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THE IMPACT OF INFLATION, INTEREST RATES, EXCHANGE RATES ON STOCK PRICES IN THE LQ-45 STOCK INDEX

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Abstract:

The primary objective of investment is to enhance wealth, satisfy future requirements and achieve prosperity through a frugal lifestyle. Stocks represent one of the most popular investment instruments. The capital market offers a range of stock indices, including the LQ45. The LQ45 index was selected due to its composition of leading stocks with high liquidity and favorable performance on the Indonesia Stock Exchange (IDX). This study aims to analyze the effect of macroeconomic factors, namely Inflation, interest rates, and exchange rates, on stock prices in the LQ45 index. The study employs a quantitative approach, utilizing secondary data obtained from the annual reports of companies listed on the Indonesia Stock Exchange (IDX) for the years 2022 to 2023. The data used in this study are quantitative data obtained from secondary sources. The data were then analyzed using multiple linear regression methods, t-tests, and descriptive analysis. The findings indicate that Inflation, interest rates, and exchange rates exert a notable influence on stock prices within the LQ45 index.

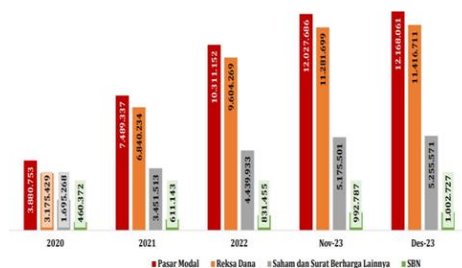
Keywords: Inflation, Interest Rate, Exchange Rate, Lq45 Index

INTRODUCTION

In the context of globalization, investment is an activity closely related to the economy and business. Investment encourages individuals to reduce excessive consumption and channel their funds into productive activities. The expectation of earning dividends or an optimal rate of return is a key motivation for individuals when they invest.

Investment can be classified into two primary categories: real assets and financial assets. Real assets include physical investments such as land, structures, and vehicles. Financial assets, on the other hand, encompass instruments such as stocks, bonds, and other securities that have a market value and reflect claims on a company's assets.

The capital market facilitates companies' long-term capital-raising needs while also functioning as an investment vehicle for the general public. According to Suad Husain (2012), the capital market functions as an indicator of a nation's economic vitality, especially when assessed through the perspective of stock trading activities. In essence, the growth trajectory of the capital market can serve as an indicator of the overall performance of the national economy.



Source: <https://www.ksei.co.id>

Figure 1. Investor growth in the Indonesian capital market



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The graph presented above demonstrates a rise in the number of investors participating in the Indonesian capital market over recent years. This trend reflects an increasing public engagement in investment activities, which contributes positively to the advancement of the Indonesian capital market.

The Indonesia Stock Exchange (IDX) provides various stock indices that can act as benchmarks for investors. One such index is the LQ45, which comprises 45 leading stocks with high liquidity and significant market capitalization. The stocks included in the LQ45 are selected through a rigorous process that considers various criteria, including trading volume, transaction value, and company growth potential.

Dandelion (2001: 211) emphasizes that macroeconomic variables, including Inflation, interest rates, and exchange rates, play a crucial role in affecting stock price volatility. These factors can directly influence the dynamics of stock prices, particularly for those included in the LQ45 index.

The effects of Inflation are far-reaching, impacting both individuals and businesses alike. For individuals, Inflation affects their purchasing power, which in turn affects stock prices. Inflation has a considerable influence on businesses, as it alters their cost of capital and shapes investor preferences regarding investment options. Additionally, the exchange rate of the rupiah in relation to foreign currencies, especially the US dollar, plays a crucial role for companies that rely on imported raw materials or possess debt denominated in foreign currencies.

In recent years, the Indonesian economy has encountered a number of global challenges, including increases in the Federal Reserve interest rate, high Inflation, and geopolitical uncertainty. These have resulted in considerable volatility in the capital market, including stock movements in the LQ45 index. This study seeks to examine the degree to which Inflation, interest rates, and exchange rates affect stock prices within the LQ45 index.

