INVESTMENT PERFORMANCE OF MUTUAL FUNDS IN GOA: AN EMPIRICAL STUDY

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BY

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DECLARATION

I, Mr. Shekhar Vasudev Sawant hereby declare that this thesis represents work which has been carried out by me and that it has not been submitted, either in part or full, to any other University or Institution for the award of any research degree.

Place: Goa University, Taleigao, Goa.
Date :

Mr. Shekhar Vasudev Sawant

CERTIFICATE

I hereby certify that the work was carried out under my supervision and may be placed for evaluation.

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Dedicated to

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Contents

Chapter 1. Introduction

Chapter 2. Review of Literature

Chapter 3. The Conceptual and Theoretical Framework of Mutual Funds in India

Chapter 4. Data analysis and interpretation – Investment performance of mutual funds

List of Tables

List of Figures

List of Abbreviations

Abbreviations	Full Form
AMC	Asset Management Company
AUM	Asset Under Management
AMFI	Association of Mutual Funds of India
ANOVA	Analysis of Variance
AIP	Automatic Investment Plan
BSE	Bombay Stock Exchange
CAPM	Capital Asset Pricing Model
DICGC	Deposit Insurance Corporation of America
ETF	Exchange Traded Funds
ELSS	Equity Linked Savings Scheme
EPF	Employee Provident Fund
ETF	Exchange Traded Funds
FD	Fix Deposits
FII	Foreign Institutional Investors
FMCG	Fast Moving Consumer Goods
GDP	Gross Domestic Product
GPF	General Provident Fund
LIC	Life Insurance Corporation of India
LTCG	Long term Capital Gains
NPS	National Pension System
NAV	Net Asset Value
NFO	New Fund Offer
NSC	National Savings Certificate
NSE	National Stock Exchange
PPF	Public Provident Fund
PAN	Permanent Account Number
PFRDA	Pension Fund Regulatory and Development Authority
RBI	Reserve Bank of India
RGESS	Rajiv Gandhi Equity saving scheme
SIP	Systematic Investment Plan

SWP	Systematic Withdrawal Plan
SCS	Senior Citizen Savings Scheme
SCB	Scheduled Commercial Bank
ULIP	Unit Linked Insurance Plan
UTI	Unit Trust of India

CHAPTER 1

INTRODUCTION

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INTRODUCTION

1.1 INTRODUCTION

Indian mutual fund market has witnessed high growth over the last few decades. The consistency in the Performance of mutual funds is a significant factor that has attracted many investors to invest in mutual fund schemes. Mutual Fund is known as the most effective instrument for small and medium investors and offers the opportunity to them to participate in the capital market with a low level of risk. ELSS is a type of Equity Mutual fund that invests in equity-related instruments intending to produce long-term capital appreciation. The Performance of the Equity Linked Saving Mutual Fund scheme (ELSS) depends upon the right strategy, which the fund managers adopt in designing the portfolio. Unlike an equity fund, an ELSS has a three-year lock-in and tax benefits similar to other tax-saving products. Among the various modes of investments, the most suitable for the ordinary person is a mutual fund, as this type of asset class allows investors to participate in a professionally managed portfolio at a lower cost.

In his budget speech on February 28, 1989, the finance minister of India, S.B. Chavan, introduced the "ELSS" scheme, a mutual fund scheme that aimed to encourage small investors to develop their equity investment culture. The fund offered lower income tax liability to the investors depending on their asset allocation.

The objective of the ELSS scheme is to provide low-income tax relief to investors. Initially, the fund offered a tax incentive of 10,000 to investors. From 1991 to 1992, the incentive was modified to a rebate benefit, which stands at 10,000.

The tax incentive was modified to a deduction benefit in 2005-06. The maximum investment amount that an investor can claim from the scheme was increased to 1 million. The deduction benefit was increased to 1.5 million in the next financial year. ELSS funds are mainly categorized as equity mutual funds.

The various features of ELSS and DEMU schemes are similar. The eligibility criteria and the lock-in period of the funds are the two main factors that differentiate them.

