



Analysis of the Effect of Macro Variables on JCI Period of 2008 to 2020

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Abstract: The Composite Price Index (JCI) often fluctuates from year to year, which should be expected by investors to increase, so that investors get certainty about the return on investment funds placed in the capital market. Analysis of economic factors shows a strong relationship between the macroeconomic and performance in Indonesian capital market. The purpose of this study was to analyze the effect of Macro Variables on the Composite Stock Price Index (JCI) for the period 2008 to 2020. The macro variables used were Inflation, Economic Growth, Dollar Exchange Rate and SBI or 7 Day Repo Rate against the JCI. The number of sample is 13 years, from 2008 to 2020. Multiple linear regression analysis, coefficient of determination test using SPSS Version 26 software. The conclusion is that Inflation has no significant effect on the JCI, while Economic Growth, Dollar Exchange and SBI have a significant effect on the JCI. Simultaneously, Inflation, Economic Growth, Dollar Exchange and SBI have a significant effect on the JCI.

Keywords: Inflation, Economic Growth, Return Stock

1. Introduction

Analysis of economic factors shows a strong relationship between the macroeconomic environment and performance in the Indonesian capital market or JCI [11]. Fluctuations that occur in the capital market are related to changes that occur in macroeconomic variables [5]. The capital market is one of the tools that drive the economy of a country, because the capital market is a means of forming capital and accumulating long-term

funds to increase public participation in placing their funds in the Indonesian capital market (Indonesian Stock Exchange) [2].

The capital market often experiences an increase (bullish) and a decline (bearish) can be seen from the rise and fall of stock prices as reflected in the Composite Stock Price (JCI)[6]. JCI is the value used to measure the combined performance of all shares (companies/issuers) listed on the Indonesia Stock Exchange (IDX). JCI movement from 2008 to 2020 can be seen in the table below [13].

Table 1. Composite Stock Price Index (IHSG) from 2008 to 2020.

Tahun	JCI (satuan)	Growth (%)
2009	2.534	46,13
2010	3.703	3,19
2011	3.821	12,95
2012	4.316	-0,01
2013	4.274	22,27
2014	5.226	-12,11
2015	4.593	15,31
2016	5.296	20,00
2017	6.355	-2,53
2018	6.194	1,70
2019	6.299	-5,08
2020	5.979	

Sources: Indonesia stock exchange.

The Composite Price Index (JCI) often fluctuates from year to year, which should be expected by investors to increase, so that investors get certainty about the return on investment funds placed in the capital market [7].

As in the table above, it shows that the JCI from 2012 to 2013, experienced a decline (bearish), the JCI from 2014 to 2015 also decreased, the JCI from 2017 to 2018 and the JCI from 2019 to 2020. This condition will certainly make investors are afraid to place investment funds into the Indonesia capital market.

The decline in the JCI, of course, many factors and variables that influence it, especially macro variable, including inflation, interest (SBI), economic growth and foreign exchange rates (US Dollar, GDP) and income per capita and others [10].

This macro condition is difficult for potential investors and investors to predict, but the company's internal (micro) variable are relatively predictable by potential investors, through fundamental analysis.

2. Theoretical Framework

Inflation is a symptom of rising prices that cover almost all types of goods and services, usually continuously from time to time, causing the purchasing power of the rupiah in one year to differ from the rupiah in other years [1]. In the Accounting Principle Board no. 4, inflation is a decrease in purchasing power caused by an increase in the general price level of a number of goods and services. The decrease in people's purchasing power will cause the company's profit to decrease, resulting in a decrease in the company's share price in the capital market. Inflation will encourage people to reduce investment and will save more of their investment funds in banks to get a fairly high yield (interest) compared to other investment benefits. This condition will reduce investment in the capital market, resulting in the JCI tending to be bearish (decreased) [8].

High inflation will cause production costs to rise and can make people's purchasing power decrease. The decline in purchasing power and high production costs will indirectly affect capital market conditions. Investors will not be interested in investing in shares, so there will be a decrease in interest in buying shares, resulting in stock prices going down.

The interest rate is one of the variables that can affect stock prices. According to [3], the rise and fall of banking interest rates for deposits, savings and loans will affect the public's decision of potential investors in purchasing company shares on the IDX. If bank interest rates increase, potential investors will save their funds in banks in the form of deposits [9]. If bank interest rates fall, then the public will use and place their funds to buy shares in the Capital Market.

The foreign exchange rate is the price of one currency against another which reflects the balance of supply and demand for the domestic currency. According to [3], the ups and downs of a country's currency when converted into other countries' currencies, such as the Dollar, Yen, Euro and others.