Perkembangan Indeks Liquid45 (LQ 45)

Periode	Indeks	Ytd	Kapitalisasi Pasar*	Ytd
Smt I-2022	991,94	6,50%	5.299.141,47	17,36%
Smt II-2022	937,18	0,62%	5.390.363,98	19,38%
Smt I-2023	945,70	0,91%	5.346.401,03	-0,82%
Januari	936,49	-0,07%	5.376.431,44	-0,26%
Februari	942,97	0,62%	5.327.986,40	-1,16%
Maret	937,68	0,05%	5.306.706,68	-1,55%
April	961,75	2,62%	5.437.128,94	0,87%
Mei	949,67	1,33%	5.344.775,05	-0,85%
Juni	945,70	0,91%	5.346.401,03	-0,82%

Keterangan: *) Rp miliar
Sumber: PT BEI

Figure 2. Performance of the Liquid 45 Index (LQ 45)

Based on the Liquid 45 Index (LQ45) performance table above, there are fluctuations in the index and market capitalization in the period from Semester I 2022 to Semester I 2023. In Semester I 2022, the LQ45 Index stood at 991.94 with a year-to-date (YtD) growth of 6.50%, and the market capitalization reached IDR 5,299,141.47 billion with a YtD growth of 17.36%. However, in the second half of 2022, the index dropped to 937.18 with YtD growth of only 0.62%, while market capitalization increased to IDR5,390,363.98 billion with YtD growth of 19.38%.

At the beginning of I 2023, the LQ45 index rebounded to 945.70 with a YtD growth of 0.91%, while the market capitalization was recorded at IDR5,346,401.03 billion but experienced a YtD decline of -0.82%. On a monthly basis, index movements and market capitalization tend to fluctuate, with the index peaking in April 2023 at 961.75 (YtD 2.62%), while the highest market capitalization



was also recorded in the same month at IDR5,437,128.94 billion (YtD 0.87%). These fluctuations reflect the market dynamics influenced by various economic factors, both domestic and global.

Theoretical Review; LQ-45 Index. The LQ45 index is one of the key indicators of the Indonesian capital market. According to Tandelilin (2010), this index consists of 45 leading stocks with high liquidity and large market capitalization. The stocks that comprise this index are chosen according to specific criteria established by the Indonesia Stock Exchange (IDX).

Since its inception in February 1997, the LQ45 has been selected in two stages. In the first stage, stocks must meet several criteria, including.

1. Included in the 95% highest annual transaction value on the regular market.
2. Included in the 90% highest annual market capitalization.
3. Be listed on the Indonesia Stock Exchange for at least 30 trading days.

In the second stage, qualifying stocks are evaluated based on transaction frequency, sector representation and ranking based on the IDX industry classification. This evaluation takes place every three months, while the replacement of stocks in the LQ45 index takes place every six months, at the beginning of February and August, respectively.

The IDX routinely continues to evaluate as well as monitor the development of the performance of the shares of issuers included in the calculation of the LQ 45 index. The order of these stocks will be evaluated every three months. Stock replacement will be carried out every six months, namely at the beginning of February and August. (www.idx.co.id)

Inflasi. Fahmi (2019: 77) characterizes Inflation as a phenomenon marked by a widespread and persistent rise in commodity prices, which leads to a depreciation of the currency's value. If left unchecked, Inflation can worsen economic conditions and cause political instability.

According to Daffa Z (2023:19), Inflation is a common monetary phenomenon in many countries. High inflation rates can suppress people's purchasing power, while low Inflation can create stable economic conditions. Therefore, controlling Inflation is crucial to ensure sustainable economic growth.

Hidayat, Setyadi, and Azis (2017) assert that Inflation is a significant economic indicator that adversely affects businesses and the capital market. Typically, during periods of Inflation, a company's production tends to rise, leading to an escalation in product prices. Consequently, product pricing is not static; rather, it is influenced by the purchasing power and daily income levels of the population.

In simple terms, Bank Indonesia defines Inflation as a general and prolonged rise in prices over time characterizes Inflation. This phenomenon can exert both beneficial and detrimental effects on the economy. Depending on its level. If Inflation is too high, stock prices tend to fall due to a decrease in purchasing power and corporate profitability. Conversely, moderate Inflation can have a positive effect on market expectations. High Inflation leads to a decline in real consumption levels as the purchasing power of money possessed by the public diminishes (Tandelilin, 2017).

Inflation refers to the regular fluctuations in the prices of goods and services, characterized by an uncertain and unpredictable timeline. This phenomenon can affect a wide array of products and services, leading to rising costs. The Central Bureau of Statistics (BPS) is responsible for calculating Inflation by analyzing data related to expenses associated with goods and services that reflect the consumption habits of the general population. Following this analysis, a comparison of market prices across different periods is conducted to determine the inflation rate. (bi.go.id, 2020).

Interest rate. Kasmir (2014: 114) defines interest rates as the rewards provided by banks to customers who deposit funds or as the fees that borrowers must pay. Mishkin (2007) offers a

different perspective, describing interest rates as the cost of borrowing or the price to be paid for using funds.

