

The Influence of Investor Sentiment and Market Uncertainty on the Volatility of Gold Sector Stocks on the Indonesia Stock Exchange

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Abstract

This study aims to analyze the influence of investor sentiment and market uncertainty on the volatility of gold sector stocks on the Indonesia Stock Exchange. Although gold stocks are often perceived as a hedging asset, stock price fluctuations in this sector exhibit relatively high volatility, especially during periods of market uncertainty. This study uses a quantitative approach with an explanatory research design and utilizes secondary data in the form of panel data. The research sample consists of gold sector companies listed on the Indonesia Stock Exchange during the 2015–2024 period, selected using a purposive sampling technique. Stock volatility is measured using the standard deviation of stock returns, investor sentiment is proxied by the stock trading activity indicator, and market uncertainty is measured using the market volatility indicator. Data analysis was conducted using panel data regression with a fixed effects approach, accompanied by testing for moderating effects. The results show that investor sentiment has a positive and significant effect on gold sector stock volatility. Furthermore, market uncertainty also has a positive effect on stock volatility and is proven to strengthen the influence of investor sentiment on gold sector stock volatility. These findings support the behavioral finance perspective that emphasizes the role of non-fundamental factors in stock market dynamics. This research provides an empirical contribution in enriching the behavioral finance literature in the context of emerging markets and provides practical implications for investors, issuers, and regulators in managing capital market risk and stability.



Keywords: investor sentiment, market uncertainty, stock volatility, gold stocks, Indonesia Stock Exchange

INTRODUCTION

Global capital market developments in recent years have shown a significant increase in stock price volatility, coupled with growing uncertainty in the international economy, geopolitics, and monetary policy. This phenomenon challenges the classical assumption in financial theory that stock price movements fully reflect fundamental information available in the market. Various global events, such as the COVID-19 pandemic, geopolitical conflicts, and tightening of global monetary policy, have triggered exaggerated and not always rational market reactions, prompting academic attention to the role of non-fundamental factors in stock market dynamics (Baker & Wurgler, 2020).

In a global context, stock market volatility is influenced not only by a company's financial performance but also by investor sentiment and the level of market uncertainty (Permana et al, 2025). Investor sentiment represents investors' collective optimism or pessimism regarding market prospects and often influences aggregate trading decisions. Several empirical studies have shown that changes in investor sentiment can amplify stock price fluctuations, even when there are no significant changes in a company's fundamentals (Prasad, 2022). This suggests that investor behavior plays a significant role in shaping market volatility.

One sector that attracts attention in stock volatility studies is the gold sector. Theoretically, gold is viewed as a safe haven asset capable of protecting investment value during periods of economic uncertainty. However, shares of gold sector companies remain traded on equity markets and are not immune to the pressures of sentiment and general market dynamics. Recent studies have shown that gold sector stocks often experience high volatility, particularly during times of heightened economic and financial market uncertainty (Smales, 2021). In Indonesia, the Indonesia Stock Exchange (IDX), as an emerging market, has distinct characteristics from developed markets, particularly in terms of investor structure. The dominance of retail investors and increased access to digital trading platforms make the Indonesian stock market more sensitive to sentiment and short-term information. IDX trading data shows that the volume and value of mining sector stocks, including gold, have experienced sharp fluctuations in recent years, reflecting high uncertainty and investor reactions to market conditions.

Empirically, several studies in emerging markets, including Indonesia, have examined the influence of investor sentiment on stock market returns or performance.

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However, most of these studies focus on returns, while volatility as an indicator of market risk has received little attention. Yet, stock volatility is a crucial aspect for investors, regulators, and issuers because it reflects the level of uncertainty and investment risk (Phan et al., 2021). In addition to investor sentiment, market uncertainty is also a significant factor influencing stock volatility. Market uncertainty can arise from changes in economic policy, exchange rate fluctuations, inflation, or unstable global conditions. Previous research has shown that increased market uncertainty tends to amplify investor reactions and increase stock price volatility, particularly in sectors sensitive to market expectations (Baker et al., 2021).

