

An Empirical Study on Performance Evaluation of Public sector ELSS Mutual Funds in India

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Abstract

After 1991 Liberalization, Privatization, Globalization policy large numbers of financial institutions have entered into the market with emerging products. Mutual funds are one of them. The last decade has seen a tremendous growth in the mutual fund industry. Now a days the Indian market is swamped with more than a thousand mutual fund schemes, promising better returns than others. Mutual Funds are basically investment vehicles where people with comparable investment objective come together to pool their money and then invest accordingly. The investors can make their investment decisions rationally. This study on Performance evaluation would help the investors to choose the best schemes available and will also help the AUM's in better portfolio construction and can rectify the problems of under performing schemes. Hence in this paper an attempt has been made to evaluate the performance of ELSS Tax saving Public sector mutual funds among BARODA, CANARA ROBECO, IDBI, LIC, SBI & UTI on the basis of monthly returns compared to benchmark returns over the period of 5 years (2015 to 2020) and the performance evaluation of different category of funds using risk adjusted measures as suggested by Sharpe, Treynor, Jensen and Standard deviation, Beta, Co efficient of variation.

Keywords: ELSS mutual funds, Average return, Beta, Coefficient of Determination, Standard deviation, the Sharpe ratio, Trynor ratio, and Jensen alpha performance index.

1. Introduction

The Indian capital market has provides various investment avenues to the investors, to help the invest in various industries and to ensure the profitable return. An investor can either invest directly in securities and bank deposit. Some of investor can invest through an investment company also referred as a mutual fund. Mutual funds are dynamic financial institutions which play an important role in an economic by mobilizing saving and investing in capital markets. The activity of mutual funds have both short and long term impact on the saving and security market and on the Indian economy also. Mutual funds have become invaluable tool for wide range of investors, from individuals seeking to save for retirement to sophisticated socialites focused on preserving their asset and businessman to create wealth. In other words mutual funds is a company that pools money from a group of people with common investment goals to buy securities such as stocks, bonds, money market instruments, a combination of these instruments or even other funds in order to reap the benefit of diversification and professionally managed basket of securities at a relatively low cost.

The exponential growth in the mutual fund industry, the Indian market is crowded with more than thousand mutual fund schemes. This comes as a challenge for an ordinary investor to choose the best portfolio to invest, making it difficult to analyze the performance of these funds.

Mutual fund issues units to the investors in accordance with quantum of money invested by them investor of mutual funds are known as unit holders. The profits or losses are shared by the investors in proportion to their investment. The mutual funds normally come out with a number of schemes with different investment objectives which are launched from time to time. A mutual fund is required to be registered with Securities and Exchange Board of India (SEBI) which regulates securities markets before it can collect funds from the public.

A mutual fund scheme can be classified into open-ended schemes and close-ended scheme depending on its maturity period. An open-ended scheme is available for subscription and repurchase on a continuous basis. These schemes do not have a fixed maturity period. A close-ended scheme has a stipulated maturity period example 5 – 7 years. The scheme is open for subscription during a specified period at the time of launch of the scheme.

A scheme can also be classified as growth scheme, income scheme or balanced scheme considering its investment objective. Such schemes may be open-ended or close-ended schemes as described earlier. In this research study focus only tax saving schemes in India. These schemes offer tax rebates to the investor under specific provisions of the Income Tax Act 1961 as the government offers tax incentives for investment in specified avenues like PPF, NSC's, Equity Linked Saving Scheme (ELSS), Bank deposit, provident fund and Life Insurance premium.

Planning of tax is an integral part of financial year sec80c of the income tax allows claiming deductions from taxable income by investing in particular investment. An ELSS is a diversified equity mutual fund and investors enjoy both benefits of capital value improvement as well as tax benefits.

This type of mutual fund has lock in period of 3 years from the date of investments. ELSS funds have both dividend and growth options are available in mutual fund market. The return of ELSS schemes are tax free upto Rs. 1,50,000 as deduction from the gross income in a financial year u/s 80c of the income tax.

ELSS locking period compared to traditional tax savings investment like public provident fund (PPF – 15 years), National saving certificate (NSC – 6years) and bank deposit is lower. ELSS investing majority of corpus in Equity market therefore is an indirect route for investors to participate in stock of better return for long period.