In Indonesia, the policy regarding the benchmark interest rate is referred to as the BI Rate, which Bank Indonesia determines. The BI Rate reflects Bank Indonesia's monetary policy and is announced periodically through the board of governors meeting. This policy affects the interest rates on bank deposits and loans, which in turn affect investment decisions.

A reduction in interest rates is likely to stimulate economic growth by encouraging greater consumption and investment. An increase in interest rates will reduce the attractiveness of investing in the capital market as investors will tend to favor low-risk instruments such as deposits or bonds.

The interest rate refers to the cost of borrowing, quantified as the amount of interest payable per time unit (Faoriko, 2013). Essentially, individuals or organizations incur a charge for the privilege of accessing borrowed funds. This rate is articulated as a percentage, representing the payment obligation associated with a loan or other financial investment within the framework of a repayment agreement.

Dandelion (2017) posits that an increase in interest rates (BI Rate) leads individuals to favor investing their capital in deposits over purchasing stocks. This shift in investment preference is likely to result in a decrease in stock prices, as investors who initially held stocks may liquidate their shares to reallocate their funds into deposits.

Exchange rate. The exchange rate is a measure that compares the value of a nation's currency to that of another currency from a different country. As Nopirin (2012: 163) notes, exchange rates play an important role in trade activities between countries. These factors significantly impact the pricing of commodities and services within the international marketplace.

Additionally, Mahyus (2014) posited that exchange rates exert an influence on a company's competitive standing. Variations in exchange rates can influence production expenses, especially for firms that depend on imported raw materials or possess liabilities denominated in foreign currencies.

The value of the rupiah in relation to the US dollar significantly impacts the operational performance of businesses in Indonesia. In the event of a weakening exchange rate, import-dependent companies will confront augmented production costs, whereas export-based companies will tend to benefit.

Faoriko (2013) asserts that the depreciation of the rupiah in relation to foreign currencies adversely affects the economy and capital markets. This decline in the exchange rate leads to higher import costs for raw materials necessary for production and an increase in interest rates. However, it is important to note that a weaker exchange rate may also incentivize companies to enhance their export activities.

Empirical Study. Previous research conducted by Wijaya and Priana in 2023 revealed that Inflation had an impact on the LQ45 stock price index in Indonesia during the period from 2010 to 2019. Additionally, the study indicated that exchange rates also influenced the LQ45 stock price index within the same timeframe. However, it was found that the Indonesian interest rate did not exert any significant effect on the LQ45 stock price index during these years. Furthermore, the analysis concluded that the variables of exchange rate, Inflation, and interest rate collectively affect the LQ45 stock price index.

Research conducted by Apriyani et al. (2023) presents findings from a partial analysis indicating that the inflation variable significantly influences the composite stock price index during the period from 2020 to 2022. The findings from the partial analysis of various factors indicate that the exchange rate exerts a considerable influence on the composite stock price index during the



period from 2020 to 2022. Similarly, the results pertaining to the interest rate variable also demonstrate a significant impact on the composite stock price index for the same timeframe. The analysis indicates that the independent variables, specifically Inflation, exchange rates, and interest rates, exert a significant influence on the dependent variable, which is the composite stock price index, during the period from 2020 to 2022.

The study conducted by Sari et al. (2023) determined that the examination of the independent variables—Inflation (IF), interest rates (SB), and the rupiah exchange rate (TR)—revealed their impact on stock prices at Bank Rakyat Indonesia (BRI) during the period from 2017 to 2021. The findings indicate that Inflation exhibits a notably positive and statistically significant effect. The analysis indicates that when the inflation rate is greater than 0.05, it can be inferred that Inflation exerts a positive influence on stock prices. Conversely, interest rates exhibit a negative trend, with a significant value of 106 being greater than 0.05. This suggests that interest rates may either positively impact stock prices or lack a significant effect on them. Thus, the conclusion remains that Inflation positively affects stock prices when the threshold is exceeded. The interest rate exhibits a negative trend and possesses a significant value of 106, which is greater than 0.05. This indicates that interest rates may either positively influence stock prices or lack a positive and significant impact on them. Similarly, the Rupiah Exchange Rate also demonstrates a negative trend and holds a significant value of 106, exceeding 0.05. Consequently, it can be inferred that the Rupiah Exchange Rate affects its corresponding share price.

Sulastri and Suselo (2022) demonstrated that Inflation exerted a significant positive influence on the share price of PT Telekomunikasi Indonesia from 2017 to 2021. Additionally, interest rates also show a significant positive impact on the share price of PT Telekomunikasi Indonesia within the same timeframe. Furthermore, the exchange rate has been found to significantly and positively affect the company's share price during the 2017-2021 interval.

