A Comparative Study Between Selected Gold Etfs And Physical Gold

Dr. Jahnavi M[1], Namita P. Konnur[2], Prof. Brijesh Singh[3], Dr. N Babitha Thimmaiah[4]

[1]Assistant Professor, Head-Department of M.Com(FA), Jyoti Nivas College Autonomous, PG Centre, Bengaluru

[2]Asst. Professor, Department of MBA, CMR Institute of Technology, #132, AECS Layout, ITPL Main Road, Kundalahalli, Bengaluru

[3]Research scholar from VTU, Belagavi & Associate Professor, Department of MBA, SJB Institute of Technology, Bangalor

[4]Research Guide, VTU Belagavi & Assistant Professor, Department of Management Studies, VTU PG Centre, Mysuru

ABSTRACT

Over the years, investment in gold ETFs as an alternative investment to physical gold has increased. Generally, gold, gold ETF and gold mutual funds are considered as alternative investments to the socks and shares and hence the returns on these investments should closely follow the returns on the stocks. In other words, it is usually expected that there should not be any major difference in returns on the investment avenues. The current study is considered to be analytical research as it undertakes analysis of financial performance of top ten gold ETFs and its comparison with physical gold. The study is based on secondary data of market prices of gold ETFs obtained from NSE website and market prices of gold from MCX website during 2017-19. The analysis from the above statistical tools used proves that there is a significant difference among the Gold ETFs and Physical form of Gold respectively. The returns of the Gold ETF's are higher compared to physical gold during the year 2017-19

Keywords

Gold ETF, MCX, Physical gold, Risk, Return, MCX

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Introduction

One of the valuable metals being bought and sold is gold. The gold is considered as an investment avenue by many of the investors; because originally, it was the base for gold standard which helped to set value for all the money across the globe. It is also used as a hedging tool, as a security during financial crises and a direct investment for the purpose of savings in the future. Over the period of time, an alternative investment to the physical gold was emerged which is known as Gold Exchange Traded Fund (Gold ETF). The gold ETFs are basically mutual funds that are listed and traded in the stock exchange just like shares. The Gold ETFs are sub divided into units representing physical gold. They are based upon Net Asset value (NAV) of the underlying asset of gold. These can be bought and sold throughout the trading day like any other shares in an exchangeand held in the dematerialized form or paper form. It is a reflexive investment whose price is based on gold price and one can find complete transparency on the holdings. The investors can purchase a single ETF just like any other share. Due to its exclusive structure and creation mechanism, the gold ETFs are less expensive as compared to physical gold investments. Thus gold ETF offers an opportunity to the investors to take part in the gold bullion market without necessarily taking physical delivery of gold. The concept of ETF emerged originally in Canada by commencing “Central Fund of Canada”, a closed-end fund founded in 1961 and listed on Toronto Stock Exchange in 1966. It was later on in 1983 modifiedinto exchange traded product with underlying asset of gold and silver. There are various types of ETFs which are traded on the stock exchanges like Equity Index ETFs, Gold ETFs, Liquid ETFs and International Index ETFs. The ETF enables the investors to invest in the entire market with just one security. Thus it offers the benefit of flexibility as well as diversification. In current financial markets ETF is considered as highly valuable instrument of investment and witnessed a rapid growth in the last decade.