The mutual fund performance evaluation has thus evolved into a complicated process which needs various inputs. Besides risk – return there may be other factors such as mutual fund investment way, fund manager characteristics, investment company background and the investment market environments and also value consideration.

2. Review of Literature

Lilly and Anusuya (2014) have studied performance evaluation of selected mutual fund schemes. The study includes performance of 49 open ended tax saving scheme were examined for the period of April 2008 to March 2013. The results showed that, out of 49 mutual fund schemes for the study LIC Nomura mutual fund (G) highest return and dividend provided.

Choudhary and Preeti Chawla (2014) studied the performance evaluation of mutual funds: of selected mutual funds in India". They compared the performance of eight mutual fund schemes comprising of the equity diversified funds over a period of eight years (2005 – 2013). The study results, the performance of mutual fund in terms of average returns, sharpe, Treynor and beta, seventy percent of the diversified fund schemes have show higher return.

Jitender and Aanindra (2015) evaluated five tax saving mutual fund schemes such as ICICI Prudential tax saving plan, HDFC tax saver, LIC mutual fund tax plan, SBI magnum tax gain and Franklin India tax shield. The list of mutual fund companies are two from Public sector mutual fund and three from Private sector mutual fund for the period of ten years start from 2004 – 05 to 2013 – 14. It was concluded that private sector tax saving mutual fund schemes out performed to its market return and bench mark. While the performance of Public sector tax saving mutual fund schemes was not satisfactory.

Kishori, N. Bhagyasree (2016) have investigated the performance of open-ended, growth-oriented equity schemes of emerging economies. The study revealed that 14 out of 30 mutual fund schemes had outperformed the benchmark return. The results also showed that some of the schemes had underperformed due to diversification problem. In the study, the Sharpe ratio was positive for all schemes which showed that funds were providing returns greater than the risk-free rate.

Ravichandran and Jeyaraj (2017) carried out a study on performance evaluation of mutual fund schemes in India" the study tries to evaluate the performance of the 20 equity mutual fund schemes of selected mutual fund company in India.

Richa Pathak (2018) analyzed the performance evaluation of ELSS mutual funds with special reference to growth funds, From the study it is seen that ELSS – Growth funds are outperforming benchmark index and doing quite well. Moreover there are funds like Axis long term equity funds, HDFC Tax advantage, Franklin Templeton tax saver which have giving good average returns and also giving excess return compared to government bonds.

Alagappan (2019) studied the performance evaluation of mutual funds in India', have evaluated out of 42, nine fund houses are selected on asset under management basis, 12 funds across 9 fund houses have been selected on the basis of their average annual returns. The study is conducted over the period of Jan 2018 to Dec 2018. The study suggested that Axis Bluechip fund emerged as one of the top performing large cap mutual funds of 2018.

3. Statement of the problem

The purpose of the study is to calculation of the performance evaluation of selected public sector ELSS mutual fund available in the market and to suggest a suitable public sector mutual fund schemes which helps there in achieving their investment objective.

3.1. Objectives of the study

- To analysis the growth and progress of the ELSS mutual funds in India during the period of 2015 – 2020.
- To examine the relative performance of ELSS with bench mark index.
- To compare and analyze the ELSS mutual fund schemes of select mutual fund players as suggested by Sharpe, Treynor and Jensen.

3.2. Gap identified

In the above literature very few studies have made an attempt to make a comparative study of public sector ELSS mutual fund return with bench mark index. In India retail investor scarcely understands the performance measure tools like Sharpe, Trynor and Jenson ratio models.

4. Research Methodology

The study is mainly based on secondary data which was collected from the data sources of AMFI reports and its web site. The study covers 5 years of period of 1st April 2015 to 31st March 2020. The ELSS schemes were selected based on its availability of data throughout the study period.

Scope of the study

- This study will be helpful to those investors who are planning to invest in ELSS funds.
- This study will give an insight to the techniques, which are used to judge the performance evaluation of mutual funds.

Limitation of the study

- The sample size is limited as this study will focus on 6 growth schemes under public sector ELSS.
- The study is cover only 5 years, ie. 1st April 2015 to 31st March 2020.
- The study is based on the secondary source of information.

