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Comparative Study of ELSS of Public Sector and Private Sector of Mutual Fund Industry in India

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Abstract:
Tax Saving Mutual Fund is one of the financial instruments in capital market, here the study is based upon the ELSS of public sector and private sector Mutual Funds, main purpose of the study is to compare the ELSS scheme of public sector and private sector and analyse the market timing abilities of fund managers of ELSS. Good and bad news affects price movement, that needs to identify how much market or bench mark provided return. The tax saving mutual fund industry grew at a rate of annual 67% during 2006 to 2015 while mutual fund industry grew at a rate of 50% annually. Here various tools are used for analysis of performance of tax saving scheme of mutual fund. Its' included Price Earnings Ratio, Book Price Ratio, Return and Net Asset value and Assets under Management. Further take to considering the performance index model. Sharpe performance evaluation model, model represents return on security with risk free return on investment and then take into considering the variance on security. Pricing earnings ratio, price book ratio researcher follow the model of F – test, T-test, test of one way classification of rows and columns. The model indicates rows variance from the average and columns variance from the average of the averages.

Keywords: *ELSS, Comparative, Market timing abilities*

1. Introduction

Tax Saving Mutual Fund is one of the financial instruments in capital market, here the study is based upon the ELSS of public sector and private sector Mutual Funds, main purpose of the study is to identify the elss scheme of company yielding the highest return and minimising the risk. Research need because of the capital market is unexpected volatility and some time reaction was positive and negative. Good and bad news affects price movement, that needs to identify how much market or bench mark provided return.the tax saving mutual fund industry grew at a rate of annual 67% during 2006 to 2015 while mutual fund industry grew at a rate of 50% annually.

1.1. Significance of Topic

- "Comparative study of ELSS of Public Sector and Private Sector of Mutual Fund Industry in India"

As per the review of past researches, number of articles and research paper's which highlight the performance of mutual fund industry. The mentioned work has been done regarding Costs in mutual funds, Investor's behavior and Performance of Mutual Funds; but the research work on ELSS is untouched till now except Nalini's article regarding the market timing abilities of Indian fund managers of thirty-one tax planning schemes in India over the period Dec 95 to Jan 2004 which indicates that the fund managers are not successful in reaping returns in excess in the market; which gives me the idea of conducting the research on topic chosen by me.
Here various tools are used for analysis of performance of tax saving scheme of mutual fund. Its' included Price Earnings Ratio, Book Price Ratio, Return and Net Asset value and Assets Under Management. Further take to considering the performance index model. Sharpe performance evaluation model, model represents return on security with risk free return on investment and then take into considering the variance on security. Jenson model represents same liked sharpe's model difference is that under these model beta considering for portfolio measurement. Treynors performance model indicates alpha from market return. Pricing earnings ratio, price book ratio researcher follow the model of F – test, T- test, test of one way classification of rows and columns. The model indicates rows variance from the average and columns variance from the average of the averages.

1.2. Title of the Problem

- "Comparative Study of ELSS of Public Sector and Private Sector of Mutual Fund Industry in India."

The research design is the conceptual framework within which researcher study is conducted and it construct the blue print for collection of data, measurement of data, statistical tools for analysis and analysis of variance. Research design included an outline of what the researcher will do from writing the hypothesis and its operational implication to the final analysis of data.
Fund managers of the assets management company also do the researcher to identify the market and would find period to buy, to hold and to sell the scrip. Fund managers having good researcher team who continuous analysis of economic market, fundamental analysis, efficient market and technical analysis of the particular index. Today researcher team should identify the international financial market and how international financial instruments value could identified. Financial crisis affect market total risk and total return, its indicate how to diversified the portfolio, how to totally remove the unsystematic risk.

2. Research Methodolgy

SAMPLING DESIGN:

1. Universe: The universe of the study consists of the all the assets management companies (AMC) for performance criteria and all the investors for questionnaire
2.Sampling Unit:Mutual Fund Company and Individual Investor from Service Class for Survey
3.Data Sources : Primary and secondary sources. It's included the investor response through filled questionnaire and secondary sources are websites of companies, journals, magazines, articles, books and the publisher and unpublished documents of the mutual funds have been consider in the research.
4.Research Design :Diagnostic and Exploratory
5.Sampling Technique:Deliberate Sampling and Quota Sampling
6.Data Collection:Non-disguised & Structured Questionnaire
7.Contact method: Personal interview
8.Statistical Tools:Co-relation, Chi Square test, f-test, Anova, standard deviation,beta,r square, Sharpe's ratio, Price earnings ratio, NAV , Treynor's Performance Index
9.Data Analysis : Ratios, Percentages, Graphs, Charts and spss
10.Sample Period: Sample study should take from period April 2006 to March 2012.
11.Sample Size: 100 individuals and 10 companies of mutual fund industry (5 companies of public sector and five companies of private sector)
SBI Magnum Tax Gain Fund
UTI Equity Tax Saving Fund
LIC Nomura Tax Plan Fund
Baroda Pioneer ELSS fund
Canara Robeco Equity Eax Saver fund
HDFC Tax Saver Fund and HDFC Long Term Advantage Fund
ICICI prudential Tax Plan fund
Birla Sun Life Tax Relief and Birla Sun Life Tax Plan Fund
Franklin India Tax Shield Fund
Reliance Tax Saver fund fund

2.1. Objective

The objectives of the study imposed which of the criteria researcher believed to require research.
1) To Evaluate the Growth Rate in ELSS (tax saving mutual funds) of Public and Private Sector and Indian Mutual Fund Industry
2) To Compare the Return of ELSS (tax saving mutual funds) of Public and Private Sector of Indian Mutual Fund Industry
3) To Observe the Risk Analysis of ELSS (tax saving mutual funds) of Public and Private Sector of Indian Mutual Fund Industry
4) To Study the Investor Preferences for ELSS (tax saving mutual funds)

2.2. Hypothesis

The broader hypothesis for the study would be as under.
1. H0 = there is no significant difference in growth rate of ELSS and mutual fund industry
   - H1 =there is significant difference in the growth rate of ELSS and Mutual fund Industry
2. H0= there is no significant difference in performance of ELSS of public and private sector
   - H1= there is significant difference in performance of ELSS of public and private sector
3. H0 = there is no significant difference between risk analysis of public and private sector ELSS mutual funds
   - H1 = there is significant difference between risk analysis of public and private sector ELSS mutual funds.
4. Ho: There is no significant difference in preferences of investor towards ELSS of public and private sector mutual fund
   - H1: There is significant difference in preferences of investor towards ELSS of public and private sector mutual fund.
5. Ho: There would be no significant difference in exploitation of market timing opportunities by the fund manager of ELSS (tax saving schemes of mutual fund).
   - H1: There would be significant difference in exploitation of market timing opportunities by the fund manager of ELSS (tax saving schemes of mutual fund).

