The Influence of Inflation, Exchange Rates, and Investor Sentiment on The Stock Price

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Abstract. This Study investigates the influence of inflation, exchange rate fluctuations, and investor sentiment on the stock price index of oil and gas companies listed in the LQ45 during the 2020–2024 period, with special reference to the Russia–Ukraine conflict. Employing a quantitative method with a causal–comparative design, the research utilizes secondary data obtained from Bank Indonesia, Badan Pusat Statistik, and Investing.com, while investor sentiment is measured using media-based and perception-based indicators. The data were analyzed using multiple linear regression (Ordinary Least Squares/OLS) with diagnostic tests to ensure model validity. The results reveal that inflation does not exert a significant effect on the stock price index, whereas exchange rate fluctuations and investor sentiment both show positive and significant impacts. Simultaneous testing confirms that the three variables jointly influence stock price movements. These findings highlight that external factors—particularly exchange rate volatility and psychological reactions of investors—play a more dominant role than domestic inflationary pressures in shaping the performance of oil and gas stocks. This implies that investors should closely monitor currency fluctua-tions and market sentiment when making investment decisions, especially during periods of geopolitical uncertainty. Policymakers are advised to maintain ex-change rate stability and manage market expectations to strengthen the resilience of Indonesia's capital market. Future research could extend the scope by includ-ing other macroeconomic variables, longer observation periods, or advanced sen-timent analysis techniques to provide a more comprehensive understanding of stock market dynamics.

Keywords: Inflation, Exchange Rate, Investor Sentiment, Stock Price Index.

1 Introduction

Armed concflict has long been an inseparable part of human history. Nations often engage in wars to secure resources or defend strategic interests considered vital for their survival [1].

One of the most recent conflicts is the Russia–Ukraine war, which has disrupted glob-al political and economic stability. The escalation of this war has triggered a world-wide crisis that also affected Indonesia. For example, the surge in international

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crude oil prices, including West Texas Intermediate (WTI), has driven domestic fuel prices upward [2]. Rising fuel costs tend to create inflationary pressure. As highlighted by [3], wars often generate supply chain disruptions and inflationary shocks in both warring countries as well as globally.

This conflict has caused disequilibrium between demand and supply in the oil and gas sector, leading to an inflationary trend. According to [4], inflation emerges when demand outpaces supply, pushing prices higher. Excessive inflation reduces purchas-ing power and lowers the real income investors gain from their portfolios, which may depress the Jakarta Composite Index (IHSG). However,[5] found that inflation does not significantly affect the IHSG when it remains below 10%, as investors still rely on broader analyses rather than speculative behavior.

Another crucial factor is the exchange rate, defined as the value of a nation's curren-cy relative to foreign currencies. In an open economy, exchange rate fluctuations can substantially influence the balance of payments and other macroeconomic variables [6]. As noted by [7] the exchange rate reflects the agreed price level used by two countries to conduct international trade. Research by suggests inflation has no clear impact on the stock index, while [8] discovered that, in the short run, inflation negatively influences the LQ45 index.

In addition to fundamental indicators, psychological aspects also matter. Investor sentiment, which captures market perceptions and emotional reactions to economic or political developments, has a significant role in explaining stock index volatility. Negative news can spark market panic and lead to large-scale sell-offs even if company fundamentals remain stable [9]. Conversely, optimistic expectations driven by government policy or recovery prospects can encourage buying interest. For this reason, investor sentiment is incorporated as an independent variable (X3) to evaluate its impact on the stock price index of oil and gas companies listed in the LQ45 [10].

2 Literature Review

2.1 Stock Price Index

The stock price index serves as a primary benchmark to evaluate capital market performance, as it captures overall price movements of listed securities [4].According to [11], the energy sector's stock index is particularly sensitive to macroeconomic indicators such as inflation and currency exchange rates. Moreover, [12] highlights that psychological factors, specifically investor sentiment, also contribute significantly to fluctuations in Indonesia's stock market. These findings suggest that stock index performance reflects a combination of both fundamental and behavior factors.

2.2 Inflation

Inflation refers to a continuous and general rise in the prices of goods and services. Its influence on the stock market remains a matter of debate. While [8], reported that inflation negatively affects the LQ45 index in the short run, [5] argued that when inflation rates are relatively low (below 10%), they do not significantly disturb the Jakarta Composite Index (JCI). Similarly, [13] found no notable relationship between inflation and stock performance. Theoretically, high inflation can erode the real val-ue of returns as explained by classical macroeconomic theory, thereby lowering in-vestor demand for equities.

