

## **A Study Of Technical And Risk Parameters To Be Considered By Retail Investors: An Analysis Of ELSS Mutual Funds**

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**Abstract-** Many investors are convinced about investing in ELSS funds also known as tax saving mutual funds but they hit a roadblock when they have to select a right fund. It's usually seen that the perception of investors is to blindly invest for their medium to long term goals with tax saving as per the ratings and rankings published by various agencies. There are many funds with various styles of investments and strategies which add to the confusion. Clearly, a retail Investor is poorly equipped to do number crunching and analysing fund's risk, performance and returns. The main aim of this research paper is to establish a basic and advanced methodology in an unembellished manner to help an investor select a right investment. The study considered 35 open-ended ELSS funds as on 18<sup>th</sup> July 2021 and analysed them on 3 scales. Firstly, past performance of funds to its mean monthly performance, vis-à-vis to peer group, against category average in 3 years lump sum and SIP returns. Secondly with risk factors like beta, alpha, standard deviation. Thirdly, multiple risk-reward ratios like Sharpe ratio, Treynor ratio, Sortino ratio, Information ratio, Upside and downside capture ratio. By analysing the above parameters and basis the cumulative score it is concluded that Mirae tax saver, CanaraRobeco equity tax saver fund, Quant tax plan are best rated funds and Indiabulls tax saving fund, HDFC tax saver, Nippon India tax saver fund and Sundaram diversified equity fund are not apt for investment in ELSS category.

**Keywords:** Sharpe Ratio, Sortino Ratio, CAGR, Portfolio, market capitalisation, Treynor ratio, Information Ratio, Upside capture ratio, Downside capture ratio, past performance.

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### **I. Introduction**

Tax planning is one of the ways which can reduce the outflow of taxes and increase your income. The income tax act 1961 (IT Act) has provisions to provide deductions for variety of investments, savings and spending incurred by the taxpayer in a specific financial year. We will discuss several avenues which can help one save taxes. The most prevalent tax-saving options available to individuals and HUFs in India are under Section 80 (C) of the IT Act, Section 80 (C) comprises various savings and expenses you can claim deductions up to the limit of Rs. 1.5 lakh in a financial year. The

perception of an investor is seen to be swinging between the popular options like PPF, SukanyaSamriddhiYojana, tax saving Fixed deposits and tax saving mutual funds. ELSS funds are also denoted to as the tax-saving mutual funds. The provisions of Section 80C of the IT Act 1961, allows one to claim tax deductions of up to Rs 1,50,000. ELSS is the best investment option under this Section. By putting one's savings in these mutual funds, an investor can get the dual advantage of tax deductions and wealth accumulation over longer durations. These funds come with a compulsory lock-in period of 3 years, which is the shortest of all 80C options. ELSS mutual funds are comparatively more liquid than any other Section 80C investment options. Tax Saving mutual funds are the only Section 80C investment option which has the potential to generate inflation-beating yields. This is what sorts ELSS to outshine among all tax-saving investment avenues. Since ELSS mutual fund schemes are equity-oriented, they by their very basic nature are influenced by the market fluctuations. Furthermore, these schemes tend to carry all the risks that an equity fund possesses. Therefore, investors must be willing to undertake the volatility by investing in tax saving mutual funds. Evaluating your risk profile is compulsory. AMC's allow you to invest in two ways; one time or systematic investment plan (SIP). Most investors prefer taking the SIP route since they can stagger their investment over a period. One can invest a small sum on a monthly or quarterly basis via an SIP. Investing via an SIP route is prudent since it provides the advantage of rupee cost averaging in the long run. A onetime investment is usually not recommended unless there is a significant chance of making superlative gains. Since ELSS mutual funds are classified under equity funds, they are inevitably taxed corresponding to an equity fund. Any dividends offered by ELSS schemes are clubbed to investor's income and taxed as per the assessee's income tax slab an investor might fall under. Until Budget 2020, dividends were considered to be tax-free in the hands of investors as the AMC was paying dividend distribution tax.

The funds come with is an inevitable lock-in period of three years from the date of investments, there is no question of short-term capital gains. Therefore, the tax on short-term capital gains on the units of ELSS mutual funds does not exist. The long-term capital gains of up to Rs one lakh in a financial year are exempt from tax. Any long-term gains if exceeds Rs One lakh are taxed at a rate of 10%, since this is an equity fund, there is no indexation benefit provided.

## II. Review of Literature

- A. Agarwal, S. Bansal, L. K. Dhillon (2020) the academic work was concentrated on the philosophy of market timing and portfolio manager's stock selection skills applied to augment the returns for investors. Further, it emphasizes on any correlation that might be

existing amongst the market timing and portfolio manager's fund selection abilities for reliable investment.

