Dividend Pay-out Ratio, Interest Rate, Net Profit Margin, Stock Prices

**Abstract:** The purpose of this study was to determine the effect of earnings per share (EPS), price earnings ratio (PER), dividend pay-out ratio (DPR), interest rate (IR), and net profit margin on stock prices in the Jakarta Islamic Index (JII) stock group. This study uses multiple regression analysis. The research data passed the classic assumption test. The research model fulfills the Goodness of Fit criteria, with the variability of the independent variable to the stock price of 76.3 percent. Based on multiple regression tests it was found that EPS and DPR significantly influence on stock prices in the JII stock group, while the other factors have no effect. Theory and previous research state that interest rates have a negative effect on stock prices. However, this study found the opposite and not significant.

## 1 INTRODUCTION

Many factors influence stock prices on the stock exchange. These factors can occur from internal companies and external companies. External factors are bank interest rates, inflation and oil prices. Company performance, earnings per share, and dividends are examples of causes from internal companies (Kumar, 2017).

Up and down stock prices can indicate company performance. If the stock price rises indicate good company performance. Investors expect to be able to get dividends, so they scramble to buy shares of companies that are performing well. Conversely, stock prices that tend to fall continuously indicate that the company's performance is not good, such as the example of BUMI's shares in Indonesia Stock Exchange (Ariyanti and Sulasmiyati, 2016).

Smart investors analyse stocks before investing. Fundamental analysis is an analysis of the company's financial performance (Schlichting, 2013). Some of the company's financial performance analysed in this study are earnings per share (EPS), price earnings ratio (PER), dividend pay-out ratio (DPR), and net profit margin (NPM).

Some previous researchers found that EPS has a positive and significant effect on stock prices (Ariyanti and Sulasmiyati, 2016); (Margareta and Firzitya, 2015); (Kumar, 2017); (Bhattarai, 2014) and (Viandita and Husaini, 2013). Previous researchers on PER found that PER has a positive and significant effect on stock prices (Suselo et al., 2015); (Zuliarni, 2012) and (Viandita and Husaini, 2013). On the other hand, the negative influence of the DPR on stock prices was found by several researchers such as (Zuliarni, 2012) and (Hunjra et al., 2014). The dividend pay-out ratio was tested in mediating the relationship of debt to equity, total asset turns over, and total assets to the stock price not proven (Wijaya, 2017). Based on previous research, inconsistencies in results between researchers occurred. Therefore, this research is important to do.

## 2 THEORETICAL FRAMEWORK

### 2.1 The Previous Theory

The selection of stocks that are potentially profitable for investors needs to use fundamental analysis. Fundamental analysis based on company

performance. Source of fundamental analysis data come from financial statements. A good company will certainly be reflected in good financial statements. Good financial reports show good corporate performance. Good performance will generate company profits that can also distribute dividends to investors. The choice of a company that performs well like this has the potential to produce an attractive level of profit for investors (Budiman, 2018).

The Signalling Theory discovered by Spence in 1973 found that the equilibrium of several companies to the market was different. Companies can provide positive signals through good performance from their financial statements, so the market will respond well too. Conversely, poor company performance will be responded to poorly by the market (Spence, 1978). The good performance of the company is usually called good news by investors. This is because it will have a positive effect on the company's stock price, and the profits will usually be shared with shareholders in the form of dividend distribution. Managers must work well to produce optimal performance. Managers, owners, and investors who have "Contracting Relationships" examined by Jensen and Mekling (1976) find a pattern of relations between agents (managers) and principals (owners) known as the Theory of the firm (Jensen and Meckling, 1976).

## 2.2 Measurement and Analysis of Financial Performance

The company is successful if the company has achieved a certain predetermined performance. Financial performance measurement is carried out simultaneously with the analysis process of financial performance assessment critically, which includes a review of financial data, calculation, measurement, interpretation, and providing solutions to the company's financial problems in a certain period (Hery, 2016). One of the financial performance analysis techniques is financial ratio analysis. According to Hery, financial ratio analysis is an analytical technique used to determine the relationship between certain posts in the balance sheet and profit loss.

