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The Effect of Inflation and the Rupiah Exchange Rate on the Composite Stock Price Index for the 2013–2024 Period

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Abstract: *The purpose of this study is to determine the effect of inflation and the Rupiah exchange rate on the Composite Stock Price Index. The method used is a quantitative method. The sampling technique used in this study is saturated sampling. The sample used in this study is inflation data, the rupiah exchange rate, and the Composite Stock Price Index (IHSG) for the period 2013–2024 obtained from Bank Indonesia and Yahoo Finance. Data analysis uses classical assumption tests, regression analysis, correlation coefficients, determination coefficients and hypothesis tests. The results of this study are that inflation has no significant positive effect on the Composite Stock Price Index with a determination value or contribution of 0.282 or 28.2%. and the hypothesis test obtained t count < t table or (-1.984 < 2.228). The Rupiah exchange rate has a positive and significant effect on the Composite Stock Price Index with a determination coefficient or contribution of 0.669 or 66.9% and the hypothesis test obtained t count > t table or (4.501 > 2.228). Inflation and the rupiah exchange rate have a positive and significant effect on the composite stock price index with a regression equation of Y = -2623.251 – 19.237X1 + 618X2. The coefficient of determination is 0.671 or 67.1% while the remaining 32.9% is influenced by other factors. The hypothesis test obtained a calculated f value > f table or (9.174 > 4.260). Thus, there is a significant influence between inflation and the rupiah exchange rate on the composite stock price index.*

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Introduction

The capital market is a crucial instrument in supporting a country's economic growth, serving as a means of raising funds for companies and providing an investment alternative for the public. In Indonesia, capital market development can be seen through the Jakarta Composite Index (JCI), which reflects the price movements of all stocks listed on the Indonesia Stock Exchange. JCI movements are

influenced by various factors, both internal to companies and macroeconomic conditions, such as inflation and the rupiah exchange rate.

Indonesia's economic conditions during the 2013–2024 period experienced various dynamics due to the influence of domestic and global factors, such as the 2013 taper tantrum, the COVID-19 pandemic, the economic recovery process, and the strengthening of the US dollar. These various conditions caused significant changes in inflation, the rupiah exchange rate, and the Jakarta Composite Index (JCI). The development of these three variables can be seen in the table below:

Table 1. Development of Inflation, Rupiah Exchange Rate, and Composite Stock Price Index for the Period 2013–2024

YEAR	INFLATION(%)	RUPIAH EXCHANGE RATE	IHSG
2013	8.38	12,189	4,418.76
2014	8.36	12,440	5,289.40
2015	3.35	13,795	4,615.16
2016	3.02	13,436	5,294.10
2017	3.61	13,548	6,605.63
2018	3.13	14,481	6,532.97
2019	2.72	13,901	5,940.05
2020	1.68	14,105	5,862.35
2021	1.87	14,269	6,631.15
2022	5.51	15,731	6,839.34
2023	2.61	15,416	7,207.94
2024	1.57	16,162	7,109.20

Source: Bank Indonesia, and Yahoo Finance

Based on table 1, inflation during the 2013–2024 period shows fluctuating movements. The highest inflation occurred in 2013 at 8.38%, then tended to decline to reach 1.57% in 2024. Meanwhile, the rupiah exchange rate against the United States dollar experienced a weakening trend, from around Rp12,189 per USD in 2013 to around Rp16,162 per USD in 2024. On the other hand, the JCI also experienced fluctuations, from 4,418.76 points in 2013 to 7,207.94 points in 2023, then experienced changes again in 2024. The differences in the movement patterns of the three variables indicate that the relationship between inflation, the rupiah exchange rate, and the JCI does not always run in the same direction, making it interesting to study further.

Numerous studies have been conducted on the effects of inflation and the rupiah exchange rate on the Jakarta Composite Index (JCI). However, previous research has yielded inconsistent results. Some studies indicate that inflation significantly impacts the JCI, while others indicate no significant effect. Divergent results have also been found for the rupiah exchange rate, with some studies indicating a significant effect on the JCI, while others show no significant effect. These inconsistent research findings constitute a research gap that underlies the need for further research.

Based on the description, this study aims to analyze the effect of inflation and the rupiah exchange rate on the Composite Stock Price Index (IHSG) in Indonesia during the 2013–2024 period, both partially and simultaneously.

Related Research

Numerous studies have been conducted on the effects of inflation and the rupiah exchange rate on the Jakarta Composite Index (JCI). However, the results obtained have shown inconsistent findings, particularly regarding the partial effects of inflation and the rupiah exchange rate on the JCI.