5. Research design

5.1. Sample of the study

Among the 44 mutual funds company in India, out of which 6 are in Public sector and remaining Private sector mutual funds companies in India. In this study focus on 6 public sector mutual fund companies. The selection of the sample from the total companies and available schemes is discussed below. Hence we would like to study of the performance of public sector tax saving mutual funds are known as

- Baroda ELSS 96 plan A
- CanaraRobeco Equity Tax saver Fund
- IDBI Equity Advantage Fund
- LIC MF Tax plan
- SBI Long Term Equity Fund
- UTI – Long Term Equity Fund (Tax Saving)

5.2. Data source

This study based on secondary data. The data have been collected from factsheet, report and websites. For benchmark has been selected and its return have been collected from National Stock Exchange and Bombay Stock Exchange in India. Also risk free rate of average return of 8% has been Public Provident funds (PPF) interest value.

5.3. Period of study

This study is spread over the period of 5 years from 1st April 2015 to 31st March 2020.

5.4. Tools for Analysis

The tools used for the basic analysis of the data Average, Percentage, Standard Deviation and the risk and return analysis tools used for Beta, &R² Measures. The performance evaluation of funds tools used for the application of Sharpe ratio, Treynor's and Jenson's Alpha performance index.

5.5. Absolute Return

Absolute return can be calculated by comparing the Net Asset Values (NAV) of the schemes at the first working of the day and the NAV at the next working day of the month.

$$\text{Absolute Return} = \frac{\text{NAV} - \text{NAV}_{t-1}}{\text{NAV}_{t-1}} \times 100$$

5.6. Standard Deviation

It is calculation of total risk undertaken by the investment consisting of systematic and unsystematic risk. Higher the standard deviation, higher the total risk undertaken.

$$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2}$$

5.7. Co efficient of Determination (R²)

It indicates the extent to which the returns of the fund are determined by the market. It ranges between +1 or 0. +1 indicates that 100 % of the returns are determined by the market. Higher the R², higher is the diversification of the fund in relation to the market index.

$$R^2 = 1 - (\text{RSS}/\text{TSS})$$

R² = Coefficient of Determination, RSS = Residuals sum of squares, TSS = Total sum of squares

5.8. Beta

Beta measure the systematic risk. How prices of securities respond to the market forces. It is calculated by relating the return on security with return for the market. If beta is greater than the stock is said to be riskier than market. If beta is less than 1 the indication is that stock is less risky in comparison to market. If beta is zero then risk is same as that of the market negative.

$$Beta = \frac{Covariance}{Variance}$$

Covariance = Measure of a mutual fund return relative to that of the market

Variance = Measure of how the market moves relative to its mean

5.9. Sharpe Ratio

It is a very frequently used measure of risk adjusted performance. It provides the risk premium earned by a fund for having undertaken a unit of total risk (standard deviation). Higher the Sharpe ratio better the risk adjusted performance of the mutual fund. Sharpe Index = ((Return from the fund – Risk free Rate of

Return)/Total risk of the fund) ie, $S_p = \frac{R_p - R_f}{\sigma_p}$; Sp = Sharpe Ratio Rp = Return of the Portfolio

Rf = Risk free Rate of Return

σ_p = Standard Deviation of the Portfolio

5.10. Treynor's Ratio

As per Treynor index, systematic risk or beta is the appropriate measure of risk, as suggested by Capital Asset Pricing Model (CAPM). It provide the risk premium earned by the fund for having undertaken a unit of systematic risk (beta). Higher the Treynor's ratio, better the risk adjusted performance of the fund.

Treynor Index = ((Return from the Fund – Risk free Rate of Return)/Beta)

$$T_p = \frac{R_p - R_f}{\beta_p}$$

Tp = Treynor's Ratio

Rp = Return of the Portfolio

Rf = Risk free Rate of Return

β_p = Beta of the Portfolio

5.11. Jensen's Alpha performance index

It is the excess return earned by the fund over and above the return earned for having undertaken the market risk. It is considered to be a measure of fund manager performance. Higher the alpha value, the fund manager performance is better. Jensen's alpha = Portfolio Return – [Risk Free Rate + Portfolio Beta * (Market Return – Risk Free Rate)]ie, $\alpha = R_p - [R_f + \beta(R_m - R_f)]$

Rp = Return of the Portfolio

Rm = Return on market Portfolio

Rf = Risk free Rate of Return

β_p = Beta of the Portfolio

6. Analysis and Interpretation

Following table showing yearly Standard deviation of selected Equity Linked Saving Schemes (ELSS) of Public Mutual fund schemes in India from 2015 to 2020.

