



Finance Management

Elixir Fin. Mgmt. 32 (2011) 2057-2060

Elixir
ISSN: 2229-712X

Performance appraisal of gold ETFs in India

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ARTICLE INFO

Article history:

Received: 7 February 2011;

Received in revised form:

25 February 2011;

Accepted: 2 March 2011;

Keywords

Gold Exchange Traded Funds,

Alpha,

Beta,

Standard Deviation,

Sharpe's index,

Treynor's ratio.

ABSTRACT

The present paper aims at discovering and analysing risk in the emerging security in the stock market i.e Gold ETFs. The basic aim of the study is to study the financial performance, variations and analyse the risk behaviour of the selected Gold ETFs in comparison of NSE. The data for this has been taken from the NSE website. The period taken for the study is March 2008 to November 2010. Analysis is made by using financial tools like Sharpe's index, Treynor's ratio by calculating alpha, beta and standard deviation of the selected funds. The study will be beneficial for the investigators and investors who seek the best opportunities in the Gold ETFs.

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Introduction

An exchange-traded fund (ETF) is an investment fund traded on stock exchanges, much like stocks (Investopedia). An ETF holds assets such as stocks, commodities, or bonds and trades at approximately the same price as the net asset value of its underlying assets over the course of the trading day. Most ETFs track an index, such as the S&P 500 or MSCI EAFE or NSE or BSE. ETFs may be attractive as investments because of their low costs, tax efficiency, and stock-like features. ETFs are the most popular type of exchange-traded product. An ETF combines the valuation feature of a mutual fund or unit investment trust, which can be bought or sold at the end of each trading day for its net asset value, with the tradability feature of a closed-end fund, which trades throughout the trading day at prices that may be more or less than its net asset value. Closed-end funds are not considered to be "ETFs", even though they are funds and are traded on an exchange. ETFs have been available in the US since 1993 and in Europe since 1999.

There are various types of ETFs which are traded on the stock exchanges, like equity index ETFs, liquid ETFs and the gold ETFs. Central Fund of Canada was the first gold exchange-traded product, a closed-end fund founded in 1961.

It later amended its articles of incorporation in 1983 to provide investors with an exchange-tradable product for ownership of gold and silver bullion. It has been listed on the Toronto Stock Exchange since 1966 and the AMEX since 1986. In USA, they first come in existence in 1993. The emergence of Gold ETFs in India can be traced to early 2007. The tonnage of gold in Indian gold Exchange Traded Funds (ETFs) remains relatively small but there have been significant recent developments with the Indian Gold ETF market as investors seek greater access to more liquid gold Investments.

Gold ETFs are units representing physical gold, which may be in paper form or dematerialized form. These units are traded on the exchange like a single stock of a company. Gold ETFs are intended to offer investors a means of participating in the gold

bullion market without the necessity of physical delivery of gold. Gold exchange-traded funds (ETF) may be new for India, but are gaining in popularity as investors become aware of the benefits of investing in gold in a non-material form as opposed to holding it as jewellery. At present, there are ten gold ETFs which are traded on NSE.

Current Scenario

Kotak Gold ETF, Quantum Gold Fund, Reliance Gold Exchange Traded, UTI Gold Exchange Traded Fund, Religare Gold Exchange Traded Fund and State of Bank of India (SBI) Gold Exchange Traded Scheme were holding 3 tonnes of gold on June 2007, which shoot up by 250 percent by the end of August 2010. Their holdings was 11 tonnes on that date.

The increase in prices have not triggered redemptions rather the investors have increased their holdings. But it is too early to say whether this pattern will continue for a long period of time or not. February 2009 was an exception to the trend when total Indian gold ETF saw redemptions of 2 tonnes in holdings due to a 15% month-on-month spike in the local gold price during the global credit crises. However, this event in turn highlights the liquidity aspect of holding gold in the form of an ETF.

