Gold Market and Stock Market Risk Rate Return in India – A Study

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Abstract

This paper attempts to Gold market and Stock market risk rate return in India. The purchase of physical gold is from jewelers whose purity differs from one another. Its redemption price differs from each jeweler and is stored in lockers. Holding physical gold incurs additional expenses like storage charges, making charges etc. Lock-in period for physical gold is not required. If it is held for less than 3 years, income tax slab rate is applicable whereas 20% of capital gains tax is applicable if held for more than 3 years. The liquidity of physical gold is substantially at a discounted price. Investing in yellow precious metal is the most popular ways of investing in India over the past decades as it is regarded as the metal for storage of wealth by the Indian households. Investors tend to believe investment in gold acts as a protection against rising inflation and market risk. the study is undertaken to evaluate the various avenues available for investment in Gold with special reference to Gold Exchange Traded Funds (ETFs), to analyze the performance of Gold ETFs and their correlation with physical gold in India. The result shows that investors avail various benefits from investment in Gold ETFs, the returns from Gold ETFs are way higher than Nifty 50 and there exists a highly positive correlation between ETFs and Physical Gold.

Key Words: Gold ETFs, Nifty 50, Sovereign Gold Bonds, Risk-Return, etc.

Introduction

There are multiple ways available to invest in gold like physical gold, Gold Funds (2002), sovereign gold bonds (2015 through Gold Monetization Scheme) and gold ETFs (2007). Over the years, the demand and popularity of Gold ETFs has increased. While many Indians wish to hold their investments in the form of physical gold this has huge cost. As a replacement to this, owning paper gold available at a price almost equal to the actual price of gold fulfills the investment objectives equally. National Stock Exchange has four ETFs being traded with four different underlying assets such as equities, debts, gold and world indices. And India has three popular ETFs which are Index ETFs, Commodity ETFs and Liquid ETFs. Gold ETFs are actively traded in India and are included in the commodity ETFs.

Review of Literature

Narinder Verma, Y S Negi and Rakesh Kumar Shukla (2019) analyzed the household investment preferences for Gold and Gold Exchange Traded Funds (ETFs) in Himachal Pradesh using exploratory research and suggested through their results that households' investment preference can shift towards Gold ETF in the long run as it provides safety, stability and ease of trading through the stock markets.

Rambabu, U Rao and S. Srinivasa (2019) explored and analyzed risk in the Gold exchange traded funds along with their risk behavior in relation to Bombay Stock Exchange based on average return, beta and standard deviation using financial tools such as Sharpe measures index, Treynor's and Jensen measure index.

Kumar B.Sathish and Raj G Ram (2019) estimated the relationship between Gold and Gold Exchange Traded Funds and their performance in India by using various statistical tools for a period of three years. Axis Exchange Traded Fund performed the best among those Gold ETFs selected for their study.

Dr. Dinesh Agarwalla, Dr. Ranjit Singh and Dr. Mousumi Choudhury (2018) attempted to find Investment Preference for Physical and Non-Physical Form of Gold with reference to Marwari Businessmen in Guwahati City using the key determinants like Gold Bars, Jewellery, Gold ETF, Gold Account, Shares of Gold Mining Companies etc.

Esampally Chandraiah and Aaethi B (2015) compared the performance of Gold Exchange Traded Funds and Gold Fund of Funds. Return and risk of Gold ETFs has been compared with the return and risk of Gold FoFs. They concluded that Gold ETFs recorded lesser variability as compared to Gold FoFs.

Mrs. Madhavi Eswara (2015) studied the performance of Gold ETFs for five years of post-crash period along with the relationship of Gold ETFs to spot prices of Gold and Nifty using correlation and regression techniques. Her study found that there exist an inverse relationship between the Gold ETFs and Nifty.

Velmurugan Palaniappan Shanmugam, Saravanan A and Raghavendra R.H Raghu (2013) examined performance of the return of Gold ETFs, Gold Mutual Fund and Physical gold using the data for the period from April 2007 to September 2012. Their results proved that investing in Gold ETFs are more profitable than investing in Gold Mutual Fund and Physical form of Gold.

