An Analysis of Gold investment vis-à-vis other investment option: An empirical study of Indian capital market

Aman Abhishek

Abstract

Gold, despite of being an excellent investment tool has quite a few drawbacks like chances of theft, storage problem, transaction cost involved etc. This drawback can be taken care by a newer domain of investment i.e. "Gold Mutual Fund/Gold Fund". This paper has tried to address the issue that it is better to invest in gold fund than to invest in Equity Mutual fund or BSE Sensex. Moreover, gold fund removes the limitations of traditional investment in gold bullions like no storage or cost of carrying or any chance of theft. It has also been empirically proved that investment in funds of companies whose assets comprises of investing primarily in gold mines provide a return either equal to or greater than investment in gold bullions [1].

Keywords: gold fund, gold mutual fund, sensex, gold bullions.

Introduction

Gold has always been an ideal investment option from time immemorial. Unlike other investment options like Equity Mutual Funds or BSE Sensex the return of investment in gold provides far better returns and is less volatile to changes in inflation rate and provide good hedging against market risks. Despite of being a very important investment choice physical like gold bullions come with some added disadvantages like storing and carrying cost, loss due to theft etc. so, investors came up with a better option of "Gold Mutual Fund" that can overcome the limitations of traditional gold bullions and has the returns as good as or even better. Gold Mutual Fund are mutual funds of the companies who invest in mining of gold and related metals. Unlike Equity Mutual Fund in which the companies invest in stock markets thus exposing the returns to volatilities and risks of market, gold funds/ gold mutual funds involves companies whose assets are composed mostly of operating in gold mining and extraction thus the return on investment is mainly dependent on the price fluctuations of the Gold and therefore ensure a more stabilised and enormous return as compared to equity mutual fund or BSE Sensex or Nifty-

50. Moreover gold fund provide an added advantage that no physical transaction of gold is involved thus no involved cost or losses. Earlier studies (L.E.Blose, 1996) have shown that the returns of investment on gold funds are as good as or better than investment in gold bullions. The volatility of the mutual fund that invests in gold mining is dependent on the gold reserves that are included in the assets of the companies [2]. It has also been observed that the risk to the investors brought about by the gold funds and gold bullions are not identical [3]. In this paper a comparative study has been done on the returns of various investment options like Equity mutual funds, BSE Sensex and gold funds. It was observed that gold funds are excellent choice if the investors are planning to invest for long term as it guarantees huge and stable return compared to other available options.

Review of Literature

Numerous papers and news article have been gone through to come up to the conclusion of the paper. The efficiency of the gold market has been found out by Agrwal and Shonen (1988) and it was shown that the gold market is a weak form efficient and it shows an abnormal return pattern. Shishko (1977), Carter et al. (1982), Jaffe (1989) and Chua et al. (1990) showed that to what extent gold and related investments are better than equity investments. The benefits of having gold fund in investment portfolio has been widely discussed in many business magazines like The Economic Times (Feb. 02, 2017) and The Financial Express but we have very limited resource available in academic literature. Some of the papers like the paper by Hulbert (1991, p. 326) states that the best way to include gold in your investment option is to invest either in the assets of gold mining companies or in gold fund. Khoury (1984) argued that in Bull market the appreciation of gold stock is not as high as that of Gold bullions or Gold coins. Some of the papers also were not in favour of investing in gold mines or gold fund. For instance Rock (1988 p. 201) demanded that mining stocks and assets that are put resources into them are the most exceedingly terrible approach to put resources into gold on account of the non-gold cost related hazard required with them. So there has been a contention in for and against the advantages of Gold mining stocks and gold assets to be incorporated into venture portfolio. This paper has tried to verify if it is really more beneficial to invest in gold in comparison to investment in Equity Mutual Fund and money market. For this we have took 15 companies that are listed in BSE Sensex and also have Mutual funds in the market. Return of them are calculated for various time interval ranging from 1 year to 10 years and then all the return are compared to find out if the results so obtained really prove the fact that gold funds are a better investment option that other available alternatives like equity and mutual fund or not. This paper supplements crafted by McDonald and Solnick (1977), Jaffe

