

Price Pattern of Gold Exchange Traded Fund in India

Dr. Shantanu Chakraborty

Professor, School of Management

Swami Vivekananda University, West Bengal

Abstract

Exchange Traded Funds (ETF) are increasingly getting more acceptance as a good avenue of investment among Indian investors. Exchange Traded Funds are basically a typical type of Mutual Fund scheme that are listed in the stock exchanges like other common stocks. ETF blends the features of both mutual fund units and common stocks which are traded in stock exchanges. Unlike other Mutual Funds, ETFs are traded in the secondary market providing full liquidity to the investors and it also conforms to some basic features of stock. ETFs are priced continuously and can be bought /sold any time during the trading hours. In India, the portfolio of ETFs is either composed of physical asset like gold, money market instrument or securities by tracking certain index (e.g. Nifty or Banking index). Gold ETFs have captured maximum amount of investment and which is nearly double of Equity ETF as experienced in our country. As ETFs are traded in stock market, a real time price is discovered continuously in the stock exchange as well as the intrinsic value of each unit is also notified by the fund house at the end of every day as NAV. The study aims at identifying the potentiality of gold ETF in constituting efficient portfolio along with conventional security market instruments. It has been observed that in designing risk adjusted portfolio, physical gold is better than Gold ETF because degree of correlation coefficient between security market (Nifty) return and physical gold return is always lower than correlation coefficient between index return and return discovered in secondary market of Gold ETF for all the major Gold ETF schemes.

Keywords: Exchange Traded Fund, Volatility, Unit Creation,

Introduction

An investor has numerous investment options to choose from, depending on his risk profile and expectation of returns. Different investment options represent a different risk-reward trade off. Of the various types of investment options in Stock market, Gold Exchange Traded Funds (GOLD ETFs) happen to be one of the best option to be included in the portfolio for diversification of risk.

Exchange Traded Fund (ETF) is essentially a typical type of mutual fund scheme that is listed in the stock exchanges like other common stocks. ETF blends the features of both mutual fund units and common stocks which are traded in stock exchanges. Unlike other mutual funds, ETFs are traded in the secondary market providing full liquidity to the investors and they also conform to some basic features of stock. ETFs are priced continuously and can be bought /sold any time during the trading hours. ETFs by nature track a certain index (e.g. Nifty or Banking index). In India, Gold ETF has become more acceptable to investors than Equity ETF.

II. Literature Review

This present study is centered on several other studies. Some of them have shed light on the performance of the Gold ETFs in terms of returns over the years. There are some other papers which have described the comparative analysis among physical gold, gold funds and Gold ETFs. Literature on these areas has contributions for this present study.

Gerasimos Georgiou Rompotis (2005) compared ETFs and Index Funds performance during the time period from 4/3/2001 to 11/20/2002, using a set of 16 ETFs and Index Funds that in pairs track the same indices. He estimated their average return and mean risk level, finding that they substantially produce quite similar results. He regressed ETFs and index funds return on their turn of the underlying indices. The study pointed out that ETFs and Index Funds don't achieve any excess return than their benchmarks. He computed ETFs and index funds average tracking error, confirming their analogous tracking ability. Finally, he presented ETFs and index funds major sources of costs and,

regressing average return on expense ratio, and observed a significant positive relation of ETFs with their expense ratio. This relation is very shortly verified in index funds.

William A. Birdthistle (2007) studied the Exchange Traded Funds. He studied that Exchange-traded fund, a unit that provides the diversification of a mutual fund but trades on an exchange like a stock. Using a novel pricing mechanism that harnesses the utility of arbitrage, ETFs provide investors with accuracy, efficiency, tax advantages, and a range of investment choices, while insulating investors from the structural problems with mutual funds. This article argues that the mutual fund industry and its recent spate of dramatic scandals contributed to the growth of ETFs and concludes that mutual funds offer vivid warnings of the conflicts of interest that may come to afflict the ETF industry as it continues to grow.

Fisher (2008) in his article mentioned that Gold Exchange-Traded Funds (ETFs) have made investing in the yellow metal very convenient and inexpensive. He expressed that they offer a way of participating in the gold bullion market without the necessity of physical delivery of gold. He listed out six reasons why gold ETFs are considered as the best way to invest in the gold. The reasons mentioned are Wealth tax exemption, Income tax benefit, Investment in small denominations, Hedging, Convenience and better holding of ETFs as compared to physical gold.

Jennifer c. Haug (2008) studied - are ETF'S replacing the Mutual Funds? The answer is Flows to an Open-Ended Mutual Fund (OEF) can significantly hamper its subsequent performance due to flow-induced trading costs. An Exchange-Traded Fund (ETF) is designed not to have this cost and hence is advertised as the more efficient index vehicle. He found that the overall transaction costs incurred for any given trading needs are actually identical. What differs is the allocation and the reporting of those transaction costs - they are equally shared by all investors in an OEF and reduce the reported OEF performance, whereas, they are incurred only by those ETF investors with liquidity needs and do not affect the reported ETF performance. Thus, the OEF structure can

be viewed as providing a partial insurance against individual liquidity needs and is actually beneficial for risk averse investors. The research empirically confirmed that the growth of ETFs is more concentrated in selected indexes.