In the context of gold stocks, the relationship between investor sentiment, market uncertainty, and stock volatility is increasingly complex. On the one hand, gold is perceived as a defensive asset, but on the other hand, gold company shares remain affected by investor speculative behavior. This situation raises empirical questions about the extent to which investor sentiment and market uncertainty contribute to gold stock volatility, particularly in the Indonesian capital market. Previous studies in Indonesia generally used a quantitative approach with simple regression or time series models to analyze the relationship between investor sentiment and the aggregate stock market. A study by Pratiwi and Imelda (2023), for example, found a causal relationship between investor sentiment and Indonesian financial market dynamics. However, this study did not specifically examine the gold sector and did not include the role of market uncertainty as a factor that strengthens or weakens the influence of investor sentiment. Thus, there is a research gap that needs to be filled, particularly regarding the empirical analysis of the influence of investor sentiment on gold stock volatility, taking into account the role of market uncertainty in emerging markets. The limited number of sectoral studies and the limited research integrating sentiment and market uncertainty variables into a single empirical model provide an important basis for this research.

This research is expected to contribute to the scientific literature by expanding the behavioral finance literature in the context of the Indonesian capital market, particularly in the gold sector. Using a quantitative approach based on panel data, this study seeks to provide more comprehensive empirical evidence regarding the determinants of gold sector stock volatility on the Indonesia Stock Exchange. The main objective of this study is to analyze the influence of investor sentiment on gold sector stock volatility on the Indonesia Stock Exchange and to examine the role of market uncertainty in influencing this relationship. Specifically, this study aims to examine whether investor sentiment



significantly influences gold stock volatility and whether market uncertainty amplifies this influence.

Based on these objectives, this study hypothesizes that investor sentiment positively influences gold sector stock volatility and that market uncertainty plays a role in increasing gold stock volatility. The research questions focused on this study are how investor sentiment influences gold sector stock volatility and the extent to which market uncertainty influences this relationship on the Indonesia Stock Exchange. Therefore, this introduction systematically guides the study toward an empirical analysis based on behavioral finance theory and capital market dynamics.

Literature Review and Theoretical Foundations

Modern financial theory was initially dominated by the view that capital markets are efficient, as explained in the Efficient Market Hypothesis (EMH). This theory states that stock prices reflect all available information, so stock price movements are driven entirely by fundamental factors and cannot be systematically predicted. However, various market anomalies, such as excessive stock price volatility and disproportionate market reactions to specific information, demonstrate the limitations of this approach in empirically explaining capital market dynamics (Baker & Wurgler, 2020).

In response to these limitations, behavioral finance has developed as an alternative approach that emphasizes the role of psychological factors and investor behavior in investment decision-making. This theory is based on the assumption that investors are not always rational and are often influenced by emotions, cognitive biases, and social pressures. Within the behavioral finance framework, investor sentiment is viewed as a reflection of collective optimism or pessimism, which can push stock prices away from their intrinsic value and trigger market volatility (Prasad, 2022).

Investor sentiment is defined as investors' attitudes and expectations regarding market conditions and the future prospects of financial assets (Saputra et al, 2025). In quantitative research, investor sentiment is generally measured using market-based proxies, such as trading volume, turnover ratio, or indicators of abnormal trading activity. These indicators reflect the intensity of investor reactions to information and evolving risk perceptions in the market. Empirical literature shows that increases in investor sentiment are often followed by increased trading activity and stock price fluctuations (Baker & Wurgler, 2020).

Stock volatility is an important variable in capital market studies because it reflects the level of risk and uncertainty faced by investors. Volatility is typically measured by

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fluctuations in stock returns over a specific period and is often used as an indicator of market stability. From a financial perspective, volatility is influenced not only by a company's fundamentals but also by external factors and investor behavior. Research shows that changes in investor sentiment can increase stock volatility through overreaction and herding behavior (Smales, 2021).

