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ANALYSIS OF THE IMPACT OF EXCHANGE RATE (EXCHANGE) POLICY AND INFLATION ON THE COMPOSITE STOCK PRICE INDEX (JCI) IN INDONESIA IN 2023

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Exchange Rate; Inflation; Composite Stock Price Index (JCI)

ABSTRACT

The Indonesian capital market, represented by the Jakarta Composite Stock Price Index (JCI), faces significant turmoil in 2023 triggered by global uncertainty, fluctuations in the Rupiah (USD/IDR) exchange rate, and inflation rate dynamics. The interaction of these two macroeconomic variables on the performance of the JCI in the post-pandemic context and global monetary tightening requires an in-depth analysis. This study aims to analyze the simultaneous and partial influence of exchange rates and inflation on the movement of JCI in Indonesia during the 2023 period, as well as identify which variables have the dominant influence. This study uses a quantitative approach with multiple linear regression analysis methods of monthly time-series data from January to December 2023. Secondary data was obtained from Bank Indonesia, the Central Statistics Agency (BPS), and the Indonesia Stock Exchange (IDX). Data analysis includes classical assumption tests and hypothesis tests with the help of IBM SPSS Statistics software. The results of the study show that simultaneously, the exchange rate and inflation have a significant effect on the JCI (sig. 0.000). Partially, both variables had a negative and significant effect, with the exchange rate (coefficient -0.432; sig. 0.008) having a more dominant influence than inflation (coefficient -0.298; sig. 0.047). It is concluded that the exchange rate is the dominant factor affecting the JCI in 2023. These findings imply the importance of exchange rate stabilization policies by monetary authorities and the need for investors to consider the sensitivity of the capital market to external factors in investment decision-making.

INTRODUCTION

The capital market acts as the main barometer of the health of a country's economy, with the Composite Stock Price Index (JCI) being the most representative indicator to measure investor performance and sentiment in the stock market (Tandellin, 2010). In 2023, the JCI faces a very dynamic and uncertain global macroeconomic environment. The turmoil was triggered by aggressive monetary tightening from the world's major central banks, especially the Fed, which had an impact on global capital flows and the exchange rate stability of emerging economies, including Indonesia. Fluctuations in the Rupiah (USD/IDR) exchange rate and inflationary pressures are two key variables that are suspected to strongly affect the movement of the JCI throughout the year.

A comprehensive understanding of the impact of exchange rates and inflation on the JCI in the specific period of 2023 is very urgent. First, from a policy perspective, Bank Indonesia (BI) and

the Financial Services Authority (OJK) need evidence-based research to strengthen the formulation of financial market stabilization policies. Second, for domestic and foreign investors, the high volatility of the year demands a deep understanding of how to strategize an effective portfolio and hedging strategy. Third, 2023 is a post-pandemic recovery year where global supply chain disruptions are still occurring, so inflation dynamics have a unique character and need to be studied in relation to the stock market.

Theoretically, the relationship between exchange rates, inflation, and stock prices can be explained through several channels. The Flow-Oriented Model theory (Dornbusch & Fischer, 1980) states that exchange rate depreciation can increase export competitiveness, increase the profitability of exporting firms, and ultimately drive up its stock prices. On the other hand, the theory of the Balanced Portfolio Approach (Branson, 1983; Alam & Rashid 2020) argue that currency depreciation leads to a decline in the value of domestic financial assets, triggering capital outflows that suppress the stock market. Meanwhile, high inflation is closely related to the theory of Discount Cash Flow, where rising inflation will encourage interest rate hikes that increase discount rates, thereby lowering the present value of the company's cash flow in the future and resulting in a decline in stock prices (Fisher, 1930; Fama, 1970).

