

Performance Evaluation of Investments under Passive Investment Strategy

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ABSTRACT

Investors worldwide adopt investment strategies based on their availability of time and return. There are mainly two investment strategies i.e., passive and active investment strategy. Index funds and ETFs follow passive investment style. The study is an attempt to find an appropriate investment option for those who make a decision with respect to their investment in Exchange Traded Funds or Index Funds. The tools used for analysis were t test, ANOVA and post hoc analysis. It was found that there is no difference in the performance of both the funds as regards return, systematic risk and benchmark return and there is difference when they are compared with benchmark risk. The performance of ETFs is better than Index funds as regards their growth, total risk, expense ratio, and tracking error. Thus, investing in ETFs is beneficial than Index funds.

Keywords: Passive Investment strategy, Exchange traded Funds, Index funds, Expense ratio, Tracking error

1. INTRODUCTION

Financial engineering and financial innovation has contributed much to the basket of investments that follow varied investment strategies. Investors worldwide adopt investment strategies based on their availability of time and return. Investments differ based on the strategies adopted, mainly two investment strategies have been identified and they are passive and active investment strategy.

The strategy that has gained much attention and users in the recent past is the passive investment strategy. The instruments under passive investment strategy include Index funds and Exchange Traded Funds. These are funds that replicate a particular index in their performance and hence these funds need not require active involvement of fund managers which in turn reduces the time and cost involved.

2. REVIEW OF LITERATURE

Priya (2017) in her study titled as “A Comparative study of index mutual funds and exchange traded funds in India”, analysed the main differences between two passive approaches to investment in the form of ETFs and Index funds. And found that there is no significant difference in their risks and returns.

Newton, P (2015) in his study “Performance evaluation of exchange traded funds and Index Mutual Funds the Indian experience for the period 2010 to 2014”, evaluated the monthly returns of Index Mutual Funds, ETFs and Gold ETF schemes for the period. He identified the trend of Mutual funds and ETFs and Gold ETF. To understand and analyse the performance of Index Fund and ETFS returns, he used the statistical tools namely Mean, Standard deviation, Skewness, Kurtosis and Coefficient of variation. ANOVA technique was used to measure the difference between average return of each scheme.

Narend.S (2014) made performance comparison of ETFs and Index Funds. Three parameters i.e. tracking error, Jensen Alpha and active returns have been considered for the performance comparison. The study reveals that, in India, Index funds had done better than ETFs in terms of a lower tracking error and a higher Jensen's alpha while ETFs have performed better in terms of active returns.

Swathy, M (2014) in her study titled as "An evaluation of exchange traded funds", an attempt is made to study the performance and trading characteristics of ETFs listed on NSE and also compared the performance of ETFs with the Index funds and "CNX 500 Index" in order to study the ability of ETFs to beat the market. She suggested that investors should invest in ETFs to get benefit of portfolio diversification of a stock index through investment in a single unit that is equal to a stock.

Tiwari (2013) stated that ETFs are the best options as compared to traditional mutual funds because of low cost, passive management, diversification etc. The main reason of the popularity of ETFs is she attributed to its lower fees. Further she stated that ETFs allow long term investors to diversify their portfolio at one shot. Among the ETFs, Gold ETFs are getting popularity in India because of several of its advantages over holding physical gold. The advantages according to her are the high-level affordability, no risks of theft, lower cost of holding, high liquidity and nearly no discounts to market price of physical gold while selling. Her findings stated that out of the total Assets under Management in ETF industry as on 31st March 2012, 86% of investments are in the gold ETFs. Further she also stated that the fund houses should introduce Silver ETFs in the India because of its huge potential in the Indian market.

Athma and K. Raj Kumar (2011) – made a study on ETF vis-à-vis Index Funds: An Evaluation stated that trends and progress of ETFs and Index Funds in India and to evaluate the performance of ETFs vis-à-vis Index Funds in India. It's covering the period of five years from 2005 to 2009 for the purpose of evaluating performance of select ETFs and Index Funds in India. The parameters for evaluating the performance are NAV, Risk, Return, Expenses Ratio, Tracking Error, Reward to Variability and Differential Return is used for data analysis. It is concluded that ETFs have given better opportunity for the small investors in terms of diversified portfolio with a small amount of money; low expense ratio, reduced tracking error, lower risk and volatility as compared to Index Funds.

