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The Glittering Portfolio – A Study with Special Reference to Performance of Gold Investments

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Abstract

Gold has been one of the traditional and essential forms of the asset in India; even today, gold ornaments are considered one of the necessary investment forms as they can be pledged or converted into cash when there is a financial crunch. Gold investments in electronic format have become popular in India from 2002 onwards. Investors always get confused on whether they should have gold in their portfolio and whether they should have it in physical form or electronic form. Prices of gold have been fluctuating based on demand and supply. This case study tries to analyze whether gold should be part of an investment portfolio.

Keywords: Gold, Portfolio management, Gold ETF, Sovereign Gold Bond

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Introduction

Financial planning helps in achieving life goals and exigencies by proper management of income and expenditure. Financial planning is done using various Asset clauses, and each asset clause has different characteristics. Based on the individual risk profile, asset allocation is done to achieve the financial objective. While investing the hard-earned money, every investor has to understand the following aspects:

1. Risk
2. Safety
3. Liquidity
4. Return
5. Taxation
6. Portfolio rebalancing

Each financial instrument has different characteristics, and it is essential to select the correct financial instrument that can help achieve the investor goal. Gold is one of the investment avenues which can help the investor to generate wealth.

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Review of Literature

Esampally, C. (2015)suggested that portfolio diversification across different asset classes is essential; Gold ETF is considered one of the sources for investment in gold. A comparison between the performance and returns of Gold and Infrastructure ETF with respect to the market index was made for the period January 2011 to December 2014. Gold ETF was less variable compared to the Infrastructure ETF. Performance of Gold ETF is better than index and Infrastructure ETF.

Garg, S. (2020)explained that gold is one of the significant investment avenues. The behavior of Investors is dependent on needs, benefits, return expectations. In Indian, people buy gold in the form of

Table 1: Comparison of Various Gold Investments

Features	Gold ETF	Gold Fund of Fund	SGB	Physical gold
Features	It is a fund which invest in gold and can be traded (bought and sold)in stock exchange.	It is a type of fund of fund mutual fund category (fund FOF) which invests in gold ETF	SGB are gold bonds issued by RBI on behalf of government of India. They are substitute for holding physical gold	Having gold in the form of ornaments or bars
Returns	Capital appreciation and depreciation	Capital appreciation and depreciation	Interest of 2.5% and capital appreciation / depreciation	Capital appreciation
Process for investing	Demat account is essential, Can place orders for buy and sell in trading account or using broker	PAN is must and should be mutual fund KYC compliant. Can Buy and sell using mutual fund distributor or directly	PAN is mandatory can be invested in online and offline mode.	Purchased from Gold shop, PAN is required
Liquidity	Can be easily liquidated on stock exchange	Can be easily liquidated by redemption	Eight year investment with exit options available in the 5th, 6th and 7th years, to be exercised on the interest payment dates.	Difficult to liquidate when compared to the other gold instruments
Storage	Nil	Nil	Nil	Higher since predominantly it is kept in Bank lockers
Charges	Only demat charges	Load and expenses of the fund (including expenses of ETF)	Nil	If it is bought as an ornament then making charges are there
Investment limit	Minimum 1 gram and maximum no limit	Minimum Rs 5000 and maximum no limit	Minimum 1 gram and maximum 4 KG for an individual	No limit
Safety	No theft risk	No theft risk	No theft risk	High risk relating to theft
Loan collateral	No	No	Yes	Yes
Purity	No risk of duplicates	No risk of duplicates	No risk of duplicates	Need to be checked as there are chances for duplicates
Taxation	Gains are subject to tax as capital gains as per the applicable slab for STCG and LTCG for debt funds.	Gains are subject to tax as capital gains as per the applicable slab for STCG and LTCG for debt funds.	Returns are exempted from tax	Gains are subject to tax as capital gains as per the applicable slab for STCG and LTCG for debt funds.

Source: Data collected and collated by the author from various sources

jewelry. In the past, the jewelry form of gold was considered the most common form of gold, but now many gold investment options are available like SGBs, Gold Bars, Gold ETFs, etc. Factors that influence the investor behavior towards Gold investment were analyzed using factor analysis. Three factors represent 62% of the total variance; they are expected higher returns, security, the traditional value of gold.

Gupta, R. (2018)portrayed the benefits of Sovereign Gold Bond. These bonds are the substitute for physical gold. They are issued by the Reserve Bank of India and are considered to be safer. The theoretical framework of Sovereign Gold Bond is compared with Gold ETF and physical gold. Yield analysis of SGB was computed.