Table 1 Yearly Standard deviation of selected Equity Linked Saving Schemes

S.No.	Name of the Schemes	Five Year Average
1	Baroda ELSS 96 Plan A - G	23.11
2	CanaraRobeco Equity Taxsaver Fund - G	22.76
3	IDBI Equity Advantage Fund – G	23.11
4	LIC MF Tax Plan – G	23.87
5	SBI Long Term Equity Fund – G	21.20
6	UTI Long Term Equity Fund (Tax Saving) - G	23.87

Source: www. Moneycontrol.com

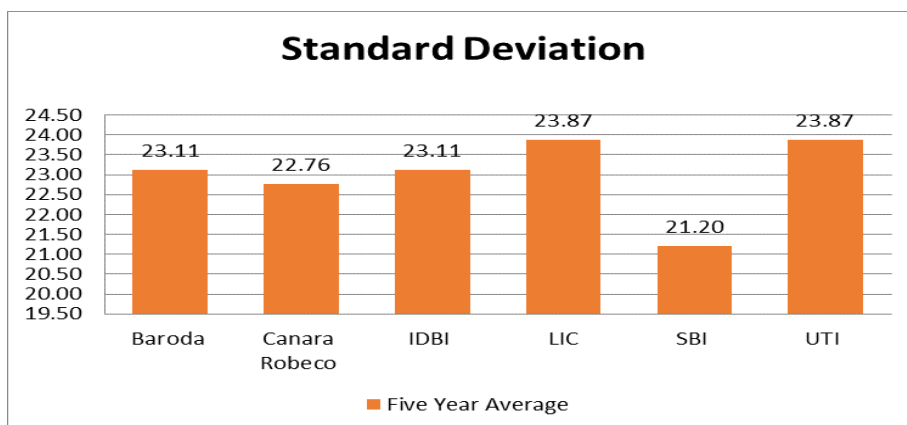


Fig. 1 Standard Deviation

From the above table gives the standard deviation of the selected Equity Linked Saving Schemes mutual fund schemes which measure of total risk. Higher the value of the standard deviation higher the risk being carried out by the particular scheme. From the above comparison LIC MF Tax Plan – G and UTI Long Term Equity Fund (Tax Saving) – G are maximum risk of 23.87% whereas SBI Long Term Equity Fund – G scheme has minimum value of standard deviation.

Following table showing yearly Beta of selected Equity Linked Saving Schemes (ELSS) of Public Mutual fund schemes in India from 2015 to 2020.

Table 2 Yearly Beta of selected Equity Linked Saving Schemes

S.No	Name of the Schemes	Five Year Average
1	Baroda ELSS 96 Plan A - G Baroda	1.02
2	CanaraRobeco Equity Tax saver Fund - G	0.98
3	IDBI Equity Advantage Fund – G	0.65
4	LIC MF Tax Plan – G	0.98
5	SBI Long Term Equity Fund – G	0.59
6	UTI Long Term Equity Fund (Tax Saving) - G	1.02