3. Review of Literature

This study provides a comparative evaluation of the Equity Linked Saving Scheme with other tax saving investment schemes and in general of Public and Private Sector Mutual Fund in particular. A comparison of Indian investment options is provided, as well as a review of typical company strategies and an analysis of the riskiness of these respective investments along with lock in period of tax saving schemes. A number of academics, professionals have written articles explaining the concept, function and importance of mutual funds in the development of the capital market in India. An attempt has been made to review some existing literature available and having broad relatively with the subjective area.

Treynor and Mazuy (1966) conducted a research to know whether Mutual Fund Managers can outperform the market, The results concluded that an investor in Mutual Funds is solely depends upon general market conditions. Fund manager can not provide the investor with a higher rate of return in both the bad times and good times. Study concluded with the fact that ability to identify under priced industries and to outperform the movements in the market is a major component to consider.

Ansari (1993) in his article singled out the various innovative schemes of mutual funds which are responsible for mobilising heavy funds from the small investors and argued for a separate legislation for mutual funds as in the case of UTI. In his opinion the operating mutual funds have successfully launched various innovative schemes tailored to the diversified saving and investment motives and have managed to mobilise massive funds from the investors, particularly the smaller over. However, he alleged that in-spite of the valuable services being rendered by mutual funds; their working is not free from certain short comings. Therefore, he suggest that to overcome them there should also be a separate regulatory body as the SEBI is already overburdened with many other functions, as such it may not effectively supervise the working of each mutual fund.

Gupta, Amitabh(1994) made a household investor survey with the objective to provide the data on the investor preferences of Mutual Funds and other financial assets. The findings of the study were more appropriate at that time to the policy makers and mutual funds to design the financial products for the future.

Nalini Prava Tripathi (1996) examined the importance and growth of mutual funds and evaluated their operations in order to suggest some measures for the success of mutual funds in India. She pointed out that with progressive liberalization of economics policies, there has been a rapid growth of Capital Market, Money Market and financial services industry including mutual funds along with others. This paper suggests that mutual fund organizations are required to upgrade their skills and technology with the changed environment..

Rao and V. Warlu (1998) conducted a study for working out the market timing abilities of UTI fund managers. The study defines market timing as an appropriate time when assets are shifted from one risk class to another for superior portfolio performance. The study uses Triynor – Mazuy and Hanriksson – Merton measures for the purpose. It was concluded that fund managers of listed schemes of UTI are less concerned about forecasting the market and making the necessary adjustments in the portfolio they manage.

Tapan K Panda & Nalini Prana Tripathy (2000) conducted a study with reference to customer orientation involvement in designing mutual funds products. Putting emphasis over the involvement of small investors, they are providing cheque facility on money market mutual funds to make them more exciting and quilt funds for the risk averse. The research study was based upon a survey of 350 respondents through a questionnaire covering different groups of investors. The data obtained were analyzed through factor analysis and principal component analysis.

Shanmugham ,(2000) conducted a survey of 201 individual investors to study the information sourcing by investors, their perceptions of various investment strategy dimensions and the factors motivating the share investment decisions. The study concludes that physiological and sociological factors dominated the economic factors in sharing investment decisions.

T.R. Rajeswari and Rama Moorthy (2001) conducted a research study specifically focussing investors including small and retail both stating that in financial markets “expectations” of the investors play a vital role. They influence the price of the securities, the volume traded and determine quite a lot of things in actual practice. Cognitive Dissonance and Endowment effect is basically taken into consideration. The survey revealed that the investors are basically influenced by the intrinsic qualities of the product followed by efficient fund management and general image of the fund/scheme in their selection of fund schemes. The study concluded that running a successful Mutual fund requires complete understanding of the peculiarities of the India Stock Market and also the psyche of the small investors.

Kaminsky Graciela, Richard , Schmakler, (2003) They examined the trading strategies of mutual funds in emerging markets in India . They develop a method for disentangling the behavior of fund managers from that of underlying investors. Managers and investors also practice contagion trading-they sell (buy) assets from one country when asset prices fall (rise) in another.

Bijan Roy and Saikat Sonan Dev (2004) in their study conducted the fact related to the evidence of persistence in the performance of the Indian Mutual Funds. Further analyzes how Mutual Fund performance relates to past performance. Three categories of funds are examined: Equity, debt and balanced schemes. they concluded that the historical economic information is the basis for future fund performance. The study is conducted by applying three measures of past performance separately. Unconditional Alpha, Conditional Alpha and Time-Varying conditional Alpha.

Srivastava Aru (2006) In this article pointing towards the investment pattern in mutual funds, where one doesn’t need Rs. 100,000 but can invest in them. For as little as Rs. 500. Mutual funds issuers cast their nets wide by offering a plethora of instruments which aim to maximize returns while minimizing risk. Result sorted out that past management and reporting practices, Track records of fund manager, interest rate scenario, NAV performance of other funds should have a better look before investing.

Rao Hanumantha P and Mishra Vijay Kumar (2007) In their study emphasised over the SWOT of Mutual Fund Industry in India-as the Indian Mutual Fund Industry is standing on the verge of a massive growth. The comprehensive SWOT analysis of the Mutual Fund Industry suggested that the prospects for the industry in future are significant. Undoubtedly the initial phase of the MF Industry

in India was slow but steady. But after a slow start, the industry has picked up and is presently going through a growth phase. Globally, MFs have become very popular avenue of investment in india.

Verma Meenu (2007) the article explores the concept of investment style of Mutual Funds. Study is conducted to test the validity of investment styles followed by style analysis of select mutual funds in India. The Indian Mutual Fund Industry has come a long way since its humble start in 1963. To comment on the style of Indian mutual funds a small-scale market survey was instituted. Findings concluded that most of the mutual funds managers adopt the security-specific investment style and prefer the Bottom-up Approach style while selecting the stocks

Tripathi Aditya Prakash (2007) as marketing is an important tool for keeping your products and services in market. This article inter relates the fact of Ambush Marketing which occurs when one brand pays to become an official sponsor of an event (most often athletic) and another competing brand attempts to cleverly connect itself with the event, without paying any sponsorship fee. Defining its ethicality, legal aspects conclude with the facts that Ambush marketing is probably just the next step on the marketing evolutionary ladder. It is as inevitable as taxes. Becoming more widespread and acceptable.

