INTRODUCTION

The sustained economic development of an economy depends on capital formation and its allocation. Capital formation arises out of the investment of savings. Such allocation of savings can either be into risky assets or riskless assets. The investment into risky assets, provides what is termed as risk capital. Risk capital also known as equity capital, is a major and important source of finance for organised businesses. Mutual funds are one of the important means of pooling small amount of savings from a large number of people and investing them into diversified pool of assets with varying degrees of risk. More particularly, equity mutual funds is a good source of accumulating large amounts of risk capital. In order to encourage and incentivise small investors to invest into equity mutual funds, the Government of India in the year 1992 introduced the Equity Linked Savings Scheme (ELSS). ELSS is a type of diversified equity mutual fund which provides an income tax incentive to the investor for the investment made. The incentive currently is in the form of a deduction from income. U/s 80C of the Income Tax Act, up to an amount of Rs 150000, towards the investment made during the financial year. ELSS mutual funds as they provide a tax deduction, are subject to certain regulatory restrictions, which make them distinct from the regular diversified equity mutual funds.

The regulatory restrictions that make ELSS funds distinct from regular Diversified Equity funds are as follows:

1. The investment into ELSS funds are subject to a lock in period of 3 years, from the date of investment. In other words, investors cannot redeem, transfer or pledge the units for 3 years. Investment into regular diversified equity funds do not attract any lock in period.
2. The ELSS fund’s investment into equity and equity related securities should be a minimum of 80% of the assets under management. On the other hand, regular equity funds into order to qualify as equity funds (for tax benefits relating to dividend and capital gains), are required to invest a minimum of 65% of the assets under management into equity and equity related securities.

The above two regulatory restrictions, one from the point of view of the investor and other from the point of view of the investment manager, apparently makes investment into ELSS funds more risky for the investor as compared to other diversified equity funds.
Investment Performance of Equity Linked Savings Schemes (ELSS) plans.

Carlson (1965) in his study provided a measure to rate the performance of investment managers using volatility of funds return. This measure is popularly known as Treynor’s Index or Returns to Volatility Ratio. Sharpe (1966) in his study provided an alternative model of rating performance known as Returns to Variability Ratio or Sharpe Ratio. The alternate model was also empirically tested in this study. Jensen (1968), provided an absolute measure of performance and applied it on 115 open ended mutual funds for the period 1945 to 1964. Carlson (1970) studied the performance of mutual funds for the period 1948-1967 and brought out a linear risk return relationship. Chang & Lewellen (1984) empirically tested the presence of market timing and security selection skills in managed portfolios and concluded that mutual funds have been unable to outperform a passive investment strategy. Grinblatt & Titman (1991) empirically examined how different evaluation measures provided different evaluations of performance. Sortino & van der Meer (1991) suggested the use of downside deviation as a measure of risk in certain investment situations. Howe & Pope (1993) examined the risk, return and diversification of specialty mutual funds as compared to traditional mutual funds. Sortino & Price (1994) developed the Sortino Ratio for performance evaluation, considering semi deviation as a measure of down risk. Wermer (2000) decomposed the performance of mutual funds from 1975 to 1994 in terms of returns and costs into several components to analyze the value of active fund management.


Problem Statement

Investors have a number of investment choices to choose from U/s 80 C of the Income Tax Act with varying degrees of risk of which ELSS apparently has the highest element of risk. Investors would choose ELSS funds as an investment option only if its risk adjusted returns are better as compared to other investments of similar category. As ELSS funds are a type of diversified equity funds, a comparison is directly to be made with other regular diversified equity funds and the market benchmark indexes. So it becomes pertinent to know whether ELSS funds provide a higher risk adjusted return as compared to other diversified equity funds and benchmark indexes?

Objectives

The objectives of the study are as follows:

1. To evaluate and compare the risk adjusted investment performance of ELSS (Growth) plans with Other Diversified Equity (Growth) plans.
2. To evaluate and compare the risk adjusted investment performance of ELSS (Growth) plans with Benchmark Indexes.

Hypothesis

The Alternate Hypothesis for the Study is

\[ H_1 = \text{The risk adjusted return performance determined by the Sharpe Ratio of Equity Linked Savings Schemes is higher than the Diversified Equity Schemes.} \]

\[ H_2 = \text{The risk adjusted return performance determined by the Sharpe Ratio of Equity Linked Savings Schemes is higher than the Benchmark Indexes.} \]

\[ H_3 = \text{The risk adjusted return performance determined by the Sortino’s Ratio of Equity Linked Savings Schemes is higher than the Diversified Equity Schemes.} \]

\[ H_4 = \text{The risk adjusted return performance determined by the Sortino’s Ratio of Equity Linked Savings Schemes is higher than the Benchmark Indexes.} \]

Limitations of the Study

As the objective of the study is to analyze the investment performance of the fund, only Growth option plans are considered. The performance evaluation is based on the Net Asset Value (NAV) of the fund units and therefore does not consider the costs if any, incurred by the investor in the form of entry and exit loads and income tax on the gains.

