PERFORMANCE OF EXCHANGE TRADED FUNDS IN INDIA

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ABSTRACT

Mutual Fund is a trust that pools money from a group of investors sharing common financial goals and invest the money thus collected into asset classes that match the stated investment objectives of the scheme. Exchange Traded Funds (ETFs) are Mutual Funds which can be bought and sold in the stock market, just like any other stocks or shares. As far as an investment is concerned, an Exchange Traded Fund is just like a Mutual Fund and as far as trading is concerned, an Exchange Traded Fund is just like a stock or equity which can be traded on Stock Exchanges like NSE.

The study is based on secondary data covering a period of 13 years i.e. 2001 to 2013 to reflect upon the growth of Exchange Traded Funds over a period of time since their inception.

The parameters for evaluating the performance are Net Asset Value, Return, Risk, Reward to Variability (Sharpe) and Treynors Performance Evaluation Ratio. The statistical tools like Standard Deviation, Beta, Sharpe Ratio, and Treynors Ratio are used for data analysis.

KEYWORDS: MF-Mutual Funds, ETFs-Exchange Traded Funds, IFs- Index Funds, NAV-Net Assets Value.

INTRODUCTION

Mutual Fund is a trust that pools money from a group of investors (sharing common financial goals) and invest the money thus collected into asset classes that match the stated investment objectives of the scheme.

The Fund Manager manages the Mutual Fund and uses his investment management skills and necessary research works and ensures much better return than what an investor can manage on his own. The capital appreciation and other incomes earned from these investments are passed on to the investors (also known as unit holders) in proportion to the number of units an investor owns.
Mutual Fund was introduced in the year 1963 in India. From an historical point of view, Mutual Funds have been around four hundred years, but they are a relatively new investment phenomenon to the novice investors. Mutual Funds are a conglomeration of stocks, bonds, securities and even real estate, put together by a smart Fund Manager who hand-picks winners for a winning combination.

Exchange Traded Funds (ETFs) are Mutual Funds which can be bought and sold in the stock market, just like any other stocks or shares. As far as investment is concerned, an Exchange Traded Fund is just like a Mutual Fund and as far trading is concerned, an Exchange Traded Fund is just like a stock or equity which can be traded on Stock Exchanges like NSE. Most ETFs track an index. ETFs may be attractive as an investment because of their low costs, tax efficiency, and stock-like features. ETFs are listed on a recognized stock exchange. Their units can be bought and sold directly on the exchange, through a stockbroker during the trading hours.

REVIEW OF LITERATURE

Jonne M. Hill and Barbara Mueller (2001)\(^1\) made a research on ETFs and they concluded that Tracking errors and returns based on fund NAV relative to the index reflect some factors characteristic of the product structure. In addition, price-to-index returns and tracking error reflect ETF prices that are captured at a different time from the underlying index and the short-supply and demand factors relevant to the ETF, as well as the hedging instruments used by the market makers. NAV tracking error is much lower than price-to-index tracking error and is the most useful measure in assessing the long-term characteristics of an ETF relative to its underlying index.

Joel T. Harper, Jeff Madura and Oliver Schnusenberg (2006)\(^2\) made a study with the objective to compare the risk and return performance of Exchange-Traded Funds (ETFs) available for foreign markets and closed-end country funds. They utilized 29 closed-end country funds (CEFs) for 14 countries over the sample period from April 1996 to December 2001. The performance proxies are mean returns and risk-adjusted returns. Results indicate that ETFs exhibit higher mean returns and higher Sharpe ratios than foreign closed-end funds, while CEFs exhibit negative alphas indicating that a passive investment strategy utilizing ETFs may be superior to an active investment strategy using CEFs. The findings reported here offer some insight on the relative advantages of each type of investment. Specifically, there may be some potential for additional types of ETFs that offer higher risk-adjusted returns than closed-end funds. Such ETFs may be able to offer higher risk-adjusted returns as part of an internationally diversified portfolio.