The development data of the three variables during 2023 shows interesting dynamics to analyze. The average rupiah exchange rate in the first quarter of 2023 was at the level of IDR 15,250 per USD with annual inflation (y-o-y) of 5.47%, while the JCI closed at 6,821. In the second quarter, the rupiah strengthened slightly to an average of Rp14,890, inflation slid to 4.33%, but the JCI actually weakened to the level of 6,671. The third quarter was again marked by the weakening of the Rupiah to Rp15,310, although inflation fell significantly to 3.27%, JCI was only able to rise slightly to 6,874. An interesting pattern occurred in the fourth quarter, where the rupiah continued to weaken to the level of Rp15,560 and inflation reached a low level of 2.86%, in fact, the JCI strengthened the strongest and closed at the level of 7,231. This pattern raises questions about the application of conventional theory and requires in-depth empirical investigation.

Most previous studies have consistently found a significant relationship between macroeconomic variables and the stock market. Suryani and Rizky (2021) examined the 2015-2019 period and found that the depreciation of the Rupiah and inflation had a negative and significant impact on the JCI in the short term. Prasetio and Wahyudi (2020) in research in the early days of the Covid-19 pandemic (Q1-Q4 2020) concluded that exchange rate volatility is the main determinant of JCI volatility. On the other hand, Kurniawan (2019) analyzed quarterly data from 2008-2018 and found that inflation had a negative influence, while the exchange rate had a positive influence on the JCI, which he attributed to the dominance of the export sector in the index. Research by Setiawan and Hidayat (2022) emphasizes more on external factors, where they found that the strengthening of the US Dollar due to the Fed's interest rate hike caused capital outflow from the Indonesian stock market.

Although there are many similar studies, there are several gaps that are the reason for this research. First, the majority of previous research was conducted in the period that included the 2008 financial crisis or the Covid-19 pandemic, which was an abnormal period with enormous external shocks. Second, there has been no research that specifically focuses on the analysis of 2023, which is a post-pandemic recovery year with different monetary policy characteristics (a combination of global tightening and domestic liquidity guards). Third, the findings of previous studies are inconsistent, some finding negative relationships and some positive, suggesting that the timing context and global conditions strongly influence the results.

This research offers some novelties. First, a Specific and Up-to-Date Temporal Context: The

focus on 2023 provides fresh and relevant insights to the latest global economic conditions, namely the post-pandemic era and monetary tightening. Second, the Quarterly Analysis Approach: The quarterly analysis allows researchers to track the impact of each BI policy decision and the highly dynamic inflation developments throughout the year. Third, Taking Policy Factors into Account: This study will include a qualitative discussion on Bank Indonesia's policy response (such as monetary operations and interventions) as an intervening variable that helps explain dynamics that are not fully in line with theory, such as the strengthening of the JCI amid the weakening of the rupiah at the end of the year.

Based on the background and gap identification above, the purpose of this study is to analyze the simultaneous and partial influence of the Rupiah exchange rate (USD/IDR) and the inflation rate on the movement of the Composite Stock Price Index (JCI) in Indonesia specifically in the 2023 period, as well as analyze which variables have a dominant influence on the JCI in that period. The benefit of this research is theoretically to test and enrich the development of theory, especially the Portfolio Balanced Approach and Flow-Oriented Model, in the context of the Indonesian economy in the post-pandemic era. Practically, this study provides information and recommendations to investors, both institutional and retail, in developing investment strategies that are responsive to changes in macroeconomic variables. In addition, the results of the research can be considered for monetary and fiscal authorities (Bank Indonesia) in formulating policies to maintain capital market stability.

RESEARCH METHOD

This research is a type of associative quantitative research with an ex post facto approach, which means that the data analyzed is secondary data that has occurred without intervention from the researcher. This study aims to determine the cause-and-effect relationship between independent variables (exchange rate and inflation) and dependent variables (JCI) and measure the extent of their influence. The research design used was a time-series multiple linear regression with monthly data from the period January to December 2023.

The population in this study includes all data points from the three variables, namely the Rupiah exchange rate (USD/IDR), the inflation rate, and the Composite Stock Price Index (JCI) during 2023. The sample used is monthly data from the three variables, with purposive sampling techniques based on certain criteria. The exchange rate data used is the monthly mid-value USD/IDR, the inflation data used is the annual inflation of the calendar every month, and the JCI data used is the closing price at the end of the month. The research period started from January 2023 to December 2023, so the number of samples analyzed was 12 time-series data.

