SSRG International Journal of Economics and Management Studies
ISSN: 2393 – 9125 / https://doi.org/10.14445/23939125/IJEMS-V6I3P105

Volume 6 Issue 3, 33 - 45, Mar 2019

Original Article

Performance Evaluation of Exchange Traded Funds in India

Pournima Dhume, Anuradha Patil

Department of Commerce, Goa University, M.Com. Student, Department of Commerce, Goa University

Abstract *- Exchanged Traded Funds is one of the investment alternatives which have been gaining increasing popularity in India. There are various types of ETFs that are traded on the stock exchanges, like equity index ETFs, liquid ETFs, and gold ETFs. ETFs are attractive investments because of their low costs, tax efficiency, and various other features. The number of ETFs is growing from 1 that is in December 2002 to 57 schemes in December 2015, and the average AUM has also been increased. In this paper, we evaluate the performance of Equity ETF, Bank ETF, and Gold ETFs quoted at National Stock Exchange (NSE). 22 funds from these categories have been selected as a sample size. Traditional performance measures have been used to evaluate the performance of the selected ETFs. From the results, it is clear that the ETFs outperform their underlying index, the Nifty 50, Nifty Next 50, Nifty Bank, Nifty Infrastructure, Nifty PSU Bank, Nifty 50 Shariah Index, and S & P BSE Sensex.*

Keywords *- Exchange Traded Funds, Performance, Evaluation, AUM, Growth*

I. INTRODUCTION

Exchanged Traded Funds is one of the investment alternatives which have been gaining increasing popularity in India. ETFs are one of the most creative and successful products introduced on exchanges and have grown excessively over the years. Exchange-Traded Funds are actually Index Funds that are listed and traded on exchanges like stocks. An ETF holds assets such as stocks, commodities, or bonds, and it is trading at the same price as the net asset value of its underlying assets on the particular trading day; an ETF is a basket of securities that mirror the combination of an Index, like Nifty 50, Nifty Next 50, Nifty Bank, Nifty Infrastructure, Nifty PSU Bank, Nifty 50 Shariah Index, S & P BSE Sensex, and various other indices. The first ETF in India, "Nifty Bees (Nifty Benchmark Exchange Traded Scheme) based on Nifty 50, was launched in January 2002 by Benchmark Mutual Fund. It may be bought and sold like any other stock on NSE. Unlike regular open-end mutual funds, ETF can be bought and sold at all the time on a trading day like any stock. There are various types of ETFs that are traded on the stock exchanges, like equity index ETFs, liquid ETFs, and gold ETFs. ETFs are attractive investments because of their low costs, tax efficiency, and various other features.

As compared to index mutual funds, Most ETFs charge lower annual expenses. Equity Exchange Traded Funds: combine the flexibility of stock investment and the simplicity of equity mutual funds. Equity ETFs are passive investment instruments that are based on indices and invest in securities in the same proportion as the underlying index. As the ETFs track the index, there is complete transparency on the holdings of an ETF. The ETFs have much lower expense ratios as compared to mutual funds due to their unique structure and creation mechanism.

Gold Exchange Traded Fund: combine the flexibility of stock investment and the simplicity of gold investments. Gold ETFs are passive investment instruments that are based on gold prices and invest in gold bullion. Because of its direct gold pricing, there is complete transparency on the holdings of an ETF. Further, due to their unique structure and creation mechanism, the ETFs have much lower expenses as compared to physical gold investments. Gold ETF are units that represent the physical gold, which may be in paper or dematerialized form. Like a single stock of any company, the gold ETFs units are traded on the exchanges.

Liquid Exchange-traded Funds: Liquid ETF funds whose unit price is derived from money market securities which include government bonds, treasury bonds, call money market, etc. The funds give reasonably market-related returns with lower risk and higher liquidity through the portfolio of debt and money market instruments.

II. LITERATURE REVIEW

Harper, Madura, and Schnusenberg (2006) compared closed-end country funds return to ETF returns which targeted a country-specific MSCI index over the period 1996 to 2001. They found that tracking errors of the ETFs were not significantly different from zero and concluded that ETFs did indeed almost perfectly track the underlying index. ***Gastineau* (2004)** examines the performance of index ETFs relative to their respective benchmarks and conventional index funds by analyzing the operating efficiency of the funds. ***Elton, Gruber, Comer, and Li (2002)*** also investigate the performance of an ETF

relative to the underlying index. ***Nedeljkovic (2005)*** observed that the potential of gold ETFs was far from fulfilled and that they could become a significant factor fuelling demand for gold and pushing the price of gold upward. ***Goyal and Joshi (2011)*** observed that the trading of Gold ETFs is quite different from the trading at NSE. The trading in Gold ETFs is increasing over time as the gold prices are regularly touching a new high, and the investors are investing in these ETFs for earning fair and sure profits in the 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. ***Mukul, Kumar, and Ray (2012)*** asserted that investment in gold provided a better monthly return relative to a diversified equity fund. They found that investors should invest a certain proportion of their funds in gold. ***Baur (2013)*** showed that gold ETFs were more liquid than their underlying physical bars and coins and that this liquidity varied through time and depended on the structure of the ETFs, i.e., whether the ETF was physically backed or synthetic. They observed that the introduction of ETFs was at least partially responsible for the strong increase in the price of gold between 2002 and 2011. They also claimed that the volatility of gold had been increased because of the ease of trading facilitated by gold ETFs. ***Kostovetsky (2003)*** studied the relative performance of the ETFs and Index mutual funds from the investor's point of view. He reported key areas of differences between the two to lie in management fees, shareholders operation fees, taxation competence, and the qualitative factors transaction suitability, short selling, and ability to margin. His core finding was that Index mutual funds are better suited for small investors and ETFs are preferable by large investors. ***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 will 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. ***Dellva (2001)*** compared the ETFs with that of the traditional mutual fund in terms of trading, creation and redemption, cost comparisons, and tax efficiency. The study finds that ETFs are attractive to investors because of the low expense ratio than those of mutual funds but of little advantage to the long-term, tax-deferred investors. ***Gallagher and Segara (2004)*** examined the performance and trading characteristics of ETF in Australia. They examined the ability of index-oriented ETF to track the underlying equity benchmarks on ASX and compared the tracking error volatility between market traded instruments and equity index funds operated off the market. The study finds that the tracking error is significant for ETFs, thereby making it attractive for the investors with a long-term investment objective as they will be able to receive investment returns similar to index returns. ***Goyal and Joshi(2011)***, in their study, examined the performance of selected Gold ETFs from the period March 2008 to December 2010.The study finds strong evidence that the Gold ETFs are good for investors as they have fewer variations as compared to the other investments. The confidence of investors is increasing, and hence the future of gold is bright in India. ***Vidhyapriya and Mohanasundari (2014),*** in their study, examined the performance of Gold ETF in India. The study provides strong evidence for the investment in Gold for the institutional and long-term investors through ETFs. ***Pandey (2010)*** favored 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 the flow of funds into ETFs and market returns and their lags at aggregate and individual levels. ***Mohdsaleem Matloob Ullah Khan (2013)*** made a comparative study of Gold ETFs v/s Physical Gold, and it also emphasized that the Gold ETFs as a strong and attractive in- vestment option for investors. ***Krishna Prasanna (2012)*** has studied the Performance of Exchange –Traded Funds in India.This research paper examines the characteristics and growth pattern of all the 82 exchange-traded schemes floated and traded on Indian Stock markets and evaluated their performance using Data Envelopment Analysis (DEA). On average, ETFs grew at 37% annually during the period 2006-2011 in India. These funds consistently outperformed the market index and generated higher returns. ETFs generated excess returns of 3%p.a as against CNX NIFTY, which is the Indian equity market and attracted large investments in the post-financial crisis years. **Kumar *et al. (2012)*** revealed that Gold investment had been a very important aspect for ages across the globe. The study also examines the role of gold in hedging equity investment risk. ***Aggarwal & Soenen (1988)*** examines gold market efficiency vs. the S&P 500. They argue that the strong movement in gold prices offers an opportunity for strong returns, even risk-adjusted, though there was significant positive skewness and daily changes were leptokurtic. ***Goetzmann and Massa (1999)*** analyze the relationship between individual index funds and asset prices. They use three S&P500 index funds to investigate the relation between funds inflows and S&P market returns. They found a strong contemporaneous positive (negative) correlation between fund inflows (outflows) and S&P market returns. ***Rao and Rao (2009)*** done empirically

