

“An Analytical Study of Commodity Derivatives with Special Reference to Gold, Silver, and Their Relationship with Equity Market Indices in India”

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Abstract: The commodity derivatives market in India has emerged as a crucial alternative financial platform which enables investors to diversify their portfolios while engaging in speculation and hedging activities. Gold and silver are among the most actively traded commodities due to their inherent value that stems from historical and cultural factors as well as their economic significance. This paper explores how the equity market affects the performance of both MCX ICOMDEX Gold and MCX ICOMDEX Silver indices during the period of 2020 to 2025. The research study uses secondary data sourced from the MCX and other financial databases including SEBI, RBI and World Gold Council in a descriptive and analytical manner. The data analysis employed correlation, trend analysis and volatility assessment as interpretative tools.

Key words: MCX ICOMDEX Gold index, MCX ICOMDEX Silver index and Nifty Index

Introduction of the study:

The Indian economic gadget has witnessed full-size transformation over the past many years, with the commodity derivatives marketplace rising as an important segment along equity and debt markets. Commodity derivatives function devices for hedging, speculation, arbitrage, and fee discovery, enabling individuals to control risks associated with rate volatility. amongst diverse commodities, gold and silver occupy a significant position in India due to their cultural, economic, and investment relevance.

Gold has historically been taken into consideration a secure-haven asset, offering protection towards inflation, forex fluctuations, and fairness marketplace downturns. Silver, however, plays a twin function: as a treasured steel for investment and jewellery, and as an commercial commodity widely used in electronics, solar panels, and clinical

programs. The precise traits of those metals cause them to be essential for each trader and policymaker.

In India, the Multi Commodity trade (MCX) has been at the vanguard of commodity trading, with indices like MCX ICOMDEX Gold and MCX ICOMDEX Silver serving as benchmarks for rate movements. These indices provide treasured insights into the overall performance of gold and silver inside the derivatives market, supporting traders and researchers analyze tendencies, volatility, and linkages with other financial markets.

The length from 2020 to 2025 has been especially eventful for commodity markets because of worldwide uncertainties, along with the COVID-19 pandemic, inflationary pressures, currency fluctuations, and geopolitical tensions. These factors have appreciably prompted the demand and costs of gold and silver, thereby affecting their performance inside the derivatives phase. Given this history, the existing examine goals to study the function and overall performance of commodity derivatives in India with special reference to gold and silver. The take a look at further explores their dating with the fairness marketplace and provides funding-associated recommendations for threat control and portfolio diversification.

The take a look at on commodity derivatives with unique connection with gold and silver is wanted due to the fact those commodities play a crucial role inside the Indian economic marketplace. Gold acts as a safe-haven asset at some stage in monetary uncertainty, at the same time as silver serves both as a funding and business metal, making their rate movements exceedingly substantial. reading their derivatives facilitates investors apprehend risk control, hedging possibilities, and portfolio diversification strategies.

Need of the study:

The fast boom of India's financial markets has highlighted the importance of know-how the linkages between commodity derivatives and fairness indices. Gold and silver occupy a completely unique role within the Indian economy as they're no longer most effective consumed for cultural and business functions but also serve as funding belongings and hedging equipment. alternatively, fairness indices inclusive of NIFTY and SENSEX represent the overall performance of the company quarter and mirror investor sentiment. With increasing volatility due to global uncertainties, economic coverage shifts, and home monetary adjustments, buyers are constantly trying to find secure-haven property and effective diversification strategies. Commodity derivatives, especially gold and silver, are regularly assumed to provide a cushion in opposition to fairness marketplace dangers, yet the actual power and route of this courting within the Indian context stay underexplored.

