# A Study on Performance Evaluation of Equity Linked Saving Schemes (ELSS) of Mutual Funds

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## Abstract

A mutual fund is a company that pools money from a group of investors and invests the money in different types of securities such as stocks, bonds, debt, etc. Mutual fund is one of the fastest growing sectors in India and it plays a significant role in the Indian capital market. Equity linked saving scheme is an open ended equity diversified fund, which provides tax benefit to investors under section 80 C of the Income Tax Act, 1961 . Rs.1.5 lakh "income" gets tax benefit of up to Rs.45,000 at 30% tax without considering surcharge. However, with a large number of ELSS funds available, investors face a challenge of selecting suitable ELSS funds to suit their needs. This research paper is an attempt to evaluate the performance of the top five ELSS schemes of different mutual funds in India using various tools like Beta, Sharpe ratio, Jensen ratio, etc. It also suggests suitable ELSS schemes for investors so that they can achieve their investment objectives. The analysis reveals that majority of funds have outperformed under Treynor's Ratio and Sharpe Ratio, giving constant and appreciable results during the course.

***Keywords:*** *ELSS Mutual Funds, Average Return, Coefficient of Determination (R2), Standard Deviation, Beta, The Sharpe Ratio, Treynor's Performance Index.*

**JEL Classification:** ***G01, G21, G23.***

## Introduction

The term 'saving' is defined as the proportion of a person's income that is left over after meeting expenses. Savings could be deposited in a bank, Building Society, etc. It can also be used for acquiring assets - financial assets (stocks, debt securities, etc.) and/or physical assets (property, gold, etc.) and further earning through returns. Investing in stocks (also called equity) has emerged as a very good option to earn higher returns, but there exist risks associated with lack of knowledge about stocks, market sentiment, etc. Due to these factors, mutual funds have emerged as a suitable route to investing savings in stocks as it carries a lower risk as compared to investing in individual stocks and the investor has experts managing his funds. The profits earned by the fund are shared among the unit holders in proportion to the number of units they hold. The Indian mutual fund industry is consistently developing, providing professional management and diversification. Each mutual fund scheme has its own investment objective that decides its asset allotment and investment technique.

Tax planning strategies are important for taxpayers whose aim is to reduce their tax outgo on various types of income and capital gains. Section 80C of Income Tax Act, 1961 enables us to save taxes by investing in eligible investment instruments which include Equity Linked Saving Schemes (ELSS). Section 80C enables a taxpayer to reduce his/her taxable income to the extent of Rs.1,50,000 per financial year by investing in these eligible investments. An ELSS fund invests in equity across different sectors and market capitalization in order to achieve attractive returns. Being an equity fund, returns are dependent on price moves of stocks invested in and the overall markets. ELSS funds have a lock-in period of 3 years from the date of investment.

**EQUITY LINKED SAVING SCHEME (ELSS)**

ELSS is a scheme offered by mutual funds, which invests a majority of its corpus in equity and equity related instruments. Investment in ELSS comes with a lock-in period and has tax benefits attached to it. It is suitable for investors having a high risk profile as returns in ELSS fluctuate depending upon the equity market and there are no fixed returns. ELSS schemes are open ended, that is, these schemes remain in existence in perpetuity and investors can subscribe to the fund on any business day. NAV or the price of the fund is declared on every business day. It has a lock in period of 3 years unlike other kinds of mutual funds.

**Options while making an investment in an ELSS**

a. **Growth option** – In growth option, income earned by the fund is not distributed to unit holders. Investors do not earn any dividend; instead, income/profit earned by the fund reflects in the NAV (the NAV increases). Whenever the investor sells his holdings, he will realize long term capital gain/loss.
b. **Dividend option** – In this option, the fund distributes income earned by the fund to the investors as dividends. The date of distribution is declared by the fund; however if the fund has negative income, it will not distribute any dividend. Any dividend received by the investor is not liable for tax in the hands of investors.
c. **Dividend reinvestment option** – If the investors choose this option, the dividends declared by the fund are reinvested back into the fund on behalf of the investor.

**Growth of mutual fund industry in India**

Internationally, the dawn of mutual fund industry was witnessed in the 19th century in Europe. It was Robert Fleming who set up the first ever mutual fund company called as 'foreign and colonial investment trust' in 1868, which promised to invest and overlook the finances of the investors. In India, mutual funds were introduced in 1963 with the incorporation of 'Unit Trust of India (UTI)'. Indian Mutual Funds have advanced a great deal since then. Astonishing development and growth have been seen since 1987 when both public and private financial institutions and Indian banks were allowed to set up mutual funds. As of October 2018, the Indian Mutual Fund industry had Assets under Management (AUM) of Rs.22.24 lakh crore with about 7.9 crore folios. The AUM increases month-on-month to the extent of Rs. 7,985 crore from Systematic Investment Plans (SIPs). The AUM of the mutual fund industry saw exceptional growth of 42 per cent at Rs. 17.5 lakh crore in fiscal 2017 from Rs. 12.3 lakh crore a year ago. The quarterly average assets under management also registered a quarter-on-quarter growth of 8 per cent in the March quarter, rating agency ICRA said, quoting data collated by the Association of Mutual Funds in India. Net inflows in liquid, income and equity (including equity linked savings schemes or ELSS) categories saw fresh investment of Rs. 1.2 lakh crore, Rs. 96,000 crore and Rs. 70,000 crore respectively, ICRA said.

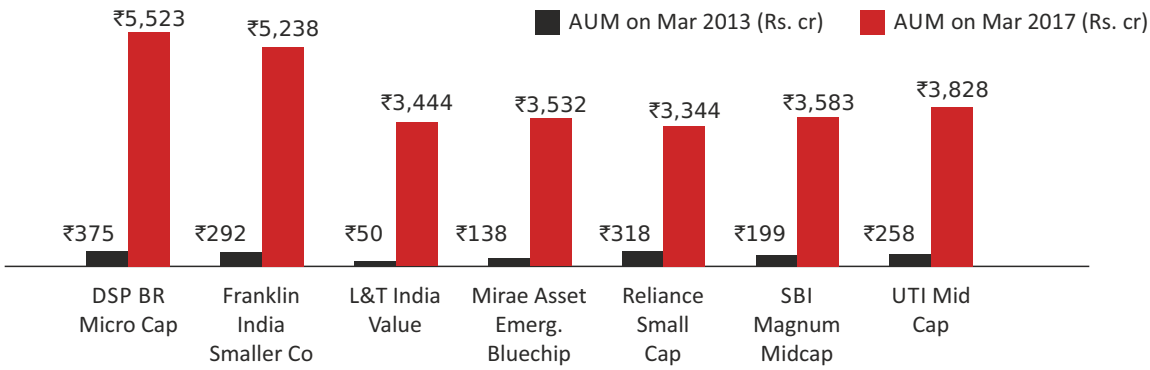


*Figure 1: Asset under Management of Mutual Funds* *Source: ACE MF, Compiled by ETIG Database*

## Review of Literature

Tax policies are intended to urge people to work, save and invest with the goal that their contribution (through mutual funds) can be pooled for gainful use. Mutual fund investors are becoming increasingly knowledgeable about products offered by funds and have been preferring to use performance statistics (such as Alpha ratio, standard deviation, Beta ratio) over the old average returns method (Viet & Friensen, 2018). Arul Prasad. P, Vijayakumar. L (2017) analysed the impact of different demographic variables on the attitude of investors towards mutual funds. Apart from this, they also focused on the benefits delivered by mutual funds to investors. In this study, respondents of different demographic profiles were surveyed. The study revealed that most investors are not interested in investing in mutual funds.

B. Kishori, N. Bhagyasree (2016) in their study 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.

Mohanasundari1 M Vetrivel S.C & Lavanya R.E. (2016) in their study of risk and return analysis in selected equity linked savings scheme in India found that the past performance of the funds does not reflect in their future performance. There are certain schemes that outperform the benchmark index with positive risk-return relation. Most of the schemes performed well in the initial period. The major parameters namely, liquidity, rate of return, tax benefits, high return, price, capital appreciation and market share play a vital role in investors' buying decision. They also found that ELSS funds which have been in existence for over 20 years are still not very popular with retail investors as a tax saving investment option. In 2016, Shabgon & Mousavi attempted to examine how a human brain's cognitive emotions affect the person's decision making capabilities. The investigation uncovered the consequences related to intellectual, social and emotional parameters on monetary evaluations and benefits attached to it. Oliver, Ramun & Ralf (2015) found that investors with low ability to pick high performing mutual funds can have extremely good results with higher percentages allocated to large-cap funds. Nirmala Srivastava (2014) analytically evaluated the performance parameters on ELSS mutual funds in India. William and Andrew (2014) stated income tax changes move capital assets towards most noteworthy financial use thereby expanding profitability and productivity, which consequently helps in monetary advancement and aids economic development. Increments of taxes on development purchases depend on a number of components (Chye-Ching and Nathaniel, 2014). Mutual funds play an essential role in financial inclusions (Satya Sekhar, 2013). Research shows that diversification of the mutual fund's portfolio reduces kurtosis, standard deviation and NAVs. Therefore, Junhua Lu (2007) recommended a moderate diversification example of a five-fund portfolio. Diversification of portfolios proves to be an important tool when de-risking is considered. As a matter of fact, most ELSS schemes tend to follow the BSE 200 TRI Index as their benchmark, which results in the limitation of stock selection in their portfolio. Tax collection is considerably more noticeably in nations where even long term capital gains (LTCG) are taxable. Narayan and Ravinderan (2003) evaluated the performance of the Indian mutual fund industry in a bearish market condition. The study consisted of a pool of 269 open-ended mutual fund schemes for the period September 1998 to April 2002. This study included analysis through various performance indices, Sharpe ratio, Treynor's ratio, risk-return analysis, Jensen's measure, and FAMA's measure. It was observed that most of the mutual fund schemes selected from the sample couldn't generate excess returns when compared to expected returns; further, portfolios weren't diversified as needed and were not managed at an optimum level. Shanmugham (2000) conducted an overview survey of individual investors with the aim to discover what information source investors rely on. The results indicated that economical, psychological and sociological factors control investment decisions. Kulshreshta (1994) in his examination recommended a few rules to the financial specialists that can assist them with selecting mutual fund plans. The outcomes clarified that affordable, sociological and mental elements control investors' choices. Fund specialists tend to make positive active contributions in booms and recessions (Kosowski, 2001). Goetzman (1997) opined that an investor's brain influences his choice of investments in and exits from a mutual fund. Gupta (1994) studied family unit investors to discover financial specialists' inclinations to put resources into mutual funds and other accessible money related resources. The results of the research conducted were increasingly important, around then (1994), for investors and financial analysts to plan financial instruments for the future. Ippolito (1992) stated an investor is ready to invest in those mutual funds which generate good returns and most investors are attracted to those mutual fund schemes which tend to produce and perform better during recessionary periods.

