IJEBA: *International Journal of Economics, Business and Applications*
p-ISSN: 2477-1244, e-ISSN: 2477-1236
DOI: https://dx.doi.org/10.31258/ijeba.8.1.23-48

The Effect of Inflation, BI Rate, Exchange Rate and Standard & Poor's 500 on the Composite Stock Price Index Empirical Study on Manufacturing Companies Listed on the Stock Exchange in 2015-2019

Yulia Albasita, Edyanus Herman Halim, Fitri, Anggia Paramitha
Faculty of Economics and Business, University of Riau, Pekanbaru , Indonesia
Email :yulia.albasita4128@students.unri.ac.id

ABSTRACT: *The purpose of this study was to determine the effect of Inflation, BI Rate, Exchange Rate, and Standard & Poor's 500 on the Composite Stock Price Index (JCI). The population of this study is all data on the JCI, BI Rate, Inflation, Exchange Rates, and the Standard & Poor's 500 in the 2016-2019 period on the Indonesia Stock Exchange (IDX). The sample of this study was selected by the* saturated sampling method *so that the data was obtained in 48 months, from January 2016 to December 2019. The analytical tool used in this study used* Multiple Linear Regression Analysis*. The results of this study indicate that inflation, BI Rate, and Standard & Poor's 500 have a positive and insignificant effect on the Composite Stock Price Index. And the Exchange Rate has a negative and significant impact on the Composite Stock Price Index.*

Keywords: Inflation, BI Rate, Exchange Rate, Standard & Poor's 500, and the Composite Stock Price Index (JCI).

Introduction

In this era of globalization, almost all countries pay great attention to the capital market because it has a strategic role in strengthening the economic resilience of a nation. The Composite Stock Price Index (JCI) reflects capital market activities in general. Information about the Jakarta Composite Index (JCI), which is difficult to predict, is very important for investors to make investment decisions in the capital market. JCI is an index that summarizes the development of stock prices on the IDX (Indonesian Stock Exchange) so that JCI fluctuations will affect the condition of the capital market in Indonesia, whether it is in a bullish or bearish position. 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 activities in the capital market (Anoraga & Pakarti, 2019).

According to Hartono (2014), the Composite Stock Price Index (CSPI) is a stock price index number that has been calculated and compiled to produce a

trend. In contrast, an index number is a number that is processed in such a way that it can be used to compare events in the form of changes in stock prices from time to time. The JCI has several benefits, including as a marker of market direction, as a benchmark for portfolio performance, and as a measure of profit levels. This study uses the JCI as the research object and takes 2016-2019 as the research period. Therefore, JCI information (combined stock price index) is needed by every potential investor to make an investment. decisions.

Table 1.1: Composite Stock Price Index Data on the Indonesia Stock Exchange

JCI					
NO	**MONTH**	**2016**	**2017**	**2018**	**2019**
1	JANUARY	4615.163	5294.103	6605631	6532,969
2	FEBRUARY	4770.956	5386692	6597,218	6443,348
3	MARCH	4845,371	5568.106	6188,987	6468,755
4	APRIL	4838,583	5685,298	5994.595	6455.352
5	MAY	4796,869	5738.155	5983.587	6209.117
6	JUNE	5016,647	5829,708	5799,237	6358,629
7	JULY	5215,994	5840.939	5936,443	6390.505
8	AUGUST	5386.082	5864.059	6018.46	6328.47
9	SEPTEMBER	5364,804	59000.854	5976,553	6169.102
10	OCTOBER	5422,542	6005.784	5831.65	6228,317
11	NOVEMBER	5148.91	5952.138	6056,124	6011.83
12	DECEMBER	5296.711	6355.654	6194.498	6299.539

Source: Indonesia Stock Exchange (www.idx.co.id)

Based on the data in Table 1.1 the composite stock price index on the Indonesian stock exchange, taken from the official website of IDX, shows a trend that fluctuates every month every year. Compared to 2016 to 2019 in 2019, the composite stock price index data tended to be higher and more stable.

According to Natsir (2014), Inflation is a tendency to increase the price of goods and services in general and is continuous. If the inflation rate rises, it will impact increasing production costs due to increased raw material prices, operational costs, and so on. These conditions will also be able to reduce a company's profitability level. This is because the interest in the purchasing power of society towards an item will decrease; therefore, this will affect the condition of the capital market. With this condition, investors will no longer be interested in investing in the capital market, and this condition will also decrease the level of demand for shares. This decrease in order will cause the price of the stock to decline. When the economic position refuses. Bank Indonesia, as the implementing agency for the monetary authority, increases the benchmark interest rate (BI Rate) to reduce the amount of money circulating in the community.

Changes in the BI Rate will be able to affect the movement of a stock in Indonesia. Due to an increase in interest rates, it will also be able to influence the increase in deposit interest rates and loan interest rates. For investors, an increase in deposit interest rates will increase the profit obtained if the funds are invested in the form of deposit deposits. In addition, if credit interest rates experience an increase, this will make the cost of capital very large; with these conditions, it will be difficult for the company to obtain an additional low-cost capital fund needed to be used in its production activities. Hope to increase the level of productivity. So when the productivity level of a company experiences a decline, it will make the profits to be generated by a company will be reduced and will also be able to reduce the attractiveness of investors to invest in the capital market. These conditions will impact the decline of the Composite Stock Price Index (JCI).

Chen et al. (1986) found that stocks react to another economic variable: interest rates. Bank Indonesia explained that the BI interest rate is the basis that can be used as a benchmark in defining interest rates in Indonesia. In general, Bank Indonesia can raise the BI interest rate if the estimated Inflation exceeds the predetermined target. On the other hand, Bank Indonesia may lower the BI interest rate if future Inflation is estimated to be below the predetermined target. The BI interest rate acts as a reference, indirectly affecting the interest rates on loans and savings in banking and non-bank financial institutions.

