

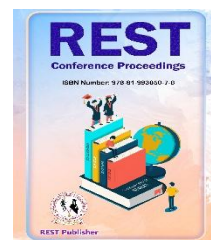


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# An Analytical Study of Gold Prices Fluctuation and Its Reaso

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**Abstract:** This study examined the historical trends and investment behaviors influencing gold prices between 2020 and 2024. Gold, valued for its intrinsic worth and cultural significance, remains a key asset in both traditional and modern portfolios. The research analyzed macroeconomic, geopolitical, and technological factors affecting prices, with specific attention to events such as the COVID-19 pandemic, trade disruptions, and inflationary pressures. Using a mixed-method approach, time-series and volatility analysis were combined with qualitative assessments. A chi-square test confirmed significant relationships between gold prices and variables such as inflation, stock market trends, and geopolitical tensions, with inflation emerging as the most influential factor. The study also highlighted the growing shift toward digital gold in India, driven by accessibility, finch adoption, and formal investment products like Sovereign Gold Bonds. Findings reaffirmed gold's role as a safe-haven asset, offering diversification and inflation protection, while also underscoring the complexity of price fluctuations shaped by both economic fundamentals and cultural sentiment. The research concludes with recommendations for further exploration of investor behavior and gold's evolving relevance in the financial landscape.

**Keywords:** Gold Investment, Investor Behavior, Investment Preferences, Amravati City, Traditional vs. Modern Investment, Gold ETFs, Sovereign Gold Bonds (SGBs), Safe-Haven Asset, Demographic Analysis, Financial Awareness, Wealth Preservation, Cultural Influence on Investment.

## 1. INTRODUCTION

Gold has long held a central place in global finance, serving not only as a precious metal but also as a hedge against inflation and economic uncertainty. In India, its significance extends beyond monetary value, being deeply rooted in cultural traditions, religious practices, and household wealth portfolios. Unlike other investment avenues, gold provides both financial security and emotional assurance, making it one of the most trusted and enduring assets among Indian investors. Price fluctuations in gold are strongly influenced by macroeconomic variables such as inflation, interest rates, stock market trends, and geopolitical developments. During periods of instability—such as the COVID-19 pandemic—gold reinforced its role as a safe-haven asset, attracting risk-averse investors. In parallel, financial innovations like Gold Exchange Traded Funds (ETFs), Sovereign Gold Bonds (SGBs), and digital platforms have broadened access and improved transparency, though physical gold, particularly jewelry and coins, continues to dominate investor preferences. India is the world's second-largest consumer of gold, accounting for nearly a quarter of global demand. Seasonal peaks in consumption during festivals such as Diwali and Akshaya Tritiya, along with weddings, highlight the deep social and cultural ties to gold ownership. Rural households contribute significantly to demand, as gold remains a liquid, easily tradable, and intergenerational store of value in regions with limited access to formal financial services. Government initiatives such as hallmarking, the Gold Monetization Scheme, and promotion of formal channels aim to modernize the market and reduce reliance on imports. However, challenges persist in the form of price volatility, dependence on global economic conditions, and evolving consumer sentiment. Despite these hurdles, the Indian gold market continues to represent a unique blend of tradition and modernity, where cultural affinity, financial prudence, and emerging investment platforms ensure gold's enduring role in both personal and national economic activity.

## 2. RESEARCH OBJECTIVES

To examine the historical trends in gold prices between 2020 and 2024 and analyze their correlation with macroeconomic indicators such as inflation, interest rates, and stock market performance. To investigate the impact of global and domestic geopolitical events, including the COVID-19 pandemic, on fluctuations in gold prices. To assess investor preferences in India, with a focus on the shift from traditional physical gold to modern investment avenues such as Gold ETFs, Sovereign Gold Bonds (SGBs), and digital gold platforms. To evaluate the role of cultural and seasonal factors (festivals, weddings, and rural demand) in shaping gold consumption

and investment behavior. To provide insights and policy suggestions for strengthening gold investment practices by balancing traditional preferences with emerging financial innovations.

### 3. REVIEW OF LITERATURE

Gold has long been regarded as both a cultural asset and a financial instrument in India and worldwide. Researchers have consistently highlighted its dual role as a consumption good and an investment hedge. Baur and Lucey (2010) demonstrated that gold functions as a safe-haven asset during financial crises, offering investors protection against market volatility. Similarly, Aggarwal and Soenen (1988) found a strong linkage between gold prices and inflation, reinforcing its role as a hedge against purchasing power erosion. In the Indian context, Somasundaram (2015) emphasized that cultural affinity and traditional practices drive household gold demand, particularly during weddings and festivals. World Gold Council reports further reveal that rural households, with limited access to financial institutions, continue to rely on gold as a liquid and trusted form of savings. Recent studies, such as those by Jain and Ghosh (2018), have noted the growing popularity of financial products like Gold ETFs and Sovereign Gold Bonds, which provide transparency, liquidity, and reduced transaction costs compared to physical gold. However, consumer preference for jewelry and coins remains dominant, reflecting deep-rooted socio-cultural factors. Additionally, Ray (2019) highlighted that fluctuations in global markets, currency movements, and government import policies significantly influence Indian gold prices. This indicates the need to view gold not only as a cultural commodity but also as an asset shaped by macroeconomic and regulatory dynamics. Taken together, the literature underscores that gold demand in India is influenced by a blend of cultural traditions, macroeconomic factors, and evolving financial innovations. While physical gold remains central, the gradual shift toward modern investment instruments suggests an ongoing transformation in consumer behavior.