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Several studies have shown that inflation has no significant effect on the JCI, while the rupiah exchange rate does. These findings were found by Sisca Septyani Devi and Faculty (2021), Wiyono (2021), Fanani (2022), and Rohmah (2024). These four studies also concluded that inflation and the rupiah exchange rate simultaneously have a significant effect on the JCI.

On the other hand, research conducted by Febriyanti and Delfiani (2023) shows that inflation and the rupiah exchange rate partially have a significant and negative effect on the Jakarta Composite Index (JCI), while simultaneously inflation, Bank Indonesia interest rates, and the rupiah exchange rate have a significant effect on the JCI. Similar results were also found by Nadi Hernadi Moorcy and Mahfud Alwi, who stated that inflation and the rupiah exchange rate partially have a significant effect on the JCI, although the direction of the exchange rate effect is negative. Furthermore, the study also shows that inflation, interest rates, and the rupiah exchange rate simultaneously have a significant effect on the JCI.

Based on these various studies, it can be seen that there are still differences in the results regarding the effect of inflation and the rupiah exchange rate on the JCI, especially in partial tests. Some studies state that both inflation and the rupiah exchange rate have a significant effect on the JCI, while others show that neither variable has a significant effect. These differences in research findings indicate a research gap, making research on the effect of inflation and the rupiah exchange rate on the JCI still relevant. Therefore, this study reexamines the effect of inflation and the rupiah exchange rate on the JCI using data from 2013–2024, which is expected to provide more up-to-date empirical evidence.

Research Methods

Descriptive analysis

The descriptive method uses data collection and analysis to obtain a description, overview, or description of the phenomenon being studied. In this study, the author describes the results of each variable used and provides an explanation for greater comprehensiveness and ease of understanding.

Classical assumption test

1. **Normality test**

   According toMuhammad Isnaini1, Muhammad Win Afgani2, Al Haqqi3 (2023)The normality test is a step used to determine whether collected data follows a normal distribution. Good data suitable for proving research models is data that is normally distributed.

2. **Multicollinearity test**

   This multicollinearity test aims to test whether there is a correlation between independent variables in the regression model. According toFlower (2021)The multicollinearity test is used to determine whether there is a correlation between independent variables in the regression model. A good regression model should have no correlation between independent variables. To detect multicollinearity, the Tolerance and Variance Inflation Factor (VIF) values are used.

3. **Autocorrelation test**

   The autocorrelation test is a method used to determine whether there is a relationship between the current value and the value in the previous period. This test is typically used in research using time series data, such as monthly or annual data. If autocorrelation is found, it means that the analyzed data is still influencing each other across periods, which can make the research results less accurate. Therefore, an autocorrelation test is important to ensure that the model used in data analysis is sound and the results are reliable.

4. **Heteroscedasticity test**

   According toFlower (2021)The heteroscedasticity test is used to determine whether there is unequal variance in the residuals from one observation to another within a regression model. A regression model with homoscedasticity, where the residuals from one observation to another remain the same, is considered a good regression model. In other words, a good regression model should not have heteroscedasticity.

Linear regression analysis test

Multiple linear regression analysis is a statistical technique used to find a regression equation that is useful for predicting the value of a dependent variable based on the values of the independent

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variables, identifying possible errors, and analyzing the relationship between one dependent variable and the independent variables simultaneously. According to Sugiyono (2021:277), "regression analysis is used to predict how the value of a dependent variable will change if the value of the independent variable is increased or decreased." This relationship model is structured in a multiple regression function or equation as follows:

$$Y = a + b1X1 + b2X2 + \acute{\varepsilon}$$

Source: Sugiyono (2021:277)

1. **Correlation coefficient analysis**

According toAriyani Amelia (2024)Correlation coefficient analysis is intended to determine the level of relationship between independent variables and dependent variables, both partially and simultaneously.

2. **Analysis of coefficient of determination**

The analysis of the coefficient of determination is intended to determine the magnitude of the influence between the independent variables on the dependent variables, both partially and simultaneously. According toRahmadani (2023)The coefficient of determination is a quantity to show the level of strength of the relationship between two or more variables in the form of a percentage. Based on this understanding, the coefficient of determination is a part of the total diversity of the dependent variable that can be calculated by the diversity of the independent variable calculated with the coefficient of determination with the basic assumption that other factors outside the variable are considered constant.