The company conducts financial ratio analysis every year, it can be studied the composition of changes and can determine whether there is an increase or decrease in the financial condition and performance of the company during that time. Broadly speaking there are five types of financial ratios (Hery, 2016). namely liquidity ratios, solvability ratios, activity ratios, profitability ratios, and valuation ratios or market size ratios. One type of profitability ratio is the ratio of operating performance. This ratio is used

to evaluate profit margins from sales operations activities. This study uses a net profit margin ratio in measuring operating performance. Whereas the valuation ratio uses earnings per share, price earnings ratio, and dividend payout ratio.

## 2.3 Stock Prices

Stock prices can be influenced by the strength of demand and supply on the stock market. Stock prices can be influenced by the strength of demand and supply on the stock market. In addition, stock prices are also influenced by many factors. Some previous researchers have found many antecedents that influence stock prices. When viewed outline, these factors are divided into internal and external factors of the company. Internal factors are much influenced by the company's financial performance, while external factors are influenced by the macro conditions of a country.

## 2.4 Earnings per Share (EPS)

EPS is a ratio to measure the success of a company's management in providing benefits to ordinary shareholders. This ratio shows the relationship between the amount of net income and the share ownership in the investee company (Hery, 2016). Previous research has found that earnings per share had an effect on the closing price of the price of stock companies (Margaretha, 2015). The higher EPS will attract investors' attention in investing, because high EPS is one indicator of the success of a company, so that more investors who are interested in buying shares will have an impact on rising stock prices (Fahmi, 2012).

Based on forgoing, the following hypothesis was proposed:

H1: Earning per Share and Stock Prices are significantly positively influenced.

## 2.5 Price Earnings Ratio (PER)

PER is a ratio that shows the results of a comparison between market prices per share with earnings per share. In other words, the stock price of an issuer is compared to the net profit generated by the issuer in one year (Hery, 2016). Information on the amount of PER, this tells whether the stock price of a company is quite valued, undervalued, or too high and this can have an impact on stock prices (Kumar, 2017).

Based on forgoing, the following hypothesis was proposed:

H2: Price Earnings Ratio and Stock Prices are significantly negatively influenced.

## 2.6 Dividend Payout Ratio (DPR)

DPR is a ratio that shows the results of a comparison between cash dividends per share with earnings per share. This ratio describes the amount of profit from each share allocated in the form of dividends (Hery, 2016). Memon et al found that DPR had significant impact on stock prices (Memon et al., 2017).

Based on forgoing, the following hypothesis was proposed:

H3: Dividend Payout Ratio and Stock Prices are significantly positively influenced

## 2.7 Interest Rate

Rakhimsyah and Gunawan found that interest rates did not affect stock prices (Rakhimsyah and Gunawan, 2011). (Subing and Kusumah, 2018); (Purnamawati and Werastuti, 2013) found that interest rate did not impact the stock price of the company.

Based on forgoing, the following hypothesis was proposed:

H4: Interest Rate and Stock Prices are not influenced

## 2.8 Net Profit Margin (NPM)

(Roesminiyati et al., 2018) found that NPM have a positive significant effect on stock price in automotive sector in Indonesia Stock Exchange. (Dita and Saifi, 2017) also found that NPM have a positive significant effect on stock price in companies at Utility, Infrastructure, and Transportation sector.

Based on forgoing, the following hypothesis was proposed:

H5: Dividend Payout Ratio and Stock Prices are significantly positively influenced

# 3 RESEARCH METHOD

## 3.1 Population and Sample

Population is the whole element that you want to predict its characteristics. Not all elements or subjects to be examined can be observed properly, this is because of limitations, therefore a study needs to be taken from the population sampling. While the sample is part of the population to be tested for its characteristics (Suliyanto, 2018). The population used in this study is as many as 30 companies whose shares have been included in the Jakarta Islamic Index for the 2014-2017 period. Samples taken from the population using a non-probability sampling technique with a purposive sampling approach. This

approach is a method of selecting samples based on certain criteria (Suliyanto, 2018). The criteria that form the basis of sample selection are:

1. Companies listed in the Jakarta Islamic Index on the Indonesia Stock Exchange,
2. Shares traded during the 2014-2017 observation period for the most active companies.
3. Data needed is available on the website [www.idx.co.id](http://www.idx.co.id).