Since equity mutual funds provide a distinct tax exemption benefit, they differ from other fund schemes. An equity mutual fund is an investment type that allows individuals to earn tax-free returns by owning at least 60% of their assets in shares. This means an equity mutual fund should have a minimum equity allocation of 65% of its assets. Similarly, an ELSS fund is defined as a type of investment that invests at least 80-85% of its assets in shares.

The government provides various tax incentive programs to encourage long-term capital accumulation. However, it also places restrictions on the withdrawals of the invested money. All the tax-saving investments made through these programs have a lock-in period.

A lock-in period is a restriction that prevents an investor from selling or withdrawing money from an investment for a certain period. For instance, in ELSS funds, the lock-in period for the fund is three years. For investors planning to keep their investments in ELSS funds for a long time, the three-year lock-in period provides a significant advantage.

Equity-linked Saving Scheme (ELSS) offers capital appreciation and tax saving potential. In addition, it has the lowest lock-in period in the tax-saving investment product category, which is considered more liquid. If we look at the latest data, the 10-year and 5-year category returns for ELSS are 8.34% and 9.40, respectively. Although, we can see substantial performance variations across the different ELSS funds of other mutual fund houses. A significant portion of the investments in ELSS is in equities. Money invested in these funds has the potential to create wealth in the long term. With ELSS, one can plan their long-term financial goals such as the education of their children and their marriages, retirement planning, etc.

One of the features of ELSS is that one can invest any amount in it in lump-sum or through a Systematic investment plan (SIP) but will get the tax exemption only for investments up to 1,50,000 under section 80C of the Income-tax Act. As per the Budget 2018 guidelines, the gains made on Equity Linked Savings Schemes are not tax-exempt anymore. 10% Long term capital gain tax (LTCG) tax will be levied if the returns from such funds exceed Rs100,000. Although the risk involved in ELSS is higher than in a Fixed Deposit or a Public Provident Fund (PPF), the returns are also likely to be higher.

1.2 PROBLEM STATEMENT

Mutual Fund has become a widely popular and effective way of investing for investors who participate in the financial market. It is an easy, low-cost fashion with fewer risk characteristics by spreading the investment across different types of securities, also known as diversification. It also plays a vital role in individual investment strategy by providing potential capital growth and income with the help of investment performance, dividends, and distribution under the guidance of a portfolio manager. The role of the portfolio manager is essential because it helps to make an investment decision on behalf of mutual fund unit holders. The relationship between Return and Risk is a framework that governs the Performance of a mutual fund. It allows investors to get a better return on their money by investing within a specific risk level. So, there is a relationship between risk and returns (RENUKA, 2017**).**

Due to the various changes that have occurred regarding the tax benefits of investments over the years, it is important that investors thoroughly appraise their situation.

In India, researchers have made efforts to assess the Performance of mutual funds in terms of risk and return analysis. Some work in the area of performance persistence has also been done. However, the issue of efficiency in mutual funds has not been explored much in the Indian mutual fund industry. Further, in the Indian mutual fund industry, some studies have analyzed the relationship between mutual funds' characteristics and their Performance; however, they have considered only a few attributes and not the entire available set. Hence, out of the total, it needs to be clarified which attributes of mutual funds affect their efficiency. These gaps have been filled in the present study by identifying all the attributes affecting the Performance of mutual funds and providing a framework for measuring the Performance of Indian mutual funds.

There are several studies on the Performance of ELSS funds, but they only utilize a single market index as the benchmark. This gap in the literature raises questions about the effectiveness of the evaluation of the funds' Performance versus other market-focused equity funds. These gaps have been addressed in this study.

Although there is empirical evidence showing investors' perceptions of various types of mutual funds, there is a gap in this research regarding the Perception of ELSS funds compared to other tax-saving investments.

It is crucial for mutual fund companies, policymakers, and regulatory bodies to know investors' perceptions of mutual funds and other investment options. However, this issue has yet to gain

much attention in the studies conducted in the past. The present research fills this gap. Moreover, past research has analyzed the awareness level of investors for mutual funds, but only a few studies have been conducted to know their perceptions of the fund's attributes. The same will be done in the present study. Moreover, in the past, this study has yet to attempt to study how investors consider the lock-in period of the ELSS fund; considering the opportunity cost of the locked fund, this gap has been taken care of in this study.

