

“Performance Evaluation of Gold Exchange traded funds listed on NSE”

*Prof. Y.V.Reddy.

**Ms. Namrata S.Wagle.

***Ms.Maithili S.Naik.

ABSTRACT

The objective of this empirical study is to evaluate the performance of Gold Exchange traded funds in the framework of risk and return from the time of inception of the schemes to December 2012. The major performance evaluation measures used are Treynor's performance index, Sharpe's performance index and Jensen's performance index. The results indicate that the Gold exchange traded funds have managed to achieve their objective of seeking to generate returns that closely correspond to returns provided by the domestic price of gold through investment in physical gold by minimizing the tracking error between the fund and the underlying asset.

Keywords: Gold Exchange traded funds, performance evaluation, NSE, Rate of return, Standard deviation, Beta Treynor's index, Sharpe's index, Jensen's performance index,

*HOD & Dean, Department of Commerce, Goa University, Taleigao-Goa. **Email:** yvreddy@unigoa.ac.in.

Assistant Professor of commerce, Dempo College of Commerce and Economics, Panaji- Goa **Add: Wagle residence, H.No. 624, Near Green acres Tonca, Caranzalem- Goa. **Email:** namwagle@gmail.com.

***Assistant Professor of Commerce, Shree Damodar College of Commerce & Economics, Margao-Goa. **Add:** Nanu House, V.V. Road, P.O.Box 125, Margao-Goa. **Email:** mkeny20@gmail.com

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INTRODUCTION

The objective of this paper is to evaluate the performance of all the Gold ETFs listed on the National Stock Exchange from inception till December 2012. The performance of measures used are Treynor ratio, Sharpe ratio and Jensen measure. This paper chooses to study Gold ETFs as Gold has been a vital investment option in a sluggish economy that we face in India since the last decade. Gold has always been very popular with Indians. Among asset classes, gold is considered the most robust as it counters the effects of inflation and exchange rate fluctuations. Studies have proved that Gold has a weak correlation with equity, which makes it an ideal asset for diversification in an investment portfolio making it more stable and resilient to market fluctuations. If one considers gold's performance vis-a-vis equity in the past five years, the latter, as measured by the BSE Sensex, has delivered an annualized return of just 2.67% compared to gold, which has delivered 27.19% annualized return over the same period (Economic Times).

Gold ETF is a passively managed open-ended mutual fund whose units represent physical gold that is 99.5% pure, with each unit representing 1 gram of gold. These units are traded on the stock exchanges like a single stock of a company. Gold ETFs are intended to give investors an opportunity to participate in the gold bullion market without the necessity of taking physical delivery of gold and to be able to buy and sell this participation through the trading of a security on the stock market. The benefits of Gold ETFs vis-à-vis physical Gold are manifold. Gold ETFs can be purchased in small denominations of minimum 1 unit which is equal to 1 gram in most schemes. Gold ETFs are held in dematerialized form and hence do not face the risk of theft. Gold ETFs can be bought and sold at transparent prices across India on BSE or NSE. The buyer also

benefits in terms of taxation as there is no Sales tax, wealth tax, VAT or Securities transaction tax on Gold ETFs. Like stocks traded on an exchange, units of such funds are eligible for long-term capital gains after one year unlike physical gold which is eligible for long-term capital gains after three years. However the advantages of holding Gold ETFs come at a cost. The fund house charges a small asset management fee hence the actual return from the Gold ETFs is slightly less than the actual increase in the gold price. There is also a brokerage or commission charged by the broking firm at the time of buying and selling these units. Investors should select Gold ETFs which are liquid at the time of investing as otherwise this will impact their buying and selling flexibility. At present there are 16 ETFs being traded on the BSE and NSE.

METHODOLOGY

This paper makes an attempt to study the performance of 13 Gold ETFs listed on the National Stock Exchange. The Gold ETFs were analyzed in detail from inception till December 2012. The study is based on secondary data. For evaluating the performance of the funds under study the adjusted monthly NAV data from inception till December 2012 has been collected from www.nseindia.com and the gold spot price for the period under study has been retrieved from www.mcxindia.com.

Performance Evaluation Measures: The purpose of performance evaluation of the Gold ETFs is to compare the returns obtained by the portfolio through active management by the investment manager. Also the portfolios have been compared with a benchmark index which in this case is the gold spot price. For performance evaluation of the Gold ETFs two types of techniques are applied- measures that consider total risk and measures that consider systematic risk. The performance measures used for evaluating the selected gold ETFs are: a) Rate of Return b) Standard deviation c) Beta d) Sharpe's measure e) Treynor's measure and f) Jensen's measure.