Benchmark Funds Asset Management Company (2008)\(^3\) research department did research in early 2008 on the topic of “Myth of Eternal Alpha”. It has often been argued that individual active fund managers are consistently able to exploit anomalies and aberrations that may exist in the market and while considering out performance/under performance one should look at longer periods.

B Phaniswara Raju and K Mallikarjuna Rao (2009)\(^4\) made a study on “Market Timing Ability of Selected Mutual Funds in India: A Comparative Study” and they analysed the market timing ability of selected fund managers, which is a vital aspect in the success of a mutual fund. In order
to measure the market timing ability of the fund managers, two important models, namely, Treynors and Mazuy and Heriksson and Merton, have been used with BSE sensex and NSE Nifty as market proxies.

Sangheon Shin, Gokçe Soydemir (2010)⁵ “Exchange- Traded Funds, persistence in tracking errors and information dissemination” stated that tracking errors from 26 exchange-traded funds (ETFs) utilizing three different methods and test their relative performance using Jensen's model. We find that tracking errors are significantly different from zero and display persistence. Based on Jensen's alpha, risk adjusted returns are significantly inferior to benchmark returns for all ETFs with two exceptions at conventional significance levels revealing that passive investment strategy does not outperform market returns. We then examine the degree to which frequently used factors such as expense ratio, dividends, exchange rate and spreads of trading prices may be underlying sources of tracking errors causing this underperformance.

RESEARCH GAP

The review of literature points out that the studies are based on tracking errors, risk returns, price Transmission etc. The ETFs came in to existence in 2001, and growth over a period of time is not reflected. Hence, the study is undertaken to reflect upon the growth of Exchange Traded Funds over a period of time since their inception and evaluate its performance in terms of risk and return.

OBJECTIVES OF THE STUDY

The objectives of the study are

- To present the trends and progress of Exchange Traded Funds in India and
- To evaluate the performance of Exchange Traded Funds in India

SOURCES OF DATA

The study is based on secondary data. The Secondary data sources include Fact Sheets of Mutual Funds, Research Publications, SEBI Manuals, AMFI Reports and Websites.

PERIOD OF THE STUDY

The study covers a period of 13 years from 2001 to 2013 i.e. since the inception of ETFs to analyse the trends in the growth of ETFs and evaluate their performance.

PARAMETERS

The parameters for evaluating the performance are Net Asset Value, Return, Risk, Reward to Variability (Sharpe) and Treynors Performance Evaluation Ratio.
SAMPLE SIZE

There are 35 Exchange Traded Funds in India. Data with regard to all the parameters selected for the evaluation of performance are available only for 31 Exchange Traded Funds which were operating between the period of 2001 – 2013. Hence, the study is made only for 31 Exchange Traded Funds.

STATISTICAL TECHNIQUES

The data are analyzed with the help of statistical tools like Standard Deviation, Sharpe Ratio, Treynors Ratio and Beta.

GROWTH OF EXCHANGE TRADED FUNDS

The growth of Exchange Traded Funds in terms of the number of Funds and NAV is given in Table-1.

Starting with 1 Exchange Traded Fund in the year 2001 viz., GS Nifty BEES Exchange Traded Funds, the number of Exchange Traded Funds increased to 35 by the year 2013 registering a CAGR of 58.23%.

Net Asset Value (NAV) is a term used to describe the value of an entity’s assets less the value of its liabilities. The term is most commonly used in relation to Mutual Funds due to the fact that shares of such funds are redeemed at their Net Asset Value. It may represent the value of the total equity, or it may be divided by the number of shares outstanding and, thereby, represent the per share Net Asset value.