researches the effect of fund size on the performance of select Balanced Funds.

III. OBJECTIVES OF THE STUDY

- To examine the growth of domestic, its regulatory challenges, and tax implications.
- To measure risk-adjusted return and compare the performance of different categories of ETFs with its benchmark.
- To study the correlation between the fund size and the expense ratio of ETF.

IV. RESEARCH METHODOLOGY

A. Data sources

The study is based on secondary data, which is collected from various published sources, websites, books, and journals. ***Data collection***: Secondary data is collected from the NSE website. The monthly NAV data from inception till March 2015 has been collected from www.mutualfundindia.com and www.rrfinance.com. The monthly gold price for the period under study has been taken from www.goldpriceindia.com. Implicit Yield on 91 days T-bills rate is used as a proxy for the risk-free rate, which is collected from RBI Website. The data for all selected ETFs and their index is collected from the website of the National Stock Exchange. The closing prices of the index are collected from NSE Website. Period of the study: The period for the study is from April 2010 to March 2015. ***Sample size:*** This study is limited to Gold, Equity, and Bank ETFs and which are trading on NSE. Presently there are fourty five (45) funds that are traded on NSE, but the fund selected for the study is only 22. The funds selected are trading for the last five or more years on the stock exchange. The sample period is from April 2010 to March 2015. The sample period is chosen in a way that the maximum number of ETFs of different categories may be included in the study. The first ETF fund which is listed on NSE is GS Nifty Bees in 2001. Following is the list of ETFs which are selected for the study based on their launched date.

Table 1. List of Equity ETFs listed on NSE

Name	Underlying	Launch Date
GS Nifty Bees	Nifty 50 Index	28-Dec-2001
Kotak Nifty ETF	Nifty 50 Index	02-Feb-2010
Most Shares M50	Nifty 50 Index	28-Jul-2010
Quantum Index Fund - Growth	Nifty 50 Index	10-Jul-2008
GS Infra Bees	Nifty Infrastructure	29-Sep-2010
GS Junior Bees	Nifty Next 50	21-Feb-2003
GS Shariah Bees	Nifty50 Shariah Index	18-Mar-2009
ICICI SENSEX Prudential Exchange Traded Fund	S&P BSE Sensex	10-Jan-2003

Table 2. List of Bank ETF listed on NSE

Name	Underlying	Launch Date
GS Bank Bees	Nifty Bank	27-May-2004
R*Shares Banking ETF	Nifty Bank	24-Jun-2008
GS PSU Bank Bees	Nifty PSU BANK	25-Oct-2007
Kotak PSU Bank ETF	Nifty PSU BANK	08-Nov-2007

Table 3. List of Gold ETF listed on NSE

Name	Underlying	Launch Date
Axis Gold ETF	Gold	Nov 2010
Goldman Sachs Gold Exchange Traded Scheme	Gold	Mar 2007
HDFC Gold Exchange Traded Fund	Gold	Aug 2010
ICICI Prudential Gold Exchange Traded Fund	Gold	Aug 2010
Kotak Gold Exchange Traded Fund	Gold	Jul 2007
Quantum Gold Fund (an ETF)	Gold	Feb 2008
Reliance Gold Exchange Traded Fund	Gold	Nov 2007
Religare Gold Exchange Traded Fund	Gold	Mar 2010
SBI Gold Exchange Traded Scheme	Gold	Apr 2009
UTI GOLD Exchange Traded Fund	Gold	Mar 2007

B. Statistical tools or techniques employed

The performance of the funds has been evaluated in comparison to the average performance of similar category funds and its benchmark, i.e., Nifty 50, Nifty Next 50, Nifty Bank, Nifty Infrastructure, Nifty PSU Bank, Nifty 50 Shariah Index, S & P BSE Sensex. Various risk-adjusted tools like Descriptive Statistics, beta, Sharpe Ratio, Jenson Ratio, and Treynor's ratio are used in the study, which is explained as below:

C. Sharpe Ratio

Sharpe ratio, also known as Sharpe index, Sharpe measure and reward to variability ratio. Sharpe Ratio is developed by William F. Sharpe, is the ratio of a portfolio's total return minus the risk-free rate divided by the standard deviation of the portfolio, which helps to measure the risk. Actually, the Sharpe and Treynor ratio is similar, but the only difference is the use of standard deviation instead of beta. The ratio measures the excess return per unit of risk, which is derived by the standard deviation of the portfolio. If Sharpe Ratio is higher, it indicates the better performance of the fund and greater the profits for taking additional risk. Sharpe ratio = $(AR_P - R_F)/ P$, where, AR_P=Average Return on Portfolio, R_F=Risk Free Rate, P=Standard deviation of Portfolio

