Inflation-Adjusted Return Comparison of Sovereign Gold Bonds with Alternative Investment Avenues: A Decadal Analysis (2015–2024)



Anitha B. M. Dsilva, J. Sujan, and Purushottam Bung

Abstract Sovereign gold bond (SGBs) is government—backed securities introduced as an alternative to physical gold investments. Issued by the Reserve Bank of India (RBI) on behalf of the Government of India, these bonds are denominated in grams of gold and linked to the domestic market price of gold with 999 purity. The scheme was launched on November 5, 2015, following its announcement in the Union Budget 2015–16 and subsequent Cabinet approval. This study investigates the real, inflation-adjusted performance of Sovereign Gold Bonds (SGBs) in comparison to Gold Exchange-Traded Funds (ETFs), Nifty 50 equities, and Fixed Deposits (FDs) over a 10-year period from 2015 to 2024. With the rising preference for paper and digital gold in the Indian financial landscape, the study critically assesses whether SGBs deliver superior inflation-hedged returns and outperform traditional investment instruments. The research is grounded in a quantitative framework, drawing from secondary data sources including the Reserve Bank of India, ET Money, and historical inflation databases. Real returns are derived using the Consumer Price Index (CPI) and measured through Compound Annual Growth Rate (CAGR) calculations. The analysis reveals that while SGBs offer a unique combination of capital appreciation and semi-annual interest payouts, their performance is closely matched by Gold ETFs and equities in bullish market conditions. The study is motivated by the rising adoption of SGBs among Indian investors and the need to examine their comparative utility against traditional and modern investment avenues. Employing a quantitative and descriptive research design, the study draws entirely on secondary data sourced from reputable platforms such as the Reserve Bank of India (RBI), ET Money, Prime Investor, Investing.com, GoodReturns.in, and InflationTool.com. The real returns for each investment class were calculated by adjusting nominal returns using the Consumer Price Index (CPI) to account for inflationary erosion in purchasing power. Compound Annual Growth

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Rate (CAGR) was employed to measure long-term average returns, ensuring a standardized comparison across diverse asset classes.

Keywords Sovereign gold bonds (SGB) · Gold ETFs · Nifty 50 · Inflation-adjusted returns · Compound annual growth rate (CAGR)

1 Introduction

In today's modern world buying gold isn't just about wearing it—it's about growing the wealth. With changing lifestyles, the risks and downsides of owing physical gold (like jewelry or coins) are becoming more obvious. Things like theft, damage, high making charges, wastage, and taxes can eat into the actual value you get. Gold now comes in many forms:

- Physical Gold—Jewelry, coins, bars
- Paper/ Digital Gold—Gold ETFs, Digital Gold, and Sovereign Gold Bonds (SGBs)

Among all these, Sovereign Gold Bonds (SGBs) stand out, backed by the government, they not only track the price of gold but also give an extra interest—something no other gold investment offers.

2 Sovereign Gold Bond Scheme

SGBs serve dual purpose of capital appreciation and fixed income, offering a 2.5% annual simple interest payable semi-annually. Eligible investors include resident individuals, Hindu undivided families (HUFs), trusts, charitable institutions, and universities, as per the Foreign Exchange Management Act (FEMA), 1999 minors are also permitted to invest through a legal guardian. Investors who became non-residents after purchase may continue to hold the bonds until maturity or premature redemption. The bonds are issued in multiples of 1 g, with individual investors allowed to subscribe up to 4 kg per financial year, and entitles such as trusts up to 20 kg. Through dematerialization is optional, investors may hold the bonds either in paper form or in Demant accounts. The issue price is determined based on the average closing price of gold (999 purity) over the preceding three business days before the subscription period, as published by the Indian Bullion and Jewellers Association (IBJA), while redemption value is similarly calculated before maturity or early redemption. Except for the annual maintenance charges in case it is held in demat mode, there are no storage costs involved. It's zero for physical certificates. In buying physical gold, there is always the probability of impurities.