Source: www. Moneycontrol.com

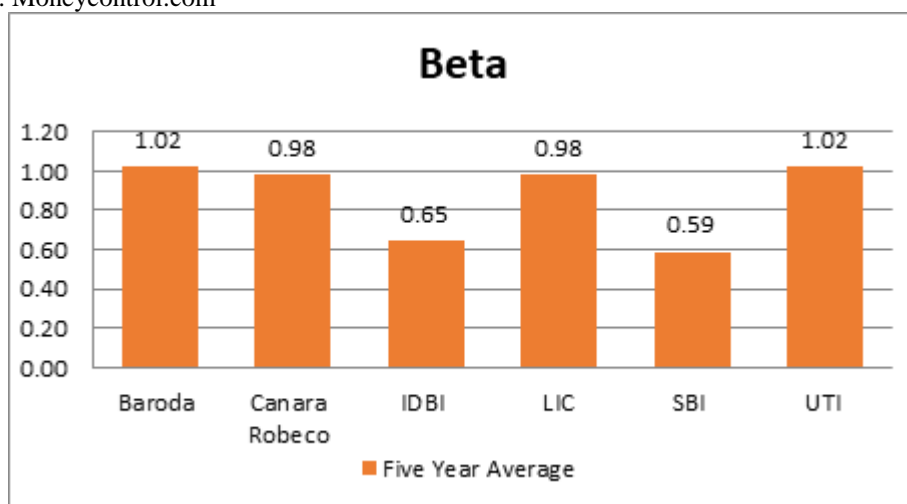


Fig. 2 Beta

From the table 2 shows that the beta value of selected ELSS mutual fund schemes. Beta measure of systematic risk. It can be seen mutual fund schemes have beta value more than 1 implying that they are more risky than benchmark in this study shows that SBI Long Term Equity Fund – G has the lowest beta value.

Following table showing yearly Sharpe ratio of selected Equity Linked Saving Schemes (ELSS) of Public Mutual fund schemes in India from 2015 to 2020.

Table 3 Yearly Sharpe ratio of selected Equity Linked Saving Schemes

S.No	Name of the Schemes	Five Year Average
1	Baroda ELSS 96 Plan A – G	-28.08
2	CanaraRobeco Equity Tax saver Fund - G	-24.33
3	IDBI Equity Advantage Fund – G	-27.38
4	LIC MF Tax Plan – G	-25.24
5	SBI Long Term Equity Fund – G	-35.47
6	UTI Long Term Equity Fund (Tax Saving) - G	-30.34

Source: www. Moneycontrol.com

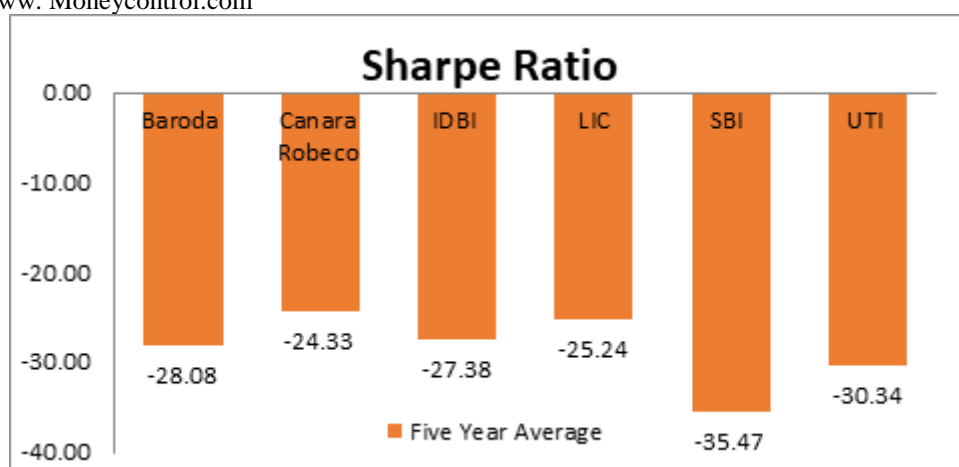


Fig. 3 Sharp Ratio

Table show 3 the Sharpe’s value. It is a measure of reward to volatility ratio. It is commonly used to measure the performance of an investment by adjusting for its risk. The higher the ratio, the greater the investment return relative to the amount of risk taken, and the better the investment. In average of 5 years the value of Sharpe ratio of all funds under consideration are negative percentage. Negative Sharpe ratio is the indicator of bad performance in terms of return and total risk relationship. In Sharpe ratio was highest percentage of SBI Long Term Equity Fund – Gequity fund. The five years average Sharpe ratio of CanaraRobeco Equity Tax saver Fund - G was lowest, so the performance in term of return and total risk relationship of CanaraRobeco Equity Tax saver Fund - G was good.

Following table showing yearly Treynor ratio of selected Equity Linked Saving Schemes (ELSS) of Public Mutual fund schemes in India from 2015 to 2020.