D. Treynor's Ratio

The Treynor ratio is popularized by Jack L. Treynor. The Treynor ratio shows the risk-adjusted performance of the fund. A fund with a higher Treynor ratio implies that the fund has a better risk-adjusted return than that of another fund with a lower Treynor ratio. Treynor ratio is also known as a reward to volatility ratio or Treynor measure. It is a risk-adjusted measure that is based on systematic risk. It is similar to the Sharpe ratio with a difference in that it uses beta as a measure of volatility. The higher the ratio, the better the performance of a portfolio. If the Treynor Ratio is high, it means that the investor has received high returns on each market risk that he has taken. While Sharpe Ratio uses the standard deviation of a portfolio, Treynor Ratio makes use of the systematic risk or the beta of the portfolio. Treynor ratio = $(AR_P - R_F)/\beta_P$

AR_P=Average Return on Portfolio, R_F=Risk Free Rate, β_P =Portfolio Beta

E. Jenson Ratio

The Jensen's Alpha formula was used for the first time by Michael Jensen back in 1986. Jensen's Alpha, also known as "Alpha", "Jensen's Measure," and "Jensen's Performance Index," is one of the many ways a trader can calculate the risk-adjusted value of an investment. The Jensen's Alpha helps to measure differential return earned by the fund. A higher value of Alpha indicates that your portfolio has performed better, earning more than the level predicted by the market, that it helps the fund manager in identifying which is the undervalued securities and their help in generating excess return than the benchmark. If the value of alpha is positive, that means the portfolio has an average return that is greater than the benchmark, which means the fund is performing well. Similarly, if the alpha value is negative, this means that the fund return is less than the benchmark. If the positive value is 1.0, that means the fund is performing well as compared to its benchmark by 1 percent, and the negative value tells that the fun is not performing well by 1 percent. Jensen Ratio= $AR_P – (R_F+ \beta_P (AR_m - R_F)$, AR_P=Average Return on Portfolio, R_F=Risk Free Rate, β_P =Portfolio Beta, AR_m=Average return on Market

F. Beta of the Portfolio

Systematic risk is measured in terms of beta, which indicates the volatility of a scheme return in relation to the market index. The beta value of an index is taken as one. Beta measures the systematic risk and shows how the price of a security is responding to the market foresees. If the beta value of the fund is very close to 1, that means the fund is performing close to the market index. If the beta value of the fund is less than one, then it means it is not performing closer to the market index. A negative beta shows an opposite relationship between the fund and the market.

G. Descriptive Statistics

Average Return: The most common method of calculating the return is an average simple return. Standard Deviation: It measures the total risk from the average return. It measures the fluctuation of NAV as compared to the average return of the scheme during a particular period. The higher standard deviation tells us that the fund is riskier than the fund that has a lower standard deviation. A lower standard deviation means it is low risk in funds return. Higher the Standard Deviation means a greater fluctuation in expected return.

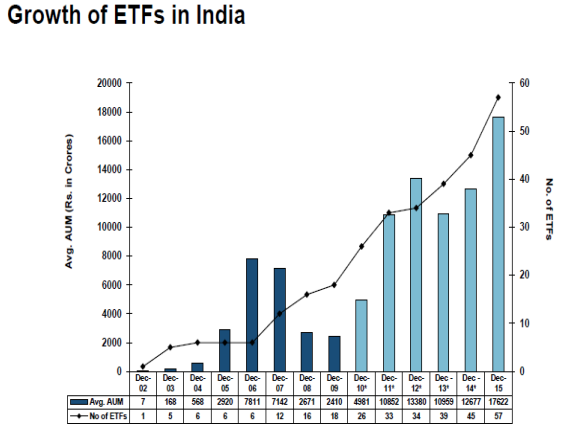
H. Skewness

Skewness is a measure of symmetry, which means to know whether our data is positively skewed, negatively skewed, or normally distributed. Always the data should be normally distributed. . If the skewness is zero, then the distribution represented by *S* is perfectly symmetric. If the skewness is negative, then the distribution is skewed to the left, while if the skew is positive, then the distribution is skewed to the right.

I. Kurtosis

Positive kurtosis indicates a relatively peaked distribution. Negative kurtosis indicates a relatively flat distribution. Based on the kurtosis, we can know that the data is normal. If the kurtosis value is zero, then it is preferable. There are three types of kurtosis, if the kurtosis is zero, then it is normal, which is meso kurtosis; if the kurtosis is greater than zero, then it is lepto kurtosis, and if the kurtosis is less than zero, then it is platy kurtosis.

Fig. 1 Growth of Exchange Traded Funds in India



(Source: Based on data collated from AMFI website, i.e., www.amfiindia.com)

Figure 1 displays that the demand for ETFs has been growing, as now more and more people are investing in ETFs. The number of ETFs is growing from 1 that is in December 2002 to 57 schemes in December 2015, and the average AUM has also been increased from 7 in December 2002 to 17622 in December 2015 in 2008-09 growth is lower, but from 2010 ETFs are growing in India. Exchange-Traded Funds (ETFs) are one of the fastest-growing investment products in the world. Demand for ETFs has increased as institutional investors have found ETFs a convenient vehicle for participating in or hedging against broad movements in the stock market. Increased awareness of these investment vehicles by retail investors and their financial advisers also has increase demand for ETFs. As demand for ETFs has grown, ETF sponsors have offered not only a greater number of funds but a greater variety, including ETFs investing in particular market sectors, industries, or commodities, etc. India's journey started with Benchmark launching the first ETF called Nifty Bees in 2002. Since the first ETF was launched in 1993, they have grown significantly in terms of assets, popularity, and complexity. Today there are 57 ETFs in the MF industry. Now there are many ETFs listed on NSE, the number of schemes was grown now in 2015 with various categories of ETFs such as Equity, Gold, and Bank ETFs.

V. REGULATORY FRAMEWORK FOR ETF

Indian Capital Markets are regulated and monitored by the Ministry of Finance, The Securities and Exchange Board of India, and The Reserve Bank of India. The Ministry of Finance regulates through the Department of Economic Affairs - Capital Markets Division. (NSE)

A. National Stock Exchange (NSE) – Rules and Regulations

In the role of a securities market participant, NSE is required to set out and implement rules and regulations to govern the securities market. These rules and regulations extend to member registration, securities listing, transaction monitoring, compliance by members to SEBI / RBI regulations, investor protection, etc. They are required to file their initial registrations with the Securities and Exchange Commission on Form N-8A, 6 and to amend their registration statements annually on Form N-1A.7As with all mutual funds, ETFs must provide their shareholders with annual and semi-annual reports and must file those reports with the SEC.8

VI. TAX IMPLICATIONS OF ETFS IN INDIA

Holding ETFs can be particularly advantageous for financial institutions ("FIs") and others compared to a direct investment in shares. The reason is that a financial institution may be able to record capital gains in respect of its investment in an ETF, whereas it would be required to record ordinary income in respect of direct share investments. Earning capital gains is preferable because only 50% of capital gains are taxable. There is no dividend distribution tax. When it comes to capital gains tax implications, it can be categorized into long-term capital gains (LTCG) tax and short-term capital gains (STCG) tax. ETFs actually create a tax advantage for investors when compared to mutual funds.