Lucey, B. M., Peat, M., &Vigne, S. (2018) depict that gold's statistical properties are negatively correlated with equities. Including gold in a portfolio would provide diversification. Share ration was used to construct a visual tool to measure the performance and rebalancing of portfolios. Sample data was used for the study of the prices of gold between 1990 and 2018.

Matos, P., & Evans, R. B. (2017) A case study that analyzed gold as a portfolio diversifier. Investors around the globe consider the safety and security of an investment before investing in any financial instrument and were considering whether gold would provide capital preservation with a risk-return trade-off in their portfolios.

KS.Marathi, K., Dr. V.R Nedunchezhian & Dr. V.R Nedunchezhian. (2012) observed the changes and rise of the gold market in India. Gold value is determined by various factors like inflation, interest rates, and the availability of alternative investment avenues. Investors feel that commodity market investments are volatile. The study analyses the gold price in the commodity market and also with respect to Gold ETF. EGARCH model and ADF Unit root test were used. Results suggest that volatility affects investors' returns.

Panda, R., &Sethi, M. (2016). analyses whether gold is a good investment option and four popular beliefs about gold viz. inflation, alternate to fixed income, comparison with stock market investment and exchange rate and its bearing on gold investment.

Pullen, T., Benson, K., & Faff, R. (2014)scrutinized daily data about gold bullion, gold mutual fund, gold stocks, and gold ETF for 1987–2010; Findings suggest that gold instruments mentioned above are treated as portfolio diversifiers. Investors are interested in investing in the bullion market or gold ETFs. Gold stocks and gold mutual funds are considered to be riskier.

R, S. V., & Naidu, J. G. (2019). analyses the gold prices from 2014 to 2019 and also compares gold jewelry with gold coin, gold ETF, and sovereign gold bond and various features were compared.

Dr. P. Vidhyapriya, D., & Dr. M. Mohanasundari, D. (2011) analyzed the advantages and disadvantages of gold ETF. A comparison between gold ETF and physical gold is based on specific criteria like tax, denomination, pricing, etc. Sharpe, Treynor, Jenson ratios and beta analysis were done on gold prices from 2009 to2014.

Research gap

Based on the inferences from the above literature, it is observed that the research can be further extended to analyse the Sensex and Gold returns over some time. Also, the tracking error and portfolio returns can be taken for analysis.

Scope of the study

This paper tries to analyse the various forms of gold investment avenues in India. Further, the study tries to analyse the return of BSE Sensex and Gold from 1981 to 2020. The study also aims to focus on the Tracking error on gold ETF. Further, it also tries to compare the return generated vide gold products compared to mutual funds scheme over a while.

Analysis and Findings

Gold as an investment avenue

The growth of gold as an investment avenue has been phenomenal in India. There have been periods where gold prices have fallen considerably, and returns were negative. When we look at gold as an asset class, it has given a CAGR of 8.41% for March 1981 to March 2020. In the corresponding period equity market has delivered a return of 13.71% CAGR. **Table 1** depicts the detail of the month-on-month comparison between Sensex and Gold. The yellow metal is considered a safe instrument during turbulent times. During the COVID pandemic, subscriptions in the Sovereign Gold Bonds issues have increased considerably. Further, the fear of a drop in value in other assets like real estate and stock market volatility has made investors think about gold investments. With physical gold purchases getting affected due to lockdowns, investors have moved towards an "Electronic" form of gold.

Table 2 : Sensex V/S Gold (1981 to 2020)

Date	Gold Value (10 Gms)	%Change (YOY)	Sensex (value)	% Change (YOY)
31-Mar-1981	1,670		173	35%
31-Mar-1982	1,645	-1%	218	26%
31-Mar-1983	1,800	9%	212	-3%
31-Mar-1984	1,975	10%	245	16%
31-Mar-1985	2,130	8%	354	44%
31-Mar-1986	2,140	0%	574	62%
31-Mar-1987	2,570	20%	510	-11%
31-Mar-1988	3,130	22%	398	-22%
31-Mar-1989	3,140	0%	714	79%
31-Mar-1990	3,200	2%	718	1%
31-Mar-1991	3,466	8%	1,168	63%
31-Mar-1992	4,334	25%	4,285	267%
31-Mar-1993	4,140	-4%	2,281	-47%
31-Mar-1994	4,598	11%	3,779	66%
31-Mar-1995	4,680	2%	3,261	-14%
31-Mar-1996	5,160	10%	3,367	3%
31-Mar-1997	4,725	-8%	3,361	0%
31-Mar-1998	4,045	-14%	3,893	16%
31-Mar-1999	4,235	5%	3,740	-4%
31-Mar-2000	4,380	3%	5,001	34%
31-Mar-2001	4,190	-4%	3,604	-28%
31-Mar-2002	5,010	20%	3,469	-4%
31-Mar-2003	5,310	6%	3,049	-12%
31-Mar-2004	6,065	14%	5,591	83%
31-Mar-2005	6,180	2%	6,493	16%
31-Mar-2006	8,490	37%	11,280	74%
31-Mar-2007	9,395	11%	13,072	16%
31-Mar-2008	12,125	29%	15,644	20%
31-Mar-2009	15,105	25%	9,568	-39%
31-Mar-2010	16,320	8%	17,590	84%
31-Mar-2011	20,671	27%	19445	11%
31-Mar-2012	28,129	36%	17404	-10%
31-Mar-2013	29,422	5%	18835	8%
31-Mar-2014	28,210	-4%	22386	19%
31-Mar-2015	26,220	-7%	27957	25%
31-Mar-2016	28,554	9%	25364	-9%
31-Mar-2017	28,463	0%	29620	17%
31-Mar-2018	30,408	7%	32969	11%
31-Mar-2019	31,601	4%	38672	17%
31-Mar-2020	43,251	37%	29468	-24%
CAGR	**8.48%**		**13.71%**	