Research Methodology- This paper is descriptive and analytical in nature. The required data is being collected using secondary sources of data such as journals, magazines, website of National stock exchange and others. The data was analyzed using the statistical tool – correlation. Correlation was calculated using R-Software.

Objectives of the Study - The present study is undertaken

- To understand the distinction between Physical gold, Gold ETFs, Gold FOFs and Sovereign gold bonds.
- To know the performance of Gold ETFs in relation to Nifty 50 in India for a period of five years.
- To analyze the impact of Gold prices on Gold ETFs in India for a period of three years.

Physical Gold Vs Gold ETFs Vs Gold FOFs Vs Sovereign Gold Bonds

Physical Gold

Investment in physical gold has given magnificent returns to the investors over the past decades which can be easily understood by going through the price pattern of gold. Average Annual Price of gold per 10 grams from 1970 to 2019 is shown through a table below.

Table 1: Showing Average Annual price of Physical gold per ten grams from 1970 to 2019

Decade	Price of Gold per 10 grams (Rs)
1970	184
1980	1,333
1990	3,200
2000	4,400
2010	18,500
2019	44,000

Source: www.bankbazaar.com

Analysis and Interpretation - Assets under Management also called Funds under Management are a measure of total market value of all the investments in Gold held by the Asset Management Company on behalf of its investors and it depends on inflow and outflow of investor money in a particular fund**.** Nippon Gold ETF has the highest AUM Value worth Rs. 5103.94 crore and Invesco India Gold ETF with lowest AUM value worth Rs. 69.94 crore. Higher AUM indicates higher size of operations and effective management of funds. Management fee is calculated as a fixed percentage of AUM.

Gold Mutual Funds

Gold Mutual funds do not invest in assets of physical gold but they hold stocks of mining companies which forms indirect investment in Gold ETFs. The value of these funds fluctuate with the market and value of company I,e mutual fund. Investing in Gold mutual funds do not need Demat Account. Gold mutual funds invest in Gold ETFs floated by Asset Management Companies. Investors can invest in these funds through systematic investment plan with a minimum value of Rs.1000. The payment of exit load in these funds constitutes transaction cost which is up to 1 year and is bought and solve on the basis of their Net Asset Value for the day.

Some of the Gold Funds in India are Axis Gold Fund, Kotak Gold Fund, SBI Golf Fund, HDFC Gold Fund, ICICI Prudential Regular Gold Savings Fund, Invesco India Gold Fund, Nippon India Gold Savings Fund, Aditya Birla Sunlife Gold Fund etc.

Sovereign Gold Bonds

The purchase of Sovereign gold is from Banks in tranches issued by Reserve bank of India on behalf of Government of India or through secondary markets whose purity as per the gold bullion standard. These are available for purchase only for Indian Residents. The risks and costs of storage are eliminated. Investors are assured of the market value of gold at the time of maturity and periodical interest at 2.5% per annum paid twice a year. Their liquidity is at a discounted value. It belongs to Debt fund category. Sovereign Gold Bonds were first issued in November 2015 at a price of Rs. 2684.

Sovereign Gold Bond is free from issues like making charges and purity in the case of gold in jeweler form. The lock-in period is 5 years. The bonds are held in the books of the RBI or in Demat form eliminating risk of loss of scrip. If it is held for less than 3 years, income tax slab rate is applicable whereas 20% of capital gains tax is applicable if held for more than 3 years. But they are exempted from tax if they are redeemed at maturity.

Table 3: Risk- Return Analysis of Gold ETFs in India for a period of 2018-2019 (as on 31st December 2019)