- B. Bawa and Brar (2011) evaluated the success of a few chosen growth mutual funds from both the private and public sectors from 1<sup>st</sup> April 2000, to 31<sup>st</sup> March, 2010. The study found that private-sector growth schemes outshined public-sector growth schemes in terms of performance.
- C. Bhatt and Patel (2008) studied 10 mutual fund schemes' efficiency analysing the Sharpe index system. According to the paper, funds with a large index value outshined the one's with a low index value.
- D. Kenchington, D., Wan, C., & Yüksel, H. Z., (2019). The study used portfolio & multivariate regression analysis to remarkably discover that mutual funds with substantial portfolios in high gross profitability stocks outperform other schemes. They have found that the gross profitability variance is concentrated in stocks with higher arbitrage risk and narrow analyst attention. The study's findings exhibited noteworthy generational variations in investing expectations and priorities for tax-advantaged mutual funds schemes.
- E. J. K. and Manjunath B.R. (2019) concluded the contributing nexus amongst the returns of tailored Indian mutual funds (MIMF) in the basic context. They tailored Australian mutual funds (MAMF) in the Australian context. Johansen co-integration test was executed, and using Eigen statistics, the long-run balancing relationship exists between (MIMF) and (MAMF).
- F. The thesis by Raju, Kumar, J., Adhikary, A., and Jha, A. (2017) examines the proclivity and perceptivity that impacts an investor's investment decision due to various demographic differences.
- G. K. Krishna, Raghavendra T., and Singh B M. (2015) measured and evaluated the tax saving Funds' investment success more than 13 years, from 2000-01 to 2012-13, and compared it to 12 top Diversified Equity Funds and seven benchmark indices. As against to the industry index, the ELSS investment outperformed the equity oriented hybrid and equity funds. On a risk-weighted basis, tax saving funds has underperformed all sample Diversified Equity mutual Funds and Benchmark Indices. Tax saving mutual funds have underperformed 61 percent of the surveyed Diversified equity Funds and 45 percent of Benchmark Indices on average, according to the Sharpe Ratio.

### **III. Need of the study**

The investors invest in ELSS funds in expectation of returns better than other tax saving avenues and are usually not aware about the factors to consider while choosing the scheme for investment. Also the funds are locked in for 3 years which demands the choice of right fund as there is no exit route on account of lower than expected performance. The past performance cannot be the reflection of future performance and usually the investors only check the past performance of the scheme which is just the tip of the iceberg. The study is aimed to accoutre the investors with right risk and reward measuring components which will help judge the scheme and make an informed decision to choose a right scheme with an goal to save tax as well as wealth generation. By and large a retail investor is a non-technical person who cannot calculate the ratios via formulas hence the risk and performance aspects are picked from various sources and public domain. The study will help retail investor make decision better.

#### **IV. Research Design**

The study examines the ELSS funds of Indian mutual funds market on various parameters of risk and reward parameters. The research variables, objectives and techniques are as follows:

##### **A. Research Objectives:**

- 1.) To understand the suitability of scheme selection basis the various parameters.
- 2.) Examine the scheme on various risk parameters to sort them as conservative and aggressive schemes.
- 3.) Probe the schemes and filter out the performing and underperforming schemes.

##### **B. Research Variables:**

- 1.) Independent Variables: Return of the funds in 3 years, Return of SIP of past 3 years, mean returns, expense ratio, Alpha, beta, standard deviation of scheme, R-squared, Sharpe Ratio, Treynor ratio, Sortino Ratio, Information ratio, Upside capture, Downside capture, Portfolio PE and PB ratio, Market cap-wise distribution and Average market capitalisation.
- 2.) Dependent Variables: The cumulative score of the ranking of the schemes.

##### **C. Research Technique and tools**

In the data of ELSS funds the association of dependent and independent variables need to be established and extent of influence of variables was examined by using mean test and ranking method to assess the data and compare the performance. The data is sorted as per the requirement of parameter in increasing or decreasing order and highest score is allotted as 35 and least score is 1. Lastly, the data is arranged as per the consolidated score of all variables to exhibit the ranking of funds.

## **V. Sampling**

The sampling includes 35 out of 38 ELSS funds as the data of rest 3 funds viz. ITI long term equity fund, Parag Parikh tax saver fund and Shriram long term equity fund is not available. The benchmark for study is considered as S&P BSE 500 TRI. The funds are considered under regular category. The direct plan and dividend option is kept out of study.