Shin and Gokçesoydemir (2010) "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.

Raja, G. Hezekiah (2009) in her study titled as "Performance Evaluation of Index funds in India", had studied the mechanism of index funds in India. She also studied and ranked various Index funds on the basis of how they track the indexes. She also analysed and compared Exchange Traded Funds and Gold Exchange Traded Funds. She did her study by taking the Sensex into consideration as the benchmark.

Joel T. Harper, Jeff Madura and Oliver Schnusenberg (2006) 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.

Fernandes (2003) evaluated index fund implementation in India. In this paper, tracking error of index funds in India is measured. The consistency and level of tracking errors obtained by some well-run index fund suggests that it is possible to attain low levels of tracking error under Indian conditions. At the same time, there do seem to be periods where certain index funds appear to depart from the discipline of indexation.

Hill and Mueller (2001) made a research on ETFs and they concluded that Tracking errors and returns based on fund NAV relative to the index reflect characteristics 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.

3. STATEMENT OF THE PROBLEM

Index fund and ETF are booming investment avenues and it has lot of scope to generate returns as desired by the investor. The impressive growth of ETF over Index funds in India has attracted the attention of Indian researchers, individuals and institutional investors. The purpose of this research work is to evaluate the performance of different Index funds and ETFs in India provided by the selected Asset Management Companies (AMC). So as to understand, how efficiently the hard-earned money of the investors and scarce resources of the economy are utilized. Confusion in the investor's mind, regarding the safe selection of their investment always remain and hence this study intends to evaluate the performance of Index fund schemes and Exchange Traded funds since it is an investment option whose shares are traded intra-day on stock exchanges at market-determined prices. An index mutual fund is said to provide broad market exposure, low operating expenses and low portfolio turnover. These funds follow their benchmark index no matter the state of the markets. ETF is an innovative product which puts together favourable characteristics of open-ended and closed-ended Index funds and presents a more flexible and liquid product for investors.

4. NEED FOR THE STUDY

Both ETFs and Index funds are viable choices for investors. In the Index fund vs. ETF debate, investors must consider the shared similar traits, as well as the differences between the two when deciding which to use. This study intends to analyse the growth and performance of these investments that function on the passive investment strategy.

5. OBJECTIVES OF THE STUDY

- To analyse the growth trend of Index fund and Exchange traded fund.
- To analyse the performance of Index fund and Exchange traded fund based on their return.
- To analyse the performance of Index fund and Exchange traded fund based on their risk.
- To analyse the performance of Index fund and Exchange traded fund in comparison to the benchmark index.
- To compare the Index funds and Exchange traded funds based on the transaction cost.
- To compare the efficiency of Index funds and exchange traded funds with which they track their benchmark index.

6. RESEARCH HYPOTHESIS

- All the investments under the passive investment strategies are at par in terms of their growth and performance.

7. HYPOTHESES

- Returns earned by Index fund and exchange traded fund does not differ.
- Risk faced by Index fund and exchange traded fund does not differ.
- (a) The performance of Index fund, exchange traded fund and benchmark index does not vary in terms of return.
- (b) The performance of Index fund, exchange traded fund and benchmark index does not vary in terms of risk.
- Index funds and exchange traded funds does not differ in the efficiency with which they track their index.

8. METHODOLOGY

Nature of the study: The research method is both descriptive and analytical in nature.

Data used: The study is based on secondary data. The secondary data sources include Fact sheets of Index funds, articles, newspapers, SEBI manuals, AMFI reports and websites like amfiindia, bluechipindia, money control and yahoo finance.

