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A COMPARATIVE STUDY ON THE PERFORMANCE OF PHYSICAL GOLD, GOLD ETFS, GOLD BONDS AND GOLD DEPOSITS

Sreenivasulu Sunkara
Research Scholar, Dept. of Management Studies
Sri Venkateswara University
Tirupati, INDIA

M. Srinivasa Reddy
Professor, Dept. of Management Studies
Sri Venkateswara University
Tirupati, INDIA

Abstract

India is one of the largest consumers of gold. Majority of the Indians sees gold as emotional attachment rather than an investment alternative. According to the government estimates, nearly 20,000 tonnes of gold are idle with Indian households, temples and trusts, which is neither traded nor monetised. Government has initiated gold related schemes to mobilise the stocks of physical gold. The importance of gold investment gets increased due to unpredictable changes in the financial markets. A variety of gold investment alternatives are available in the market. The performance of gold ETFs, gold bonds Gold Deposits and some other alternatives of gold investments depend on prices of physical gold. Investors are finding some space for getting benefited by investing in non-physical gold alternatives. The present paper measures the performances of physical gold and gold ETFs and these two instruments are compared with Gold Deposits and Gold bonds. For this purpose risk, absolute return and CAGR of physical gold and gold ETFs has been compared. A comparative study was carried out based on the secondary data and the results proved that investing in physical gold is less volatile than investing in gold ETFs. Gold Deposits and Gold bonds have more advantages over physical gold.
Index Terms – Physical gold, Gold ETFs, Gold deposits, Gold bonds, CAGR, Absolute return, Risk.

I. INTRODUCTION

Gold as a precious metal received considerable attention post the financial crisis of 2008 as alternative investment. Today, investor has many investment options to invest and gold happens to be one of the best options to be included in the portfolios for diversification of risk. Many financial advisors are suggesting 5%-10% gold in their clients portfolios. Gold proved to be the best alternative for the investors where equity markets are underperforming. Many investors safeguard their assets by making an investment in precious metals, most remarkably silver and gold. Gold has constantly outperformed other conventional asset classes such as currencies, debt, equity, and other commodities regardless of most of economic and business cycles [1][2].

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However, there are numerous ways by which we can invest in bullion. Some of the ways to invest in gold are gold ETFs, gold bonds, gold bars, coins and biscuits, gold jewellery etc. Gold Exchange Traded Fund (GETF) is primarily an exchange traded fund which closely tracks the prices of physical gold. GETFs are units that represent physical gold which may be in dematerialised or paper form. ETF units are created and redeemed in the primary market by Authorised Participants (APs), generally large institutions by depositing component stocks of the ETF with the Asset Management Company (Fund), and further the units will be listed in the secondary market for retail investors to trade. The trading mechanism will be similar to the equity stock of any other company in the exchange [3][4].
In India, GETFs are trading in mutual fund segment and are gaining popularity as investors becoming aware of the benefits of investing in dematerialised form of gold rather than holding it as jewellery. At present there are fourteen gold ETFs which are traded on NSE. Gold deposit scheme is a part of government's gold monetisation scheme introduced in November 2015. Under the Gold Deposit scheme, an Indian resident can deposit physical gold in the banks after converting the physical gold in to standard bullion form and checking the quality (purity). The deposits of Gold can be accepted for short-term, medium-term and long term. Investors in-turn will get an interest of 2.25% to 2.5% on the value of Gold deposited and also get capital appreciation/depreciation as on the prevailing market prices on Gold deposits [5][6].

II. OBJECTIVES OF THE STUDY

1) To measure the returns of physical gold and gold ETFs.
2) To measure the risk involved in investing physical gold and gold ETFs.
3) To compare differentiating factors among Gold deposits, physical gold, gold bonds and Gold ETFs.

III. METHODOLOGY

The study is an empirical study based on secondary data. The data has been collected from various published sources and websites. The risk and return of physical gold has been compared with risk and return of gold ETFS. Monthly closing prices from 1st April 2013 to 31st March 2017 have been taken. Spot price of physical gold has been taken from the website of MCX whereas the data for gold ETFs (HDFCMFGETF, AXISGOLD, and CRMFGETF) has been taken from the website of NSE. The following statistical tools are used.