2.3 Exchange Rate

The exchange rate measures the relative value of domestic currency against foreign currencies. Fluctuations in exchange rates may influence trade performance and consequently affect stock market dynamics.[6] emphasized that exchange rate movements significantly impact Indonesia's non-oil and gas exports, which indirectly shape oil and gas companies' performance. During the COVID-19 pandemic, [14] observed that rupiah depreciation had a negative effect on the JCI. Meanwhile, Purchasing Power Parity (PPP) theory underlines that exchange rate fluctuations are directly linked to inflation differentials, thereby affecting firms exposed to international trade. This theoretical linkage supports the idea that exchange rate volatility is a key determinant of stock price fluctuations in emerging markets. Russia–Ukraine conflict, which created additional instability in currency markets.

2.4 Investor Sentiment

Investor sentiment captures the collective mood and perceptions of market participants, which strongly influence investment choices. [15] demonstrated that sentiment significantly and positively impacts stock returns in the financial sector of the Indonesia Stock Exchange. Likewise, [16] underlined that changes in perception can drive index fluctuations even when fundamentals remain relatively stable. In the context of Behavior Finance Theory, sentiment represents a deviation from rational expecta-tions, emphasizing that markets are not always efficient, and psychological reactions can outweigh economic fundamentals.

2.5 Research GAP

While abundant empirical work exists, few studies weave established theories into the unique backdrop of the Russia–Ukraine war. Little attention has been paid to how this conflict shapes Indonesia's oil and gas sector, especially within the LQ45 index. By drawing on macroeconomic theory, purchasing power parity, the efficient market hy-

pothesis, and behavior finance, this study seeks to close that gap testing whether inflation, exchange rates, and investor sentiment influence, alone or together, the stock performance of oil and gas firms in LQ45.

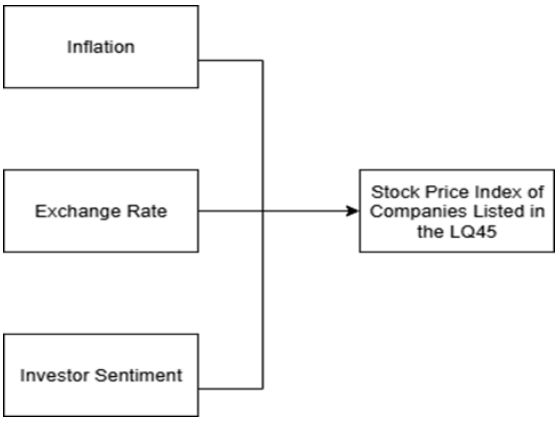

Fig. 1. Conceptual Framework
Source: Processed by the researcher, 2025

2.6 Hypothesis Development

Inflation and the Oil and Gas Stock Price Index in LQ45. Changes in the inflation rate may not necessarily affect the movement of the stock price index, since an increase in inflation tends to trigger fluctuations in the exchange rate, which in turn also influences the movement of the stock price index. This study is supported by [4],who found that inflation, Bank Indonesia interest rates (SBI), and GDP growth do not have a significant effect on the Jakarta Composite Index (JCI). These results are also consistent with the study conducted by [17], which stated that inflation does not have a significant impact on the JCI. Similarly, [18] confirmed that inflation does not significantly influence the composite stock price index (IHSG) in the case study of the Indonesia Stock Exchange (IDX). H1 : Inflation significantly affect on the stock price index of oil and gas firms listed in LQ45.

Exchange Rate and the Stock Price Index. A depreciation of the domestic currency occurs when the price of foreign exchange rises, indicating that the value of the local currency weakens relative to foreign cur-rencies. Conversely, when the price of foreign exchange declines, this condition is referred to as appreciation, which reflects the strengthening of the relative value of the domestic currency. This study is supported by [13] ,who stated that inflation has a negative and significant effect on the Jakarta Composite Index (JCI). Consistent with this, [14] found that the rupiah exchange rate had a negative and significant effect on the JCI on the Indonesia Stock Exchange (IDX) during the period from January to December 2020. H2 : The exchange rate fluctualitions significantly influence the stock price index of oil and gas listed in LQ45.

Investor sentiment refers to the emotional reactions and perceptions of investors toward market dynamics and overall economic conditions, which can influence the direction of investment decision-making. When market sentiment is optimistic, investors tend to purchase stocks, thereby driving stock prices upward. Conversely, negative sentiment encourages large-scale selling activities, which may potentially depress market prices.

This is in line with the findings of [19], who stated that investor sentiment has a posi-tive and significant effect on stock returns in the financial sector on the Indonesia Stock Exchange (IDX). They emphasized that investment decisions are not solely based on current fundamental conditions, but also on expectations regarding future economic conditions.