Review Of Literature

The researchers reviewed the following literature to find the research gap. Authors have examined the following research gap **Vidhya Priya and Mohan Sundari** in the year 2014 conducted a study on the performance of Gold ETFs in India. This study clearly states that Gold savings funds give an alternative plan known as systematic investment plans (SIP). This study helps the investors on how Gold ETFs provide a way for investors to invest in gold as security without any difficulty of storage and security concerns. It also helps to stop the investors worrying about the quality of gold also provides advantages such as electronic trading and dematerialized storage providing one's investment portfolio. **Jayanthi, 2013** this article exhibits that many of the Gold ETFs presently available in the Indian market have a large deviation compared to the actual gold return. This issue is observed more in India than in any other developed market. This results if the price of the gold rise or fall, the gold ETF figure should also rise or fall to an extent. **Nawaz and Sudhindra, 2013** conducted a study on different types or forms of Gold investment available to investors. The need of this study was to know the distinct options of investment for investors. The factors that need to take care of know-how of investing in gold, merits, and demerits of different forms of investments, to guide and create awareness among the investors about the gold investing alternatives. Primary data such as questionnaires and secondary data through websites, newspapers, magazines are collected to study the gold investments. According to the study, many investors opt for gold coins, jewelry, and gold bullions than invest in ETFs. Better alternatives and future led to more profit and a simple form of investment. **Pandey, 2010** he observed that buying Gold ETF is secure, easy, convenient, and adds tax-oriented benefits compared to physical gold. **Mishra, Das & Mishra** conducted a study in the year 2010 by analyzing the relationship between the Indian natural Gold and the Stock market indices returns. This study revealed that there is a long-run equilibrium. It found that there is a normal relationship between Gold price and stock market return. **Athma, Prashanta, & K, 2011,** in their study he declared that Gold ETF is the finest method for portfolio diversification. Compare to equity share investment Gold investment is less volatile**. Kumar, Kumar & Roy, 2012** examined the performance of Gold ETFs by conducting risk and returns. This examination proves that Gold ETF has a better return. **Nemavathi & Nedunchezhian, 2013** conducted a study to predict the volatility of Gold and Gold ETF with the help of the EGRACH model. By using this model, they finalized that the volatility of the fund based on yield performance. **Narend,** the year 2014 conducted a study to evaluate the performance of Gold ETFs by using Jensen Alpha Return. Through this evaluation, they predicted that ETFs provide more return compare to Physical Gold. **Tripath, Parashar & Singh** conducted a study in the year 2014 on a random relationship between the gold price and other macroeconomic factors, this study revealed that there is Granger Cause in the exchange rate and oil price in India. **Mishra P. K** in the year 2014 declared that there is a bidirectional connection between the gold price and the stock market return in India. He also stated that gold is the finest investment option for investors. **Gencer & Musoglu, 2014** evaluated the gold price in turkey by using the GARCH model. This evaluation shows that the market price an impact on the gold price volatility. **Anand, 2014** discovers that Gold ETF is determined by the Gold price. Gold ETFs provide more return in along rum relationship this will attract the investors to invest in Gold ETF. **Jain & Mary, 2018** discovered that for small investors, Gold ETFs are a new concept. Investors need not be worried about the holding storage and security and other damages such as theft and natural calamities since Gold ETF is a convenient way of trading.

Research Gap Need For The Study

Over the years, investment in gold ETFs as an alternative investment to physical gold has increased. Generally, gold, gold ETF and gold mutual funds are considered as alternative investments to the socks and shares and hence the returns on these investments should closely follow the returns on the stocks. In other words, it is normally expected that there should not be any significant difference in returns on these investment avenues. Though, many studies have been undertaken on this issue, the results differ widely. This necessitated to empirically prove whether or not the returns on gold ETFs closely follow the returns on the physical gold. Hence, the topic entitled '**A Comparative Study between Selected Gold ETF's and physical gold'** chosen for the current study.

Objectives Of The Study

- To analyze the performance of selected gold ETFs and physical gold during 2017-2019
- To examine the relation between the risk and returns of Gold ETF's and physical gold

Hypothesis

H_0: There is no significant difference between the returns on gold ETF and returns on physical gold.
H_1: There is a significant difference between the returns of gold ETF and returns on physical gold.

Research Methodology

The current study is considered to be analytical research as it undertakes analysis of financial performance of top ten gold ETFs and its comparison with physical gold. The study is based on secondary data of market prices of gold ETFs obtained from NSE website and market prices of gold from MCX website during 2017-19. The data collected is analyzed using descriptive statistics, ANOVA and multiple regression. The following ten Gold ETFs are chosen for the study. These are: *Viz. 1) AxisGold of* Axis *mutual fund, 2)* HDFCMFGETF of HGFC *mutual fund*, 3) IDBIGold of IDBI *mutual fund*, 4) GoldShare of UTI mutual fund, 5. Birla mutual fund, 6. GOLD BEES, 7. HDFC mutual fund, 8. ICICI mutual fund,, 9. RELIGARE, 10. SBI mutual fund,

Limitations Of The Study

- Though many gold ETFs are available for investment in India, the current study considers only ten gold ETFs.
- The current study is based on secondary data.
- The financial data collected for the analysis belongs to very short time frame of 2017-19.