1) $Absolute\ price = \frac{(Ending\ price - Begining\ price)}{Begining\ price} * 100$

2) $CAGR = \left[\left(\frac{Ending\ price}{Begining\ price} \right)^{1/\ Number\ of\ Years} - 1 \right]$

3) Standard Deviation = $\sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \bar{x})^2}$

IV. REVIEW OF LITERATURE

This section reviews the studies conducted and results suggested in the area of gold ETFs. Pullen, Benson and Faff (2011) examined the safe haven, hedging and diversifying properties of gold stocks, gold bullion, gold ETFs and gold mutual funds. They found that all of these tend to be

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diversifiers [7]. Both gold bullion and gold ETFs showed support for the property of safe haven but there was very little evidence of the safe haven characteristics in case of gold mutual funds and gold stocks and thus, the investors who were keen on securing safe haven features of gold, could not generally trust on gold mutual funds or gold stocks. Instead, they needed to take direct exposures in gold ETFs or bullion.

Venkatachalam G & Prabhakaran G (2015) has carried out a study on investors' behaviour towards gold exchange traded funds in Indian stock market with special reference to Tamilnadu, with an objective to study investors' behaviour towards gold exchange traded funds and to study the relationship between socioeconomic profile and behaviour of Gold Exchange Traded Funds Investors [8]. The study was carried out in City Corporation of Tamilnadu with a sample of 450 investors. It was found from the factor analysis that investment objectives have the first factor with highest percent of variance followed by investment decision and investment safety. Out of the 30 socio-economic factors, 22 factors have significant association with the investment behaviour. From the cluster analysis, it was also revealed that more than 50 % of the respondents are positive towards Gold Exchange traded Funds. It also concluded that investors of gold exchange traded funds have to consider various factors influencing the investments.

Velmurugan P. S., Saravanan A & Ragavendra RH (2013) has undertaken a comparative study on investing in gold related assets with an objective to examine the performance of gold related instruments, namely, Gold ETF, Gold mutual fund and physical gold and also to ascertain the better investment among the return of gold ETFs and Gold Mutual Fund [9]. The researcher has considered the secondary data for the period from April 2007 and September 2012 and carried out ANOVA and LSD tests. The results concluded that there is a significant difference among the Gold ETFs, Gold Mutual Funds and physical gold. The statistics show that return of Gold ETFs is higher than physical form of gold and also Gold Mutual Funds. It was proved empirically that making Investment in Gold related assets namely; Gold ETFs are more profitable compared to investing in Gold Mutual Fund investment.

Maulzi (2013) in his work has stated that the demand for gold exchange traded funds in India is likely to explode as investors get accustomed to online mode of investing [10]. He further adds that, gold prices in India have gained 29 per cent in the year 2011.

Mukul, Kumar and Ray (2012) asserted that investment in gold provided a better monthly return relative to a diversified equity fund [11]. They found that investors should invest a certain proportion of their funds in gold. Gold mutual fund or gold ETF, therefore, became an ideal instrument for investment. The investor also need not be concerned about the gold being stolen or damaged by whatever reason. Features like transactional ease and high liquidity further made the case for gold ETF investment stronger.

Baur (2013) showed that gold ETFs were more liquid than its underlying physical bars and coins and that this liquidity varied through time and depended on the structure of the ETFs, i.e. whether the ETF was physically-backed or synthetic [12]. They observed that the introduction of ETFs was at least partially responsible for the strong increase of the price of gold between 2002 and 2011. They also claimed that the volatility of gold had been increased because of the ease of trading facilitated by gold ETFs.

V. EMPHERICAL LRESULTS

The performance (with reference to absolute return and standard deviation) of physical gold and gold ETFs is fluctuating year by year from 2013 to 2017. However it is difficult to compare physical gold and gold ETF by risk and absolute return. Therefore Compound Annual Growth Rate (CAGR) has been used to compare the performance of gold with ETF since higher the CAGR, higher is the performance and vice versa. The results of the analysis of CAGR are presented in the Table I.