Table 4 Yearly Treynor ratio of selected Equity Linked Saving Schemes

S.No	Name of the Schemes	Five Year Average
1	Baroda ELSS 96 Plan A – G	-8.40
2	CanaraRobeco Equity Tax saver Fund - G	-6.31
3	IDBI Equity Advantage Fund – G	-8.37
4	LIC MF Tax Plan – G	-6.98
5	SBI Long Term Equity Fund – G	-0.36
6	UTI Long Term Equity Fund (Tax Saving) - G	-7.75

Source: www. Moneycontrol.com

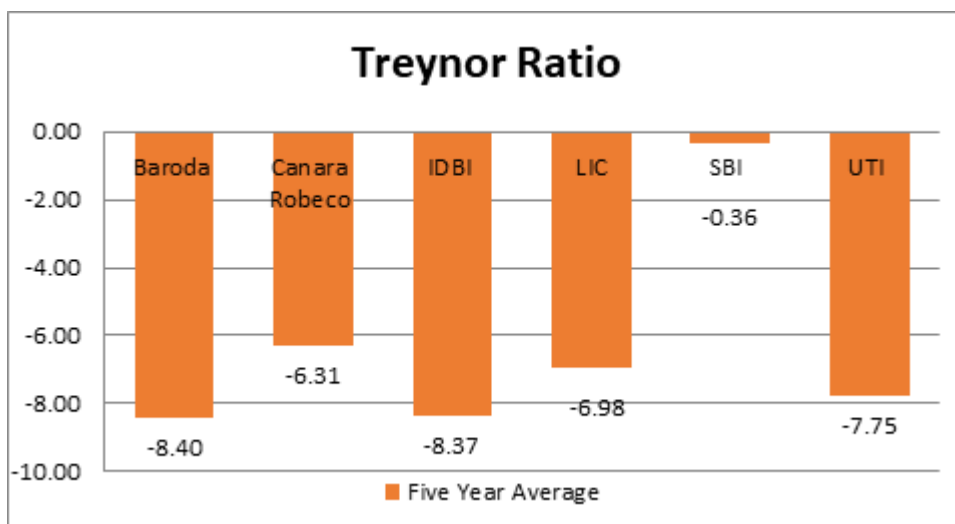


Figure 4 Treynor Ratio

From the table 4 shows that the Treynor value. The Treynor ratio also known as the reward-to-volatility ratio, is a performance metric for determining how much excess return was generated for each unit taken on by a portfolio. Excess return in this sense refers to the return earned above the return that could have been earned in a risk-free investment. The result shows that the highest for Baroda ELSS 96 Plan A - G equity fund. The five years average Treynor ratio of SBI Long Term Equity Fund – G was lowest, so the performance in terms of return and systematic risk relationship of SBI Long Term Equity Fund – G was good.

Following table showing yearly Jensen ratio of selected Equity Linked Saving Schemes (ELSS) of Public Mutual fund schemes in India from 2015 to 2020.

Table 5 Yearly Jensen ratio of selected Equity Linked Saving Schemes

S.No	Name of the Schemes	Five Year Average
1	Baroda ELSS 96 Plan A - G	-1.15
2	CanaraRobeco Equity Tax saver Fund - G	1.18
3	IDBI Equity Advantage Fund – G	-0.98
4	LIC MF Tax Plan – G	0.53
5	SBI Long Term Equity Fund – G	-5.50
6	UTI Long Term Equity Fund (Tax Saving) - G	-0.17