Furthermore, [15] reinforced these findings by demonstrating that sentiment indica-tors such as consumer confidence levels, the intensity of stock-related searches on social media, and the volume of financial news coverage play a crucial role in determining market fluctuations and stock price indices. This indicates that market dynamics are more strongly influenced by the collective perceptions of investors rather than by corporate financial conditions alone. H3 : Investor sentiment affects the stock price index of oil and gas firms listed in LQ45.

Markets move not only with numbers, but with narratives. The Efficient Market Hy-pothesis (EMH) tells us that stock prices absorb every piece of available information including signals from inflation and exchange rates. When inflation rises, companies face higher costs and tighter margins; when the rupiah weakens, oil and gas firms that depend on imported inputs feel the strain. Both forces filter quickly into market valu-ations, shaping investor decisions in real time.

Yet markets are not machines. The Behavior Finance perspective reminds us that sentiment confidence, fear, or optimism can move prices just as strongly as fundamentals. Investors read headlines, track global conflicts, and respond emotionally to uncertainty. Their collective psychology amplifies swings that pure economics cannot fully explain.

Taken together, these perspectives suggest a dual story: macroeconomic pressures set the stage, while sentiment drives the drama. This study follows that logic, asking whether inflation, exchange rates, and investor mood individually and in concert can explain the stock performance of oil and gas firms within Indonesia's LQ45 index. Inflation, exchange rates, and investor sentiment simultaneously have a signifi-

cant effect on the stock price index of oil and gas firms listed in LQ45.

3 Methodology

3.1 Research Methodology

This study applies a quantitative research method with a causal–comparative design to evaluate how macroeconomic variables (inflation and exchange rate) and investor sentiment influence the stock price index of oil and gas companies listed in the LQ45 during 2020–2024.

3.2 Estimation Methodology

Data analysis was carried out using multiple linear regression with the Ordinary Least Squares (OLS) method, processed through EViews 12 software. The choice of OLS is based on its efficiency in producing the Best Linear Unbiased Estimator (BLUE), provided that classical assumptions—such as normal distribution of residuals, absence of multicollinearity, and homoscedasticity—are met. OLS regression also enables the simultaneous assessment of several independent variables against one dependent variable.

3.3 Data Type and Sources

This research relies on secondary data. Stock price information for oil and gas companies within the LQ45 index was retrieved from Investing.com, which provides validated and publicly accessible historical stock market data. Inflation and exchange rate data were collected from official sources, namely Badan Pusat Statistik (BPS) and Bank Indonesia (BI), recognized as credible providers of Indonesia's macroeco-nomic indicators.

Investor sentiment was measured through a combination of media-based indicators and references from previous literature. Data sources include financial news portals, analyst sentiment indices, and search trend data related to stock investment. This approach is consistent with prior studies such as [9] and [10], which emphasized the usefulness of news-based and perception-based indicators in capturing investor sentiment. The integration of official macroeconomic data and market perception measures provides a comprehensive perspective on the studied variables.

3.4 Research Design

The research framework consists of three independent variables inflation (X_1), exchange rate (X_2), and investor sentiment (X_3), and one dependent variable, the stock price index of oil and gas companies in LQ45 (Y). The relationship between these variables is expressed in the following regression equation:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3$$

Notes :

ΥΥΥ : Stock Price Index of LQ45-listed Oil and Gas Companies
$x_1 x\_1 x_1$: Inflation
$x_3 x\_3 x_3$:Investor Sentiment
β_0 : Constant
$\beta_{1,\beta_2,\beta_3}$: Regression Coefficients
ε : Error Term

3.5 Analytical Tools

All statistical estimations are processed using EViews 12, given its advantages in handling time series data and multiple regression analysis. The software facilitates comprehensive diagnostic testing, including normality tests, multicollinearity tests, and heteroscedasticity tests, as well as the computation of key statistical measures such as ttest, F-test, R^2, and model significance levels. The use of EViews 12 ensures the robustness and reliability of the research findings.

4 Results

4.1 Results

Classic Assumption Tests
Prior to the regression analysis, several diagnostic tests were conducted to ensure the validity of the Ordinary Least Squares (OLS) estimation:
Normality Test

Table 1. Normality Test

Series	Residuals
Sample	**2020-2024**
Observations	**60**
Mean	**0.001222**
Median	**0.002949**
Maximum	**0.124979**
Minimum	**0.124979**
Std.Dev	**0.035230**
Skewness	**0.456782**
Kurtosis	**4.154694**
Jarque-Bera	**5.419798**
Probability	**0.066544**

Normality Test: As show in Table 1, the Jarque–Bera statistic yielded a value of 5.419798 with a probability of 0.066544 (> 0.05), indicating that the residuals are normally distributed.