TABLE I. CAGR OF PHYSICAL GOLD AND GOLD ETFS FROM APRIL 2013 TO MARCH 2017

Name	CAGR
AXISGOLD	-0.025
HDFCMFGETF	-0.022
CRMFGETF	-0.017
PHYSICAL GOLD	-0.010

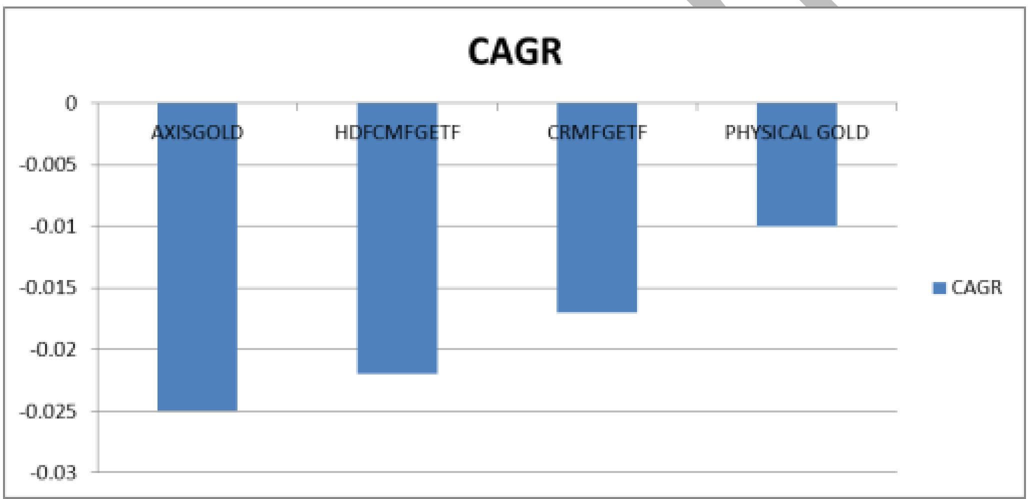

Fig. 1. CAGR of Gold ETFs and Physical Gold

The above table makes it clear that the CAGR of gold ETF is less than the CAGR of physical gold. It signifies that over a four year period of time, the performance of physical gold is better than the performance of gold ETF.

TABLE II. ABSOLUTE RETURNS OF PHYSICAL GOLD AND GOLD ETFS

Name/year	2013-14	2014-15	2015-16	2016-17
AXISGOLD	-3.39	-11.12	3.97	0.53
HDFCMFGETF	-3.76	-10.89	5.86	-0.38
CRMFGETF	-3.03	-9.78	6.39	0.37
PHYSICAL GOLD	-5.07	-6.21	8.17	-0.07

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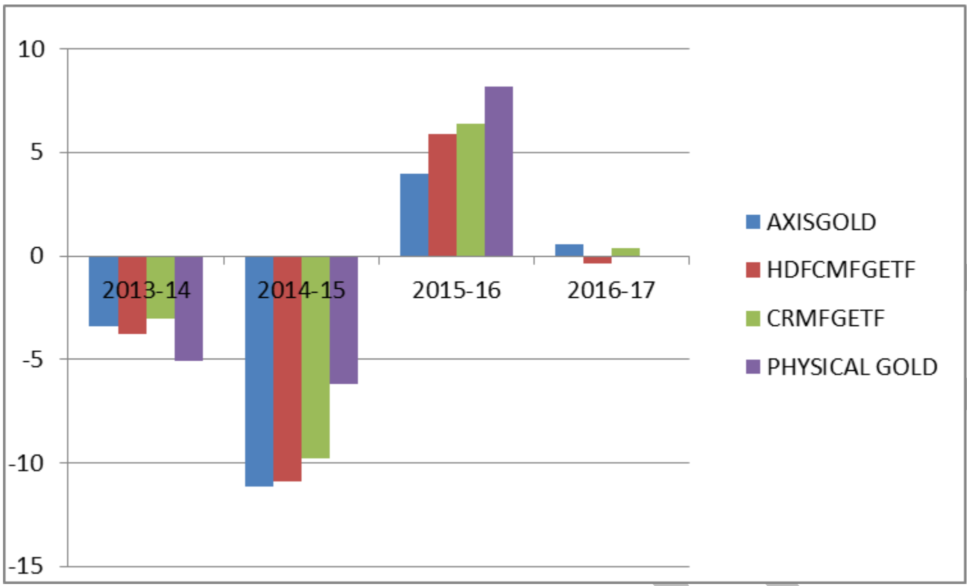

Fig. 2. Absolute returns of Gold ETFs and Physical gold

TABLE III. STANDARD DEVIATIONS OF PHYSICAL GOLD AND GOLD ETFS

Name/year	2013-14	2014-15	2015-16	2016-17
AXISGOLD	165.42	109.54	128.15	133.25
HDFCMFGETF	160.30	110.1	106.5	107.01
CRMFGETF	179.44	107.44	118.06	117.37
PHYSICAL GOLD	145.87	77.7	125.1	122.30