METHODS

This research seeks to investigate and evaluate the impact of Inflation (X1), interest rates (X2), and exchange rates (X3) on stock prices within the LQ45 index (Y). The study employs a quantitative approach, utilizing secondary data obtained from the annual reports of companies listed on the Indonesia Stock Exchange (IDX) for the years 2022 to 2023. This study evaluates three hypotheses, outlined as follows:

1. H1: A notable correlation can be observed between inflation rates and the stock prices of the LQ45 index.
2. H2: Interest rates have a significant impact on LQ45 stock prices.
3. H3: The prices of LQ45 stocks are significantly influenced by fluctuations in exchange rates.

Population and Sample. The study focuses on the entire set of stocks included in the LQ45 index. The pattern employed for the analysis is produced from all LQ45 shares at some point in the analysis duration, which is called the census approach.

RESULT AND DISCUSSION

Table 1. Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Inflasi Suku Bunga	.	Enter



Kurs

- a. Dependent Variable: Harga Saham
b. All requested variables were entered.

Simultaneous Test Result. The goal of this look is to envision the impact of unbiased variables, specifically Inflation, interest rates and trade costs, on the based variable, specifically stock charges for the LQ45.

Table 2. Simultaneous Test Result

Sum of Squares	df	Mean Square	F
491.741	3	245.871	16.930
392.126	42	14.523	
883.867	5		

- a. Variable: Stock price
b. Predictors: (Constant), Inflation, Interest Rates, Exchange Rates.

The findings from the ANOVA analysis reveal an F- value of 16.930, accompanied by a significance level (Sig.) of 0.000. This F-value surpasses the T-value ($16.930 > 3.35$), and the p-value demonstrates that it is below the threshold of 0.050 ($0.000 < 0.050$). It can be inferred that Inflation, interest rates, and exchange rates exert a significant influence on inventory expenses.

Partial Regression Test Result. The objective of the analysis is to assess the impact of each independent variable on the dependent variable, although this is done in a limited manner.

Table 3. Partial Regression Test Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.235	8.332		-.148	.883
	Inflasi	.835	.209	.553	3.998	.000
	Interest rate	.373	.154	.335	2.421	.022
	Exchange rate	.762	.126	.544	4.872	.001

- a. Dependent Variable: Stock price

Based totally on the coefficients table, the t fee of Inflation is $3.998 > 2.051$ (t table). The importance value (Sig.) is smaller than 0.050, that is 0.000 ($0.000 < 0.050$), so it can be concluded that, in part, Inflation has an advantageous and significant impact on stock prices.

The t statistic for the Interest Rate is 2.421, which exceeds the critical value of 2.051, as indicated in the t table. Additionally, the significance value (Sig.) is less than 0.050, specifically 0.022 ($0.022 < 0.050$). Therefore, Interest Rates have a significant partial effect on Stock Prices.

The computed t value for the Exchange Rate is 4.872, which exceeds the critical value of 2.051, as indicated in the t table. Additionally, the significance value (Sig.) is less than 0.050, specifically 0.001 ($0.001 < 0.050$). Therefore, the Exchange Rate has a significant partial impact on Stock Prices.

Table 4. Model Summary

Model R	R Square	Adjusted R Square	Std. Error of the Estimate
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1	.746 ^a	.556	.523	3.81093
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a. Predictors: (Constant), Inflasi, Suku Bunga, Kurs)

Based on the analysis results, the Coefficient of Determination indicated by the R Square value is 0.556. This value indicates that the independent variables used in this study, namely Inflation, Interest Rates, and Exchange Rates, can influence the dependent variable, namely Stock Prices, by 55.6%. In comparison, other variables outside this study influence the remaining 44.4%.

Table 5. Model Summary

	N	Minimum	Maximum	Mean	Std. Deviation
X1	45	261.00	261.00	261.0000	.00000
X2	45	6.00	6.00	6.0000	.00000
X3	45	74.00	74.00	74.0000	.00000
Y	45	1.43	20000.00	2835.8750	3720.16815
Valid N (listwise)	45				

In-depth Analysis of Each Variable. Moderate Inflation can enhance market expectations of company performance, particularly in sectors that are capable of adjusting their product prices. However, excessively high Inflation will diminish people's purchasing power and the profitability of the company, thereby negatively impacting the stock price.

Interest rates, which are also significant, have a more direct impact on investment preferences. When interest rates rise, investors tend to shift their investments to safer instruments such as deposits or bonds, which tends to depress stock prices. Conversely, a decrease in interest rates can boost investor interest in the stock market due to more attractive returns.