Figure 1: Showing Compounded Annual Growth Rate of different securities during 2005-2010



Source: NSE

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It is revealed from the figure given above that in comparison of traditional fixed deposits, stock markets etc. gold is giving highest returns during the last five years. It shows the increasing demand of gold as investment also. The recent growth in holdings and the development of new products suggests that after a slow start, banks and financial institutions are getting ready to launch new gold ETFs and gold schemes in the world's largest gold consumer market. Most recently, State of Bank of India (SBI) and Religare innovated In the ETF' space with the launch of the SBI Gold Exchange Traded Scheme and Religare Gold Exchange Traded Fund respectively. The WGC believes there is a strong case for growth in gold ETFs, given the appetite for gold investment from mutual funds and pension funds in India. The high returns of Gold ETFs attracted the huge investment in Gold ETFs in India. Following is the usage wise details of gold during the past two decades.

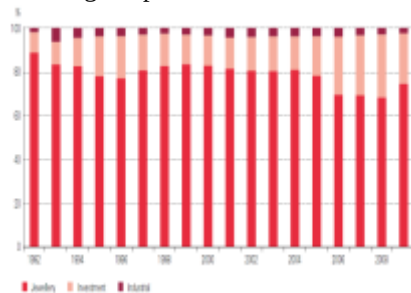


Figure 2: Showing usage wise holdings of Gold
(Source: WGC)

The table given above shows the demand of gold usage wise. It is clearly shown in the table that the demand for gold is increasing year by year for investment purposes. So there is a need to evaluate gold and the funds investing specially in gold for the purpose of knowledge enhancement as well as to know the trend and movements in this market.

Literature Review

An ample amount of research work has been conducted in the field of Gold ETFs. Researchers are basically concerned with the behaviour and movement pattern of these securities. Although on the basis of risk measurement tools a lot of work is desired. Following studies with their results are mentioned below to investigate the previous studies:

Noblett, Jackie(2010) suggested that Gold ETFs have witnessed massive flows as institutions, advisers and individual investors look to gain exposure to the precious metal, and with it a hedge against currency volatility and inflation.

Pandey, Neha (2010) favoured the gold ETFs by saying that the electronic form of buying, selling and storing gold is more convenient and price-effective than buying the metal in the physical form.

Kalaycioglu, Serdar(2004) found negative correlations between flow of funds into ETFs and market returns and their lags, at aggregate and individual levels.

Yu (2003) which documents effects of ETF markets on price formation and informational efficiency of component stock markets found that both informational efficiency and market liquidity are improved in component stock markets after ETFs start trading.

Boehmer and Boehmer (2003) which studied the costs and market structure of ETF trading.

Elton (2002) analyzed ETF returns in relation to changes in their Net Asset Value has provided the evidence that the ETFs which are registered as unit investment trust can not immediately reinvest dividends received on portfolio securities.

Dividends are held in a non interest bearing account for up to a year and this affects the overall performance significantly.

Engle and Sarkar (2002) studied pricing of ETFs and deviation of price from Net Asset Value in various ETF products.

Kurov and Lasser (2002) which studied the effect of ETF introductions on futures markets were of the view that document evidence on information relevant for component stock price formation originating in ETF markets.

Edelen and Warner (2001) examine return flow relationship in mutual funds using high frequency data and give strong evidence pertaining to the relation between flow and return.

Warther (1995) finds a strong contemporaneous relation between cash flows into mutual funds and aggregate security returns.

Goetzmann and Massa (1999) analyze the relationship between individual index funds and asset prices. They use three S&P500 index funds to investigate relation between fund in - flows and S&P market returns. They found strong contemporaneous positive (negative) correlation between fund inflows (outflows) and S&P market returns.

Objectives Of The Study

The objectives of the study are as follows:

1. To study the financial performance of the selected Gold ETFs in comparison of NSE.
2. To study the variations in selected Gold ETFs and NSE.
3. To analyse the risk behaviour of the Gold ETFs.