RESEARCH METHODOLOGY

This analytical study is based on secondary data collected from mutual fund websites, mutual fund data providers and stock
exchange websites. The data pertains to a 13 year period from 1st April 2000 to 31st March 2013.

For the purpose of the study, 43 ELSS funds, which represent the population of ELSS funds (Growth) plans, with a minimum track record of 3 years are considered. To evaluate and compare the performance, a sample of 12 Diversified Equity funds (Growth) plans are considered. The sample selection is based on the highest assets under management (AUM) as on 31st March 2013 and a minimum 3 year track record. The ELSS funds performance is also evaluated against 7 market indexes, which are set as benchmarks by ELSS funds. The list of ELSS funds and Diversified Funds along with their benchmarks are provided in Table 1.

Table 1 - list of ELSS and Diversified Funds

<table>
<thead>
<tr>
<th>No</th>
<th>Fund Name</th>
<th>Type</th>
<th>Date opened</th>
<th>Benchmark</th>
<th>Portfolio Manager</th>
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<tr>
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<td>15.02.2007</td>
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<td>Pranav Gokhale</td>
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<td>6</td>
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Performance is evaluated based on risk adjusted measures of performance consisting of Sharpe Ratio and Sortino Ratio. Sharpe Ratio is one of the very widely used measures of risk adjusted performance. It is also known as the Reward to Variability Ratio. It provides us with the reward in the form of risk premium generated by a fund for undertaking a unit of total risk (Standard Deviation). It considers variability in returns as a measure of risk which includes deviations above and below the mean. Higher the Sharpe Ratio, better is the risk adjusted performance of the fund.

$$\text{Sharpe Ratio} = \frac{Rp - Rf}{\sigma_p}$$

$$Rp = \text{Returns of the Portfolio, } \quad Rf = \text{Risk Free Rate of Return}$$

$$\sigma_p = \text{Standard Deviation of the Portfolio Returns}$$

The other risk adjusted measure of performance used for analysis is the Sortino Ratio. It can be considered as Reward to deposit rates of 3 to 5 years maturity, offered by the five major banks in India, for years 2000-01 to 2012-13. Hypothesis for the study is tested using One Tailed Z test for two independent samples at 5% level of significance.

Analysis and Findings

The computation of Sharpe Ratio of quarterly returns (Table 2) show that the ELSS funds on an average lost .03 paise for every unit of total risk undertaken when compared with a gain of .07 for Benchmark Indexes and a gain of .18 for Diversified Funds. The average absolute outperformance of ELSS funds based on Sharpe Ratio is -0.01 when compared with Benchmark Indexes (Table 3) and -0.10 with Diversified Equity Funds (Table 4). On an average, only 35% of the ELSS funds could outperform Diversified Funds and 56% of ELSS funds outperformed the Benchmark Indexes, by providing a higher risk adjusted return for a unit of total risk undertaken (Table 8).
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The table below presents the absolute outperformance of ELSS funds against diversified funds based on quarterly average Sharpe ratio. The Sharpe ratio is a measure of risk-adjusted return, calculated as the difference between the return of the investment and the risk-free rate, divided by the standard deviation of returns. A higher Sharpe ratio indicates a better risk-adjusted performance.

### Table 4: Absolute Outperformance ELSS Funds vs. against Diversified Funds based on Quarterly Average Sharpe Ratio

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<td>Religare Agile</td>
<td>1.53</td>
<td>1.46</td>
<td>-3.48</td>
<td>0.39</td>
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<td></td>
<td>Franklin India Tax Sheild</td>
<td>0.01</td>
<td>0.02</td>
<td>0.03</td>
<td>0.04</td>
<td>0.05</td>
<td>0.06</td>
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### Table 5: Sharpe Ratio based on Quarterly Average Returns

<table>
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<tr>
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<tbody>
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<td>1</td>
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<td>0.60</td>
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<td>Birls Sunlife Tax Plan</td>
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<td>0.16</td>
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<td>0.15</td>
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<tr>
<td>5</td>
<td>IDFC Tax Saver</td>
<td>0.03</td>
<td>0.04</td>
<td>0.04</td>
<td>0.05</td>
<td>0.06</td>
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<td>0.07</td>
<td>0.07</td>
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<td>0.08</td>
<td>0.08</td>
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</tr>
<tr>
<td>6</td>
<td>Franklin India Tax Sheild</td>
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<td>0.02</td>
<td>0.03</td>
<td>0.04</td>
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<tr>
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<td>Religare Agile</td>
<td>1.53</td>
<td>1.46</td>
<td>-3.48</td>
<td>0.39</td>
<td>0.38</td>
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<td>0.32</td>
<td>0.31</td>
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</tr>
</tbody>
</table>