Source: *Handbook of statistics on Indian economy 2008-09,2009-10*

Gold investment types

In India, apart from physical gold purchase, other modes of gold investment like Exchange-traded funds, Gold fund of funds, and the Sovereign Gold Bonds issued by the government have become popular. Each instrument has different characteristics, but the underlying asset in which the investments are made is "Gold."The comparison between the three avenues based on their characteristics is given below.

Gold Exchange-traded funds (GETF)

There are 11 active Gold exchange-traded funds listed in the national stock exchange.

The below table depicts the AUM (Asset Under Management and the returns these funds have delivered over various periods. Gold ETF was launched in India in 2002 by the Benchmark Asset Management Company Pvt. Ltd.

Table 3: Gold Exchange Traded Funds - AUM & Returns

Gold ETF	AUM (In Crore)	1 Year Returns (In %)	3 Year Returns (In %)	5 Year Returns (In %)
Nippon Gold ETF	3996.36	38.3	18.64	11.62
SBI Gold ETF	1299.61	39.04	18.56	11.49
HDFC Gold Exchange Traded Fund	1274.24	38.22	18.34	11.57
UTI Gold Exchange Traded Fund	542.72	38.56	18.69	11.66
Kotak Gold ETF	1026.06	38.9	18.65	11.51
Axis Gold ETF	211.74	38.9	18.71	10.95
ICICI Prudential Gold ETF	1335.2	38.22	18.23	11.31
Aditya Birla Sun Life Gold ETF	184.2	39.24	18.7	11.62
IDBI Gold Exchange Traded Fund	79.24	38.23	18.83	11.81
Invesco India Gold Exchange Traded Fund	54.67	39.23	18.75	11.62
Quantum Gold Fund	94.96	38.6	18.52	11.45

Source: Data collected and collated by the author from Factsheets of mutual funds

Sovereign gold bonds

Sovereign Gold Bond Scheme was launched in November 2015. till May 2020, RBI has come out with 39 issues of gold bonds. The government fixes the interest rate and the gold prices from time to time (Price is determined based on a simple average of closing price 999-purity gold published by IBJA for the last three working days of the week preceding subscription.). Online subscribers get a discount of Rs.50 on every gram of gold. Usually, these bonds are available for subscription for five days. It is offered by Banks, Post offices, stock holding corporations, and stock exchanges.

Fund of Funds

There is 11 active Gold fund of funds offered by different Asset Management companies. They are like regular mutual fund schemes, and they invest the money collected into Gold ETF and money market instruments. These funds are passive, and they track the gold ETF, and the fund manager does not take any investment decisions. These funds would have higher expenses since it has its fund expenses and the expenses of ETF also.

Table 4 : Gold Fund of Funds - AUM & Returns

Gold FOF	AUM (In Crore)	1 Year Returns (In %)	3 Year Returns (In %)	5 Year Returns (In %)
DSP World Gold Fund	500.94	53.77	17.82	15.53
Kotak Gold Fund	452.92	41.54	18.51	12.01
SBI Gold Fund	555.22	41.19	18.11	11.51
Axis Gold Fund	115.63	40.85	18.54	10.69
Invesco India Gold Fund	29.63	40.09	18.77	11.28
Quantum Gold Savings Fund	35.65	39.5	18.25	11.63
Nippon India Gold Savings Fund	952.46	39.29	17.87	11.2
Aditya Birla Sun Life Gold Fund	144.89	38.83	17.04	11.44
ICICI Prudential Regular Gold Savings Fund	214.62	38.49	17.97	11.42
IDBI Gold Fund	42.41	38.36	17.58	10.26
HDFC Gold Fund	543.6	38.34	18.23	11.42

Source: Data collected and collated by the author from Factsheets of mutual funds

5.2d. Trading gold in commodity markets

Gold can be traded in commodity markets. An investor can buy gold in the futures and options category available in the commodity market. MCX is an independent commodity exchange in India that provides commodity trading in gold. It is similar to stock options and futures and is driven by demand and supply.