ETFs are priced proportionately to the value of the underlying equities it represents. In essence, the fund takes the value of the whole pie and slices it into equal shares. Each share necessarily has the same value. The value of the ETF changes throughout the trading day based on supply and demand from investors. ETFs also use "inventory control" to enhance tax efficiency. The portfolios exchanged for redemption units are managed to minimize the realization of capital gains. The specific shares provided in exchanges are those with the largest unrealized capital gains. And, shares sold to meet changes in the composition of benchmark indexes are those with the smallest unrealized capital gains.

ETFs have minimum portfolio turnover with minimum realized capital gains and taxable share-holder distributions. Even if minimized, stock trades due to changes in the composition of benchmark indexes can prove exceptions. These various factors

all work to minimize distributions of realized capital gains to investors. By so doing, investors have greater control over tax planning, such as unbundling stocks to take tax losses. Active portfolio management realizes capital gains that must be distributed to current shareholders.

Analysis of Performance of Exchange Traded Fund with its Benchmark

Table IV. Sharpe Ratio

Equity ETFs		
Exchange-Traded funds	**Sharpe Ratio for Portfolio**	**Sharpe Ratio for Market**
GS Nifty Bees	-1.43	-1.43
Kotak Nifty ETF	-1.43	-1.43
Most Shares M50	-1.13	-1.43
Quantum Index Fund - Growth	-1.42	-1.43
GS Infra Bees	-1.09	-1.05
GS Junior Bees	-1.21	-1.20
Exchange-Traded funds	**Sharpe Ratio for Portfolio**	**Sharpe Ratio for Market**
GS Shariah Bees	-1.72	-1.68
ICICI SENSEX Prudential Exchange Traded Fund	-1.49	-1.49
Bank ETFs		
Exchange-Traded funds	**Sharpe Ratio for Portfolio**	**Sharpe Ratio for Market**
GS Bank Bees	-0.82	-0.81
R*Shares Banking ETF	-0.82	-0.81
GS PSU Bank Bees	-0.73	-0.74
Kotak PSU Bank ETF	-0.75	-0.74
Gold ETFs		
Exchange-Traded funds	**Sharpe Ratio for Portfolio**	**Sharpe Ratio for Market**
Axis Gold ETF	-1.58	-1.41
Goldman Sachs Gold Exchange Traded Scheme	-1.43	-1.41
HDFC Gold Exchange Traded Fund	-1.53	-1.41
ICICI Prudential Gold Exchange Traded Fund	-1.53	-1.41
Kotak Gold Exchange Traded Fund	-1.42	-1.41
Quantum Gold Fund (an ETF)	-1.42	-1.41
Reliance Gold Exchange Traded Fund	-1.44	-1.41
Religare Gold Exchange Traded Fund	-1.40	-1.41
SBI Gold Exchange Traded Scheme	-1.42	-1.41
UTI GOLD Exchange Traded Fund	-1.4	-1.41

A. Interpretation

Sharpe ratio is a useful measure of risk-adjusted return. It reflects the returns generated per unit of total risk. The higher the Sharpe ratio, the better is the performance of the fund under analysis. All the selected schemes have shown a negative return per unit of risk. Analysis of Sharpe ratio in table 2 tells that its value for the selected Gold, Equity, and Bank ETF schemes varies between -0.73 and -1.72, and the Sharpe ratio of the market varies between -0.74 to -1.68. GS PSU Bank BEES has shown a moderately negative return of -0.73 per unit of total risk. This ratio is highest to the extent of -1.72 for GS Shariah Bees. That means the GS Shariah BEES is performing well as compared to the other ETF as it has a higher Sharpe ratio, and GS PSU Bank BEES is not performing well as it has a lower Sharpe ratio as compared to other ETFs.

If funds Sharpe Ratio is greater than the benchmark, that means the fund is performing better than the market. If it is less than the benchmark, that means the fund's performance is not good in the market. The above table depicts that the fund is performing better than the market as the fund has a greater Sharpe ratio as compared to the market. And the Equity ETF is performing well as compared to the gold and bank ETF as it has a higher Sharpe ratio as compared to the other.

Table 5. Treynor Ratio

Equity ETFs		
Exchange-Traded funds	**Treynor Ratio for Portfolio**	**Treynor Ratio for Market**
GS Nifty Bees	-7.26	-7.26

Kotak Nifty ETF	-7.24	-7.25
Most Shares M50	-7.62	-7.03
Quantum Index Fund - Growth	-7.20	-7.28
GS Infra Bees	-8.56	-8.49
GS Junior Bees	-7.11	-7.12
GS Shariah Bees	-7.65	-7.42
ICICI SENSEX Prudential Exchange Traded Fund	-7.50	-7.45
Bank ETFs		
Exchange-Traded funds	**Treynor Ratio for Portfolio**	**Treynor Ratio for Market**
GS Bank Bees	-6.82	-6.83
R*Shares Banking ETF	-6.85	-6.93
GS PSU Bank Bees	-7.72	-7.86
Kotak PSU Bank ETF	-7.89	-7.84

Gold ETFs		
Exchange-Traded funds	**Treynor Ratio for Portfolio**	**Treynor Ratio for Market**
Axis Gold ETF	-9.27	-8.74
Goldman Sachs Gold Exchange Traded Scheme	-7.97	-7.85
HDFC Gold Exchange Traded Fund	-8.99	-8.65
ICICI Prudential Gold Exchange Traded Fund	-9.00	-8.66
Kotak Gold Exchange Traded Fund	-7.86	-7.75
Quantum Gold Fund (an ETF)	-7.89	-7.78
Reliance Gold Exchange Traded Fund	-7.90	-7.79
Religare Gold Exchange Traded Fund	-7.91	-7.81
SBI Gold Exchange Traded Scheme UTI Gold Exchange Traded Fund	-7.89 -7.90	-7.79 -7.79

B. Interpretation

The Treynor Ratio helps analyze returns in relation to the market risk of the fund. The higher the Treynor Ratio, the better is the performance of the fund under analysis. A fund with a higher Treynor ratio implies that the fund has a better risk-adjusted return than that of another fund with a lower Treynor ratio. It has been observed that the Treynor ratio of the selected bank, gold, and equity ETFs varies between -6.82 and – 9.27. The entire bank, gold, and equity ETFs have shown a negative performance after adjusting for market risk. This ratio is lowest, i.e., -6.82 for GS Bank bees, and highest for Axis gold ETF, i.e., -9.27, which means the Axis gold ETF has a better risk adjusted return than that of GS Bank bees which has a lower Treynor ratio. It is clear on the basis of analysis that GS Bank Bees is least affected by the systematic risk, and Axis gold ETF is most affected by the market/systematic risk. From the above analysis, it can also be seen that the Treynor Ratio for the market varies between – 6.83 to – 8.74, which means the fund is performing better than the market as the fund has the higher Treynor Ratio as compared to the market.

