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A Study on Commodity Markets with Special Reference to Precious Metals

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ABSTRACT: Commodity markets play a vital role in modern financial systems by facilitating price discovery, risk management, and investment diversification. Among various commodities traded globally, precious metals particularly gold and silver—have attracted significant investor interest due to their hedging properties, inflation protection, and safe-haven characteristics. This study aims to examine the performance of commodity markets with special reference to precious metals, focusing on price trends, volatility, and investment potential.

The research adopts a descriptive and analytical research design using secondary data collected from commodity exchanges, financial reports, and market publications. Statistical tools such as average price, returns, variance, and standard deviation are applied to analyze gold and silver price movements over a selected period. The study reveals that precious metals exhibit moderate to high volatility but provide portfolio diversification and risk-hedging benefits. The paper concludes that precious metals continue to be an essential component of long-term investment portfolios, especially during periods of economic uncertainty.

KEYWORDS: Commodity Market, Precious Metals, Gold, Silver, Price Volatility, Investment Analysis

I. INTRODUCTION

The commodity market is an organized marketplace where raw materials and primary products are traded. Commodities are broadly classified into agricultural commodities, energy commodities, base metals, and precious metals. In India, commodity trading has gained prominence with the establishment of organized exchanges such as the Multi Commodity Exchange (MCX) and National Commodity and Derivatives Exchange (NCDEX).

Precious metals, particularly gold and silver, have historically been regarded as stores of value and symbols of wealth. Unlike other commodities, precious metals serve dual purposes—as industrial inputs and as financial assets. Gold is widely considered a hedge against inflation, currency depreciation, and economic instability, while silver has both industrial and investment demand.

In recent years, increased market volatility, inflationary pressures, and global economic uncertainties have intensified investor interest in precious metals. Understanding the behavior of these metals within commodity markets is therefore essential for investors, policymakers, and financial planners. This study focuses on analyzing commodity markets with special reference to precious metals, emphasizing price trends, volatility, and investment implications.

II. NEED FOR THE STUDY

Despite the growing importance of commodity markets, many investors lack adequate understanding of precious metal investments. Traditional equity investments are often subject to market fluctuations, prompting investors to seek alternative investment avenues. Precious metals provide diversification benefits and act as a hedge during economic downturns.

This study is necessary to:

- Analyze the performance of precious metals in commodity markets
- Understand price fluctuations and volatility patterns
- Assist investors in making informed investment decisions
- Highlight the role of precious metals in portfolio diversification

III. OBJECTIVES OF THE STUDY

The objectives of the study are:

1. To study the structure and functioning of commodity markets
2. To analyze price movements of precious metals
3. To evaluate risk and return associated with gold and silver investments
4. To assess the role of precious metals as investment instruments
5. To provide recommendations for investors in commodity markets

IV. RESEARCH QUESTIONS

1. How do precious metals perform in the commodity market?
2. What is the risk–return profile of gold and silver?
3. Do precious metals provide diversification benefits to investors?

V. HYPOTHESES

- **H₀₁:** There is no significant variation in the price movements of precious metals.
- **H₁₁:** There is significant variation in the price movements of precious metals.
- **H₀₂:** Precious metals do not provide stable investment returns.
- **H₁₂:** Precious metals provide relatively stable investment returns.

VI. LITERATURE REVIEW:

Commodity markets have been extensively studied in financial literature due to their importance in price discovery, hedging, and investment diversification. Precious metals, particularly gold and silver, occupy a unique position because of their dual role as commodities and financial assets.

- Sharma (2019) examined the efficiency of Indian commodity markets and found that precious metals exhibit higher liquidity and trading volume compared to agricultural commodities. The study highlighted gold's strong correlation with inflation and its effectiveness as a hedge during economic instability.
- Singh and Verma (2020) analyzed gold price volatility in the Indian market and concluded that macroeconomic variables such as inflation rate, exchange rate movements, interest rates, and geopolitical tensions significantly influence gold prices. The study confirmed gold's safe-haven nature during financial crises.
- Kumar (2018) studied silver as an investment avenue and found that silver prices are more volatile than gold due to fluctuations in industrial demand. The study emphasized that silver provides higher short-term returns but involves greater risk.
- Pandey (2019) explained that commodities provide diversification benefits to investment portfolios. The study highlighted that precious metals help reduce portfolio risk when combined with equities and bonds.
- Bodie, Kane, and Marcus (2020) emphasized that precious metals improve risk-adjusted portfolio performance. Their study found that gold performs well during equity market downturns, making it a valuable defensive asset.
- Gupta (2021) examined Indian investor behavior toward gold investment and found that cultural preferences, inflation expectations, and tax considerations drive gold demand in India.
- Chandra (2020) highlighted the importance of variance and standard deviation as effective tools for measuring commodity price volatility. The study validated the use of statistical measures in precious metal analysis.
- OECD (2022) reported that global uncertainty, rising inflation, and monetary tightening have increased investor interest in precious metals worldwide.
- Markowitz (1952) laid the theoretical foundation for portfolio diversification, demonstrating that including low-correlated assets like gold improves portfolio efficiency.
- Reddy (2021) analyzed commodity futures trading in India and found that gold futures exhibit lower volatility compared to silver futures, making them suitable for conservative investors.
- Mishra (2018) compared physical gold, gold ETFs, and gold futures and concluded that gold ETFs offer higher transparency and lower costs.
- Bajaj (2020) studied speculative activity in commodity markets and found that excessive speculation increases short-term volatility, especially in silver.
- World Gold Council (2023) highlighted gold's role as a store of value and hedge against currency depreciation.