The authors have used a number of Indian and international studies on mutual funds to arrive at the above broad summarized review of the mutual fund industry in India. Specific parameters assessed included performance evaluation of mutual funds and mutual fund practices. The aforementioned studies have been taken into consideration to reveal the limitation of the research done in the field of ELSS funds with particularly no definite performance evaluation done. Hence, there was some

definite research gaps that need to be filled; this study aims to plug that gap to some extent.

## Scope of the Study

This study evaluates the performance of the Top 5 Equity Linked Saving Schemes (ELSS) of Mutual Funds. The Indian mutual fund industry has seen significant rapid growth, with a more than two-fold increment in AUM to Rs. 24.51 lakh crore as on September 30, 2019. Similarly, there exists 8.68 crore folios, which indicates the immense trust that Indian investors have on the mutual fund industry. Attractive performance statistics characterized by a mutual fund ensures proper liquidity and higher profitability of a firm.

Proper planning and settlement of taxes are necessary for any taxpayer. Equity Linked Saving Schemes (ELSS) offered by mutual funds offers investors a reduction in taxable income to the extent of Rs. 1,50,000 per financial year. A typical equity scheme allocates a minimum of 65% of its total assets into equity and equity-related financial instruments. On the other hand, ELSS funds tend to allocate assets in the range of 80% to equity thereby making them a more aggressive option. ELSS funds adopt BSE 200 TRI Index as their benchmark.

## Need and Importance of the Study

Mutual funds have proved to be an essential investment option in present times. Presently, there are numerous investment avenues (including mutual funds) available for investors in India. Investors should select their investments based on analysis of asset management companies in terms of fundamentals like economic scenario, industry/sector, fund's investment objective, etc. Investors are facing challenges in selecting suitable funds in terms of risk and return. Hence, this study would help investors to select asset management companies according to the performance of their funds. It guides investors to invest their funds to receive attractive returns by taking lower risks. Retail investors prefer to invest their savings in mutual funds. Among the schemes available, Equity Linked Saving Schemes (ELSS) enable them to not only receive reasonable returns, but also reduce their taxable income to the extent of Rs. 1,50,000 per financial year. This makes ELSS one of the promising funds for investors.

With the evolution of the capital markets, investors now prefer mutual funds over fixed deposits. This makes it imperative for investors to gain knowledge of mutual funds in order to make sound investment decisions. Specifically with respect to ELSS funds, there is a gap in research, which needs to be addressed.

## Objectives of the Study

Since the mutual fund industry represents one of the most important aspects of the capital and financial markets of India, this study seeks to explore and evaluate the performance standards of the Top 5 Equity Linked Saving Schemes. The research work taken under consideration is an earnest endeavour to scrutinize some compelling objectives such as:

1. To understand the concept of tax saving and its preferences.
2. To research the concept of tax saving Equity Linked Saving Schemes (ELSS).
3. To study the performance of the top diversified Equity Linked Saving Schemes (ELSS) of Mutual Funds.
4. To measure the performance of top diversified Equity Linked Saving Schemes (ELSS) of Mutual Funds.

## Research Questions

Based on the motivation for the research, review of the literature and research gap, the following research questions were put forward during the course of research:

- Are Equity Linked Saving Scheme (ELSS) of mutual funds in India well organized and what are the factors affecting their overall performance?
- Can ELSS mutual funds in India earn attractive returns over the long term?
- Have Equity Linked Saving Schemes (ELSS) of mutual funds in India performed well in recent years?
- How can the performance of Equity Linked Saving Schemes (ELSS) of mutual funds be improved through the utilization of recent data?

## Research Methodology

The study uses a range of performance and descriptive research to collect preliminary information of Equity Linked Saving Schemes (ELSS) of mutual funds. Various graphs varying between 1-year to 5-year performance inclusive of various performance parameters need to be observed and evaluated. The performance of each ELSS is evaluated in two parts – first, on

the basis of average return, top companies in the scheme's portfolio and sector allocation; secondly, on the basis of Standard Deviation, Coefficient of Determination, Sharpe Ratio, Treynor's Performance Index, Asset Allocation and Portfolio Aggregates. Description of various analysis tools used is enumerated below:

***1) Data Sample***

The paper covers a sample of nine years of data spanning from 1st April 2010 to 31st March 2018. The study incorporates a pool of the top 5 open-ended tax-saving Equity Linked Saving Schemes (ELSS), which include:

***I. AXIS LONG TERM EQUITY FUND***
***II. RELIANCE TAX SAVER (ELSS) FUND***
***III. DSP TAX SAVER FUND***
***IV. ICICI PRUDENTIAL LONG TERM EQUITY FUND***
***V. SBI MAGNUM TAXGAIN SCHEME***

***2) Data Source***

The study has used data from various websites including AMFI, AMCs, morningstar.com, moneycontrol.com, economictimes.com, etc. BSE 200 TRI Sensex has been used as a benchmark for evaluating the performance of various schemes, which covers a fairly long period of time series data. Further, the Government of India 10Y Bond has been selected as a proxy for rate of risk-free returns. Several research papers from various journals including the NMIMS Journal of Economics and Public Policy, IOSR Journal of Economics and Finance, and International Journal of Scientific and Research Publications were taken into consideration for the study.

***3) Statistical Tools***

To examine the performance of open-ended tax-saving ELSS schemes, various techniques and statistical methods have been used as described below:

*i. Average Returns*

The average return is acquired by taking the mean of monthly returns. Monthly returns are obtained using the Net Asset Value (NAVs) of the ELSS scheme. Increasing NAVs exhibits growth of the mutual fund.

*ii. Standard Deviation*

Standard deviation measures the range of a fund's performance i.e. it measures the absolute dispersion. Venture capitalists depict standard deviation as the volatility of previous mutual fund returns. It shows how much the fund's returns can deviate from actual historical mean returns. High standard deviation (SD) depicts a scheme with a wide range of performance, representing a greater potential for volatility. Standard deviation is mainly used by investors to predict the range of returns that the mutual fund will offer, therefore predicting the mistake of subscribing to mutual funds which are too aggressive. When finding multiple-assets portfolio standard deviation, an investor needs to consider standard deviation as well as each fund's correlation. This can be calculated using the formula.

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

Where, $\sigma = Standard\ Deviation$
$x_i = Each\ data\ value$
$\mu = Mean\ value\ of\ data$
$N = Sample\ size$

Hypotheses:

- $H_1$: There is a significant difference between the performances of ELSS funds.
- $H_o$: There is no significant difference between the performances of ELSS funds.

*iii. Coefficient of Determination ($R^2$)*

The coefficient of determination i.e. $R^2$ represents the association between the proportion of the variance of a dependent variable to that of an independent variable. It measures the relationship between the scheme and its desired benchmark i.e. security diversification in relation to the market. It ranges from 0 to 1.00; closer the $R^2$ is to 1.00, higher is the mutual fund portfolio diversified giving anticipation about how well the fund performance associates with that of the benchmark. $R^2$ ranging from 0.85 to 1.00 indicates the fund is in sync with the benchmark; however, when $R^2$ is 0, it indicates that no definite relation is obtained between the mutual fund and its benchmark. This can be calculated using the formula.

$$R^2 = 1 - \frac{Explained\ Variation}{Total\ Variation}$$

*iv. The Sharpe Ratio*

The Sharpe ratio helps investors assess investment returns when compared to associated risks. It evaluates the fund's excess returns per unit of its total risk. Added diversification increases the Sharpe ratio relative to financial portfolios with a lower level of diversification. Further, the Sharpe ratio helps to determine whether excess returns in the portfolio are a result of ingenious investment decisions or due to high risk involved. Sharpe ratio measures the relationship between the ratio of difference of portfolio average return ($R_p$) and the risk-free rate of return ($R_f$) to that of the standard deviation of excess return ($\sigma_p$). The decrease in standard deviation culminates in an escalation of the Sharpe ratio. This can be calculated using the formula

$$S_p = \frac{R_p - R_f}{\sigma_p}$$

where, $S_p = Sharpe\ Ratio\ for\ mutual\ fund$
$R_p = Average\ return\ of\ portfolio$
$R_f = Average\ risk\ rate\ return$
$\sigma_p = Standard\ deviation\ of\ excess\ return$

A sharp and positive Sharpe Ratio indicates an exceptional risk-oriented performance of the mutual fund. Similarly, a slump and negative Sharpe Ratio shows undesired performance.

*v. The Treynor's Performance Index*

The Treynor's performance index determines the amount of excess return which was generated for each unit of risk taken by the portfolio of the mutual fund. It establishes a relationship between differences of average return to the portfolio and the risk-free rate of return to that of the sensitivity of fund return to market return i.e.

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

where, $T_p = Treynor's Performance\ index$
$R_p = Average\ return\ of\ portfolio$
$R_f = Average\ risk\ rate\ return$
$\beta_p = sensitivity\ of\ fund\ return$

The government of India 10Y Bond is used as a standard for risk-free return. Due to the fact that Treynor's ratio significantly relies upon portfolio's beta i.e. sensitivity between portfolio returns and market fluctuations, it endeavours to quantify how effectively the investment is providing returns to investors as a result of involved risks. When comparing multiple mutual fund portfolios in terms of Treynor's ratio, the ones with higher or similar Treynor's ratio are termed to be superior.

