

**THE EFFECT OF EXCHANGE RATE, INFLATION AND INTEREST RATE ON STOCK
PRICES IN THE COVID-19 PANDEMIC**
(Studi on Manufacturing Companies Listed on the Indonesia Stock Exchange)

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Abstract.

Objective: This study aims to determine how the effect of exchange rates, inflation, and interest rates on stock prices during the Covid-19 pandemic. Based on data that has been statistically tested, the exchange rate with a significance value of 0.057 which is greater ($>$) than 0.005, the inflation variable has a significance value of 0.417. The interest rate variable has a significance value of 0.000 which is smaller than 0.005. Research Methods: Data analysis in this study used multiple linear regression analysis methods, namely simultaneous test and partial test. And using classical assumptions, namely normality test, autocorrelation test, multicollinearity test, and heteroscedasticity test. Results: Based on the results of the partial test statistics in this study, the dependent variable X1 (Exchange Rate), X2 (inflation) has no effect on the independent variable (Y) (stock prices), while the dependent variable X3 (interest rates) has an effect on stock prices. Simultaneous test in this study the independent variable affects the independent variable with a significance value of 0.000. The results of the regression test also state that the R-square has a significance value of 0.960, which means that the variable x exchange rate, inflation and interest rates affect the variable y the stock price with a magnitude of 96%. The results of the normality test in this study are the exchange rate with a significance value of 0.200, inflation has a significance value of 0.082, interest rates have a significance value of 0.061, and stock prices have a significance value of 0.524. Limitations: This study only examines the effect of exchange rates, inflation and interest rates on stock prices during the Covid-19 pandemic. The research time is also limited to only 21 days, it is hoped for further researchers that more variables will be studied because the phenomenon of Covid-19 is very large. And the time may also be longer because Covid-19 has not recovered for almost 2 years.

Keywords : share prices, exchange rates, inflation, interest rates, and Covid-19.

1. Background

The stock price is a reflection of the value of the company for investors. Where investors will make decisions in buying a stock and then selling it back. A fairly high stock price will provide a return for investors in the form of capital gains. One of the analytical tools to predict stock price changes is the analysis of macro variables by looking at changes in exchange rates, inflation and interest rates that can help investors in making appropriate and profitable investment decisions (Susanto, 2015).

Stock prices are influenced by 2 main aspects, namely fundamental aspects and technical aspects. These two aspects can be considered by investors what shares to own, and when to carry out transactions. It cannot be said which one is the most influential, but generally fundamental aspects are used to determine what stocks to buy (Hidayat, 2019).

The following is a chart of stock prices, inflation and interest rates before and after the COVID-19 pandemic:

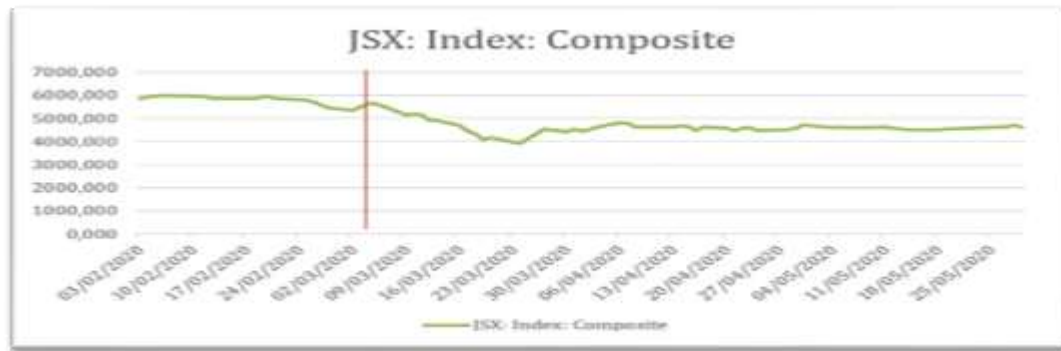


Figure 1.1 Movement of the Jakarta Composite Index January – May 2020 Source: CEIC 2020.

Based on Figure 1.1, the movement of the composite stock price index in February was still above normal. In March the JCI experienced a decline due to Covid-19, then from April to May the movement was balanced, neither declining nor rising. In addition to the phenomenon that during the Covid-19 pandemic, it is predicted that the industrial sector will experience losses.