(1989), and Blose and Shieh (1995). It was seen by McDonald and Solnick that the quarterly returns of 25 South African organizations and 15 North American organizations demonstrated a positive relationship with the gold costs. Crafted by Jaffe demonstrated that the value versatility of gold supplies of Toronto Stock Exchange are fundamentally unique in relation to 1. Blose and Shieh then 13 | P a g e again expanded crafted by Jaffe and discovered the value flexibility for 23 organizations that were recorded on United States Stock Exchange and the information were accessible CRSP every day return documents and it was presumed that the profits of 15 out of 23 organizations were more prominent than 1 and for 8 of the organizations it was not essentially not the same as 1. In this paper it was found that the returns of gold funds were far more than the return of any of the 15 companies and for references the returns of the equity mutual funds and BSE Sensex of the5 top performing companies has been graphically shown for better understanding.

Research Methodology

The data used in our calculations are all from secondary sources taken from various financial websites like “yahoofinance.com”; “goldprice.org”; “morningstar.com” etc. The data were taken for a period of 10 years starting from 01/04/2009 and ending on 31/03/2019. Then the data sets were divided into various periods like 1 year, 3 years, 5 years and 10 years respectively and the return were calculated accordingly. After that for better understanding the return of all of them were plotted on graph and comparisons were made. As per the earlier studies that have already been carried out in this field (Blose, 1996) it has been observed that the asset of the companies that are involved in the gold mining are composed of both gold and non-gold related assets and its net value is the combination of the both.

Suppose, “S” is the net present value of the company. Then “S” is given by,

S = (AtBt – Ct) (1+r)-t + Vng – D Eq. - 1 Where,

At = Spot price of the gold at any given period

Bt = Value of the gold available for sale in that period

R = Expected rate of return

Vng= Value of non-gold asset

D = Debt of the company (if any)

All the values are for a given time period “t”. The above paper also found out that investment in gold fund is as good as a investment in gold bullion and sometimes even better. This paper complements the above work and the return of various companies for different investment options has been calculated using arithmetic mean method and it has been shown that gold is definitely a much better substitute over other options. For calculating the returns of BSE Sensex the following framework has been used,

Return (in %) = ∑ (rt+1-rt)/rt*100 Eq. -2 Where,

rt:: the closing price of stock on day t

rt+1 : the closing price of the stock of day t+1

Similarly the returns of gold bullion are also calculated using arithmetic mean method as follow:

Return (in %, for bullions) = ∑ (pt+1-pt)/pt *100 Eq. - 3 Where,

pt: the price of gold bullion on day t

pt+1: price of gold bullion on day t+1.

Using these formulas the return of equity mutual funds, gold funds and BSE Sensex for various companies have been calculated for past 10 years for various time interval i.e.: 1 year, 3 years, 5 years and 10 years. The calculated data for the top 6 performing companies of BSE Sensex and top 5 performing equity mutual funds on Nifty 50 index companies have been compared graphically with the returns of gold investment for better interpretation. The numerical dataset has also been attached for any reference.

Findings and Interpretations

The returns that were calculated for the above mentioned time period were then plotted on graphs so that a better interpretation can be drawn from it. The graphs are plotted as below:

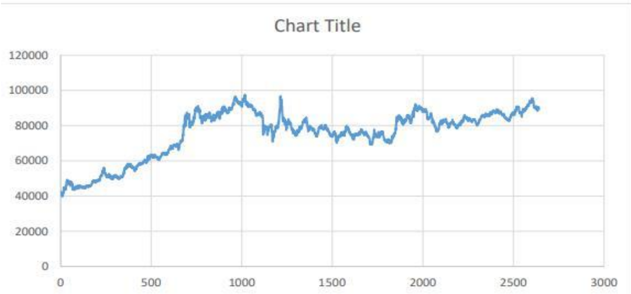

Fig 1: Actual Price Change of Gold investment over 10 year period (as calculated for per 10 gram of Gold)

The graph show above show the day to day return on gold investment over a period of 10 year and it is nearly same as that expected from the historical data available on the internet. The data also shows that the return on gold investment has increased tremendously over the given time period.

Fig 2: Expected return on Gold over 10 year period

The second graph shows the graph that was available directly on the internet and has been used to show a relationship between the available data and the calculated data. This graph has also been plotted for change in gold prices but on daily basis but rather on yearly basis over a period of 10 year. By observing the above two graphs on the gold return it is very much clear that the actual calculated returns of investment in gold are same as that expected using past data.