## Empirical Analysis

The performance of 5 selected open-ended tax-saving Equity Linked Saving Scheme (ELSS) mutual funds are evaluated. The study is presented below in two parts. The explanatory variables include Average Returns, Standard Deviation, $R^2$, Beta, Sharpe Ratio, Treynor's Performance Index and various other parameters as listed below:

**A) On the basis of average return, top companies held in the scheme's portfolio and sector allocation:**

***1) AXIS LONG TERM EQUITY FUND***

TABLE 1.1 Statistical parameters of Axis Long Term Equity Fund

| **Face Value (₹/ Unit)** | **10.00** |
|---|---|
| NAV (₹/ Unit) * | 47.9868 |
| Total Assets (₹ crore)** | 17,426 |

**As on Oct 26, 2019, **As on Feb 28, 2019*

TABLE 1.2 Average Returns over different time periods of Axis Long Term Equity Fund

| Avg Return (in %) | 1-Year | 3-Years | 5-Years |
|---|---|---|---|
| Axis Long Term Equity Fund | 8.26 % | 14.26 % | 18.32 % |

An evaluation of Tables 1.1 and 1.2 signify that the scheme has been giving constant returns. Figures 1.1, 1.2 and 1.3 which show Trailing Returns for 1 year, 3 years, and 5 years respectively, indicate that the fund is performing incomparably throughout the span of five years. Furthermore, it is perceived that the scheme follows market trends and variations. An increase in the NAV from ₹10.00 to ₹ 47.98 was seen due to the fact that the scheme possesses a large base of total assets (₹ 17,426 crore).

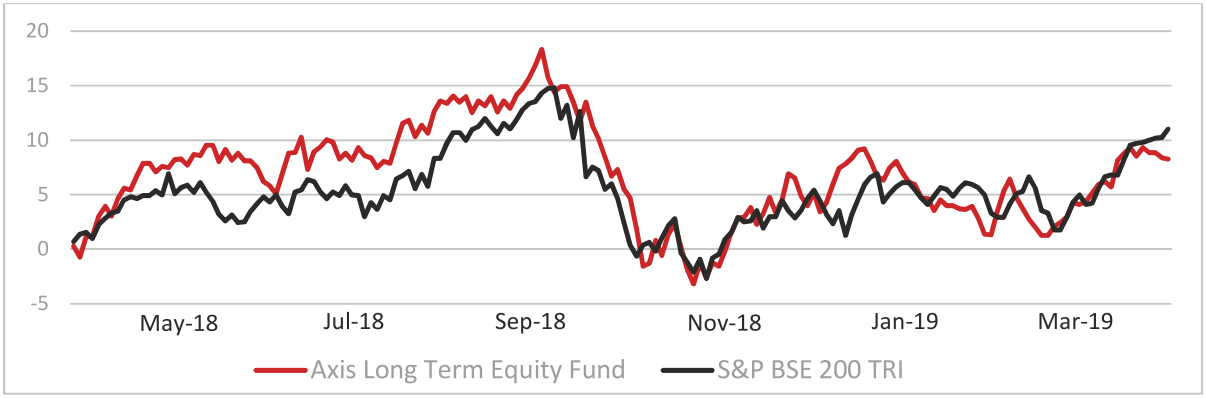


*Fig 1.1: 1-Year performance of Axis Long Term Equity Fund*

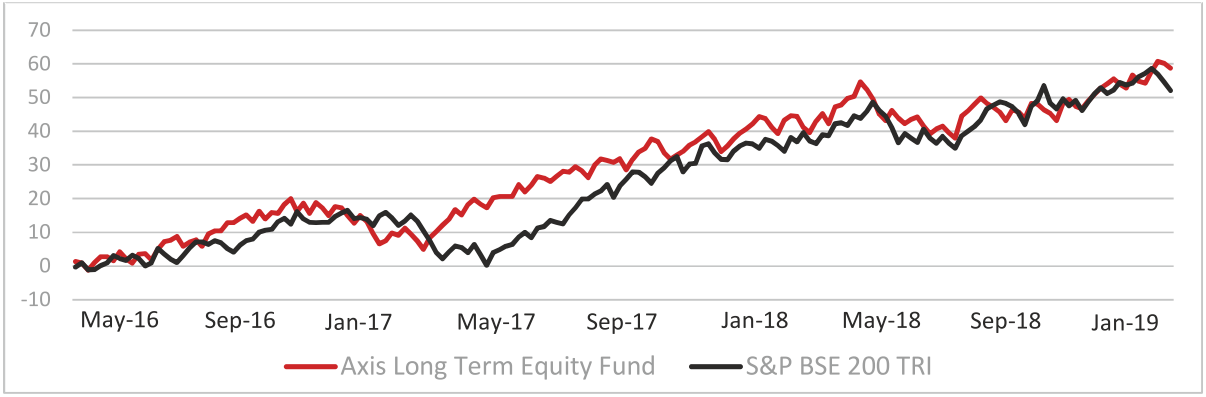


*Fig 1.2: 3-Year performance of Axis Long Term Equity Fund*

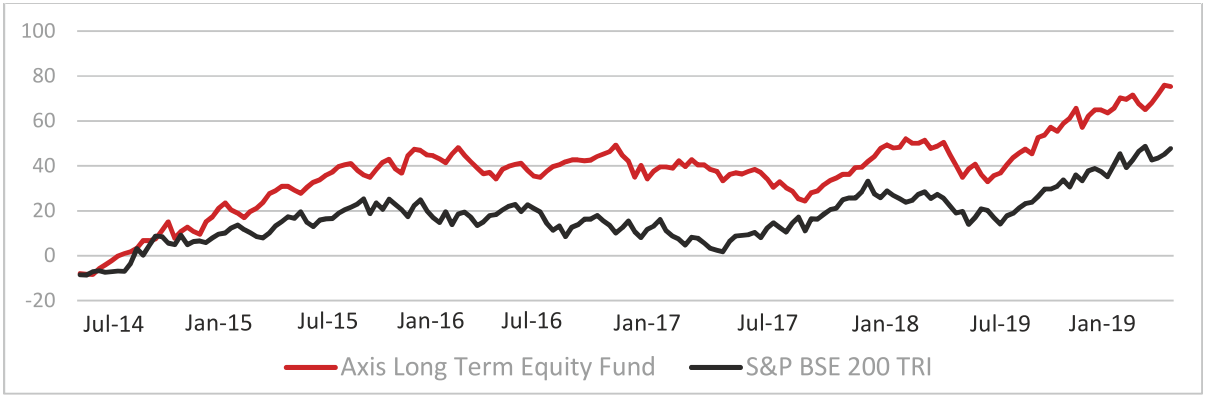


*Fig 1.3: 5-Year performance of Axis Long Term Equity Fund*

TABLE 1.3: Top 10 holdings of Axis Long Term Equity Fund

| Company | Sector | % Assets |
|---|---|---|
| Tata Consultancy Services | Technology | 8.77 |
| HDFC Bank | Financial | 7.95 |
| Kotak Mahindra Bank | Financial | 7.74 |
| Bajaj Finance | Financial | 7.71 |
| Pidilite Industries | Chemicals | 7.45 |
| Maruti Suzuki India | Automobile | 5.37 |
| Avenue Supermarts | Services | 5.09 |
| HDFC | Financial | 4.96 |
| Torrent Power | Energy | 4.18 |
| Info Edge (India) | Services | 3.92 |

It is observed from Table 1.3 and Fig 1.4 that the scheme largely allocates its assets to the financial sector acquiring a hefty percentage of stakes in companies like HDFC Bank (7.95%), Kotak Mahindra Bank (7.74%), Bajaj Finance (7.71%) and so on. These can be due to the fact that these large-cap companies provide stability and consistency needed for constant performance and returns. Tata Consultancy Services occupies a paramount figure of 8.77% in the portfolio totalling up to Rs. 1,528.26 crore. Figure 1.4 shows its strong correlation to its standard i.e. S&P BSE 200 TRI owing to the fact that Axis Long Term Equity Fund allocates its assets under management (AUM) in similar ratios as its benchmark.

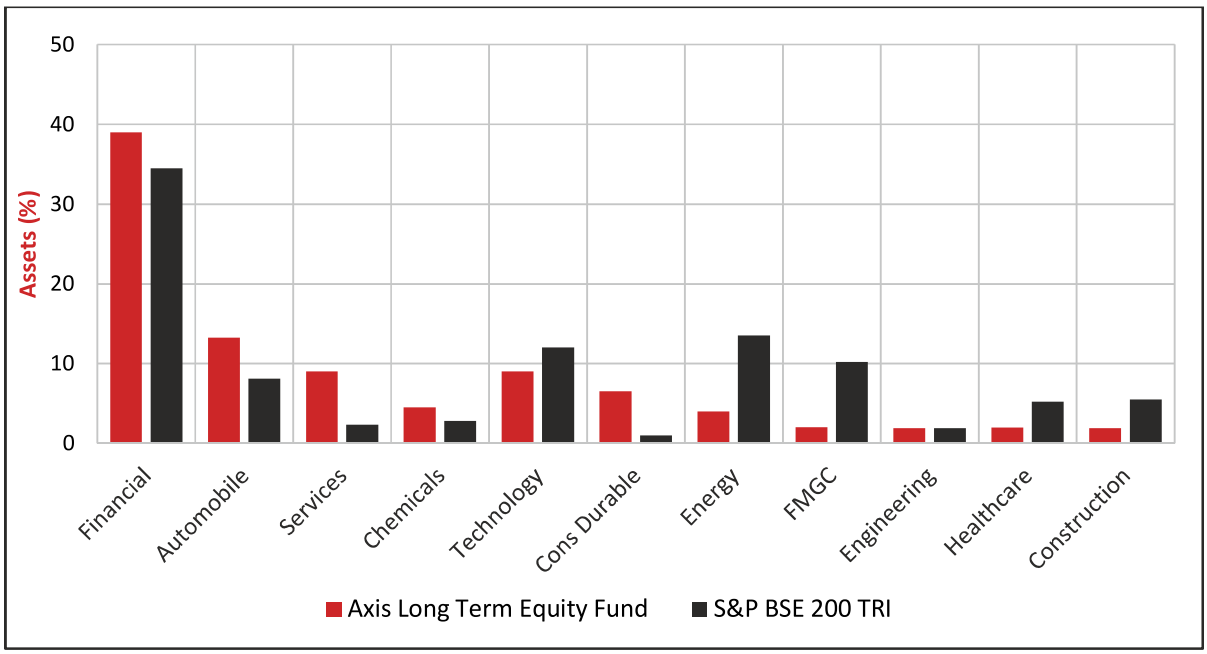


*Fig 1.4: Sector Allocation of the portfolio of Axis Long Term Equity Fund*

### *2) RELIANCE TAX SAVER (ELSS) FUND*

TABLE 2.1 Statistical parameters of Reliance Tax Saver (ELSS) Fund

| Face Value (₹/ Unit) | 10.00 |
|---|---|
| NAV (₹/ Unit) * | 55.179 |
| Total Assets (₹ crore)** | 9,614 |