Results And Discussions

In this section, the returns of ten gold ETFs and physical gold are calculated based on the market prices during 2017-19. To fulfill the objective of risk-return analysis, mean returns, standard deviations and variance are ascertained. Skewness and Kurtosis are also calculated to know the pattern of distribution &Descriptive statistics, ANOVA and multiple regression are used to test the hypothesis.

Table 1: Descriptive statistics of selected Gold ETFsand physical *Gold* during the year 2017

	PHYSICAL GOLD	AXIS	BIRLA	GOLD BEES	HDFC	ICICI	IDBI	QUANTUM	RELIGARE	SBI	UTI
Mean	0.03	0.01	0.02	0.01	0.02	0.01	-0.03	0.01	-0.44	0.02	0.02
Std. Deviation	0.68	0.60	1.25	0.60	0.60	0.82	2.39	0.56	3.99	0.64	0.57
Variance	0.47	0.36	1.56	0.36	0.36	0.68	5.72	0.31	15.94	0.41	0.32
Skewness	0.48	0.52	-0.13	0.50	0.36	0.23	2.07	0.42	-0.27	0.33	1.19
Kurtosis	1.28	0.83	1.40	0.37	0.37	0.65	19.86	1.16	3.21	0.00	4.90

Source: Authors calculation using SPSS

Table-1 exhibits descriptive statistics of selected Gold ETFs and physical gold during the year 2017. The mean returns of majority of the gold ETFs (i.e. eight) have positive and only two have negative (i.e. IDBI and Quantum). The mean returns on physical gold arehigher than the mean returns of all theselected Gold ETF's in the year 2017 which implies that physical gold investment is preferred to gold ETFs in terms of return. The standard deviation of returns on physical gold is found to be 0.68. The standard deviation of returns on six gold ETFs is lower and four gold ETFs is higher than that of physical gold. This shows that most of the gold ETFs have lower volatile in the market prices and subject to low risk compared to physical gold. It is inferred from the analysis that in terms of return physical gold is preferred and in terms of risk gold ETF is preferred.

It is also known that the skewness of majority of the gold ETFs (eigth) are positive including physical gold and its values lies in between -1 to 1, except for UTI (1.19). This implies that the data is positively skewed. This implies that the distribution will have more thin tail portion on the right hand side. The distribution is skewed to the right. But the extent of distortion in the shape of the distribution is very small because the value of the skewness coefficient is small.It is further known that the kurtosis of all gold ETFs are positive including physical gold. The kurtosis of physical gold is 1.28 and five gold ETFs have greater kurtosis and remaining five gold ETFs have lower kurtosis. This implies that the distribution for Birla, IDBI, Quantum, Religare and UTI ETF's is too peaked and majority of its data lies in the centre.

Table 2: Descriptive statistics of selected Gold ETFs and physical Gold during the year 2018

	PHYSICAL GOLD	AXIS	BIRLA	GOLD BEES	HDFC	ICICI	IDBI	QUANTUM	RELIGARE	SBI	UTI
Mean	0.03	0.04	0.04	0.03	0.03	-0.34	0.05	0.03	-0.31	0.03	0.03
Std. Deviation	0.58	0.78	1.20	0.56	0.53	5.77	3.05	0.54	3.11	0.56	0.65
Variance	0.34	0.61	1.44	0.31	0.28	33.29	9.29	0.29	9.67	0.31	0.42
Skewness	0.04	0.19	0.33	0.74	0.42	-15.39	0.32	0.35	0.56	0.10	-0.12
Kurtosis	0.92	1.68	3.39	3.22	1.10	239.52	1.54	1.57	1.03	0.54	1.66

Source: Authors calculation using SPSS

Table-2 exhibits descriptive statistics of selected Gold ETFs and physical gold during the year 2018. The mean returns of majority of the gold ETFs (i.e. eight) have positive and only two have negative (i.e. ICICI and Religare). The mean returns on physical gold are similar compared to the mean returns of all the selected Gold ETF's in the year 2018 which implies that physical gold investment is preferred to gold ETFs in terms of return. The standard deviation of returns on physical gold is found to be 0.58. The standard deviation of returns on four gold ETFs is lower and six gold ETFs is higher than that of physical gold. This shows that most of the gold ETFs have higher volatile in the market prices and subject to high risk compared to physical gold. It is inferred from the analysis that in terms of return gold EFT is preferred and in terms of risk physical gold is preferred.

