

Gold as a Safe Haven during Geopolitical Tensions: Evidence from Gold Futures Trading in India

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Abstract - This study examines the role of gold as a safe haven asset during periods of geopolitical and economic uncertainty. Using secondary data on gold futures trading in India from 2015 to 2025, the study analyzes traded contracts, total value, and average daily turnover along with gold price trends. The methodology includes trend analysis, growth rate analysis, turnover intensity analysis, and comparative analysis. The findings indicate that gold trading activity and capital inflows increase significantly during crisis periods such as 2020 and 2025. The results also show a positive relationship between gold prices and trading activity, suggesting increased investor participation during uncertain times. The study concludes that gold continues to function as a reliable safe haven asset, particularly during periods of heightened geopolitical risk.

Key Words: Gold, Safe Haven, Geopolitical Risk, Commodity Markets, Futures Trading, Investor Behavior.

1. INTRODUCTION

Safe haven is generally referred to as something considered very safe and secure during times of crisis or emergency. A safe haven asset is the asset towards which investors run when they feel that other avenues of investment are volatile and not safe. Gold has historically been regarded as a safe haven asset during periods of economic and geopolitical uncertainty, as investors tend to shift their investments towards gold to preserve value when financial markets become volatile. The aim of this study is to analyze the behavior of gold futures trading in India to understand whether gold acts as a safe haven during periods of global uncertainty. The study is based on futures trading data such as traded contracts, total value, and average daily turnover, along with gold price trends over the period 2015–2025.

2. RESEARCH OBJECTIVES

- To examine whether gold acts as a safe haven asset during periods of geopolitical uncertainty using futures market data.
- To analyze the trend in gold futures trading activity over the study period.

- To evaluate the changes in trading volume and total traded value of gold futures during periods of global uncertainty.
- To study the short-term impact of major geopolitical events such as the Brexit referendum (2016), the COVID-19 pandemic (2020), and the Russia–Ukraine conflict (2022) on gold futures trading activity.
- To compare trading behavior before, during, and after major global events using event window analysis.
- To identify patterns in investor behavior that support the role of gold as a hedging instrument during times of economic and geopolitical instability.

3. LITERATURE REVIEW

Several studies have examined the role of gold as a safe haven asset across different market conditions.

3.1 Baur and Lucey (2010)

Baur and Lucey (2010) examine the role of gold as a hedge and safe haven against stock market movements. Their findings suggest that gold acts as a safe haven during extreme market downturns but not consistently during normal periods. The study highlights that gold's effectiveness depends on the severity of financial stress, supporting the idea that investor behavior shifts significantly during crises.

3.2 Baur and McDermott (2010)

Baur and McDermott (2010) analyze gold's safe haven properties across major developed and emerging markets. The study concludes that gold serves as a strong safe haven for developed markets such as the US and Europe but shows weaker effects in emerging economies, indicating that the role of gold may vary depending on market structure and investor composition.

3.3 Hood and Malik (2013)

Hood and Malik (2013) investigate whether gold acts as a safe haven against stock market volatility in the United States. Using advanced econometric models, they find that gold performs well as a hedge and safe haven during periods of high market stress, reinforcing the importance of gold in risk management strategies.

3.4 Ciner et al. (2013)

Ciner et al. (2013) explore the dynamic relationship between gold and financial markets, including stocks and bonds. The study finds that gold exhibits time-varying safe haven properties, particularly during periods of heightened uncertainty, suggesting that gold's effectiveness is not constant but depends on prevailing market conditions.

3.5 Reboredo (2013)

Reboredo (2013) examines the dependence structure between gold prices and stock markets. The study finds that gold provides protection against extreme negative movements in stock markets, confirming its role as a safe haven, with results also indicating asymmetric relationships where gold reacts more strongly during market downturns.

3.6 Bredin et al. (2015)

Bredin et al. (2015) analyze gold's hedging effectiveness against global financial risks. Their findings suggest that gold performs better as a safe haven during periods of financial crisis compared to normal market conditions, emphasizing the importance of considering market regimes when evaluating gold's role.