The Money Quest (2008) lists five reasons why gold must be made a part of the asset allocation. The reasons are Effective Portfolio Diversifier, Thrives under worst conditions, Hedge against inflation, Linkage with oil and US Dollar and Widening demand and supply Gap.

Rompot is (2009) was the first to compare the performance of active ETFs with passive ETFs. Therefore we will give a brief review of the most significant papers in the field of performance evaluation of ETF and some major analyses on ETFs. The existing literature can be divided in several distinctive subjects. Some studies compare active and passive management and they except Rompotis, focus primarily on mutual funds. There are studies which investigate index mutual funds and (passive) ETFs. Furthermore, some research focuses on the characteristics of ETFs or analyses their performance with their corresponding benchmark or the market index.

WF Ioris Vosseste in (2010) studied The Rise of the Active Exchange Traded Fund. This Thesis analyses the performance of actively-managed Exchange Traded Funds. Active ETF share a new phenomenon and they were only inceptioned in April 2008. Besides pioneering research on this new product this thesis adds to the existing literature on the ongoing debate about actives & passive management. The sample covers the period May 2008 till October 2009 and five active ETFs are examined. The empirical results uncover that, as endorsed by results from the mutual fund industry, active ETFs do underperform both their corresponding passive ETFs and their underlying benchmarks. The risk-adjusted performance, as expressed by Jensen's alpha, indicates no significant excess returns for both active and passive ETFs, which is an expectable conclusion for the latter, but not for the active ETFs, who aim to beat the market. A rating performance analysis shows that active ETFs have a worse performance than their passive equivalents; however these results are

not unanimous. Finally, the tracking error of active ETFs is, as expected, higher than the tracking error of its passive counterparts. Actively-managed ETFs do not try to replicate the performance of their underlying benchmark.

Dipak Mondal (2010) suggested that investors should take exposure in gold by buying either physical gold, Gold Exchange-Traded Funds or even units of mutual funds, which invest in the stocks of gold mining companies. He also added that due to the crisis in the European Union, most currencies are witnessing high volatility and unless world currencies reach some kind of equilibrium, prices of gold would continue to go up. In the very short-term, there are possibilities of a correction but gold, either in physical form or in mutual fund units, continues to be a very good investment tool.

Bakul Chugani Tongia (2010) in his article has pointed out that, in the month of May 2010 alone, Gold ETFs have clocked in about 8.7% gains, strengthening its role as a hedge against an inflation as well as equity market as Sensex has declined by about -5.6% during the same period.

Dr. Prashanta Athma, Ms Suchitra K. (2011) concluded that allocation of a small portion of investment in Gold ETF would diversify the portfolio risk. Inclusion of any Gold ETF in the portfolio of assets would diversify the risk. Gold ETFs also offer the benefit of lower incidence of tax.

III. Research Objectives

Keeping in mind the typical nature of Gold ETF the study aims to analyze the following issues:

1. To study the potential of Gold ETF in designing optimal portfolio along with securities.
2. To study the price pattern of Gold ETF with a relationship with its different forms of underlying.

IV. Methodology And Data Collection

Although a lot of papers on the performance of the Gold ETFs are available, not many papers focus on different factors having impact on behaviour of price and the relative volatility of physical gold, commodity exchange and Gold ETFs. That

is why the present study begins with exploratory research. The period of study is for three years starting from the year 2010-2011.

The data for the study will be derived from secondary sources. The secondary sources include internet, Fact sheets of Mutual Funds, Articles, News papers, SEBI Manuals, AMFI Reports, journals, magazines and publications of various research bodies like, SEBI, ICAR, and NSE. Simple statistical tools like Averages, Standard Deviation and Co-efficient of Variation will be used. The most actively traded securities in NSE and S&P CNX NIFTY Indices will be considered as Gold ETFs were initially launched on National Stock Exchange of India.

Some simple statistical techniques have been used. To undertake this study out of eleven Gold ETF schemes, three major and dominant schemes have been taken who are occupying more than 80% of transactions in Gold ETF. The schemes are Gold BEES of Goldman Sachs, Kotak Gold and Reliance Gold ETF. Day wise data has been considered for the year 2012-13.

To analyze the third objective Z test has been applied as the number of samples is more than 200.

Hypothesis

To analyze the third objective of the study the following hypothesis has been developed.

$$H_0 : \mu = 1$$

$$H_1 : \mu < 1$$

where , μ = absolute difference in between intrinsic value of one unit of Gold ETF (NAV) and price of Gold ETF as discovered in secondary market (NSE); expressed as a percentage of intrinsic value of Gold ETF i.e. NAV.