Sample size: Four schemes of ETFs and four schemes of Index funds of the same asset management company was selected. The selected schemes are Aditya Birla Sun Life Index fund, ICICI Prudential Index fund, Reliance Index fund and HDFC Index fund are the selected four schemes of Index fund. Aditya Birla Sun Life nifty ETF, ICICI Prudential Nifty ETF, Reliance ETF Nifty Bees and HDFC Nifty ETF are the selected four schemes of Exchange Traded Fund.

INDEX FUNDS	CODE	EXCHANGE TRADED FUNDS	CODE
Aditya Birla Index funds	IF 1	Aditya Birla ETFs	ETF 1
Reliance Index funds	IF2	Reliance ETFs	ETF 2
ICICI Index funds	IF3	ICICI Nifty ETFs	ETF 3
HDFC Index funds	IF4	HDFC Nifty ETFs	ETF 4

FRAMEWORK OF ANALYSIS

The comparative study covers a period of three years from 2016 to 2018. For the purpose of evaluating the performance of selected Exchange Traded Funds and Index Funds in India, four funds were selected and their historical daily NAVs were taken into consideration. The parameters used for evaluating the performance are compound annual growth rate (CAGR), Return, Standard Deviation, Beta, etc.

OPERATIONAL DEFINITION

Tracking Error: Tracking Error is the difference in the daily NAVs of the funds and the values of the benchmark index. In reality, there will be differences between the performance of an Index Fund and the Index that it is tracking. This difference is commonly termed as a Tracking Error. Tracking Error is a measure of such deviations.

Expense Ratio: Expense ratio is the cost of running and managing a mutual fund which is charged to the investor. It includes fund management fees, marketing or selling expenses, transaction costs, investor communication costs, custodian fees, and registrar fees.

9. ANALYSIS

The following section covers analysis based on the six objectives framed for the study. The study intended to compare Index fund and Exchange traded fund based on their return, risk, expense, tracking error and to compare it with the benchmark index. The results are supplemented by interpretation, tables and graph. The comparative study covers a period of three years from 2016 to 2018. Funds selected for the evaluation were as follows:

GROWTH TREND OF INDEX FUND AND EXCHANGE TRADED FUND

The first objective is to analyse the growth trend of Index fund and exchange traded fund based on compound annual growth rate.

TABLE SHOWING GROWTH TREND OF ETF

SL NO	ETF	INITIAL INVESTMENT	FINAL INVESTMENT	YEAR	CAGR
1	Aditya Birla ETF	146.4	211	3	12.96
2	Reliance ETF	1043	1164	3	3.72
3	ICICI ETF	1033	1120	3	2.73
4	HDFC ETF	121.1	324	3	38.81

(Source: Computed Data) * (in crs)

TABLE NO 1

TABLE SHOWING GROWTH TREND OF INDEX FUND

SL NO	INDEX FUND	INITIAL INVESTMENT	FINAL INVESTMENT	YEAR	CAGR
1	Aditya Birla Index fund	143.32	141	3	-0.54
2	Reliance Index fund	137	145	3	1.91
3	ICICI Index fund	375	404	3	2.51
4	HDFC Index fund	562.73	692	3	7.14

(Source: Computed Data) *(in crs)

TABLE NO 2

Growth rate of exchange traded fund is more as compared to Index Funds. HDFC ETF have higher growth as a whole. Among the Index funds HDFC index funds have the highest growth.

The average CAGR of ETF is 14.555 whereas average CAGR of index funds are only 2.755. ETFs have a higher growth rate in the last three years as compared to Index funds. In other words, investors preferred ETFs to Index funds. Hence, we can conclude that ETFs are better than Index funds as regards growth rate.

PERFORMANCE BASED ON RETURN

The second objective is to analyse the performance of Index fund and exchange traded fund based on their return. The hypothesis framed for this objective is;

The return earned by Index fund and exchange traded fund does not differ.