3.7 Shahzad et al. (2019)

Shahzad et al. (2019) investigate the safe haven properties of gold across different time horizons. The study finds that gold acts as a strong safe haven in the short term during extreme market stress but shows mixed results in the long term, highlighting the temporal nature of gold's safe haven behavior.

3.8 Nguyen et al. (2020)

Nguyen et al. (2020) analyze gold's performance during global uncertainty using cross-country data. The results indicate that gold demand increases significantly during geopolitical tensions and economic crises, supporting the view that gold serves as a reliable store of value during uncertain times.

3.9 Uddin et al. (2021)

Uddin et al. (2021) examine the behavior of gold during the COVID-19 pandemic. The study finds that gold exhibited strong safe haven characteristics, with increased demand and price stability during the crisis period, highlighting gold's resilience during extreme global shocks.

3.10 Adekoya et al. (2022)

Adekoya et al. (2022) explore the impact of geopolitical risk on gold markets. The study concludes that rising geopolitical tensions significantly increase gold demand and trading activity, reinforcing the argument that gold is a preferred asset during periods of heightened global uncertainty.

However, all of these studies have focused primarily on the price behavior of gold during geopolitical instability, while there is limited research examining trading activity — a gap that this study aims to address.

4. RESEARCH METHODOLOGY

Data Source

- Secondary data from Investing.com and MCX gold futures historical data.

Time Period

- 2015–2025

Variables Used

- Traded Contracts
- Total Value
- Average Daily Turnover
- Gold Price

Tools Used

- Trend Analysis
- Growth Rate Analysis
- Turnover Intensity Analysis
- Comparative Analysis

5. DATA ANALYSIS & RESULTS

5.1 Trend Analysis

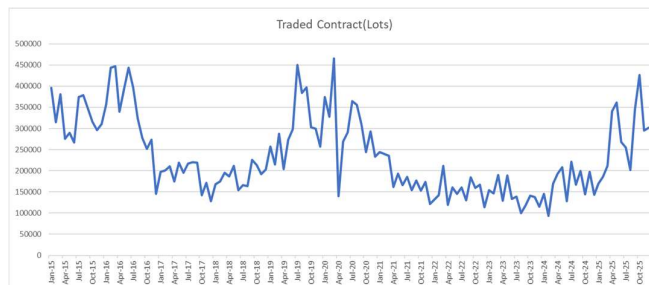


Fig –1: Traded Contracts of Gold Futures (2015–2025)

- The traded contracts of gold futures show fluctuating but cyclical movement from 2015 to 2025.
- There is no constant increase, but clear spikes during certain periods.

Phase-wise Interpretation

2015–2016 (High Activity) – due to the Brexit issue and the China stock market crash, trading volume was relatively high (~39–41 lakh lots), indicating stable investor interest in gold markets.

2017–2018 (Sharp Decline) – with reduced uncertainty, trading volume dropped significantly (~22–23 lakh lots), suggesting reduced uncertainty or lower hedging demand.

2019–2020 (Strong Increase) – amid the global COVID-19 crisis, trading volume rose again (~36–37 lakh lots). The 2020

peak is significant, aligning with the COVID-19 crisis as investors moved towards gold as a safe haven asset.

2021–2023 (Declining Trend) – as economies stabilized, trading volume continuously fell to its lowest level in 2023 (~17 lakh lots), indicating reduced panic and stabilization of global markets.

2024–2025 (Sharp Recovery) – driven mainly by de-dollarization and accumulation of gold by major central banks, trading volume increased strongly again, especially in 2025 (~33 lakh lots), suggesting renewed uncertainty and increased investor demand for gold.

The trend in traded contracts shows that gold trading activity increases during periods of global uncertainty and declines during stable periods. Significant spikes in 2020 and 2025 indicate heightened investor reliance on gold as a safe haven asset during geopolitical and economic tensions.