Note: The data is presented in a tabular format, with each row representing a different fund, and each column representing a different year. The average Sharpe ratio is calculated across the years.
Table 6: Absolute Outperformance of ELSS Funds as against Market Indexes based on Quarterly Average Sharpe Ratio

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Year</th>
<th>HDFC Long Term Equity</th>
<th>UTI ETSP</th>
<th>Franklin India Tax Shield</th>
<th>Religare Agile</th>
<th>Tata Tax Adv Fund I</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2000-01</td>
<td>-0.17</td>
<td>-0.50</td>
<td>0.03</td>
<td>-0.81</td>
<td>0.02</td>
<td>-0.35</td>
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<td>2</td>
<td>2001-02</td>
<td>-0.32</td>
<td>0.32</td>
<td>-0.16</td>
<td>0.04</td>
<td>0.12</td>
<td>0.02</td>
</tr>
<tr>
<td>3</td>
<td>2002-03</td>
<td>-0.16</td>
<td>0.50</td>
<td>0.13</td>
<td>-0.19</td>
<td>0.04</td>
<td>0.08</td>
</tr>
<tr>
<td>4</td>
<td>2003-04</td>
<td>-0.07</td>
<td>0.15</td>
<td>-0.25</td>
<td>0.02</td>
<td>0.12</td>
<td>0.08</td>
</tr>
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</table>

Table 7: Absolute Outperformance of ELSS Funds as against Market Indexes based on Quarterly Average Beta Ratio

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Year</th>
<th>HDFC Long Term Equity</th>
<th>UTI ETSP</th>
<th>Franklin India Tax Shield</th>
<th>Religare Agile</th>
<th>Tata Tax Adv Fund I</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2000-01</td>
<td>-0.17</td>
<td>-0.50</td>
<td>0.03</td>
<td>-0.81</td>
<td>0.02</td>
<td>-0.35</td>
</tr>
<tr>
<td>2</td>
<td>2001-02</td>
<td>-0.32</td>
<td>0.32</td>
<td>-0.16</td>
<td>0.04</td>
<td>0.12</td>
<td>0.02</td>
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<tr>
<td>3</td>
<td>2002-03</td>
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<td>0.50</td>
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<td>-0.19</td>
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<td>0.08</td>
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<tr>
<td>4</td>
<td>2003-04</td>
<td>-0.07</td>
<td>0.15</td>
<td>-0.25</td>
<td>0.02</td>
<td>0.12</td>
<td>0.08</td>
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</table>

Table 8: Outperformance Tabulation of ELSS Funds based on Sharpe Ratio

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</thead>
<tbody>
<tr>
<td>Number of ELSS Funds under Study</td>
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<td>8</td>
<td>8</td>
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<tr>
<td>Number of ELSS Funds</td>
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<td>3</td>
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<td>4</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>Outperforming Average Sortino Ratio of Diversified Funds</td>
<td>71%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
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<td>73%</td>
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<td>73%</td>
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</tr>
<tr>
<td>% of Funds Outperforming</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
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<td>71%</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
</tr>
</tbody>
</table>

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The Sortino Ratio computation (Table 5) also reveals a similar story as the Sharpe Ratio. For every unit of downside risk undertaken by the ELSS funds, there is a loss of .03. On the other hand, Benchmark Indexes have gained .06 and Diversified Equity Funds gained 0.26 for every unit of downside risk undertaken by them. The average absolute outperformance of ELSS funds based on Sortino Ratio is .01 when compared with Benchmark Indexes (Table 6) and 0 when compared with Benchmark Indexes. On an average, only 35% of the ELSS funds could outperform Diversified Funds and 54% of ELSS funds outperformed the Benchmark Indexes, by providing a higher risk adjusted return for a unit of downside risk undertaken (Table 9).

The Hypothesis of risk adjusted performance based on Sharpe and Sortino was tested using Z test. The results of the test is given below:

The Alternate Hypothesis H1, H2, H3 and H4 are all rejected showing that there is no outperformance of ELSS funds as against either Diversified Funds or Benchmark Indexes.

CONCLUSION

Mutual Funds are supposedly the best means of accumulating retail investments into equity markets. ELSS funds were introduced with the very purpose of encouraging retail participation in equity markets by providing them a tax incentive. However ELSS funds over more than 20 years of its existence has not been very popular with the retail investors as a tax saving investment option. One of the reasons for its non popularity could be its investment underperformance. This study with the data set considered, shows that ELSS funds, overall has underperformed both against sample Diversified Equity Funds and Benchmark Indexes on a risk adjusted basis. On an average, considering Sharpe Ratio, ELSS funds have underperformed 61% of the sample Diversified Funds and 45% of Benchmark Indexes. The underperformance of ELSS Funds considering Sortino Ratio is 64% as against Diversified Funds and 47% against Benchmark Indexes. The study also shows that there is inconsistency in performance of ELSS funds over time.

References


How to cite this article:

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