The rupiah's exchange rate plays a crucial role in indicating the responsiveness of firms listed in the LQ-45 index to variations in foreign currency values. For example, companies with debt in US dollars or export-based companies will be heavily impacted by a strengthening or weakening of the exchange rate.

Comparison with Previous Research. An increase in interest rates typically prompts investors to reallocate their capital towards more secure instruments, such as deposits or bonds. This shift in investment patterns may lead to a decline in interest in stocks, resulting in a corresponding reduction in stock prices in the capital market. Conversely, a decrease in interest rates can stimulate investment in the capital market due to a reduction in the cost of capital.

Furthermore, this finding corroborates the research conducted by Apriyani et al. (2023), which identified that Inflation, exchange rates, and interest rates collectively influence the JCI, albeit with variations in the specific index examined. The evidence indicates that the interactions among macroeconomic variables exhibit a stable pattern of impact on the capital market in Indonesia.

Practical and Academic Implications. Variations in the rupiah's exchange rate considerably affect businesses, especially those that depend on imported raw materials or possess debt denominated in foreign currencies. A weakening exchange rate increases production costs, whereas a strengthening rupiah tends to favor import-based sectors. Conversely, export-oriented companies can benefit from a weakening rupiah.

This finding warns companies in the LQ-45 index to be more cautious about macroeconomic risks, especially those related to foreign currency debt. Mitigation measures such as hedging or diversification of revenue sources can reduce the impact of exchange rate fluctuations.



This research contributes to the existing body of literature concerning the interplay between macroeconomic factors and the capital market in Indonesia, with a particular focus on prominent stock indices like the LQ-45.

Additional Data to Strengthen Results. The chart below shows the relationship between Inflation and average stock prices over the study period:

- Moderate Inflation (2022): Stock prices tend to increase due to market expectations of positive company performance.
- Exchange Rate Fluctuations (2023): The strengthening of the rupiah in the first semester has a positive effect on the export sector, but the weakening in the second semester depresses the import-based sector.

Coefficients Table. The analysis indicates that the independent variables – namely Inflation, interest rate, and exchange rate – exhibit significant positive coefficients, accompanied by a significance value of less than 0.05. This finding lends support to the research hypothesis.

The results of this research align with the conclusions drawn by Wijaya and Priana (2023) and Apriyani et al. (2023), who argued that Inflation, interest rates, and exchange rates significantly impact the stock index within the Indonesian capital market. However, this study corroborates the impact of interest rates, which, in several preceding studies, yielded inconclusive results.

Future Predictions and Simulations. Given the changing global economic conditions, if Indonesian Inflation rises again due to international economic policies, investors need to be more selective in choosing stocks, especially in sectors that tend to be inflation-proof, such as consumer goods. The interest rate reduction implemented by Bank Indonesia may stimulate an influx of capital into the financial markets, thereby leading to an appreciation in stock prices.

Simulations also show that if the rupiah exchange rate strengthens steadily, then import-based sectors such as manufacturing can take advantage of this momentum to reduce production costs, which in turn increases their profitability and share price in the capital market.

CONCLUSION

The results derived from the research and data analysis, which employed multiple linear regression tests, t-tests, and the coefficient of determination, culminate in the conclusion that:

1. The Influence of Inflation on LQ45 Equity Valuations The findings indicate that Inflation exerts a positive and statistically significant effect on the stock prices associated with the LQ45 index. This indicates that a moderate increase in Inflation can foster optimistic market sentiment regarding company performance.
2. The Impact of Interest Rates on LQ45 Stock Prices Interest rates have a considerable effect on the prices of LQ45 stocks. A rise in interest rates causes investment to be reallocated towards more secure instruments, such as deposits, which diminishes investor interest in stocks. Conversely, a reduction in interest rates can stimulate augmented investment in the capital market.
3. The Influence of Exchange Rates on LQ45 Stock Valuations Exchange rates have a notable and substantial effect on LQ45's stock prices. Variations in exchange rates directly impact firms reliant on international trade, consequently influencing their performance and the fluctuations in their stock prices.

Inflation, interest rates, and exchange rates collectively exert a considerable influence on LQ45 stock prices, accounting for 55.6% of the variation as indicated by the coefficient of determination.



This finding underscores the critical role these three variables play in shaping the fluctuations of stock prices within the index.

Conversely, the remaining portion of stock price movements is attributed to various other factors that fall outside the parameters of this research. Such factors may encompass economic conditions, political developments, or market sentiment elements that are not explicitly examined in this study.

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