Table 1.2: BI Rate Data 2016-2019

BI RATE					
NO	**MONTH**	**2016**	**2017**	**2018**	**2019**
1	JANUARY	7.25	4.75	4.25	6.00
2	FEBRUARY	7.00	4.75	4.25	6.00
3	MARCH	6.75	4.75	4.25	6.00
4	APRIL	6.75	4.75	4.25	6.00
5	MAY	6.75	4.75	4.75	6.00
6	JUNE	6.50	4.75	5.25	6.00
7	JULY	6.50	4.75	5.25	5.75
8	AUGUST	5.25	4.50	5.50	5.50
9	SEPTEMBER	5.00	4.25	5.75	5.25
10	OCTOBER	4.75	4.25	5.75	5.00
11	NOVEMBER	4.75	4.25	6.00	5.00
12	DECEMBER	4.75	4.25	6.00	5.00
*In percentage (%)					

Source: Bank Indonesia (www.bi.go.id)

Based on the data in Table 1.2 of the BI Rate from 2016 to 2019, taken from the official website of Bank Indonesia, shows a downward trend in the determination of the BI rate set by Indonesia in 2017. Meanwhile, in 2018 and 2019, the BI rate experienced an increasing trend until it continued until June 2019.

From mid-2019 until the end of 2019, the BI rate experienced again experienced a decline, where the lowest BI rate in Indonesia during the year, according to the data above, occurred from August to December 2019.

According to Ruhendi and Arifin (2003), the currency exchange rate shows the price of a currency when it is exchanged with other currencies, where the exchange rate can be interpreted as a comparison of values between currencies. Determination of the exchange rate of a country's currency with another country's currency is determined as well as goods, namely by the demand and supply of the money in question. For a company that is active in carrying out export and import activities, the stability of the rupiah's value against foreign currencies, such as the United States dollar, is very important. Because when the value of the rupiah weakens against the United States dollar, this will result in expensive imported goods.

If most of the raw materials used by a company use imported materials from other countries, then this condition will automatically lead to an increase in production costs, which of course, will also have an impact on decreasing the profit level of a company. Suppose the company's profit level falls, of course. In that case, it will be able to affect the purchasing power of investors towards the shares of a company so this condition will encourage a decrease in the Composite Stock Price Index (JCI). The Rupiah exchange rate is also very influential for companies that want to invest because if the foreign exchange market is more attractive than the capital market, investors will generally switch to investing in the capital market.

Table 1.3: Exchange Rate Data for 2016-2019

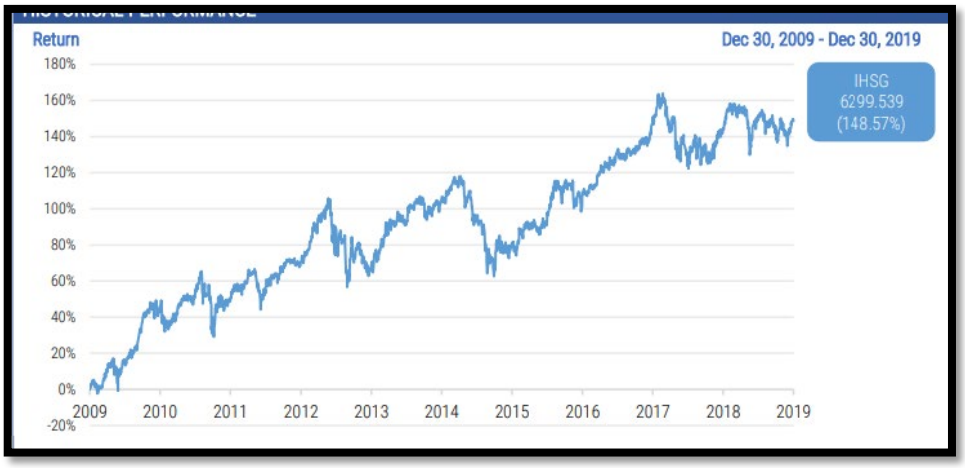
EXCHANGE RATE					
NO	**MONTH**	**2016**	**2017**	**2018**	**2019**
1	JANUARY	14104.37	13338	13421	14033
2	FEBRUARY	13425	13339	13694	14015
3	MARCH	13240	13299	13736	14233
4	APRIL	13210.04	13322	13870	14191
5	MAY	13631	13319	13977	14401
6	JUNE	13139	13278	14350	14184.5
7	JULY	13123.36	13320	14403	14066.4
EXCHANGE RATE					
NO	**MONTH**	**2016**	**2017**	**2018**	**2019**
8	AUGUST	13283	13334	14751	14231
9	SEPTEMBER	13003	13477.09	14890	14158
10	OCTOBER	13063	13574	15273.1	14060
11	NOVEMBER	13502	13504	14356	14081.67
12	DECEMBER	13518	13477	14553	13919
*In Rupiah (Rp)					

Source: Bank Indonesia (www.bi.go.id)

The exchange rate every year also increases and decreases, as from 2016 to 2017, it dropped and improved in 2018. In 2019 the exchange rate remained around 14000's. Where this rate is the foreign currency exchange rate. If the exchange rate increases, it is called an appreciation of the foreign currency, while if it decreases, it is called a depreciation of the foreign currency. Based on the table at the end of January 2016, Rp. 14,104.37 and closed at the end of December 2016 was Rp. 13,518. At the end of January 2017, the middle exchange rate of Rupiah was Rp. 13.338 and closed at the end of December 2017 was Rp. 13,477. At the end of January 2018, the middle exchange rate of the Rupiah was Rp. 13,421 and closed at the end of December 2018 was Rp.14,553, and in 2019 the medium exchange rate of the Rupiah against the Dollar at the end of January was Rp. 14,033 and closed in December 2019 of Rp. 13,919. The middle exchange rate of the Rupiah against the United States Dollar.