Table 6: Jenson Ratio

Equity ETFs	
Exchange-Traded funds	**Jenson Ratio for Portfolio**
GS Nifty Bees	-0.03
Kotak Nifty ETF	-0.01
Most Shares M50	-0.40
Quantum Index Fund - Growth	0.02
GS Infra Bees	-0.54
GS Junior Bees	-0.08
GS Shariah Bees	-0.50
ICICI SENSEX Prudential Exchange Traded Fund	-0.24
Bank ETFs	
Exchange-Traded funds	**Jenson Ratio for Portfolio**
GS Bank Bees	-0.04
R*Shares Banking ETF	-0.06
GS PSU Bank Bees	0.01
Kotak PSU Bank ETF	-0.14
Gold ETFs	
Exchange-Traded funds	**Jenson Ratio for Portfolio**

Axis Gold ETF	-1.65
Goldman Sachs Gold Exchange Traded Scheme	-0.63
HDFC Gold Exchange Traded Fund	-1.43
ICICI Prudential Gold Exchange Traded Fund	-1.44
Kotak Gold Exchange Traded Fund	-0.54
Quantum Gold Fund (an ETF)	-0.56
Reliance Gold Exchange Traded Fund	-0.57
Religare Gold Exchange Traded Fund	-0.58
SBI Gold Exchange Traded Scheme	-0.56
UTI GOLD Exchange Traded Fund	-0.57

C. Interpretation

The basic idea behind this ratio is that to analyze the performance of a fund, you must look not only at the overall return of a portfolio but also at the risk of that portfolio. Jensen's measure is one of the ways to help determine if a portfolio is earning the proper return for its level of risk. If the value of alpha is positive, that means the portfolio has an average return that is greater than the benchmark, which means the fund is performing well. Similarly, if the alpha value is negative, this means that the fund return is less than the benchmark. The table depicts that GS PSU Bank Bees and Quantum index Fund earns similar positive returns at 0.01and 0.02. The analysis showed that the alpha was negative for most of the ETFs in the study, except for the GS PSU Bank BEES and Quantum index fund. According to this ratio, the bank and equity ETF is performing well as compared to the gold ETF as a bank, and equity ETF has an average return that is greater than the benchmark.

VII. ANALYSIS OF CORRELATION BETWEEN FUND SIZE AND EXPENSE RATIO OF EXCHANGE-TRADED FUNDS IN INDIA

A. Fund Size

Fund Size is the total amount of capital committed by the investors of Exchange Traded Funds. The study is to see whether the fund size and the expense ratio have any impact on the performance of selected Exchange Traded in India. This study will help to know whether the fund performance declines with fund size or the fund performance will increase with fund size. To see the impact, multiple regression is used, and by looking at the result, we will get to know whether changes in a fund's performance are related to changes in its size. A fund that is performing well every year will experience an increase in fund size. But performance will regress to the mean, leading to a spurious conclusion that an increase in fund size is associated with a decrease in fund returns. Measuring the effect of fund size on performance using cross-sectional regressions is less subject to such biases, and maybe conservative in that large funds are likely to be good funds, i.e., they would not have become large otherwise. (Chen, Hong, Huang, & Kubik, Does Fund Size Erode Performance? Liquidity, Organizational Diseconomies and Active Money Management, September 2002). The impact of fund size and expense ratio on the performance of selected Exchange Traded Funds is analyzed by using multiple regression models. As the return on the portfolio is the dependent variable, and the fund size and expense ratio is the independent variable. The impact is seen for five years that is from April 2010 to March 2015. The model is run to see the overall impact as well as the yearly impact, as every year, whether fund size and expense ratio has an impact on the performance of funds or not.

Correlation metrics are used to see whether the fund size, expense ratio are correlated with fund return. To see whether the fund size, expense ratio are perfect positively correlated with fund size or whether they have an inverse relation. A positive correlation coefficient means that as variable 1 increases, variable 2 increases, and conversely, as variable 1 decreases, variable 2 decreases. In other words, the variables move in the same direction when there is a positive correlation. A negative correlation means that as variable 1 increases, variable 2 decreases and vice versa. In other words, the variables move in opposite directions when there is a negative correlation. The multiple regression model and correlation metrics are run to see an impact on three categories of selected Exchange Traded Funds which are listed on the National Stock Exchange they are: Bank Exchange Traded Funds, Gold ETFs, and equity ETFs.

Table 7. Descriptive Statistics

Equity ETF				
Exchange-Traded funds	**Mean**	**Standard Deviation**	**Skewness**	**Kurtosis**
GS Nifty Bees	0.93	5.03	0.15	-0.19
Kotak Nifty ETF	0.93	5.04	0.164	-0.18
Most Shares M50	0.32	6.91	-0.76	3.48
Quantum Index Fund - Growth	1.01	5.01	0.13	-0.16

GS Infra Bees	0.10	7.34	0.76	0.47
GS Junior Bees	1.13	5.79	0.29	0.32
GS Shariah Bees	0.80	4.25	-0.04	-0.34
ICICI SENSEX Prudential Exchange Traded Fund	0.85	4.88	0.06	-0.19
Bank ETF				
Exchange-Traded funds	**Mean**	**Standard Deviation**	**Skewness**	**Kurtosis**
GS Bank Bees	1.37	8.26	0.47	0.20
R*Shares Banking ETF	1.45	8.15	0.49	0.20
GS PSU Bank Bees	0.54	10.3	0.71	0.23
Kotak PSU Bank ETF	0.36	10.3	0.64	0.34
Gold ETF				
Exchange-Traded funds	**Mean**	**Standard Deviation**	**Skewness**	**Kurtosis**
Axis Gold ETF	0.43	4.88	0.96	2.31
Goldman Sachs Gold Exchange Traded Scheme	0.75	5.15	0.68	1.16
HDFC Gold Exchange Traded Fund	0.58	4.93	0.88	2.05
ICICI Prudential Gold Exchange Traded Fund	0.58	4.93	0.88	2.04
Kotak Gold Exchange Traded Fund	0.76	5.20	0.70	1.20
Quantum Gold Fund (an ETF)	0.77	5.19	0.69	1.22
Reliance Gold Exchange Traded Fund	0.77	5.11	0.73	1.46
Religare Gold Exchange Traded Fund	0.77	5.27	0.78	1.79
SBI Gold Exchange Traded Scheme	0.78	5.19	0.70	1.20
UTI GOLD Exchange Traded Fund	0.76	5.18	0.71	1.24