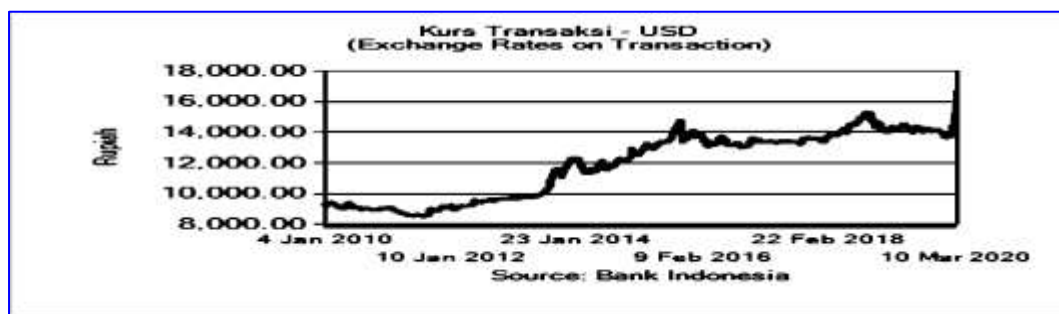


Figure 1.2 Rupiah Exchange Rate Against USD
Source : Jeo.compas (March 2020)

Based on Figure 2, the exchange rate on January 4, 2010 and January 10, 2012 has increased, and decreased in 2014 from Rp. 8,000 decreased at Rp.14,000 then experienced a slight increase in 2016 and began to decline in 2018 and then fell again in March 2020. Based on the data, we can see that the possibility of an increase is due to the Covid-19 pandemic which was announced in March 2020.

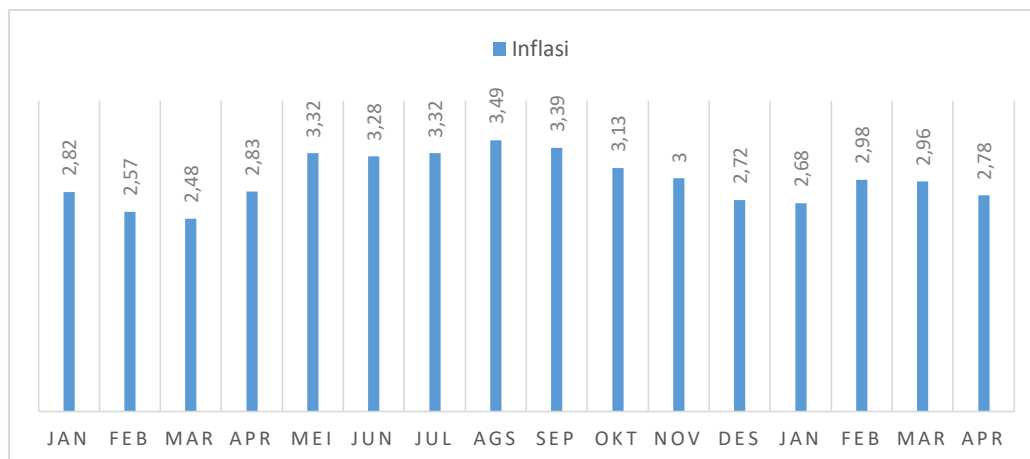


Figure 1. 3 Inflation Developments January 2019- April 2020
Source : Investing.com (March 2020)

Based on Figure 1.3, the development of inflation in Indonesia fluctuated throughout 2019 to 2020. When compared to April 2019 which reached the level of 2.83%, this year inflation has decreased to the level of 2.78%. The highest inflation occurred in August 2019 at 3.49% and the lowest in March 2019 at 2.48%. This indicates that the price movement of the inflation rate is starting to weaken, this proves that the COVID-19 pandemic is affecting the inflation rate.