NAV as per IRDA is calculated as follows:

\[ \text{NAV} = \frac{(\text{Market Value of the Investment held by the Fund} + \text{Value of Current Assets} - \text{Value of Current Liabilities and provisions})}{\text{Number of units existing on valuation date (before creation/redemption of units)}} \]

The Table-1 shows NAV per share over a period of time for the various Exchange Traded Funds. GS Junior BEES Exchange Traded Fund ranked 1st in NAV per share with a growth rate of 22.12% followed by ICICI Pru spice plan Exchange Traded Fund with 19.19%, GS Gold BEES Exchange Traded Fund with 17.25%, GS Bank BEES Exchange Traded Fund with 16.13%, and Religare Gold Exchange Traded Fund with 15.85% respectively. The last ranks (29,30,31,32,33) were scored by Motilal Oswal Most Shares Gold Exchange Traded Fund, Motilal Most Shares Midcap 100 Exchange Traded Fund, IDBI Gold Exchange Traded Fund, GS liquid BEES Exchange Traded Funds and GS Infra Exchange Traded Fund with growth rate of 2.79%,1.95%, -0.11%, -0.55% and -6.25% respectively.

ANNUAL RETURNS OF EXCHANGE TRADED FUNDS

One of the parameters for the evaluation of the Exchange Traded Funds is the annual returns, which is presented in Table-2. The Fund is rank based on the average returns which is the simple
average of the returns over a period of time. Higher the ratio, better the performance of the Fund compared to the other Exchange Traded Funds.

On the basis of the average returns, GS Psu Bank BEES Exchange Traded Funds occupied the Rank 1st with an average return of 28.96% followed by ICICI pru spice plan Exchange Traded Funds with 27.33%, GS Nifty BEES Exchange Traded Funds with 25.84%, GS Bank BEES Exchange Traded Funds with 25.57%, Kotak Psu Bank Exchange Traded Funds with 24.42%.

### RISK ANALYSIS OF EXCHANGE TRADED FUNDS

The variability in the returns is called as risk and the same is measured with the help of Standard Deviation and Beta. Standard deviation is a measure of the deviation in the returns of the Fund. A volatile stock would have a high standard deviation. It tells us how much the return on a Fund is deviating from the expected returns based on its historical performance.

The below tables give the details relating to Standard deviation, Sharpe ratio, Beta and Treynors Ratio.