The impact of external variables that affect the JCI, namely the Standard & Poor's 500 (S&P 500). The Standard & Poor's 500 (S&P 500) is one of the global indices that can be used as a reference in the decision-making process of investors on the Indonesia Stock Exchange—the Standard & Poor's 500 (S&P 500). The S&P 500 is an index consisting of the shares of 500 large-cap companies, mostly from the United States. It is the most popular index owned and maintained by Standard & Poor's, a division of McGraw-Hill. This index is considered to be able to represent the large influence of the United States stock market on global stock markets, including Indonesia. All of the stocks listed in this index are large publicly traded companies and are sold on major US stock exchanges such as the New York Stock Exchange and the Nasdaq. After the Dow Jones Industrial Average, the S&P 500 is the most watched index (Arifin, 2014).

Figure 1.1: JCI stock price movements in 2016-2019



source www.idx.co.id

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Random Walk Theory

According to Samsul (2006), the random walk theory explains the stock prices that move randomly (random walk). Stock prices that move randomly mean that stock price fluctuations depend on new information that will be received. Still, the data has yet to be known when it will be accepted, so further information and stock prices are unpredictable. Whether the information is bad (bad news) or good news (good news) is also yet to be discovered. If it is known, then the data is referred to as today's information and will immediately affect the current stock price.

Signal theory

According to Fahmi (2015), signaling theory is a theory that discusses the rise and fall of stock prices in the market so that it will influence investor decisions. The signal theory emphasizes that information announced to the public, both negative and positive, will affect investors' decisions to invest; they will react in various ways in response to these signals.

The Effect of Inflation on the Composite Stock Price Index

Inflation is defined as the tendency of prices to rise in general and continuously (Boediono, 2001). The relative increase in inflation is a negative signal for investors in the capital market. Inflation increases the company's

revenues and costs. If the rise in production costs is higher than the increase in prices that the company can enjoy, the company's profitability will decrease. If the profit earned by the company is small, this will result in investors not wanting to invest their funds in the company, so the stock price decreases. The higher the inflation rate, the lower the stock price index. Thus, inflation hurts the Composite Stock Price Index. The results of this study are by research conducted by Sunardi & Ula (2017), which gives the impact that inflation affects the JCI.

The Influence of the BI Rate on the Composite Stock Price Index

Classical economists state that the demand and supply of investment in the capital market determine the interest rate. The interest rate will determine the balance between the amount of savings and the investment demand. The high and low supply of investment funds is determined by the high and low-interest rates on public savings Novitasari (2013). An increase in the BI Rate will also cause an increase in bank interest rates, causing stock prices to fall, and this will result in a decline in the JCI in the property and real estate sector on the IDX (Maslikha et al., 2017). The results of research conducted by Maslikha et al. (2017) show that the BI Rate has a negative and significant effect on the JCI. Similar results were also delivered by research conducted by Maurina et al. (2015), which shows that the BI Rate has a negative and significant effect on the JCI. Different results are shown from research conducted by Aliyah (2016), which indicates that the BI rate has a positive and significant impact on the Jakarta Islamic Index (JII) stock price index. The results of this study are by research conducted by Nidianti & Wijayanto (2019), which gives the impact that the BI Rate has a significant effect on the JCI.

The Effect of Exchange Rate on the Composite Stock Price Index

According to Thorbarry (2009), the exchange rate of a foreign currency is the price of a country's currency against other foreign countries. According to Tandelilin (2001), strengthening the Rupiah exchange rate against foreign currencies will reduce the cost of importing raw materials for production and the prevailing interest rate. Changes in the Rupiah exchange rate against the Dollar affect companies with high foreign debt and imports. If the Rupiah exchange rate against the US Dollar experiences a decline (the Rupiah strengthens or appreciates and is followed up by the monetary authority by taking a policy of lowering the deposit interest rate, people tend to withdraw their deposits and divert them to the form of stock investments which will eventually increase stock prices. The results of this study follow research conducted by Taufiq & Kefi (2015), which

gives the results that the exchange rate has a positive and significant effect on the JCI.

Effect of Standard & Poor's 500 on the Composite Stock Price Index

Standard & Poor's 500 is one of the largest stock index averages in the world. Therefore the movement of Standard & Poor's 500 can affect almost all stock indices around the globe, including the Composite Stock Price Index. The influence of the Standard & Poor's 500 on the Composite Stock Price Index is positive in the sense that the increase in the Standard & Poor's 500 will result in an increase in the Composite Stock Price Index on the Indonesia Stock Exchange. This is due to the positive sentiment from investors towards the world economic conditions. Thus, the Standard & Poor's 500 has a positive effect on the Composite Stock Price Index.

The results of this study follow research conducted by Arifin (2014), which gives the results that the Standard & Poor's 500positive and significant effect on the JCI.

Method

The source of data used in this study is secondary data, and the type of data used is quantitative data which is time series data for 48 months of observations from 2016-2019. The secondary data needed is obtained from publications by related agencies such as Bank Indonesia and the Central Statistics Agency for the 2016-2019 period. The population used in this study is all JCI data. The sample in this study used saturated sampling. In this study, the number of pieces was 48, namely the amount of data from January 2016 to December 2019 because the study used monthly data. In collecting data, this research uses the method of documentation.

