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Article

MODERN VS. TRADITIONAL GOLD INVESTMENTS IN INDIA

Ms. Shyamala Krishnamurthy*[1], Dr. Vanathi Vembar[2], Dr. Siddhartha Bhattacharya[3]

[1*]Research Scholar, Annamalai University, & India Adjunct Professor, Webster University, Email: shyamalankm@gmail.com
[2]Professor, Department of Business Administration, Annamalai University, Chidambaram, India
[3]Professor, Bandhan School of Business, West Bengal, India

Abstract: Sovereign Gold Bonds (SGBs) have gained popularity in India as a secure, government-backed investment alternative to physical gold and Gold Exchange-Traded Funds (ETFs). While all three options—SGBs, Gold ETFs, and physical gold—serve the same fundamental purpose of providing exposure to gold, they differ significantly in terms of structure, returns, risks, costs, and liquidity. This study evaluates the comparative performance of SGBs, physical gold, and Gold ETFs in terms of returns, volatility, and risk-adjusted metrics. Using historical data from 2015—the year SGBs were introduced—to the present, this research examines annualized returns, volatility (measured by standard deviation), and Sharpe ratios for these investment options. The study aims to assess whether SGBs offer superior financial benefits over traditional gold investments by considering factors such as capital appreciation, periodic interest payments, and tax advantages. Additionally, it explores the role of Gold ETFs as a liquid and accessible investment alternative. The research methodology involves statistical analysis of market performance data to identify trends and risk-return trade-offs. Findings indicate that SGBs provide competitive returns compared to physical gold, while also offering additional advantages such as exemption from capital gains tax upon maturity. These insights can guide investors in making informed portfolio decisions based on their risk tolerance and investment objectives. The study underscores SGBs' potential as a strategic investment option within a diversified financial portfolio.
Keywords: Sovereign Gold Bonds, Investments, Investment Performance, Personal Finance, Portfolio Management, Alternative Investments

1. INTRODUCTION

Gold has been a cornerstone of wealth preservation and investment for centuries. Investors today can choose among various gold investment instruments, each with unique advantages and limitations. SGBs, physical gold, and Gold ETFs represent three prominent forms of investment in gold. Gold has long been considered a store of value and a hedge against inflation, making it a popular choice for investors looking to protect their wealth in times of economic uncertainty.

In India, where gold holds significant cultural and economic importance, various investment instruments linked to gold have emerged. The introduction of Sovereign Gold Bonds (SGBs) by the Government of India in 2015 was aimed at reducing physical gold imports and providing a safer, interest-earning alternative for retail investors. SGBs offer benefits like interest payments (2.75% per annum) and capital gains, while being backed by the Indian government. On the other hand, Gold Exchange-Traded Funds (ETFs) provide exposure to gold prices through the stock market, offering liquidity and ease of trading. Physical gold remains a popular investment choice due to its tangible form and cultural value, despite the risks associated with storage and high transaction costs. Gold has traditionally been considered a safe-haven asset, providing a shield against inflation, currency depreciation, and economic instability. Its low correlation with other asset classes, such as equities and fixed-income securities, makes it a valuable component of a diversified portfolio. To address these issues, modern financial instruments like SGBs

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and Gold ETFs haveGold as an Asset Class emerged, offering investors a more convenient and secure way to gain exposure to gold. This paper evaluates these instruments based on financial performance, convenience, and suitability.

1.1 Rise of Gold Investment Alternatives

The Indian government introduced Sovereign Gold Bonds in 2015 as a part of its broader initiative to reduce the demand for physical gold and curb imports, which significantly impact the country's current account deficit. SGBs are government-backed securities denominated in grams of gold, offering periodic interest payments and the flexibility of redemption at market value. In contrast, Gold ETFs, which were introduced in India in 2007, are financial instruments traded on stock exchanges that track the price of gold and provide investors with an easy way to invest in gold without owning it physically. Both these instruments aim to offer returns linked to gold prices while addressing the practical challenges associated with holding physical gold.