Research Methodology

This study is limited to Gold ETFs only and which are trading on NSE. Presently there are ten funds which are traded on NSE, but we have selected only five funds. The funds selected are trading for last two or more years on the stock exchange. The other five are traded only for one year or less than one year. To achieve the objectives of the study, the relevant secondary data is collected from the NSE website. The sample period is from March 2008 to November 2010. The sample period is chosen in a way that maximum number of Gold ETFs may be included in the study. Secondly, this period witnessed the steep increase in the demand of Gold ETFs and the gold. Various financial tools like standard deviation, alpha, beta, Sharpe and Treynor's ratio are used in the study which are explained as below:

- (a) The Sharpe's index,
- (b) Jack Treynor measure for portfolios
- (c) Standard Deviation
- (d) Beta
- (e) Alpha

(a) Measure for sharpe's portfolios performance

The Sharpe's index measures the risk premium of the portfolio relative to the total amount of risk in portfolio. The Sharpe's index is measured as

$$S = R_p - R_f / \sigma_p$$

where,

S = Sharpe's Index

r_p = average monthly return

of fund.

r_f = risk free return *.

* risk free return (r_f) is taken as 7.73% per annum

(b) Treynor's performance measures for portfolios

Jack Treynor, as measures by portfolio beta coefficients put an index of portfolio performance that is based on systematic risk, forward. It is used to rank the interest performance of different assets. It is a risk - adjusted rate of return measure than

is calculated by dividing the assets risk premium by their beta coefficient.

$$T_n = r_p - r_f / \beta_p$$

where

T_n = Treynor's index

r_p = average return on portfolio

r_f = risk free return

β_p = beta coefficient of portfolio.

(C) Standard Deviation:

It is used to measure the variation in the individual return from the average expected return over a certain period. Standard deviation is used in the concept of risk of a portfolio of investment. Higher the Standard Deviation means a greater fluctuation in expected return.

$$\sigma = \frac{\sqrt{(Y - \bar{Y})^2}}{N}$$

Where, Y = fund return

(D) Beta:

Beta measures the systematic risk and show how price of security respond to the market foresees. It is calculated by relating the return on security with return for market.

$$\beta = \frac{n \sum XY - (\sum x \sum y)}{n \sum x^2 - (\sum x)^2}$$

Where,

X = index return

Y = fund return

(E) Alpha:

It measures the stock unsystematic return and it is average return independent of market return. It is calculated by comparing the funds actual performance with the risk adjusted expected return.

$$\alpha = Y - \beta X$$

X = index return

Y = fund return

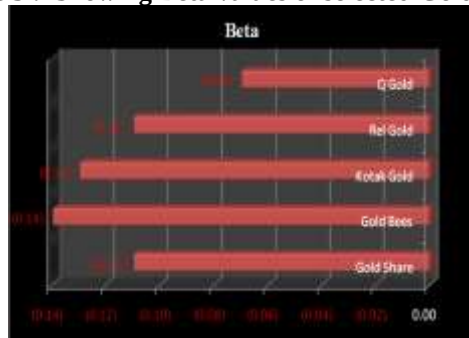
Analysis and Interpretation

Analysis and interpretation has been done on the basis of risk measurement financial tools like alpha, beta, Standard Deviation, Sharpe's Index and Treynor's ratio.

The results drawn out of the measurements done individually on each fund are discussed below:

Table and Diagram 1 explore the status of five selected Gold funds in comparison to NSE Nifty index. It is clear from the table that the highest beta is of Q Gold (-0.07), which is followed by Gold Share (0.11) and Reliance Gold (0.11). The beta values of all these funds found negative, which indicates that in comparison of stock market gold funds reacts just like the gold market (Negatively correlated).

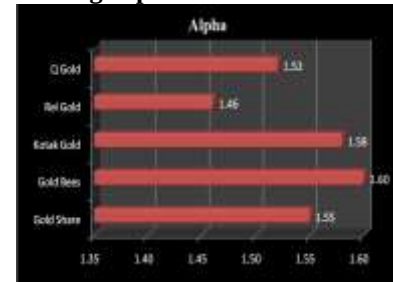
Figure 3 : Showing Beta values of selected Gold Funds



It can be stated by investigating the values of alpha that Gold Bees outperformed the market index which is having the positive and highest value of alpha (1.60) amongst the five selected funds.

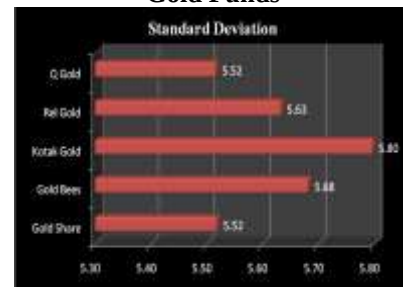
The performance of this fund is trailed by Kotak Gold (1.58) and Gold Share (1.55). The underperformer is Reliance Gold with the minimum alpha (1.46).