**As on Mar21, 2019, **As on Feb 28, 2019*

TABLE 2.2 Average Returns over different time periods of Reliance Tax Saver (ELSS) Fund

| Avg Return (in %) | 1-Year | 3-Years | 5-Years |
|---|---|---|---|
| Reliance Tax Saver (ELSS) Fund | -6.10 % | 10.21 % | 15.73 % |

As shown in Table 2.2 and Fig 2.1, Reliance TaxSaver Fund has been under-performing radically for the last 1 year. This can be due to improper utilization and management of allocated assets. Reasonable assets of around ₹ 9,614 enabled the fund to boost NAV notably to ₹ 55.179. Figs 2.1, 2.2 and 2.3 show aggregate returns with larger deviations during the period of the last 1 year, with the highest generating returns accumulating in January 2018.

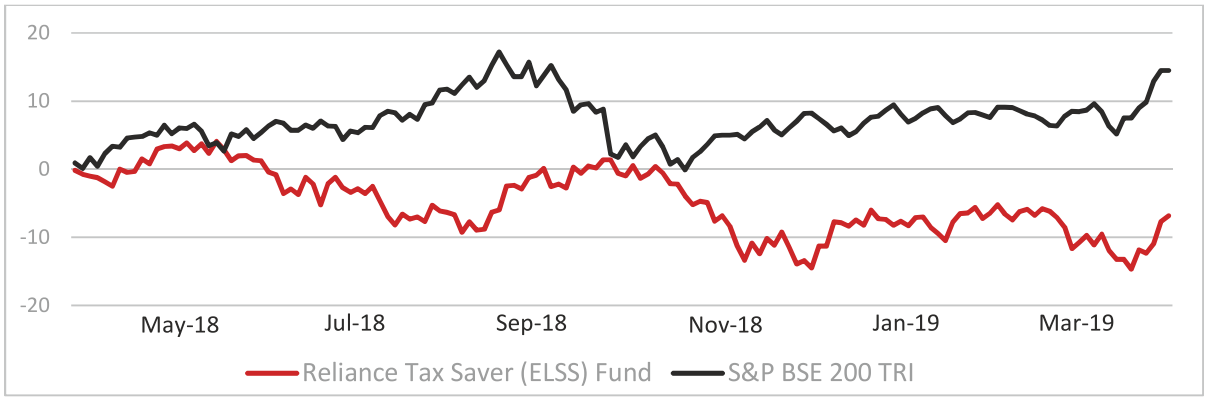


*Fig 2.1: 1-Year performance of Reliance Tax Saver (ELSS) Fund*

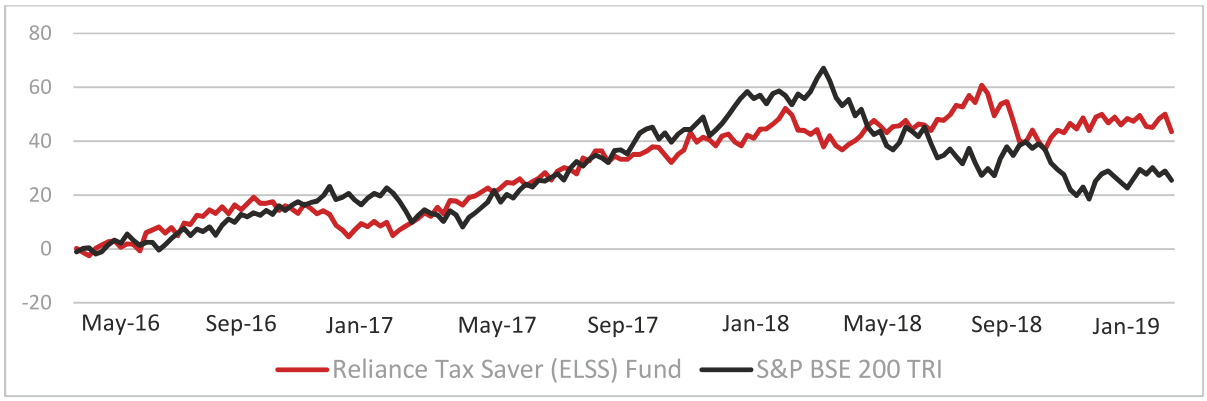


*Fig 2.2: 3-Year performance of Reliance Tax Saver (ELSS) Fund*

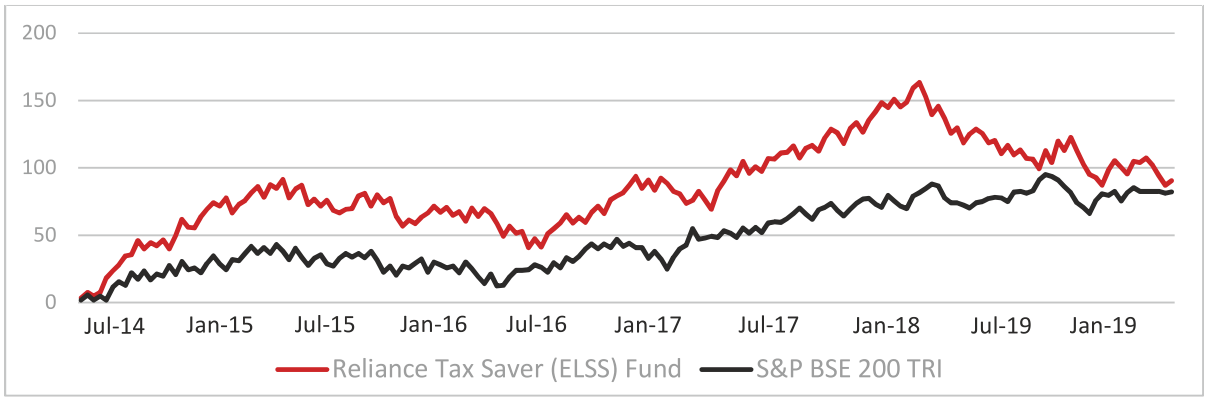


*Fig 2.3: 5-Year performance of Reliance Tax Saver (ELSS) Fund*

TABLE 2.3 Top 10 holdings of Reliance Tax Saver (ELSS) Fund

| Company | Sector | % Assets |
|---|---|---|
| State Bank of India | Financial | 7.30 |
| Tata Steel | Metals | 6.18 |
| Infosys | Technology | 5.71 |
| Tata Motors | Automobile | 4.98 |
| Reliance Industries | Energy | 4.61 |
| ITC | FMCG | 4.60 |
| Honeywell Automation | Engineering | 4.55 |
| ABB | Engineering | 4.25 |
| TVS Motor Co. | Automobile | 4.03 |
| ICICI Bank | Financial | 3.28 |

The financial and automotive sectors were targeted to allocate assets with topmost holding as State Bank of India (7.30%) and Tata Steel (6.18%). A similar strategy can be observed in the case of Axis Long Term Equity Fund. Nonetheless, a drastic difference in the percentage of funds allocated in the financial sector can be seen when compared to benchmark i.e. S&P BSE 100 TRI showing it prefers not to rely on financial institutions like banks, NBFCs as the main stint in its portfolio.

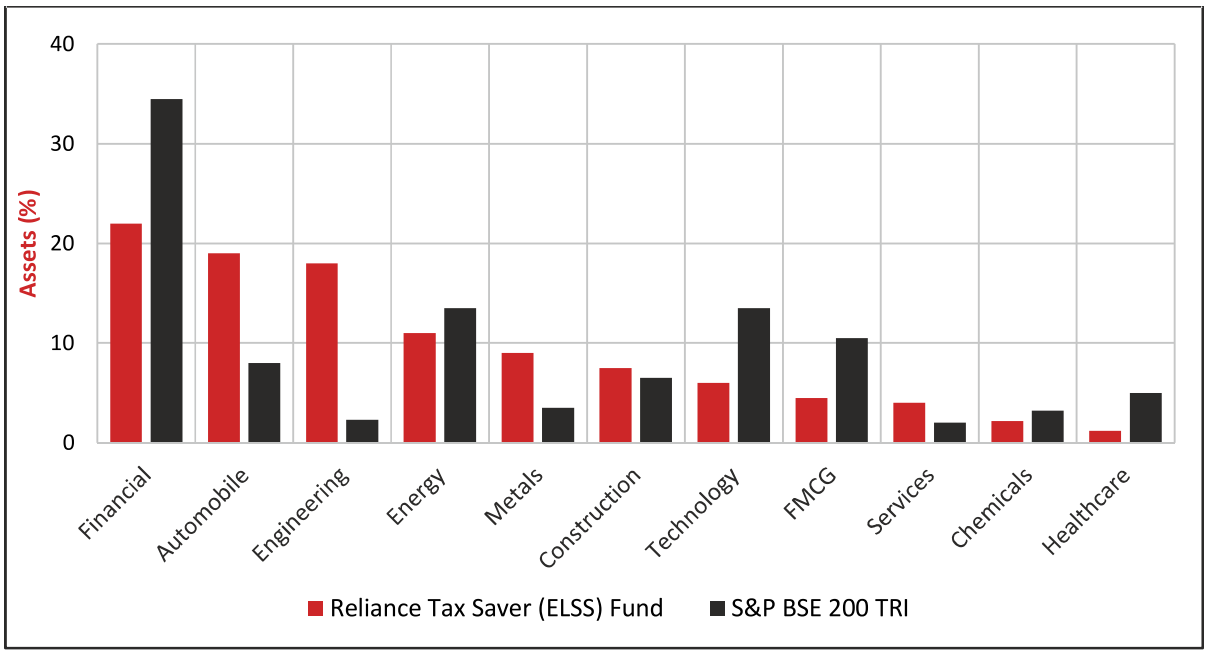


*Fig 2.4: Sector Allocation of Reliance Tax Saver (ELSS) Fund*

***3) DSP TAX SAVER FUND***

TABLE 3.1 Statistical parameters of DSP Tax Saver Fund

| Face Value (₹/ Unit) | 10.00 |
|---|---|
| NAV (₹/ Unit) * | 47.544 |
| Total Assets (₹ crore)** | 4,470 |

**As on Mar21, 2019, **As on Feb 28, 2019*

TABLE 3.2 Average Returns over different time periods of DSP Tax Saver Fund

| Avg Return (in %) | 1-Year | 3-Years | 5-Years |
|---|---|---|---|
| DSP Tax Saver Fund | 6.91 % | 15.97 % | 18.18 % |

DSP Tax Saver Fund possesses the lowest total assets i.e. ₹4,470 crore among all other mutual fund schemes. However, appreciable average returns with performance trends similar to market trends can be observed in Table 3.2 and Figs 3.1, 3.2 and 3.3 making it highly sensitive to market changes. A drastic downfall was observed during the month of November 2018 which significantly affected the performance of the scheme. NAVs changed from ₹10.00 to ₹47.544.