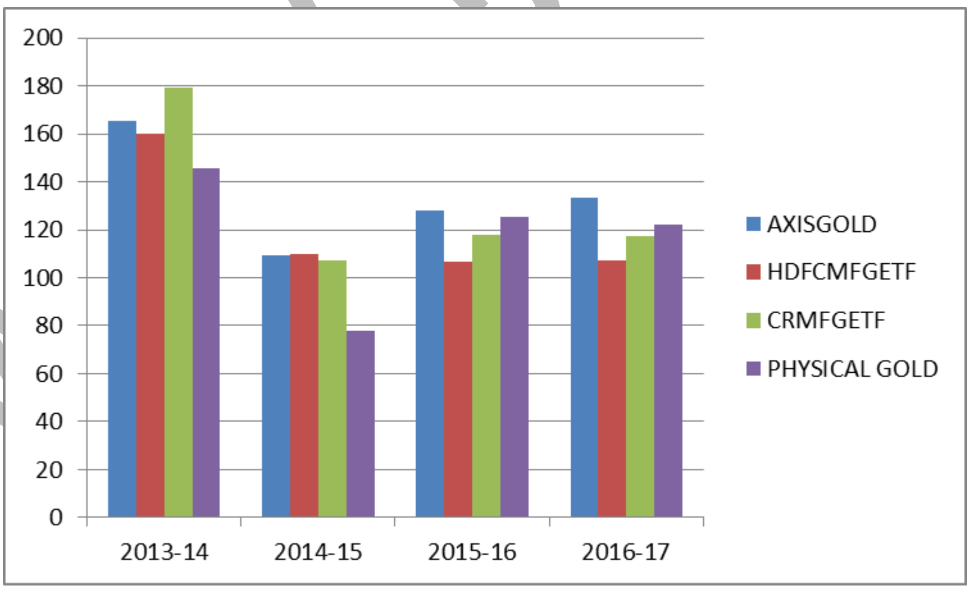

Fig. 3. Standard deviations of physical gold and gold ETFs

The above tables 2 and 3 make it clear that the standard deviation and absolute returns are varying more on gold ETFs than physical gold. Physical Gold prices are less volatile compared with the standard deviation of gold ETFs. Hence the performance of physical gold is better than gold ETF Comparison among Gold deposits, physical Gold, Gold bonds and Gold ETFs is given below.

- Gold deposits pay an interest of 2.25% to 2.50% per annum, an added benefit to investors which is not available with either Gold ETFs or physical gold. However all three options are providing capital appreciation/depreciation.
- Gold Deposit scheme is introduced by the government of India and has sovereign guarantee, hence there is no default risk involved.
- Investors has to bear the transaction charges if they want to trade in gold ETFs, while there is no such charge involved with Gold deposits, But there will be a cut in interest rate of 0.25% to 0.375% if investor withdraws before maturity.
- Further, gold ETFs deduct some charges in the name of TER (Total Expense Ratio) from the total assets. This expense ratio ranges from 0.99% to 1.20% per annum of the total assets.
- On the liquidity front, the gold ETFs score over gold deposits. Investors can enter or exit from gold ETFs during any working day of the stock exchanges. On the other hand the redemption of the gold deposits is allowed only after the lock-in period. Physical gold can also be liquidated easily.
- On the interest income front, the gold bonds score over gold ETFs. Investors can get 2.5% interest on the initial investment every year.

Table IV gives the comparison of different gold investment alternatives.

TABLE IV. COMPARISON OF DIFFERENT GOLD INVESTMENT ALTERNATIVES [13]

Factors	Gold deposits	Physical gold	Gold ETFs	Gold bonds
Interest on investment	Yes	No	No	Yes
Capital appreciation	Yes	Yes	Yes	Yes
Loan against instrument	Yes	Yes	No	Yes
Liquidity	Low-liquid	Highly liquid	Highly Liquid	Highly Liquid
Secondary market	No	Yes	Yes	Yes
Annual management fee	No	No	Yes	No
Quality check required	Yes	Yes	No	No
Exit option	Lock-in period	Anytime exit	Anytime exit	Only from 5th year
Storage charges	No	Yes	No	No
Sovereign guarantee	Yes	No	No	Yes

VI. CONCLUSIONS

As an investment class, gold and gold ETF have found the space in the investor's portfolio from 2014 after seeing toughest phase in 2013. Investment in gold ETFs was not a wise investment decision for a short period of three years between 2013 and 2016. The year 2016 has witnessed a continuous outflow of FIIs in gold ETFs market. All the investors would have negative returns in these ETFs. This paper compared the performance of physical gold and gold ETFs as investment tools. The empirical evidence concluded that the physical gold has greater CAGR than gold ETFs and hence the performance of the physical gold is better than the performance of gold ETFs in the study period. Today, investor is shifting his focus to deposit physical gold into recently launched gold deposit scheme as there is enough security and earning periodical interest income. Gold bonds attracted the interest of bullion investors as all the first six tranches were well subscribed. Gold investors can consider gold bonds as a better investment instrument compared with other gold investment options.

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