Kulshrestha Adarsh.,(2008) in his article he has focused over the effectiveness of online marketing with the help of different modes such as by getting educated, by getting strategic, by getting cerebral, by freshening up and so on. Building case studies resulted that online marketing is widely exciting but is often incorrectly used and under-funded to be an effective marketing channel. Companies will see tremendous returns on this investment, and it's a great time to start it.

Sehgal,Sanjay and Jhanwar Manoj,(2008) in this paper they evaluate the performance of selected equity based mutual funds in India , arguing that multi-factor benchmarks provide better selectivity and timing measures compared to one- factor CAPM as they control for style characteristics such as size, value and momentum. Concluded that the evidence on selectivity improves marginally when we use higher frequency data such as daily returns instead of monthly returns.

Kansal, Payal (2012) in her research study conducted in meerut to from 2001 to 2010 to know the role of brokers and investor preference in mutual funds and the capital mobilisation through mutual fund in meerut and concluded that the growth in meerut city of mutual fund is not very fast and investor should be oriented regarding mutual funds. Private sector has taken more iniatiative in the providing knowledge and good return for the growth of mutual funds.

Garg Meenakshi(2014) in her research thesis conducted a analysis of some selected mutual fund schemes in which 20 equity diversified schemes,10 index funs,10 exchange traded funds and 10 tax saving schemes were studied using sharpe ,treynor's and jenson model and concluded that debt oriented schemes will continue to dominate the mutual fund industry

4. Data Analysis and Interpretation

4.1. First Hypothesis: Growth of ELSS and Mutual Fund Industry

	Role of ELSS in Total Asset Under Management					
				(as on 31st march)		
Year	Open Ended	Close ended	Total (in Crs)	% of TAUM	Change and	absolute %
2006	5091	1498	6589	3		
2007	8398	1813	10211	3	3622	54.97
2008	13327	2693	16020	3	5809	56.88
2009	10570	1857	12427	3	-3593	-22.43
2010	20911	3155	24066	4	11639	93.66
2011	22488	3081	25569	4	1503	6.24
2012	21149	2495	23644	4	-1925	-7.53
2013	20491	2240	22731	3	-913	-3.86
2014	23199	2348	25547	3	2816	12.39
2015	34462	3008	39470	4	13923	39.16

Table 1

It was observed that people are interested in investing in ELSS due to low lock in period and good return. There is increasing trend in ELSS deposit except 2009, 2012 and 2013 where Indian economy witnessed global downward trend in the world.

Year	TAUM (in crs)	Absolute change(in crs)	%
2006	231862		
2007	326388	94526	40.76
2008	505152	178764	54.77
2009	417300	-87852	-17.39
2010	613979	196679	47.13
2011	592250	-21729	-3.54
2012	587217	-5033	-.85
2013	701443	114226	19.45
2014	825240	123797	17.65
2015	1082757	257517	31.21

Table 2

It was observed that from 2006 to 2012 there was always positive trend with an exception of 2009, 2011 and 2012 due to global recession and slowdown. Indian mutual fund industry is in growing stage.
H0 = There is no significant difference in growth rate of ELSS and mutual fund industry
H1 = There is significant difference in the growth rate of ELSS and Mutual fund Industry

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Year from-to	% change in ELSS mutual fund	% change in TAUM of Indian MF Industry
2006-07	54.97	40.76
2007-08	56.88	54.77
2008-09	-22.43	-17.39
2009-10	93.66	47.13
2010-11	6.24	-3.54
2011-12	-7.53	-.85
2012-13	-3.86	19.45
2013-14	12.39	17.65
2014-15	39.16	31.21

Table 3

From the above table we can infer our first hypothesis based upon ANOVA

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	14868.12	8	1858.516	9.942072	0.001946	3.438101
Columns	90.18245	1	90.18245	0.482428	0.506991	5.317655
Error	1495.475	8	186.9344			
Total	16453.78	17				

Table 4

Based upon Anova, null hypothesis is accepted that there is no significant difference between the growth rate of ELSS and Mutual Fund Industry because the value of F is less than its critical value in case of difference between columns. But there is significant difference in the growth rate over the years between ELSS and Mutual fund industry as the critical value of F is more than the tabled value in case of variation between rows.

4.2. IInd Hypothesis: Performance of ELSS

4.2.1. Baroda Pioneer ELSS

The performance of Baroda Pioneer fund is somewhat less as compared to all the ELSS category performance. The three year return of the company is 21.37% while the ELSS industry return is 23.44% for the three year period. The return of five years of Baroda Pioneer ELSS is 10.48% while that of ELSS industry is 14.09%. in the 10 year category the performance of ELSS category and that of Baroda Pioneer ELSS 96 is equal i.e.16.51%.the Sharpe ratio of the scheme is also less than one which is of ELSS category, meaning by the company is not performing well as compared to overall ELSS category of all the fund houses taken together .the beta value of 3 years is also more than one which tells about the more risk involved in the scheme as compared to ELSS Category .

4.2.2. Birla Sun Life tax relief 96

The performance of Birla Sun Life tax relief 96 was above the performance of ELSS category of mutual fund industry the three yearly return of the company scheme was 28.06% while that of overall ELSS category return was just 23.44%. The return of five year of the Birla Sun Life tax relief 96 was 13.34% while the industry return of ELSS was 14.09%.the return of ten year was 18.46% while the return of the ELSS scheme was just 16.51%. it can be inferred that the performance of the ELSS scheme was always better than the

ELSS category. The Sharpe ratio of the Birla Sun Life tax relief ELSS '96 was 1.25 which is good as the Sharpe index of ELSS category was 1 in short term. Again the Sortino ratio is also 2.49 which is again a measure of measuring performance showing better return as the return of ELSS category was 1.94 for Sortino.