Multicollinearity Test

Variance Inflation Factors
Date: 07/24/25 Tme : 14:15
Sample : 2020-2024
Included Observations : 60

Table 2. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF
X_1	6.50E-06	1.564503
X_2	6.49E-13	6.799330
X_3	6.139E-10	7.767355

Multicollinearity Test: As show in Table 2. the Variance Inflation Factor (VIF) values for all independent variables were less than 10, confirming the absence of multicollinearity.

Heteroscedasticity Test

Heteroscedasticity Test: Whites
Null hypothesis : Homoscedasticity

Table 3. Heteroscedasticity Test

Statistic	Value	Probability Test	Prob.
F-statistic	1.863080	Prob F (6,53)	0.1046
Obs*R-squared	10.45068	Prob. Chi-Square (6)	0.1069
Scaled explained SS	15.16446	Prob. Chi-Squared (6)	0.0190

Heteroscedasticity Test : As show in Table 3, the Obs*R-squared probability of 0.1069 (> 0.05) suggests that the model is free from heteroscedasticity problems.
The regression model meets all classical Ordinary Least Squares (OLS) assumptions, affirming its validity for further empirical exploration. The estimeated multiple regression equation can be expressed as:

$$Y = -5758.5096 - 4.1168x_1 + 0.3267x_2 + 17.7319x_3$$

In this model, Y represents the stock price index of oil and gas companies listed in the LQ45, while x, denotes inflation, x_2 reflects the exchange rate, and x_3 captures investor sentiment. The analysis reveals that inflation exerts no significant influence on stock performance, as indicated by a t-statistic of 0.1982 with a probability value of 0.8436. well above the 0.05 threshold. Conversely, the exchange rate shows a

t-statistic of 6.8836 and a probability of 0.0000, underscoring a strong and positive relationship with the stock price index. Investor sentiment follows a similar pattern, with a t-statistic of 6.6304 and a probability of 0.0000, confirming its significant and positive impact.

The F-test result further strengthens these findings, producing an F-statistic of 54.2185 with a significance level of 0.000000. Taken together, these results demonstrate that inflation, exchange rate dynamics, and investor sentiment jointly shape the movement of oil and gas stock prices within Indonesia's LQ45 index. The evidence suggests that market sentiment and currency fluctuations, rather than domestic price pressures, are the dominant forces influencing sector performance during the period of study.

5 Discussion

The empirical evidence demonstrates that inflation does not significantly influence the stock price index. This result is consistent with studies by [5] and [20],which argue that moderate levels of inflation do not substantially disrupt capital market perfor-mance in Indonesia.

On the other hand, the exchange rate exerts a considerable impact on market move-ments. The sensitivity of the rupiah-USD exchange rate is crucial for the oil and gas industry, as the sector heavily depends on international trade. This finding reinforces the arguments of [20], who highlighted the exposure of energy-related industries to currency volatility.

Moreover, investor sentiment emerges as a key determinant in explaining stock mar-ket behavior. The positive and significant effect of this variable suggests that psycho-logical responses such as expectations about geopolitical risks or economic prospects can outweigh the role of inflation in driving market dynamics. This is in line with [9], [19], and [18], who emphasized the dominance of sentiment-driven behavior in emerging markets.

Overall, the simultaneous effect of the three variables underscores the importance of both macroeconomic fundamentals (exchange rate) and psychological factors (in-vestor sentiment) in determining stock price fluctuations. These results imply that external conditions and market perceptions are more influential than domestic infla-tionary pressures in the oil and gas sector during periods of global uncertainty.

6 Conclusion

This research examined the effects of inflation, exchange rate movements, and in-vestor sentiment on the stock price index of oil and gas companies listed in the LQ45 from 2020 to 2024, within the context of the Russia–Ukraine conflict. The results show that

inflation has no significant influence, while exchange rates and investor sentiment positively and significantly affect stock performance. These findings high-light that external factors particularly currency volatility and shifts in market percep-tion play a stronger role than domestic inflationary pressures in shaping market out-comes. Future research should include broader macroeconomic indicators such as interest rates, global oil prices, and policy variables, and employ advanced economet-ric methods or sentiment analysis tools to capture dynamic market behavior. Practi-cally, investors should monitor exchange rate trends and sentiment shifts, while poli-cymakers must prioritize currency stability and market confidence to strengthen In-donesia's capital market resilience against global uncertainty.

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