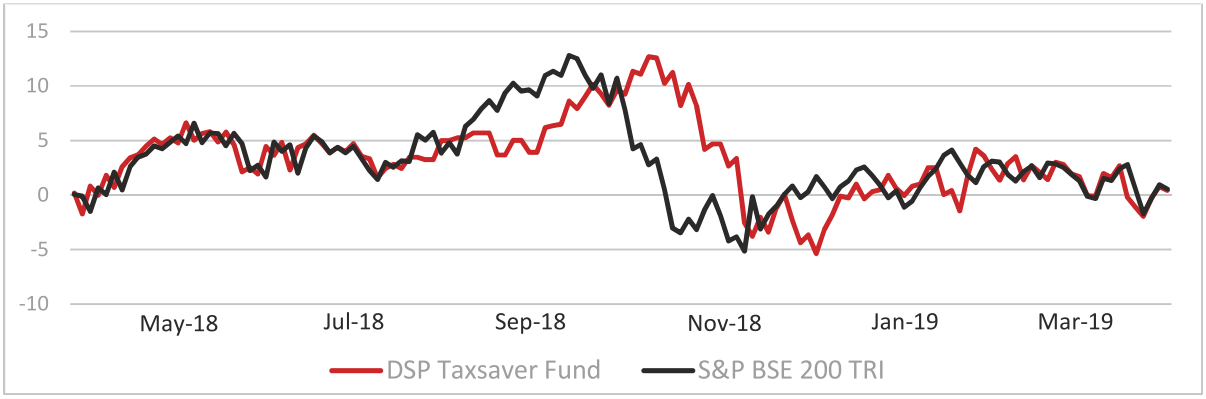


*Fig 3.1: 1-Year performance of DSP Tax Saver Fund*

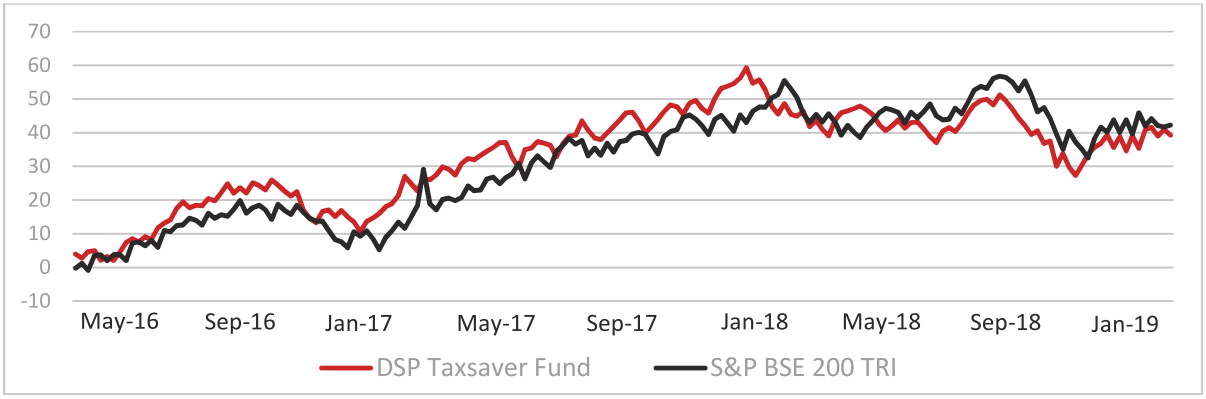


*Fig 3.2: 3-Year performance of DSP Tax Saver Fund*

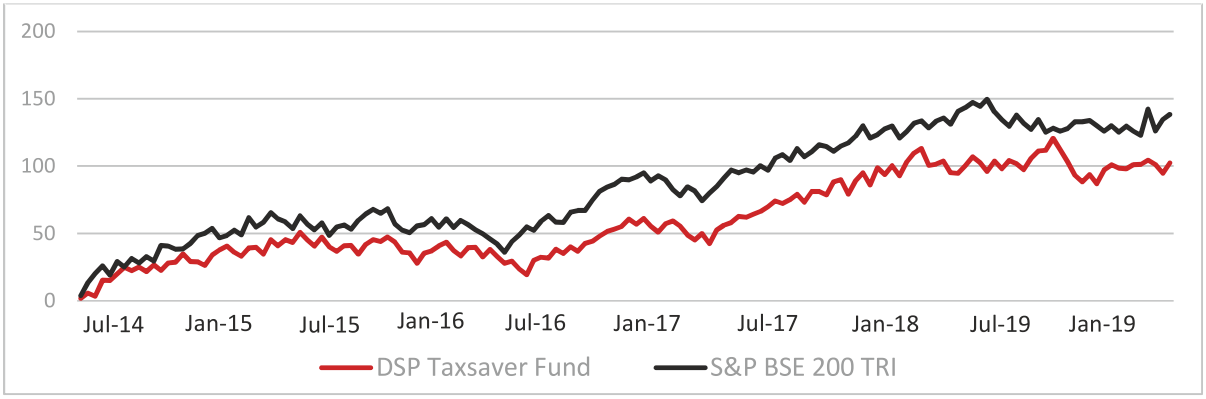


*Fig 3.3: 5-Year performance of DSP Tax Saver Fund*

TABLE 3.3 Top 10 holdings of DSP Tax Saver Fund

| Company | Sector | % Assets |
|---|---|---|
| ICICI Bank | Financial | 8.90 |
| HDFC Bank | Financial | 8.06 |
| Axis Bank | Financial | 4.34 |
| Infosys | Technology | 3.88 |
| Larsen & Toubro | Construction | 3.34 |
| State Bank of India | Financial | 2.84 |
| Kotak Mahindra Bank | Financial | 2.80 |
| Asian Paints | Chemicals | 2.60 |
| HCL Technologies | Technology | 2.47 |
| Aurobindo Pharma | Healthcare | 2.32 |

About 38% of total funds were allocated to financial companies, more than the benchmark (S&P BSE 500 TRI) which allocates 32%. The top three holdings include ICICI Bank, HDFC Bank, Axis Bank with percentage assets as 8.90%, 8.06%, 4.3% respectively and five out of ten top allocations belong to financial institutions. Similarly, like Axis Long Term Equity Fund, it has a strong correlation to its benchmark when the allocation of AUM is taken into consideration.

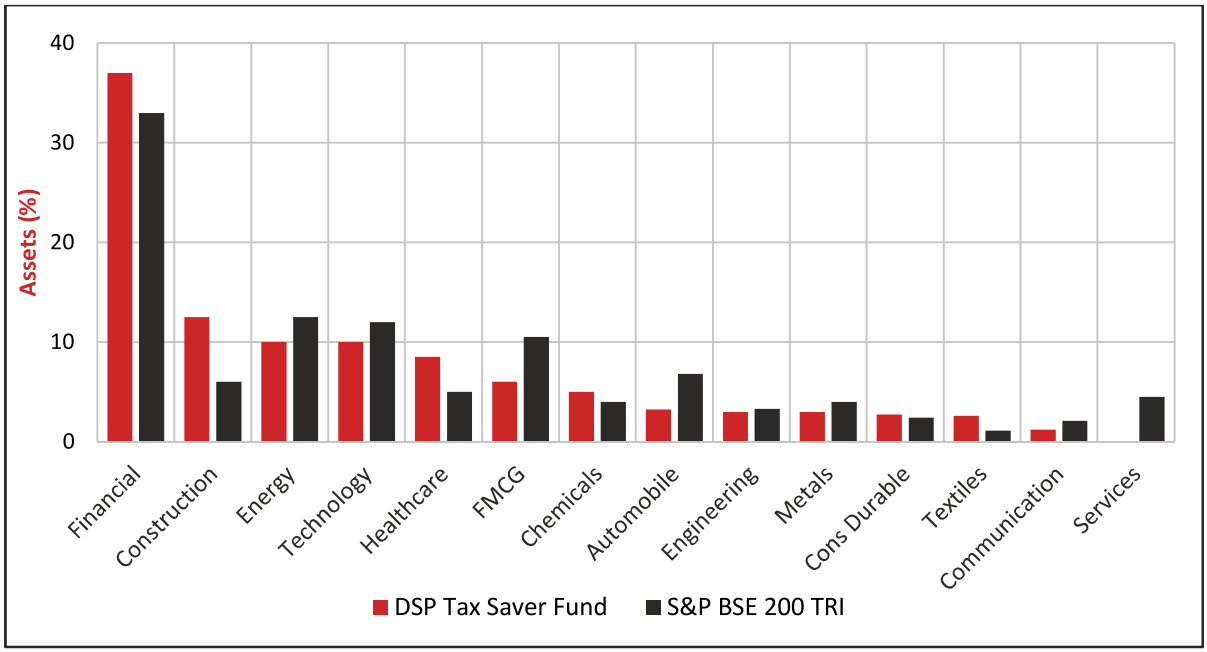


*Fig 3.4: Sector Allocation of DSP Tax Saver Fund*

### *4) ICICI PRUDENTIAL LONG TERM EQUITY FUND*

TABLE 4.1 Statistical parameters of ICICI Prudential Long Term Equity Fund

| Face Value (₹/ Unit) | 10.00 |
|---|---|
| NAV (₹/ Unit) * | 372.39 |
| Total Assets (₹ crore)** | 5,614 |

**As on Mar21, 2019, **As on Feb 28, 2019*

TABLE 4.2 Average Returns over different time periods of ICICI Prudential Long Term Equity Fund

| Avg Return (in %) | 1-Year | 3-Years | 5-Years |
|---|---|---|---|
| ICICI PRUDENTIAL LONG TERM EQUITY FUND | 8.10 % | 13.82 % | 15.70 % |

Constant moderate to high average returns were witnessed during the span of five years (Figs 4.1, 4.2 and 4.3). However, NAVs saw an incremental growth to ₹ 372.39, the highest among others. ICICI Prudential Long Term Equity closely correlates to market trends, making it more volatile to market fluctuations.