1.3 SIGNIFICANCE OF THE STUDY

Equity Mutual funds have been considered a productive means for small retail investors who want to invest in equity markets, as it provides immediate diversification from business risk. The objective of the ELSS Mutual Fund is to provide the financial system with the necessary resources to improve the efficiency of its operations. It also allows individual investors to get the most out of their savings. Because of this Government of India in 1989-90 introduced ELSS Mutual Funds.

ELSS has been the less popular product for tax-saving investments, although its popularity has recently increased. It is, in fact, the diversified equity fund that provides a potential for capital appreciation along with tax saving. This fund has a lesser lock-in period of 3 years, hence more liquid.

Retail investors must choose between several investments, including ELSS, to avail of tax benefits under sec 80 C. To select the best ELSS plan, an investor needs to recognize that the higher element of risk taken up by the fund may lead to higher returns over a long-time period. One of the main measures to evaluate the effectiveness of ELSS funds is by comparing their risk-adjusted returns with those of benchmark indices and other diversified equity funds. An empirical analysis of investment performance can also help investors make an informed decision when it comes to investing.

1.4 OBJECTIVES OF THE STUDY

The study's main aim is to determine the investment performance of the ELSS mutual funds with diversified Equity funds and the Perception of investors towards mutual funds in Goa with particular reference to the Equity Linked Saving Mutual Fund scheme. The specific objectives are as follows.

1) To compare and analyse the investment performance of the Equity Linked Savings Scheme mutual funds (Growth) plans with other Diversified Equity mutual funds (Growth) plans.

2) To compare and analyse the investment performance of the Equity Linked Savings Scheme mutual funds (Growth) plans with relevant Benchmark Market Indices.

3) To analyse the risk-reward perceptions of retail investors regarding the equity-linked savings scheme mutual funds versus other Diversified Equity mutual funds.

4) To explore how investors consider the lock-in period of ELSS funds, keeping in mind the opportunity cost of the locked fund.

5) To determine the investors' preferences and perceptions when it comes to choosing an equity-linked savings scheme over other tax-efficient investment options.

1.5 HYPOTHESES OF THE STUDY

For Objectives 1 and 2

H_{01} = The average Sharpe Ratio of ELSS (Growth) and diversified equity funds (Growth) is not significantly different.

H_{02} = The average Sharpe Ratio of ELSS funds and benchmark market indices is not significantly different.

H_{03} = The average Sortino ratio of ELSS growth funds and diversified equity funds is not significantly different.

H_{04} = The average Sortino ratio of the ELSS growth funds and benchmark market indices is not significantly different.

H_{05} = The average Jensen's Alpha of ELSS (Growth) funds and Diversified Equity (Growth) funds based on BSE Sensex is not significantly different.

H_{06} = The average Jensen's Alpha of ELSS (Growth) funds based on BSE Sensex and Market Indices is not significantly different.

H_{07} = The average Treynor's Ratio of ELSS (Growth) funds and Diversified Equity (Growth) funds based on BSE 30 (Sensex) is not significantly different.

H_{08} = The average Treynor's Ratio of ELSS (Growth) funds based on BSE 30 (Sensex) and Market Indices is not significantly different.

For Objectives 3, 4 and 5

H_{09} = The retail investors' Perceptions of return/reward in the case of ELSS compared to Diversified Equity funds is not significant.

H_{10} = Retail investors' perceptions of the risk of investing in ELSS are significantly different as compared to Diversified Equity Fund.

H_{11} =There is no significant difference in retail investors' perception towards Lock in Period of the ELSS Fund.

H_{12} = The Investors' perception/preference towards ELSS funds compared to other tax-saving investments is not significantly different.