4.2.3. Canara Robeco Equity Tax Saver

The return of Canara Robeco Equity Tax Saver for three year was 20.42% while the return of ELSS category was 23.44%. The return of five years was 13.09% while that of ELSS category of mutual fund industry was 14.09%. The short term performance of the company scheme is not favorable but it's favorable in the long term as the return of ten year was 21.41% while that of industry ELSS category was just 16.51%.the Sharpe index of the Canara Robeco Equity Tax Saver was .82 less as compared to index of ELSS category which was one. The Sortino ration of Canara Robeco Equity Tax Saver is also less than the ELSS category ratio which shows the underperformance of the scheme as compared to industry ELSS.The Sharpe ratio on basis of ten yearly performance is better than the ratio of industry ELSS category ratio as well as Sortino ratio for the same period.

4.2.4. Franklin India Tax Shield

The return of Franklin India Tax Shield was always high as compared to return of ELSS category. In three yearly performances the return of the Franklin ELSS was 25% while that of ELSS category was 23.44%. On the basis of five year performance the return of company's scheme was 16.71% while that of ELSS category was 14.09%. On the basis of ten year performance also it can be said that the Franklin India Tax Shield fund performed better than the ELSS category as the return was 20.15% while that of ELSS category was 16.51%. The Sharpe ration of the Franklin India Tax Shield fund as well as Sortino ratio, both explain about the good performance of the fund as it was more than one in both cases.The variation in performance is also less as compared to ELSS category as the standard deviation was 13.68 instead of 15.04 in three years and 14.92 as compared to ELSS category which was 16.7and also low on ten yearly basis.

4.2.5. ICICI Prudential tax plan

The performance if ICICI Prudential tax plan was high as compared to the performance of overall ELSS category. The return of three years was 25.26% as compared to 23.44 of ELSS category. The return of five year basis is 14.99% as compared to return of ELSS category which was 14.09%. On ten year basis the performance of the ICICI Prudential tax plan regular was 18.72% while the return of ELSS category was 16.51%. The variation in performance is comparatively less as compared to the variation in performance of ELSS category.The Sharpe ratio of the company scheme is 1.1 while the Sharpe of the industry ELSS is 1.the Sortino ratio of the ICICI Prudential tax plan was 2.25 while that of industry ELSS was 1.94 which explains about the good performance of the company ELSS.

4.2.6. LIC Nomura Tax Plan

The return of LIC Nomura Tax Plan was comparative low to the return of ELSS Category. The performance of three year of the LIC Nomura Tax Plan was 22.12% while that of ELSS industry was 23.44%. the return of five year of the ELSS scheme of LIC Nomura was 12.21% while that of ELSS category of mutual fund industry was 14.09%. The return of ten year performance of LIC Nomura Tax Plan was 12% while the return of ELSS category was 16.51%.it was observed that it is low performer. The Sharpe of the LIC Nomura Tax Plan was .99 as compared to 1 of ELSS category. The Sortino ratio of the LIC Nomura Tax Plan was also 1.85 while that of ELSS category was 1.94.The standard deviation of the scheme was comparatively less as compared to the standard deviation of the ELSS category of overall mutual fund industry.

4.2.7. Reliance Tax Saver Fund

The return of Reliance Tax Saver was high as compared to the return of overall ELSS category. The return of the three year was 29.41% while that of ELSS category was 23.44%. The return of five years of Reliance Tax Saver fund was 19.16% as compared to the return of ELSS category which was 14.09%. The performance was good along with the variation in return in different year also. The standard deviation of the Reliance Tax Saver was 21.99 while the standard deviation of the overall ELSS category was just 15.04 in three years .in five year performance , the standard deviation is 21.9 as compared to the standard deviation of the overall ELSS category which was 16.7. It shows the high variation in return of the company. The Sharpe ratio of the Reliance Tax Saver was .96 as compared to the return of overall ELSS category which was 1. The Sortino ratio of the company ELSS scheme was 2 as compared to the Sortino of ELSS category which was 1.94 showing better performance.

4.2.8. SBI Magnum Tax Gain'93

The performance of the SBI Magnum tax saver was below normal in short run but more than at par in long run. The return of the SBI Magnum Tax Gain scheme for three years was 19.71% as compared to the return of ELSS category which was 23.44%. The return of five years of SBI Magnum Tax Gain was 11.29% while that of ELSS category was 14.09%. The performance in short run is not good but in the long run, ten yearly performance of the SBI Magnum Tax Gain scheme was more than the return of ELSS category as it was 17.94% as compared to 16.51%. the Sharpe ratio of the scheme is also low .8 as compared to ELSS category which was 1 showing low performance in short run but more in long run of ten year. The Sortino ratio of the scheme was also low in short run and high in long run.The standard deviation of the SBI Magnum Tax Gain was 14.71 as compared to ELSS category 15.04which was good showing low variation in performance.

4.2.9. UTI Tax Saving Fund

The performance of uti tax saving fund was somewhat low as compare to the industry ELSS return. The return of three years of UTI Equity Tax Saving Plan fund was only 19.42% as compared to the return of overall ELSS category which was 23.44%. The return of five years was also low as compared to the overall ELSS category as it was 10.9% in comparison to 14.09%. The performance of ten year is also low as it was only 13.4% as compared to 16.51% of the ELSS Category. The Sharpe ratio of the UTI Equity Tax Saving Plan fund was also low .81 as compared to of overall ELSS category having 1 in three years. The performance of the uti fund was always low as compared to ELSS category in long run as well as in short run. The Sortino ratio also proves it as it was 1.46 as compared to of overall ELSS Sortino of 1.94 in short run.The standard deviation of the UTI Equity Tax Saving Plan fund was low as compared to the overall ELSS category standard deviation showing low variation in performance of different years.

4.2.10. HDFC Tax Saver

The performance of HDFC Tax Saver was low in short run but high in long run basis. The return of the HDFC Tax Saver was 20.88% in comparison to the return of overall ELSS of 23.44% in three years. The return of five years is also low as it was 13.18% in comparison to 14.09% of the return of overall ELSS. The performance of the year was 18.93% in comparison of 16.51% of the overall ELSSS category of mutual fund industry. The Sharpe ration of the HDFC Tax Saver is also low .75 as compared to 1 of overall ELSS category.The variation in performance was 17.7, also more in HDFC Tax Saver as comparison to variation in overall ELSS category which was 15.04 in three years. The variation in five year is also more i.e.17.47 while of ELSS category was 16.7 in same period.