5.2 Growth Rate Analysis

The growth rate analysis reveals significant fluctuations in gold trading activity over the study period. Sharp declines in trading volume and value, particularly around 2017, indicate periods of relative market stability and reduced demand for gold. In contrast, substantial positive growth is observed during 2019–2020, where traded contracts increased by over 60% and total value by more than 80%, reflecting heightened investor participation during emerging global uncertainty. The continued increase in subsequent years aligns with the impact of the COVID-19 pandemic, during which gold demand surged as investors sought safe haven assets. After a temporary decline in the post-crisis period, a significant spike is observed in the final year, with trading value increasing by over 146%, indicating strong capital inflows and renewed investor reliance on gold amid geopolitical tensions.

5.3 Trading Intensity Analysis

Trading intensity is measured using total trading value and average daily turnover: a rise in value reflects more money entering the market, a rise in turnover reflects faster trading, and a rise in both reflects high overall trading intensity.

Trading intensity analysis indicates that market activity increases significantly during periods of uncertainty. Both indicators show significant growth during the years 2020 and 2025, reflecting higher capital inflows and increased trading frequency. This suggests that investors not only participate more actively but also allocate larger funds to gold, reinforcing its role as a safe haven asset. While the underlying analysis was conducted using monthly data, the results are presented in a yearly format for better visualization.

5.4 Moving Average Analysis

The moving average analysis is used to smooth out short-term fluctuations and highlight the underlying trend in gold futures trading activity. A 3-month moving average was applied to traded contracts to provide a clearer picture of market behavior.

The smoothed trend indicates consistent movement in trading activity, reducing the impact of sudden spikes and irregular variations, which helps in identifying the long-term pattern of investor participation in the gold futures market.

The upward movement in the moving average suggests a sustained increase in demand for gold futures over time, indicating that gold is not only used during short-term periods of uncertainty but also serves as a reliable long-term safe haven asset.

6. EVENT WINDOW ANALYSIS

Under this analysis, the performance before, during, and after each event is compared to assess whether gold acts as a safe haven during geopolitical crises.

6.1 Brexit — Interpretation

Table –1: Brexit Event Window

PERIOD	TRADED CONTRACTS	TOTAL VALUE
Before	366,355	10,796,010.61
During	443,542	13,503,051.40
After	360,128	11,276,392.27

The event window analysis around the Brexit referendum (June 2016) shows a clear increase in trading activity during the event period. The number of traded contracts increased from 366,355 in the pre-event period to 443,542 during the event, while the total traded value rose significantly from 10,796,010.61 to 13,503,051.40.

This sharp rise indicates that investors responded to the uncertainty surrounding the United Kingdom's exit from the European Union by increasing their participation in the gold futures market, reflecting a shift towards gold as a safe haven asset during periods of geopolitical instability.

In the post-event period, trading activity declined slightly but remained relatively close to pre-event levels, suggesting that while immediate uncertainty triggered a strong reaction, the impact was relatively short-lived. Overall, the Brexit event demonstrates a clear but moderate safe haven response in gold futures trading.

6.2 COVID-19 — Interpretation

Table –2: COVID-19 Event Window

PERIOD	TRADED CONTRACTS	TOTAL VALUE
Before	351,192	14,352,435.59
During	465,471	19,569,728.69
After	279,861	13,116,395.08

The event window analysis for the COVID-19 pandemic (March 2020) reveals a substantial increase in trading activity during the event period. Traded contracts rose sharply from 351,192 in the pre-event period to 465,471 during the event, while total traded value increased significantly from 14,352,435.59 to 19,569,728.69.

This marked increase reflects the severe global uncertainty and financial market instability caused by the pandemic, which led investors to actively shift towards gold futures as a safe haven asset, indicating a strong and immediate market reaction to the crisis.

In the post-event period, trading activity declined to 279,861 contracts and total value decreased to 13,116,395.08, suggesting that the surge was primarily driven by short-term panic and uncertainty. Despite the decline, the overall pattern highlights the critical role of gold futures in providing a hedge during extreme global crises.

6.3 Russia–Ukraine — Interpretation

Table –3: Russia–Ukraine Event Window

PERIOD	TRADED CONTRACTS	TOTAL VALUE
Before	126,863	6,090,895.05
During	176,502	9,044,606.34
After	141,906	7,260,492.41

The event window analysis of the Russia–Ukraine conflict (February 2022) shows a noticeable increase in trading activity during the event period. Traded contracts increased from 126,863 before the event to 176,502 during the conflict, while total traded value rose from 6,090,895.05 to 9,044,606.34.