Tracking error

Tracking error is the difference between the returns that physical gold generates and the ETF generates over a given time. Tracking error occurs due to various factors like

a) how quickly the fund manager invests the funds
b) how the redemptions are managed,
c) how the expenses are managed,
d) how the cash flow is managed, and
e) how the portfolio is rebalanced.

The lower the tracking error, the closer are the returns of the fund to that of physical gold. In the case of funds, there is a chance of tracking error as it tracks ETF, which tracks the physical gold. The tracking error of the Gold ETF fund is provided in the below table.

Table 5: Gold Fund Tracking error and portfolio

Gold ETF	Tracking error (annual)	% of Physical gold in portfolio	% of Debt and cash in portfolio
Nippon Gold ETF	0.080%	99.50	0.50
SBI Gold ETF	0.068%	99.31	0.69
Kotak Gold ETF	0.070%	98.69	1.31
Axis Gold ETF	3.590%	97.06	2.94
ICICI Prudential Gold ETF	0.380%	98.42	1.58
IDBI Gold Exchange Traded Fund	0.338%	97.25	2.75
Invesco India Gold Exchange Traded Fund	0.080%	99.41	0.59
Quantum Gold Fund	0.074%	98.67	1.33

Source: Data collected and collated by the author from Factsheets of mutual funds

The formulae for calculating tracking error is

- Take the NAV values and the Gold Index values for each day for the period planned for analysis
- Calculate the percentage change in the NAV and Gold Index for each day over the previous day
- Apply the below formulae (Step 3)

NAV as on day (t) - NAV as on day (t-1) NAV as on day (t-1)

- Compute the difference between the percentage change in the NAV and the percentage change in Gold Index for each day (Step 4)
- Calculate the standard deviation of the difference obtained from the day (1) today(n)
- Apply the formulae; Annualised tracking error = Standard deviation obtained (Step 4) * sqrt (250)

Gold as a part of Investment Portfolio

A proper mix of various assets depending on the investor's risk appetite helps the investor build a healthy portfolio. The goals of the investor should also be taken into account while framing portfolios. Gold Exchange-traded funds and Sovereign Gold Bonds have become attractive investment avenues and can be considered a part of a long-term portfolio. They are not risk-free instruments; gold prices also fall based on demand and supply. When we review Table 1, we can see that out of 40 years' data; there are seven years of negative return. Gold has done well in specific years and has exceeded the return of equity.

Let us take an example that Mr. A has Rs. 1,00,000 on 5th November 2015. He wants to invest in one of the gold instruments; what would have been the value of his investment as of 1st July 2020? (We have taken one equity mutual fund also for comparison to analyse what would be the value of the diversified equity fund)

Instrument

Instrument	NAV/ Value on 5th Nov 2015	NAV/ Value on 1 July 2020
SGB	2684.00	4582.00
HDFC Gold ETF	2448.89	4396.20
HDFC Gold FOF	9.00	15.68
HDFC Top 100 fund – Growth option	324.90	408.91

In the above example, suppose if he has 4,00,000 and wants to invest equally in the above instruments, his portfolio return would be as follows.

Mr A 's portfolio value would look like as below

Computations								
	Amount invested	NAV/ Value on 5th Nov 2015	Units allotted	NAV/ Value on 1 July 2020	Current value	Interest	Total Value	CAGR (%) for 4.7 years
SGB	100000	2684	37	4582	170715	12375	183090	12.05
HDFC Gold ETF	100000	Instrument	41	4396	179518	0	179518	12.77
HDFC Gold FOF	100000	9	11111	16	174222	0	174222	12.53
HDFC top 100 equity fund	100000	325	308	409	125857	0	125857	5.01
Total	400000				650313			10.89

Note: *Interest payment not taken into account for CAGR computation, and the period taken is 4.7 years.*

Conclusion

Gold has provided reasonable returns; in the last 40 years, it has provided a CAGR return of 8.48%. It has bettered stock market performance at various instances, and during pandemics, gold prices have increased considerably, showing investors' trust in the glittering instrument. Depending on the goals and risk appetite of the investor, gold should form part of the investor portfolio. Portfolio diversification is an essential element in constructing a portfolio for investment. The old saying "Do not put all eggs in one basket" is suitable for all periods. Gold can act as a hedge against inflation.

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