1.2 Importance of Comparative Analysis

While all three options—SGBs, Gold ETFs, and physical gold—serve the same fundamental purpose of providing exposure to gold, they differ significantly in terms of structure, returns, risks, costs, and liquidity. SGBs offer the unique advantage of fixed interest payments in addition to potential capital appreciation, making them an attractive choice for long-term investors. Gold ETFs provide liquidity and flexibility as they can be traded on stock exchanges, but they come with expense ratios and brokerage fees. On the other hand, physical gold, despite its cultural and emotional appeal, involves issues such as making charges, purity concerns, and storage costs.

This comparative analysis is crucial for understanding which investment option is most suitable under various economic conditions and investor preferences. Factors such as

investment horizon, risk tolerance, liquidity needs, and cost considerations play a vital role in determining the optimal choice for investors. Moreover, the performance of these instruments is influenced by macroeconomic variables, including inflation, interest rates, and gold price fluctuations, making it essential to evaluate their correlation with these factors.

1.3 Research Objectives

The primary objective of this research is to provide a comprehensive comparison of Sovereign Gold Bonds, Gold ETFs, and Physical Gold in terms of their performance and suitability for different types of investors. The study aims to:

- Evaluate Performance Metrics: Analyze the returns, volatility, and risk-adjusted performance of SGBs, Gold ETFs, and physical gold using historical data. Compare the returns of Sovereign Gold Bonds, physical gold, and Gold ETFs over the period from 2015 to the present.
- Examine Cost Structures: Assess the costs associated with each investment option, including storage costs for physical gold, expense ratios for Gold ETFs, and the opportunity cost of holding SGBs.
- Explore Macroeconomic Correlations: Investigate the relationship between these gold investment options and inflation.
- Risk Analysis: Analyze the risk characteristics of these three investment options using standard deviation (volatility), Sharpe ratio, and maximum drawdown.
- Recommendations: Provide recommendations for investors based on risk and return profiles.

1.4 Significance of the Study

This study is significant for several reasons. First, it addresses a key knowledge gap by providing a detailed comparative analysis of the three most common forms of gold investment in India. While physical gold has been the

traditional choice for centuries, SGBs and Gold ETFs represent modern alternatives that have gained traction in recent years.

Understanding their relative advantages and disadvantages is essential for informed investment decision-making.Second, the findings of this research have practical implications for policymakers, financial advisors, and individual investors. Policymakers can use the insights to refine their strategies for promoting gold investment instruments that align with national economic goals, such as reducing reliance on physical gold imports. Financial advisors can better guide their clients by understanding the nuances of each investment option, while individual investors can make more informed decisions based on their financial objectives and risk tolerance.

Finally, the study contributes to the broader literature on alternative investments and portfolio diversification. Gold has consistently been a reliable hedge against economic uncertainty, and the emergence of innovative investment instruments like SGBs and Gold ETFs adds a new dimension to its role in investment portfolios. By analyzing the comparative performance of these options, this research enhances our understanding of how investors can optimize their exposure to gold.

2. LITERATURE REVIEW

2.1 Sovereign Gold Bonds (SGBs)

Bajpai and Jain (2017) provide a comprehensive overview of sovereign gold bonds, highlighting their introduction as an innovative financial instrument aimed at reducing the reliance on physical gold in India. The study emphasizes the dual benefits of SGBs, which include regular interest income and potential capital appreciation. The authors argue that SGBs have the potential to promote financial inclusion and channelize household savings into productive investments. However, the authors also identify challenges such as limited awareness and liquidity constraints as barriers to widespread adoption.

Batra and Sharma (2019) extend this analysis by examining the efficacy of SGBs as an investment tool. Their findings indicate that SGBs offer a safer and more profitable alternative to physical gold, particularly in terms of long-term wealth creation. The study underscores the tax advantages of SGBs and their resilience to market volatility, positioning them as a strategic option for conservative investors. However, the authors note that liquidity issues persist, which could deter more active investors.