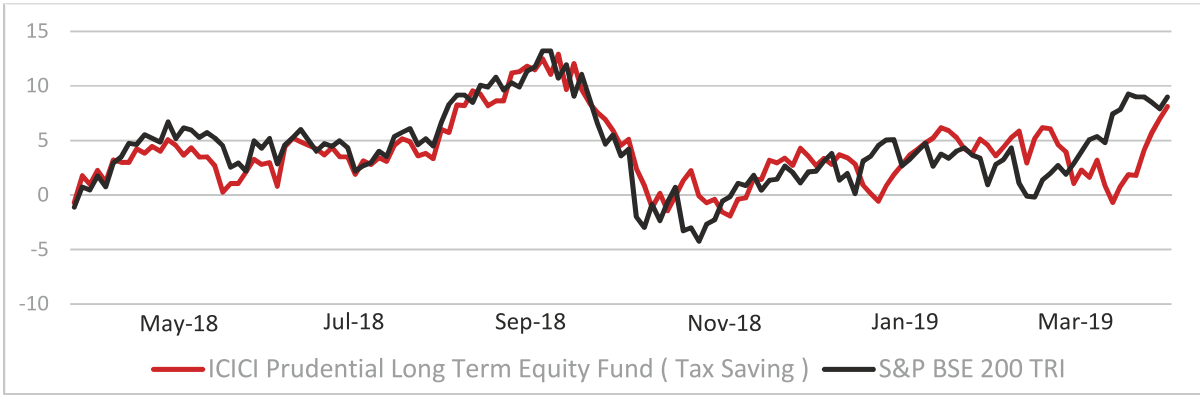


*Fig 4.1: 1-Year performance of ICICI Prudential Long Term Equity Fund*

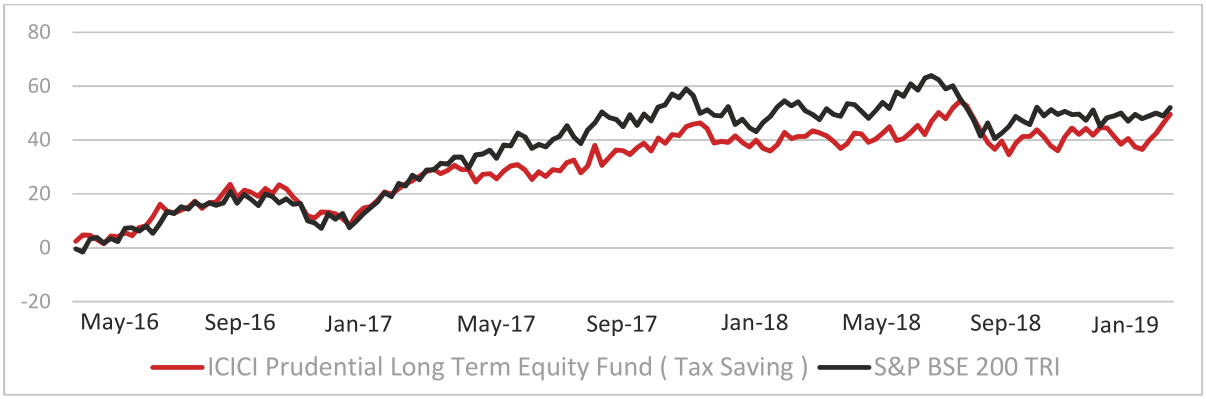


*Fig 4.2: 3-Year performance of ICICI Prudential Long Term Equity Fund*

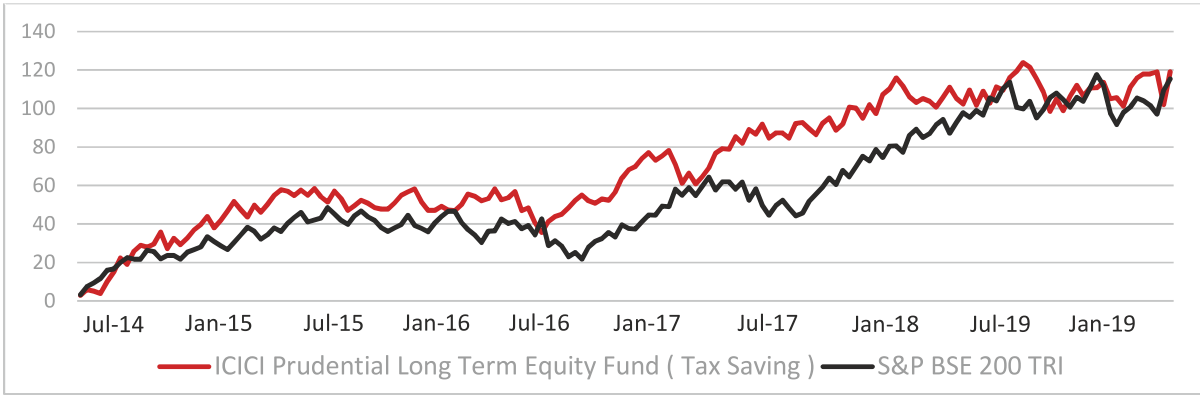


*Fig 4.3: 5-Year performance of ICICI Prudential Long Term Equity Fund*

TABLE 4.3 Top 10 holdings of ICICI Prudential Long Term Equity Fund

| Company | Sector | % Assets |
|---|---|---|
| ITC | FMCG | 6.80 |
| NTPC | Energy | 5.15 |
| Bharti Airtel | Communication | 4.67 |
| ONGC | Energy | 4.53 |
| HDFC Bank | Financial | 4.01 |
| Infosys | Technology | 4.00 |
| ICICI Bank | Financial | 3.85 |
| Larsen & Toubro | Construction | 3.55 |
| Hindalco Inds. | Metals | 3.49 |
| State Bank of India | Financial | 3.31 |

The top two sectors are the financial sector and energy sector sharing 25% and 15% of total assets respectively. Investment in the energy sector makes this fund the most future-oriented scheme as justified by soaring statistics of the last 1 year (8.10%). A greater amount of diversity can be observed in the portfolio of ICICI Prudential Long Term Equity Fund which provides a strong stable base for constant returns during the course of recessions.

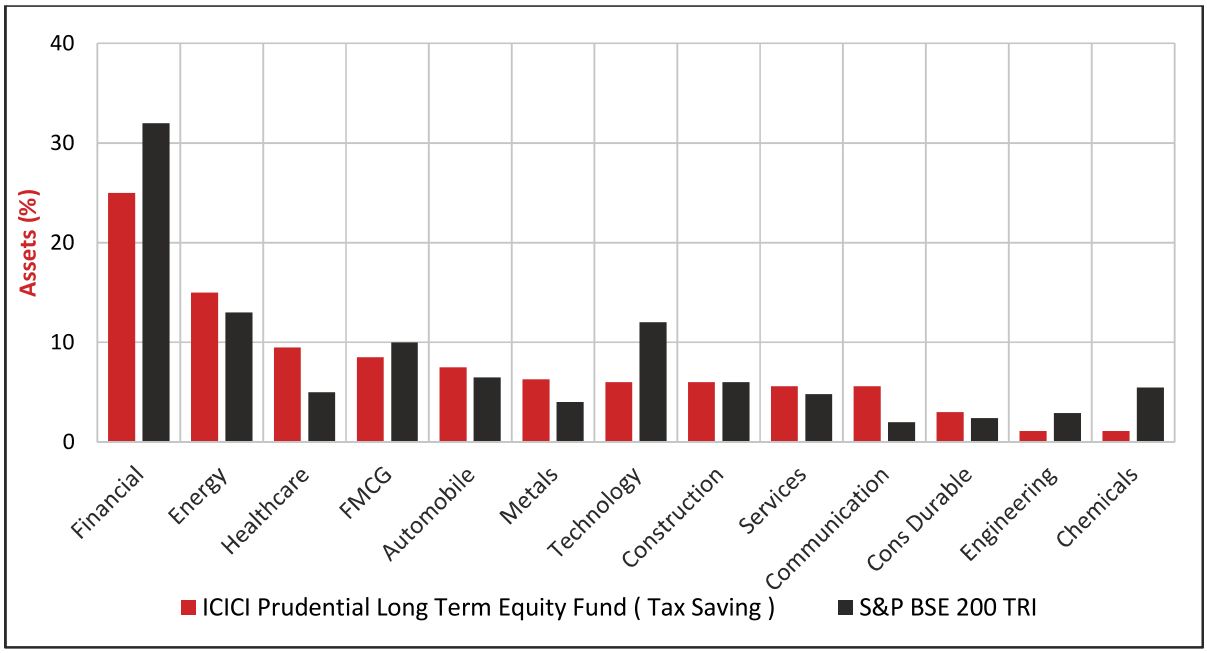


*Fig 4.4: Sector Allocation of ICICI Prudential Long Term Equity Fund*

### *5) SBI MAGNUM TAXGAIN SCHEME*

TABLE 5.1 Statistical parameters of SBI Magnum Taxgain Scheme

| Face Value (₹/ Unit) | 10.00 |
|---|---|
| NAV (₹/ Unit) * | 143.0505 |
| Total Assets (₹ crore)** | 6,532 |

**As on Mar21, 2019, **As on Feb 28, 2019*

TABLE 5.2 Average Returns over different time periods of SBI Magnum Taxgain Scheme

| Avg Return (in %) | 1-Year | 3-Years | 5-Years |
|---|---|---|---|
| SBI MAGNUM TAXGAIN SCHEME | 4.01 % | 11.66 % | 13.75 % |

SBI Magnum Taxgain Scheme reflects almost a constant and slow rate of return. It had a return rate of 4.01% for the past 1 year and has performed well in the last 3 and 5 years, following the market trend with 11.66% and 13.75% as the average rate of return respectively. Figures 5.1 and 5.2 indicate that SBI Magnum Taxgain Scheme has been under-performing when compared with the benchmark S&P BSE TRI.