3 Current Status of SBI Bonds

The Reserve Bank of India (RBI) currently holds 879 tonnes of gold, which is 11.5% of its total foreign exchange reserves—the highest level ever. This shows that the government and RBI are under great financial pressure due to the SGB scheme. Till April 2025, the government was required to pay Rs 67,322 crore — that is, the total value of all the gold bonds issued so far. According to Minister of State for Finance Pankaj Chaudhary, the total liability of 130 tonnes of gold bonds issued till March 20, 2025 has become Rs 67,322 crore According to the budget documents, the government's SGB liability was Rs 6664 crore in 2017–18, which increased to Rs 68,598 crore in 2023–24 — a huge increase of 930%. So far, the government has issued gold bonds equivalent to 147 tonnes of gold.

As of April 2025, the Government of India has raised approximately ₹72,274 crore through the issuance of Sovereign Gold Bonds (SGBs) since the scheme's inception in November 2015,but in the current situation, the government's liability has reached 132 tonnes Rs 1.2 lakh crore or $13 billion). These bonds will mature by 2032, meaning the government will have to face more financial pressure in the coming years. When the first gold bond came in November 2015, the price of gold was Rs 2500/g. But today it has gone up to more than Rs 9300/g—an increase of nearly 4 times.

4 Literature Review

Saleem and Khan [1] illustrated the risk-mitigation potential of Gold Exchange-Traded Funds (ETFs), highlighting their tax efficiency and role in diversifying investment portfolios. Priti Aggarwal [2] emphasized the importance of monetizing idle gold to boost economic productivity but noted a strong cultural resistance to moving away from physical gold among Indian investors. Pullen, Benson, and Faff [3] reinforced the hedging and diversification benefits of gold-backed investment instruments, particularly during inflationary periods. Adhana [4] accentuated that SGB plans might make a difference in decreasing Current Account Deficit (CAD) in case they are executed powerfully policy and infrastructure support. This macro-economic prism was replicated by Singh et al. [5], who proposed that the gold policies are to be framed without reference to CAD concerns. Avabruth [6] said that the emotional association with gold was a higher determinant to the success of SGBs than financial returns although, SGBs were more secure and had high returns than physical ETFs and gold. On a more localised setting, the behaviour of investors was investigated by George Varghese [7]. In 2016, it paid more attention to the micro-economic reasons to invest in gold.

Arora [8] examined the investor behaviour and found out poor awareness and average acceptance of SGBs as compared to the traditional gold investments. Rashmi Chaudhary [9] added further, the emotional attachment towards the

physical gold also remained. a dominant effect in household investment choice that can supplant financial rationality. Rathore [10] confirmed the results of Arora, providing a low level of awareness and moderate acceptance of SGBs. Chaudhary [11] also discussed the emotional and cultural aspect of investment in gold. Sunkara et al. [12] have compared the various investment alternatives in gold. They found out that despite the fact that SGBs are superior when it comes to monetary benefits and safety, they may not suit everyone due to a variety of incomes and liquidity preferences. Nargunam and Anuradha [13] made potshots at the Indian the market of Gold ETF, showing that the latter are promising, nevertheless, inefficient in terms of price discovery. Instruments. Thakkar et al. [14] highlighted an enormous divide in the mind of the people familiarity with some of the more recent gold investment vehicles, specifically ETFs and e-gold, noting that more awareness should be created.

Sudindra and Naidu [15] reinstated that although SGBs beat the alternatives in the gold investment options in regards to the returns and safety, they are not be universally desired since they have diverse income and liquidity requirements. Kumar [16] implemented use quantitative models, such as alpha and correlation analysis, in comparing Gold ETFs and physical. Gold. He inferred that ETFs often provide more stable returns and have lesser risks associated and from physical safeguarding. Mishra and Mohapatra [17] further endorsed Gold ETFs as valuable tools for diversified portfolios, especially given their effectiveness in hedging against market volatility. Verma et al. [18] found that Indian households tend to prefer SGBs and Gold Monetization Schemes for their assured returns, while ETFs are favoured for long-term trading and efficiency.

5 Research Objectives

The present study is undertaken with the following objectives:

- To study the conceptual framework of the sovereign Gold Bond (SGB) scheme.
- To compare the real (inflation—adjusted) returns of Sovereign Gold Bonds with those of equities that is NIFTY 50, fixed deposits (FDs), and Gold ETFs during 10 year period.
- To analyse the inflation—adjusted returns of sovereign Gold Bonds over a specified historical period and asses their effectiveness.