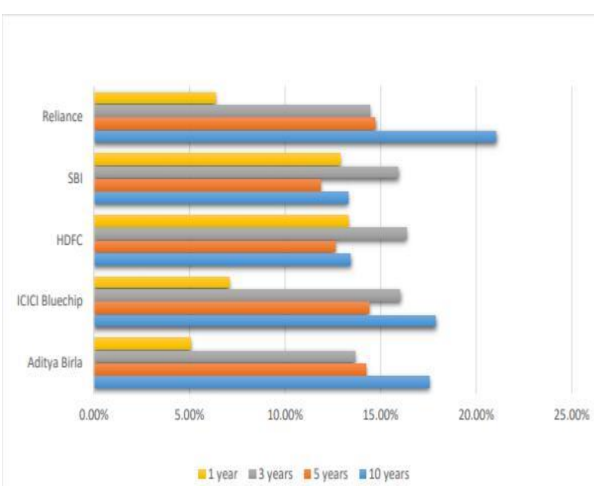

Fig 3: Returns on mutual fund on Nifty 50 index

Graph 3 shows the return of equity Mutual funds on Nifty 50 index over various time periods (1 year, 3 years, 5 years and 10 years). It is very much clear from the graph that the even though the returns are increasing over the period but even after 10 years the return does not match the returns that are yielded by investment in gold.

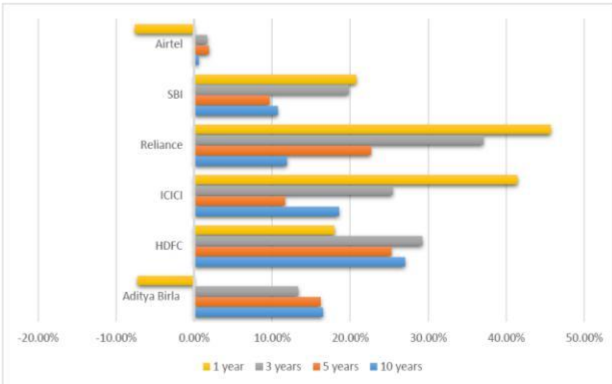

Fig 4: Return on S&P BSE Sensex

The graph 4 shows the return on investment from S&P BSE sensex (for purpose of simplicity of understanding only 6 companies has been shown here). It is quite clear from the graph that the return from these investments are very volatile and has no relation with the holding period. These investment options are more dependent on market risk and other related risk like inflation and exchange rate changes. Moreover the returns are very much unbalanced and cannot be predicted with much surety. Despite of having so much volatility the return are not at par with the returns that gold is generating that too with a much greater probability.

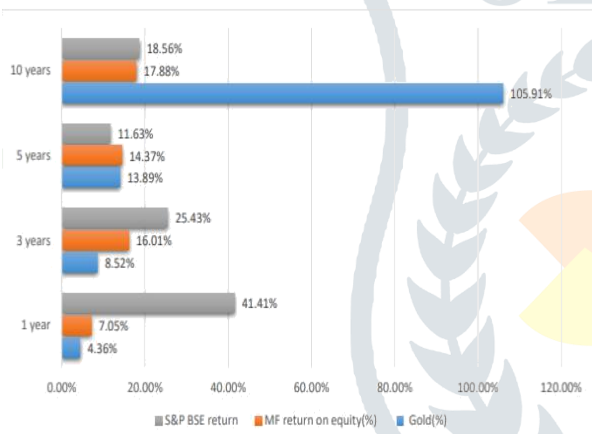

Fig 5: Comparison of the Returns of MF, S&P BSE and Gold

The graph has tried to portray the comparison of all the returns that were achieved through the above investment option over various time periods. It can been seen the returns on gold for short time interval may be low but as the holding period is increased, the returns offered by gold are incomparable to any of the other investment options and the plus point is that this market is very much less and offers a more sure return that others.