TABLE SHOWING RETURN OF ETF

ETF	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ETF 1	-0.104	0.0358	0.0454	0.0107	0.1366	0.0302	0.0592	0.0291	-0.008	-0.0064	0.0008	0.0094
ETF 2	-0.028	0.1053	0.0669	-0.088	0.1913	0.0657	0.0543	0.1148	-0.055	0.09202	0.0429	-0.0086
ETF3	-0.041	0.0744	0.067	-0.08	0.1865	0.0674	0.0493	0.1216	-0.062	0.09516	0.039	-0.0079
ETF4	-0.0225	0.1083	0.0622	-0.076	0.1822	0.0679	0.059	0.1106	-0.0502	0.09018	0.0532	-0.0172

(Source: Computed Data)

TABLE NO 3

TABLE SHOWING RETURN OF INDEX FUND

Index Fund	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
IF1	-0.227	0.1136	0.0602	-0.0862	0.0743	0.0654	0.0466	0.1187	-0.3243	0.09103	0.0355	-0.009
IF2	-0.046	0.1147	0.0577	-0.091	0.2023	0.0643	0.0469	0.1183	-0.084	0.0931	0.0359	-0.012
IF3	-0.043	0.1143	0.0616	-0.083	0.1999	0.0631	0.0455	0.1189	-0.084	0.0923	0.0338	-0.0118
IF4	-0.045	0.1173	0.065	-0.0826	0.2003	0.0657	0.0496	0.122	-0.0792	0.09555	0.0375	-0.009

(Source: Computed Data)

TABLE NO 4

T test was conducted to test whether there is any difference in the performance of Index funds and ETFs in terms of their return. Since p value is greater than 0.05, we accept the null hypothesis which shows that there is no difference in the performance of Index funds (M= .0389, SD=0.07122) and ETFs (M=.0313, SD= .10133) as regards return. [t (94) = .426, p = .671]

PERFORMANCE BASED ON THEIR RISK

The third objective is to analyse the performance of Index fund and exchange traded fund based on their risk. The analysis is made with the help of statistical measures such as standard deviation and beta. The standard deviation represents the total risk faced by the fund and the beta measures the systematic risk faced by the fund.

ANALYSIS BASED ON RISK

The hypothesis framed for this objective is:

The risk faced by Index fund and exchange traded fund does not differ.

TABLE SHOWING RISK FOR ETF

ETF	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ETF 1	0.029	0.029	0.019	0.035	0.025	0.028	0.0159	0.017	0.027	0.0193	0.0153	0.0276
ETF 2	0.0115	0.008	0.006	0.009	0.0055	0.0046	0.0061	0.0054	0.007	0.0062	0.006	0.0107
ETF 3	0.0123	0.0096	0.007	0.009	0.0057	0.0049	0.0062	0.0057	0.0079	0.006	0.0066	0.01098
ETF 4	0.01198	0.0091	0.0106	0.009	0.0058	0.00625	0.0067	0.0057	0.00793	0.0063	0.0064	0.01037

(Source: Computed Data)

TABLE NO 5

TABLE SHOWING RISK FOR INDEX FUND

Index Fund	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
IF1	0.017	0.0087	0.00695	0.00906	0.0103	0.0047	0.0062	0.00562	0.018	0.00603	0.0066	0.01086
IF2	0.0122	0.0086	0.007	0.009	0.00588	0.0049	0.0062	0.0057	0.009	0.006	0.0067	0.0109
IF3	0.0131	0.0086	0.0069	0.00909	0.0058	0.0049	0.0062	0.0057	0.009	0.006	0.0066	0.01094
IF4	0.0123	0.0087	0.007	0.0092	0.00587	0.00486	0.0062	0.0057	0.0093	0.00607	0.0066	0.01098

(Source: Computed Data)

TABLE NO 6

T test was conducted to test whether there is any difference in the performance of Index funds and ETFs in terms of their total risk. Since p value is less than 0.05, we fail to accept the null hypothesis which shows that there is difference in the performance of Index funds (M=.011, SD=.008) and ETFs (M= .008, SD= .0029) as regards risk. [t (59.518) = 2.935, p = .005]

ANALYSIS BASED ON BETA

The hypothesis framed is that the systematic risk faced by Index fund and ETF does not differ.