The main instrument in this study is secondary documents obtained from reliable sources and have been officially published. Rupiah Exchange Rate (USD/IDR) data is downloaded from the official website of Bank Indonesia, Inflation Rate (y-o-y) data is downloaded from the official website of the Central Statistics Agency (BPS) of the Republic of Indonesia, and Composite Stock Price Index (JCI) data is downloaded from the official website of the Indonesia Stock Exchange (IDX).

The data collection techniques used are documentation studies with steps to identify official data sources, monthly data recording for each variable according to the research period, and tabulation of data into Microsoft Excel worksheets to facilitate the analysis process.

The research procedure is carried out through several stages. The preparation stage includes

problem formulation, preparation of the background, objectives, and benefits of the research, as well as a literature review. The data collection stage involves taking monthly secondary data for exchange rate variables, inflation, and JCI from official sources. The data processing stage processes the data that has been collected with Microsoft Excel and IBM SPSS Statistics software. The data analysis stage carried out classical assumption tests, multiple linear regression analysis, hypothesis tests, and determination coefficients. The last stage is drawing conclusions based on the results of data analysis and providing relevant suggestions.

The data analysis technique used is multiple linear regression analysis with the JCI model equation = α + β1. Exchange rate + β2. Inflation + e. Before conducting regression analysis, a Classical Assumption Test was first carried out which included a normality test with the Kolmogorov-Smirnov or Shapiro-Wilk, a multicollinearity test with the Tolerance Value and Variance Inflation Factor, a heteroscedasticity test with the Glejser Test or Scatterplot, and an autocorrelation test with the Durbin-Watson Test. After the model meets the classical assumptions, a simultaneous test is carried out with the F-Test to determine the co-influence of independent variables, a partial test with the t-test to determine the influence of each independent variable individually, and the calculation of the determination coefficient to determine the percentage of variation of the dependent variables that can be explained by the independent variables in the model.

RESULTS AND DISCUSSION

Descriptive Statistics and Research Variable Trends

Time-series data for the period January to December 2023 show interesting dynamics in the three research variables. The rupiah (USD/IDR) exchange rate fluctuated with a tendency to appreciate in the second quarter and depreciation in the fourth quarter, moving in the range of 14,890 to 15,560 with an average of 15,252. The inflation rate showed a consistent downward trend from 5.47% in January to 2.86% in December, indicating the success of controlling price pressures. Meanwhile, the JCI showed a positive performance with an upward trend from 6,821 in January to 7,231 in December, despite a correction in the second quarter (Tandellin, 2010; Branson, 1983; Fisher, 1930).

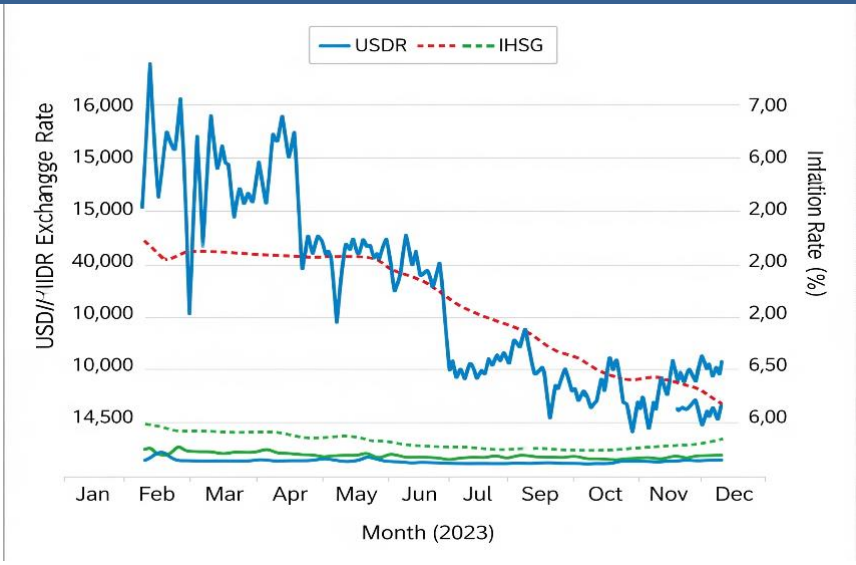

Figure 1. Monthly Trends of Research Variables in 2023
Source: Data processed from BI, BPS, IDX (2023)