B. Interpretation: Mean return

The above table shows the descriptive statistics of selected ETFs. All the selected Equity, Bank, and Gold exchange-traded funds in Table 1 have shown a positive mean return over the period of study. The mean return of the selected ETFs varies between 0.3 percent to 1.45 percent. Reliance Share Banking ETF has the highest mean value that is 1.45, as compared to other ETFs. Hence Reliance Share Banking ETF has revealed a reasonable return in the time of decline in the market in comparison to other selected banking ETFs. And GS Infrastructure has the lowest mean value that is 0.10, which means that it has not revealed a reasonable return.

C. Standard Deviation

It measures the total risk from the average return. The higher standard deviation tells us that the fund is riskier than the fund that has a lower standard deviation. A lower standard deviation means there is low risk in funds return. Higher the Standard Deviation means a greater fluctuation in expected return. It is observed that the standard deviation of the Equity, Bank and Gold ETFs ranges between 4.25 and 10.37. Analysis reveals that total risk is highest for the Kotak PSU Bank ETF (10.37) followed by GS PSU Bank BEES (10.31), whereas it is lowest for the GS Shariah Bees (4.25). Hence, on the basis of the standard deviation of the selected schemes, it is observed that Kotak PSU Bank ETF is the most volatile, and GS Shariah Bees are the least volatile among the selected ETF schemes.

D. Skewness

Skewness is a measure of symmetry, which means to know whether our data is positively skewed, negatively skewed, or normally distributed. If the skewness is negative, then the distribution is skewed to the left, while if the skew is positive, then the distribution is skewed to the right. Always the data

should be normally distributed. From the above table, we can see that GS Nifty BEES(+0.15), Kotak Nifty ETF(+0.16), Quantum index fund (+0.13), GS Bank BEES(+0.47), Reliance Share Banking ETF(+0.49), GS Infrastructure BEES(+0.76), GS Junior BEES(+0.29), GS PSU Bank BEES(+0.71), Kotak PSU Bank BEES(+0.64), ICICI Sensex Prudential ETF(+0.06), Axis gold ETF(+0.96), GS Gold ETF(+0.68), HDFC Gold ETF(+0.88), ICICI Prudential ETF(+0.88), Kotak Gold ETF(+0.70), Quantum Gold ETF(+0.69), Reliance Gold ETF(+0.73), Religare Gold ETF(+0.78), SBI Gold RTF(+0.70), UTI Gold ETF(+0.71) has the positive value that means they are positively skewed, and they are performing well as all the values are closer to the zero which means it is positively skewed. Whereas the Most Share M 50(-0.76) and GS Shariah BEES (-0.04) are negatively skewed, which means they are not performing well.

E. Kurtosis

Positive kurtosis indicates a relatively peaked distribution. Negative kurtosis indicates a relatively flat distribution. Based on the kurtosis, we can know that the data is normal. If the kurtosis value is zero, then it is preferable. From the above table, we can see that most of the ETFs are near zero.GS Bank BEES and reliance share banking ETF and GS PSU Bank BEES have a positive kurtosis, and they are also close to zero, which tells that the data is normal. While the GS Nifty ETF, Kotak Nifty ETF, GS Shariah BEES, ICICI Sensex Prudential ETF has the highest negative kurtosis, which tells that the is not normal. And also, the Most Share M 50 has the highest positive kurtosis, which is not good.

Correlation of Fund Size and Expense Ratio with Fund Return

Table 8. Bank ETFs

RP	Fund size	Expense Ratio	
1.0000	0.6369	-0.6172	**RP**
	1.0000	0.2013	**Fund size**
		1.0000	**Expense Ratio**

5% critical value (two-tailed) = 0.9500 for n = 4

F. Interpretation

The above table shows correlation analysis of selected Bank Exchange Traded Funds. Above RP is the fund return. Correlations tell whether the variables are related to each other. Coefficients can vary numerically between 0.0 and 1.0. The closer the correlation is to 1.0, the stronger the relationship between the two variables. From the above analysis, it can be seen that fund size has a positive correlation(0.6369) with fund return that means if fund size increases, the fund return also increases .where as the expense ratio has (-0.6172) negative correlation with fund return that means expense ratio and fund return are moving in an inverse direction. Suppose expense ratio increase fund return will decrease.

Table 9. Equity ETFs

RP	Fund size	Expense Ratio	
1.0000	0.1694	-0.4224	**RP**
	1.0000	-0.0287	**Fund size**
		1.0000	**Expense Ratio**

5% critical value (two-tailed) = 0.7067 for n = 8

G. Interpretation

The above table shows the correlation analysis of selected Equity Exchange Traded Funds. From the above can see that fund size has a (0.1694) moderate correlation with the fund return as if the fund size increases, the fund return also will increase where the expense ratio has (-0.4224) negative correlation with fund return. As if the expense ratio increases, the fund return will decrease.

Table X: Gold ETFs

RP	Fund size	Expense Ratio	
1.0000	0.2921	0.1429	**RP**
	1.0000	-0.1856	**Fund size**
		1.0000	**Expense Ratio**

5% critical value (two-tailed) = 0.6319 for n = 10

H. Interpretation

The above table shows the correlation analysis of selected Gold Exchange Traded Funds. In the above box, correlation analysis is performed to study the correlation between fund size, expense ratio, and fund return. We can see that the fund size (0.2921) moderate relationship with fund return that means if fund size goes up, the fund return also goes up, whereas the expense ratio also has a (0.1429) relationship with fund return as the expense ratio goes up fun return will also go up.

VIII. FINDINGS

This study examines the growth of Domestic ETFs, their regulatory challenges, and tax implications. It was found that the Exchanged Traded Funds is one of the investment alternatives which have been gaining now increasing popularity in India. Global Exchange Traded Funds (ETFs) are simple investment products that allow domestic investors to take exposure to international indices. It is also found

that demand for ETFs is growing now. Many investors have found it as a convenient alternative for investment and to hedge against the movement of stock prices. Sponsors now not only offer the greater number of funds but also offer the variety of including ETFs investing in particular market sectors, industries, or commodities, etc. as compared to India US ETFs market is growing rapidly over these days as their asset class is ranging from equities, bonds, currencies commodities, and even derivatives.