Figure 4: Showing Alpha values of selected Gold Funds



Risk involved in a fund due to its variations and volatility may be determined by the results of Standard Deviation. Out of the selected funds Kotak Gold fund is having the maximum standard deviation (5.80). Gold Bees (5.68) and Reliance Gold funds (5.63) stood at number two and three as they are having the standard deviation less than that of Kodak.

Figure 5: Showing Standard Deviation of selected Gold Funds



As the rule states that more the standard deviation more volatile the fund will be. Table explores that maximum risk is involved in Kotak gold fund and minimum is in Gold share or Q Gold which are having the minimum standard deviation. Rule states that the larger the S (Sharpe's performance index), better the fund has performed. It is revealed through the table and diagram that Kotak Gold (4.75) outperformed all the selected funds in terms of Sharpe's performance Index. The performance is followed by Gold Bees (4.58) and Reliance Gold (4.47) respectively. Q Gold and Gold Share remained the underperformers.

Figure 6: Showing results of Sharpe's Index of selected Gold Funds

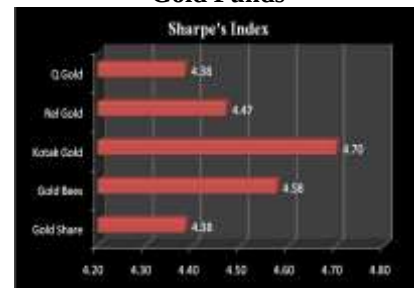
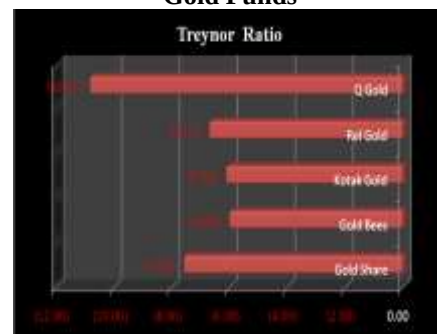


Figure 7: Showing results of Treynor's Ratio of selected Gold Funds



In case of Treynor's ratio the stock's performance is measured in relation to the market performance. Here again all the selected funds are having negative Treynor's ratio as it is dependent of the market performance i.e. stock market performance. Gold Bees is having negative Treynor's Ratio as it is having the negative beta. But it is having the maximum ratio out of the selected funds i.e. 6.04. This tendency is followed by all the selected funds and the performance is followed by Kotak Gold and Reliance Gold.

The general point to be discussed here is the negative beta and positive standard deviation. The idea behind this behaviour is the result of comparison of selected Gold Funds (*Gold*) with the NSE Nifty Index (*Stock market*). It is general rule of the market that with increase in the prices of gold, stock market go on diminishing side and vice versa.

The study explores that the beta values are negative which indicates that with increase in market gold funds normally falls and vice versa. On the other hand standard deviation shows the volatility in the funds as it indicates the variation from the mean. So from here more risky fund may be chosen.

Conclusion:

It may be concluded that the trading of Gold ETFs is quite different from the trading at NSE. The trading in Gold ETFs is increasing over the time as the gold prices are regularly touching new high and the investors are investing in these ETFs for earning fair and sure profits in future, without taxes and without fear of theft. It is also evident from the study that the prices of ETFs have less variation than the index of NSE. That's why the investment in ETFs is increasing over the time period. It looks the confidence of investor in ETFs is increasing and therefore the future of Gold ETFs' is bright in India.

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Table 1: Summary of the Results

Parameters	Gold Share	Gold Bees	Kotak Gold	Rel. Gold	Q Gold
Beta	(0.11)	(0.14)	(0.13)	(0.11)	(0.07)
Alpha	1.55	1.60	1.58	1.46	1.52
S.D.	5.52	5.68	5.80	5.63	5.52
Sharpe's Index	4.38	4.58	4.70	4.47	4.38
Treynor	(7.61)	(6.04)	(6.16)	(6.74)	(10.87)