ANALYSIS AND DISCUSSION:

Table 1: Annual returns of Gold ETF schemes listed on NSE from inception to December 2012.

GOLD ETF SCHEMES LISTED ON NSE.	2007	2008	2009	2010	2011	2012
GOLD BEES	2.3130	1.6652	1.2332	1.7168	2.8804	0.6585
GOLD SHARE	2.6972	1.7093	1.3035	1.6987	2.7844	0.8057
KOTAK	5.3522	1.7474	1.2775	1.6921	2.9296	0.6884
RELGOLD	7.0978	1.4789	1.2482	1.7060	2.9776	0.6749
QGOLD		1.1694	1.2783	1.6957	2.9327	0.6699
RELIGARE				2.0349	2.9216	0.6907
AXIS GOLD				-1.7930	2.8899	0.7171
HDFC GOLD				0.9817	2.8775	1.2531
ICICIP				0.8628	2.8612	0.7323
BSL GOLD					2.9429	0.7269
IDBI					-1.2494	0.5980
CR GOLD						0.6791
MGOLD						0.7751
Gold Spot Market	2.1106	1.8883	1.1752	2.1020	3.0686	0.7442

Interpretation: It can be observed from Table 1 that there were only 4 schemes launched on NSE in the year 2007. Of these schemes, Reliance Gold ETF performed the best with the highest return (7.0978) followed by Kotak Gold ETF (5.3522). However these two schemes have started fairly late in the year as Reliance Gold ETF was launched in November 2007 and Kotak Gold ETF was launched in August 2007. Gold BeEs was the first Gold ETF to be launched in India by Benchmark Asset Management Co. Pvt. Ltd. in March 2007 followed by Goldshare a Gold ETF launched by UTI Mutual Fund in April 2007. It is observed that all the schemes have performed better than the market (2.1106) in the year 2007. In 2008, all the Gold ETFs have given returns lower than the market (1.8883). However the returns from Gold ETFs have been positive as compared to returns from other mutual funds invested in sectors like banking, infrastructure, FMCG, index funds etc. which have given negative returns in 2008 because of the financial meltdown as shown in a study by B.P.Raju and K.M.Rao (Risk Adjusted performance evaluation of selected Indian mutual fund schemes). The Gold ETFs show a slightly improved

performance in 2009, also as compared to the benchmark. In 2010 the returns diminish again with Axis Gold ETF delivering negative returns (-1.7930). IDBI Gold ETF posts negative returns (-1.2494) in 2011 while other schemes show a slight recovery compared to returns in 2010 but are unable to beat the market returns. In 2012 all the gold ETFs have performed more or less at par with the market (0.7442). On the whole we can infer that none of the Gold ETFs have been able to outperform the market to a great extent. The returns delivered have been close to the market returns.

Table 2: Standard deviation Values of Gold ETF schemes listed on NSE from inception to December 2012.

GOLD ETF SCHEMES LISTED ON NSE	2007	2008	2009	2010	2011	2012
GOLD BEES	4.3431	6.4799	4.3896	3.6568	5.3934	1.9619
GOLD SHARE	3.7435	6.1349	4.3574	3.2606	5.6379	2.1230
KOTAK	2.1649	6.4538	4.2488	3.6853	5.4562	1.9723
RELGOLD	3.3742	6.6100	4.5068	3.6225	5.2473	1.8885
QGOLD		7.0893	4.3498	3.6738	5.2480	1.9656
RELIGARE				3.9567	5.5604	2.1479
AXIS GOLD				1.5920	5.2087	1.8982
HDFC GOLD				2.4756	5.2422	2.1581
ICICIP				3.2415	5.0277	2.1280
BSL GOLD					6.8512	1.5347
IDBI					5.2129	2.2918
CR GOLD						2.0236
MGOLD						2.0196
Gold Spot Market	4.3842	7.1207	4.5447	3.8660	5.6589	1.9859

Interpretation: Table 2 presents the risk in terms of standard deviation of returns of the Gold ETFs. In 2007, the Gold ETFs are less risky than the market(4.3842) except for Gold BeEs (4.3431) which is almost as risky as the market. In 2008 Quantum gold ETF (7.0893) is the

riskiest of all the funds and carries almost as much risk as the market (7.1207). In 2009 all the Gold ETFs show riskiness almost at par with the market risk (4.5447). In 2010, Axis Gold ETF (1.5920) is the least risky to invest in followed by HDFC Gold ETF (2.4756). All the other funds are close to the market risk (3.8660). BSL Gold ETF (6.8512) is the most risky Gold ETF in 2011 followed by the other ETFs which are almost equal to the market risk (5.6589). In 2012 the standard deviation of the market (1.9859) has come down fairly from what it was in the earlier years probably because of the soaring gold prices in 2012.