It is also known that the skewness of majority (i.e. eight) of the gold ETFs are positive including physical gold and only two are negative. The skewness of physical gold is 0.48 and four gold ETFs have greater and six gold ETFs have lower kurtosis. This implies that except for UTI ETF's the data skewed towards right. It means, data distributes widely from the mean towards right but from the kurtosis it is evident that major portion of data centered towards the mean.

Table 3: Descriptive statistics of selected Gold ETFs and physical Gold during the year 2019

	PHYSICAL GOLD	AXIS	BIRLA	GOLD BEES	HDFC	ICICI	IDBI	QUANTUM	RELIGARE	SBI	UTI
Mean	0.08	0.09	0.08	-0.32	0.09	0.09	-0.15	0.09	0.22	0.09	0.09
Std. Deviation	0.84	0.82	1.41	6.39	0.76	0.76	3.41	0.75	4.29	0.75	0.87
Variance	0.71	0.68	2.00	40.81	0.58	0.58	11.66	0.56	18.42	0.56	0.76

Skewness	0.50	0.96	0.42	-15.29	0.28	0.52	0.96	0.42	1.26	0.44	0.83
Kurtosis	2.06	5.33	16.56	237.12	2.09	2.74	3.64	2.58	4.08	1.54	11.26

Source: Authors calculation using SPSS

Table-3 exhibits descriptive statistics of selected Gold ETFs and physical gold during the year 2019. The mean returns of majority of the gold ETFs (i.e. eight) is same as with the physical gold except for Religare and Gold Bees ETF, out of which Gold Bees ETF have negative returns. During the year 2019, compared to physical gold and ETF's, Religare ETF realized maximum return of 0.22. On an average the performance of physical gold and EFT's performed in the same manner. Compared to physical gold only five ETF's are less risky they are Axis, HDFC, ICICI, Quantum and SBI. The overall average risk of ETF's is more than physical gold. It indicates that physical gold is less risky than ETF's.

It is also known that the skewness of majority of the gold ETFs (nine) are positive including physical gold is positive , i.e., lies within the range of -1 to 1. This implies that the data is positively skewed. This implies that the distribution will have more thin tail portion on the right hand side. The distribution is skewed to the right. But the extent of distortion in the shape of the distribution is very small because the value of the skewness coefficient is small.It is further known that the kurtosis of all gold ETFs are positive including physical gold. The kurtosis of physical gold is 1.28 and six gold ETFs have greater kurtosis and four gold ETFs have lower kurtosis. This implies that the distribution is too peaked and majority of the data lies in the centre.

Table 4: Summary results of Correlation Coefficient during 2017-19

Year	R value	R-Square	Adjusted R-Square	Std. Error of the Estimate
2017	0.692[a]	0.479	0.456	0.5047102
2018	0.662[a]	0.438	0.413	0.4497212
2019	0.698[a]	0.487	0.464	0.6148436

Source: Authors calculation using SPSS

Table-4 depicts the summary results of correlation coefficient between dependent and independent variables during the period 2017-19. The above table depicts the relationship between the dependent variable (returns on physical gold) and the independent variables (returns on 10 ETF's). From the analysis it is evident that the correlation between the returns on gold ETFs and returns on physical gold is obtained 0.692 in the year 2017which indicates fairly high degree of correlation. The R-square value is obtained 0.479 (i.e. 47.9%) whichshows that independent variables are good enough to measure only 48% of variation in the dependent variable. When it comes to the year 2018, movement of independent variables can explain only 43.8% variation on dependent variables. Compared to all the three years, the high correlation coefficient is 0.698 in the year 2019 and in this year independent variables explained the highest extent of variation in the dependent variable ie., 48.7%. In all the three years the variables are associated directly because of positive correlation coefficient and the association between the dependent & independent variables are significant.