4.2.11. Conclusion

It can be seen at glance that variation of return was higher in case of HDFC Tax Saver and Reliance Tax Saver while it was having lowest in case of lic nomura and UTI Equity Tax Saving Plan fund. The Sharpe ratio of Birla Sun Life tax relief, Canara Robeco Equity Tax Saver, Franklin India Tax Shield fund, ICICI Prudential tax plan, LIC Nomura Tax Plan, Reliance Tax Saver and SBI Magnum Tax Gain was positive as it was more than one and of rest scheme like Baroda Pioneer ELSS '96, HDFC Tax Saver and UTI Equity Tax Saving Plan was less than one showing ineffective performance.

The Sortino ratio tells about the superiority of Birla Sun Life tax relief 96, Franklin India Tax Shield, ICICI Prudential tax plan, Canara Robeco Equity Tax Saver, LIC Nomura Tax Plan, Reliance Tax Saver and SBI Magnum Tax Gain 93 over UTI Equity Tax Saving Plan fund, HDFC Tax Saver fund and Baroda Pioneer ELSS '96 fund of ELSS.

The beta showing the presence of risk as compared to market return was high in case of Baroda Pioneer ELSS '96 Reliance Tax Saver and HDFC Tax Saver fund over others as it was more than one in these three schemes.

NAME	R2	ALPHA	BETA	MEAN	S.D..	SHARPE	5 YR RETURN	CATEGORY REN	SENSEX RT	S&P CNX NIFTY
SBI MAGNUM TAX GAIN	0.94	0.81	0.83	8.15	16.81	0.16	0.39	0.54	-1.25	-0.8
LIC NOUMRA TAX PLAN	0.98	-1.8	0.92	5.76	18.25	0.02	-3.87	0.54	-1.25	-0.8
CANRA ROBECO EQ TX SAVER	0.86	0.69	0.7	12.73	14.86	0.49	6.6	0.54	-1.25	-0.8
BARODA PIONEER ELSS '96	0.98	-3.36	1.01	4.4	19.96	-0.05	-2.32	0.54	-1.25	-0.8
UTI EQ TX SAVING PLAN	0.95	0.37	0.85	7.77	17.09	0.14	-1.26	0.54	-1.25	-0.8
RELIANCE TAX SAVER	0.84	6.83	0.94	14.44	20.16	0.45	5.06	0.54	-1.25	-0.8
ICICI PRU TAX PLAN	0.91	5.24	0.88	12.71	18.16	0.4	6.48	0.54	-1.25	-0.8
HDFC TAX SAVER	0.9	2.51	0.8	9.77	16.48	0.27	3.02	0.54	-1.25	-0.8
FRANKLIN INDIA TAX SHIELD	0.94	5.36	0.77	12.56	15.52	0.46	4.26	0.54	-1.25	-0.8
BSL TAX RELIEF'96	0.92	-1.47	0.91	6.05	18.53	0.04	-3.17	0.54	-1.25	-0.8

Table 5: (BASED UPON CALCULLATIONS OF NOVEMBER 2012)

If we see the performance of these tax saving on basis of November 2012 basis we can appraise their past performance and see their relationship with current performance to know whether they are consistent or not in their performance. As we know that 2008 and 2011 was exceptional; year having global impact of recession the performance of mutual fund was also affected by that. The performance of past five year can be a base for judgment and on comparing ,it can be inferred that Canara Robeco Equity Tax Saver, ICICI Prudential tax plan and Reliance Tax Saver gave the annualized return more than 5%.the return of SBI Magnum Tax Gain, HDFC Tax Saver and Franklin India Tax Shield was also positive while the return of LIC Nomura Tax Plan, Baroda Pioneer ELSS '96 UTI Equity Tax Saving Plan and of Birla Sun Life tax relief was negative .out of ten schemes, only five schemes perform better than the average return of ELSS category of mutual fund which were Canara Robeco Equity Tax Saver, Reliance Tax Saver, ICICI Pru tax plan HDFC Tax Saver and Franklin India Tax Shield..only one scheme of sample from public sector perform better as compared to ELSS category return while three schemes out of five performed better than the average return of ELSS category.It can be inferred that private sector was more performing as compared to public sector on basis of five year performance.

On the basis of three year return from 2009 to 2012 it can be inferred that the Canara Robeco Equity Tax Saver and UTI Equity Tax Saving Plan of public sector performed better than the average return of ELSS category while in case of private sector four out five namely Reliance Tax Saver, ICICI Pru tax plan, HDFC Tax Saver and Franklin India Tax Shield performed better than the ELSS category.The performance of 2010 to 2012 was positive of only Canara Robeco Equity Tax Saver and Franklin India Tax Shield fund .two schemes of public sector and three schemes of private sector performed better than the average return of ELSS category out of sample.We can infer that private sector performed better than public sector.

On basis of one year performance of 2012 only SBI Magnum Tax Gain, Canara Robeco Equity Tax Saver of public sector and Reliance Tax Saver, ICICI Pru tax plan and Birla Sun Life of private sector performed better than the average of ELSS category. Further in short run private sector performed better than the public sector.

On analyzing the performance of long run and short run on the basis of sample period of 2006 to 2012, it can be said that the performance of private sector was better than the performance of public sector.

SAMPLE ELSS		2006	2007	2008	2009	2010	2011	2012
sbi magnum tax gain	1	44.96	55.27	-54.86	86.41	12.98	-23.5	34.29
uti equity tax saving	2	18.56	50.92	-54.67	72.88	17.57	-23.37	26.87
lic noumra tax plan	3	28.25	48.76	-56.87	62.17	15.73	-26.2	26.33
canara robeco eq tax saver	4	31.46	65.21	-46.85	89.4	24.93	-16.35	29.99
baroda pioneer mf	5	21.04	56	-57.15	84.03	15.07	-28.65	26.17
	pubtot	28.854	55.232	-54.08	78.978	17.256	-23.614	28.73
birla sun life tax relief'96	6	43.53	76.07	-62.67	102.77	13.46	-29.62	36.6
franklin india tax shield	7	27.17	56.02	-49.22	78.81	23.47	-15.19	29.38
hdfc tax saver	8	34.12	39.44	-51.55	99.07	26.42	-22.62	26.59
icici pru tax plan	9	26.15	40.95	-56.03	112	24.11	-23.96	37.63
reliance tax saver	10	34.49	42.4	-52.35	82.61	22.49	-24.23	46.05
	priv tot	33.092	50.976	-54.364	95.052	21.99	-23.124	35.25

Table 6

Now second hypothesis will be tested;

H_0= there is no significant difference in performance of public and private sector

H_1= there is significant difference in performance of public and private sector

ANOVA						
Source of Variation	SS	Df	MS	F	P-value	F crit
Rows	26444.22	6	4407.37	206.4433	1.11E-06	4.283866
Columns	56.04001	1	56.04001	2.624941	0.156324	5.987378
Error	128.0943	6	21.34905			
Total	26628.35	13				

Table 7

5. Conclusion

Based upon anova test comparing the means of return of public sector and private sector it can be inferred that there is no significant difference in return of the public and private sector as computed value of f 2.62 is less than tabled value 5.98 but the difference between years showing performance of public and private sector,null hypothesis is rejected as the computed value of f i.e.206.44 is more than tabled value i.e 4.28.