6 Research Gap

Despite the increasing popularity of alternative gold investments like Sovereign Gold Bonds (SGBs) and Gold ETFs, there is a notable deficiency in existing academic literature when it comes to comprehensive comparative analysis of real

(inflation-adjusted) returns across major investment avenues in India. While previous studies have explored the macroeconomic role of SGBs, investor behaviour, and general performance of gold-related instruments, most of them focus on nominal returns, which do not reflect the true purchasing power or long-term investment value. This presents a significant gap, as inflation erodes returns and can substantially alter the financial attractiveness of an investment over time.

Furthermore, there is limited research directly comparing SGBs with other asset classes like Nifty 50 equities and Fixed Deposits in terms of real returns over a sufficiently long period (2015–2024). The lack of inflation-adjusted return comparisons across these four key instruments—SGBs, Gold ETFs, equities, and FDs—creates a blind spot for investors and policymakers seeking data-driven decisions about capital allocation, portfolio diversification, and inflation hedging. Therefore, this study fills that gap by systematically calculating and comparing CAGR and real returns (after adjusting for Consumer Price Index) over a 10-year period, offering a much-needed empirical foundation for evaluating the true financial performance.

7 Research Methodology: Research Design

The study adopts a quantitative and comparative research design to evaluate the historical inflation-adjusted performance of Sovereign Gold Bonds (SGBs) in comparison with NIFTY 50, Fixed Deposits and Gold ETFs. The research is descriptive in nature and utilizes secondary data to assess long term investment performance and inflation hedging capacity.

7.1 Data Collection

The study relies on secondary data collected from credible and publicly available sources. Historical SGB issue and redemption prices for matured bonds are taken from the Reserve Bank of India (RBI), and the redemption prices for non-matured bonds have been taken from the goodreturns.in., Equity returns are obtained from primeinvestor.in, The SBI Gold ETF has been taken from ET money and investing.com, fixed deposits are taken from the leading banks, finally the inflation data has been taken from the infaltiontool.com.

7.2 Period of Study

The performance analysis is conducted over a specified historical period i.e., 10 years, from 2015 to the most recent complete financial year FY2024. This ensures consistent availability of data across all investment classes for meaningful comparison.

7.3 Data Analysis Techniques

The following financial metrics and techniques are used for analysis:

- Inflation adjustment: all returns are adjusted for inflation using the consumer price index (CPI) to derive real returns.
- Compound Annual Growth Rate (CAGR): used to measure average annual returns of each investment class over the study period
- CAGR = [Ending value / Beginning Value] $1/n - 1$
- The gold rate as on 2nd April 2025 is considered for calculation of CAGR and Absolute returns

7.4 Data Analysis

The Sovereign Gold Bonds (SGBs) have consistently outperformed traditional investments like fixed deposits (FDs) and ETFs in terms of real returns. Even after adjusting for inflation, SGBs delivered higher Compound Annual Growth rates. (CAGR) which is explained in the Table 1 below:

7.4.1 Inflation Rate for Past 10 Years from 2015 to 2024

The Table 2 represents the inflation rates from 2015 to 2024 .It reflects both sharp spikes and gradual declines, offering insights into inflationary trends and potential influencing factors during this period (Fig. 1).

7.4.2 Historical Past 10 Years Performance of SBI Gold ETF

SBI gold ETF year on year returns from 2015 to 2024 has been shown in the Table 3. The data shows **nominal returns** (before adjusting for inflation) and **real returns** (after adjusting for inflation) over the last 10 years. This comparison helps assess how much actual value or purchasing power an investor gained or lost each year (Fig. 2).