1.6 SCOPE OF THE STUDY

The study tries to evaluate the investment performance of the ELSS fund and investors' Perceptions. The Performance of the ELSS funds has been evaluated for the past ten years. The universe of funds, which has a minimum track record of three years, is considered when assessing the Performance. Only Growth option plans are considered since the study deals with the fund's investment performance. To compare the ELSS fund performance, twelve top diversified equity schemes covering nine mutual fund houses are considered. Investment Performance is also benchmarked against seven market indices, which individual ELSS funds make use of as benchmarks. Similarly, to study investor perception, a survey has been conducted of Investors from the state of Goa. For this study, Investors were classified into two groups. Firstly, those with investment experience in ELSS and diversified equity funds, and secondly, those who have been investing in other tax-saving investments.

1.7 RESEARCH METHODOLOGY AND DESIGN

The investment performance depends on the income and savings of the investors. Certain factors are responsible for investment performance among the investors that affect the investments in changing the perception of investment avenues. This also determines the ability of the investors to save and invest. Therefore, the present study helps analyze the investment

performance of mutual funds in the region of Goa. The present study involves the evaluation and comparison of the investment performance related to the Equity mutual funds involving the growth plans along with other Benchmark indexes and Diversified equity mutual funds. The analysis of the ability of the investor concerning the risk-reward of individuals with regards to the comparison of Equity mutual funds with Diversified equity mutual funds is another objective to evaluate the performance related to the investment. Another objective of this given research involves the analysis of the perception of the investor along with the preference concerning Equity mutual funds when compared with other tax-saving investments. The identification of the additional risks, if present in the investment of Equity mutual funds when compared to Diversified equity funds is yet another major goal of the study. To implement the given objectives, the study involves primary and secondary data collection methods. The research paradigm is an important method in analyzing the methodology approach and unsegregated tools in the research study. It is the combination of concepts, issues, and variables involved in the present study. Some of the paradigms are listed below which help in the determination of performing the research study involving the classification as positivism and interpretivism.

- Positivism: It is the type of research paradigm that helps in the development of the result by determining the scientific methods. It has been considered as the approach that helps in finding out the real phase of the study by determining the independent events and relating them with reality with the help of valid cognition. It has been further analyzed that positivism is achieved by involving experiments and observations along with other related research methodologies which involve a collection of data and its analysis depending on the quantitative determination. The mentioned components help in developing relationships between the information being collected with the variables and further the hypotheses testing on the same basis.
- Interpretivism: It is the opposite of positivism concerning beliefs and ideas. This approach identifies the issues along with their definite solution involving the human's analysis of their ideas and meanings. This approach involves the conduction and fulfillment of ideas by implementing a better understanding of reality and appropriate determination for achieving the goal of the research study. Many researchers have implicated this approach as the reality that is handled by the individuals with their own determination and assumption concerning the same. This approach helps in better understanding and finding related to the particular objective or condition. Interpretivism helps in a better understanding of the social world with the implementation of an individual's options and actions which is important to be analyzed. This

approach further collects the information and option of the individuals involved in the process with the determination of interrogative methods.

The present study is conducted with the objective that would evaluate and comparing the investment performance related to the Equity mutual funds concerned with growth plans. This involves various parameters based on collecting the empathic understanding of the people regarding mutual funds. Therefore, to implement these parameters, interpretivism is used as the approach in the present study.

To conduct the study logically, a research design needs to be implemented. The research design of the current study requires certain components of research methodology such as data collection and its evaluation and analysis which is being considered as a universal strategy that is further being adopted by the researcher in order to combine the various perspectives concerned with the study logically and coherently. It involves addressing the research problem and thus moves ahead to measure the collected data. Descriptive research design has been implicated in the given study for achieving the major objectives so that an outlook of the process is provided delivering an independent existence. In the present study, the descriptive research design provides an accurate and systematic description of the population or phenomenon. This research design has been considered to be appropriate for the study because it will help in identifying the characteristics of the problem and describe them in detail.

The research strategies in the given study refer to the different components of research methodology involving the collection of data and its analysis and interpretation. It is based on the identified research problem and is based on the data collection approach. Quantitative and qualitative data need to be explained for a better understanding of the research study.