The foreign exchange rate referred to in this study is the US Dollar exchange rate as a global currency, where almost all countries keep foreign exchange reserves in the form of US Dollars. The reason the researcher uses the exchange rate (exchange rate) is the US Dollar, because the US Dollar can be a reference for conducting the largest trade transactions in the world and trade in Indonesia is still using US Dollars.

Increased economic growth will directly result in improved economic conditions of a country, such as; unemployment decreases, people's incomes increase, the country's gross domestic product increases, people's purchasing power increases. With this increasing economy, people are starting to have excess funds, so they will put their excess funds into several investment instruments, such as; savings, time deposits, property and capital markets (stocks, bonds, sukuk, etc.).

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Increased economic growth is expected to increase share prices (bullish) in the Indonesian capital market (IDX). The movement of the Composite Stock Price Index in Indonesia is very volatile. The movement of the Composite Stock Price Index (JCI), this can be used to measure the economic condition of a country. The movement of the Stock Price Index which tends to rise, indicates that the condition of the country is in good condition. Vice versa, if the movement of the stock price index tends to decline, it can be concluded that the country's economic condition is experiencing a decline.

Based on the statements mentioned above, the researcher is interested in testing whether macro variables, such as; inflation, economic growth, foreign exchange rates (dollar exchange rates) and SBI (7-Day reverse repo rate) will affect the Composite Stock Price Index (JCI) in Indonesia from 2008 to 2020.

3. Research Methods

This study uses the form of the relationship between performance and stock prices and uses a multiple linear model, which explains the causal relationship between one dependent variable and several independent variables. Data collection by means of online library research. This research

uses books, journals, or articles, and sources from the internet, including:

- Indonesia Stock Exchange (<https://www.idx.co.id>).
- Yahoo. Finance (<https://finance.yahoo.com>).
- Capital Financial Services Authority (<https://www.ojk.go.id>).
- Bank Indonesia (<https://www.bi.go.id>).
- Central Bureau of Capital Statistics (<https://www.bps.go.id>).

The population is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by the researcher to be studied and then draw conclusions [12].

The sample according to [12], the research sample is from the number and characteristics possessed by the population. If the population is large and it is impossible for the researcher to study everything in the population, what is learned from the sample, the conclusions will be applicable to the population. The causal relationship in multiple linear regression is formulated as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4$$

Explanation:

Y = dependent variable, in the form of Composite Stock Price.

Index (JCI).

A = constant, if there is no independent variable.

b₁, b₂, b₃, b₄ = regression coefficient of each variable (direction value as determinant predictions that show the value of increasing or decreasing Y).

X₁ = independent variable 1, Inflation.

X₂ = independent variable 2, Economic Growth.

X₃ = independent variable 3, Dollar Exchange.

X₄ = independent variable 4, SBI/ Kurs Dollars.

e = other variables that affect Y.

4. Results and Conclusion

4.1. Multiple Linier Regression Analysis Equation

This study states multiple linier regression analysis to determine or not there is an influence between the independent variables on the dependent variable. From the classical assumption test it can be concluded that the regression model can be used in fata processing. Based on data processing in the t test be following regression equation can be generated:

Table 2. Classic Assumption Test.

	(Constant)	.725
	Inflation	.001
1	Growth_Economic	.003
	Kurs_Dollar	.006
	SBI_7Days Repo_Rate	-.007

$$JCI \text{ (IHSG)} = 0,725 + 0,001 \text{ Inflation} + 0,003 \text{ Growth_Economic} + 0,006 \text{ Kurs Dollar} - 0,007 \text{ SBI}.$$

The results of hypothesis testing indicate that the value of the regression coefficient on the SBI variable or 7 Day Repo Rate is -0.007. So, the results of this study indicate that information on changes in the SBI or 7 Day Repo Rate has a negative effect on decisions on the Composite Stock Price Index (IHSG) in the Indonesian capital market, which means that every 1 percent increase in inflation will affect the JCI decrease by 0.007 percent.

4.2. T Test

According to Ghazali, Imam [4] the test basically shows how far the influence of one independent variable individually in explaining the dependent variable. The test is carried out using the significance level of 0.05 (α5).

Table 3. Coefficients^a.

Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Std. Error	Beta		
(Constant)	.725	1.395	.520
Inflation	.001	.001	.157
Growth_Economic	.003	.001	.415
Kurs_Dollar	.006	.001	.746
SBI_7Days Repo_Rate	-.007	.002	-.641

a. Dependent Variable: JCI (IHSG).