## **VI. Empirical Results**

The results are exhibited as per the analysis of each variable and their respective ranking in the ELSS category:

### **1. 3 years performance of schemes within the category and against the benchmark**

The funds are ranked as per the performance in descending order with highest performing fund at the top and least performing at last. The funds mentioned in table-1 are given score from 35 to 1. The highest and lowest range of CAGR was 31.57% and 9.59% respectively. The top 5 funds being from Quant (31.57%), Mirae (21.46%), BOI AXA (20.51%), CanaraRobeco (20.45%) and DSP Blackrock (19.53%)AMC respectively. Similarly, the bottom 5 funds being from HDFC (10.43%), IDBI (10.08%), Indiabulls (9.67%), Nippon (9.61%) and Aditya Birla (9.59%). The return of the category is 14.77% and benchmark index has performed at 14.39% in 3 years. We find that only 18 funds have outperformed the benchmark and category average. 48% funds have underperformed during the period. Hence we can consider only the first 18 funds in this parameter.

### **2. Performance of SIP in 3 Years' time frame and outperformance against category average**

The performance of Systematic investment plan in 3 years category where investment was done every month, it was found that topmost performance was 52.34% and lowest returns was 17.43% and standard deviation was found to be 6.33. The top performing funds are from Quant (52.34%), BOI AXA (37.86%), IDFC (33.55%), Mirae (31.78%) and CanaraRobeco (31.36%) AMCs respectively. Similarly, the bottom 5 funds being from HDFC (20.13%), Navi (19.32%), IDBI (19.11%),

Indiabulls (18.05%), and Aditya Birla (17.43%). The mean return of the category is 26.01%. One thing should be noted here that investment via SIP in any ELSS fund would attract lock in period of 3 years from the each instalment date of investment which would result in freeing of units after each 3 years period.

### **3. Total Expense ratio (TER) of fund**

The expense ratio is defined as the annual fee that an investor is charged for the management of the fund. TER is the percentage of assets payable to the AMC's portfolio manager as the maintenance fee. The TER majorly comprises of Management fees, administrative costs and distribution costs. However, a high TER is largely associated with lower AUM i.e. Asset under management. A lower rate means more profitability and a higher rate denotes lower profits. At times, the higher expense ratio can overshadow the up to the mark returns. Hence, it is desirable to have a lower expense ratio. The funds in table-1 and table -3 are ranked as per lowest to highest expense ratio with lowest expense being assigned highest score and vice-versa. As per the observation, Axis (1.67%), Mirae (1.71%), Nippon (1.71%) were lowest in expense ratio and Principal (2.53%) BOI AXA (2.55%) and LIC (2.56%) were having highest TER.

### **4. Average monthly returns**

The average monthly returns of last 3 years i.e. the returns delivered during every month for last 36 months have been considered. There were some months where the returns were either on positive side and there were months where the returns were not positive. This analysis helps us ascertain the consistency of the asset. If the drawdown in a few months have pulled the returns down then the mean returns would also be impacted hugely and vice versa. In the evaluation of the data mentioned in table-1 it was found that Quant, Mirae, CanaraRobeco and DSP funds were best performing on the parameter with 29.43%, 21.44%, 20.98% and 20.02% respectively which reflected the investors have gained in these funds. Conversely, in the funds like Indiabulls, Nippon, Aditya Birla and IDBI have been on the lower end of the spectrum with 11.17%, 10.91%, 10.47% and 10.26% respectively which have been allocated lower scores.

### **5. Alpha of the fund**

When choosing a Mutual Fund to invest for tax saving purpose, the alpha ratio is one of the important ratio to an investor as it assist to ascertain whether the said fund is worthy of pursuing relying on the fund manager's capability to earn returns. Alpha is the over and above returns relative to market benchmark for a given amount of risk taken by the scheme. If a scheme outperformed the

benchmark, then alpha will tell whether the outperformance was due to higher risk or the fund manager's skill of delivering superior risk adjusted returns. According to CAPM model, the alpha is not just delivering high returns due to superior equity selection but also limiting the downside as well. In our study, Quant (12.49%), CanaraRobeco (5.32%) and Mirae (4.57%) were top fund with a healthy alpha. Contrarily, HDFC (-5.19%), Sundaram (-5.32%) and Nippon (-7.44%) were the worst performing as per mentioned in table-1. The impact of alpha is reflecting in 3 years returns data where the funds with higher alpha are as well good performing. Hence we see a positive correlation between alpha and fund performance.

#### **6. Beta of the fund**

Beta of a mutual fund scheme is the volatility of the scheme relative to its market benchmark. If beta of a scheme is more than 1, then scheme bear more volatility than its benchmark. If beta is less than 1, then the scheme has lower volatility than the benchmark. If a scheme outperformed its benchmark you should try to understand, whether the beta of the scheme was high or the fund manager was able to deliver superior risk adjusted returns. Hence in our study, beta ranging from 0.85 to 0.99 are focused and allocated a score of 10 in table-1 and table-3 and beta above 1 and below 0.85 are allocated a score of 5. On one end of spectrum there is IDFC Tax advantage with beta 1.14 reflecting high volatility and on other end IDBI equity with beta at 0.76 exhibiting low volatility with respect to the benchmark. If we observe the total score of alpha and beta then the schemes like Quant, CanaraRobeco, Mirae and Kotak showing a high alpha with beta below 1 which puts these funds in sweet spot for investors.