Market uncertainty is a condition where market participants face difficulties in predicting the direction of the economy and financial markets due to uncertain information or rapid policy changes (Saputra et al, 2024). This uncertainty can stem from global factors, such as international monetary policy and geopolitical conflicts, as well as domestic factors, such as inflation and national economic stability. Empirical literature shows that market uncertainty plays a significant role in increasing stock market volatility and amplifying the impact of investor sentiment on stock prices (Phan et al., 2021).

In the context of the gold sector, the relationship between investor sentiment, stock volatility, and market uncertainty is increasingly complex. Theoretically, gold is viewed as a safe haven asset capable of protecting investment value during times of crisis. However, shares of gold-sector companies remain within the equity market and exposed to investor speculative behavior. Research by Smales (2021) shows that safe haven assets, including gold, are not completely immune to sentiment-driven volatility, especially when market uncertainty increases.

Several previous studies have examined the relationship between investor sentiment and stock market volatility. Baker and Wurgler (2020) found that investor sentiment significantly influences stock price fluctuations, particularly for stocks that are difficult to value fundamentally. Prasad (2022), through a systematic review, also concluded that investor sentiment is a significant determinant of stock market volatility in various countries, both developed and emerging markets.

In Indonesia, empirical research on investor sentiment is relatively limited and generally focuses on the aggregate stock market. Pratiwi and Imelda (2023) demonstrated a causal relationship between investor sentiment and Indonesian financial market dynamics. However, this study did not specifically examine the gold sector and did not include market uncertainty as a moderating factor in the relationship between investor sentiment and stock volatility.

Based on a review of theory and previous research findings, a research gap remains to be filled: the lack of empirical studies integrating investor sentiment and market uncertainty to explain gold stock volatility in emerging markets. Furthermore, sectoral



studies focusing on gold stocks are still relatively rare, particularly in the context of the Indonesian capital market.

Based on this gap, this study develops a conceptual framework that positions investor sentiment as the primary independent variable influencing gold sector stock volatility, with market uncertainty as a contributing variable that strengthens this relationship. This conceptual framework, grounded in behavioral finance theory and market volatility literature, is then used as the basis for empirical analysis in this quantitative study.

Hypothesis Development

Within the behavioral finance framework, investor sentiment is viewed as a non-fundamental factor reflecting the collective optimism or pessimism of market participants regarding the prospects of financial assets. When investor sentiment increases, trading activity tends to surge, not always supported by changes in a company's fundamental value. This condition encourages overreaction and herding behavior, ultimately increasing stock price fluctuations. Several empirical studies have shown that investor sentiment plays a significant role in explaining stock market volatility, particularly in sectors sensitive to expectations and risk perceptions (Baker & Wurgler, 2020; Prasad, 2022). Based on these theoretical arguments and empirical evidence, investor sentiment is expected to have a positive influence on gold sector stock volatility.

Gold stocks have unique characteristics because they are related to commodities that are theoretically considered hedging assets. However, in capital market practice, gold company shares are still traded on the equity market and are influenced by investor speculative behavior. When investor sentiment is extremely optimistic or pessimistic, gold stocks are subject to excessive supply and demand pressures, resulting in increased stock price volatility. Therefore, the stronger investor sentiment, the greater the potential volatility of gold stocks in the capital market. Based on this description, the first hypothesis in this study is formulated as follows.

Hypothesis 1 (H1): Investor sentiment has a positive effect on the volatility of gold sector stocks on the Indonesia Stock Exchange.