Table 1 Showing the inflation-adjusted return comparison of sovereign gold bonds

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2023–24	SGBFEB32IV	IV	6263	8663	Feb-32	1.1	38.32%	34%	3.53%	30.77%	Equity- 5.22%, FD- 2.47%, ETF- 9.68%
2023–24	SGBDE31III	III	6199	8663	Dec-31	1.3	39.75%	29%	3.53%	25.83%	Equity- 5.22%, FD- 2.47%, ETF- 9.68%
2023–24	SGBSEP31II	II	5923	8663	Sep-31	1.4	46.26%	31%	3.53%	27.67%	Equity- 5.22%, FD- 2.47%, ETF- 9.68%
2023–24	SGBJLIN31I	I	5926	8663	Jun-31	1.9	46.19%	22%	3.53%	18.59%	Equity- 5.22%, FD- 2.47%, ETF- 9.68%
2022–23	SGBMAR31IV	IV	5611	8663	Mar-31	2.1	54.39%	23%	4.91%	18.07%	Equity- 14.51%, FD- 0.99%, ETF - 9.32%
2D22–23	SGBDIE30III	III	5409	8663	Dec-30	2.3	60.16%	23%	4.91%	17.82%	Equity- 14.51%, FD- 0.99%, ETF - 9.32%
2022–23	SGBAUG30	II	5197	8663	Aug-30	2.6	66.69%	22%	4.91%	16.81%	Equity- 14.51%, FD- 0.99%, ETF - 9.32%
2D22–23	SGBJUN30	I	5091	8663	Jun-30	2.9	70.16%	20%	4.91%	15.21%	Equity- 14.51%, FD- 0.99%, ETF - 9.32%
2021–22	SGBMAR30X	X	5109	8663	Mar-30	3.1	69.56%	19%	5.50%	13.07%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%

(continued)

Table 1 (continued)

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2021–22	SGBJAN30IX	IX	4786	8663	Jan-30	3.2	81.01%	20%	5.50%	14.87%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2021–22	SGBD29VIII	VIII	4791	8663	Dec-29	3.3	80.82%	20%	5.50%	14.16%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2021–22	SGBNV29VII	VII	4761	8663	Nov-29	3.4	81.96%	19%	5.50%	13.75%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2021–22	SGBSEP29VI	VI	4732	8663	Sep-29	3.6	83.07%	18%	5.50%	12.79%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2021–22	SGBAUG29V	V	4790	8663	Aug-29	3.7	80.86%	17%	5.50%	11.87%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2021–22	SGBJUL29IV	IV	4807	8663	Jul-29	3.7	80.22%	17%	5.50%	11.76%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2021–22	SGBJU29III	III	4889	8663	Jun-29	3.9	77.19%	16%	5.50%	10.30%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2021–22	SGBJUN29II	II	4842	8663	Jun-29	3.9	78.91%	16%	5.50%	10.59%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2021–22	SGBMAY29I	I	4777	8663	May-29	4	81.35%	16%	5.50%	10.55%	Equity- (−1.18%), FD- (−0.15%), ETF - 7.07%
2020–21	SGBMR29XII	XII	4662	8663	Mar-29	4.1	85.82%	16%	5.56%	10.75%	Equity- 18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBFEB29XI	XI	4912	8663	Feb-29	4.2	76.36%	14%	5.56%	8.90%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBJAN29X	X	5104	8663	Jan-29	4.2	69.73%	13%	5.56%	7.86%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBJAN29IX	IX	5000	8663	Jan-29	4.3	73.26%	14%	5.56%	8.07%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBN28VIII	VIII	5177	8663	Nov-28	4.4	67.34%	12%	5.56%	6.85%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBOC28VII	VII	5051	8663	Oct-28	4.5	71.51%	13%	5.56%	7.18%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBSEP28VI	VI	5117	8663	Sep-28	4.7	69.30%	12%	5.56%	6.29%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)

(continued)

Table 1 (continued)

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2020–21	SGBAUG28V	V	5334	8663	Aug-28	4.8	62.41%	11%	5.56%	5.07%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBJUL28IV	IV	4852	8663	Jul-28	4.9	78.54%	13%	5.56%	7.00%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBJUN28	II	4677	8663	Jun-28	4.9	85.23%	13%	5.56%	7.85%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBMAY28	II	4590	8663	May-28	5	88.74%	14%	5.56%	7.99%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2020–21	SGBAPR28I	I	4639	8663	Apr-28	5	86.74%	13%	5.56%	7.74%	Equity-18.56%, FD- (−0.21%), ETF - (−10.16%)
2019–20	SGBMAR28X	X	4260	8663	Mar-28	5.1	103.36%	15%	3.69%	11.24%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBFEB28IX	IX	4,Q7D	8663	Feb-28	5.2	112.85%	16%	3.69%	11.95%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBJ28VIII	VIII	4016	8663	Jan-28	5.2	115.71%	16%	3.69%	12.24%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBDC27VII	VII	3795	8663	Dec-27	5.3	128.27%	17%	3.69%	13.16%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBOCT27VI	VI	3835	8663	Oct-27	5.4	125.89%	16%	3.69%	12.60%	Equity-11.21%, FD- 2.71%, ETF - 22.5%