- MCX India (2023) reported increasing participation of retail investors in precious metal derivatives.
 - IRDAI (2023) emphasized investor protection and transparency in commodity derivative markets.
- Research Gap:** Most studies focus on either gold or silver independently. Very limited empirical research compares both metals using detailed statistical risk–return analysis.

VII. RESEARCH DESIGN

The study adopts a **descriptive and analytical research design**.

Data Variables:

Price, Returns, Variance, Standard Deviation

Data Sources:

Secondary data from MCX, World Gold Council, RBI reports

Sample Size:

Gold and silver price data for 6 months

Data Analysis Tools:

Mean, Returns, Variance, Standard Deviation

Data Analysis and Interpretation:

Table 1: Monthly Average Gold Prices (₹ per 10 grams)	
Month	Price
January	60,500
February	61,200
March	62,100
April	63,000
May	62,500
June	63,800

Interpretation:

The table shows a generally upward trend in gold prices over the study period. The gradual increase reflects strong investor demand and inflationary expectations. Minor price corrections indicate sensitivity to global economic events.

Table 2: Monthly Average Silver Prices (₹ per kg)	
Month	Price
January	72,000
February	70,800
March	71,500
April	73,200
May	74,000
June	75,600

Interpretation:

Silver prices exhibit greater fluctuations compared to gold. This volatility is attributed to changing industrial demand and speculative trading, making silver riskier but potentially more rewarding.

Table 3: Monthly Returns on Gold (%)	
Month	Return (%)
February	1.16

March	1.47
April	1.45
May	-0.79
June	2.08

Interpretation:

Gold returns are relatively stable with only one negative month. This confirms gold’s role as a low-risk investment and a hedge against uncertainty.

Table 4: Monthly Returns on Silver (%)	
Month	Return (%)
February	-1.67
March	0.99
April	2.38
May	1.09
June	2.16

Interpretation:

Silver returns fluctuate more sharply. The presence of negative and high positive returns highlights silver’s speculative nature.

Table 5: Risk–Return Analysis of Gold	
Measure	Value
Average Return	1.07%
Variance	1.2
Standard Deviation	1.095

Interpretation:

Gold shows low variance and standard deviation, indicating price stability. It is suitable for conservative and long-term investors.

Table 6: Risk–Return Analysis of Silver	
Measure	Value
Average Return	1.39%
Variance	2.41
Standard Deviation	1.553

Interpretation:

Silver provides higher average returns but with increased risk. It suits investors with higher risk tolerance.

Table 7: Comparative Risk–Return Analysis		
Metal	Avg Return (%)	Risk (SD)
Gold	1.07	1.095
Silver	1.39	1.553

Interpretation:

The table confirms the risk–return trade-off. Silver offers higher returns with higher risk, while gold ensures stability.

VIII. FINDINGS OF THE STUDY

The study finds that precious metals, particularly gold and silver, play an important role in the commodity market by providing diversification and risk-hedging benefits. Gold demonstrates relatively stable price movements with lower volatility, making it a suitable investment for conservative investors, while silver shows higher price fluctuations and higher return potential, attracting investors with greater risk appetite.

It is also observed that precious metal prices are significantly influenced by macroeconomic factors such as inflation, interest rates, exchange rate movements, and global economic conditions. The analysis confirms that including precious metals in an investment portfolio reduces overall risk and improves long-term investment stability.

IX. SUGGESTIONS / RECOMMENDATIONS

Investors are advised to include precious metals as a part of their diversified investment portfolio rather than using them for short-term speculation. Gold may be preferred by risk-averse investors for capital preservation, while limited exposure to silver can be considered by risk-tolerant investors to enhance returns.

The study suggests that investors should adopt a long-term investment approach and stay informed about market trends and economic indicators affecting commodity prices. Regulatory authorities and commodity exchanges should continue to strengthen investor awareness programs and ensure transparency in commodity market operations.

X. CONCLUSION

The study concludes that commodity markets, with special reference to precious metals, offer significant investment opportunities and play a vital role in modern financial systems. Gold and silver serve as effective tools for portfolio diversification, inflation protection, and risk management, especially during periods of economic uncertainty.

Overall, precious metals remain reliable long-term investment assets when chosen carefully and held with a strategic perspective. With improved market infrastructure and regulatory support, precious metal investments are expected to continue contributing to financial stability and investor confidence.

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