#### **7. Standard Deviation of the fund**

Standard deviation is a statistical tool that gauges the spread of the independent dataset from its mean. Here, the mean is the midpoint of the dataset. If a set of data is further away from its average, it means the deviation is higher and vice versa. The downside of this tool is that a higher deviation reflects higher volatility. If the fund's performance has varied high above the mean return or its average is also standard deviation but it is advantageous for the investor. In our study, Quant tax plan has a standard deviation of 24.51 whereas 3 Years CAGR is 31.57% and 3 years SIP returns is 52.34% which puts it at the top performing fund in the category. On the contrary, Nippon TaxSaver fund has standard deviation of 26.05 and 3 years Lumpsum and SIP performances are 9.61% and 21.26% which puts the fund in one of the bottom position. Hence as per table-1, Standard deviation should not be seen on an individual basis. However, for our study we have considered lower standard deviation with higher score.

### **8. Sharpe Ratio Analysis**

Sharpe ratio is the measure of risk adjusted return of a portfolio. A portfolio with a elevated Sharpe ratio is considered better relative to its peers. It is a gauge of surplus portfolio return over the risk-free rate relative to its standard deviation. The higher a scheme's Sharpe ratio, the superior its returns have been relative to the amount of investment risk it has taken. The higher a scheme's standard deviation, the higher the scheme's returns need to be to have a high Sharpe ratio. Conversely, schemes with lower standard deviations can as well exhibit a higher Sharpe ratio if they have consistently superior returns. The only flip side of Sharpe ratio is that it does not differentiate between upside deviation and downside deviation. In the data, Quant (1.03), CanaraRobeco (0.79), Mirae (0.76) and DSP (0.68) happens to have a higher Sharpe ratio exhibiting higher risk adjusted returns in table-2. On the other hand, Navi (0.37), Sundaram (0.33) and Nippon (0.26) has shown low risk to reward ratio.

### **9. Sortino Ratio Analysis**

Sortino ratio is an apt statistical tool for a DIY and retail investor as they are more concerned about downside risks that are associated with investments. Its focal point is the negative deviation of a scheme's portfolio and the returns and hence offers a clear idea about such a fund's performance after likely and potential risks have been adjusted. This ratio is an improved version of Sharpe ratio. It only considers the downside risks that are associated with an investment portfolio. It has negative standard deviation in denominator making it apt choice for investors. As mentioned in table-2 in our study, Quant (1.32), Canara (0.84), Mirae (0.84) making top ranks and denoting higher risk adjusted returns. Navi (0.35), Sundaram (0.33) and Nippon (0.29) categorise in bottom and having lower scores.

### **10. Treynor Ratio analysis**

Treynor Ratio indicates the efficiency of the portfolio manager as how he achieves the balance between return and risk of the scheme. Unlike Sharpe Ratio, it makes use of beta of a portfolio in the denominator indicating the sensitivity of the scheme's returns to movements of the relevant benchmark. The beta of a scheme which invests in stocks with high volatility would be higher than the fund which invests in less volatile securities. Stocks having volatility on the higher side goes up and go down faster during a market rally and declines respectively. The higher the beta, the higher is the sensitivity of the scheme returns and riskier is the investment. Hence it is desirable to have a higher Treynor ratio. In the analysis, Quant (63.84), BOI AXA (43.27) and Canara (29.28) has high



value and Navi (13.71), Indiabulls (12.52) and HDFC (11.11) have low value denoting either high beta or lower returns.

### **11. Information ratio analysis**

The Information ratio portrays how well a portfolio or asset class is complementing and exceeding an index's performance. This ratio also includes the factor of standard deviation, also known as tracking error. Tracking error exhibits if a portfolio can efficiently "track" and exceed its benchmark's returns. If such tracking error is on lower side, it shows that the portfolio is consistent. On the contrary, if the error is high, it signals a more volatile performance. A higher information ratio exhibits that portfolio manager has surpassed other fund managers and has delivered consistency in returns over a specific period. In this perspective it is observed from table-2 and table-4 that Quant (2.98), Mirae (2.87), BOI AXA (2.68) exhibit higher value and subsequently Quantum (-0.31), Aditya Birla (-0.32) and Indiabulls (-0.42) shows lower values.