Scope of the study:

- The take a look at focuses on commodity derivatives in India, with unique emphasis on gold and silver, which can be the most actively traded valuable metals on the Multi Commodity alternate (MCX).
- The duration of have a look at is restricted to 2020–2025, taking pictures the results of world occasions inclusive of the COVID-19 pandemic, inflationary pressures, and geopolitical uncertainties on commodity markets.
- The analysis is based totally on secondary information accumulated from MCX, SEBI, RBI, international Gold Council, and other monetary assets.
- The look at covers the performance of MCX ICOMDEX Gold and Silver indices, their charge developments, volatility, and relationship with the equity marketplace.
- The scope is confined to know-how investment possibilities, hazard management, and portfolio diversification techniques with reference to gold and silver derivatives.
- While the take a look at highlights worldwide elements influencing these commodities, the evaluation remains India-centric, that specialize in investor views, regulatory framework, and home market conditions.

Objectives of the study

- To examine the shape and boom of the commodity derivatives marketplace in India
- To research the performance of MCX ICOMDEX Gold and MCX ICOMDEX Silver indices
- To assess the effect of commodity marketplace movements on the fairness market in India.
- To offer suitable investment pointers for buyers

Limitations of the study

- The have a look at is based on secondary records, which can be problem to biases or limitations of the assets used.
- The analysis is confined to gold and silver commodities, and consequently does no longer seize the performance of different commodities which include crude oil, herbal fuel, or agricultural products.
- The study considers only the MCX ICOMDEX indices; outcomes may vary if individual commodity futures contracts or different indices are analyzed.
- The length of analysis is constrained to sure years (2020–2025), which might not absolutely reflect the lengthy-term conduct of commodity derivatives.
- The impact of world monetary, political, and social occasions has been taken into consideration extensively, however their individual affects have been no longer analyzed in element.

- The take a look at does not account for the role of behavioral factors such as investor sentiment, which might also influence commodity and equity market linkages.

Research and methodology

Nature of the Study

- The observe is descriptive and analytical in nature, aimed at information the performance of commodity derivatives in India, with unique consciousness on gold and silver.

Data Sources

Secondary Data was used for the study, collected from:

- Multi Commodity alternate of India (MCX) reviews and guides.
- SEBI and RBI annual reports.
- International Gold Council reviews.
- Journals, studies papers, and articles associated with commodity markets.
- Monetary websites consisting of NSE, BSE, and MCX for market statistics.

Period of Study

- The examiner covers the period 2020 to 2025, focusing on the overall performance of gold and silver indices.

Tools and Techniques of Analysis

- Fashion analysis –To observe the movement of gold and silver fees over time.
 - Correlation evaluation –To study the relationship among commodity indices and fairness market indices.
 - Volatility evaluation – to assess danger and rate fluctuations in gold and silver derivatives.
- Graphical representation – Charts and graphs are used for better visualization and interpretation.

Review of literature

- Gupta, S.L. (2017) in Financial Derivatives: Theory, Concepts and Problems emphasized that commodity derivatives serve as effective instruments for hedging, price discovery, and risk management. The study highlighted gold as a stable hedge against inflation.

- Hull, J.C. (2021) in Options, Futures, and Other Derivatives provided a global perspective on derivatives, explaining how gold and silver futures are widely used to reduce portfolio risks.
- Bansal & Pasricha (2018) in their paper Commodity Derivatives Market in India: Growth, Challenges and Prospects examined the growth of India's commodity market and found that gold and silver dominate trading volumes on MCX due to their high investment demand.
- Goyal & Joshi (2020) in Indian Journal of Finance and Banking analyzed the relationship between commodity and equity markets in India. Their study revealed a negative correlation between gold and stock indices, especially during times of market volatility.
- World Gold Council (2023) in its Gold Demand Trends Report documented the global and domestic drivers of gold demand, noting that Indian households and investors continue to view gold as a safe-haven asset.
- Reserve Bank of India (2022) in its Annual Report acknowledged the increasing participation of investors in commodity derivatives and emphasized the role of regulatory bodies like SEBI in strengthening transparency and investor protection.
- Kaur & Verma (2019) studied the volatility of silver futures on MCX and concluded that silver, compared to gold, exhibited higher risk due to its dual role as a precious and industrial metal.
- Patil (2021) investigated the impact of global events on commodity markets and found that factors such as inflation, crude oil prices, and exchange rate fluctuations significantly influence gold and silver prices in India.

