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The Effect of GDP Growth and Inflation on Changes in Stock Company Prices Listing on the IDX 2016-2018

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Abstract---*This study was conducted to determine the effect of Gross Domestic Product (GDP) growth and inflation on changes of the stock price of infrastructure companies listed on the Indonesia Stock Exchange in the period of 2016 - 2018. The data sources used in this study are secondary data of three infrastructure companies, namely PT. Citra Marga Nusaphala Persada, Tbk (CMNP), PT. Jasa Marga (Persero), Tbk (JSMR), and PT. Nusantara Infrastructure, Tbk (META). The data are obtained from the Indonesia Stock Exchange, Bank Indonesia and the Central Bureau of Statistics. The analysis technique used in this study is multiple regression analysis. The results show that both partially and simultaneously, the GDP and inflation variables had significant effect on changes in the stock price of infrastructure companies.*

Keywords: *GDP Growth, Inflation, Changes in Stock Prices*

I. BACKGROUND OF RESEARCH

Infrastructure development is an effort to strengthen the foundation for the creation of economic growth. Both have strong relationships and interdependence with each other. Infrastructure development can be an urge of economic growth, and conversely economic growth itself also becomes a pressure on infrastructure.

In Global Competitiveness Report 2015 - 2016, recapitulated by the Forum of World Economic (WEF), Indonesia ranked 62nd out of 140 countries in terms of the infrastructure development. This rating stayed at average standards, but this instead caused some major problems in Indonesian economy.

Infrastructure development and macroeconomic development should have had a reciprocal relationship because of the infrastructure development does lead to the economic expansion through multiplier effects. The needs of the companies to expand existing infrastructure, to absorb the increasing flow of goods and people distributing or circulating in the entire economy (Saudi, 2018). However, if the infrastructure cannot absorb the improvement of economic activity and if newly developed infrastructure is not enough, then there wil be problems. Therefore, infrastructure development is priority of the work of governmental working cabinet government of President Joko Widodo and Vice President Muhammad Jusuf Kalla.

At the same time, Indonesia is now being hit by unpleasant issues related to the weakening of the rupiah due to the impact of US sanctions on China. However, despite of the disrupted economical issues, the Indonesian economy is

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even more thriving. The improvement of Indonesian economy is shown by statistics on Gross Domestic Product (GDP) which continues to increase and the inflation rate has declined over the past 3 years.

Year	GDP
2016	5,03%
2017	5,07%
2018	5,17%

Source : BPS

The Central Agency on Statistics (BPS) had report the Index of Consumer Price (CPI) in December 2015 experienced inflation of 0.965. The inflation rate for the past 3 years has decreased. This can be seen in the table below:

Year	Inflation Level
2016	3,02%
2017	3,61%
2018	3,13%

Source : BPS

Theoretically the relationship between inflation and economic growth shows interesting things to be discussed. GDP growth and inflation which are part of macroeconomic conditions can affect stock market prices (company value). Inflation that is too low, particularly at the level of deflation, will suppress economic growth and skyrocketed inflation will also reduce people's purchasing power resulting in the immobilized economic circulation. Economic growth is needed so that development targets such as job creation, increasing national output, tax revenues, poverty alleviation, reducing unemployment and increasing levels of social welfare can be achieved. The low rate of economic growth will make these targets unaccomplished.

In this study the studied factors are only limited on changes in GDP growth and inflation. The study was had conduct to determine the effect of each of these factors on changes in the stock price of infrastructure companies had list on P.T. IDX. In accordance to the discussion that will be carried out, the title chosen in this writing is THE EFFECT OF GDP GROWTH AND INFLATION ON CHANGES IN STOCK COMPANIES IN LISTING INFRASTRUCTURE IN THE IDX OF 2015-2017

I.I. Formulation of the Study

Based on the described the background of research, the problem identifications are as follows:

1. What is the effect of GDP on changes in stock prices
2. How is the effect of inflation on changes in stock prices
3. How is the influence of GDP and inflation on changes in stock prices

II. THEORETICAL OUTLINE

II.I. Gross Domestic Product (GDP)

One of important indicators used to find out the economic conditions in a country at a certain period is the GDP data both in current prices and in constant prices.