			Volatility	Risk and Returns		
Scheme Name	**Plan**	**Category Name**	**Standard deviation (%)**	**Sharpe ratio**	**Treynor ratio**	**Expense ratio**
Category average			**12.35**	**0.31**	**-0.79**	**0.44%**
Aditya Birla Sun Life Gold ETF Index Funds/ETFs	Regular	Index Funds/ETFs	13.37	1.07	-9.19	0.51%
Invesco India Gold Exchange Traded Fund Index Funds/ETFs	Regular	Index Funds/ETFs	13.49	1.07	-9.39	0.45%
HDFC Gold Exchange Traded Fund Index Funds/ETFs	Regular	Index Funds/ETFs	13.43	1.05	-9	0.60%
SBI - ETF Gold Index Funds/ETFs	Regular	Index Funds/ETFs	13.44	1.06	-8.78	0.51%
Kotak Gold ETF Fund Index Funds/ETFs	Regular	Index Funds/ETFs	13.29	1.08	-6.78	0.55%
Nippon India ETF Gold BeES Index Funds/ETFs	Regular	Index Funds/ETFs	13.13	1.08	-7.18	0.82%
Quantum Gold Fund Index	Regular	Index	13.44	1.06	-9.52	0.78%

Funds/ETFs		Funds/ETFs				
Axis Gold ETF Fund Index Funds/ETFs	Regular	Index Funds/ETFs	13.2	1.09	-9.39	0.53%
ICICI Prudential Gold ETF Index Funds/ETFs	Regular	Index Funds/ETFs	13.24	1.07	-6.81	0.65%
UTI Gold Exchange Traded Fund Index Funds/ETFs	Regular	Index Funds/ETFs	13.48	1.06	-8.84	1.06%
IDBI Gold Exchange Traded Fund Index Funds/ETFs	Regular	Index Funds/ETFs	13.01	1.09	-8.2	0.35%

Source: www.moneycontrol.com

Analysis and Interpretation- The above table indicates the risk and return analysis of Gold ETFs in India as on 31st December 2019. Standard deviation represents the volatality. Higher the standard deviation means higher the volatality and vice-versa. The Average standard deviation of ETFs is 12.35% which is less when compared to the standard deviation of the individual ETFs. Invesco Gold ETF has the highest volatility (13.49%) and IDBI Gold ETF has lower volatility (13.01%). By this it is understood that there is high volatility among all the Gold ETFs in India.

Sharpe ratio represents how much risk was taken to generate the returns. Higher the sharpe ratio, higher the risk adjusted returns and vice-versa. The Average ratio for all the ETFs is 0.3. The individual ETFs sharpe ratio is more than the category average with more than 1 which means all ETFs has given the investors with better risk adjusted returns. Axis and IDBI Gold ETFs has the highest risk adjusted returns with 1.09 and HDFC has lower risk adjusted returns with 1.05.

Treynor ratio represents how much excess return was generated for each unit of risk taken. Higher the treynor ratio, better the risk adjusted returns and vice-versa. The Average ratio for all the ETFs is -0.79. The individual ETFs treynor ratio is less than the category average which means all ETFs has given the investors with poor risk adjusted returns. Kotak Gold ETF has higher treynor ratio (-6.78%) and Quantum Gold ETF has lowest treynor ratio (-9.52%).

Expense Ratio indicates cost incurred by investors in the form of fee paid to AMC. Higher the expense ratio means less returns and vice-versa. The Average expense ratio is 0.44% and individual ETF ratio is more than the average expense ratio. IDBI Gold ETF has lowest expense ratio (0.35%) and UTI Gold ETF has highest expense ratio (1.06%).

Table 4: Showing Performance Comparison of Gold ETFs in India in relation to Nifty in terms of their returns (for a period of 2016 to 2019)

Comparison of performance	1 year	2 years	3 years	5 years
Nifty 50	**15.03%**	**13.33%**	**10.33%**	**11.96%**
Aditya Birla Sun Life Gold ETF Index Funds/ETFs	26.51%	24.90%	18.70%	13.65%
Invesco India Gold Exchange Traded Fund Index Funds/ETFs	26.42%	24.95%	18.76%	13.70%
HDFC Gold Exchange Traded Fund Index Funds/ETFs	26.33%	24.38%	18.33%	13.68%
SBI - ETF Gold Index Funds/ETFs	26.30%	24.80%	18.59%	13.56%
Kotak Gold ETF Fund Index Funds/ETFs	26.20%	24.76%	18.65%	13.59%
Nippon India ETF Gold BeES Index Funds/ETFs	26.01%	24.56%	18.23%	13.57%
Quantum Gold Fund Index Funds/ETFs	25.96%	24.53%	18.29%	13.51%
Axis Gold ETF Fund Index Funds/ETFs	25.90%	24.78%	18.73%	13.04%
ICICI Prudential Gold ETF Index Funds/ETFs	25.69%	24.46%	18.42%	13.36%
UTI Gold Exchange Traded Fund Index Funds/ETFs	25.75%	24.43%	18.51%	13.68%
IDBI Gold Exchange Traded Fund Index Funds/ETFs	25.75%	24.52%	18.69%	13.89%