Besides investor sentiment, market uncertainty is a crucial factor influencing stock volatility dynamics. Market uncertainty reflects the situation when investors face difficulties in predicting the direction of the economy and financial markets due to policy changes, global turmoil, or macroeconomic instability. Financial literature shows that increased market uncertainty tends to encourage investors to be more reactive to information,

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thereby increasing stock price fluctuations (Phan et al., 2021). In the context of gold stocks, market uncertainty can increase investor sensitivity to sentiment, as gold is often positioned as an alternative asset when market risk increases.

Furthermore, market uncertainty is thought to not only directly impact stock volatility but also amplify the influence of investor sentiment. In uncertain market conditions, investors tend to rely more on perception and emotion than fundamental analysis. Consequently, changes in investor sentiment during periods of high uncertainty will generate a greater market reaction than in stable market conditions. Previous empirical findings indicate that the effect of investor sentiment on stock volatility becomes stronger as market uncertainty increases (Baker et al., 2021). Based on this argument, the moderation hypothesis is formulated as follows.

Hypothesis 2 (H2): Market uncertainty has a positive effect on the volatility of gold sector stocks on the Indonesia Stock Exchange.

Hypothesis 3 (H3): Market uncertainty strengthens the influence of investor sentiment on the volatility of gold sector stocks on the Indonesia Stock Exchange.

Overall, the development of this hypothesis positions investor sentiment as the primary determinant of gold sector stock volatility, with market uncertainty as a factor that not only directly influences volatility but also moderates the relationship between investor sentiment and stock volatility. These hypotheses are then empirically tested using a quantitative panel data-based approach to obtain evidence consistent with the theoretical framework and the context of the Indonesian capital market.

RESEARCH METHODOLOGY

This study uses a quantitative approach with an explanatory research design. This design was chosen because the study aims to explain the causal relationship between investor sentiment, market uncertainty, and gold sector stock volatility. The explanatory approach allows for empirical hypothesis testing through statistical analysis to determine the direction and strength of the influence between the studied variables in the context of the Indonesian capital market.

The type of data used in this study is secondary data, obtained from official and reliable sources. Secondary data was chosen because this study utilizes historical and widely published capital market data, allowing for consistent measurement and research replication. Data were obtained from Indonesia Stock Exchange trading reports, company annual financial reports, Bank Indonesia publications, as well as global gold price and stock market index data.

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The data collection method used documentation techniques, namely collecting and processing numerical data relevant to the research variables. Data on stock prices, trading volume, and market capitalization were obtained from official publications of the Indonesia Stock Exchange, while macroeconomic data and global gold prices were obtained from financial institutions and international data sources. All data were collected systematically according to the established research period.

The population in this study is all gold sector companies listed on the Indonesia Stock Exchange. The gold sector was chosen because it is often perceived as a safe haven, yet empirically exhibits high stock volatility. The research sample consists of gold sector companies that meet certain criteria, such as being actively listed during the study period and having complete data for all analyzed variables.

The sampling technique used was purposive sampling, with the selection criteria including companies engaged in gold mining or gold-related industries and having consistently available stock trading data. This technique was used to ensure that the selected sample was relevant to the research objectives and able to represent the characteristics of the gold sector in the Indonesian capital market.

The research instruments in this study consist of quantitative indicators and measures used to operationalize the research variables. Stock volatility is measured using the standard deviation of stock returns, investor sentiment is proxied by abnormal trading volume and turnover ratio, while market uncertainty is measured through market index volatility and macroeconomic uncertainty indicators. The use of these indicators refers to common practices in capital market research and behavioral finance literature (Prasad, 2022). The validity of the research instruments is ensured through construct validity, which ensures that each indicator used accurately represents the theoretical concept being measured. Construct validity is achieved by adopting measures that have been used and validated in previous research. Instrument reliability is maintained through consistent data measurement and the use of official data sources with clear and sustainable reporting standards (Baker & Wurgler, 2020).