Operational Definitions and Variable Indicators

The value of the company

According to Anoraga & Pakarti (2001), JCI is an index that shows the general movement of stock prices listed on the stock exchange, which becomes a reference for the development of activities in the capital market. The calculation of the combined share price is carried out to determine the average growth of all shares listed on the stock exchange. The formula for calculating the Composite Stock Price Index(Arifin, 2014) :

$$\text{IHSG} = \frac{\text{Market Value}}{\text{Base Value}}$$

$$\text{IHSG} = \frac{\text{number of registered shares} \times \text{Last Price}}{\text{number of registered shares} \times \text{prime price}} \times 100\%$$

Information:

JCI = Composite Stock Price Index day 1

Market Value = Weighted average market value (number of shares listed on the stock exchange multiplied by the market price per share) of common and preferred shares on day

Base Value = Same as market value but starting from August 10, 1982.

inflation

Inflation is defined as the tendency of prices to rise in general and continuously (Boediono, 2001). To calculate the amount of inflation, the Consumer Price Index (CPI) must first be known. The CPI is a measure of the price change of the group of goods and services most consumed by households in a certain period. According to Natsir (2014), the formula for calculating the inflation rate is as follows:

$$\text{In}f = \frac{IHK_n - IHK_{n-1}}{IHK_{n-1}} \times 100\%$$

Information :

in*f* = inflation

CPI = Consumer Price Index for the Current Period

CPI-1 = Consumer Price Index for the previous period.

BI Rate

The BI Rate is the BI policy rate that reflects the monetary policy stance set by BI (Raharjo & Elida, 2015) . BI Rate is the interest rate for one year set by BI as a benchmark for interest rates on loans and deposits for banks and or financial institutions throughout Indonesia. BI rate data taken is monthly data for the 2016-2019 period.

Exchange rate

The exchange rate is a currency's price relative to other countries currencies (Mahyus, 2014) . Variable Exchange Rate Changes are measured

using the current exchange rate minus yesterday's exchange rate and divided by yesterday's exchange rate. The exchange rate used is the average rate per month. The Exchange Rate Variable is measured using the Average Middle Exchange Rate of the US Dollar against the Rupiah issued by Bank Indonesia every month. The formula for calculating Exchange Rate Changes according to (Arifin, 2014) :

$$Exchange\ Rate = \frac{Kurs_t - Kurs_{t-1}}{Kurs_{t-1}}$$

Information:

Rate t = Exchange rate for the current period

Rate t-1 = Exchange rate of the previous period

Standard & Poor's 500

The Standard & Poor's 500 or S&P 500 is an index consisting of the shares of 500 large-cap companies, mostly from the United States. According to Arifin (2014) the Standard & Poor's 500 is measured by:

$$S\&P = \frac{S\&P_t - S\&P_{t-1}}{S\&P_{t-1}}$$

Information:

S&Pt = Standard & Poor's 500 for the current period

S&Pt-1 = Standard & Poor's 500 previous period

Data analysis method

Multiple Linear Regression Analysis was used to test the relationship between the independent variable and the dependent variable.

Results and Discussion

Descriptive Statistics

Descriptive analysis in this study to determine the statistical picture of the value of the stock price index to be studied. The following will be presented as descriptive statistical analysis in this study:

Table 5.1

Descriptive Statistics Test Results

Descriptive Statistics

	N	Minimum	Maximum	mean	Std. Deviation
JCI	48	-6.18	6.77	.71	2,705

INFLATION	48	2.48	4.45	3.3917	.46795
BIRATE	48	4.25	7.25	5.3229	.84576
EXCHANGE RATE	48	-6.00	9.67	.2276	2.23776
SP500	48	-9	7.86	1.01	3.338
Valid N (listwise)	48				

Source: Processed Data 2022

Classic assumption test

1. **Linearity Test**

Whether the function used in an empirical study should be linear, quadratic, or cubic (Ghozali, 2011) . One way to test linearity is to use Test for Linearity with a significance level of 0.05. This test is used to see whether the model specifications are correct or not. Another test that can be carried out is the test developed by Ramsey (1969). This test aims to produce an F-count with the help of the SPSS Program. The results of the calculated F calculation were then compared with the F table. If F count < on F table, then the relationship is linear, whereas if F count > F table, then the relationship is not linear

Table 5.2: Inflation Linearity Test Results

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
JCI * INFLATION	Between Groups	(Combined)	287,917	40	7.198	.900	.625
		linearity	1.511	1	1.511	.189	.677
		Deviation from Linearity	286,406	39	7.344	.918	.611
	Within Groups		56,000	7	8.000		
	Total		343.917	47			

Based on the Linearity Test in Table 5.2, it can be seen that the inflation variable has an F value of 0.918. So it is concluded that the calculated F is smaller than the F table (0.918 < 2.57), so there is a linear relationship between the JCI and inflation.

Table 5.3: BI Rate Linearity Test Results

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
JCI * BIRATE	Between Groups	(Combined)	46,947	11	4.268	.517	.879
		Linearity	3.778	1	3.778	.458	.503
		Deviation from Linearity	43.168	10	4.317	.523	.862

	Within Groups	296,970	36	8,249		
	Total	343.917	47			

Based on the Linearity Test in Table 5.3, the BIRATE variable has an F value of 0.523. So it is concluded that if the calculated F is greater than the F table (0.523 < 2.57), then there is a linear relationship between the JCI and BI RATE.The results of the Linearity Test for Exchange Rate Changes and Standard & Poor's in this study can be seen in Table 5.4 below:

Table 5.4: Test Results for Linearity of Exchange Rate Changes and Standard & Poor's 500