### 4. RESEARCH METHODOLOGY

This study adopts a descriptive research design to examine the factors influencing gold investment patterns among investors in Amravati city. A descriptive approach was considered appropriate as the objective is to capture existing attitudes, preferences, and behaviors rather than establish causal relationships.

#### Research Design:

This study adopts a mixed-method approach that combines quantitative data analysis with qualitative assessments of external factors influencing gold prices. The design is primarily descriptive and analytical:

Descriptive: To describe the trends in gold prices from 2020 to 2024.

Analytical: To examine the causes of price fluctuations and the relationship between gold prices and key macroeconomic and geopolitical factors.

#### Research Gap:

A study focuses on how the investment in gold has changed over a period of time.

Paper study the prospect of Gold as an investment option among investors.

Research tries to make correlation between gold and emotion among investors for investment.

#### Quantitative Analysis

Time-Series Analysis: This statistical method is used to identify patterns and trends in gold prices over time. By analyzing data from 2020 to 2024, the time-series approach helps in detecting cycles, seasonal trends, and the long-term movement of gold prices.

Volatility Analysis: Given the periods of extreme market uncertainty (e.g., 2020 pandemic-driven volatility), volatility measures like the standard deviation and the GARCH (Generalized Autoregressive Conditional Heteroskedasticity) model are used to assess the extent of price variability over the study period.

#### Qualitative Analysis

While quantitative methods provide statistical insights, qualitative analysis is essential for understanding the broader context of gold price movements. This includes assessing:

Geopolitical Risk Analysis: Geopolitical events such as the Russia-Ukraine conflict, U.S.-China trade tensions, and the global energy crisis are analyzed qualitatively to understand their impact on investor sentiment and the demand for gold as a safe-haven asset.

#### Specific Objectives

To examine the impact of the COVID-19 pandemic on gold prices:

To assess the relationship between inflation and gold prices:

- To evaluate the influence of interest rates and central bank policies:
- To explore the effect of geopolitical events on gold price volatility:
- To identify the long-term trends in gold prices post-pandemic recovery:
- To provide insights for future predictions of gold price behavior during economic and geopolitical crises

**Hypothesis**

Null Hypothesis (H<sub>0</sub>): There is no significant macroeconomic indicators (such as inflation, interest rates, exchange rates, and geopolitical events) and gold price fluctuations.

Alternative Hypothesis (H<sub>1</sub>): There is a significant macroeconomic indicators (such as inflation, interest rates, exchange rates, and geopolitical events) and gold price fluctuations

**5. DATA ANALYSIS AND INTERPRETATION**

The data collected through the survey has been systematically analyzed to understand the investment behavior of respondents in Amravati city with respect to gold. Statistical tools such as frequency distribution and percentage analysis have been applied to present the findings in a clear and structured manner. This process enables the identification of major trends, investor preferences, and demographic influences on gold investment. The interpretation of results provides insights into the factors that drive individuals to invest in gold, including cultural practices, perceived safety, return expectations, and liquidity. It also highlights the extent to which modern investment instruments like Gold ETFs and Sovereign Gold Bonds are being adopted compared to traditional forms such as jewelry and coins. By linking the responses with demographic variables like age, income, and occupation, the analysis offers a comprehensive understanding of how different groups perceive and utilize gold as an investment avenue. This section thus serves as the foundation for deriving meaningful conclusions and suggestions aligned with the research objectives.

**TABLE 1.** Observed Table

Reason	Observed (O)
Inflation	50
Interest Rate	13
Stock Market Trends	18
Geopolitical Wars	10
Supply & Demand	9
Total	100

Expected Frequencies (E)

$$E = \text{Total} / \text{Number of Categories}$$

$$= 100 / 5$$

$$= 20$$

**Chi Square Test**

O= Observed value

E = Expected value

(O - E) = Difference between observed and expected

(O - E) <sup>2</sup> = Squared difference

(O - E) <sup>2</sup> / E = Chi-square contribution from each cell

Chi-Square Formula

$$\chi^2 = \sum (E-O)^2 / E$$

**TABLE. 2**

Reason	Observed Frequency(O)	Expected frequency	(O - E) <sup>2</sup> / E
Inflation	50	20	(50-20) <sup>2</sup> / 20 = 45.0
Interest Rate	13	20	(13-20) <sup>2</sup> / 20 = 2.45
Stock Market Trends	18	20	(18-20) <sup>2</sup> / 20 = 0.2
Geopolitical Wars	10	20	(10-20) <sup>2</sup> / 20 = 5.0
Supply & Demand	9	20	(9-20) <sup>2</sup> / 20 = 6.05
Total $\chi^2$			58.7

Let us apply Chi Square Test to test the hypothesis and assume the significance level would be 5% 0.05.