Based on the criteria specified above, a sample of 17 companies was obtained for the 2014-2017 observation period, then 10 (ten) large capitalized companies were taken.

## 3.2 The Data Analysis Method

### 3.2.1 Regression Analysis

This study uses a multiple regression analysis method. The regression equation used in this study is:

$$Y = \alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \varepsilon$$

Remaks:

Y = Stock Price

$\alpha$  = intercept/Constanta

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  = partial regression coefficients of the dependent variable

$x_1$  = Earnings per Share (EPS)

$x_2$  = Price Earnings Ratio (PER)

$x_3$  = Dividend Payout Ratio (DER)

$x_4$  = Interest Rate

$x_5$  = Net Profit Margin (NPM)

$\varepsilon$  = error for the i-observation

### 3.2.2 Classic Assumption Test

Multiple linear regression models can be called a good model if the model meets the classical assumptions (Sujarweni, 2016). The classic assumption test used are (Ghozali, 2016):

1. Normality test aims to test whether in the regression model of the confounding or residual variables have a normal distribution.
2. Multicollinearity test aims to test whether in the regression model used there is a correlation between independent variables.
3. Heteroscedasticity test aims to test whether in the regression model variance from residual inequality occurs one observation to another observation.
4. Autocorrelation test aims to test whether in the linear regression model there is a correlation between the confounding errors in period t with the interfering error in period t-1 (before).

### 3.2.3 Goodness of Fit

1) Coefficient of Determination

This test aims to measure how far the model's ability to explain the variation of the dependent variable. The small value of  $R^2$  means that the ability of independent variables to explain the dependent variable is very limited. Conversely, if the value of  $R^2$  is close to one, it means that the independent variables provide almost all the information needed to predict the dependent variable.

2) Simultaneous Significance Test (F Test)

The F statistical test basically shows whether all the independent or free variables included in the model have a joint effect on the dependent variable.

$H_0: b_1 = b_2 = \dots = b_k = 0$ , meaning whether all independent variables are not significant explanations of the dependent variable.

$H_A: b_1 \neq b_2 \neq \dots \neq b_k \neq 0$ , meaning that all independent variables simultaneously are significant explanations of the dependent variable.

d. Significant Individual Parameter Test (t Test)

The t statistical test basically shows how far the influence of one independent variable / explanatory individually in explaining the variation of the dependent variable.

$H_0: b_i = 0$ , meaning whether an independent variable is not a significant explanation of the dependent variable.

$H_A: b_i \neq 0$ , meaning that the variable is a significant explanation of the dependent variable.

model does not occur symptoms of heteroscedasticity. This is because of the Sig. independent variables on residual absolute  $> 0.05$ .

- Autocorrelation test results using the Durbin Watson method, obtained a DW value of 2.073. Because the DW value is 2.073 located between  $d_U$  and  $4-d_U$ , it can be concluded that the regression equation model does not contain autocorrelation problems.

Table 1: Determination Coefficient Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891 <sup>a</sup>	.793	.763	.48679

a. Predictors: (Constant), Net Profit Margin, Price Earnings Ratio, Interest Rate, Earning Per Share, Dividend Payout Ratio

Based on Table 1 we see the Adjusted R-Square value is 0.763. This means that 76.3% of the stock price variable can be explained by variations in the five independent variables, namely EPS, PER, DPR, interest rates and NPM. While the remaining 23.7% is explained by other reasons outside the model.

Table 2: F Test Results

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.885	5	6.177	26.067	.000 <sup>b</sup>
	Residual	8.057	34	.237		
	Total	38.941	39			

a. Dependent Variable: Stock Prices

b. Predictors: (Constant), Net Profit Margin, Price Earnings Ratio, Interest Rate, Earning Per Share, Dividend Payout Ratio

Based on the ANOVA test results in Table 2, the calculated F value is 26.067 with a significance value of  $< 0.05$ , then the regression model can be used to predict that EPS, PER, DPR, interest rates and NPM. together influence stock prices.