5.1. Third Hypothesis : Risk Analysis

H0 = There is no significant difference between risk analysis of public and private sector ELSS mutual funds.

H1 = There is significant difference between risk analysis of public and private sector ELSS mutual funds.

Conclusion based upon beta risk measure which has been computed for the study had been shown in chapter six of the present study and for the information pupose, the said work is appendid here for information only.

SAMPLE ELSS		2006	2007	2008	2009	2010	2011
SBI Magnum tax gain	1	0.673	0.298	0.653	0.576	0.554	0.519
UTI equity tax saving	2	7.923	8.918	6.071	6.559	7.284	5.979
LIC Noumra tax plan	3	0.656	0.753	0.704	0.652	0.601	0.634
Canara Robeco eq tax saver	4	-0.116	0.321	0.027	0.338	-0.049	0.145
Baroda Pioneer mf	5	0.669	0.731	0.614	0.479	0.631	0.706
	Pub tot	9.805	11.021	8.069	8.604	9.021	7.983
Birla sun life tax relief'96	6	0.518	0.722	0.769	0.692	0.578	0.558
Franklin India tax shield	7	0.464	0.51	0.421	0.628	0.686	0.578
HDFC tax saver	8	0.709	0.731	0.663	0.513	0.427	0.494
ICICI Prudential tax plan	9	0.829	0.66	0.763	0.485	0.529	0.049
Reliance tax saver	10	0.570716	0.64439	0.623701	0.533939	0.526501	0.615736
	priv tot	3.090716	3.26739	3.239701	2.851939	2.746501	2.294736

Table 8

	Public	Private
2006	9.805	3.090716
2007	11.021	3.26739
2008	8.069	3.2397
2009	8.604	2.851939
2010	9.021	2.7465
2011	7.983	2.294736

Table 9

ANOVA						
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	114.1575	1	114.1575	153.7229	2.15E-07	4.964603
Within Groups	7.426186	10	0.742619			
Total	121.5836	11				

Table 10

- Conclusion

From the ANOVA applied on beta values of ELSS of public and private sector, it came to know that the computed value of f i.e.153.7229 is more than the critical tabled value of f which was 4.96; so, the null hypothesis is rejected that there is no significant difference between the risk of Public and Private Sector ELSS and hence alternate hypothesis is accepted that there is difference in risk analysis of public and private sector ELSS.

5.2. Hypothesis fourth : Preference Analysis

Part-1

Ho: There would be no significant difference in preferences of investor towards public sector mutual fund

H1: There would be significant difference in preferences of investor towards public sector mutual fund .

The fourth hypothesis is related to selection of ELSS by investor of public sector and private sector. There are various factor affecting the selection which has been considered earlier like return of scheme, risk involved in scheme, loyalty of investors, dividend history, capital appreciation etc. these all affect investment in AUM of the selected ELSS, so AUM data is reliable in knowing preference if any:

Sr. No.	SAMPLE ELSS		AUM on 28-04-15
1	SBI Magnum tax gain	1	4991.56
2	UTI equity tax saving	2	617.32
3	LIC Noumra tax plan	3	48.32
4	Canara Robeco tax saver	4	917.56
5	Baroda Pioneer mf	5	43.17
		Pub tot	6617.93
6	Birla sun life tax relief'96	6	2012.6
7	Franklin India tax shield	7	1722.01
8	HDFC tax saver	8	5032.37
9	ICICI Prudential tax plan	9	2617.83
10	Reliance tax saver	10	4504.79
		priv tot	15889.6

Table 11

Assets under management of selected ELSS of Public and Private sector based upon 28th April 2015

AUM Public	AUM Private
4991.56	2012.6
617.32	1722.01
48.32	5032.37
917.56	2617.83
43.17	4504.79

Table 12

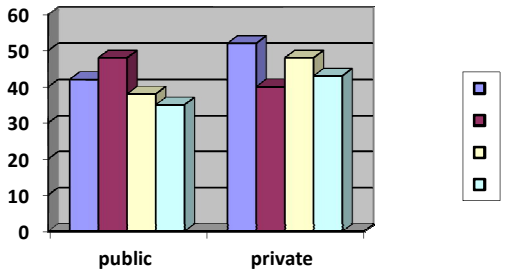
ANOVA						
Source of Variation	SS	Df	MS	F	P-value	F crit
Rows	6104637	4	1526159	0.30117	0.864078	6.388233
Columns	8596386	1	8596386	1.696397	0.262689	7.708647
Error	20269748	4	5067437			
Total	34970771	9				

Table 13

The computed value of f is .30117 is less than the tabled value of which is 6.383233 between rows and also the computed vale of f i.e.1.69 is less than the critical value of f i.e.7.708647, so the null hypothesis is accepted that there is no significant difference in selection of ELSS of public sector and private sector by the investor in present scenario, though the deposit or AUM is more in case of private sector ELSS than the public sector ELSS.

Part-II

ELSS Option basis	public	private
Tax Saving Option	42	52
High Growth Rate	48	40
Low Expenses	38	48
Quick Payment	35	43



ANOVA applied on investor preferences						
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	50	1	50	1.671309	0.24363	5.987378
Within Groups	179.5	6	29.91667			
Total	229.5	7				

Table 14

As the value of f is 1.671309 is less than the tabled value of f which is 5.987378,So, the null hypothesis is accepted that there is no significant difference in selection of ELSS of public sector and private sector by the investor .
The above two tests are conducted to know the investor preference and they are showing the same result while second is based upon primary data collected for research study and secondary data of AUM taken from the amfi website, so it can be inferred that there is no significant difference in preferences of investor towards public sector mutual funds.