## Chi Square Test

The Chi Square statistic is calculated using the formula

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

O = Observed frequency (actual data)

E = Expected frequency (theoretical value)

$\Sigma$  = Summation across all categories or groups

Degrees of Freedom (df) : Number of categories - 1 = 5 - 1 = 4

Level of Significance ( $\alpha$ ) : 0.05

Chi-square Critical Value ( $\chi^2_{0.05, 4}$ )

Calculated Chi-square Value

Critical Value (at  $\alpha = 0.05$ )

Critical value for df = 4,  $\alpha = 0.05$  is 9.488

Conclusion

$$\chi^2 = 58.7 > 9.488$$

We reject the null hypothesis.

Calculated Value > Critical Value

Since, the calculated Chi-square value (58.7) is less than the critical value (9.488), we reject the null hypothesis at 0.05 level of significance. Therefore, there is significant difference between observed and expected value. There is no significant macroeconomic indicators (such as inflation, interest rates, exchange rates, and geopolitical events) and gold price fluctuations.

**Findings:** The study found that the majority of respondents were in the 26–35 age group, which was categorized as the medium age group. This indicates that individuals in this age range were more actively engaged in the subject of the study. The findings suggested a strong interest or belief in gold as an investment among the surveyed population. Many respondents considered gold to be a reliable and valuable asset. The data indicated a strong preference for traditional investment forms, especially physical gold. Although there was some interest in digital gold investments such as ETFs, options like Gold Mutual Funds and Sovereign Gold Bonds were less favoured. This trend highlighted a limited diversification in investment choices among respondents. Further research was suggested to explore the reasons behind these preferences and identify strategies to encourage more diversified portfolios. The data suggested that inflation was the most influential factor affecting gold prices, followed by stock market trends and interest rates. Respondents appeared to associate rising inflation with increased gold value. Stock market fluctuations and changes in interest rates were also seen as significant, but secondary, influences. These insights underscored the perceived role of macroeconomic conditions in shaping gold investment decisions. The survey data and analysis suggested that global events significantly influenced gold prices, with the Covid-19 pandemic having the most substantial impact in recent years. Other factors, such as trade wars, U.S. monetary policy, and geopolitical tensions, also played a key role in shaping gold price movements.

**Suggestion:** Further research was suggested to explore the reasons behind the strong interest in gold as an investment and identify strategies to encourage diversification in investment portfolios, particularly in digital gold and less favored options like Gold Mutual Funds and Sovereign Gold Bonds. It was recommended that investors consider inflation, stock market trends, and interest rates as key macroeconomic indicators when making gold investment decisions, as these factors appeared to significantly influence gold prices. A more in-depth analysis of global events and their impact on gold prices was suggested, particularly in understanding how major events like the Covid-19 pandemic, trade wars, and geopolitical tensions shape market behavior. Future studies could focus on the role of economic instability in driving gold investments during times of crisis and explore the ongoing validity of gold as a safe-haven asset in light of current economic indicators and forecasts. It was recommended that investor behavior toward gold be analyzed in the context of other demographic and investment-related variables to better understand the long-standing preference for gold as a secure and traditional investment.

## 6. CONCLUSIONS

The analytical study of gold price fluctuations concluded that the movement of gold prices was intricately linked to a variety of economic, geopolitical, and market-driven factors. It was observed that gold often acted as a safe-haven asset during times of economic uncertainty, with significant price increases occurring during periods of inflation, financial instability, or global crises. The study identified inflation as a key driver, with rising prices often leading investors to turn to gold as a hedge against diminishing purchasing power. Additionally, stock market trends and interest rates were found to influence gold prices, as fluctuations in these areas often prompted shifts in investor sentiment and demand for gold. Global events, such as the Covid-19 pandemic, trade wars, and geopolitical tensions, were also highlighted as major contributors to price volatility, with these factors inducing uncertainty in financial markets and

further increasing the demand for gold. The study underscored that while gold remained a preferred investment choice during turbulent times, its price was not solely driven by traditional economic factors but also by market speculation and cultural significance. As a result, the analysis concluded that gold prices fluctuated in response to a complex interplay of macroeconomic conditions, investor behavior, and global events, making it a dynamic and often unpredictable asset in investment portfolios.

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