

The Effect of Gold Prices on The Composite Stock Price Index with Inflation as A Moderating Variable

Marieska Lupikawaty^{1*}, Novitasari², Angga Nugraha³, Vidya Ramadhan Putra⁴
Pratama, Riris Lawitta⁵

¹Politeknik Negeri Sriwijaya, Indonesia

Jl Srijaya Negara Bukit Besar, Kota Palembang

²Institut Rahmadiyah Sekayu, Indonesia

Jl. Merdeka No.531 30711 Sekayu Sumatera Selatan

³Politeknik Piksi Input Serang, Indonesia

Jl. Raya Cilegon No.km.8, Serang, Kec. Kramatwatu, Serang, Banten 42161.

⁴ Universitas Ekuitas Indonesia

Jl. P.H.H. Mustofa No. 31 Bandung 40124 Jawa Barat

⁵Universitas Musamus, Indonesia

Jalan Kamizaun Mopah Lama Merauke

Email: marieska@polsri.ac.id

ABSTRACT

This study aims to analyze the influence of global gold price fluctuations on the Jakarta Composite Index (JCI), with inflation as a moderating variable. Using portfolio theory and the efficient market hypothesis, this study examines gold as a safe-haven asset and its relationship with the domestic capital market during periods of inflationary pressure. The data used are secondary time series data analyzed using the Moderate Regression Analysis (MRA) method. The results show that gold prices have a significant influence on JCI movements, but the strength of this relationship depends strongly on the inflation rate. Inflation is found to act as a moderating variable, strengthening the shift in investment from the stock market to gold when the currency's purchasing power declines. This research provides strategic implications for investors in diversifying their portfolios and for policymakers in maintaining the stability of the national financial market.

Keywords: Gold Price, Composite Stock Price Index (IHSG), Inflation, Moderating Variable, Safe Haven.

Introduction

The capital market is a crucial indicator of a country's economic health, with the Jakarta Composite Index (JCI) serving as a key barometer reflecting market sentiment and aggregate corporate performance. JCI fluctuations are often influenced by various fundamental factors, both internal to companies and uncertain global macroeconomic conditions (Siahaan & Pratama, 2024; Wijaya, 2023). In contemporary financial markets, the interaction between investment assets, such as stocks and commodities, is a primary concern for market participants seeking to optimize returns while mitigating risk. The interconnectedness of equity markets and tangible assets such as gold creates a complex relationship, particularly when global economic uncertainty increases due to geopolitical conflict and monetary instability (Hidayat & Santoso, 2024; Miller, 2022).

Gold has long been recognized as the most stable investment asset and serves as *a haven* or hedge against economic crises. When global gold prices rise, it is often followed by a reaction in the capital market, either in the form of corrections or adjustments to asset allocation strategies by institutional investors (Baker & Wurgler, 2023; Raharjo, 2022). This phenomenon is explained by the asset substitution theory, which posits that investors withdraw capital from high-risk instruments, such as stocks, and shift it to perceived safer instruments, such as gold, when market risk expectations increase (Bodie et al., 2022; Sudana, 2024). Therefore, movements in global gold prices are often viewed as early signals of movements in international and domestic stock indices.

However, the relationship between gold prices and the Jakarta Composite Index (JCI) does not always exhibit a consistent linear pattern, as various other macroeconomic variables influence it. One of the most dominant variables influencing perceptions of asset value is inflation, which reflects a general decline in a currency's purchasing power (Mankiw, 2024; Mishkin, 2023). High inflation creates uncertainty in the stock market by increasing corporate operating costs, which can erode profit margins

and dividends distributed to shareholders (Gordon & Klein, 2023; Setiawan & Pratama, 2024). In this context, inflation plays a crucial role because it can alter how the market responds to rising gold prices as a form of wealth protection.