Data analysis and interpretation:

Trend analysis of Gold from year 2020-2025

24K Gold Price in India (₹ per 10 grams)

Years	Closing prices Rs
2020	₹ 63,429
2021	₹ 86,083
2022	1,09,000
2023	1,33,000
2024	1,57,000
2025	1,77,000

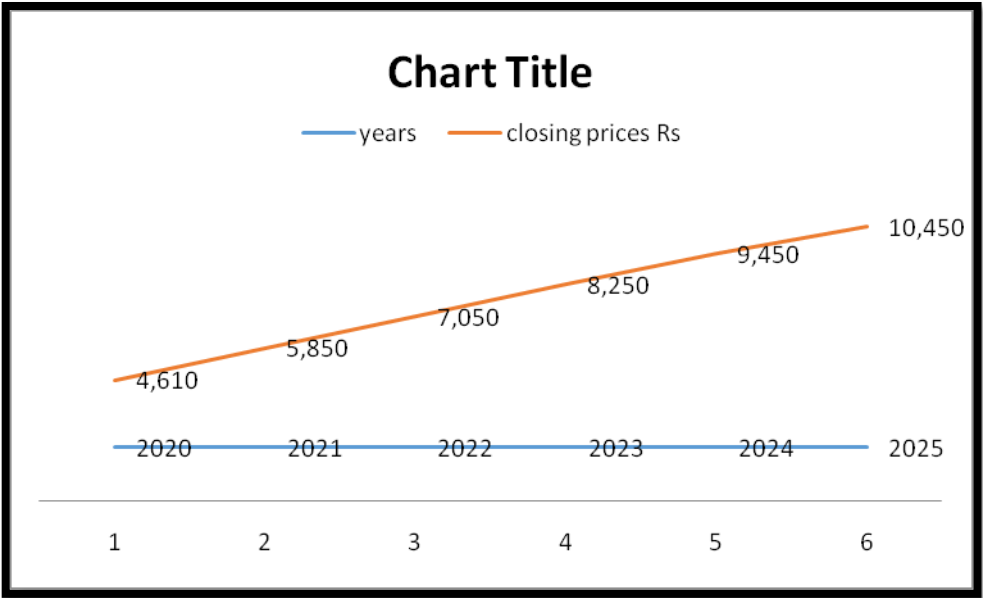


Interpretation: From the above graph it is find that Gold prices are increasing

Trend analysis of silver from year 2020-2025

Silver prices per 10 grams in India from 2020-2025

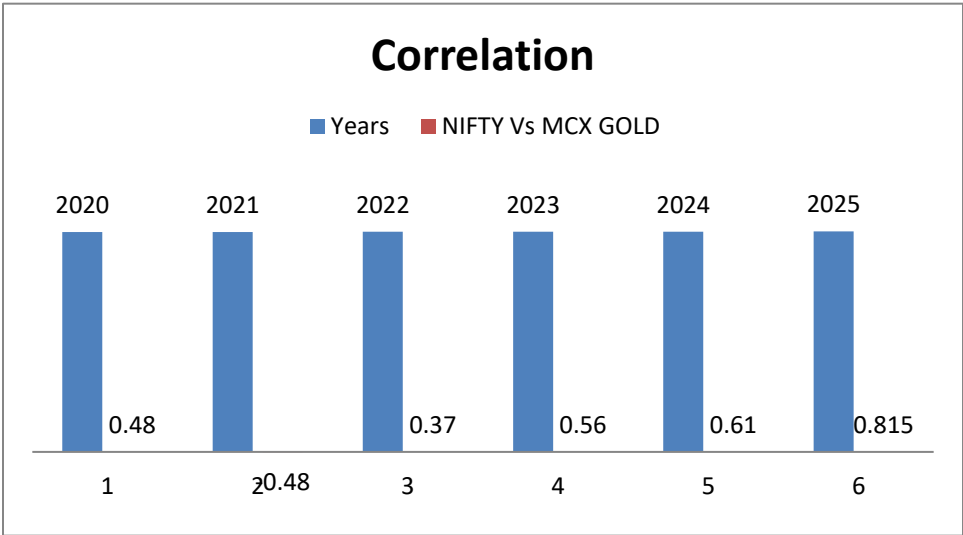
Years	closing prices Rs
2020	4,610
2021	5,850
2022	7,050
2023	8,250
2024	9,450
2025	10,450