Indian Capital Markets are regulated and monitored by the Ministry of Finance, The Securities and Exchange Board of India, and The Reserve Bank of India. Gold ETF is a very attractive investment destination and provides easy access to make an investment in gold. Investment in Gold ETF attracts less tax implication in comparison to physical gold.

The study also examines the performance of selected ETFs that track their underlying index like Nifty 50, Nifty Next 50, Nifty Bank, Nifty Infrastructure, Nifty PSU Bank, Nifty 50 Shariah Index, S & P BSE Sensex, and various other indices. The study also examined the Sharpe Ratio, Jenson Ratio, and Treynor Ratio for selected ETFs which are listed on NSE, to determine whether the fund manager was able to generate excess returns. As in terms of standard deviation, the Kotak PSU Bank ETF is the most volatile, and GS Shariah BeES are the least volatile among the selected ETF schemes.

It was found that the ETFs outperform their underlying index, the Nifty 50, Nifty Next 50, Nifty Bank, Nifty Infrastructure, Nifty PSU Bank, Nifty 50 Shariah Index, and S & P BSE Sensex. From the analysis, it is found that, in terms of Sharpe Ratio, the GS Shariah BEES is performing well as compared to the other ETF as it has a higher Sharpe ratio and GS PSU Bank BEES is not performing well as it has a lower Sharpe ratio as compared to other ETF. And the Equity ETF is performing well as compared to the gold and bank ETF as it has a higher Sharpe ratio as compared to the other. In terms of the Treynor ratio, it is found that the Axis gold ETF has a better risk-adjusted return than that of GS Bank bees which has a lower Treynor ratio. Whereas in terms of the Jenson ratio, the bank and equity ETF is performing well as compared to the gold ETF as bank and equity ETF has average return which is greater than the benchmark. It is also found that Bank ETFs has higher mean return as compared to all selected ETFs.

The study also evaluates the impact of Fund Size and Expense Ratio on the performance of selected ETFs. From the analysis, it is found that in terms of Bank ETFs and Equity ETFs, the fund size has a positive correlation with the fund return, whereas the expense ratio has a negative correlation with the fund return, as they are moving in an opposite direction. Whereas for the Gold ETFs, the fund size and the expense ratio have a positive relationship with fund return as fund size, expense ratio, and fund return is moving in the same direction. From the overall analysis impact, it is found that the Bank ETFs, Equity ETFs, and Gold ETFs fund size and expense ratio has no impact on the fund return. If fund size and expense ratio move up or down, it does not impact fund return. Whereas from the analysis of yearly impact, it is found that in 2010 the bank ETFs fund size and expense has no significant impact on the fun return, whereas, in the year 2011, the bank ETFs fund size and expense ratio has a significant impact on the fund return. Whereas in the years 2012, 2013, and 2014 the fund size and expense ratio have no significant impact on the fund return. While in the year 2015, the fund size and expense ratio has a significant impact on the fund return. These may be due to the higher fund size and higher expense ratio.

The analysis of Equity ETFs reveals that in the years 2010, 2011, 2012, 2013, 2014, and in 2015 the fund size and expense ratio has no impact on the fund return. This may be due to lower fund size and lower expense ratio. Whereas the analysis of Gold ETFs depicts that in the year 2010, the fund size and expense ratio has no impact on the fund return. While in the year 2011, the fund size does not have an impact on the fund return, but the expense has a significant impact on the fund return. While in the rest of the years, that is in 2012.2013, 2014, and 2015 the fund size and expense ratio has no impact on the fund return. These may be due to lower fund size and lower expense ratio. These years the investor gets the opportunity to earn a higher return.

IX. CONCLUSION

Exchanged Traded Funds is one of the investment alternatives which have been gaining now increasing popularity in India. ETFs are one of the most creative and successful products introduced on exchanges and have grown excessively over the years. Many investors are investing now in ETFs due to their structure. ETFs are attractive investments because of their low costs, tax efficiency, and various other features. ETFs are passive investment instruments that are based on indices and invest in securities in the same proportion as the underlying index. In India, the ETFs are regulated by the security and exchange commission, and in the international market, ETFs are regulated by the investment company act. ETFs, give the investor exposure to a wide range of assets classes around the globe. Their competitive tax profile has been one of the most important features in maintaining their growth in the US, Europe, and Asia. The measures taken by the government have to lead to more tax transparent.

The ETFs is popular in India hence it outperforms the underlying index. From the analysis, it can be concluded that the Equity ETF is performing well as compared to the gold and bank ETF as it has a higher Sharpe ratio as compared to the other. GS Shariah BEES is performing better than other selected ETFs, so the investor can invest in it to earn a higher return. It can also be said that the Axis Gold ETFs is giving higher return than the market thereby taking a limited risk so the investor who compares the fund return with the market for them it this fund is good. As compared to all selected ETFs, that is Bank ETFs, and Gold ETFs, the Equity ETFs are performing well. The one who invests in it may earn a higher return. Bank ETFs and Equity ETFs, the fund size has a positive correlation with the fund return where as the expense ratio has a negative correlation with the fund return, as they are moving in an opposite direction. Whereas for the Gold ETFs, the fund size and the expense ratio have a positive relationship with fund return as fund size, expense ratio, and fund return is moving in the same direction.

Bank ETFs, Equity ETFs, and Gold ETFs fund size and expense ratio have no impact on the fund return. If fund size and expense ratio move up or down, it does not impact fund return. In the years 2011, 2015 the bank ETFs fund size and expense ratio has a significant impact on the fund return. These may be due to the higher fund size and higher expense ratio. Therefore the fund manager needs to give special attention to it.

In the year 2011, the fund size does not have an impact on the fund return, but the expense has a significant impact on the fund return. So the fund manager has to take an effort in lowering the expense ratio. While in the rest of the years, that is in 2012.2013, 2014, and 2015 the fund size and expense ratio has no impact on the fund return. These may be due to lower fund size and lower expense ratio. These years the investor gets the opportunity to earn a higher return. As compared to all bank ETFs the Equity and Gold ETFs are performing better. So the investor can invest in it and can earn a higher return. Hence it is suggested that an investor should do investment with a long-term horizon for higher returns.

REFERENCES

[1] (n.d.). Retrieved from http://www.planmoneytax.com/exchange-traded-funds-etf-the-best-mutual-fund/.

[2] (n.d.). Retrieved from http://bseindia.morningstar.co.in/etf/etf.aspx.

[3] (n.d.). Retrieved from http://www.nseindia.com/products/content/equities/etfs/etf.htm.