According to McEachern (2000) GDP is divided into two types, that is :

1. GDP with prevailing prices or nominal Gross Domestic Product, that is, the value of goods and services produced by a country in a year is counted according to the prices prevailing in that year.
2. GDP with a fixed price or real Gross Domestic Product, that is, the value of goods and services had produce by a country in a year is counted according to the prices prevailing in a particular year which is then used to assess the goods and services had produce in other years.

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The increase in Gross Domestic Product reflects an increase in consumer purchasing power of a country. The increase in consumer purchasing power causes an increase in people's demand on goods and services that will increase the company's profit. Increasing company profits will encourage an increase in stock prices.

III. INFLATION

Inflation is defined as a phenomenon where the general price level increases continuously (Nanga, 2001: 241).

"Inflation is the condition of continually rising price levels" (Mishkin, 2008: 339). According to Gilarso (2004: 200) inflation can be formulated as a general price increase that comes from the disruption of the balance between the flow of money and the flow of goods. According to Boediono in Nainggolan (2005: 68) a short definition of inflation is "the tendency of prices to rise in general and continuously". The price increase of just one or two items cannot be called inflation.

Hooker (2004) found that the rate of inflation significantly affects stock prices. The increase of inflation rate is relatively a negative signal for many investor in the capital market. Inflation rate does increase the company's income and costs. If the increase in production costs is higher than the price increase that can be taken by the company, the company's profitability will decrease. If profits gained by many small companies, this will result in investors being reluctant to invest their funds in the company.

III.I. Changes in Stock Prices

According to Darmadji & Fakhrudin (2012: 102) stock prices are prices that occur in the share at a certain time. Stock prices can change up or down in a matter of time. Stock prices can change in minutes and can even change in seconds. This is possible because it depends on requests and offers between buyers of shares and the seller of shares.

Factors influence Stock Prices. According to Irham Fahmi (2013: 87), there are many conditions and also situations that determine a share that will fluctuate (experiencing an increase or decrease), namely (Hussain et al., 2019):

a) Conditions Micro and macroeconomic.

b) Company policy or business expansion, such as opening a branch office (brand office) whether it is opened in domestic or overseas.

c) Directors sudden change.

d) The attendance of companies directors or commissioners involved in criminal acts whose case has entered the court.

e) Performance of The company that continues to decline every time.

f) Risk of Systematic, which is a figure of risk that appear thoroughly and has provided to the company's involvement.

g) Market Psychology Effects that were able to suppress the technical conditions of buying and selling stocks.

Based on research conducted by Dodi Arif (2018), it was found that the Gross Domestic Product (GDP) and inflation partially did not significantly influence the Composite Stock Price Index. However, simultaneously, GDP, the supply of money, inflation, and the BI rate have a significant effect on the composite share price index.

In addition, the research conducted by Maria Ratna Marisa Ginting et al (2016) found that inflation partially hadn’t significant effect on the stock prices. However, simultaneously, rate of interest, rate of exchange, and inflation have significant effect on share prices.

III.II. Research Hypothesis

Based on the theory and results of the research above, the hypothesis proposed in this study are:

H1: There is an influence of inflation on changes in stock prices

H2: There is an influence of GDP on changes in stock prices

H3: There is an effect of inflation and GDP on stock prices simultaneously

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IV. RESEARCH METHODS

The types of research data are included in quantitative data in the period of 2016 -2018. The data sources used in this study are secondary data that support research variables.

Data from the independent variables in this study are rate of inflation and GDP growth. Data from the dependent variable is the stock price.