V. Analysis And Findings

With respect to 1st objective, it has been found that Gold-ETF is a right constituent in designing portfolio along with securities or stocks. The degree of correlation coefficient between return of gold and sock market return is consistently

found very low and during the period Apr 2013 to Dec. 2013 the correlation is found to be significantly negative (i.e.-0.57). This negative correlation has been observed last in the year 2008-09 and during the years in between it was ranging from 0.23 to 0.31. According to Markowitz model, portfolio risk is a determinant of correlation coefficient between returns of constituting assets and following that model the risk of the portfolio can be optimized up to the following extent as mentioned in the table below compared to individual asset of Gold market and Stock Market.

	Nifty	Gold
Risk	12.56%	17.42%
Portfolio Risk with 50-50 allocation	7.28%	

As a result of defining optimized portfolio of Stock and Gold-ETF the total turnover of Gold ETF reached to Rs. 163743.57 Lacs which was 83.44% of total turnover of all ETFs recorded in India in November 2011.

With respect to 2nd objective, the price pattern of Gold ETF has been studied considering the price relationship of three related variables i.e. daily closing price of different Gold ETF schemes as discovered in Stock Exchange, the NAV of schemes as reported by respective fund houses and the price of gold which is the underlying of all the schemes. These three variables are very highly correlated with other and their paired correlation coefficient is given in Table.

Correlation Co-efficient among NAV-ETFs, Closing Price-ETFs and Gold Price

		$R_{(Nav, Cl, price)}$	$R_{(Cl, price, Gold)}$	$R_{(Nav, Gold)}$
1	GOLDBEES	0.984	0.948	0.939
2	UTI	0.976	0.948	0.939
3	KOTAKGOLD	0.969	0.941	0.939
4	RELGOLD	0.986	0.938	0.939
5	QUANTUMGOLD	0.982	0.942	0.939

6	SBIGETS	0.982	0.934	0.939
7	RELIGAREGOLD	0.979	0.945	0.939
8	HDFCMFG-ETF	0.983	0.947	0.939
9	ICICI Prudential Gold ETF	0.983	0.940	0.939
10	Axis Gold ETF	0.981	0.938	0.939
11	Birla Sun Life Gold ETF	0.975	0.932	0.939

It is observed from Table 7 that for all the schemes degree of correlation between NAV and closing price is highest than the other two pairs

Volatility of prices of Gold ETF has been studied by measuring standard deviations and coefficient of variations which has been shown in the following Table.

Coefficient of Variations of NAV-ETFs, Closing Price-ETFs and Gold Price

		Coeff. of Ver _{Cl,price}	Coeff. of Ver _{Nav}	Coeff. of Ver _{Gold}
1	GOLDBEES	12.46	12.60	13.19
2	UTI	12.35	12.82	13.20
3	KOTAKGOLD	12.66	12.84	13.21
4	RELGOLD	12.72	12.83	13.20
5	QUANTUMGOLD	12.64	12.81	13.20
6	SBIGETS	12.62	12.82	13.19
7	RELIGAREGOLD	12.71	12.79	13.20
8	HDFCMFG-ETF	12.52	12.72	13.21
9	ICICI Prudential Gold ETF	12.51	12.65	13.20
10	Axis Gold ETF	12.57	12.66	13.23
11	Birla Sun Life Gold ETF	9.57	9.65	9.89

A very uniform set of results are revealed by the above two tables i.e. for all the schemes, measure of variation is lowest in case of closing price of ETF as compared to NAV of ETF and price of gold. As for all the schemes, the fluctuation in market price of ETF is lesser than fluctuation in gold price; Gold ETF can claim to have beaten the risk level of its underlying by its market mechanism.

Conclusion:

Development of Exchange Traded Fund (ETF) Industry brings important reorientation of the Indian financial system in recent years. Exchange Traded Funds are essentially a typical type of Mutual Funds scheme that are listed in the stock exchanges like other common stocks. There several types of ETF in India. ETF blends the features of both mutual fund units and common stocks which are traded in stock exchanges. Unlike other Mutual Funds, ETFs are traded in the secondary market providing full liquidity to the investors and it also conforms to some basic features of stock. ETFs are priced continuously and can be bought /sold any time during the trading hours. ETFs by nature track a certain index (e.g. Nifty or Banking index). In India, Gold ETF has become more acceptable before investors than Equity ETF. As ETFs are traded in stock market, a real time price is discovered continuously in the stock exchange as well as the intrinsic value of each unit is also notified by the fund house at the end of every day as NAV. A strong positive co-relation has been observed among the price of ETF, NAV of ETF and price of underlying (i.e. gold) price discovered in secondary market is getting deviated to some extent from its intrinsic value i.e. NAV. This signifies the influence of security market and other macroeconomic forces on the price of Gold ETF at stock exchange. This under or overpricing may provide scope for Authorized Participants (AP) in designing their strategies for creation of units and redemption of units.

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