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2019–20	SGBOCT27	V	3788	8663	Oct-27	5.5	128.70%	16%	3.69%	12.54%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBSEP27	IV	3890	8663	Sep-27	5.6	122.70%	15%	3.69%	11.68%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBAUG27	III	3499	8663	Aug-27	5.6	147.59%	18%	3.69%	13.88%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBJUL27	II	3443	8663	Jul-27	5.7	151.61%	18%	3.69%	13.88%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2019–20	SGBJUN27	I	3196	8663	Jun-27	5.8	171.06%	19%	3.69%	15.07%	Equity-11.21%, FD- 2.71%, ETF - 22.5%
2018–19	SGBFEB27	VI	3326	8663	Feb-27	5.9	160.46%	18%	9.53%	8.09%	Equity- 2.49%, FD- (−2.28%), ETF -12.57%
2018–19	SGBJAN27	V	3214	8663	Jan-27	6.2	169.54%	17%	9.53%	7.81%	Equity- 2.49%, FD- (−2.28%), ETF - 12.57%
2018–19	SGBDEC26	IV	3119	8663	Jan-27	6.3	177.75%	18%	9.53%	8.07%	Equity- 2.49%, FD- (−2.28%), ETF - 12.57%
2018–19	SGBNOV26	III	3183	8663	Nov-26	6.4	172.16%	17%	9.53%	7.40%	Equity- 2.49%, FD- (−2.28%), ETF - 12.57%
2018–19	SGBOCT26	II	3146	8663	Oct-26	6.5	175.37%	17%	9.53%	7.33%	Equity- 2.49%, FD- (−2.28%), ETF - 12.57%

(continued)

Table 1 (continued)

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2018–19	SGBMAY26	I	3114	8663	May-26	7	178.20%	16%	9.53%	6.21%	Equity- 2.49%, FD-(−2.28%), ETF - 12.57%
2017–18	SGBJAN26	XIV	2881	8663	Jan-26	7.3	200.69%	16%	5.24%	11.04%	Equity- (−2.09%), FD -1.46%, ETF -1.81%
2017–18	SGBDEC2513	XIII	2866	8663	Dec-25	7.3	202.27%	16%	5.24%	11.12%	Equity- (−2.09%), FD -1.46%, ETF -1.81%
2017–18	SGBDEC2512	XII	2890	8663	Dec-25	7.3	199.76%	16%	5.24%	10.99%	Equity- (−2.09%), FD -1.46%, ETF -1.81%
2017–18	SGBDEC25XI	XI	2952	8663	Dec-25	7.3	193.46%	16%	5.24%	10.65%	Equity- (−2.09%), FD -1.46%, ETF -1.81%
2017–18	SGBDEC25	X	2961	8663	Dec-25	7.3	192.57%	16%	5.24%	10.60%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBNOV25IX	IX	2964	8663	Nov-25	7.3	192.27%	16%	5.24%	10.59%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBNOV258	VIII	2961	8663	Nov-25	7.4	192.57%	16%	5.24%	10.37%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBNOV25	VII	2934	8663	Nov-25	7.4	195.26%	16%	5.24%	10.52%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2017–18	SGBNOV25V	VI	2945	8663	Nov-25	7.4	194.16%	16%	5.24%	10.46%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBOCT25V	V	2971	8663	Oct-25	7.5	191.59%	15%	5.24%	10.10%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBOCT25IV	IV	2987	8663	Oct-25	7.5	190.02%	15%	5.24%	10.01%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBOCT25	III	2956	8663	Oct-25	7.5	193.06%	15%	5.24%	10.17%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBJUL25	II	2830	8663	Jul-25	7.9	206.11%	15%	5.24%	9.97%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%
2017–18	SGBMAY25	I	2951	8663	May-25	7.9	193.56%	15%	5.24%	9.36%	Equity- (−2.09%), FD -1.46%, ETF - 1.81%