[4] (n.d.). Retrieved from http://www.nseindia.com/products/content/equities/etfs/etf.htm.

[5] (n.d.). Retrieved from http://www.investopedia.com/terms/i/international-etf.

[6] (n.d.). Retrieved from http://www.firstpost.com/money-tutor/mfs-taxation/what-are-the-tax-implications-on-equity-mutual-funds-31.html.

[7] (n.d.). Retrieved from https://en.wikipedia.org/wiki/Exchange-traded_fund.

[8] .PB, M. S., R, M. S., & .S, M. V. (June 2014). A Study on Gold Etf's Performance in India. 4.

[9] Agapova*, A. (2007). Conventional Mutual Index Funds versus Exchange Traded Funds . 31.

[10] Chen, J., Hong, H., Huang, M., & Kubik, J. D. (September 2002). Does Fund Size Erode Performance? Liquidity, Organizational Diseconomies, and Active Money Management. 44.

[11] Chen, J., Hong, H., Huang, M., & Kubik, J. D. (September 2002). Does Fund Size Erode Performance? Liquidity, Organizational Diseconomies, and Active Money Management. 44.

[12] Dr. Vipin Kumar Aggarwal, 2. J. (2013). Gold vs. Gold ETFs: Evidence from India. International Journal of scientific research and management, 758-762.

[13] DR.P.VIDHYAPRIYA, & MOHANASUNDARI, D. (August 2014). A Study on The Performance of Gold ETF in India. INDIAN JOURNAL OF APPLIED RESEARCH, 4.

[14] Exchange-Traded Funds - Its Growth & Challenges in India.

[15] Goyal, A., & Joshi, A. (2 March 2011). Performance appraisal of gold ETFs in India. International journal finance management, 4.

[16] Goyal, D. M. (October 2014). Accelerating Growth of Gold ETF in India. International journal of innovative research and development, 206 to 210.

[17] how global tax reforms might impact tax efficiency. (November 2013). 16.

[18] Ilan Guedj, J. H. (March 2009). Are ETFs Replacing Index Mutual Funds? Financial Economics and Accounting, and 2009, 40.

[19] James M. Poterba, J. B. (January 2002). EXCHANGE-TRADED FUNDS: A NEW INVESTMENT OPTION FOR TAXABLE INVESTORS. Working Paper Series, 13.

[20] James M. Poterba, J. B. (January 2002). EXCHANGE-TRADED FUNDS: A NEW INVESTMENT OPTION FOR TAXABLE INVESTORS. Working Paper Series, 13.

[21] KESWANI*, M. S. (August 2011). EFFECT OF FUND SIZE ON THE PERFORMANCE OF BALANCED MUTUAL FUNDS AN EMPIRICAL STUDY IN THE INDIAN CONTEXT. International Journal of Multidisciplinary Research, 18 to 38.

[22] M.Jayanthi, D.,Malathy, M. S., & Radhulya, M. (December – 2013). A STUDY ON PERFORMANCE OF GOLD ETF COMPANIES IN INDIA. International Research Journal of Business and Management – IRJBM, 97 to 102.

[23] MOHDSALEEM*, & KHAN**, M. (April (2013)). THE OVERVIEW OF GOLD ETFS AND THEIR VARIOUS POSITIVE FEATURES. International Journal of Marketing, Financial Services & Management Research, 125 to 135.

[24] Naylor*, M. J., Wongchoti, U., & Gianotti, C. (8th Feb 2011). Abnormal Returns in Gold and Silver Exchange Traded Funds. 34.

[25] No. (n.d.). Retrieved from http://www.nseindia.com/products/content/equities/etfs/etf.htm.

[26] Petajisto*, A. (September 20, 2013). Inefficiencies in the Pricing of. 43.

[27] POTERBA, B. J., &. SHOVEL*, J. B. (May 2002). Exchange-Traded Funds: A New Investment Option for Taxable Investors. The American Economic Review, 7.

[28] Poterba, J. M., & Shoven, J. B. (January 2002). EXCHANGE-TRADED FUNDS: A NEW INVESTMENT OPTION FOR TAXABLE INVESTORS. Social Science Research Network Paper Collection, 15.

[29] Ram, D. P. (March 2014). Examining the Performance & Relationship between Bank ETFs and their underlying Index in India. International Journal of Management and Economics", 21.

[30] Rompotis, G. G. (July 2007). Evaluating the Seasonality and Persistence of ETFs Performance and Volatility: Implications for Profitable Investing. 40.
[31] Shaen Corbet, C. T. (2014). Have Exchange Traded Funds Influenced Commodity Market Volatility? International Journal of Economics and Financial Issues, 323 to 335.
[32] Shaen Corbet, C. T. (2014). Have Exchange Traded Funds Influenced Commodity Market Volatility? International Journal of Economics and Financial Issues, 323 to 335.
[33] (October 2015). Strengthening Hong Kong as a Capital Formation Centre for Exchange Traded Funds.
[34] Turner, A. R. (2009). Exchange-Traded Funds vs. UK Investment Trusts: ICMA Centre, Henley Business School, University of Reading, 22.
[35] Turner, A. R. (2009). Exchange-Traded Funds vs. UK Investment Trusts: ICMA Centre, Henley Business School, University of Reading, 22.
[36] Turner, A. R. (2009). Exchange-Traded Funds vs. UK Investment Trusts: ICMA Centre, Henley Business School, University of Reading, 22.
[37] Understanding Exchange-Traded Funds: How ETFs Work. (SEPTEMBER 2014). ICI RESEARCH PERSPECTIVE, 44.

WEBSITES

[1] http://www.planmoneytax.com/exchange-traded-funds-etf-the-best-mutual-fund/.
[2] http://bseindia.morningstar.co.in/etf/etf.aspx.
[3] http://www.nseindia.com/products/content/equities/etfs/etf.htm.
[4] http://www.nseindia.com/products/content/equities/etfs/etf.htm.
[5] http://www.investopedia.com/terms/i/international-etf.
[6] http://www.firstpost.com/money-tutor/mfs-taxation/what-are-the-tax-implications-on-equity-mutual-funds-31.html.
[7] https://en.wikipedia.org/wiki/Exchange-traded_fund.
[8] http://www.nseindia.com/products/content/equities/etfs/etf.htm
[9] http://www.goldpriceindia.com
[10] http://www.mutualfundindia.com
[11] http://www.rrfinance.com
[12] http://www.investopedia.com
[13] http://www.ssrn.com
[14] http://rbi.co.in.com
[15] http://amfiindia.com
[16] ETFGI Monthly Newsletter Dec 2015
[17] Bloomberg