Hypothesis testing

1. Partial regression test (t-test)

The t-test or partial test is intended to test how each independent variable individually influences the dependent variable. The t-test is used to see the partial hypothesis (seeing the influence of each variable (X) on the variable (Y) at a 95% confidence level).

(a) If the significance value is < 0.05, then H0 is rejected and Ha is accepted.
(b) If the significance value > 0.05, then H0 is accepted and Ha is rejected.

2. Simultaneous test

The F or simultaneous test is intended to test the influence of all variables.variablesindependent variables simultaneously on the dependent variable. The F test is used to determine whether or not there is a joint or simultaneous influence between the independent variables on the dependent variable.

a) If the significance value is < 0.05, then H0 is rejected and Ha is accepted.
b) If the significance value > 0.05, then H0 is accepted and Ha is rejected.

Results And Discussion

Table 2. Results of Descriptive Statistical Tests

Descriptive Statistics

	N	Minimum	Maximum	Mean	Standard Deviation
INFLATION	12	1.57	8.38	3.8175	2.36952
RUPIAH EXCHANGE RATE (RATE)	12	12189.00	16162.00	14122.7500	1209.70110
STOCK PRICE INDEX (IHSG)	12	4418.76	7207.94	6028.8375	947.58265

Source: Processed data, 2026

Based on table 2, inflation has an average of 3.82%with a minimum achievement of 1.57% and a maximum achievement of 8.38% with a standard deviation of 2.37%. Furthermore, the Rupiah exchange rate hasaverage of 14122.75%with a minimum achievement of 12189% and a maximum achievement of 16162% with a standard deviation of 1209.7%. Furthermore, there is the Composite

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Stock Price Index, which has an average of6028.84%with a minimum achievement of 4418.76% and a maximum achievement of 7207.94% with a standard deviation of 947.58%.

Classical Assumption Test

1. Normality Test

Table 3. Results of Normality Test with Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		12
Normal Parametersa,b	Mean	0.0000000
	Standard Deviation	543.58833022
Most Extreme Differences	Absolute	0.190
	Positive	0.109
	Negative	-0.190
Test Statistics		0.190
Asymp. Sig. (2-tailed)c		0.200d

Based on the table above, the sig value is 0.200 > 0.050. This means that the distribution assumption of the equation in this test is normally distributed.

2. Multicollinearity Test

Table 4. Multicollinearity Test Results

Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	-2623.251	2922,782		-0.898	0.393		
INFLATION	-19,237	96,759	-0.048	-0.199	0.847	0.625	1,601
RUPIAH EXCHANGE RATE	0.618	0.190	0.789	3,260	0.010	0.625	1,601

a. Dependent Variable: STOCK PRICE INDEX

Based on the multicollinearity test results, the Inflation and Rupiah Exchange Rate variables each have a tolerance value of **0.625 (>0.10)** and a VIF value of **1.601 (<10)**. Thus, the regression model is free from multicollinearity, indicating that there is no strong correlation between the independent variables.

3. Autocorrelation test

Table 5. Results of Autocorrelation Test with Durbin-Watson

Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin-Watson
1	0.819a	0.671	0.598	600.95951	2,290

a. Predictors: (Constant), RUPIAH EXCHANGE RATE, INFLATION

b. Dependent Variable: STOCK PRICE INDEX

Based on the test results in the table above, this regression model has no autocorrelation, this is proven by the Durbin-Watson value of 2.290 which is between the interval 1,550 – 2,460.

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4. Heteroscedasticity test

Table 6. Results of Heteroscedasticity Testing Using the Glejser Test

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2128.027	1725,793		1,233	0.249
	INFLATION	-35,198	57,133	-0.246	-0.616	0.553
	RUPIAH EXCHANGE RATE	-0.112	0.112	-0.401	-1.004	0.342

a. Dependent Variable: AbsRes

Based on the test results in the table above, the Glejser test model on the Inflation variable (X1) obtained a probability significance value (Sig.) of 0.553 and the Rupiah Exchange Rate (X2) obtained a probability significance value (Sig.) of 0.342 where both significance values (Sig.) > 0.05. Thus, the regression model on this data does not have heteroscedasticity interference, so this regression model is suitable for use as research data.