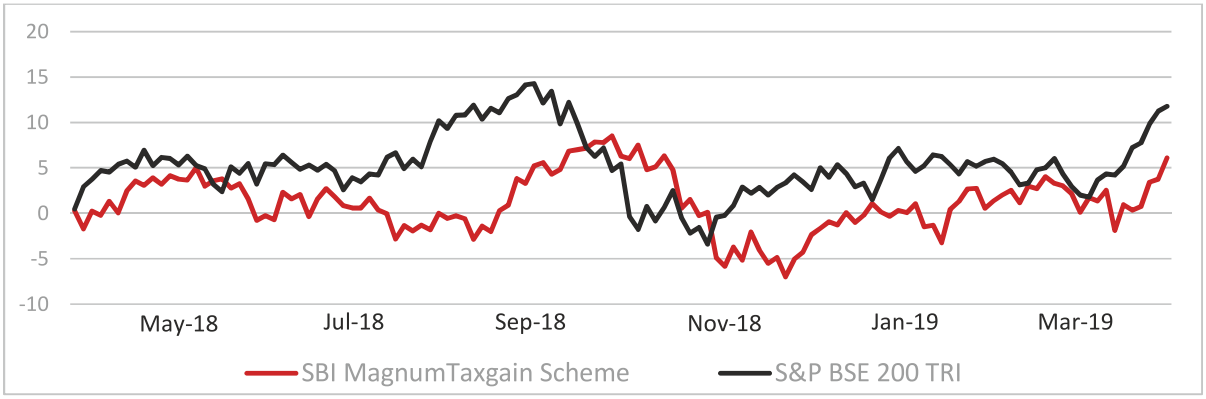


*Fig 5.1: 1-Year performance of SBI Magnum Taxgain Scheme*

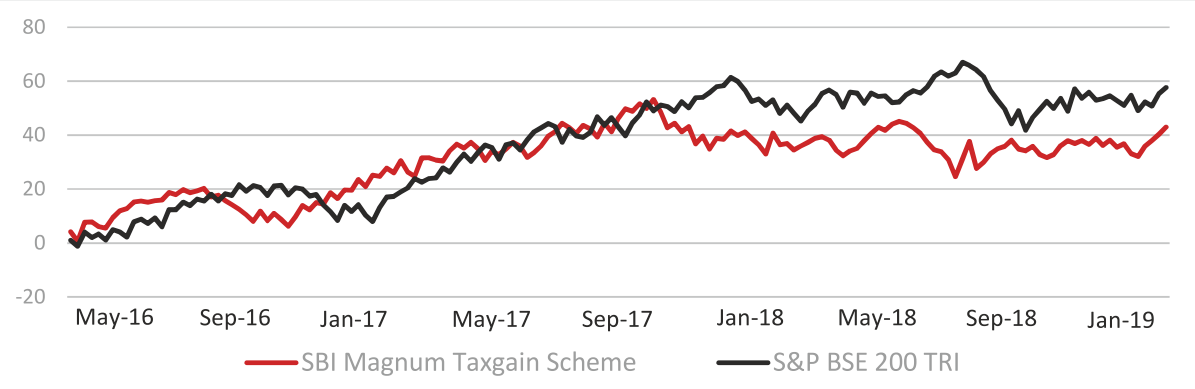


*Fig 5.2: 3-Year performance of SBI Magnum Taxgain Scheme*

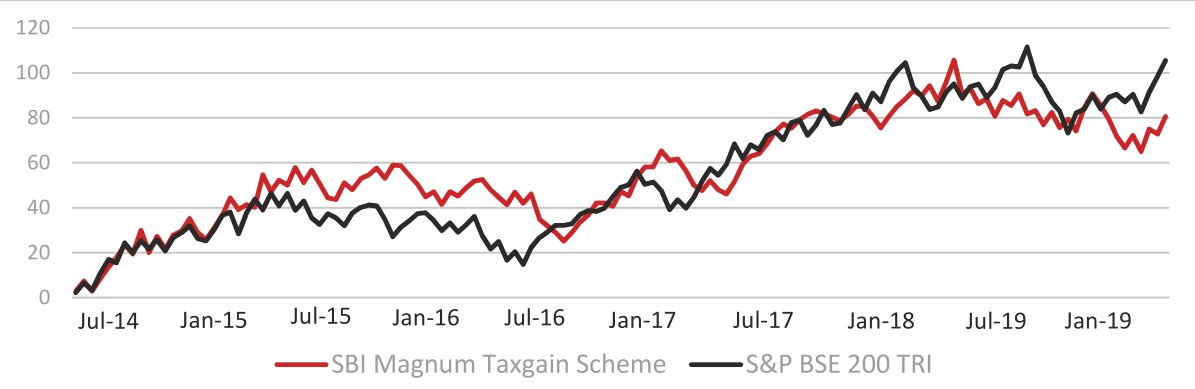


*Fig 5.3: 5-Year performance of SBI Magnum Taxgain Scheme*

TABLE 5.3 Top 10 holdings of SBI Magnum Taxgain Scheme

| Company | Sector | % Assets |
|---|---|---|
| ICICI Bank | Financial | 5.51 |
| Infosys | Technology | 5.28 |
| HDFC Bank | Financial | 4.53 |
| ITC | FMCG | 4.40 |
| Reliance Industries | Energy | 4.14 |
| Axis Bank | Financial | 3.65 |
| State Bank of India | Financial | 3.32 |
| Larsen & Toubro | Construction | 3.15 |
| Ambuja Cements | Construction | 3.06 |
| HDFC | Financial | 2.59 |

SBI Magnum Taxgain Scheme has invested 27% of its portfolio in the financial sector followed by the FMCG sector. It's the only mutual fund scheme in the comparison set with FMCG sector as the second largest investment and has invested more than the expected standard by S&P BSE 500 TRI.

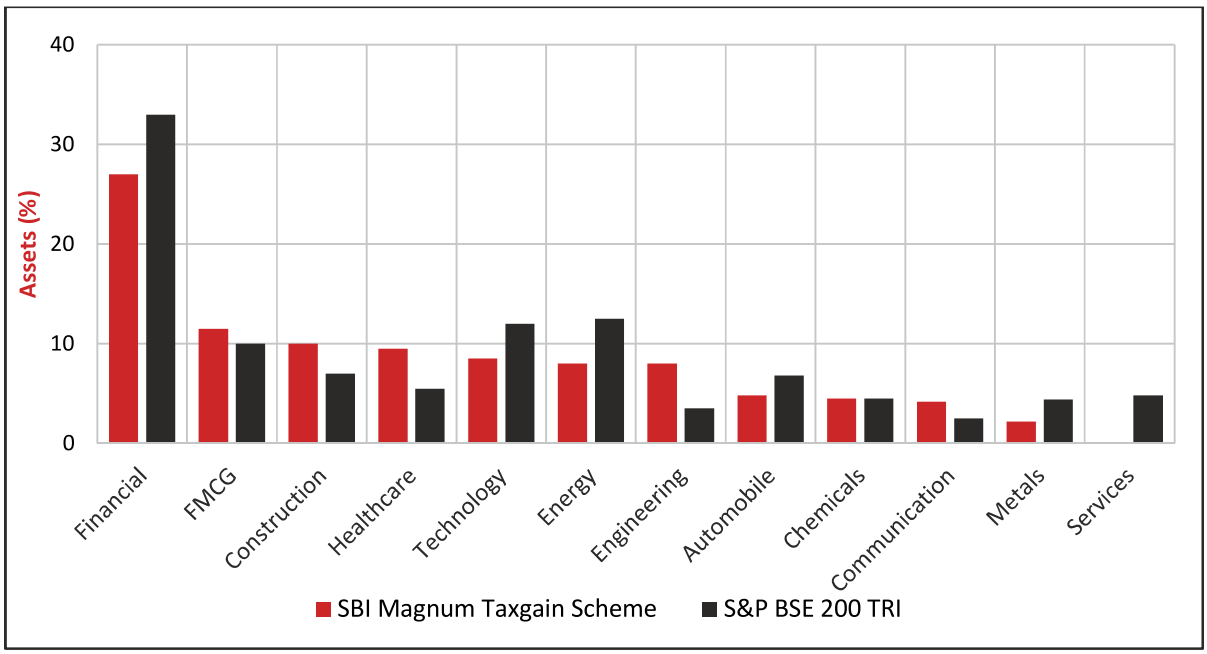


*Fig 5.4: Sector Allocation of SBI Magnum Taxgain Scheme*

**B) On the basis of Standard Deviation, Coefficient of Determination, Sharpe Ratio, Treynor's Performance Index, Asset Allocation and Portfolio Aggregates.**

TABLE B.1
**Standard Deviation of schemes under study**

| Scheme | 3-Years | 5-Years |
|---|---|---|
| Axis Long Term Equity Fund | 13.82 | 14.04 |
| Reliance Tax Saver (ELSS) Fund | 17.09 | 20.09 |
| DSP Tax Saver Fund | 15.02 | 15.40 |
| ICICI Prudential Long Term Equity Fund | 11.95 | 14.13 |
| SBI Magnum Taxgain Scheme | 13.63 | 14.46 |

Table B.1 presents standard deviation. As standard deviation represents the volatility of a scheme, the increasing trend indicates that the schemes are highly sensitive to market and economic fluctuations. This trend can be seen in all the above mutual fund schemes, hence the listed schemes are more prone to market fluctuations thereby making it an untenable investment for a capitalist to invest upon. Generally, mutual funds are risk diversified; however, it is observed that market risk of mutual funds goes along with the stock market index. Reliance Tax Saver Fund i.e. 20.09 (5-Years) showed the highest standard deviation and volatility which can be due to the recent drop in average returns, making it the most deviating fund from standard performance based on its historical performance. On the other hand, ICICI Prudential Long Equity Fund (Tax Saving) with a standard deviation of 13.82 is the most reliable and stable option amongst all. Medium volatility is shown among other ELSS mutual funds.