Table 3: Beta values of Gold ETF schemes listed on NSE from inception to December 2012.

GOLD ETF SCHEMES LISTED ON NSE	2007	2008	2009	2010	2011	2012
GOLD BEES	0.9775	0.8908	0.9588	0.9277	0.9268	0.9590
GOLD SHARE	0.8727	0.8369	0.9444	0.8118	0.9553	1.0534
KOTAK	0.6866	0.8868	0.9067	0.9326	0.9421	0.7407
RELGOLD	1.0431	0.9084	0.9658	0.9198	0.9117	0.8818
QGOLD		0.9484	0.9474	0.9380	0.9055	0.9774
RELIGARE				0.9870	0.9651	1.3799
AXIS GOLD				0.8971	0.8975	0.9236
HDFC GOLD				0.9156	0.9622	1.0490
ICICIP				1.0253	0.8753	1.0174
BSL GOLD					1.0743	0.6953
IDBI					1.1213	1.0951
CR GOLD						0.9574
MGOLD						0.8861

Interpretation: Table 3 shows that all the Gold ETFs in 2007, 2008 and 2009 have defensive beta values compared to the market beta which is one. In 2010, all except ICICI Prudential gold ETF has a beta value higher than the market beta. In 2011, BSL and IDBI Gold ETFs have beta values more aggressive than the market beta. In 2012, beta values of Goldshare, Religare, HDFC, ICICI and IDBI Gold ETFs are more aggressive compared to the market beta.

Table 4: Treynor's index and its benchmark values of Gold ETF schemes listed on NSE from inception to December 2012.

Treynor's index and its benchmark values of gold ETF traded on NSE						
	2007	2008	2009	2010	2011	2012
GOLD BEES	-4.8480	-7.3154	-2.9383	-4.7501	-5.7514	-7.6835
GOLD SHARE	-5.3234	-7.8494	-2.9316	-5.6916	-5.5899	-6.2313
KOTAK	-4.8425	-7.2733	-3.1336	-4.7410	-5.5615	-10.1109
RELGOLD	4.0795	-7.3273	-2.8930	-4.8168	-5.7968	-8.3969
QGOLD		-6.9219	-2.9436	-4.7006	-5.9017	-7.5149
RELIGARE				-4.0437	-5.3673	-5.1064
AXIS GOLD				-8.4812	-6.0231	-7.9438
HDFC GOLD				-5.5710	-5.4360	-6.3727
ICICIP				-4.9890	-6.2776	-7.1303
BSL GOLD					-4.5034	-10.4875
IDBI					-8.3838	-6.7068
CR GOLD						-7.6767
MGOLD						-8.2524
Benchmark treynor's index(Gold spot market)	-4.8893	-6.1116	-2.8247	-3.8980	-4.9314	-7.2558

Table 4 shows the results pertaining to the Treynor's Index for the Gold ETFs as well as the Gold spot market. Treynor's Performance Index measures the fund's performance in relation to the market performance. It can be observed that in 2007 except for Reliance Gold ETF (4.0795) the other Gold ETFs performed almost at par with the market (-4.8893). But the high index of Reliance Gold ETF can be attributed to the fact that the scheme was launched only in November 2007. In 2008, all the schemes underperformed than the market (-6.1116). In 2009, all the schemes performed almost at par with the market (-2.8247). In 2010, all the schemes are underperformers but Axis Gold ETF (-8.4812) is the worst performer as compared to the market (-3.8980). In 2011, the three worst performers are IDBI Gold ETF (-8.3838) followed by ICICI Prudential Gold ETF (-6.2776) and Axis Gold ETF (-6.0231) compared to the market (-4.9314). In 2012, BSL Gold ETF (-10.4875) and Kotak Gold ETF (-10.1109) were the worst performers

while Religare Gold ETF (-5.1064) and Goldshare Gold ETF (-6.2313) were the best performers compared to the market (-7.2558).

Table 5: Sharpe's Index and its Benchmark Values of Gold ETF schemes traded on NSE from inception to December 2012.