5.3. Hypothesis fifth: Market Timing Ability Analysis
Ho: There would be no significant difference in exploitation of market timing opportunities by the fund manager of tax saving schemes.
H1: There would be significant difference in exploitation of market timing opportunities by the fund manager of tax saving schemes.
based upon november 2012 (from april 2006 to march 2012)

NAME	5 YR RETURN	SENSEX RT
SBI MAGNUM TAX GAIN	0.39	-1.25
LIC NOUMRA TAX PLAN	-3.87	-1.25
CANRA ROBECO EQ TX SAVER	6.6	-1.25
BARODA PIONEER ELSS '96	-2.32	-1.25
UTI EQ TX SAVING PLAN	-1.26	-1.25
RELIANCE TAX SAVER	5.06	-1.25
ICICI PRUDENTIAL TAX PLAN	6.48	-1.25
HDFC TAX SAVER	3.02	-1.25
FRANKLIN INDIA TAX SHIELD	4.26	-1.25
BSL TAX RELIEF'96	-3.17	-1.25

Table 15

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Column 1	10	15.19	1.519	16.38848		
Column 2	10	-12.5	-1.25	0		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	38.33681	1	38.33681	4.678507	0.044245	4.413873
Within Groups	147.4963	18	8.194238			
Total	185.8331	19				

Table 16

On the basis of Anova single factor taking the five year performance from 2006 to 2012 as base and upon comparing with the Sensex return, it can be inferred from the table that there is significant difference in exploitation of market timing opportunities by the fund manager of tax saving schemes as the mean return of sampled ELSS are more than the mean return of Sensex meaning by that tax saving fund managers are reaping the excess benefit than the market returns.

Present scenario 2015

Fund	5-Year Return	category return
Baroda Pioneer ELSS 96 Fund	10.11	16.7
Birla Sun Life Tax Relief 96	13.02	16.7
Canara Robeco Equity Tax Saver Fund	12.82	16.7
Franklin India Taxshield Fund	16.37	16.7
HDFC Taxsaver Fund	12.85	16.7
ICICI Prudential Tax Plan	14.92	16.7
LIC Noumra MF Tax Plan	11.57	16.7
Reliance Tax Saver Fund	18.94	16.7
SBI Magnum Tax Gain Scheme	12.91	16.7
UTI Equity Tax Savings Fund	10.49	16.7

Table 17

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	54.45	1	54.45	14.97	0.001125	4.413873
Within Groups	65.487	18	3.6382			
Total	119.94	19				

Table 18

On the basis of present performance of last five year s also on comparing the ELSS even with the ELSS category return of industry, the sampled ELSS fund managers have reaped the excess return as the computed value of f 14.97 is more than the tabled value i.e.4.413873; so the null hypothesis is rejected and alternate hypothesis is accepted that there is significant difference in exploitation of market timing opportunities by the fund manager of tax saving schemes.

6. Conclusion of the Study

- The findings are as follows

6.1. Findings and Accomplishments

1. The first objective of the study was to evaluate the growth in assets of public and private sector tax saving mutual funds which has been achieved by first hypothesis that there is no significant difference in growth rate of ELSS and mutual fund industry; where it was found that there is no significant difference between the growth rate of ELSS and Mutual Fund Industry because the value of F is less than its critical value in case of difference between columns. But there is significant difference in the growth rate over the years between ELSS and Mutual fund industry as the critical value of F is more than the tabled value in case of variation between rows.
The growth rate in ELSS was more in starting years but with depression of 2008 the growth rate becomes negative for some years and then there was no consistency in growth rate.
2. The second objective of the study was to Compare the Return of ELSS (tax saving mutual funds) of Public and Private Sector of Indian Mutual Fund Industry which has been achieved by our second hypothesis and fifth hypothesis. Second hypothesis was that there is no significant difference in performance of public and private sector where it was concluded that there is no significant difference in return of the public and private sector as computed value of f 2.62 is less than tabled value 5.98 but the difference between years showing performance of public and private sector, null hypothesis is rejected as the computed value of f i.e.206.44 is more than tabled value i.e 4.28.The return on overall basis of every year though seems to be higher in case of private sector ELSS mutual funds taken together.
While the fifth hypothesis was regarding that there is no significant difference in exploitation of market timing opportunities by the fund manager of tax saving schemes in which it was concluded that there is significant difference in exploitation of market timing opportunities by the fund manager of tax saving schemes as the mean return of sampled ELSS are more than the mean return of Sensex, On the basis of Anova single factor taking the five year performance from 2006 to 2012 as base and upon comparing with the Sensex return; as well as on the basis of present performance of last five years also on comparing the ELSS even with the ELSS category return of industry, the sampled ELSS fund managers have reaped the excess return as the computed value of f 14.97 is more than the tabled value i.e.4.413873
3. The third objective of the study was to Observe the Risk Analysis of ELSS (tax saving mutual funds) of Public and Private Sector of Indian Mutual Fund Industry which was achieved through third hypothesis that there is no significant difference between risk analysis of public and private sector ELSS mutual funds; where it was concluded that alternate hypothesis is accepted that there is difference in risk analysis of public and private sector ELSS as computed value of f i.e.153.7229 is more than the critical tabled value of f which was 4.96 regarding beta values of ELSS of public and private sector.
The beta value of growth was higher in all the years individually in public sector tax saving mutual funds as well as taken on together basis.
4. The fourth objective of the study was to know the Investor Preferences for ELSS (tax saving mutual funds)which has been achieved by secondary data regarding AUM of sampled ELSS mutual funds whereas it was concluded that The computed value of f is .30117 is less than the while the tabled value f which is 6.383233 between rows and also the computed vale of f i.e.1.69 is less than the critical value of f i.e.7.708647, so the null hypothesis is accepted that there is no significant difference in selection of ELSS of public sector and private sector by the investor in present scenario, though the deposit or AUM is more in case of private sector ELSS than the public sector ELSS.
5. The study also accomplished its secondary objective like providing the basic knowledge of Mutual Fund, NAV, Risk and Return and there functioning, explaining different tax saving instruments available in India and their comparison.