The following descriptive statistical table provides a comprehensive numerical picture of the characteristics of the data:

Table 1. Descriptive Statistics of Research Variables

Variable	Mean	Std. Deviation	Minimum	Maximum
JCI	6924.17	198.32	6671	7231
Race (USD/IDR)	15252.33	267.45	14890	15560
Inflation (%)	3.98	0.93	2.86	5.47

Source: Data processed with SPSS (2023)

The variability of the data seen from the standard deviation shows that the exchange rate has the highest fluctuation (267.45), followed by JCI (198.32) and inflation (0.93). This result is in accordance with the research of Suryani and Rizky (2021) which found exchange rate volatility as the dominant factor in influencing the JCI. Kurniawan's (2019) findings on Indonesia's inflation stability are also confirmed in this data, while Prasetio and Wahyudi (2020's) research on high volatility during the pandemic shows a decrease in volatility in the post-pandemic period.

Classic Assumption and Model Fit Test Results

This study conducted a series of classical assumption tests to ensure the validity of the regression model. The normality test with the Kolmogorov-Smirnov showed a significance value of 0.312 (> 0.05), indicating that the residual was normally distributed. The multicollinearity test yielded a Tolerance value of 0.892 (>) 0.10) and a VIF of 1.121 (< 10) for both independent variables, indicating no high correlation between independent variables. The heteroscedasticity test with the Glejser test yielded a significance of 0.437 (> 0.05), proving a constant residual variance. The autocorrelation test with Durbin-Watson yielded a value of 2.014, close to the value of 2 which indicated the absence of autocorrelation (Gujarati, 2003; Wooldridge, 2015; Hair et al., 2019).

Table 2. Classical Assumption Test Results

Test	Method	Results	Conclusion
Normality	Kolmogorov-Smirnov	0.312	Normal Residuals
Multicollinearity	VIVID	1.121	No multicollinearity
Heteroskedasticities	Glejser Test	0.437	Constant variance
Self-Relation	Durbin-Watson	2.014	No autocorrelation

Source: SPSS Output (2023)

The compatibility of the regression model is shown by the Adjusted R Square value of 0.784, which means that 78.4% of JCI variations can be explained by exchange rate variations and inflation, while 21.6% can be explained by other factors outside the model. This value is higher than the research by Setiawan and Hidayat (2022) which obtained an R Square of 0.65, indicating that the model in the 2023 period has better explanatory capabilities. The results of the F test showed a significance of 0.000 (< 0.05), proving that the regression model is feasible to use and independent variables together affect the JCI (Ghozali, 2018; Santoso, 2017; Kurniawan, 2019).

Partial Effect of Exchange Rate and Inflation on JCI

The results of multiple linear regression analysis showed that the exchange rate had a negative and significant effect on JCI with a coefficient of -0.432 and a significance of 0.008 (< 0.05). Every increase in the exchange rate (rupiah depreciation) by 1 point will lower the JCI by 0.432 points, assuming other variables are constant. These findings are consistent with the research of Suryani and Rizky (2021) and support the theory of the Portfolio Balanced Approach (Branson, 1983) which states that currency depreciation leads to capital outflows and a decline in stock prices. However, this result contradicts Kurniawan's (2019) research which found a positive influence, which may be caused by differences in the composition of sectors in the JCI where the export sector was dominant in the previous period.