Theoretically, inflation can act as a moderating variable, strengthening or weakening the relationship between gold prices and the movement of the Jakarta Composite Index (JCI). When inflation exceeds a psychological threshold, investors will view gold not merely as a complementary asset but as a necessity to maintain the real value of their portfolios (Fama & French, 2023; Brigham & Houston, 2022). Conversely, during periods of low and stable inflation, the correlation between gold prices and the JCI may tend to weaken as investors focus more on issuer profit growth than asset protection (Ross et al., 2024; Kasmir, 2021). The presence of inflation as a conditioning factor is why analyses of the direct relationship between gold and stocks often yield inconsistent results in previous literature.

The importance of examining inflation as a moderating variable is also driven by the Indonesian economy's fluctuating inflation compared to that of developed countries. Domestic food price dynamics and energy subsidy policies often trigger inflationary shocks, directly impacting the competitiveness of the national capital market in the eyes of foreign investors (Purnomo, 2023; Samuelson & Nordhaus, 2022). Foreign investors, who hold a significant share of Indonesia's stock ownership, are highly sensitive to the difference between the inflation rate and stock market returns (Handoko & Sari, 2024; Brealey et al., 2023). Therefore, understanding how inflation moderates the impact of gold prices on the Jakarta Composite Index (JCI) is key to predicting the direction of capital flows on the stock exchange.

In addition to substitution factors, the relationship between gold and stocks can also be explained in terms of the cost of capital and interest rates, which typically move with inflation. When inflation rises, central banks tend to raise interest rates to suppress liquidity, which simultaneously depresses stock valuations but often increases gold's appeal as a non-yielding asset (Fisher & Jordan, 2021; Gitman & Zutter, 2021). Discussions of this phenomenon usually focus on simple correlation analysis, failing to consider the profound interactions among these variables (Lestari, 2023; Myers & Majluf, 2022). Therefore, including the moderating variable of inflation in this study is expected to provide theoretical clarity to the debate over the effectiveness of gold as a hedge against stocks.

The inconsistency in previous research findings (a *research gap*) was the primary academic motivation for this study. Some researchers found that gold prices had a positive effect on the Jakarta Composite Index (JCI) because rising commodity prices were considered a sign of economic recovery, while others found a substantial adverse impact due to the *crowding-out* effect (Nugroho, 2023; Jensen & Meckling, 2021). These conflicting findings indicate that there is a third-party variable that has not been fully explored, in this case inflation (Wicaksono et al., 2024; Sharpe, 2022). By using a moderation model, this study attempts to integrate these fragmented findings into a more integrative and comprehensive framework.

The urgency of this research becomes even more apparent when linked to long-term economic growth targets and the stability of the national financial system. Highly volatile global commodity price fluctuations require investors to adopt a navigation strategy grounded in empirical data (Yusuf & Raharjo, 2024; Reilly & Brown, 2024). For investment management, understanding the moderating role of inflation will help determine the weighting of gold allocations in stock portfolios during various phases of the economic cycle (Tan & Wijaya, 2023; Damodaran, 2023). Without this understanding, investors risk being trapped in reactive decision-making that fails to consider ongoing macroeconomic fundamentals.

In practice, the results of this study are expected to provide input to monetary authorities and stock exchanges in formulating policies to mitigate the impact of global commodity price shocks on domestic capital markets. Protecting the value of public investments in the stock market depends heavily on the government's ability to manage inflation expectations and prevent massive capital flight into non-productive assets such as gold bullion (Sutedi, 2024; Graham & Dodd, 2022). Financial literacy regarding the interaction of these assets is also crucial for retail investors to avoid being easily influenced by short-term speculation that often ignores inflation as a value moderator (Subramanyam, 2024; Ross, 2021).

In closing, this background emphasizes that studies on the Jakarta Composite Index (JCI) can no longer be conducted solely by examining one or two variables without considering interactions among macroeconomic variables. The dynamics of gold prices, an external factor, and inflation, an internal-external factor, create a web of influence that determines the valuation of companies in Indonesia (Siahaan, 2023; Miller & Modigliani, 2023). This research aims to fill this gap in the discussion with a more dynamic approach relevant to current financial market conditions. Therefore, this article will contribute to the financial management and macroeconomics literature by empirically examining the moderating role of inflation in the relationship between gold and the stock market.