- Quantitative research approach: This type of approach involves statistical and mathematical evaluation and the whole experiment of the research is designed according to the collected data through the surveys. This approach is implicated in establishing relationships among the variables. This further involves the elements grouping along with their numbering and their conversion into some measurable models.
- Qualitative research approach: it is the type of research approach that involves the exploration of the views of the individuals participating in the research. This approach is capable of analyzing the description, explanation, and interpretation of data. This approach also involves the orientation of new theories and concepts which are in turn derived from actual

experiences. This approach can be implemented in the form of case studies, content analysis, grounded theories, etc.

The current study of this research involves the use of a quantitative approach. This research aims in analysing the evaluation and comparison of investment performance of the mutual funds of Equity related growth plans along with the analysis of the investor's ability and preference towards Equity mutual funds and some additional risk evaluation regarding the same. The quantitative approach helps in establishing the relationship between the variables concerned with the research study. Implementation of a "Qualitative Research" with independent variables being Blockchain, which enables improvement of transparency, and dependent variable being Adtech Ecosystem.

The reasoning approach is also important in the research methodology as it helps in the analysis of the hypothesis for concluding the result. In the given study, a deductive approach is used as it is beneficial in creating the best hypothesis, converting all the general into the specific reason, and lastly, the study obtained the true conclusion. The surviving theories are analyzed and then the developed hypotheses are tested that have emerged from the existing theories.

1.7.1 DATA COLLECTION METHOD

The objectives designed for the study are achieved by conducting both the research that is primary research and secondary research. The main aim of the research methodology is enhanced by the data collected from the existing market. The primary and secondary data are essential in meeting the research study's objectives.

1.7.1.1 Primary data collection

This data collection method uses raw data collection, which has been used for achieving the aim of the research. It includes the questionnaire, which helps address issues pertinent to the study and is relatively easy to analyze. Questionnaires offer several benefits over the approaches. This instrument consists of a series of questions related to the study for collecting essential information from respondents. This instrument consists of a series of questions related to the study for collecting the actual information from respondents. The adoption of the Questionnaire Design more specifically into (close-ended questionnaires) is selected for two

categories involving the category of ELSS and Diversified Equity Investors and Non –ELSS investors.

The study was conducted through both primary and secondary research methods. The data collected from the primary study were gathered from 600 individuals who are residents of Goa. The close-ended questionnaires are distributed among 600 and more audiences. The two groups consist of a certain number of people, 492 for the former category of Investors and 108 for the latter category of non-ELSS investors. The residents belong to Goa. These investors have experience in investing in Equity linked savings schemes, diversified equity funds, and other tax-saving investments.

1.7.1.2 Secondary Data Collection

In addition to the above secondary data has been collected from the various databases related to the Net Asset Value Mutual Fund and ACE Mutual Fund. In addition to this, there are official websites, the National Exchange of India, Mumbai Stock Exchange of India, other publications of SEBI and AMFI, RBI, and other journals and periodicals are also referred.

1.7.2 Statistical Tools Used

To analyze the data, the research mainly focuses on various investment performance evaluations, which are as follows: Investment Return of the fund, Standard Deviation of Return of the Fund, Co-efficient of Variation of Funds, Beta of the Fund, Sharpe’s Return to Variability Ratio, Treynor's Return to Volatility Ratio, Jensen's Alpha, Sortino's Ratio, ANOVA Welch's Test has been used.

1.7.2.1 Dependent variable

The dependent variables used are being measured or tested in the given research. This is achieved by studying the mutual funds purchased by the people in Goa. Financial advisors always recommend investing the money in funds that are involved in a good performance, rather than keeping the money in savings. Edelweiss Broking Ltd in Panjim has evolved its understanding regarding investment and mutual funds. It has revealed the fact that the mutual fund consists of a number of several investors' securities involved in the form of stocks and bonds for its investments. These are:

1) NAV (NET ASSET VALUE)

2) Value of Indices

1.7.2.2 Independent variable

The following are the independent variables used in this research study:

1. **Equity Linked Savings Scheme (ELSS):**

   ELSS is the scheme offered by mutual funds, investing its major entities in equity-related instruments. ELSS investments come with a lock-in period involving the benefits of tax attached to them. It has been mainly suitable for those investors who have the risk for a higher profile as returns in ELSS that in turn depends on the equity market with no fixed returns. It is an independent variable because it depends upon the individual's understanding of the concept. Even the risk-reward perception of an individual becomes an important concept for understanding the (ELSS). This is beneficial for the people because it includes all the solutions such as a minimum lock period and tax reduction from the total taxable income. Three options are involved in making investments in ELSS that include growth option, dividend option, and dividend reinvestment option.

2. **Benchmark Market Indexes:** It has been used as a group of securities in measuring the investment performance of stocks, securities, and mutual funds. The additional benefits are achieved after investing in the Benchmark Market Indexes. This helps in checking the actual performance of the mutual funds and shows the perfect stock allocation which is more accurate than the normal mutual fund.

3. **Diversified Equity mutual funds:** This variable helps understand an important influence for the people to invest in mutual funds and gain benefits. The main purpose of this variable is to achieve the appreciation of longer-term capital through diversified investments across the stock market. The correct investments will benefit people to plan for the future to gain proper returns. This helps in understanding the size of the sector and what will be the maximum gains for investors.

4. **Tax Saving Investments:** Person's decisions for investments and their Perception towards tax-saving investments as compared to ELSS. The importance of examining

the benefits of the (ELSS). This is beneficial to reduce the tax under section 80C or 80CCC. Because of this people frequently wish to invest in this.

1.7.3 POPULATION AND SAMPLING

Target population: The population is targeted for generating the investor's perception/behavior of all the residents belonging to Goa.

Sample size: 600+ retail investors were selected to fill the structured closed-ended questionnaires.

Sample Size Calculation: The sample size for the present study was calculated with the help of Krejcie & Morgan (1970) for a 95% confidence interval and 0.05 margin of error. As per (Krejcie and Morgan, 1970), for a population of 10 lacs and beyond, the representative sample size recommended is 384. However, this study has considered a sample size of 600 respondents.

$$S= x^2NP (1- P) \div d^2 (N-1) + X^2P (1- P)$$

s = required sample size.
*X*2 = the table value of chi-square for 1 degree of freedom at the desired confidence level. (3.841).
N = the population size.
P = the population proportion (assumed to be .50 since this would provide the maximum sample size).
d = the degree of accuracy expressed as a proportion (.05).

1.8 SAMPLING DESIGN:

The study seeks to analyze the various aspects of the ELSS, as well as the market indices and Diversified equity funds. The sample set included 43 such funds. The 12 funds of Diversified funds that were selected from the sample set were chosen based on their highest asset under management (AUM) of a minimum three years track record. The sample set of Market Indices contains all the market indices considered by the ELSS funds. This set further consists of 7 market indices: four belong to the Mumbai Stock Exchange, and the other three belong to the National Stock Exchange of India. The selected people have the correct and current knowledge of the mutual funds, which will benefit in producing fairness in data.

Sampling Technique: Non-probability purposive sampling has been used.

1.8 .1 Statistical Tools:

The investing in the funds is dealt with by an Asset Management Company. These companies have the responsibility for the buying and selling of securities based on the fund's stated objectives. The funds are managed by the managers who are responsible for implementing the strategies. These mutual funds prove to be convenient in terms of purchase, withdrawal plans, reinvestment, and dividend plans. The investors are capable of receiving reports and statements that help in tracking the growth of their investments. The main reason for investing in a mutual fund is to gain tax benefits.

Various mathematical and statistical tools have been considered for testing investment performance. Below are the tools that have been discussed:

- Sharpe's Ratio: It has been derived from the Capital Asset Pricing Model and considered as the measure of Performance related to the risk. The Ratio indicates the Return per unit of the total risk taken by the scheme. It is calculated as:

  SR = Return - Risk-free return / Standard deviation

  It has been used for comparison within the categories. If Sharpe's Ratio is higher than the category, it indicates that the fund manager can generate a higher Return per unit of total risk.