TABLE SHOWING BETA FOR ETF

ETF	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ETF 1	-0.215	0.271	-0.252	-0.485	0.8264	0.844	-0.0122	0.203	0.074	-0.5001	-0.301	0.646
ETF 2	0.0687	0.148	-0.154	0.0697	-0.134	-0.157	0.09223	-0.008	0.052	0.046	0.2038	-0.165
ETF 3	0.123	0.169	-0.182	0.0524	-0.139	-0.133	0.09417	0.2023	0.171	-0.046	0.1869	-0.1422
ETF 4	0.00143	0.171	-0.257	0.0093	-0.238	0.0395	0.16232	-0.064	0.0127	0.02257	0.2544	-0.1407

(Source: Computed Data)

TABLE NO 7

TABLE SHOWING BETA FOR INDEX FUND

Index Fund	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
IF1	-0.0697	0.9998	0.4445	-0.1079	-0.048	0.0356	0.108	0.0039	0.0674	-0.1609	-0.384	0.016
IF2	0.124	0.118	-0.182	0.053	-0.1198	-0.1007	-0.028	0.0402	0.2906	0.105	0.2686	0.1374
IF3	0.2706	0.987	0.4442	-0.109	-0.0914	0.0751	-0.027	0.0415	0.2922	0.105	-0.183	-0.015
IF4	0.1232	0.1188	-0.1804	0.0528	-0.129	-0.1345	0.0786	-0.0235	0.0273	0.0121	0.1866	-0.1698

(Source: Computed Data)

TABLE NO 8

T test was conducted to test whether there is any difference in the performance of Index funds and ETFs in terms of their systematic risk. Since p value is greater than 0.05, we accept the null hypothesis which shows that there is no difference in the performance of Index funds (M= .0310, SD= .2639) and ETFs (M= .07007, SD= .2536) as regards systematic risk. [t (94) = -.738, p = .426].

PERFORMANCE IN COMPARISON WITH BENCHMARK

PERFORMANCE IN COMPARISON WITH BENCHMARK INDEX ON THE BASIS OF RETURN

The fourth objective is to analyse the performance of Index fund and exchange traded fund in comparison with benchmark return. The hypothesis framed for this objective is: The performance of Index funds, ETFs and benchmark index does not vary in terms of return.

BENCHMARK RETURN FOR INDEX FUND AND EXCHANGE TRADED FUND

YEAR	QUARTER	ETF	INDEX	NSE
2016	1	-0.04888	-0.09025	-0.01135
	2	0.08095	0.11498	0.11062
	3	0.06038	0.06113	0.06275
	4	-0.05833	-0.08570	-0.08304
2017	1	0.17415	0.16920	0.18378
	2	0.05780	0.06463	0.06089
	3	0.05545	0.04715	0.04401
	4	0.09403	0.11948	0.11787
2018	1	-0.04380	-0.14288	-0.06848
	2	0.06774	0.09300	0.09014
	3	0.03398	0.03568	0.03274
	4	-0.00608	-0.01045	-0.01022

(Source: Computed Data)

TABLE NO 9

ANOVA was performed and was found that there is no difference in the mean return of index fund and exchange traded fund based on the comparison with the mean return of Benchmark index. [f = 075, p = .928].

PERFORMANCE IN COMPARISON WITH BENCHMARK INDEX ON THE BASIS OF RISK

Benchmark index based on risk for Index fund and exchange traded fund. This is analysed with the help of statistical measure standard deviation. The hypothesis framed for this objective is:

The performance of Index funds, ETFs and benchmark index does not vary in terms of risk.