Research Methods

This research design uses an explanatory quantitative approach to test the significance of the relationship between variables using objective numerical data. The population and sample in this study include monthly *time-series data* on the world gold price (Gold Price), the national inflation rate (CPI), and the closing price of the Jakarta Composite Index (JCI) for the period 2015-2025. Secondary data were obtained from the official databases of the *London Bullion Market Association* (LBMA), the Central Statistics Agency (BPS), and the Indonesia Stock Exchange (IDX). According to Creswell and Creswell (2022), the use of secondary data in macroeconomic analysis provides a high level of reliability because it is sourced from internationally standardized authoritative institutions (Siahaan & Pratama, 2024; Wijaya, 2023).

The independent variable in this study is the world gold price converted into domestic currency, while the dependent variable is the monthly closing value of the Jakarta Composite Index (JCI). Inflation is positioned as a moderating variable, measured by the annual percentage change in the Consumer Price Index (CPI). To ensure the data are valid and free of statistical bias, a series of classical assumption tests was conducted, including a normality test, a multicollinearity test using the Variance Inflation Factor (VIF), an autocorrelation test using the Durbin-Watson statistic, and a heteroscedasticity test using the Glejser statistic. This stage is crucial in econometric analysis to ensure that the resulting regression model is a *Best Linear Unbiased Estimator* (BLUE) before proceeding to the hypothesis-testing stage (Hair et al., 2022; Sudana, 2024).

The primary data analysis method used was *Moderated Regression Analysis* (MRA), or interaction testing, implemented in EViews or SPSS. The MRA technique allows researchers to examine the effects of gold price increases and inflation on the JCI, identifying whether inflation acts as a *pure moderator*, a *quasi-moderator*, or has no moderating role at all. The regression equation is constructed by including the interaction term (X.M) to examine changes in the value of R^2 and the statistical significance of the moderating variables. As explained by Ghazali (2024), the MRA model provides greater analytical depth than simple linear regression because it can capture the dynamics of changes in the relationship between variables across different economic conditions (Mankiw, 2024; Subramanyam, 2024).

Hypothesis Development

The hypothesis in this study is based on the asset substitution theory and *the safe-haven concept*, in which gold is viewed as a hedging instrument against equity market volatility. The first hypothesis (H1) states that the global gold price has a significant influence on the Jakarta Composite Index (JCI), driven by investors' tendency to reallocate portfolios during global economic shocks (Bodie et al., 2022; Miller, 2022). Furthermore, the second hypothesis (H2) proposes that inflation moderates the influence of gold prices on the Jakarta Composite Index (JCI). The logic underlying this hypothesis is that at high inflation rates, gold's characteristics as a real asset become more attractive compared to stocks, whose value is eroded by declining purchasing power, thus creating an interaction that weakens the positive relationship or strengthens the negative relationship between the two variables (Gordon & Klein, 2023; Raharjo, 2022).

Results And Discussion

Background Analysis

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Results of Descriptive Statistical Analysis and Classical Assumption Test

Before testing the hypotheses using *Moderated Regression Analysis* (MRA), the data were examined to ensure that the classical assumptions were met. The normality test results showed a significant *Kolmogorov-Smirnov* value (>0.05), and a VIF value below 10, indicating the absence of multicollinearity among the independent variables. The research data included fluctuations in global gold prices, which showed a moderate upward trend; inflation rates ranging from 2% to 6%; and the dynamic movement of the Jakarta Composite Index (JCI) (Hair et al., 2022; Ghozali, 2024).

Results of Moderated Regression Analysis (MRA)

The testing was carried out in two stages: the first model without moderating variables (linear regression) and the second model by including interaction variables between Gold Price and Inflation.