### **12. Upside and Downside Capture Ratio analysis**

Upside capture ratios for schemes are calculated by taking the fund's monthly performance during months when the benchmark had delivered positive return and dividing it by the return of the benchmark during the same month. An upside capture ratio above 100 shows a scheme has generally outshined the benchmark during periods of positive performance for the benchmark. Downside capture ratios are computed by taking the fund's monthly performance during the periods of negative performance of the benchmark and dividing it by the benchmark performance. A downside capture ratio of less than 100 shows that a fund has been less negative than its benchmark in periods when the benchmark has been underperforming. If a fund achieves positive returns, however, while the benchmark declines, the fund's downside capture ratio will be negative (meaning it has moved in the opposite direction of the benchmark). In our analysis, it is desirable to retain fund with high upside scoring funds (i.e. funds with high value) and high downside score (i.e. funds with low value). As per the study, there are some funds where upside capture is good but downside score is bad like Nippon (32, 1), IDFC (33,2), Franklin (28,5), HSBC (21,6). Also, the funds like BNP (5, 34), IDBI (1, 32), Quantum (4, 28), Taurus (3, 26) had offered good downside protection but had not delivered during good market condition. Hence, the funds with a combination of both high upside and downside score respectively are desirable like Quant (35, 33), Mirae (34, 30) Canara (27, 35), BOI Axa (30, 27) which had delivered good returns during high market and protected during low markets.

## **VII. Findings**

- 1.) Expense ratio of a fund is desired to be on the lower side but as per observation few funds with higher expense ratio have earned higher returns like BOI AXA, Union AMC funds. Conversely, HDFC Tax saver, Nippon India Tax Saver and Aditya Birla fund despite having lower expense ratio have displayed poor returns. Hence it can be concluded that expense ratio has no direct correlation with returns delivered by the funds.
- 2.) Out of 13 parameters 3 are performance parameters, if we consider all of them we find that Mirae, Canara, Quant, DSP and BOI AXA are in respectively top 5 and Navi, Indiabulls, HDFC, Nippon and Sundaram happen to be in last 5 respectively.
- 3.) If we remove the 3 past performance variables viz. mean returns, 3 years returns and 3 years SIP returns from the calculations of the cumulative score we find that Canara, Mirae, Quant, DSP and BOI AXA respectively occupy first 5 positions and we see vis-à-vis to finding 2 Canara and Mirae have switched the positions.
- 4.) When we see other funds IDFC, Franklin, Quantum, Taurus, and HSBC have deviated largely from their position by 3 to 5 ranks when we consider funds with past performance and without past performance. It shows the low correlation of technical indicators and past performance and it's prudent not to rely on these funds.
- 5.) Returns of the funds are largely considered to be the by-product of the process and these 10 technical indicators exhibit that if an investor keeps the process correct then the chances of getting the upper edge on the performance increases manifolds.
- 6.) When we consider the past performance of funds i.e. mean returns, 3 years returns and 3 years SIP returns in cumulative and final ranking of funds we see contrast in some funds like IDFC, Franklin, HSBC and JM where these funds rank higher but indicators are not. Similarly, when we do not consider past returns, in the scores we see variations in BNP and Axis where the funds rank lower as they exhibit poor returns.

## **VIII. Future Research Directions**

The study has been conducted for ELSS funds from the mutual fund industry and a similar study can be conducted for other categories of the funds like large cap, mid cap, flexi cap etc. to observe if we get fruitful results from the same. Also if the researcher chooses to include various ratios other than the ones exhibited here it shall help filter down the schemes more accurately.

### IX. Conclusions

This type of study helps improve the investor's perception about the choosing the correct ELSS funds for their tax planning. Currently majority of investors only see the performance of the ELSS funds, which can be one of the parameters but not the complete picture, and choose for best past performing fund which in a way can lead to choosing the wrong fund. This study might be helpful to improve the investors' understanding about making the correct choices by including the performance and technical parameters of the schemes.

### X. Appendix

Fund Name	Expense Ratio (%)	Mean	3 Years Returns (%)	3 Years SIP Returns (%)	Alpha	Beta	Standard Deviation
Aditya Birla Sun Life Tax Relief 96	1.81	10.47	9.59	17.43	-4.92	0.87	20.49
Axis Long Term Equity Fund	1.67	16.99	15.65	25.65	1.39	0.89	21.35
Baroda ELSS 96 Fund	2.50	13.49	12.73	26.34	-2.64	0.93	21.57
BNP Paribas Long Term Equity Fund	2.39	15.75	15.72	24.33	1.15	0.81	18.87
BOI AXA Tax Advantage Fund - Regular Plan	2.55	15.75	20.51	37.86	1.15	0.81	18.87
CanaraRobeco Equity Tax Saver	2.11	20.98	20.45	31.36	5.32	0.89	21.15