(continued)

Table 1 (continued)

Year	NSE code	Series	Retail price	Selling price on 1st April, 2025	Maturity	Holding period till 01/04/2025	Absolute returns	CAGR	Inflation	Real returns (CAGR - Inflation	Real returns (returns-inflation) of other investment options(%)
2016–17	SGBMAR25	IV	2943	8623	Mar-25	This bonds have reached the maturity stage ie,. They don't not trade any more on NSE	193%	15.97%	4.00%	11.97%	Equity- 24.65%, FD - 2.9%, ETF - 0.2%
2016–17	SGBNOV24	III	3007	7788	Nov-24		159%	14.41%	4.00%	10.41%	Equity- 24.65%, FD - 2.9%, ETF - 0.2%
2016–17	SGBSEP24	II	3150	7529	Sep-24		139%	13.40%	4.00%	9.40%	Equity- 24.65%, FD - 2.9%. ETF - 0.2%
2016–17	SGBAUG24	I	3119	6924	Aug-24		122%	12.38%	4.00%	8.38%	Equity- 24.65%, FD - 2.9%, IETF - 0.2%
2016	SGBMAR24	II	2916	6590	Mar-24		126%	12.18%	2.23%	9.95%	Equity- 0.78%, FD - 5.27%, IETF - 9.17%
2016	SGBFEB24	I	2600	6266	Feb-24		141%	13.03%	2.23%	10.80%	Equity- 0.78%, FD - 5.27%, IETF - 9.17%
2015	SGBNOV23	I	2684	6120	Nov-23		128%	12.28%	6.32%	5.96%	Equity- (−10.38%), FD - 2.43%, ETF - (− 13.67%)

Table 2 Showing inflation percentage

Year	Inflation
2024	3.53%
2023	4.91%
2022	5.50%
2021	5.56%
2020	3.69%
2019	9.53%
2018	5.24%
2017	4.00%
2016	2.23%
2015	6.32%

Source: https://www.inflationtool.com/rates/india/historical



Fig. 1 Inflation Graph for 10 years

Table 3 Showing the 10 years performance of SBI Gold ETF

Year	Returns	Real returns (returns—inflation)
2024	13.21%	9.68%
2023	14.23%	9.32%
2022	12.57%	7.07%
2021	−4.60%	−10.16%
2020	26.19%	22.5%
2019	22.10%	12.57%
2018	7.05%	1.81%
2017	4.20%	0.2%
2016	11.40%	9.17%
2015	−7.35%	−13.67%

Source: https://www.etmoney.com/mutual-funds/sbi-gold-direct-plan-growth/15774, https://www.investing.com/etfs/sbi-gold-fund-historical-data

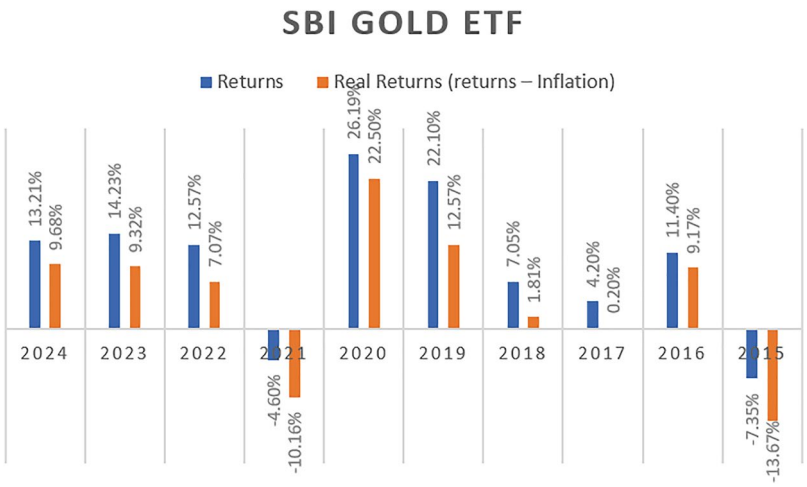

Fig. 2 Bar graph showing the Comparison of Returns vs Real Returns of SBI Gold ETF

7.4.3 Historical Performance of Nifty 50 Index for the Past 10 Years

The Table 4 shows historical performance of Nifty50, where in the diversified 50 stock index that represent key sectors of the economy. This index tracks the performance of the 50 large blue-chip companies traded in the NSE based on free-float market capitalisation. These stocks are also the most liquid securities and together account for over two-thirds of the free-float market cap of traded securities in Indian exchanges (Fig. 3).