2.2 Comparison of Gold Investment Options

Bhattacharya and Ghosh (2016) offer insights into the investment potential of SGBs, describing them as a strategic tool for reducing the economic strain caused by excessive imports of physical gold. Their work underscores the importance of SGBs in stabilizing the domestic gold market and providing a secure alternative to traditional gold investments. The authors advocate for increased government initiatives to improve investor confidence in these instruments.

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Numerous studies have compared the returns and risks associated with different gold investment vehicles. A study by Ghosh et al. (2020) compared physical gold, Gold ETFs, and SGBs, concluding that SGBs tend to offer better risk-adjusted returns due to their interest component, while physical gold tends to outperform in the long run, particularly during periods of high inflation.

Gupta and Reddy (2021) delve into a comparative study of gold ETFs, physical gold, and SGBs. The authors argue that while physical gold remains a preferred choice for cultural and emotional reasons, gold ETFs and SGBs are gaining traction due to their convenience and cost-efficiency. Gold ETFs, in particular, stand out for their liquidity and suitability for short-term investment goals. However, the study asserts that SGBs are better suited for long-term investors seeking stable returns and additional income streams through interest payments.

Sharma and Singh (2018) concentrate on gold ETFs, describing them as a liquid and cost-effective alternative to physical gold. Their research points out that gold ETFs eliminate storage costs and reduce transaction risks, making them attractive for urban investors.

However, the authors emphasize that the absence of interest income, as seen in SGBs, could limit their appeal to conservative investors.

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2.3 Risk and Return Comparisons

Baur and Lucey (2010) investigate the role of gold in investment portfolios, categorizing it as both a hedge against inflation and a safe haven during economic crises. Their analysis suggests that gold's unique characteristics make it an indispensable component of diversified portfolios, particularly in turbulent financial periods. This foundational understanding provides context for evaluating the relative performance of gold-based investment products.

Sharma (2019) extends this line of inquiry by examining the volatility and risk-adjusted returns of gold-based investments in India. The findings reveal that while gold ETFs exhibit higher liquidity and moderate volatility, SGBs provide superior risk-adjusted returns due to their interest component. This evidence reinforces the notion that SGBs are well-suited for long-term investors.

Ghosh and Kumar (2020) focus on the risk-return profiles of various gold-based investment instruments, including physical gold, SGBs, and gold ETFs. Their comparative analysis reveals that SGBs and gold ETFs provide relatively higher returns with lower associated risks compared to physical gold. The study highlights that while SGBs offer a guaranteed interest rate, gold ETFs provide better liquidity, making them suitable for different investor profiles. They conclude that a combination of these instruments can optimize portfolio performance.

Kumar and Gupta (2020) present a quantitative analysis of the impact of SGBs on financial portfolios. Their study demonstrates that incorporating SGBs into portfolios enhances overall stability and reduces exposure to market volatility. The authors emphasize the complementary role of SGBs in achieving long-term financial goals alongside other traditional investments. Vigneshwaran et al., (2021) To balance the demands of the home and the workplace, policies and practices are referred to as having a work-life balance. work life balance issues have reduced the work performance Vigneshwaran et al. (2022) Vigneshwaran, M. D., & Mohankumar, S. (2020) This intermediary position is further justified by the results that job

3. RESEARCH METHODOLOGY

3.1 Overview

The study employs a quantitative approach to evaluate the performance and characteristics of Sovereign Gold Bonds, Gold ETFs, and physical gold. Historical data from 2015, the launch year of SGBs, to the present is used to calculate key performance metrics, including annualized returns, standard deviation (volatility), and Sharpe ratios. Additionally, cost structures, liquidity, and accessibility factors are examined to provide a holistic comparison of these

investment options. The correlation between these instruments and macroeconomic variables, such as inflation and gold prices, is also analyzed to identify trends and patterns.