Fund - Regular Plan							
DSP Tax Saver Fund	1.77	20.02	19.53	30.82	2.83	1.01	23.27
Edelweiss Long Term Equity Fund - Regular Plan	2.37	13.79	12.60	24.05	-2.75	0.96	22.18
Franklin India Taxshield Fund	1.90	14.78	13.08	25.66	-2.59	1.03	24.02
HDFC Tax saver Fund	1.80	11.49	10.43	20.13	-5.19	0.97	22.66
HSBC Tax Saver Equity Fund	2.49	14.01	12.92	23.19	-3.08	1	23.36
ICICI Prudential Long Term Equity Fund (Tax Saving)	1.97	15.74	14.90	25.11	-1.17	0.99	22.93
IDBI Equity Advantage Fund - Regular Plan	2.40	10.26	10.08	19.11	-3.75	0.76	18.84
IDFC Tax Advantage (ELSS) Fund - Regular Plan	1.90	18.03	17.22	33.55	-0.84	1.14	26.72
Indiabulls Tax Savings Fund - Regular Plan	2.25	11.17	9.67	18.05	-4.43	0.89	20.53
Invesco India Tax Plan	2.11	16.05	15.65	27.13	-0.3	0.95	21.92
JM Tax Gain Fund	2.30	17.77	16.40	27.37	0.61	1.01	23.85
Kotak Tax Saver	2.09	18.5	17.58	27.20	2.31	0.93	21.67

Regular Plan							
L&T Tax Advantage Fund	1.97	12.49	11.10	22.77	-4.26	0.98	22.62
LIC MF Tax Plan	2.56	14.17	12.49	20.92	-1.67	0.91	21.54
Mahindra Manulife ELSS KarBachatYojana - Regular Plan	2.40	15.41	15.00	27.53	-0.8	0.94	21.7
Mirae Asset Tax Saver Fund - Regular Plan	1.71	21.44	21.46	31.78	4.57	0.99	22.69
MotilalOswal Long Term Equity Fund - Regular Plan	2.07	13.93	12.41	25.64	-2.84	0.98	23.25
Navi Long Term Advantage Fund	2.33	12.69	10.97	19.32	-3.96	0.97	22.88
Nippon India Tax Saver (ELSS) Fund	1.71	10.91	9.61	21.26	-7.44	1.1	26.05
PGIM India Long Term Equity Fund - Regular Plan	2.49	16.22	15.21	27.55	-0.25	0.96	22.09
Principal Tax Savings Fund	2.53	14.42	13.78	24.88	-2.09	0.96	22.05
Quant Tax Plan	2.25	29.43	31.57	52.34	12.49	0.99	24.51
Quantum Tax Saving - Regular Plan	1.79	13.02	11.62	22.79	-2.86	0.91	21.51
SBI Long Term	1.77	16.11	16.01	26.19	-0.36	0.96	22.06

Equity Fund							
Sundaram Diversified Equity Fund	2.02	12.07	10.56	21.71	-5.32	1.03	23.79
Tata India Tax Savings Fund	1.99	15.66	14.80	23.17	-1.17	0.98	22.73
Taurus Tax Shield Fund - Regular Plan	2.45	12.95	11.58	20.86	-2.62	0.89	20.52
Union Long Term Equity Fund	2.52	17.95	17.02	29.08	1.74	0.94	21.56
UTI Long Term Equity Fund	2.26	17.37	17.17	28.24	0.96	0.95	21.98

Table – 2

<b>Fund Name</b>	<b>Sharpe Ratio</b>	<b>Sortino Ratio</b>	<b>Treynor Ratio</b>	<b>Information Ratio</b>	<b>Upside Capture</b>	<b>Downside Capture</b>
Aditya Birla Sun Life Tax Relief 96	0.31	0.36	15.19	-0.32	81	98
Axis Long Term Equity Fund	0.6	0.65	21.55	0.19	97	94
Baroda ELSS 96 Fund	0.43	0.44	21.25	0.43	90	99
BNP Paribas Long Term Equity Fund	0.61	0.66	20.01	0.26	85	78
BOI AXA Tax Advantage Fund - Regular Plan	0.61	0.66	43.27	2.68	105	91
CanaraRobeco Equity Tax Saver Fund - Regular	0.79	0.84	29.28	1.84	100	77

Plan						
DSP Tax Saver Fund	0.68	0.75	24.29	1.64	106	96
Edelweiss Long Term Equity Fund - Regular Plan	0.43	0.46	17.99	-0.02	94	99
Franklin India Taxshield Fund	0.44	0.48	15.53	-0.11	101	109
HDFC Tax saver Fund	0.32	0.37	11.11	-0.31	92	114
HSBC Tax Saver Equity Fund	0.42	0.44	16.25	-0.09	97	107
ICICI Prudential Long Term Equity Fund (Tax Saving)	0.5	0.55	18.11	-0.03	103	106
IDBI Equity Advantage Fund - Regular Plan	0.32	0.36	19.33	-0.29	80	87
IDFC Tax Advantage (ELSS) Fund - Regular Plan	0.52	0.56	27.09	1.13	109	116
Indiabulls Tax Savings Fund - Regular Plan	0.34	0.38	12.52	-0.42	87	104
Invesco India Tax Plan	0.54	0.58	22.61	0.81	91	90
JM Tax Gain Fund	0.57	0.59	20.97	0.25	100	98
Kotak Tax Saver Regular Plan	0.66	0.63	21.76	0.55	98	88