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460 [a]	.212	.177	2.454

a. Predictors: (Constant), VALUE, SP500
b. Dependent Variable: JCI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711 [a]	.505	.472	1966

a. Predictors: (Constant), DFFIT, SP500, VALUE

Based on table 5.4 above, it can be obtained:

$$\mathrm{F} = \frac{R^2new - R^2old/m}{(1 - R^2new)/(n - k)}$$

$$\mathrm{F} = \frac{0.505 - 0.212/1}{(1 - 0.505)/(48 - 4)}$$

$$\mathrm{F} = \frac{0.293}{(0.495)/(44)}$$

$$\mathrm{F} = \frac{0.293}{0.01125}$$

$$\mathrm{F} = 26.044$$

ASSUMPTION: F ^{2} count < F ^{2} table = > There is Linearity

26.044 > 2.57 => No Linearity

2. Normality Test

The assessment criteria for this test are: if the significance of the calculated data (Sig) > 5%, then the data is normally distributed, whereas if the significance of the calculated data (Sig) < 5%, then the data is not normally distributed. To test for normality, this study used the Kolmogorov-Smirnov test.

Table 5.5: Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		48
Normal Parameters [a,b]	mean	.0000000
	Std. Deviation	2.36086336
Most Extreme Differences	Absolute	.074
	Positive	.069
	negative	-.074
Kolmogorov-Smirnov Z		.511
asymp . Sig. (2-tailed)		.956

a. Test distribution is Normal.
b. Calculated from data.
Source: Processed Data 2022

Based on Table 5.3 above, it can be seen that the Asymp value. Sig (2-tailed) Kolmogorov-Smirnovis above ∝= 0.05. This means that the analyzed data has met the normality test criteria.

3. Autocorrelation Test

Autocorrelation is often known as serial correlation and is usually found in time series data. The autocorrelation test aims to test whether, in the regression model, there is a correlation between the confounding error in period t and the confounding error in period t-1 (previous). A good regression model is a regression that is free from autocorrelation. The measuring instrument used to detect the presence of autocorrelation in this study used the Durbin-Watson (DW) test. The hypotheses to be tested in this study are:

H0 (there is an autocorrelation, r = 0)

Ha (absence of autocorrelation, r 0).

Table 5.6: Autocorrelation Test Results

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.554 [a]	.307	.241	141.99285	1,889

a. Predictors: (Constant), SP, BIRATE, INFLATION, EXCHANGE
b. Dependent Variable: JCI
Source: Processed Data 2022

Based on table 5.6, it can be seen that the dW generated from the regression model is 1.850. Testing using the dW table obtained a dL value of 1.361 and dU 1.7203, then the autocorrelation belongs to the following criteria:

$$dU<dW< 4-dU$$

$$1.7203 < 1.889 < 4-1.7203$$

$$1.7203 < 1.889 < 2.2797$$

So it can be concluded that in this regression model there is no positive or negative autocorrelation for this study.

4. Multicollinearity Test

The multicollinearity test aims to test whether there is a correlation between the independent variables in the regression model (Ghozali, 2011) . If there is a high correlation between the independent variables, then the relationship between the dependent and independent variables will be disturbed. A good regression model should not have multicollinearity. Multicollinearity can be seen from the tolerance value and VIF (Variance Inflation Factor). The tolerance value must be 0.10 (Ghozali, 2011) .

Table 5.7: Multicollinearity Test Results

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-3.479	3,510		-.991	.327		
	INFLATION	.577	.772	.100	.748	.458	.994	1.006
	BIRATE	.415	.427	.130	.973	.336	.995	1.005
	EXCHANGE RATE	-.469	.178	-.388	-2,643	.011	.822	1.217
	SP500	.125	.119	.154	1.044	.302	.817	1,224

a. Dependent Variable: JCI

Source: Processed Data 2022

Based on Table 5.7 it can be seen that the VIF value of the inflation variable, BI Rate, exchange rate, Standard & Poor's 500 shows the number < 10 and the tolerance value > 0.1. This means that there is no multicollinearity in the variables in the research model.

5. Heteroscedasticity Test

Heteroscedasticity is the inequality of variable variations in all observations and errors that show a systematic relationship according

to the magnitude of one or more independent variables so that the error is not random. The method used to detect the presence or absence of heteroscedasticity in this study using the Glejser Test, which regresses the absolute value of the residual on the independent variable. This can be seen from the significance probability above the 5% confidence level. So it can be concluded that the regression model does not contain heteroscedasticity (Ghozali, 2011) .

Table 5.8: Heteroscedasticity Test Results

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.339	2.055		2,598	.013
	INFLATION	-.461	.452	-147	-1.021	.313
	BIRATE	-.362	.250	-.209	-1,450	.154
	EXCHANG E RATE	.120	.104	.184	1.159	.253
	SP500	-.042	.070	-.096	-.607	.547

a. Dependent Variable: JCI

Source: Processed Data 2022

Based on table 5.8, it can be seen that the value of sig. of inflation variable, BI rate, exchange rate, and standard & poor's 500 is greater than 0.05. So in this study there were no symptoms of heteroscedasticity .

Multiple Linear Regression Analysis

Regression analysis in statistics is one method to determine the causal relationship between one variable and other variables. According to Ghozali (2011) the multiple linear regression equation can be stated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Table 5.9
Multiple Linear Regression Analysis test results

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.479	3,510		-.991	.327
	INFLATION	.577	.772	.100	.748	.458
	BIRATE	.415	.427	.130	.973	.336
	EXCHANGE RATE	-.469	.178	-.388	-2,643	.011
	SP500	.125	.119	.154	1.044	.302

a. Dependent Variable: JCI
Source: Processed Data 2022

Based on the results of data processing, the equation model is obtainedmultiple linear regression as follows :

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$$Y = (-3.479) + 0.577X_1 + 0.415X_2 + (-0.469)X_3 + 0.125X_4$$

$$\text{IHSG} = (-3.479) + 0.577\text{Inflation} + 0.415\text{BIRate} + (-0.469)\text{Exchange Rate} + 0.125\text{SP}$$

Goodness Of Fit

1. Coefficient of Determination Test (R ^{2})

The coefficient of determination is used to determine how much the ability of the independent variable to the dependent variable.