- Treynor's Ratio: This Ratio refers to the Return per unit market risk and is also known as systematic risk. It is calculated as:

  TR = Return - Risk-free return / Beta

  It has also been used for comparison within the categories. If Treynor's Ratio is higher than the average category, it indicates that the fund manager can generate a higher Return per unit of systemic or market risk.

- Standard deviation: It is the measure of the buoyancy in the Return of a fund, indicating risk in the fund's portfolio. It is calculated as first calculating the average of daily returns. This average is deducted from each daily Return, and the outcome difference is squared. The sum of these squared values is further divided by the number of days to

get the variance. The square root of the variance is considered to be the standard deviation. The better deviation is determined by, the lower deviation.

- Jensen's Alpha: It is the measure that has been provided to reflect the fund managers' abilities. It is calculated as Alpha = Return on monthly investment - {Average monthly risk-free rate + Systematic risk of the portfolio .
- Sortino Ratio: The Sortino Ratio is a measure of the willingness of investors to take on a risk. It is similar to the Sharpe Ratio, which highlights the returns that an investment can offer.

1.9 DATA ANALYSIS

The given study involves different methods and tools for the analysis of collected data. This study involves descriptive statistical as well as the inferential statistical method to analyze the data. Descriptive statistical methods have been effective in presenting the data in a meaningful format involving simpler interpretation of data. The group of data in this method is summarized in the form of tabulated and graphical descriptions along with the discussion of the result in the form of statistical commentary. The central tendency is measured in the form of mean or frequency distribution. The measure of spread is also calculated as the standard deviation or the variance. The inferential statistical method involves the use of samples to depict generalizations about the populations from which the samples are evolved. Therefore, the sample representing the population is an important parameter in this type of method. The sampling strategy evolved from this method. Estimation of the parameters and the testing of the hypotheses are the two steps that are involved in this method.

Along with the methods, tools are also implemented for analyzing the collected data. The primary data collection is being collected on a questionnaire involving close-ended questions along with the use of the Likert scale. The questionnaire involves different sections along with the option of expressing the opinions of the respondents. The pilot survey has been used for such respondents with the finalization of the questions. The following are the analytical tools that are involved in data analysis:

- ANOVA : this tool has been used in multiple sample cases. The determination of the significance of difference among more than two samples means difficulty and cannot be determined as a z or t-test. Therefore, this tool helps in the analysis of the simultaneous test. This ANOVA test is determined as an F test and compares one sample with another variance. The larger sample variance is divided by the slight

variance to attain a significant F value. The required F value is then compared with the table value at the level of significance of 5%.

- T-test: It has been used for determining the significance of the sample mean or significant difference between the two samples.
- Chi-square: It has been considered an efficient tool in testing hypotheses. It is the type of statistical test that has been used for comparing the observed data with the expected data.
- Cronbach Alpha score: It has been used to conduct reliability tests for questions involving financial assets.

1.9.1 PILOT STUDY

In this study, the sample size is selected with around 100 respondents. The pilot study is considered in the research to interpret the feasibility, to check the cost incurred for the study, and the time duration required for research as this will bring an accurate result. The pilot study is conducted to understand the result at the prior stage and improve them on a full scale to reduce errors. We modified the questionnaires and conducted the main study using the pilot study.

Period of reference: Survey conducted between Feb 2022 to July 2022.

1.10 ETHICAL CONSIDERATIONS

Ethical investments have been considered as the buying investment being derived from the issuing authority that is ethically operated. The investor needs to set criteria for determining the ethical and unethical practices in the investing process. The ethical decision of the investors helps them in determining their investment choices. Investors who avoid the ethical decision of investing are considered unethical investments and have to face communally conscious mutual funds that are indeed monitoring the companies according to criteria based on ethics and rules.