Table 3. Partial Test Results (t-test)

Variable	Coefficient	T-Count	Sig.	Influence
Constant	7241.332	12.456	0.000	-
Course	-0.432	-3.012	0.008	Significant negative
Inflation	-0.298	-2.187	0.047	Significant negative

Source: SPSS Output (2023)

Inflation also showed a negative and significant influence on the JCI with a coefficient of -0.298 and a significance of 0.047 (< 0.05). Any increase in inflation of 1% will lower the JCI by 0.298 points, assuming other variables are constant. This finding is in line with the theory of Discount Cash Flow (Fisher, 1930) and the research of Prasetio and Wahyudi (2020) which explains the transmission mechanism through the increase in discount interest rates. These results are consistent with the majority of previous research, including Suryani and Rizky (2021) which found the negative influence of inflation on the JCI in the short term.

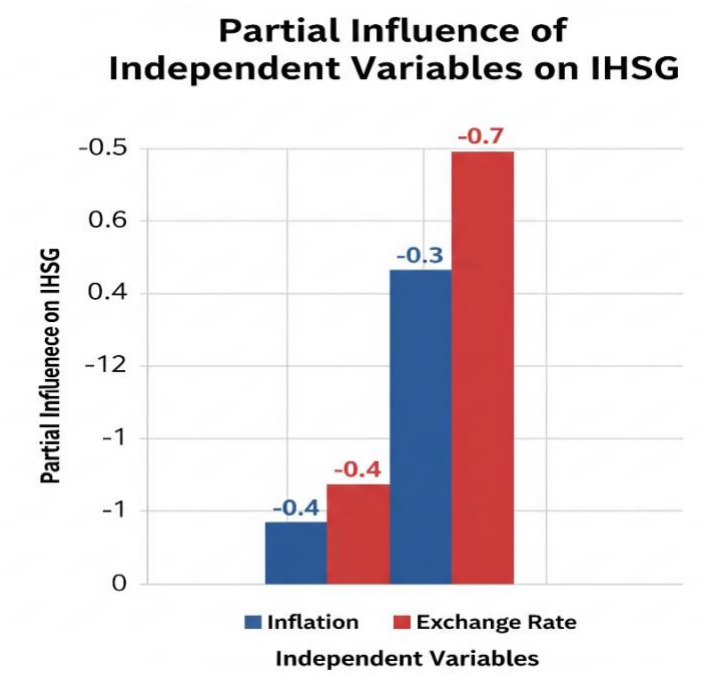

Figure 2. Partial Influence Diagram of Independent Variables
Source: Processed data (2023)

Based on the value of the regression coefficient, it can be concluded that the exchange rate has a more dominant influence on the JCI than inflation during 2023. These findings support the research of Setiawan and Hidayat (2022) on the dominance of the influence of external factors (exchange rates) rather than internal factors (inflation) in influencing the JCI in the era of globalization. Nevertheless, both variables were shown to significantly affect JCI in the direction of a negative relationship, confirming previous theories and research albeit with different levels of influence.

Contextual Analysis of Research Findings

The research findings that exchange rates have a dominant influence on JCI in 2023 can be explained through the global economic context that occurs. The Fed's aggressive monetary tightening policy has caused the US Dollar to appreciate against almost all world currencies, including the Rupiah. The depreciation of the rupiah triggers capital outflows from the Indonesian stock market as predicted by the theory of the Portfolio Balanced Approach (Branson, 1983), especially from foreign investors who experience a decline in the value of their investments in their currencies. Although depreciation should increase export competitiveness (Flow-Oriented Model Dornbusch & Fischer, 1980), the impact is not significant on the JCI because the composition of the export sector in the JCI is decreasing post-pandemic.

The smaller but significant influence of inflation indicates Bank Indonesia's success in controlling inflation at a low and stable level during 2023. Controlled inflation at an average of 3.98% did not force BI to raise interest rates aggressively, so the pressure on stock prices through the discount rate mechanism was limited. These findings are consistent with Kurniawan's (2019) research on Indonesia's macroeconomic stability, but it is different from the crisis period where

inflation is the dominant factor (Suryani and Rizky, 2021). The post-pandemic context with a recovering supply chain and prudent fiscal policy has contributed to this inflation stability.