Table 5.10: Coefficient of Determination Test Results (R2)

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.488 [a]	.238	.167	2.468	1.850

a. Predictors: (Constant), SP500, INFLATION, BIRATE, VALUE
b. Dependent Variable: JCI
Source: Processed Data 2022

Based on Table 5.10, the R Square number is 0.238 (23.8%). This means that 23.8% of the composite stock price index variation can be explained by inflation, BI Rate, Exchange Rate, and Standard & Poor's 500 variables. In contrast, other variables outside the research model explain the remaining 76.2%..

2. F Test (Simultaneous Significant)

The F test is used to show whether all the independent variables included in the regression model have a joint or simultaneous effect on the dependent variable.

Table 5.11: Simultaneous Significance Test (F Statistics Test)

ANOVA [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81,954	4	20,488	3.363	.018 [b]
	Residual	261,963	43	6.092		
	Total	343.917	47			

a. Dependent Variable: JCI
b. Predictors: (Constant), SP500, INFLATION, BIRATE, VALUE
Source: Processed Data 2022

From Table 5.11 obtained score F counts big as 3.363 and the significance of F is 0.018. With a significance of 5%, df1 is 3 (k-1 / 4 -1) and df2 is 44 (n-k / 48 - 4), so the F table is 2.57. It can be seen that the calculated F is greater than the F table (3.363 > 2.57) and the significance value is smaller than = 0.05 (0.018 < 0.05). So there is an influence of inflation, BI Rate, Exchange Rate, and Standard & Poor's 500 variables simultaneously (together) on the Indonesian Composite Index variable in 2016 -2019.

3. Hypothesis Testing (t Test)

The t-test was conducted with the aim of knowing the effect of the independent variables individually on the variation of the dependent variable. In this study, the t test was carried out by comparing the t significance value in the table with a significance level of 0.05. Accept Ho if t count < t table (α = 0.05) and Accept Ha if t count > t table (α = 0.05).

Table 5.12
Results Test Partial (Test stats t)

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.479	3,510		-.991	.327
	INFLATION	.577	.772	.100	.748	.458
	BIRATE	.415	.427	.130	.973	.336
	EXCHANG E RATE	-.469	.178	-.388	-2,643	.011
	SP500	.125	.119	.154	1.044	.302

a. Dependent Variable: JCI
Source: Processed Data 2022

Effect of inflation on JCI

The results of statistical analysis for the inflation variable are known that the regression coefficient is positive. The existence of a positive influence means that there is a unidirectional relationship. The higher the inflation, the higher the JCI will be.

The first hypothesis shows that inflation has no significant effect on the Composite Stock Price Index on the Indonesia Stock Exchange. The absence of influence between inflation on the Composite Stock Price Index indicates that the

rise and fall of inflation have no impact on the movement of the Composite Stock Price Index on the Indonesia Stock Exchange. This condition causes investors not to dare to speculate and choose to wait for more stable inflation conditions. Investors are better off waiting because every investor does not expect to get bigger losses.

Random walk theory which states that stock prices move randomly. Stock prices that move randomly mean that stock price fluctuations depend on new information that will be received. Still, the data has yet to be known when it will be accepted, so further information and stock prices are unpredictable. In addition to the random walk theory, the signaling theory also supports the results of this study. The signaling approach discusses the rise and fall of stock prices in the market so that it will influence investor decisions. Signaling theory explains the relationship with information disclosure problems. If companies disclose bad news, the market will give a negative reaction, which is consistent with the efficient market hypothesis (Purnamasari, 2005) .

This study's results align with the research conducted by Taufiq & Kefi (2015) which showed that inflation and the exchange rate positively affected the JCI. However, this study's results differ from the research conducted by Jayanti & Darminto (2014) which reveals that inflation has a negative effect on the JCI.

The Influence of the BI Rate on the JCI

The results of statistical analysis for the BI Rate variable are known that the regression coefficient is positive. The existence of this positive influence means that there is a unidirectional relationship, the higher the interest rate, the stock price will increase.

The second hypothesis shows that the BI Rate is not significant to the Composite Stock Price Index on the Indonesia Stock Exchange. There is no significant effect between the BI Rate on the Composite Stock Price Index because the fluctuations in the interest rate of Bank Indonesia have no effect on the JCI. When Indonesian bank interest rates rise, investors will prefer to invest in banks such as in the form of deposits rather than investing in the capital market. But from the results of research conducted, this statement is not proven so that rising interest rates do not make investors move to invest in banks instead of the capital market. This can happen because investments in the form of deposits have a certain period of time so that investors cannot freely withdraw funds from these

savings deposits at any time. This is different from investing in the capital market, which can liquidate its shares when it is considered profitable. In addition, investors have prepared their own funds, namely how much to invest in the capital market and how much to save in the form of deposits. So that the rise and fall of interest rates will not affect the JCI.

Random walk theory which states that stock prices move randomly (random walk). Stock prices that move randomly means that stock price fluctuations depend on new information that will be received, but the information is not known when it will be received so that new information and stock prices are called unpredictable. Random walk shows that price changes are independent and are random variables that are identically distributed so that future prices can not be predicted using previous price changes (Gillette, 2005) .

The results of this study are in line with Nuraini (2018) which shows that the BI Rate has a positive influence on the JCI. The results of the study are different from the research conducted by Kumalasari (2016) where the BI Rate has a negative influence on the Composite Stock Price Index.