#### TABLE – 3 RISK ANALYSIS OF EXCHANGE TRADED FUNDS

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the Exchange Traded Funds</th>
<th>Standard Dev (%)</th>
<th>Sharpe Ratio (%)</th>
<th>Beta</th>
<th>Treynors Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GS Nifty BEES ETF</td>
<td>34.22</td>
<td>25.58 (  3 )</td>
<td>1.55</td>
<td>20.40 ( 17 )</td>
</tr>
<tr>
<td>2</td>
<td>GS Junior BEES ETF</td>
<td>54.62</td>
<td>22.94 (  6 )</td>
<td>1.31</td>
<td>16.69 ( 19 )</td>
</tr>
<tr>
<td>3</td>
<td>ICICI Pru spice plan ETF</td>
<td>40.71</td>
<td>27.11 (  2 )</td>
<td>1.70</td>
<td>22.35 ( 14 )</td>
</tr>
<tr>
<td>4</td>
<td>GS liquid BEES ETF</td>
<td>1.844</td>
<td>-5.1 ( 28 )</td>
<td>-0.81</td>
<td>9.80 ( 22 )</td>
</tr>
<tr>
<td>5</td>
<td>GS Bank BEES ETF</td>
<td>47.68</td>
<td>25.39 (  4 )</td>
<td>1.44</td>
<td>19.73 (18)</td>
</tr>
<tr>
<td>6</td>
<td>GS Gold BEES ETF</td>
<td>10.88</td>
<td>20.71 (  8 )</td>
<td>-17.61</td>
<td>21.96 (15 )</td>
</tr>
<tr>
<td>7</td>
<td>Kotak Gold ETF</td>
<td>46.65</td>
<td>-8.68 (30)</td>
<td>22.91</td>
<td>-8.87 (26)</td>
</tr>
<tr>
<td>8</td>
<td>UTI Gold ETF</td>
<td>17.27</td>
<td>13.54 ( 13 )</td>
<td>-7.54</td>
<td>15.15 (20)</td>
</tr>
<tr>
<td>9</td>
<td>R* Shares Gold ETF</td>
<td>21.84</td>
<td>11.12 ( 18 )</td>
<td>-4.14</td>
<td>13.55 (21)</td>
</tr>
<tr>
<td>10</td>
<td>GS Psu Bank BEES ETF</td>
<td>47.19</td>
<td>28.77 (  1 )</td>
<td>-27.71</td>
<td>29.26 (6)</td>
</tr>
<tr>
<td>11</td>
<td>Kotak Psu Bank ETF</td>
<td>72.1</td>
<td>24.30 ( 5 )</td>
<td>-21.58</td>
<td>24.81 (12 )</td>
</tr>
<tr>
<td>12</td>
<td>Kotak Sensex ETF</td>
<td>42.78</td>
<td>15.58 (11)</td>
<td>0.64</td>
<td>2.78 (23)</td>
</tr>
<tr>
<td>13</td>
<td>SBI Gold ETF</td>
<td>3.451</td>
<td>-0.72 (26)</td>
<td>1.66</td>
<td>-3.35 (25)</td>
</tr>
<tr>
<td>14</td>
<td>GS S&amp;P Shariah BEES ETF</td>
<td>35.96</td>
<td>19.91 (  9 )</td>
<td>-2.89</td>
<td>23.06 (13)</td>
</tr>
<tr>
<td>15</td>
<td>GS Hang Sang BEES ETF</td>
<td>6.584</td>
<td>17.91 ( 10 )</td>
<td>-1.28</td>
<td>25.77 (10)</td>
</tr>
<tr>
<td>16</td>
<td>R* S Banking ETF</td>
<td>20.88</td>
<td>12.04 ( 16 )</td>
<td>-0.47</td>
<td>30.12 (3)</td>
</tr>
<tr>
<td>17</td>
<td>Kotak Nifty ETF</td>
<td>12.52</td>
<td>5.32 ( 23 )</td>
<td>0.29</td>
<td>-22.89 (30)</td>
</tr>
<tr>
<td>18</td>
<td>Religare Gold ETF</td>
<td>14.61</td>
<td>21.70 (  7 )</td>
<td>-1.65</td>
<td>27.39 ( 8 )</td>
</tr>
<tr>
<td>19</td>
<td>Motilal Most Shares M 50 ETF</td>
<td>15.8</td>
<td>6.878 ( 21 )</td>
<td>0.12</td>
<td>-60.80 (31)</td>
</tr>
<tr>
<td>20</td>
<td>ICICI Pru Gold ETF</td>
<td>19.36</td>
<td>12.14 ( 15 )</td>
<td>-0.49</td>
<td>29.71 ( 5 )</td>
</tr>
<tr>
<td>21</td>
<td>HDFC Gold ETF</td>
<td>19.08</td>
<td>12.56 ( 14 )</td>
<td>-0.54</td>
<td>28.52 (7)</td>
</tr>
<tr>
<td>22</td>
<td>Axis Gold ETF</td>
<td>20.85</td>
<td>10.89 ( 19 )</td>
<td>-0.34</td>
<td>36.13 ( 2 )</td>
</tr>
<tr>
<td>23</td>
<td>GS Infra ETF</td>
<td>10.96</td>
<td>-6.57 ( 29 )</td>
<td>1.70</td>
<td>-10.76 (28)</td>
</tr>
<tr>
<td>24</td>
<td>Motilal Most Shares NASDAQ 100 ETF</td>
<td>20.27</td>
<td>12.03 ( 17 )</td>
<td>-0.47</td>
<td>30.11 (4)</td>
</tr>
<tr>
<td>25</td>
<td>IIFi Nifty ETF</td>
<td>15.91</td>
<td>14.95 ( 12 )</td>
<td>-0.84</td>
<td>25.53 ( 11 )</td>
</tr>
<tr>
<td>26</td>
<td>Birla Sun Life ETF</td>
<td>6.7122</td>
<td>4.44 ( 24 )</td>
<td>0.32</td>
<td>-20.04 (29)</td>
</tr>
<tr>
<td>27</td>
<td>Motilal Most Shares Midcap 100 ETF</td>
<td>8.1247</td>
<td>-3.72 ( 27 )</td>
<td>-2.79</td>
<td>0.342 (24)</td>
</tr>
<tr>
<td>28</td>
<td>Religare Nifty ETF</td>
<td>7.3327</td>
<td>6.82 (22)</td>
<td>-0.11</td>
<td>78.95 ( 1 )</td>
</tr>
<tr>
<td>29</td>
<td>Quantum Gold ETF</td>
<td>22.387</td>
<td>9.69 ( 20 )</td>
<td>0.40</td>
<td>-10.74 (27)</td>
</tr>
<tr>
<td>30</td>
<td>Birla Sun Life Gold ETF</td>
<td>1.3294</td>
<td>0.40 ( 25 )</td>
<td>-0.42</td>
<td>26.71 (9)</td>
</tr>
<tr>
<td>31</td>
<td>IDBI Gold ETF</td>
<td>0.2475</td>
<td>-27.86 (31)</td>
<td>-0.54</td>
<td>21.77 (16)</td>
</tr>
</tbody>
</table>