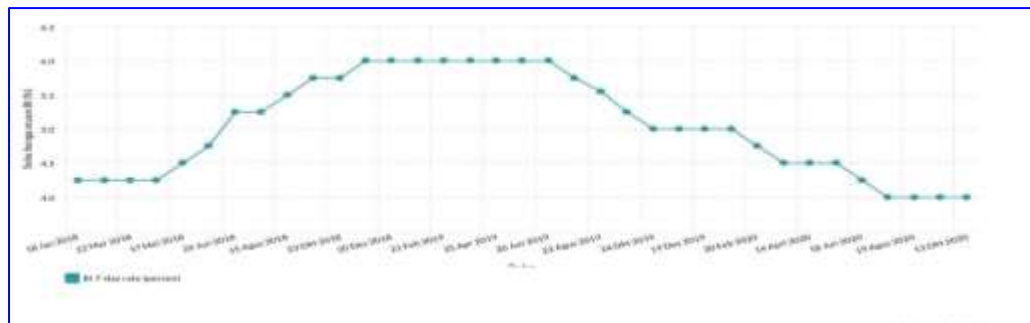


Figure 1.4. Bank Indonesia Reference Interest Rates Before and After the Covid-19 Pandemic Source: lokadata.bertatagar.di (October 2020)

Based on Figure 1.4, it can be seen that the BI benchmark interest rate fluctuated throughout 2018 to 2020. Until it reached its peak in mid 2018 to 2019. Then in 2020 the benchmark interest rate tended to decrease until October. This proves that the pandemic caused interest rates to fall.

The Corona virus known as Covid -19 which is present and hit the world in 2020 is a big risk for countries in the world. The impact is not only disturbing the health of the world's population, but also for the country's economy. The Corona virus (COVID-19) pandemic has put heavy pressure on the economy in Indonesia which has become a big problem for Indonesia's eyes. When the Indonesian government announced the first pasen of Covid-19, the rupiah was under great pressure. As a result of the pandemic, many countries have implemented regional quarantine policies (lockdowns) to suppress the spread of the virus. As a result, economic activity declined sharply and a recess occurred again.

So in short it can be said that exchange rates, inflation rates and interest rates have an influence on stock prices. Meanwhile, the difference between this research and previous research is in the object of research and the time in which it occurred before and after the Covid-19 pandemic. This prompted researchers to conduct research and take the title "The Effect of Exchange Rates, Inflation and Interest Rates on Stock Prices of Manufacturing Industry Companies During the Covid 19 Pandemic (Case Study on Manufacturing Companies listed on the IDX)".

2. Literature Review

Capital market

Share

According to Sutrisno (2008:310) "shares are a fact of ownership of the capital or the characteristics of equity participation in a limited liability company, which has the right to share the size of the paid-up capital".

Composite Stock Price Index (JCI)

According to Anoraga and Pakarti (2011: 101) JCI is an index that shows the movement of stock prices in general listed on the stock exchange which is a reference for the development of activity in the capital market.

Exchange rate

The rupiah exchange rate or often called the exchange rate is the difference in the value of the rupiah currency with other currencies. Trade between countries¹⁷ where each country has its own medium of exchange requires a comparison of the value of one currency with another or known as the exchange rate (Salvatore, 2008).

Inflation Rate

Inflation is defined as the tendency of prices to rise in general and continuously. An increase in the price of one or two kinds of goods alone cannot be said to be inflation unless the increase has an impact on increasing the price of most other goods (Boediono, 2012).

Interest rate

Interest rate is a measure of the investment profit that can be obtained by the owner of capital and is also a measure of the cost of capital that must be incurred by the company for the use of funds from the owner of capital (Suseno, 2010).

3. Research Method**Population**

The population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are determined by the researchers to be studied and then drawn finally. So the population is not only people, but also goods and other natural goods. The population is also not only the number contained in the object or subject under study, but includes all the characteristics or character possessed by the subject or object under study (Sugiyono, 2010: 61). The population in this research is 30 manufacturing industries listed on the Indonesia Stock Exchange.

Sample

Sampling in this study using purposive sampling technique. Some of the considerations for taking samples in this study are as follows (1) The data to be studied are data on manufacturing companies listed on the Indonesia Stock Exchange, (2) The companies to be studied have reports of declining stock prices, (3) Companies to be studied has an annual stock price report that has been published on the official website of the Indonesia Stock Exchange from April 2019 – April 2020, (4) The company to be studied has a relationship with the variables in this study, namely: Exchange Rates, Inflation Rates and Interest Rates.