Effect of Exchange Rate on JCI

The results of statistical analysis for the BI Rate variable are known that the regression coefficient is positive. The existence of this positive influence means that there is a unidirectional relationship. The higher the interest rate, the stock price will increase.

The second hypothesis shows that the BI Rate is insignificant to the Composite Stock Price Index on the Indonesia Stock Exchange. There is no significant effect between the BI Rate on the Composite Stock Price Index because the fluctuations in the interest rate of Bank Indonesia do not affect the JCI. When Indonesian bank interest rates rise, investors will prefer to invest in banks, such as deposits, rather than investing in the capital market. But from the results of research conducted, this statement is not proven so that rising interest rates do not make investors move to invest in banks instead of the capital market. This can happen because investments in the form of deposits have a certain period, so investors cannot freely withdraw funds from these savings deposits at any time. This is different from investing in the capital market, which can liquidate its shares when it is considered profitable. In addition, investors have prepared their funds,

namely how much to invest in the capital market and how much to save in the form of deposits so that the rise and fall of interest rates will not affect the JCI.

Random walk theory states that stock prices move randomly. Stock prices that move randomly mean that stock price fluctuations depend on new information that will be received. Still, the information is not known when it will be accepted, so further information and stock prices are unpredictable. Random walk shows that price changes are independent and are random variables that are identically distributed so that future prices can not be predicted using previous price changes (Gillette, 2005) .

The results of this study are in line with Nuraini (2018), which shows that the BI Rate has a positive influence on the JCI. The results of the study are different from the research conducted by Kumalasari (2016), where the BI Rate has a negative impact on the Composite Stock Price Index.

The Effect of Standard & Poor's 500 on JCI

The results of statistical analysis for the Standard & Poor's 500 variables are known that the regression coefficient is positive. The existence of this positive influence means that there is a unidirectional relationship, the higher the Standard & Poor's 500, the JCI will rise or vice versa.

The fourth hypothesis shows that the Standard & Poor's 500 is not significant to the Composite Stock Price Index on the Indonesia Stock Exchange. The Standard & Poor's 500 or S&P 500 is an index consisting of the shares of 500 large-cap companies, mostly from the United States. It is the most popular index owned and maintained by Standard & Poor's, a division of McGraw-Hill. All of the stocks listed in this index are large publicly traded companies and are sold on major US stock exchanges such as the New York Stock Exchange and the Nasdaq. After the Dow Jones Industrial Average, the S&P 500 is the most watched index. The increase in the Standard & Poor's 500 means that the performance of the United States economy has also improved. As one of Indonesia's export destinations, the United States' economic growth can encourage Indonesia's economic growth through export activities and capital inflows for both direct investment and the capital market (Arifin, 2014) .

According to Arifin (2014) the Indonesian capital market has been integrated with the world capital market. Thus, an increase in the Standard & Poor's 500 will increase the Composite Stock Price Index.

Meanwhile, in the long term, the Standard & Poor's 500 has no significant effect on the Composite Stock Price Index. Standard & Poor's 500 as a credit rating agency, Standard & Poor's issued a credit rating for the company's debt. And now, S & P is recognized as America's national statistical rating organization by the US Securities and Exchange Commission (the capital market supervisory agency in America). S&P issues ratings for its short-term and long-term debt. In long-term credit, S&P assigns ratings to companies on a scale from AAA to D. Middle ratings are at each level between AA and CCC (eg: BBB+, BBB, and BBB-). For some companies, the S&P may also issue instructions called "credit watch" (credit that must be monitored), namely credit that can change its rating to increase (positive) or decrease (negative), or remain (neutral).

The results of this study are in line with Wijayanti & Hasmarini (2017) which state that the Standard & Poor's 500 has an insignificant effect on the Composite Stock Price Index. However, different results in the research conducted by Patel (2012) stated that the Standard & Poor's 500 had a significant negative effect on the Composite Stock Price Index.

Conclusion

Based on the analysis and discussion carried out in this study, inflation, BI rate, and standard & poor's 500 have no significant positive effect. At the same time, the exchange rate has a significant negative impact.

Investors who want to invest in stocks should consider fundamental factors, especially Inflation, Changes in Exchange Rates, and foreign indices such as the Standard & Poor's 500 because these factors are proven to have an influence on the Composite Stock Price Index on the Indonesia Stock Exchange.

Researchers with similar topics are advised to conduct further studies by including other independent variables, such as gross domestic product, unemployment rate, gold prices, foreign exchange reserves, and external factors originating from abroad, such as world economic growth and world oil prices. And others. Further research should extend the research period so that a better picture of the condition of the capital market in Indonesia will be obtained.

References

Al Hazmi, HS (2015). Effect Of Inflation, SBI Interest Rates And Rupiah Exchange Rate On The Composite Stock Price Index (CSPI) On The Indonesia Stock

Exchange 2010-2014 Period. Thesis Journal Of The Faculty Of Economics, Business And Management, Widyatama University .

Aliyah, S. (2016). The Influence Of Inflation And BI Rate On The Jakarta Islamic Index (JII) Stock Price Index 2012-2014 . IAIN SALATIGA.

Anoraga, P., & Pakarti, P. (2001). Introduction To Capital Market, Rineka Cipta . Semarang.

Apriyan, R. (2018). Analysis Of The Effect Of Exchange Rates, Inflation And Interest Rates (BI Rate) On The Composite Stock Price Index (JCI) (Study On Property And Real Estate Companies Listed On The Indonesia Stock Exchange (IDX 2011-2015 Period) . Muhammadiyah University Of Surakarta.

Arifin, TM (2014). The Influence Of Inflation, SBI Interest Rates, Exchange Rate Changes, And The Standard & Poor's 500 On The Composite Stock Price Index (JCI). Journal Of Financial Management , 1 (3).