7.4.4 Historical Past 10 Years of FD (Fixed Deposit) Interest Rates

Fixed Deposit (FD) is considered one of the safest investment options because it offers guaranteed returns with minimal risk. When a person invests in an FD, the principal amount is protected, and the interest rate is fixed for the entire tenure, ensuring the investor knowing how much he will earn. The investor not solely relies on Absolute returns but should always consider the real returns. In the Table 5 the performance of fixed deposit has been shown (Fig. 4).

8 Discussion

The comparative analysis conducted from 2015 to 2024 reveals insightful trends regarding inflation-adjusted returns across different investment avenues. Sovereign Gold Bonds (SGBs) demonstrated consistent outperformance in terms of real

Table 4 Showing historical performance of Nifty 50 Index for past 10 years

Year	Past returns	Real returns (past returns-inflation)
2024	8.75%	5.22%
2023	19.42%	14.51%
2022	4.32%	−1.18%
2021	24.12%	18.56%
2020	14.90%	11.21%
2019	12.02%	2.49%
2018	3.15%	−2.09%
2017	28.65%	24.65%
2016	3.01%	0.78%
2015	−4.06%	−10.38%

Source: https://primeinvestor.in/nifty-50-returns/

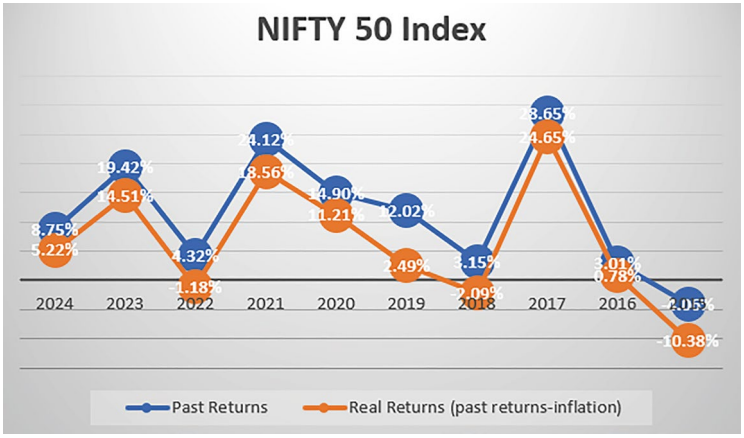

Fig. 3 Showing the Comparison of Returns vs Real Returns of Nifty 50

returns, primarily due to their dual benefit of gold price linkage and an assured 2.5% annual interest, making them superior to traditional instruments like Fixed Deposits (FDs), which often yielded negative real returns (Reserve Bank of India, 2015). Although Nifty 50 equities offered the highest nominal gains during economic upswings, their performance was more volatile and less reliable in protecting against inflationary pressures. Gold ETFs also showed competitive returns, particularly in bullish markets, but lacked the fixed income and tax benefits associated with SGBs. The results highlight the importance of investing in real, inflation-adjusted perspective as opposed to nominal returns performance, which is a better indicator of the actual purchasing power of the returns (Inflation Tool, 2024; ET Money, 2024). It is noteworthy, that FDs trailed in most years, once again confirming their status as conservative savings vehicles, but not as wealth-building tools. The paper again

Table 5 Showing the Historical past 10 years of FD (fixed deposit) interest rates

Year	Average fixed deposit interest rate (% p.a)	Real returns (past returns-inflation)
2024	6.00%	2.47%
2023	5.90%	0.99%
2022	5.35%	−0.15%
2021	5.35%	−0.21%
2020	6.40%	2.71%
2019	7.25%	−2.28%
2018	6.70%	1.46%
2017	6.90%	2.90%
2016	7.50%	5.27%
2015	8.75%	2.43%

Source: https://www.bajajfinservmarkets.in/fixed-deposit/what-is-the-history-of-fixed-deposits-through-time