BENCHMARK INDEX BASED ON RISK FOR INDEX FUND AND ETF

YEAR	QUARTER	ETF	INDEX	NSE
2016	1	0.01620	0.01365	0.01214
	2	0.01393	0.00865	0.00873
	3	0.01065	0.00696	0.00697
	4	0.01550	0.00909	0.00924
2017	1	0.01050	0.00696	0.00569
	2	0.01094	0.00484	0.00487
	3	0.00873	0.00620	0.00622
	4	0.00845	0.00568	0.00569
2018	1	0.01246	0.01133	0.00791
	2	0.00945	0.00603	0.00607
	3	0.00858	0.00663	0.00659
	4	0.01491	0.01092	0.01096

(Source: Computed Data)

TABLE NO 10

ANOVA was performed and the P value is less than the level of significance (0.05), we fail to accept null hypothesis. That is, there is difference in the performance of index fund, exchange traded fund and benchmark index on the basis of risk. [f = 8.874, p = .001]

To analyse the difference, post hoc analysis was performed. And it was found that there is difference in the risk of ETF and benchmark.

PERFORMANCE IN COMPARISON WITH EXPENSE RATIO

The fifth objective of the study is to compare the expense involved in Index funds and ETFs. Expense ratio is the cost of running and managing a mutual fund which is charged to the investor. It includes fund management fees, marketing or selling expenses, transaction costs, investor communication costs, custodian fees, and registrar fees. The expense ratio is calculated as a percentage of the fund’s average net asset value (NAV).

TABLE SHOWING THE EXPENSE RATIO

FUND NAME	ETF	INDEX
Aditya Birla	0.54	0.8
Reliance	0.11	1.19
ICICI	0.05	0.75
HDFC	0.05	0.3
Average	0.1875	0.76

TABLE NO 11

From the above information, we can say that ETF is less expensive than index funds. When the average expense ratio is compared, Index funds are more expensive than ETFs.

PERFORMANCE IN COMPARISON WITH TRACKING ERROR

In reality, there will be differences between the performance of an Index Fund and the Index that it is tracking. This difference is commonly termed as a Tracking Error. Tracking Error is a measure of such deviations. It tells us how much an Index Fund's returns deviate from the benchmark Index's returns over any given period of time. Since all the eight funds track the same index, the funds should. Thus, the hypothesis framed for the sixth objective of the study is that Index funds and ETFs do not differ in their efficiency with which they track their index.

TABLE SHOWING TRACKING ERROR OF ETF

ETF	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ETF 1	0.033	0.0302	0.0209	0.038	0.0246	0.0278	0.0002	0.018	0.0281	0.0219	0.0171	0.0272
ETF 2	0.0162	0.011	0.0104	0.013	0.0085	0.007	0.0083	0.008	0.0106	0.008	0.0084	0.0161
ETF 3	0.0163	0.0121	0.0109	0.013	0.0087	0.0074	0.0084	0.0073	0.0102	0.0088	0.0089	0.0163
ETF 4	0.0172	0.0117	0.0138	0.013	0.0092	0.00786	0.00852	0.0084	0.0113	0.0086	0.0083	0.0157

(Source: Computed Data)

TABLE NO 12

TABLE SHOWING TRACKING ERROR OF INDEX FUND

Index Fund	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
IF1	0.02165	0.00039	0.0074	0.0136	0.0121	0.0067	0.00818	0.0084	0.0196	0.0103	0.0099	0.015
IF2	0.0163	0.0116	0.0109	0.0126	0.0089	0.0073	0.0088	0.0082	0.0103	0.0088	0.0077	0.0144
IF3	0.0156	0.00032	0.0074	0.0136	0.0087	0.0067	0.0088	0.0082	0.0103	0.0088	0.009	0.0155
IF4	0.0163	0.0116	0.0109	0.0127	0.0089	0.00745	0.0085	0.0082	0.0124	0.0085	0.0089	0.0164

(Source: Computed Data)

TABLE NO 13

T test was conducted to test whether there is any difference in the performance of Index funds and ETFs in terms of how they track the index. Since p value is less than 0.05, we fail to accept the null hypothesis which shows that there is difference in the performance of Index funds (M= .01404, SD= .00786) and ETFs (M= .0104, SD= .00405) as regards tracking error. [t (94) = 2.799, p = .006]