The data analysis techniques used included descriptive and inferential statistical analysis. Descriptive analysis was used to describe the characteristics of the research data, such as the average, minimum, maximum, and standard deviation values of each variable. This analysis aims to provide an overview of the data distribution and market conditions in the gold sector during the research period. To test the research hypotheses, panel data regression analysis was used with a fixed effects or random effects approach. The best model was selected using the Chow and Hausman tests. This inferential analysis

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aims to examine the influence of investor sentiment and market uncertainty on gold sector stock volatility, as well as the moderating effect of market uncertainty. The significance level used in hypothesis testing is 5 percent, in accordance with general standards in quantitative research (Wooldridge, 2020).

RESULTS AND DISCUSSION

Research result

Descriptive statistical analysis was conducted to provide an overview of the characteristics of the research data, including gold sector stock volatility, investor sentiment, and market uncertainty during the observation period. The descriptive statistical results indicate that gold sector stock volatility has a relatively high average value compared to other defensive sectors, reflecting significant price fluctuations. Investor sentiment, as proxied by trading activity, also exhibits significant variation, indicating the dynamics of investor perceptions and expectations that fluctuate throughout the study period.

Table 1. Descriptive Statistics of Research Variables

Variables	Mean	Std. Dev.	Min	Max
Stock Volatility	0.042	0.018	0.010	0.095
Investor Sentiment	1,237	0.456	0.412	2,845
Market Uncertainty	0.031	0.014	0.008	0.072
Company Size	28.41	1.27	25.63	30.89
Leverage	0.54	0.21	0.12	0.88

These descriptive statistics indicate that gold stocks on the Indonesia Stock Exchange were relatively high-risk during the study period. The high standard deviation of the investor sentiment variable indicates that gold stock trading activity was significantly influenced by changes in investor expectations, particularly during periods of market uncertainty.

Next, a Pearson correlation analysis was conducted to examine the initial relationship between the research variables. The analysis showed that investor sentiment and market uncertainty were positively correlated with gold sector stock volatility. This correlation provides an initial indication that increases in market sentiment and uncertainty tend to be followed by increased stock volatility.



Table 2. Correlation Matrix

Variables	VOL	SENT	UNC
Volatility (VOL)	1,000		
Sentiment (SENT)	0.462	1,000	
Uncertainty (UNC)	0.389	0.271	1,000

Panel data regression results were used to test the research hypotheses. Based on the Chow and Hausman test, the fixed effects model was selected as the best model. The regression estimation results indicate that investor sentiment has a positive and significant effect on gold sector stock volatility at the 5 percent significance level. Furthermore, market uncertainty also has a significant positive effect on stock volatility.

Table 3. Panel Data Regression Results (Fixed Effect Model)

Variables	Coefficient	t-Statistic	Prob.
Investor Sentiment	0.018	3.21	0.001
Market Uncertainty	0.027	2.87	0.004
Sentiment × Uncertainty	0.011	2.45	0.015
Company Size	-0.006	-1.98	0.049
Leverage	0.009	1.72	0.086
R ²	0.42		

The regression results indicate that Hypothesis 1 is accepted, as investor sentiment has a significant positive effect on gold sector stock volatility. Hypothesis 2 is also accepted, indicating that market uncertainty directly increases stock volatility. Furthermore, the interaction coefficient between investor sentiment and market uncertainty is positive and significant, thus Hypothesis 3 is accepted, indicating that market uncertainty strengthens the influence of investor sentiment on gold sector stock volatility.

DISCUSSION

The findings of this study indicate that investor sentiment is a significant determinant of gold sector stock volatility on the Indonesia Stock Exchange. These results support behavioral finance theory, which states that investor behavior and perceptions can drive stock price fluctuations that are not fully explained by fundamental factors. In the context of gold stocks, although gold is viewed as a safe haven asset, gold company shares remain



exposed to pressure from investor sentiment and speculative activity (Saputra & Permana, 2025).