Name of company	*10 years*	*5 years*	*3 years*	*1 year*
Aditya Birla	16.46%	16.17%	13.32%	-7.23%
HDFC	27.02%	25.24%	29.22%	17.96%
ICICI	18.56%	11.63%	25.43%	41.41%
Reliance	11.88%	22.62%	37.03%	45.68%
SBI	10.68%	9.65%	19.77%	20.76%
Airtel	0.54%	1.89%	1.66%	-7.55%

Table 1: Return on Mutual Fund on Nifty 50 index over various time period

Name of company	10 years	5 years	3 years	1 year
Aditya Birla	17.55%	14.22%	13.64%	5.05%
ICICI Bluechip	17.88%	14.37%	16.01%	7.05%
HDFC	13.41%	12.60%	16.36%	13.30%
SBI	13.28%	11.83%	15.91%	12.89%
Reliance	21.03%	14.71%	14.44%	6.35%

Table 2: Return on S&P BSE SENSEX over various time periods

Time period	Gold (%)	MF return on equity (%)	S&P BSE return
1 year	4.36%	7.05%	41.41%
3 years	8.52%	16.01%	25.43%
5 years	13.89%	14.37%	11.63%
10 years	105.91%	17.88%	18.56%

Table 3: Comparison of the Returns of MF, S&P BSE and Gold

Conclusion and Limitations

Gold has always been considered as the most trustworthy form of investment that provides one of the best hedging opportunities against inflation, exchange rate risk or political risks etc. This paper has statistically tried to prove the fact that the long term return offered by gold are far better than the returns offered by any other options. The paper has assumed that the returns offered by the gold MF are either equal to the return of gold bullion or are even better. The return of gold fund has been assumed to be a function of spot price of gold, the cost of mining, the debt over the company that are involved in gold mining and the other non-gold related assets of the company (Blose, 1996). Although there is a limitation to the study because the risk involved with the gold fund are independent of the gold

prices and market prices and therefore gold funds are not always the exact substitute of gold bullions. The returns of various investment option that are available in the market were calculated like MF return on Nifty 50 index for 15 companies, S&P BSE Sensex return for 15 companies and gold fund return were calculated and compared and the results showed that the gold fund investment are always a better option for long term investment and would definitely
provide a far better return in comparison to others

References

[1] Blose, L.E., 1996. Gold price risk and the returns on gold mutual funds. *Journal of Economics and Business*, *48*(5), pp.499-513.
[2] Blose, L.E., 2010. Gold prices, cost of carry, and expected inflation. *Journal of Economics and Business*, *62*(1), pp.35-47.
[3] The Economic Times. (2019). *Gold or stocks or mutual funds? Spread your investments for consistent returns*.
[4] Cleartax.in. (2019). *Gold Investment in India - How to Invest, Options & Benefits*.
[5] Aggarwal, R. and Soenen, L. A. Spring 1988. The nature and efficiency of the gold market. The Journal of Portfolio Management 14:18-21.
[6] Blose, L. E. and Shieh, J. C. P. Spring 1995. The impact of gold price on the value of gold mining stock. Review of Financial Economics 4(2):125-138.

[7] Cheung, Y. and Lai, K. S. May 1993. Do gold market returns have long memory? The Financial Review 28(2): 181-202.
[8] Chua, J. H., Sick, G. and Woodward, R. S. July/Aug. 1990. Diversifying with gold stocks. Financial Analysts Journal 46(4):76-79.
[9] Dasgupta, P. S. and Heal, G. M. Feb. 1974. The optimal depletion of exhaustible resources. Review of Economic Studies (Symposium):3-28.
[10] Devarajan, S. and Fisher, A. C. March 1981. Hotelling's "economics of exhaustible resources": Fifty years later. Journal of Economic Literature 19:65-73.
[11] Jaffe, J. F. March/April 1989. Gold and gold stocks as investments for institutional portfolios. Financial Analysts Journal 45(2):53-59.
[12] Lioudis, N. K. (2019, March 12). Has gold been a good investment over the long term? Retrieved from https://www.investopedia.com/ask/answers/020915/has-gold-been-good-investment-over-long-term.asp
[13] Gold returns as much as Sensex over last 15 years; generates annualised return of 13.66%. (2016, April 11).
Retrieved from https://economictimes.indiatimes.com/markets/commoditie s/gold-returns-as-much-as-sensex-over-last-15-years-generates-annualised-return-of-13-66/articleshow/51771391.cms