Multiple Linear Regression Test

Table 7. Results of Multiple Linear Regression Test of Inflation (X1) and Rupiah Exchange Rate (X2) Against the Composite Stock Price Index (Y)

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2623.251	2922,782		-0.898	0.393
	INFLATION	-19,237	96,759	-0.048	-0.199	0.847
	RUPIAH EXCHANGE RATE	0.618	0.190	0.789	3,260	0.010

a. Dependent Variable: STOCK PRICE INDEX

Berdasarkan hasil regresi, inflasi berpengaruh negatif terhadap IHSG sebesar 19.237 poin, sedangkan nilai tukar rupiah berpengaruh positif sebesar 618 poin, dengan asumsi variabel lainnya konstan.

1. Hypothesis Testing

Table 8. Results of Hypothesis Test (t-Test) of Inflation (X1) Against Stock Price Index (Y)

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6840.049	475,735		14,378	0.000
	INFLATION	-212,498	107,130	-0.531	-1,984	0.075

a. Dependent Variable: COMPOSITE STOCK PRICE INDEX

Based on the test results in the table above, the calculated t value < t table or (- 1.984 < 2.228) This is also strengthened by the ρ value > Sig.0.05 or (0.075 > 0.05). Thus, H0 is accepted and H1 is rejected, this shows that there is no significant positive influence between inflation on the composite stock price index.

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Table 9. Results of Hypothesis Test (t-Test) of Rupiah Exchange Rate (X2) Against Stock Price Index (Y)

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-3022.740	2017.987		-1,498	0.165
	RUPIAH EXCHANGE RATE	0.641	0.142	0.818	4,501	0.001

a. Dependent Variable: COMPOSITE STOCK PRICE INDEX

Based on the test results in the table above, the calculated t value < t table or (4.501 > 2.228) is obtained. This is also strengthened by the ρ value < Sig.0.05 or (0.001 < 0.05). Thus, H0 is rejected and H2 is accepted, this shows that there is a significant positive influence between the Rupiah Exchange Rate and the Composite Stock Price Index.

Table 10. Results of the Simultaneous Hypothesis Test (F Test) of Inflation (X1) and the Rupiah Exchange Rate (X2) Against the Stock Price Index (Y)

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6626670.601	2	3313335.300	9,174	0.007b
	Residual	3250371.000	9	361152.333		
	Total	9877041.601	11			

a. Dependent Variable: COMPOSITE STOCK PRICE INDEX

b. Predictors: (Constant), RUPIAH EXCHANGE RATE, INFLATION

Based on the test results in the table above, the calculated F value is obtained > F table or (9.174 > 4.260), this is also strengthened by the ρ value < Sig. 0.05 or (0.007 < 0.05). Thus, H0 is rejected and H3 is accepted, this shows that there is a significant simultaneous influence between Inflation and the Rupiah Exchange Rate on the Composite Stock Price Index.

2. Test of coefficient of determination

Table 11. Results of the Simultaneous Test of the Determination Coefficient of Inflation (X1) and the Rupiah Exchange Rate (X2) Against the Stock Price Index (Y)

Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.819a	0.671	0.598	600.95951

a. Predictors: (Constant), RUPIAH EXCHANGE RATE, INFLATION

Based on the test results in the table above, the determination coefficient value is 0.671, so it can be concluded that the Inflation and Rupiah Exchange Rate variables have an effect on the Composite Stock Price Index variable of 67.1%, while the remaining (100-67.1%) = 32.9% is influenced by other factors that were not researched.

Conclusion

This study shows that inflation does not significantly influence the Jakarta Composite Index (JCI), so changes in the inflation rate during the 2013–2024 period cannot directly explain variations in JCI movements. Conversely, the rupiah exchange rate has been shown to have a positive and significant effect on the JCI, indicating that exchange rate changes are a macroeconomic factor that plays a significant role in shaping the dynamics of the Indonesian capital market. Simultaneously, inflation and the rupiah exchange rate significantly influence the JCI, explaining 67.1% of the JCI's variations, while the remainder is influenced by other factors outside the research model. This finding

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confirms that exchange rate stability is a crucial aspect in maintaining capital market performance, while the influence of inflation on the JCI tends to be influenced by more complex economic conditions.

This study has limitations because it only uses two independent variables: inflation and the rupiah exchange rate. With a relatively limited number of observations over the 2013–2024 period, it is not yet able to describe all factors influencing the movement of the JCI. Therefore, further research is recommended to add other macroeconomic variables, such as interest rates, money supply, economic growth, global commodity prices, and other external factors, and use data with a higher frequency to produce a more comprehensive analysis. Practically, the results of this study can provide input for the government and monetary authorities in maintaining exchange rate stability as an effort to support capital market stability. For investors, information on exchange rate movements can be used as a consideration in developing investment strategies and decision-making in the stock market.

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