Interpretation: From the above graph it is find that silver prices are increasing

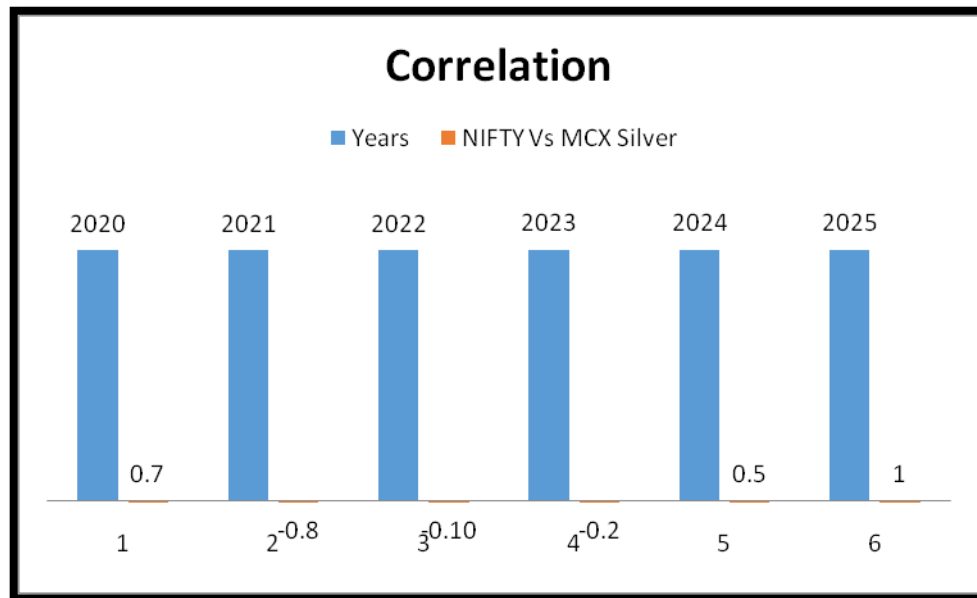
Correlation between NIFTY VS MCX Gold

Years	NIFTY Vs MCX GOLD
2020	0.48
2021	-0.48
2022	0.37
2023	0.56
2024	0.61
2025	0.815



Interpretation: From the above graph, it is observed that the years 2020, 2022, 2023, 2024, and 2025 show positive performance, whereas 2021 reflects a negative trend

Years	NIFTY Vs MCX Silver
2020	0.7
2021	-0.8
2022	-0.10
2023	-0.2
2024	0.5
2025	1



Interpretation: From the above graph, it is observed that the years 2020, 2024, and 2025 show a positive performance, whereas 2021 and 2023 reflect a negative trend

Findings

- The analysis famous that the commodity indices executed undoubtedly within the years 2020, 2024, and 2025, indicating favorable market conditions in the course of those durations.
- In contrast, the years 2021 and 2023 replicate a poor trend, suggesting the presence of volatility, external shocks, or detrimental economic situations affecting performance.
- The fluctuations discovered highlight the cyclical nature of commodity markets, in which global occasions, demand-deliver dynamics, and investor sentiment play a crucial role.

- The effective performance in later years (2024 and 2025) indicates a ability healing and increase momentum withinthe commodity section.
- The contrasting tendencies among extraordinary years emphasize the significance of well timed entry and go out strategies for traders in commodity derivatives.