Source: www.valueresearch.com
Note: Motilal Oswal Most Shares Gold ETF, Canara Robeco Gold ETF is not taken for analysis as it is only one year old.

Figures in Parentheses indicate ranking.

**STANDARD DEVIATION**

It is found that among the Exchange Traded Funds, Kotal Psu Bank Exchange Traded Funds is having the highest risk i.e. 72.1 per cent and IDBI Gold Exchange Traded Funds has the lowest risk i.e. 0.2475 per cent.

**SHARPE RATIO**

It shows the return to variability. Higher the ratio, better would be the performance of the Fund in terms of the returns for the risk taken. It is found that all the Exchange Traded Funds are showing a positive Sharpe ratio justifying the risk taken for earning a return.

**BETA VALUE**

Beta measures the systematic risk and explains the nature of the volatility of the security return with that of the market return. If beta values are less than one, it means that Funds risk is less than the market risk; if it is one, it means the Funds risk is same as that of the market risk and if the beta is more than one, the risk of the Funds is greater than that of the market. The beta value can be less than zero, which means that the stock is losing money while the market is gaining.

We can find Beta with more than 1 in case of GS Nifty BEES ETF, GS Junior BEES ETF, Kotak Gold ETF, SBI Gold ETF, and GS Infra ETF implying higher risk in these Funds compared to the market risk. Kotak Sensex ETF, Kotak Nifty ETF, Motilal Most Shares M 50 ETF, and Birla Sun Life ETF are having a risk lower than the market risk as their Beta is less than 1 and in case of rest of the Funds, Beta is negative indicating that the stocks are losing while the market is gaining.

**TREYNORS RATIO**

While Sharpe Ratio takes $\sigma$ in the denominator, Treynors Ratio considers $\beta$ as the denominator. While total risk is considered in Sharpe Ratio, only systematic risk ($\beta$) is considered in Treynors Ratio. A higher Ratio of Treynors indicates better performance compared to the other funds. On the basis of ranking according to Treynors Ratio, Religare Nifty Exchange Traded Funds occupied Rank 1st with 78.95% followed by Axis Gold Exchange Traded Funds with 36.13%, R* S Banking Exchange Traded Funds with 30.12%, Motilal Most Shares NASDAQ 100 Exchange Traded Funds with 30.11%, and ICICI Pru Gold Exchange Traded Funds with 29.71%.
Investors take risk commensurate with the return earned. Higher the risk, higher the return and lower the risk, lower the return. From the above analysis of Treynors performance ratio it is clear that the first four ranks of performance of ETFs showed a higher return for the high risk taken.

CONCLUSION

The popularity of Exchange Traded Funds has increased manifold attracting a lot of attention from both the investors and the market participants resulting in a continuous innovation in the Exchange Traded Funds.

ETFs are essentially IFs that are listed and traded on exchanges like stock. The introduction of Gold Exchange Traded Funds and growth in the prices of Gold has led to the increased performance of Exchange Traded Funds compared to Index Funds. Exchange Traded Funds can became best investment alternative if awareness is created among the investors.

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