6.2. Other Findings

- ELSS occupies only 4% share of Indian mutual fund industry and the deposit mobilization or AUM was to the tune of Rs. 6589 crores as on 31st march 2006 having 3% share of Indian mutual fund industry which increased to rs. 23644 crores as on 31st march 2012 period under study and further increased to rs. 39470 crores as on 31st march 2015 representing 4% share of Indian mutual fund industry.

- The Mutual Fund Industry is growing at a good speed but not achieved its momentum, the AUM of Indian mutual fund industry increased from rs.231862 crores as on 31st march 2006 to the tune of rs.587217 crores as on 31st march 2012 and further increased to rs.1082757 crores showing the annual increase of 31% over last year.
- On the basis of three year return from 2009 to 2012 it can be inferred that the Canara Robeco Equity Tax Saver and UTI Equity Tax Saving Plan of public sector performed better than the average return of ELSS category while in case of private sector four out five namely Reliance Tax Saver, ICICI Prudential tax plan, HDFC Tax Saver and Franklin India Tax Shield performed better than the ELSS category. The performance of 2010 to 2012 was positive of only Canara Robeco Equity Tax Saver and Franklin India Tax Shield fund .two schemes of public sector and three schemes of private sector performed better than the average return of ELSS category out of sample. We can infer that private sector performed better than public sector.
- On basis of five year performance from 2007 to 2012,it can be inferred that Canara Robeco Equity Tax Saver, ICICI Prudential tax plan and Reliance Tax Saver gave the annualized return more than 5%.the return of SBI Magnum Tax Gain, HDFC Tax Saver and Franklin India Tax Shield was also positive while the return of LIC Noumra Tax Plan, Baroda Pioneer ELSS '96 UTI Equity Tax Saving Plan and of Birla Sun Life tax relief was negative .out of ten schemes, only five schemes perform better than the average return of ELSS category of mutual fund which were Canara Robeco Equity Tax Saver, Reliance Tax Saver, ICICI Prudential tax plan HDFC Tax Saver and Franklin India Tax Shield..only one scheme of sample from public sector perform better as compared to ELSS category return while three schemes of private sector out of five performed better than the average return of ELSS category.It can be inferred that private sector was more performing as compared to public sector on basis of five year performance.
- It can be seen at glance that variation of return was higher in case of HDFC Tax Saver and Reliance Tax Saver while it was having lowest in case of LIC Noumra and UTI Equity Tax Saving Plan fund. The Sharpe ratio of Birla Sun Life tax relief, Canara Robeco Equity Tax Saver, Franklin India Tax Shield fund, ICICI Prudential tax plan, LIC Noumra Tax Plan, Reliance Tax Saver and SBI Magnum Tax Gain was positive as it was more than one and of rest scheme like Baroda Pioneer ELSS '96, HDFC Tax Saver and UTI Equity Tax Saving Plan was less than one showing ineffective performance.
- The Sortino ratio tells about the superiority of Birla Sun Life tax relief 96, Franklin India Tax Shield, ICICI Prudential tax plan, Canara Robeco Equity Tax Saver, LIC Noumra Tax Plan, Reliance Tax Saver and SBI Magnum Tax Gain 93 over UTI Equity Tax Saving Plan fund, HDFC Tax Saver fund and Baroda Pioneer ELSS '96 fund of ELSS.
- The beta showing the presence of risk as compared to market return was high in case of Baroda Pioneer ELSS '96 Reliance Tax Saver and HDFC Tax Saver fund over others as it was more than one in these three schemes.
- On the basis of long term performance taking seven year as base, first rank goes to Reliance tax saver fund and then consequently rank goes to HDFC tax saver fund, Baroda Pioneer ELSS96, Canara Robeco equity tax saver, Birla sun life tax relief 96, SBI Magnum tax gain, UTI equity tax saving and ICICI stands equally then to LIC Noumra tax plan and last goes to Franklin India tax shield.
- On the basis of alpha ratio first rank goes to Reliance tax saver, second goes to Birla sun life tax relief, third goes to Franklin India tax shield, fourth to ICICI Prudential tax plan, fifth to SBI Magnum Tax gain, sixth to LIC Noumra, seventh to Canara Robeco equity tax saver, eighth to Baroda Pioneer ELSS, ninth to UTI equity tax saving and the tenth rank goes to HDFC tax saver fund.
- Taking long term performance Say performance of ten years as base the ranking goes to Canara Robeco equity tax saver, Franklin India tax shield, SBI Magnum tax gain, HDFC tax saver, ICICI Prudential tax plan, Birla Sun life tax relief, UTI equity tax saving, Baroda Pioneer ELSS and ninth rank goes to LIC Noumra tax plan as Reliance tax saver is not ranked due to its tenth year of inception.
- On the basis of deposit mobilization by ELSS HDFC tax saver comes on first, second rank goes to SBI Magnum tax gain, third goes to Reliance tax saver fund, fourth goes to ICICI Noumra tax plan, fifth goes to Birla Sun life tax relief , sixth goes to Franklin India tax shield, seventh goes to Canara Robeco equity tax saver, eighth goes to UTI equity tax saving, ninth to LIC Noumra tax plan and tenth rank goes to Baroda Pioneer ELSS96.
- On the basis of expense ratio what ELSS are charging from least to highest, first rank goes to HDFC tax saver, second to SBI Magnum tax gain, third to Birla Sun life tax relief96 fourth to Reliance tax saver, fifth to ICICI Prudential tax plan, sixth to Franklin India tax shield, seventh to Canara Robeco equity tax saver, eighth to UTI equity tax saving, ninth to LIC Noumra tax plan and tenth rank goes to Baroda Pioneer ELSS.
- On basis of return, risk and Sharpe index of the 10 selected schemes of ELSS for 7 years from jan 2006 to dec 2012. The return for Birla sun life tax relief'96 was found highest whereas the LIC Noumra tax plan had lowest Sharpe index. The risk of LIC Noumra tax plan is lowest as there is lowest variation in the return in comparison to other selected schemes. All the schemes imply that the return of ELSS is more than risk free rate of return but less than risk covered. The positive Sharpe's index ranging from 13.88 to 25.63 shows the good performance of the entire sample scheme. Birla sun life tax relief topped in the selected sample scheme, seconded by Canara Robeco equity Tax Saver, third to ICICI Prudential tax saver et while LIC Noumra had performed least in terms of Sharpe index. Three schemes of private and two of public stood in first five, it can be inferred that private sector is performing better in general.

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Annexure

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