Data analysis technique

Analysis of the data used are:

1. Normality Test
2. Autocorrelation Test
3. Multicollinearity Test
4. Heteroscedasticity Test
5. Multiple Linear Regression Analysis (Partial And Simultaneous)
4. Original

Normality Test

Based on table 4.2, it can be seen that the significance level of the normality test for the variables of exchange rates, inflation, interest rates and stock prices > 0.05 , which means all data are normally distributed.

Table 4.2
Normality Test Results

Research variable	Signifikansi
<u>Exchange rate</u>	0,200
<u>Inflation</u>	0,082
<u>Interest rate</u>	0,061
<u>Stock price</u>	0,524

Autocorrelation Test

The autocorrelation test in this study used the Run Test method. Based on table 4.3, it can be seen that the score significance is 0.235 or > 0.05 , which means there is no autocorrelation symptom.

Table 4.3
Autocorrelation Test Result

Total Cases	13
Number of Runs	10
Z	1.189
Asymp. Sg. (2-tailed)	.235

Multicollinearity Test

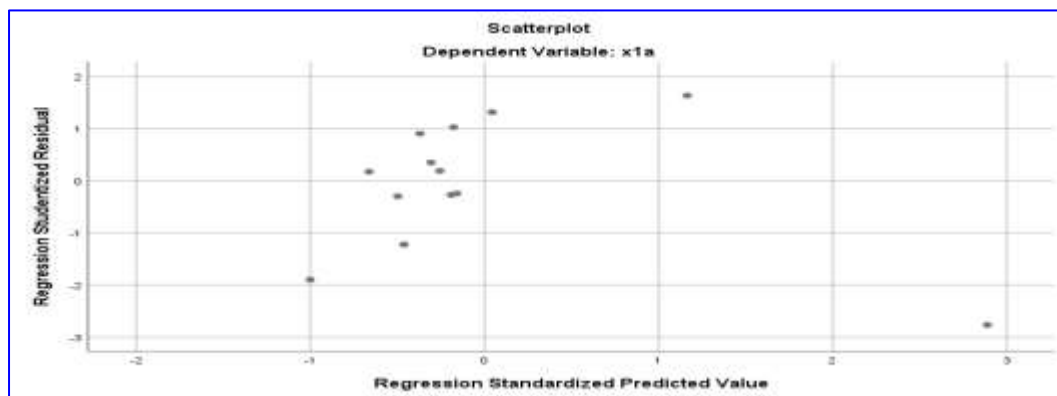
Based on Table 4.4, it is known that the tolerance value of each variable is more than 0.01 and the VF value is less than 10, so it can be concluded that there is no multicollinearity problem.

Table 4.4
Multicollinearity Test Results

Model	Collnearity Statstcs	
	Tolerance	VIF
<u>Exchange rate</u>	.716	1.396
<u>Inflation</u>	.582	1.718
<u>Interest rate</u>	.466	2.145

Heteroscedasticity Test

There is no symptom of heteroscedasticity so that a good and ideal regression model can be fulfilled.



T Test (Partially)

Based on Table 4.5 it is known that the significance value of the exchange rate is 0.057, inflation is 0.417 which is > 0.05 which means H1 and H2 are rejected. So it can be

concluded that the exchange rate and inflation have no partial effect on stock prices. While the interest rate variable shows that the significance value is 0.000, which is <0.05 , which means H3 is accepted. So it can be concluded that interest rates have a partial effect on stock prices.

Table 4.5
Partial test (T)

Model	Unstandardized Coeffcents		Standardized Coeffcents	T	Sg.
	B	Std. Error	Beta		
(Constant)	575360.067	285207.082		2.017	.074
nla tukar	437580.936	200530.535	.161	2.182	.057
nflas	7.396	8.700	.057	.850	.417
suku bunga	18892.778	1561.658	.907	12.098	.000

F test (simultaneously)

This test aims to determine the significant effect of the independent variables together on the dependent variable. Based on Table 4.6, it is known that the significance value of the F test is 0.000 or <0.05 , which means H4 is accepted, which means that exchange rates, inflation and interest rates affect stock prices.

Table 4.6
Simultaneous Test (F)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.980 ^a	.960	.947	2627.80370

Multiple Linear Regression Test

It is known that the value of R Square is 0.960, which means that the variable x in the form of exchange rates, inflation and interest rates affects the variable y in the form of stock prices with a magnitude of 96%.