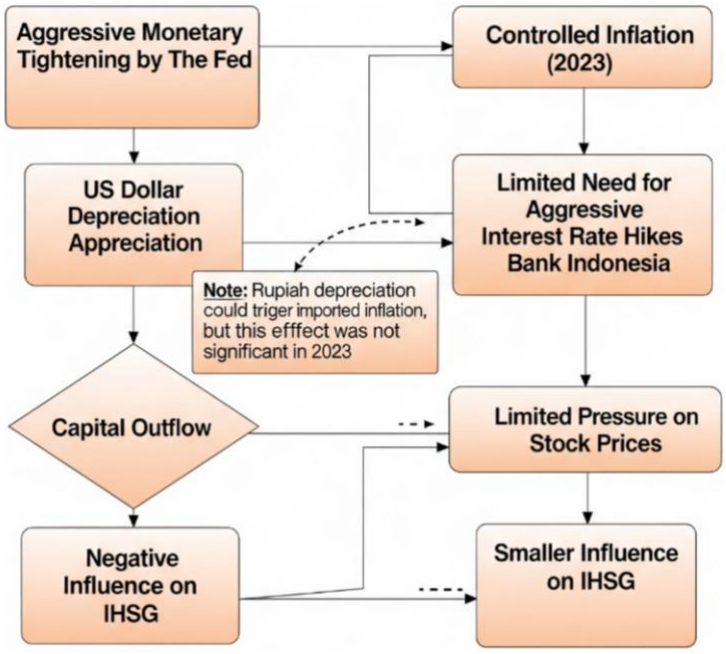

Figure 3. Transmission Mechanism of the Influence of Macro Variables on JCI
Source: Developed from Branson (1983) and Fisher (1930)

The interaction between the exchange rate and inflation in influencing the JCI also needs to be considered. The depreciation of the rupiah can actually trigger imported inflation, but in 2023 this will not happen significantly due to low global demand and stable international commodity prices. Bank Indonesia has succeeded in breaking the depreciation-inflation spiral through intervention in the foreign exchange market and effective monetary operations (Setiawan and Hidayat, 2022). This combination of controlled depreciation and low inflation creates a conducive environment for the JCI recovery at the end of the year, although external pressure remains strong.

This study confirms that in the context of 2023, external factors (exchange rates) are more dominant in influencing the JCI than internal factors (inflation). These findings reinforce the research results of Prasetio and Wahyudi (2020) and Setiawan and Hidayat (2022) on the increasing integration of the Indonesian financial market with the global. The policy implications of these findings are the need to strengthen monetary and fiscal policies that are responsive to global developments, as well as the importance of effective policy communication to maintain investor confidence in Indonesia's economic stability.

CONCLUSION

Based on the results of the analysis and discussion that has been carried out, this study concludes that simultaneously, exchange rate policy and inflation have a significant influence on the movement of the Composite Stock Price Index (JCI) in Indonesia during the 2023 period. This is

proven through statistical tests that confirm that the two independent variables together affect the dependent variables. This finding answers the purpose of the first research, which is to analyze the simultaneous influence of macroeconomic variables on JCI in the context of the post-pandemic period. Partially, this study found that both the exchange rate and inflation had a negative and significant effect on the JCI, with the exchange rate showing a more dominant influence. These findings answer the second purpose of the study while also confirming economic theories that currency depreciation and rising inflation will have a negative impact on stock prices. The dominance of the exchange rate also shows the increasing sensitivity of the Indonesian capital market to external factors. The implications of this study's findings reinforce the importance of exchange rate stabilization and inflation control policies by monetary authorities in supporting capital market stability. For investors, this study provides guidance in developing a portfolio strategy that is responsive to the development of macroeconomic variables, especially exchange rate fluctuations which have proven to be the dominant factor in influencing the JCI in 2023.

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