TABLE B.2
**Coefficient of Determination ($R^2$) of funds under study**

| Scheme | 3-Years | 5-Years |
|---|---|---|
| Axis Long Term Equity Fund | 84.34 | 83.30 |
| Reliance Tax Saver Fund | 82.93 | 80.65 |
| DSP Tax Saver Fund | 92.08 | 91.14 |
| ICICI Prudential Long Term Equity Fund | 83.11 | 85.53 |
| SBI Magnum Taxgain Scheme | 94.11 | 93. 23 |

The highest values 92.08 and 94.11 of Reliance Tax Saver Fund and SBI Magnum Taxgain Scheme respectively illustrate that they are highly sensitive to benchmark returns and closely correlate to the index. As per Morningstar, a mutual fund with $R^2$ between 85 and 100 has performance record similar to the market. A fund with less than 70 typically does not perform as per market fluctuations. Table B.2 indicates that all the ELSS funds strongly correlate to the market movements making them highly volatile during periods of recession.

TABLE B.3
**The Sharpe Ratio of the funds under study**

| Scheme | 3-Years | 5-Years |
|---|---|---|
| Axis Long Term Equity Fund | 0.85 | 1.01 |
| Reliance Tax Saver Fund | 0.49 | 0.62 |
| DSP Tax Saver Fund | 0.88 | 0.85 |
| ICICI Prudential Long Term Equity Fund | 0.89 | 0.82 |
| SBI Magnum Taxgain Scheme | 0.68 | 0.62 |

The Sharpe ratio advises investors whether the investment returns are a result of excess risk or due to clever and prudent investment decisions. It's a reliable measure of risk for large, diversified and liquid investments. Greater a scheme's Sharpe ratio, better is its risk-adjusted-performance. This ratio explains the relationship between the portfolio's excess return and the risk-free return and standard deviation of excess returns. A low and negative Sharpe ratio indicates an unfavourable performance. Similarly, a sharp and positive Sharpe ratio depicts a high-risk oriented performance of the scheme. Commonly, if Sharpe ratio is superior to the benchmark comparison (Government 10Yr Bond), the fund is known to attain exceptional performances in defiance over the market trends and fluctuations, and vice-versa. The results of the Sharpe ratio have been presented in Table B.3. Top performers in terms of Sharpe ratio were ICICI Prudential Long Term Equity Fund, DSP Tax Saver Fund and Axis Long Term Equity Fund.

TABLE B.5
**Treynor's Performance Index of all schemes under study**

| Scheme | 3-Years | 5-Years |
|---|---|---|
| Axis Long Term Equity Fund | 7.66 | 8.39 |
| Reliance Tax Saver Fund | 2.51 | 4.34 |
| DSP Tax Saver Fund | 6.35 | 7.22 |
| ICICI Prudential Long Term Equity Fund | 8.06 | 8.26 |
| SBI Magnum Taxgain Scheme | 5.82 | 7.85 |

Treynor Index estimates the risk-adjusted balanced execution of an investment portfolio by investigating a portfolio's returns for every unit of risk. Higher the Treynor Index, more prominent returns will be reflected by the portfolio. Similarly, higher Treynor's ratio suggests better performance of the scheme. Table B.5 indicates the top performers in terms of Treynor's index - ICICI Prudential Long Term Equity Fund and Axis Long Term Equity Fund. On the other hand, Reliance Tax Saver Fund is the lowest among all making it the worst and unreliable performer.

TABLE B.7
**Portfolio Aggregates of all schemes under study**

| Scheme | Giant | Large | Mid | Small |
|---|---|---|---|---|
| Axis Long Term Equity Fund | 53.88 % | 15.80 % | 28.88 % | 1.44 % |
| Reliance Tax Saver Fund | 35.75 % | 19.92 % | 27.96 % | 16.37 % |
| DSP Tax Saver Fund | 55.82 % | 17.58 % | 19.93 % | 7.07 % |
| ICICI Prudential Long-Term Equity Fund | 57.57 % | 15.51 % | 19.62 % | 7.30 % |
| SBI Magnum Taxgain Scheme | 48.25 % | 22.29 % | 17.89 % | 11.57 % |

Table B.7 shows percentages of total assets allocated to different market caps i.e. giant-cap, large-cap, mid-cap, and small-cap. All the above-listed schemes prefer to invest their assets in giant cap companies. The second and third preferences are large caps and mid caps respectively. Thereafter comes small cap companies, which constitutes the lowest amount of investment in all schemes. Since giant and large cap stocks are stable, most investors prefer these schemes. But investing in these market caps results in a low rate of return, but the least possibility of losses. While mid and small cap stocks have the potential to give a high rate of return, there is a high risk of loss too. This makes investors think twice before investing. Thus, we can conclude that the main source of returns in any scheme comes from giant cap stocks. Although they have a low rate of return, they also have a low-risk factor.

## Summary of Findings

The study has illustrated numerous equity diversified Equity Linked Mutual Fund (ELSS) funds. The summary of the data and findings obtained were presented through the use of various charts and tables. This examination gives a few insights into mutual fund investments in order to help investors take suitable investment decisions. The study used benchmark indices, for example, BSE 200 TRI and Sensex for all diversified equity schemes. The performance of the schemes in the selected set has

been assessed in terms of risk and returns, and includes various risk-adjusted performance measures such as Treynor's Ratio. The following conclusions were arrived at:

1. Performance in terms of average risk suggests that all schemes closely correlate to market variations and fluctuations making them highly volatile. 80% of diversified schemes show superior returns.
2. In terms of top allocations, all the schemes in the selected set invested in the financial sector as their first priority, with an average asset allocation of 30%.
3. All the funds showed a positive beta ratio of less than one indicating a diversified portfolio with lesser risk than the market.
4. All schemes in the selected set had a coefficient of determination ($R^2$) near 100 which signifies high diversification of the portfolio. This results in better performance during recessions. Table B.2 reveals SBI Magnum Taxgain Scheme to be superior with a 5-year average of 93.23
5. Four out of five mutual fund schemes have shown exceptional performance when compared in terms of Treynor's Ratio and Sharpe Ratio, with ICICI Prudential Long-Term Equity Fund representing the highest amongst all.
6. An average of 50.25% of total assets were allocated to giant cap stocks, which can be largely due to its stable performance and steady dividend payouts.
7. 60% of the schemes in the selected set were less risky than the overall market when using standard deviation as a measure.

## Limitations of the Study

1. The sample is restricted to a pool of 5 Equity Linked Saving Schemes (ELSS) of mutual funds and is confined to only 5 years of data.
2. The effect of inflation resulting in the recent recession has been considered in a recent study.
3. The result of the analysis is subject to the same constraints as are applicable to measuring statistical tools.
4. Analysis of this study is based on historical data, which has its own limitations.
5. Important financial explanatory variables taken into account are extracted from the most reliable and genuine data pool for arriving at a logical conclusion.
6. As the ELSS mutual fund category was specifically taken into consideration, it is hard to predict and analyse the overall scenario of the mutual fund industry in India.

## Scope for Further Study

This study covered only the top 5 ELSS funds and their performance over a span of 5 years. This analysis can be further expanded to include more ELSS funds and a longer time period. The research can also be expanded into diversified mutual fund categories and comparing results to pick out differences. Inclusion of interest rate risk, business risk, political risk and foreign exchange risk can create opportunities for further improvement. Increasing the use of additional performance ratios and varied comparing methods can facilitate further development.

## Contributions of the Study

The research acts as a guiding tool for investors, managers and other stakeholders particularly in India, enabling them to discover unknown facts and benefits of investing in Linked Saving Schemes (ELSS) of mutual funds. Foreign portfolio investors can use Indian mutual funds to assess current market conditions, which can encourage them to invest in the Indian capital markets. Credit rating companies like CRISIL, CARE, ICRA can restructure their credit rating policies to rate mutual funds schemes with greater transparency and credibility. General awareness amongst retail investors can be increased. These findings are of significance for Asset Management Companies (AMCs) in their product positioning and building promotional strategies. Market regulator SEBI and the Association of Mutual Funds in India (AMFI) can use it to improve the product offering and expand the reach of mutual funds. Government and Ministry of Finance can use these findings for tweaking tax laws so as to promote the culture of investments.

## Conclusion and Recommendations

Analysis of the data reveals that ELSS schemes have offered attractive returns over the period of analysis making them an attractive investment option for investors. Investors have recognized this as is evident from the current AUM of this category of funds at Rs. 22.24 lakh crore.

Moreover, the tax benefit available by investing in ELSS, which reduces taxable income to the extent of ₹ 150,000 per financial year, makes this investment product even more attractive. The research findings suggest a few ideas and the importance of the

mutual fund industry in our economy. The findings of the research could create business opportunities for many sub-functions involved in the functioning of ELSS mutual funds such as portfolio management service providers, stand-alone fund managers, professional training institutions and candidates willing to adopt this as a career option. We also recommend to the firms involved in daily monitoring of these funds to properly allocate their assets, changing it whenever necessary to get the best possible outcome. Teaching and creating awareness about the advantages of long term investing and tax saving advantages from ELSS specifically will build a significant niche operating segment. AMCs and AMFI could expand the centre around this through their instructive seminars and activities. Further, other tax-paying family members must be encouraged to consider investing in these funds. The government can consider restructuring Section 80C of Income Tax Act, 1961 to encourage more positive involvement of the general public.

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