Source: www.moneycontrol.com

Analysis and Interpretation- The above table represents the comparison of returns percentage from Nifty and Gold ETFs in India. The returns from all the ETFs are higher than the Nifty from the past five years which means ETFs are giving better returns than the Benchmark.

Table 6: Showing the Correlation between the Physical gold and Various Gold ETFs in India for the year 2019

Correlation	Gold	Kotak	SBI	IDBI	HDFC	ICICI	QUANTUM	AXIS	INVESCO	NIPPON	UTI	ADITYA
Gold	1											
Kotak	0.9547	1										
SBI	0.9455	0.9957	1									
IDBI	0.8579	0.9108	0.8894	1								
HDFC	0.9520	0.9990	0.9972	0.9008	1							

ICICI	0.9526	0.9994	0.9958	0.9051	0.9991	1						
QUANTUM	0.9549	0.9987	0.9982	0.9011	0.9993	0.9986	1					
AXIS	0.9395	0.9966	0.9950	0.8898	0.9983	0.9975	0.9962	1				
INVESCO	0.9531	0.9956	0.9877	0.9174	0.9955	0.9967	0.9940	0.9940	1			
NIPPON	0.9484	0.9977	0.9931	0.9024	0.9989	0.9986	0.9971	0.9985	0.9979	1		
UTI	0.9445	0.9942	0.9850	0.9158	0.9942	0.9949	0.9915	0.9940	0.9979	0.9973	1	
ADITYA	0.9458	0.9954	0.9939	0.8937	0.9981	0.9964	0.9965	0.9982	0.9958	0.9987	0.9942	1

Analysis and Interpretation - The above table represents the correlation between the prices of various Gold ETFs and Physical Gold for the year 2019. Correlation of 1 represents perfect positive correlation and near to 1 represents positive correlation which means that the impact of gold price is higher on the ETFs. Quantum Gold ETF is highly positively correlated (0.9549) to Gold price followed by Kotak (0.9547) and IDBI is least positively correlated (0.8579) followed by Axis (0.9395).

Findings

- Nippon Gold ETF has the highest AUM Value worth Rs. 5103.94 crore followed by HDFC Gold ETF with Rs.2005.07 crore and Invesco India Gold ETF with lowest AUM value worth Rs. 69.94 crore as on the year 2019.
- Invesco India Gold ETF has shown high volatality and IDBI Gold ETF has lower volatality (13.01%) in returns as against 12.35% of the category average of all ETFs from 2018-2019.
- Axis Gold ETF and IDBI Gold ETF have higher risk adjusted returns with 1.09% and HDFC has lower risk adjusted returns with 1.05% represented in terms of sharpe ratio as against the category average of 0.31% from 2018-2019.

Conclusion

The present study shows that investment in Gold ETFs provides investors with various benefits in comparison to physical gold, Sovereign gold bonds and gold fund of funds like convenience in trading, liquidity, better returns, tracking, tax benefits, nil storage costs and transparency with security as it is regulated by SEBI. ETFs are giving better returns than the Benchmark Nifty. And study found that there is a strong positive relationship among the Gold and Gold ETFs. Kotak Gold ETF has higher treynor ratio (-6.78%) and Quantum Gold ETF has lowest treynor ratio (-9.52%) represented in terms of treynor ratio as against the category average of -0.79% from 2018-2019. UTI Gold ETF has the highest expense ratio of 1.06% as against the IDBI Gold ETF with lowest expense ratio of 0.35% while the average for the category is 0.44%. Quantum Gold ETF is highly positively correlated (0.9549) to Gold price followed by Kotak (0.9547) and IDBI is least positively correlated (0.8579) followed by Axis (0.9395).

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