Boediono. (2001). Macroeconomics (Series Synopsis Introduction To Economics No.2. Edition 4. Yogyakarta: BPFE UGM.

Chen, N.-F., Roll, R., & Ross, SA (1986). Economic Forces And The Stock Market. Journal Of Business , 383–403.

Fahmi, I. (2015). Investment Management Theory Questions And Answers . Jakarta, Indonesia: Salemba Empat.

Ghozali, I. (2011). Application Of Multivariate Analysis With IBM SPSS 19 Program (Fifth Ed.). Multivariate Analysis Application With SPSS Program .

Gillette, L. (2005). An Empirical Test Of German Stock Market Efficiency . Humboldt-Universität Zu Berlin, Wirtschaftswissenschaftliche Fakultät.

Hartono, J. (2014). Portfolio Theory And Investment Analysis. Yogyakarta . BPFE-YOGYAKARTA.

Indonesian Stock Exchange. (2020). Financial & Annual Report. In Www.Idx.Co.Id. Retrieved February 7, 2020.

Indrarini, S. (2019). COMPANY VALUE THROUGH QUALITY OF PROFIT: (Good Governance And Corporate Policy) . SCOPINDO MEDIA LIBRARY. Https://Books.Google.Co.Id/Books?Id=4wtfdwaaqbaj

Jayanti, Y., & Darminto, NS (2014). The Influence Of Inflation Rate, SBI Interest Rate, Rupiah Exchange Rate, Dow Jones Index And KLSE Index On The Composite Stock Price Index. Journal Of Business Administration , 11 (1).

Kumalasari, D. (2016). The Influence Of The Usd/Idr Exchange Rate, Sbi Interest Rate, Inflation And The Money Supply (M2) On The Composite Stock Price Index (IHSG) On The Indonesia Stock Exchange (IDX). Academics , 14 (1), 8–15.

Mahyus, E. (2014). International Economics. Jakarta: Erlangga .

Manurung, R. (2016). The Effect Of Inflation, Interest Rates And Exchange Rates On The Composite Stock Price Index On The Indonesian Stock Exchange. Journal Of Economics , 19 (4), 148–156.

Maslikha, H., Puspitaningtyas, Z., & Prakoso, A. (2017). The Influence Of Inflation And BI Rate On The Composite Stock Price Index (Case Study On Property And Real Estate Companies Listed On The Indonesia Stock Exchange For The Period Of 2011-2015). E-SOSPOL , 4 (1), 62–67.

Maurina, Y., Hidayat, RR, & Sulasmiyati, S. (2015). Effect Of Inflation Rate, Rupiah Exchange Rate And BI Rate Interest Rate On JCI. Journal Of Business Administration (JAB) , 27 (2).

Natsir, M. (2014). Central Banking & Monetary Economy . Media Discourse Partner Publisher.

Nidianti, E., & Wijayanto, E. (2019). Analysis Of The Effect Of The Exchange Rate, BI Rate And Inflation On The JCI On The IDX For The Period 2014-2017. Keunis , 7 (1), 64–76.

Novitasari, I. (2013). The Effect Of Inflation, Indonesian Crude Oil Prices, And Interest Rates (BI Rate) On The Composite Stock Price Index (JCI) (Monthly Data For The Period 2006-2012) . Brawijaya University.

Nuraini, DL (2018). Effect Of Inflation, Interest Rate (BI Rate), Exchange Rate (Exchange) And The Money Supply (M2) On The JCI On The IDX In 2011-2016. Publication Manuscript. Surakarta: Faculty Of Economics And Business .

Patel, S. (2012). The Effect Of Macroeconomic Determinants On The Performance Of The Indian Stock Market. NMIMS Management Review , 22 .

Purnamasari, DI (2005). Implications Of Signaling Theory On Announcement Of Dividend Cuts On Market Reaction. Economic Research Symposium II Surabaya, H , 1–10.

Raharjo, AW, & Elida, T. (2015). Banks And Non-Bank Financial Institutions In Indonesia Jakarta (ID) . University Of Indonesia Press.

Ramsey, JB (1969). Tests For Specification Errors In Classical Linear Least Squares Regression Analysis. Journal Of The Royal Statistical Society: Series B (Methodological) , 31 (2), 350–371.

Ruhendi, & Arifin (2003). Impact Of Changes In The Rupiah Exchange Rate And The Dow Jones Stock Price Index On The New York Stock Exchange Against The Composite Stock Price Index On The Jakarta Stock Exchange.

Samsul, M. (2006). Capital Markets And Portfolio Management .

Sunardi, N., & Ula, LNR (2017). The Effect Of The BI Rate, Inflation And Exchange Rate On The Composite Stock Price Index (JCI). Journal Of Securities:

Stocks, Economics, Finance And Investment , 1 (2), 27–41.

Solichin. (2017). The Effect Of Inflation, Interest Rates And Rupiah Exchange Rates On The Monthly Composite Stock Price Index On The Indonesia Stock Exchange Period January 2013 – December 2015. Tangerang: Universitas Buddhi Dharma.

Tandelilin, E. (2001). Investment Analysis and Portfolio Management . Yogyakarta: Mr.

Taufiq, M., & Kefi, BS (2015). The Effect Of Inflation, BI Rate And Exchange Rate on The Composite Stock Price Index. Journal of Economics Management Accounting , 22 (38).

Wijayanti, I., & Hasmarini, IMI (2017). Analysis of the Effect of Inflation, Bi Rate, Exchange Rate, and Standard & Poor's 500 on the Composite Stock Price Index (CSPI) on the Indonesia Stock Exchange (IDX) 2014-2016. Muhammadiyah Surakarta university.