10. FINDINGS

ETFs showed a higher growth rate than Index funds. ETFs are better than Index funds when growth trend is considered. Based on the return, the performance of ETFs and index funds goes not differ significantly. Risk was analysed by taking total risk and systematic risk into consideration. When total risk is considered, ETFs and Index funds does not differ significantly. When systematic risk is considered, the performance of Index funds and ETFs does not differ significantly. From the analysis, it is found that there is no difference in the mean return of Index fund and exchange traded fund based on the comparison with the mean return of Benchmark index and there is difference in the performance of index fund, exchange traded fund and Benchmark index on the basis of risk. When benchmark risk is taken, there is difference in risk for ETFs but does not differ as in the case of index funds. It is found that Index fund are expensive than ETF. From the study, it was also found that there is no difference in the efficiency of index funds and ETFs on the basis of the efficiency with which they track their index.

11. CONCLUSION

ETFs are better than Index funds since their expense is less as compared to index funds. The growth rate of ETF is greater than that of Index fund which means investors prefer ETF than Index fund. There is no difference in the performance of index funds and ETFs as regards their return and risk. Tracking error is also same for ETFs and index funds. As far as an investor is concerned, the main thing he should consider is the expense in terms of management fees that he has to bear irrespective of the return. In such a case it is advisable to select the fund which gives back more in terms of return. Even though the return earned is same in case of Index funds and Exchange Traded funds, the expense ratio would cut down the return actually received in hand. Hence, fund with lesser expense ratio would always be the preferred one. Thus, investing in ETFs gives more return than Index funds.

12. REFERENCES

- [1] Prasath.R.H (2009) "A study on Analysis of the performance of mutual fund with reference to HDFC" Anna University, Chennai.
- [2] Raja, G. Hezekiah (2009) "Performance Evaluation of Index funds in India"
- [3] Mahajan, Priya (2017) "A Comparative study of index mutual funds and exchange traded funds in India"
- [4] Swathy, M (2014) "An evaluation of exchange traded funds"
- [5] Venkatachalam G (2015) "A study on investors behaviour towards gold exchange traded funds in Indian stock market with special reference to Tamil Nadu"
- [6] Bhardwaj Anupriya(2017) "Determining the predictors of investor's intent, skill and success in the mutual fund industry"
- [7] Radika G (2013) "A study on investors perception preference and derived satisfaction towards gold exchange traded funds"
- [8] WilferdIssac Newton, P (2015) "Performance evaluation of exchange traded funds and Index Mutual Funds the Indian experience for the period 2010 to 2014"
- [9] Biswas Bhaskar (2016) "A comparative study on performance of selected Mutual funds with reference to Indian context"
- [10] Mittal, Ankur (2011) "Comparative Analysis of Sectoral Mutual fund schemes with reference to Uttarakhand"

- [11] Rajesh Kumar (2012) “Performance evaluation of mutual funds in India: a study of equity and hybrid schemes”
- [12] Vanja V (2018) “A comparative study of financial performance of selected Indian and foreign mutual funds in India”
- [13] Tiwari Madhu (2013), “A study on Exchange Traded Funds (ETF): Gaining Popularity in Indian capital market” retrieved from <http://ijabs.org/uploads/23-29.pdf>
- [14] S.Narayan Rao , M. Ravindran ,”Performance Evaluation of Indian Mutual Funds”, Working paper series, Social Science Research Network
- [15] Goyal MM (2014), “Accelerating Growth of Gold ETFs in India” retrieved from http://www.ripublication.com/gjmbs_spl/gjmbsv3n7_14.pdf
- [16] Garg Swati, Singh Y.P (2013), “An Empirical comparison of ETFs and Index Funds Performance in India”. International Journal of Applied financial management perspectives. (July/Sep 2013). pp no. 578-589
- [17] Sinha Shefali, Dutta Mahua (2013), “Performance analysis of returns of Goldman Sach Gold Exchange Traded fund” retrieved from http://www.ripublication.com/gjmbs_spl/gjmbsv3n7.14.pdf