3.2 Data Collection

The study uses historical data from 2015 to 2024 for the following assets:

Sovereign Gold Bonds: Closing prices for SGBs issued by the Government of India from 2015 to the present.

Physical Gold: Daily closing prices of 10g of 24K gold in the Indian market (obtained from MCX or the Indian Bullion Jewellers Association).

Gold ETFs: Historical data for major Gold ETFs listed on the National Stock Exchange (NSE), such as the Nippon India Gold ETF and SBI Gold ETF.

Parameters such as return on investment, costs (purchase, storage, and management), liquidity, safety, and tax treatment are compared. Statistical analysis, including compound annual growth rate (CAGR), volatility analysis, and risk-adjusted returns (Sharpe Ratio), is performed to provide quantitative insights.

3.3 Comparative Parameters with Data Tables

A. Returns and Volatility Table:1

Instrument	Average Annual Return (2015-2024)	CAGR (%)	Standard Deviation (Volatility)
Sovereign Gold Bonds	11.12%	12.83%	13.36%
Physical Gold	8.48%	10.98%	9.50%
Gold ETFs	10.6%	10.87%	10.32%

Average Annual Returns:

- SGBs (11.12%) offer the highest returns, making them the best choice for long-term investors who want to maximize gains.
- Gold ETFs (10.6%) provide slightly lower returns than SGBs, but they offer more liquidity and flexibility.
- Physical gold (8.48%) has the lowest returns making them less rewarding investment compared to the other two.

The comparison for the Annual returns of Physical Gold, SGB, ETF is graphically represented:

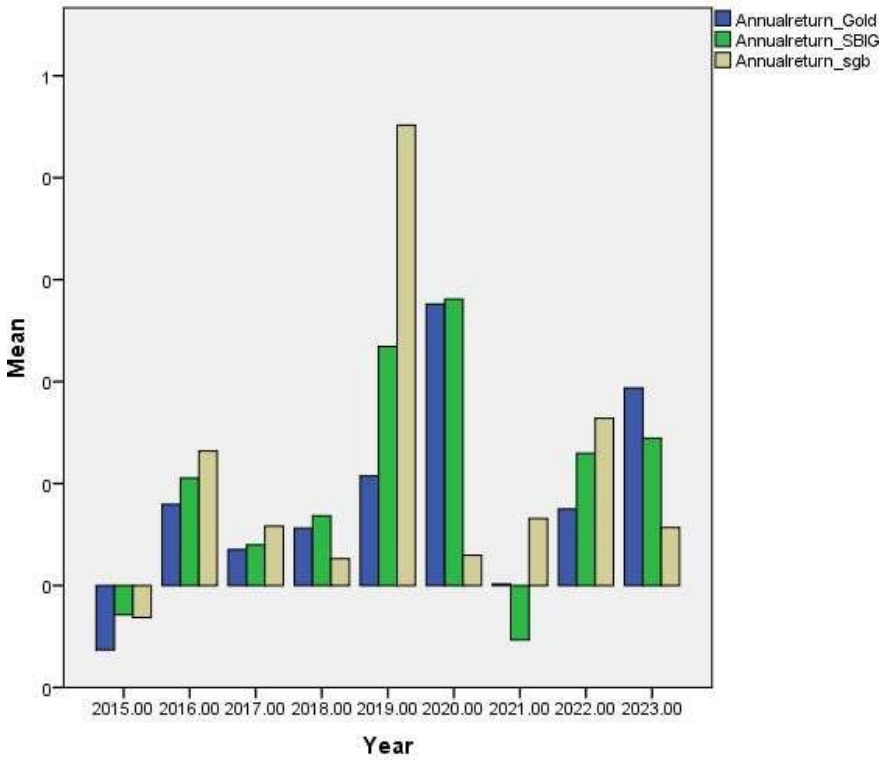


Figure:1

CAGR:

- SGBs (12.83%) have the highest CAGR, meaning they have delivered the best long-term compounded growth. This makes them ideal for investors willing to stay invested for an extended period.
- Physical Gold (10.98%) show strong growth, slightly lower than SGBs but still a solid choice, especially for those who prefer liquidity.
- Gold ETFs (10.87%) have the lowest CAGR, indicating they grow at a slower pace compared to the other two but offer stability.