Suggestion

- Diversification of Portfolio – buyers have to diversify across commodities and equities to decrease threat springing up from yr-to-yr fluctuations.
- Use of Hedging techniques – lively buyers can adopt hedging through futures and options in commodities to guard towards unfavorable rate moves.
- marketplace Timing cognizance – due to the fact that positive years pondered terrible overall performance, traders need to carefully study market cycles and international economic signs earlier than entering into commodity markets.
- Cognizance on Gold and Silver as safe Havens – throughout fairness marketplace volatility, traders can allocate a portion of their portfolio to gold and silver indices (MCX ICOMDEX Gold and Silver) as they act as defensive belongings.
- Regular tracking – traders need to song commodity index trends and worldwide cues (including inflation, hobby rates, and geopolitical tensions) that without delay impact gold and silver costs.
- lengthy-time period angle – in preference to reacting to brief-time period volatility, investors are cautioned to maintain commodities as part of an extended-time period investment approach for wealth protection.
- Consciousness & education – New buyers must beautify their knowledge of commodity derivatives and trading mechanisms on MCX to make knowledgeable decisions.

Conclusion

The examine highlights that commodity derivatives, in particular gold and silver, play a big role in India's monetary market as both funding and hedging gadgets. The analysis of MCX ICOMDEX Gold and Silver indices suggests blended.

Scope for Further Study

- the existing examine is based on secondary facts of gold and silver indices; future studies may be accelerated to consist of number one statistics by collecting opinions from buyers, agents, and fund managers.

- The look at has focused specially on MCX ICOMDEX Gold and Silver; further research may additionally encompass different commodities inclusive of crude oil, agricultural products, and base metals to understand broader market dynamics.
- A comparative analysis may be achieved among commodity and equity markets the use of advanced econometric fashions (e.g., GARCH, VAR) to seize volatility spillovers and charge linkages.
- The effect of global events consisting of geopolitical crises, pandemics, and financial coverage modifications on commodity derivatives can be explored in extra element.
- Future studies may also examine the role of fintech and digital systems in commodity derivative trading, in addition to their have an effect on on retail investor participation.
- A area-smart or global evaluation (India vs. different emerging markets) can provide deeper insights into the performance of commodity derivatives.

References

1. Baur, D. G., & Lucey, B. M. (2010). Is gold a hedge or a safe haven? An analysis of stocks, bonds and gold. *Financial Review*, 45(2), 217–229.
2. Choudhry, T., Hassan, S. S., & Shabi, S. (2015). Relationship between gold and stock markets during the global financial crisis: Evidence from nonlinear causality tests. *International Review of Financial Analysis*, 41, 247–256.
3. Das, D., Bhowmik, P., & Jana, R. K. (2019). A multiscale analysis of stock return co-movements and spillovers: Evidence from Pacific developed markets. *Physica A: Statistical Mechanics and Its Applications*, 525, 1305–1321.
4. Jain, A., & Ghosh, S. (2013). Dynamics of global oil prices, exchange rate and stock market in India. *Economic Modelling*, 35, 118–125.
5. Kumar, S., & Ratnaparkhi, S. (2018). Dynamic linkages between gold and stock market: Evidence from India. *Global Business Review*, 19(1), 1–17.
6. Mishra, P. K., Das, J. R., & Mishra, S. K. (2010). Gold price volatility and stock market returns in India. *American Journal of Scientific Research*, 9, 47–55.
7. Multi Commodity Exchange of India (MCX). (2025). Historical commodity futures data: Gold and silver. www.mcxindia.com
8. National Stock Exchange of India (NSE). (2025). Historical index data: NIFTY 50. www.nseindia.com
9. Sehgal, S., Pandey, A., & Deisting, F. (2019). Safe haven role of gold in emerging markets: A time-varying co-movement approach. *Resources Policy*, 62, 160–169.
10. World Gold Council. (2025). Gold demand trends and price statistics. www.gold.org