## 4 ANALYSIS AND RESULTS

Based on the results of the classic assumption test, the following results are obtained:

- One-Sample Kolmogorov-Smirnov Test Normality Test obtained the Sig. (2-tailed) of  $0.200 > 0.05$ . This means that standardized residual values are declared to spread normally.
- The results of the calculation of Tolerance value indicate that there is no independent variable that has a Tolerance value of less than 0.10 and the value of Variance Inflation Factor (VIF) has a VIF value of more than 10. So, it can be concluded that there is no multicollinearity between independent variables in the regression model.
- Based on the Heteroscedasticity test with the Glejser method it is known that the regression

Table 3: The Results of t Test

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.068	.504		14.025	.000
	Earning Per Share	.002	.000	.808	10.019	.000
	Price Earning Ratio	.004	.006	.048	.573	.570
	Dividend Payout Ratio	.014	.004	.296	3.414	.002
	Interest Rate	.200	4.431	.004	.045	.964
	Net Profit Margin	-.004	.014	-.025	-.311	.757

a. Dependent Variable: Stock Prices

In Table 3, it can be seen that of the five independent variables, the EPS and DPR variables show a sig value of  $< 0.05$ , it can be concluded that EPS and DPR variables have a significant effect on stock prices. While the significantly of PER, Interest Rate, and NPM variables are  $> 0.05$ , it can be

concluded that the effect of the PER, Interest Rate, and NPM variables on the Stock Price is not significant.

Based on the table above the multiple linear regression equation is made as follows

$$Y = 7.068 + 0.002X_1 + 0.004X_2 + 0.014X_3 + 0.200X_4 - 0.004X_5 + \varepsilon$$

## 5 DISCUSSION

1. The results of this study are specifically about EPS and DPR variables. This study found that the two variables had a significant positive effect on stock prices. This is in line with the findings from (Ariyanti and Sulasmiyati, 2016); (Margareta and Firzitya, 2015); (Bhattarai, 2014); (Wijaya, 2017); and (Viandita and Husaini, 2013). This is also support with the previous theory about signalling theory. If EPS and DPR is a good performance than previous year (good news) the investor will buy this stock. This activity makes the demand of buyer increase and the consequence is the price of stock will also increase. This increase in stock prices is due to a signal of good corporate performance (good news).
2. PER, Interest Rate, and NPM theoretically influence stock prices. In this study it was found instead. PER, Interest Rate and NPM have no effect. PER is the price ratio compared to earnings. This means that the greater the PER of a stock means the share price is getting more expensive. This is useful to compare the price level of the stock is expensive or cheap.
3. Interest Rate has a negative effect on stock prices. The findings in this study are just the opposite that Interest Rate has no effect. The rising Interest Rate will have an impact on the increase in operating costs for the company. The company's operating costs rise, it will reduce the company's profits. Then the effect of the IR increase on the stock price will turn around or reduce the stock price. This can be attributed to the research area are stocks in sharia groups, especially in the JII group (Jakarta Islamic Index). The criteria for stocks that are categorized as sharia include not developing their business with interest, because interest declared by the Indonesian Ulama Council is prohibited.
4. NPM affects stock prices. The higher the NPM value, the stock price will also increase. This is related to the company's performance as seen

from the numbers at NPM. The company's profit rises high, so investors will scramble to hunt for shares because of the high performance and profit potential that can be obtained through dividends or price changes due to the very high demand from investors for this stock. This research shows the opposite direction. The negative NPM relationship with stock prices, although not significant. This finding needs to be reviewed for the next study considering the relationship opposite to stock prices.

## CONCLUSIONS

The test results with multiple linear regression analysis can be concluded as follows:

1. EPS and DPR variables had a significant positive effect on stock prices.
2. PER, Interest Rate and NPM have no effect on stock prices.

### Limitation of this research

This research used five variables such as EPS, DRP, PER, Interest Rate and NPM. The other variables are potential to do the research for examples Return on Asset (ROA), Return on Equity, and inflation.

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