Source: www. Moneycontrol.com

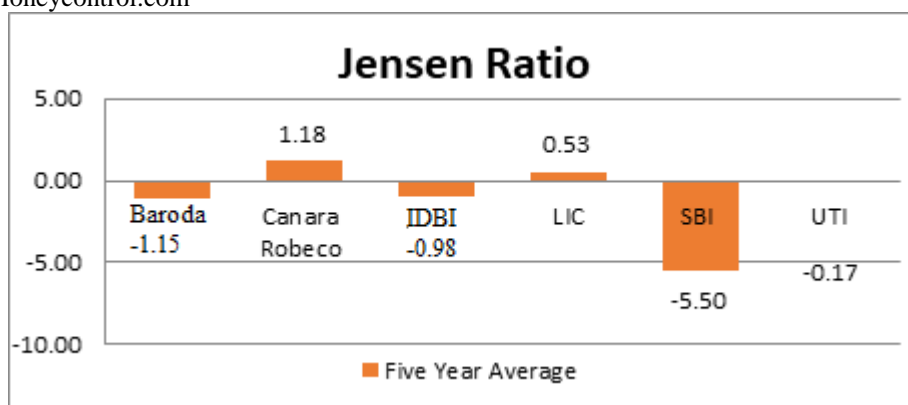


Figure 5 Jensen Ratio

From the table 5 shows that Jensen's ratio. Jensen's alpha also known as Jensen's Performance Index, is a measure of the excess returns earned by the portfolio compared to returns suggested by the CAPM model. The funds earn even more than the risk-adjusted returns, it will have a positive Alpha. Negative alpha indicates that the portfolio has not earned its required return. The result shows that CanaraRobeco Equity Tax saver Fund – G has 1.18% and LIC MF Tax Plan – G – 0.53%.

Following table showing yearly R2 Measure of selected Equity Linked Saving Schemes (ELSS) of Public Mutual fund schemes in India from 2015 to 2020.

Table 6 Yearly R2 Measure of selected Equity Linked Saving Schemes

S.No	Name of the Schemes	Five Year Average
1	Baroda ELSS 96 Plan A – G	90.80
2	CanaraRobeco Equity Tax saver Fund – G	90.70
3	IDBI Equity Advantage Fund – G	77.17
4	LIC MF Tax Plan – G	92.15
5	SBI Long Term Equity Fund – G	84.81
6	UTI Long Term Equity Fund (Tax Saving) - G	96.70

Source: www. Moneycontrol.com

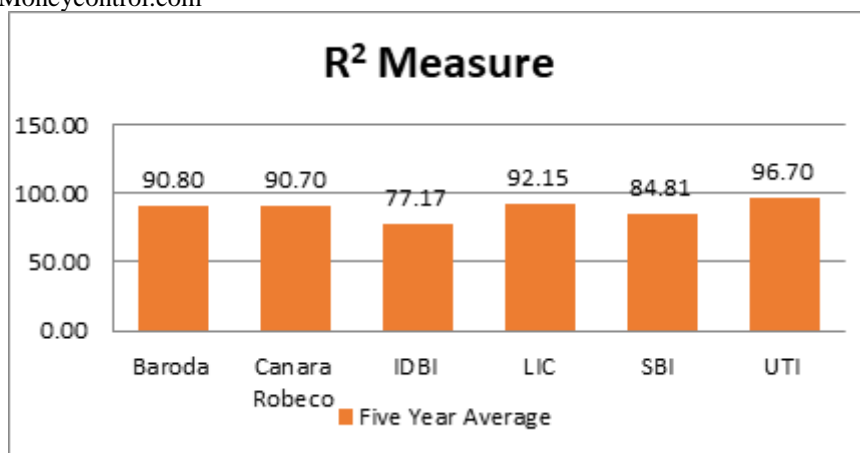


Figure 6 R² Measure

From the above table shows that Coefficient of variation (R^2) is greater is said to be more variable or less consistent, whereas it is less is said to be less variable or more consistent. Hence in above table the least value of coefficient of variation is IDBI Equity Advantage Fund – G which means it is more consistent than other given ELSS schemes.

7. Conclusion

The present study is an attempt to analysis the performance evaluation of selected public sector ELSS growth schemes on the basis of their NAV and return recorded for the period of five years starting from 1st April 2015 to 31st March 2020. The risk wise the ELSS mutual fund SBI Long Term Equity Fund – G scheme is less risky when compare to all other selected ELSS schemes. By evaluating the selected ELSS mutual fund scheme by the ratio of Sharpe, Treynor and Jensen came to know the performance wise CanaraRobeco Equity Tax saver Fund - Gscheme will performing from past 5 years followed by SBI Long Term Equity Fund – Growth scheme. Overall we can say CanaraRobeco Equity Tax saver Fund - Growthscheme and SBI Long Term Equity Fund – Growth scheme best tax saving mutual fund schemes compare to other selected mutual funds. The ELSS schemes have been safe and investors have rarely lost their money.

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