Object of research is:

Sub-sectors that support the government in the process of infrastructure development in Indonesia are the Toll Road, Port, Airport and other sub-sectors. Companies listed in the sub-sector are:

1) PT. Citra Marga Nusaphala Persada, Tbk (CMNP)
2) PT. Jasa Marga (Persero), Tbk (JSMR)
3) PT. Nusantara Infrastructure, Tbk (META)

Data is obtained from information and reports from the Indonesia Stock Exchange, Bank Indonesia and the Central Bureau of Statistics.

This study involves one dependent variable, namely the stock price, which is a change or movement in the stock price of all issuers on the IDX measured at the end of each month while the independent variable is the rate of inflation and GDP growth. The measurement of the rate of inflation comes from the rate of inflation recorded and published by BPS at the end of the month while GDP growth in the form of real GDP at the end of the year.

The method of data analysis used is multiple regression analysis. Hypothesis testing uses the t test while testing the regression model uses the F test. The used significance level is 5%.

V. RESEARCH RESULT

After data on changes in bond ratings and macroeconomic factors, namely: SBI Interest Rate, GDP growth, IDR-USD exchange rate, and Inflation were obtained, Multiple Regression (Multiple Regression) is used to find out how the variables relate to changes in bond prices.

Before analysis of the results of the Multiple Regression model is conducted, a test is carried out to ensure that the regression has fulfilled the multiple regression equation, namely Multicollinearity testing and Autocorrelation.

Testing Assumptions for Multiple Regression.

Regression results (Multiple Regression Model): Δ Harga Saham = - 0,8364 + 1,182 Inflasi + 9,99 Δ PDB

Table of Multiple Regression Model Calculation Results

Variable	Coef	T	P_{VALUE}	VIF
Constant	-0,8364	-1,40	0,163	
Inflasi	1,182	0,56	0,578	1,297
Δ PDB	9,994	1,28	0,205	1,297
R^2	3,1%			
R^2 (adj)	1,3%			
F Regression	1,70			
P_{VALUE} Regression	0,188			
N	108			
D-W statistic	182,566			

Based on the results of data processing, it can be seen that the VIF is below 10 so that it can be said that it does not have multicollinearity problems because there is no multicollinearity problem. Afterwards, the Autocorrelation Test is conducted.

Analysis of Regression Results

Test of the Significance of the Regression Model

The hypothesis in this test,, $H_0:\beta_1 = \beta_2 = 0$

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H_a: $\beta_1 \neq \beta_2 \neq 0$

Based on the regesi model, F = 1.70 is obtained because Pvalue = 0.188; F is significant at α = 0.05. Then the hypothesis H0 is accepted and rejects H1 so there is no significant predictor in this analysis.

In the model, obtained R2 is 1.3%

The hypothesis in this test,H_0 : $\beta_k = 0$

H_a : $\beta_k \neq 0$

where the value of k = 2

Based on the regression calculation, it is found that inflation and GDP have no significant effect on the level of α = 0.05 on changes in stock prices.

Variable Analysis

- The Inflation Coefficient of 1.182 shows a positive relationship with changes in stock prices.If the increase in inflation changes increases, it will cause greater increases in stock prices. If the variable GDP is constant, then an increase of 1 unit of inflation will increase the price change of 1 unit of stock by Rp 1.182.
- The GDP coefficient of 9,994 shows a positive relationship with changes in stock prices.If the increase in GDP changes is greater, it will cause greater increases in stock prices. If the Inflation variable is constant, then an increase of 1 unit of GDP will increase the price change of 1 unit of stock by Rp 9,994.

VI. CONCLUSION

1. Based on the significance t value greater than α 0.05, GDP growth doesn't have significant effect on changes in stock prices.
2. Based on the significance t value greater than α 0.05, inflation doesn't have significant effect on changes in stock prices.
3. Based on the significance F value greater than α 0.05, GDP growth and inflation do not have significant effect on changes in stock prices.

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