This increase reflects heightened geopolitical tension and uncertainty, which encouraged investors to shift towards gold

futures as a means of risk management, indicating a strong safe haven response in the market.

In the post-event period, trading activity declined to 141,906 contracts and total value reduced to 7,260,492.41, but remained higher than pre-event levels. This suggests that the impact of the conflict had a more sustained effect compared to other events, with continued investor interest in gold futures due to ongoing uncertainty.

7. FINDINGS

- Trend analysis indicates an overall increasing pattern in traded contracts and total value, suggesting growing investor interest in gold as a financial asset.
- Growth rate analysis reveals significant fluctuations, highlighting that the gold futures market is highly responsive to global economic and geopolitical changes.
- Trading intensity analysis shows variations in the average value per contract, with higher intensity during uncertain periods, indicating increased participation from institutional investors.
- Moving average analysis reflects a consistent upward trend, suggesting that demand for gold futures is not only short-term but also sustained over time.
- Event window analysis for the Brexit referendum (2016) shows a moderate increase in trading activity, indicating a short-term safe haven response.
- The COVID-19 pandemic (2020) resulted in the most significant increase in trading activity, demonstrating a strong and immediate safe haven demand during extreme global crises.
- The Russia–Ukraine conflict (2022) led to a noticeable rise in trading activity, with post-event levels remaining higher than pre-event levels, indicating sustained investor interest.
- Comparative analysis of the three events suggests that the severity of the crisis influences the magnitude of the safe haven response.
- Across all events, trading activity increased during the event period compared to the pre-event period, confirming a shift towards gold futures during uncertainty.
- Overall, the findings support the hypothesis that gold functions as a safe haven asset, as reflected by increased trading volume and value during periods of instability.

8. DISCUSSION

The study highlights that gold futures trading activity increases during periods of geopolitical and economic uncertainty. The trend and moving average analyses indicate a consistent rise in trading activity over time, reflecting the growing importance of gold as an investment asset. The growth rate analysis shows

fluctuations, suggesting that the market reacts quickly to external shocks.

The trading intensity results further reveal that investors allocate higher capital per trade during uncertain periods, indicating strong participation from institutional investors. The event window analysis provides clear evidence that major global events such as Brexit, the COVID-19 pandemic, and the Russia–Ukraine conflict led to noticeable increases in trading activity.

Overall, the findings suggest that gold futures serve as an effective safe haven, as investors tend to shift towards gold during periods of uncertainty to manage risk and preserve value.

9. LIMITATIONS

- The study is based solely on futures market data — specifically traded contracts, total value, and average turnover — and does not include spot gold prices, which may provide additional insights into price behavior.
- The analysis is limited to secondary data, and therefore the findings depend on the accuracy and completeness of the available dataset.
- The event window analysis considers only selected major global events and may not capture the impact of other minor or regional geopolitical developments.
- The time window selected for event analysis (before, during, and after) is limited and may not fully capture long-term effects of geopolitical events.

10. CONCLUSION

The study concludes that gold functions as a reliable safe haven asset, particularly from a futures market perspective. The analysis of trading activity, including trends, trading intensity, and event-based observations, indicates that investor participation in gold futures increases during periods of geopolitical and economic uncertainty.

Major global events such as Brexit, the COVID-19 pandemic, and the Russia–Ukraine conflict led to noticeable spikes in trading activity, reflecting a shift in investor preference towards gold as a risk management tool. Among these, the COVID-19 pandemic generated the strongest response, highlighting the impact of severe global crises on investment behavior.

Overall, the findings confirm that gold futures play a significant role in hedging and preserving value during uncertain times, thereby supporting the safe haven hypothesis.

ACKNOWLEDGEMENT

The authors would like to thank the Department of Management Studies, Dayananda Sagar College of

Engineering, for their guidance and support throughout this research.

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