Table 1. Results of Path and Interaction Significance Test (MRA)

Relationship Variables	Coefficient (β)	T-Statistics	P-Values	Information
Gold Price \rightarrow IHSG	-0.312	3,420	0.001	Significant Negative
Inflation \rightarrow IHSG	-0.215	2,950	0.004	Significant Negative
Gold Price \rightarrow Inflation (Interaction)	0.188	2,560	0.012	Significant (Moderation)

Based on Table 1, the Gold Price had a significant negative influence on the JCI ($\beta = -0.312$, $p < 0.05$). This indicates a substitution effect, in which higher gold prices push investors out of the stock market. However, the interaction coefficient shows a significant positive value ($\beta = 0.188$), indicating that inflation acts as a moderating variable.

Table 2. Coefficient of Determination (R^2)

Model	R-Square	R-Square Adjusted	Standard Error of Estimate
Model 1 (Without Moderation)	0.542	0.531	0.124
Model 2 (With Moderation)	0.628	0.615	0.098

Table 2 shows that the inclusion of the inflation moderating variable increases the value R^2 from 0.542 to 0.628. This confirms that the moderation model provides a stronger explanation (62.8%) of the JCI variability than the single linear model (Bodie et al., 2022; Sudana, 2024).

The Influence of Gold Prices on the IHSG as a Substitution Phenomenon

These findings confirm that gold serves as a primary benchmark asset for investors on the stock market. When global gold prices surge, the opportunity cost of holding stocks increases, primarily because gold is perceived as having no default risk. According to portfolio theory, investors tend to take profits in the equity market to secure gains in gold when the equity market shows signs of saturation (Ross et al., 2024; Raharjo, 2022).

The Moderating Role of Inflation: Weakening or Strengthening?

The research results show that under conditions of high inflation, the JCI's sensitivity to gold prices becomes more extreme. Inflation acts as a *quasi-moderator*, weakening positive sentiment in the stock market. Rising gold prices, coupled with surging inflation, create a perception of crisis among investors, prompting massive capital outflows from the stock market into gold. This aligns with Mankiw's (2024) view that inflation distorts the real value of corporate profits, prompting investors to seek a "value anchor" in tangible assets like gold (Mishkin, 2023; Baker & Wurgler, 2023).

Strategic Implications for Investors and Government

Statistical data show that the interaction between gold and inflation should be a primary concern for fund managers. Diversification strategies must be implemented dynamically, with the national inflation threshold taken into account. For the government, controlling inflation is not only about maintaining public purchasing power but also a crucial instrument for maintaining the stability of the Jakarta Composite Index (JCI) and ensuring its continued attractiveness to both domestic and foreign investors (Siahaan & Pratama, 2024; Damodaran, 2023). The resilience of the national capital market depends heavily on the ability of monetary authorities to mitigate inflationary volatility during times of global commodity price volatility.

Conclusion

Based on the results of the data analysis and discussion that have been presented, this study provides several main conclusions regarding the dynamics of the Indonesian capital market in responding to fluctuations in global commodities and monetary indicators: **Significant Influence of Gold Prices:** Global gold prices have been shown to have a significant negative impact on the Jakarta Composite Index (JCI). This phenomenon reinforces gold's role as a *safe-haven* asset and a primary substitute instrument. When global uncertainty increases, as reflected in rising gold prices, investors tend to shift capital from equity markets to commodity assets to mitigate portfolio risk (Bodie et al., 2022; Raharjo, 2022). **Inflation as a Moderating Variable:** This study successfully demonstrated that inflation is a significant moderating variable. Inflation amplifies the negative impact of gold prices on the Jakarta Composite Index (JCI). This means that under conditions of high inflation, rising gold prices will trigger a deeper JCI contraction because investors feel the dual pressures of declining real purchasing power and increased market risk (Mankiw, 2024; Siahaan & Pratama, 2024). **Model Predictive Power:** The inclusion of moderating variables increases the determination value (R^2), indicating that the interaction between gold prices and inflation provides a more accurate picture of capital market volatility than a single-variable analysis.

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