Volatility:

Risk Assessment:

- SGBs are the most volatile (13.36%), meaning their prices fluctuate the most among the three.
- Physical Gold is the least volatile (9.50%), making it the most stable investment.
- Gold ETFs fall in between (10.32%), offering a balance of risk and stability.

Stability:

- If you prefer stability → Physical Gold is the safest. If you want liquidity + moderate risk → Gold ETFs offer flexibility. If you are okay with higher fluctuations for potential higher gains → SGBs is a good option.

B. Sharpe Ratio Analysis Table:2

Instrument	Sharpe Ratio

Sovereign Gold Bonds	0.788509537
Physical Gold	0.887589832
Gold ETFs	1.061046512

Interpretation:

- Gold ETFs (1.0610) have the highest Sharpe Ratio, meaning they offer the best risk-adjusted returns. This suggests they are the most efficient investment in terms of return relative to volatility.
- Physical gold (0.8876) rank second, indicating a good balance between returns and risk but slightly less efficient than Sovereign Bonds.
- SGBs (0.7885) have the lowest Sharpe Ratio, implying they are the least efficient in terms of risk-adjusted returns despite having the highest absolute returns

Correlation with Inflation and Gold Prices Table:3

Asset Class	Correlation with Inflation	SGB	Physical Gold	Gold ETFs
	SGB	1	0.135	0.181
	Physical Gold	0.135	1	0.843
	Gold ETFs	0.181	0.843	1

Correlation with Inflation

- Sovereign Gold Bonds (SGB) – 1: The value "1" likely indicates that SGBs have a perfect correlation with themselves, which is expected.
- Physical Gold – 0.135: A low correlation suggests that physical gold does not have a
- strong direct relationship with inflation. This means that while gold is often considered an inflation hedge, its price does not always move in lockstep with inflation.
- Gold ETFs – 0.181: Gold ETFs have a slightly higher correlation with inflation than physical gold, but it remains weak. This suggests that while they react to inflation, other factors such as market trends and liquidity also influence their prices.

Correlation Between Gold Assets

- Physical Gold & Gold ETFs – 0.843: A high positive correlation indicates that physical gold and Gold ETFs move in tandem. This is expected since Gold ETFs are designed to track gold prices.
- SGB & Physical Gold – 0.135: A weak correlation suggests that SGB prices do not always follow the same movement as physical gold. This might be due to factors such as fixed interest payments on SGBs, liquidity constraints, or government policies.
- SGB & Gold ETFs – 0.181: The correlation is slightly higher than with physical gold but still weak. Gold ETFs are traded on exchanges and influenced by market demand, while SGBs have a fixed interest component, making their price behavior different.

4. CONCLUSION:

*Sovereign Gold Bonds (SGBs) offer the highest average returns (11.12%) and CAGR (12.83%), but they also come with the highest volatility (13.36%) and the lowest Sharpe ratio (0.7885), indicating lower risk-adjusted returns.

*Physical gold is the most stable option with the lowest volatility (9.50%), moderate returns (8.48%), and a Sharpe ratio of 0.8876, providing better risk-adjusted performance than SGBs.

*Gold ETFs strike the best balance, with returns (10.6%), CAGR (10.87%), moderate volatility (10.32%), and the highest Sharpe ratio (1.0610), making them the most efficient in terms of risk-adjusted returns.

*SGBs are ideal for long-term investors seeking high returns despite fluctuations, physical gold is best for stability, and Gold ETFs offer a middle ground with superior risk-adjusted performance and liquidity.

1Ms. Shyamala Krishnamurthy,2 Dr. Vanathi Vembar, 3 Dr. Siddhartha Bhattacharya

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