Table-5: Regression Result during 2017

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.052	10	5.405	21.219	0.000[b]
2	Residual	58.843	231	0.255		
	Total	112.896	241			

Source: Authors calculation using SPSS

Table -5 The value under regression analysis suggest statistically significant and holds good fit for the data as $p< 0.0005$, which is less than 0.05.

Table-6: Regression Results during 2018

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.606	10	3.561	17.605	0.000[b]
2	Residual	45.708	226	0.202		
	Total	81.314	236			

Source: Authors calculation using SPSS

Table 6-The value under regression analysis suggest statistically significant and holds good fit for the data as $p< 0.0005$, which is less than 0.05.

Table-7: RegressionResults during 2019

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	82.115	10	8.212	21.722	0.000[b]
2	Residual	86.569	229	0.378		
	Total	168.685	239			

Source: Authors calculation using SPSS

Table 7- The value under regression analysis suggest statistically significant and holds good fit for the data as $p< 0.0005$, which is less than 0.05.

Table-8: Summary sheet

Anova: Two-Factor Without Replication				
SUMMARY	***Count***	***Sum***	***Mean***	***Variance***
2017	11	-0.32	-0.029	0.019

2018	11	-0.34	-0.031	0.021
2019	11	0.45	0.041	0.022
PHYSICAL GOLD	3	0.14	0.047	0.001
AXIS	3	0.14	0.047	0.002
BIRLA	3	0.14	0.047	0.001
GOLD BEES	3	-0.28	-0.093	0.039
HDFC	3	0.14	0.047	0.001
ICICI	3	-0.24	-0.080	0.052
IDBI	3	-0.13	-0.043	0.010
QUANTUM	3	0.13	0.043	0.002
RELIGARE	3	-0.53	-0.177	0.122
SBI	3	0.14	0.047	0.001
UTI	3	0.14	0.047	0.001

Source: Authors calculation using SPSS

From the above table, it is evident that compared to 2017 and 2018, investors realized a positive return in 2019. After evaluating the performance of the selected schemes for all the three years, the following schemes performed well and gave the highest positive returns they are Physical Gold, Axis, Birla, HDFC, SBI, UTI followed by Quantum. The schemes which are not good and resulted in negative returns are Gold Bees, ICICI, IDBI and Religare.

ANOVA						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Rows	0.036891	2	0.0184455	0.860779184	0.437915	3.492828
Columns	0.188097	10	0.0188097	0.877776992	0.567764	2.347878
Error	0.428576	20	0.0214288			
Total	0.653564	32				

Source: Authors calculation using SPSS

Hypothesis Tested for the Study

Row:

H0: There is no significant difference in the performance measured in terms of returns for the selected schemes & physical gold

H1: There is a significant difference in the performance of the selected schemes & physical gold

Columns:

H0: There is no significant difference in the performance measured in terms of returns for the selected schemes & physical gold with respect to different time periods

H1: There is a significant difference in the performance of the schemes and physical gold with respect to the time.

From the above analysis table, it is clear that the p-stat value for rows and columns are greater than alpha ie., 0.05, (P-critical value for row 0.437>0.05 & P-critical value for columns 0.567>0.05) that would leads you to **accept the null hypothesis**. There is no significant difference among the selected scheme returns as well as within the schemes with respect to various time periods. It means, the schemes are performed in a consistent manner.

Scope For Further Study

Since the current study is conducted only for ten gold ETF's, the study can be extended to all other gold ETF's in India. It can also be extended to gold ETF's of other counties.

Research Implictions

The results of current study help the common investors to take right decision of investment-whether to invest in physical gold, gold ETF or stocks. It also helps the mutual fund managers in diversifying the portfolio into gold ETF in addition to common stocks.

Conclusion

The analysis from the above statistical tools used proves that there is a significant difference among the Gold ETFs and Physical form of Gold respectively. The returns of the Gold ETf's are higher compared to physical gold during the year 2017-19

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