Sharpe's index and its benchmark values of gold ETF schemes traded on NSE.						
	2007	2008	2009	2010	2011	2012
GOLD BEES	0.7013	0.4307	0.3220	0.0761	1.3971	-3.4192
GOLD SHARE	0.8274	0.4053	0.3856	-0.1413	1.3655	-3.1099
KOTAK	2.1190	0.5079	0.3362	0.0641	1.4635	-3.3675
RELGOLD	9.6039	0.2687	0.3607	0.0498	1.4531	-3.5612
QGOLD		0.0410	0.3588	0.0626	1.4084	-3.3999
RELIGARE				0.5185	1.4829	-3.0336
AXIS GOLD				-5.5617	1.3541	-3.4972
HDFC GOLD				-1.4418	1.3515	-2.4538
ICICIP				-0.9882	1.2701	-3.0269
BSL GOLD					1.7753	-4.6479
IDBI					-2.7841	-2.8927
CR GOLD						-3.2742
MGOLD						-3.1860
Benchmark sharpe's index(Gold spot market)	0.5140	0.7649	0.2952	0.5501	1.6549	-3.2842

Table 5 shows the results pertaining to the Sharpe's Index. Sharpe's performance index gives a single value to be used for the performance ranking of various funds. In 2007, the order of performance of the Gold ETFs is as follows 1.Reliance Gold ETF (9.6039) 2.Kotak Gold ETF (2.1190) 3.Goldshare (0.8274) and 4.GoldBEes (0.7013). In 2008, Kotak Gold ETF (0.5079) was the best performer. In 2009, all the schemes performed almost at par. In 2010, Religare Gold ETF (0.5185) was the best performer while Axis Gold ETF (-5.5617) was the worst performer. In 2011, IDBI Gold ETF (-2.7841) performed the worst while BSL Gold ETF (1.7753) performed the best. In 2012, HDFC Gold ETF (-2.4538) was the best performer while BSL Gold ETF (-4.6479) was the worst performer.

Table 6: Jensen's Alfa values of Gold ETF schemes listed on NSE from inception to December 2012.

Jensen's Alfa of gold ETF schemes traded on NSE						
	2007	2008	2009	2010	2011	2012
GOLD BEES	2.4983	2.5558	1.2914	2.0996	3.4296	1.0416
GOLD SHARE	0.8908	2.8850	1.3321	2.5869	3.2891	0.3562
KOTAK	6.1535	2.4668	1.4386	2.0790	3.3539	2.6250
RELGOLD	10.9438	2.4479	1.2716	2.1330	3.5039	1.6014
QGOLD		1.8476	1.3238	2.0565	3.5344	0.9080
RELIGARE				2.1525	3.2405	-2.0129
AXIS GOLD				-0.6466	3.5738	1.2978
HDFC GOLD				1.4824	3.2546	0.3882
ICICIP				0.8827	3.6832	0.6174
BSL GOLD					2.6424	2.9544
IDBI					-2.2547	0.0536
CR GOLD						1.2259
MGOLD						1.7299

Table 6 represents the results of Jensen's measure of the Gold ETFs on NSE. Jensen's measure is a measure of absolute performance because a definite standard is set and against that the performance is measured. The standard is based on the manager's predictive ability. In 2007, Reliance Gold ETF (10.9438) has the highest alpha value followed by Kotak Gold ETF (6.1535), Gold BeEs ETF (2.4983) and Goldshare (0.8908) ETFs. In 2008, Gold share ETF (2.8850) had the highest alpha value while Quantum Gold ETF (1.8476) had the lowest value. In 2009, Kotak Gold ETF (1.4386) performed the best while Reliance Gold ETF (1.2716) was the worst performer. In 2010, Goldshare ETF (2.5869) was the best performer while Axis Gold ETF (-0.6466) showed a negative alpha representing very poor performance. In 2011, ICICI Prudential Gold ETF (3.6832) showed the highest alpha value while IDBI Gold ETF (-2.2547) showed negative alpha value. In 2012, BSL Gold ETF (2.9544) ranked the highest among all the 13 funds on NSE while Religare Gold ETF (-2.0129) ranked the lowest.

Conclusion

The closing prices of 13 Gold ETFs listed on the NSE from inception to 31st December 2012 have been retrieved from NSE website and also the closing prices of 10gms Gold has been taken from MCX website as the benchmark index. This data is studied using various tools to evaluate the risk adjusted performance of the Gold ETFs listed on NSE. It has been observed from the above results that no single Gold ETF has performed phenomenally well as compared to each other or as compared to the market. Also there is no fund which has consistently performed well. However the Gold ETFs have managed to achieve their objective. The aim of all the Gold ETFs that have been studied is to seek to generate returns that closely correspond to returns provided by the domestic price of gold through investment in physical gold. The ETFs adopt a passive investment strategy and seek to achieve the investment objective by minimizing the tracking error between the Fund and the underlying asset. This empirical study proves that investing in Gold ETFs can be a safe and convenient option as compared to investing in physical gold, as the risk adjusted performance of the Gold ETFs show returns almost at par with the returns provided by the domestic price of gold by investing in physical gold.

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