Inflation has a t count of $0.989 < t$ table of 2.262 and Test 2 with a significance value of $0.352 > 0.050$ which means Ho₁ is rejected and Ha₁ is rejected. So it can be concluded that inflation has no significant effect on the Composite Stock Price Index (IHSG).

Economic growth has a t count of $3.849 > t$ table of 2.262 and Test 2 with a significance value of $0.005 < 0.050$ which means Ho₁ is rejected and Ha₁ is accepted. So it can be concluded that Economic Growth has a significant effect on the Composite Stock Price Index (IHSG).

The Dollar Rate has a t count of $6.780 > t$ table of 2.262

and Test 2 with a significance value of $0.003 < 0.050$ which means Ho₁ is rejected and Ha₁ is accepted. So it can be concluded that the Dollar Exchange rate has a significant effect on the Composite Stock Price Index (IHSG).

SBI (7 Day Repo Rate) has a t count of $-4.120 > t$ table of 2.262 and Test 2 with a significance value of $0.000 < 0.050$ which means Ho₁ is rejected and Ha₁ is accepted. So it can be concluded that the Dollar Exchange rate has a significant effect on the Composite Stock Price Index (IHSG).

4.3. Correlation and Determination Coefficient

Correlation coefficient analysis aims to study whether there is a relationship between two or more variables, while regression analysis predicts how far the influence is. Specifically, the purpose of correlation analysis is to find out whether there is a relationship between two variables, and if there is a relationship, how is the direction of the relationship and how big is the relationship.

In this study, researchers used Pearson Correlation as a measuring tool for correlation between two variables with the provisions, the correlation value (r) ranged from 1 to -1, the

value closer to 1 or -1 means the relationship between variables is getting stronger.

The coefficient of determination (R^2) essentially measures how far the model's ability to explain variations in the dependent variable is. The value of the coefficient of determination is between 0 and 1. A small value of R^2 means that the ability of the independent variables in explaining the variation of the dependent variable is very limited. A value close to 1 (one) means that the independent variables provide almost all the information needed to predict the variation of the dependent variable [4].

Table 4. Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.961 ^a	.924	.886	.51212

a. Predictors: (Constant), SBI_7Days_Repo_Rate, Growth_Economic, Kurs_Dollar, Inflation.

Based on the table, it can be seen that the value of R Square = 0.924 or 92.4%. This shows that there is a very strong positive relationship between the variables of Inflation, Economic Growth, Dollar Exchange and SBI on the Composite Stock Price Index (JCI) variable.

Meanwhile, Adjusted R Square is 0.886 or 88.6%. This shows that the magnitude of the contribution of the variable Inflation, Economic Growth, Dollar Exchange and SBI to the Composite Stock Price Index (JCI) variable. While the remaining 11.4% is influenced or explained by other

independent factors and variables that are not included in the research model.

4.4. F Test

According to Ghazali, Imam [4] the F test basically shows whether all the independent variables referred to in the model have the same simultaneous effect on the dependent variable. The test was carried out using the significance level of 0.05 (α).

Table 5. ANOVA^a.

Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	25.582	4	6.396	24.386	.000 ^b
	Residual	2.098	8	.262		
	Total	27.681	12			

a. Dependent Variable: IHSG

b. Predictors: (Constant), SBI_7Days_Repo_Rate, Growth_Economic, Kurs_Dollar, Inflation.

Based on the table, it can be seen that the F test results can be seen from the calculated value of $24.386 > 3.862$ with a significance value of $0.000 < 0.050$ which means that the regression model that can be used to predict the Y-bound variable is Stock Price. So it can be concluded that the variables of Inflation, Economic Growth, Dollar Exchange and SBI (7-Day Reverse Repo Rate) together (simultaneously) have a positive and significant effect on the Composite Stock Price Index (JCI), so it can be concluded that H_0 is rejected and H_a received.

not be liquidated or fail.

5.2. Recommendation

Prospective investors before investing their funds in the Capital Market (Indonesian Stock Exchange), should pay attention to Economic Growth, Dollar Exchange Rate and SBI, because these three variables have a significant effect on the JCI, but must also consider other macro variables, such as; inflation, gold prices and Government Regulations related to investment policies in the Indonesian Capital Market.

5. Conclusion and Recommendation

5.1. Conclusion

Simultaneously, Inflation, Economic Growth, Dollar Exchange Rate and 7-Day Reverse Repo Rate have a significant effect on the Composite Stock Price Index (JCI).

In addition to the macro variables above, investors also need to conduct a fundamental analysis of the shares to be purchased, so that in the long term the shares (issuers) will

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