L&T Tax Advantage Fund	0.37	0.37	18.65	-0.08	89	104
LIC MF Tax Plan	0.46	0.42	17.02	-0.05	91	98
Mahindra Manulife ELSS KarBachatYojana - Regular Plan	0.52	0.6	22.91	1.56	100	99
Mirae Asset Tax Saver Fund - Regular Plan	0.76	0.84	24.92	2.87	110	88
MotilalOswal Long Term Equity Fund - Regular Plan	0.42	0.42	21.05	0.52	93	98
Navi Long Term Advantage Fund	0.37	0.35	13.71	-0.24	88	93
Nippon India Tax Saver (ELSS) Fund	0.26	0.29	13.9	-0.17	109	148
PGIM India Long Term Equity Fund - Regular Plan	0.54	0.63	21.32	0.29	95	95
Principal Tax Savings Fund	0.46	0.53	18.53	0.12	95	104
Quant Tax Plan	1.03	1.32	63.84	2.98	124	82
Quantum Tax Saving - Regular Plan	0.41	0.45	14.18	-0.31	84	90
SBI Long Term Equity Fund	0.54	0.61	20.62	-0.05	96	94
Sundaram Diversified Equity Fund	0.33	0.33	14.87	-0.15	95	111



Tata India Tax Savings Fund	0.5	0.55	15.72	0.09	96	100
Taurus Tax Shield Fund - Regular Plan	0.43	0.46	16.29	-0.16	84	91
Union Long Term Equity Fund	0.64	0.73	24.23	1.18	98	91
UTI Long Term Equity Fund	0.6	0.61	25	1.53	97	93

Table-3

Fund Name	Expense Ratio (%)	Mean Returns	3 Years Returns (%)	3 Years SIP Returns (%)	Alpha	Beta	Standard Deviation
Mirae Asset Tax Saver Fund - Regular Plan	34	34	34	32	33	10	13
CanaraRobeco Equity Tax Saver Fund - Regular Plan	19	33	32	31	34	10	29
Quant Tax Plan	16	35	35	35	35	10	3
DSP Tax Saver Fund	32	32	31	30	32	5	8
BOI AXA Tax Advantage Fund - Regular Plan	2	21	33	34	27	5	33
Kotak Tax Saver Regular Plan	20	31	30	24	31	10	23
Union Long Term Equity Fund	4	29	27	29	30	10	25

Axis Long Term Equity Fund	35	26	23	19	29	10	28
UTI Long Term Equity Fund	15	27	28	28	26	10	20
IDFC Tax Advantage (ELSS) Fund - Regular Plan	26	30	29	33	20	5	1
Invesco India Tax Plan	18	23	22	23	23	10	21
BNP Paribas Long Term Equity Fund	11	22	24	15	28	5	34
SBI Long Term Equity Fund	31	24	25	21	22	10	18
Mahindra Manulife ELSS KarBachatYojana - Regular Plan	9	18	20	26	21	10	22
PGIM India Long Term Equity Fund - Regular Plan	6	25	21	27	24	10	17
JM Tax Gain Fund	14	28	26	25	25	5	5
ICICI Prudential Long Term Equity Fund (Tax Saving)	25	20	19	17	19	10	10
Tata India Tax Savings Fund	23	19	18	12	18	10	12
Baroda ELSS 96 Fund	5	11	14	22	13	10	24

Principal Tax Savings Fund	3	16	17	16	16	10	19
Franklin India Taxshield Fund	27	17	16	20	15	5	4
MotilalOswal Long Term Equity Fund - Regular Plan	21	13	11	18	11	10	9
Edelweiss Long Term Equity Fund (Tax Savings) - Regular Plan	12	12	13	14	12	10	16
Quantum Tax Saving - Regular Plan	30	10	10	11	10	10	27
LIC MF Tax Plan	1	15	12	7	17	10	26
Taurus Tax Shield Fund - Regular Plan	8	9	9	6	14	10	31
HSBC Tax Saver Equity Fund	7	14	15	13	9	5	7
L&T Tax Advantage Fund	24	7	8	10	6	10	15
IDBI Equity Advantage Fund - Regular Plan	10	1	4	3	8	5	35
Aditya Birla Sun Life Tax Relief 96	28	2	1	1	4	10	32
Navi Long Term Advantage Fund	13	8	7	4	7	10	11
Indiabulls Tax Savings Fund - Regular Plan	17	4	3	2	5	10	30