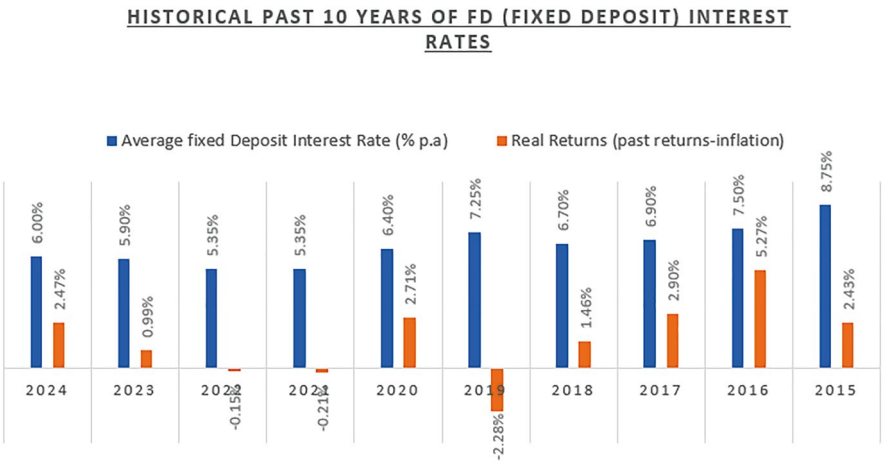

Fig. 4 Showing the comparison of Returns Vs Real Returns of FD

confirms that SGBs offer a perfect combination of safety, return, and protection against inflation, which makes them very adequate risk-averse investors who target financial security over the long term.

9 Suggestion

In view of the findings of this comparative study, some investor, policy maker and financial advisor guidelines can be offered. The retail investors would benefit to have a diversified investment portfolio, and this will be a mix of Sovereign Gold

Bonds (SGBs), Gold Exchange-Traded Funds (ETFs), and equities. The mentioned diversification will allow an equal risk management and can prospectively maximize the returns in the long-term. The most vital consideration to the investors is to evaluate the investment opportunities based on the actual returns that are real and inflation-adjusted returns, not the nominal returns, which in most cases present a misplaced picture of the real acquisition of the wealth. SGBs in particular would offer a competitive alternative, featuring a golden price linked option, annual fixed interest and tax advantages-making it especially appealing to conservative long-term investors. As a policymaker, one can recommend carrying out broader campaigns on financial literacy so that the population is more conscious of inflation-hedging abilities of paper gold investments such as SGBs. Then, by focusing on the importance of the actual, inflation-adjusted returns and showing clients how different investment opportunities, including SGBs, ETFs, and equities, compare to each other, one will be able to offer the clients the control to make safe, future-proof financial decisions.

10 Conclusion

The comparative analysis of Sovereign Gold Bonds (SGBs), Gold ETFs, Nifty 50 equities, and Fixed Deposits in terms of relative performance over the period of 10 years (2015–2024) allow pointing out the relevant insights with regard to the inflation-adjusted returns of the investment. The findings speak in favor of the rising viability of SGBs as a government-guaranteed transparency of investment that not solely tracks the market price of gold, but also offers a fixed yearly interest of 2.5%, which is more appealing than the traditional physical gold investment. The data reveals that:

- SGBs consistently deliver robust real returns, outperforming FDs in nearly every year studied and providing competition to both Gold ETFs and equities in inflationary environments.
- Gold ETFs demonstrate good results, especially during bull markets, whereas they are more vulnerable to the changes in the global economy. They are highly liquid and tax efficient but unlike SGBs they do not guarantee the interest.
- Nifty 50 stocks are the best investment in terms of returns in the long run and more so in the boom years of the economy though when kept in isolation are not the ideal inflation hedges because of their volatility and susceptibility to crash in the market.
- Fixed Deposits which were considered as risk free are associated with lowest real returns with more years depicting negative real interest rates. And this underlines their un suitability as a wealth building tool in long term.

Being an attractive half-way house in summit, SGBs provide stability and government guarantee, and decent protection against inflation, along with tax advantages. They particularly suit the conservative investor who requires a combination of

capital growth and fixed income particularly during periods of macroeconomic uncertainties. Nevertheless, the diversified portfolio combining Gold ETFs and stocks can be more profitable to the investors with the higher risk appetite, who are able to time the market well.

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