The positive effect of market uncertainty on gold stock volatility indicates that economic and financial market uncertainty amplifies investor reactions to information. In uncertain market conditions, investors tend to be more reactive and defensive, increasing trading intensity and stock price fluctuations. This finding aligns with research by Phan et al. (2021) and Baker et al. (2021), which found that market uncertainty significantly contributes to increased stock volatility.

The interaction between investor sentiment and market uncertainty indicates that market uncertainty amplifies the impact of sentiment on gold sector stock volatility. This finding is consistent with the argument that during periods of high uncertainty, investors rely more on perception and emotion than fundamental analysis. Therefore, even small changes in sentiment can result in larger stock price fluctuations.

Compared with previous research, this study's results align with those of Baker and Wurgler (2020) and Prasad (2022), which emphasized the role of investor sentiment in explaining stock market volatility. However, this study expands on previous findings by focusing on the gold sector and emerging market context, which remains relatively understudied. The discrepancy between these results and several studies that suggest gold functions solely as a hedge may be due to differences in the research subjects, observation periods, and the characteristics of the Indonesian capital market, which is dominated by retail investors.

Practically, the findings of this study have important implications for investors, issuers, and regulators. Investors need to consider sentiment and market uncertainty factors when managing the risk of gold stock portfolios. For issuers, information transparency and effective market communication are crucial to mitigate sentiment-driven volatility. Meanwhile, regulators can use these findings as a basis for strengthening market stabilization policies, particularly during periods of high uncertainty.

This research's theoretical contribution lies in strengthening the behavioral finance literature in the context of the gold sector in emerging markets. This research shows that gold stock volatility is influenced not only by fundamental factors and global gold prices, but also by investor sentiment and market uncertainty simultaneously. This research has several limitations. First, the measurement of investor sentiment is still limited to market-based indicators and does not include survey-based or social media indicators. Second, the study period is limited to a specific timeframe, thus not fully capturing long-term dynamics. Future research is recommended to expand the observation period, use

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alternative sentiment proxies, and apply more advanced analytical methods such as GARCH or quantile regression to gain a more comprehensive understanding of gold sector stock volatility.

CONCLUSION

This study aims to analyze the influence of investor sentiment and market uncertainty on the volatility of gold sector stocks on the Indonesia Stock Exchange. Based on panel data analysis, the study findings indicate that investor sentiment has a positive and significant effect on gold sector stock volatility. These results indicate that increased investor optimism or pessimism, reflected in trading activity, can drive higher gold stock price fluctuations, even though this sector is theoretically viewed as a hedging asset.

Furthermore, the research results also show that market uncertainty has a positive effect on the volatility of gold sector stocks. Market uncertainty conditions have been shown to increase the sensitivity of stock prices to changes in information and investor risk perceptions. Furthermore, testing for the moderating effect indicates that market uncertainty strengthens the influence of investor sentiment on gold sector stock volatility. Thus, all hypotheses proposed in this study are supported by empirical data.

The findings of this study have important practical and policy implications. For investors, the results emphasize the need to consider sentiment factors and market uncertainty when managing the risks of gold stock investments, rather than relying solely on fundamental analysis or the perception of gold as a safe haven asset. For gold sector companies, increasing information transparency and consistent communication with the market is crucial to mitigate sentiment-driven volatility. Meanwhile, for capital market regulators, the results of this study can inform the design of market stabilization policies, particularly during periods of high economic uncertainty.

Despite providing relevant findings, this study has several limitations. First, the measurement of investor sentiment is still limited to market-based indicators, thus not fully capturing the psychological dimensions of investors. Second, the limited sample coverage to the gold sector and a specific research period may limit the generalizability of the results to other sectors or different periods. Based on these limitations, future research is recommended to use more diverse proxies for investor sentiment, such as survey-based or social media indicators, and to expand the research period and sectors. Furthermore, the application of more advanced analytical methods, such as dynamic volatility models or nonlinear approaches, is expected to provide a deeper understanding of the dynamics of stock volatility in the Indonesian capital market.



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