HDFC Tax saver Fund	29	5	5	5	3	10	14
Nippon India Tax Saver (ELSS) Fund	33	3	2	8	1	5	2
Sundaram Diversified Equity Fund	22	6	6	9	2	5	6

Table-4

Fund Name	Sortino Ratio	Treynor Ratio	Information Ratio	Upside Capture Ratio	Downside Capture Ratio	Cumulative Score
Mirae Asset Tax Saver Fund - Regular Plan	33	30	34	34	30	351
CanaraRobeco Equity Tax Saver Fund - Regular Plan	34	33	32	27	35	349
Quant Tax Plan	35	35	35	35	33	342
DSP Tax Saver Fund	32	29	31	31	19	312
BOI AXA Tax Advantage Fund - Regular Plan	29	34	33	30	27	308
Kotak Tax Saver Regular Plan	27	25	25	24	31	301
Union Long Term Equity Fund	31	28	28	23	25	289
Axis Long Term Equity Fund	28	24	19	22	22	285

UTI Long Term Equity Fund	24	31	29	20	23	281
IDFC Tax Advantage (ELSS) Fund - Regular Plan	20	32	27	33	2	258
Invesco India Tax Plan	21	26	26	11	29	253
BNP Paribas Long Term Equity Fund	30	18	21	5	34	247
SBI Long Term Equity Fund	25	19	13	19	21	248
Mahindra Manulife ELSS KarBachatYojana - Regular Plan	23	27	30	25	12	243
PGIM India Long Term Equity Fund - Regular Plan	26	23	22	17	20	238
JM Tax Gain Fund	22	20	20	26	17	233
ICICI Prudential Long Term Equity Fund (Tax Saving)	19	14	15	29	7	204
Tata India Tax Savings Fund	18	9	17	18	11	185
Baroda ELSS 96 Fund	12	22	23	9	14	179
Principal Tax Savings Fund	17	15	18	16	8	171

Franklin India Taxshield Fund	16	8	10	28	5	171
MotilalOswal Long Term Equity Fund - Regular Plan	9	21	24	13	15	175
Edelweiss Long Term Equity Fund (Tax Savings) - Regular Plan	15	13	16	14	13	160
Quantum Tax Saving - Regular Plan	13	5	3	4	28	161
LIC MF Tax Plan	10	12	14	10	16	150
Taurus Tax Shield Fund - Regular Plan	14	11	8	3	26	149
HSBC Tax Saver Equity Fund	11	10	11	21	6	129
L&T Tax Advantage Fund	6	16	12	8	9	131
IDBI Equity Advantage Fund - Regular Plan	4	17	5	1	32	125
Aditya Birla Sun Life Tax Relief 96	5	7	2	2	18	112
Navi Long Term Advantage Fund	3	3	6	7	24	103
Indiabulls Tax Savings Fund - Regular Plan	8	2	1	6	10	98
HDFC Tax saver Fund	7	1	4	12	3	98

Nippon India Tax Saver (ELSS) Fund	1	4	7	32	1	99
Sundaram Diversified Equity Fund	2	6	9	15	4	92

## XI. References

1. Agarwal, A., Bansal, S., & Dhillon, L. K. (2020). Analysis of Selectivity and Timing Skills of Fund Managers. *Manag Econ Res J*, 6(1), 11908.
2. Bawa, S. K., & Brar, S. (2011). Performance evaluation of growth schemes of mutual funds in India-A public-private comparison. *ZENITH International Journal of Multidisciplinary Research*, 1(7), 74-89.
3. Bhatt, M. V., & Patel, C. (2008). Performance comparison of different mutual fund schemes in India through Sharpe Index Model. *Indian Journal of Finance*, Issue- Sep.- October 26-34.
4. Kenchington, D., Wan, C., & Yüksel, H. Z. (2019). Gross profitability and mutual fund performance. *Journal of Banking & Finance*, 104, 31-49.
5. Raju, J. K., and Manjunath BR (2019). "A Study On The Performance Evaluation Of Customized Indian Mutual Fund (MIMF) And Customized Australian Mutual Fund (MAMF), *JETIR*, Volume 6 (2), pp 672-686.
6. Kumar, J., Adhikary, A., & Jha, A. (2017). Small Active Investors' Perceptions and Preferences Towards Tax Saving Mutual Fund Schemes in Eastern India: An Empirical Note. *International Journal of Asian Business and Information Management (IJABIM)*, 8(2), 35-45.
7. Kadambat, K. K., Raghavendra, T. S., & Singh, B. M. (2015). Investment Performance of Equity Linked Savings Schemes (ELSS) Of Indian Mutual Funds. *International Journal of Recent Scientific Research*, 6(5), 4076-4083.