Table 4.7
Regression Test Results

Model	Df	F	Sg.
Regresson	3	72.864	.000 ^b
Resdual	9		
Total	12		

5. Discussion of research results

The Effect of Exchange Rates on Stock Prices

Based on table 4.5 of the Exchange Rate Variables (X1) with a significance value of 0.057 which means > 0.05 , it means that the Exchange Rate variable has a negative effect. So it can be said that the Exchange Rate (X1) does not statistically affect the Stock Price (Y). The results of this study state that partially the exchange rate variable (X1) has a negative and significant effect on stock prices. The negative effect between the exchange rate and stock prices shows that the strengthening of the US Dollar exchange rate (Rupiah depreciates) results in a decrease in stock prices in manufacturing companies listed on the IDX. Based on

Figure 4.1, it shows that the graph of the exchange rate before the announcement of the Covid-19 Pandemic by President Joko Widodo, had indeed decreased. If the exchange rate fluctuations are abnormal, the level of confidence of foreign investors in the Indonesian economy will be low. This will definitely have a negative impact on stock trading in the capital market. Where investors will face losses and want to withdraw capital so there will be capital flows. This loss was caused by the decline in stock prices due to the impact of the Covid-19 Pandemic.

The Effect of Inflation on Stock Prices

Dividend income in the future. So this condition will lower the stock price in the capital market. Investors prefer to keep their money in banks (deposits) than to invest in stocks. High interest rates will also increase the cost of capital that will be borne by the company and will also cause the return that investors are signaling from an investment will increase and will harm the company. This loss was caused by the decline in stock prices due to the impact of the Covid-19 pandemic.

The Effect of Interest Rates on Stock Prices

Based on table 4.5 the interest rate variable (X3) with a significance value of $0.000 < 0.05$. So it can be said that statistically interest rates have a positive and significant effect on stock prices (Y). Figure 4.3 shows that the graph of interest rates before the announcement of the Covid-19 pandemic by President Joko Widodo, had increased. If interest rates are high, it will reduce the present value of dividend income in the future. So this condition will lower the stock price in the capital market. Investors prefer to keep their money in banks (deposits) than to invest in stocks. High interest rates will also increase the cost of capital that will be borne by the company and will also cause the return that investors are signaling from an investment will increase and will harm the company. This loss was caused by the decline in stock prices due to the impact of the Covid-19 pandemic.

6. Conclusion

This study only examines the effect of exchange rates, inflation and interest rates in the short term with an observation period from April 2019 to April 2020 in the period before and after the COVID-19 pandemic. For further research, it is hoped that further deaths will occur in the long term. In this study only examines the exchange rate, inflation and interest rates. For future research, it may be possible to add other variables such as the standard ratio of capital. Investors are advised to consider other factors apart from looking at the company's financial ratios and also the company's external factors before making a decision to invest. For example, such as the liquidity ratio because the greater the liquidity owned by the company can increase the stock price because it shows the size of the company's ability to meet its operational needs, especially working capital which is very important to maintain company performance.

References

- Anoraga, Pandji and Pakarti, Piji. (2011). Introduction to Capital Markets. Jakarta: Rineka Cipta.
- Boediono. (2012). Introduction to Economics No.4. BPFE, Yogyakarta.
- Hidayat, Nurul. (2019). Factors that affect stock prices. Retrieved 02 September 2020. From www.ceic.com

Salvatore, Dominic. (2008). Theory and Problems of Micro Economic Theory. 3rd Edition. Translated by Rudi Stompul. Erlangga Publisher. Jakarta.

Sugiyono. (2010). Statistics For Research. Bandung: Alfabeta

Sumariyah. (2011). Introduction to capital market knowledge. 6th Edition. Yogyakarta: YKPN College of Management.

Susanto, (2015). The Influence of Inflation, Interest Rates and Exchange Rates on Stock Prices in: Property and Real Estate Sector Companies Listed on the IDX). Journal of ASSET accounting research.

Suseno, T.W., Hg. (2011). Economic Indicators, Basic Calculation of the Indonesian Economy. Canisius: Yogyakarta.

Sutrisno, (2008). Financial Management: Theory, Concepts and applications. Yogyakarta : Ekonsia.