The financial undertakings have evolved several monopolies in the market that can perform very efficiently in all respects, along with handling good business competition. This performance in investing has been considered unethical by some investors. This is considered to be captivating at someone else's cost. Ecological accountability is another important criterion determining ethical considerations during investment. Many industrial investors or

undertakings involving manufacturing agencies have proved to be destroyers of the environment by contaminating nature. Therefore, ethical investors are responsible for supporting their companies in restoring the needs they take from the earth and holding onto the government policies and standards for emissions. Many businesses have also evolved from the profits from medical dealings of investigations and are believed to be unethical and illegal for many religious beholders. Many industries are into the production and manufacturing of products that are harmful to people, but these industries have targeted young people as customers to make use of products to increase sales for the growth of the company. This is also considered unethical in investing in the production of such products.

Therefore, ethical consideration awareness has gained popularity, so it may not affect the business, and the investors maintain good decision-making during investments. The concern regarding the investment in the business has grown to a greater extent as many of the managers have adopted unethical practices to make more profit for their business.

The two important dimensions in the given study involve the investment performance of ELSS and the ability of the investor to invest, which is the investors' perception. The ELSS is a type of mutual fund where it is noticed the investments made by the individuals are in equity. The major difference between the normal mutual funds and (ELSS) is the tax benefit gained by the individual, as the majority of them look for. The key point for adopting the (ELSS) is that it benefits in reducing the locking period as the minimum lock period is for three years, as this is the minimum risk that one individual can easily agree for. The most important is the tax benefit created by the ELSS under section 80C concerned with the act of income. This creates a benefit to the investors for getting long-term gains and gives tax benefits by getting the deduction in total taxable income. Bansal et al. (2012) investigated 12 selected mutual funds schemes that were studied with the help of the Sharpe model during the year (2005-2009). Further, Kaur (2012) analyzed the divided schemes in India, providing the returns on a monthly basis as compared to Benchmark Index Returns. In addition to this, Santhi & Gurunathan (2012) stated that 32 growth-oriented open (ELSS) schemes use the CNX Nifty as the benchmark index. This adoption of the study involves the investment performance concerned with ELSS and the perception of the investor to determine the evaluation of the investment performance of ELSS funds and Diversified Equity funds, along with the determination of market indexes.

1.11 RESEARCH LIMITATIONS

i) The research was related to the investment performance of Mutual Funds with respect to the investor perception of the people living in Goa.
ii) The research was restricted in nature because the respondents from a specific region have been taken into consideration. The study does not cover the perception of investors from other regions. As a result, the research outcomes are confined to limited sources and region.
iii) The sample funds used for the study came from the ELSS funds that were active as of March 31, 20019.
iv) The study only looked at the ELSS plans with regard to growth plans. It did not consider the plans with regard to dividend plans.
vi) The study suffers from survivorship bias, as it is likely that some fund schemes could have been stopped /merged/ withdrawn during the period due to poor performance or other reasons.

1.12 CHAPTERISATION SCHEME

The study consists of six chapters:

Chapter 1: Introduction – The first chapter of this study provides an introduction to the topic, scope, significance, and hypotheses of the study. It also describes the research methodology, limitations, and design.

Chapter 2: Review of Literature - The second chapter reviews the literature on the subject of mutual fund performance and investor perception. It also looks into gaps in research.

Chapter 3: The Conceptual and theoretical framework of Mutual Funds in India- This chapter provides various concepts relating to mutual funds and their recent developments. Details of ELSS and Diversified equity fund and the differences between them. The risk involved in mutual fund investments and ways to measure risk.

Chapter 4: Data Analysis and Interpretation– Investment Performance – The fourth chapter focuses on the data analysis and interpretation of the study on the performance of ELSS Funds versus Market indices and diversified equity funds.

Chapter 5: Data Analysis and Interpretation – Investor Perception – The fifth chapter explores investors' perceptions of the different types of tax-saving investments and their preference for ELSS funds over other alternatives.

Chapter 6: Findings, Conclusions, and Recommendations – The final chapter summarizes the study's main findings, as well as suggestions to the participating stake holders. It also offers future research opportunities.

CHAPTER 2

REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

The past studies on mutual funds have been categorized into two categories: one focuses on the investment performance of the funds, and the other is on the Perception of the investors regarding the funds.

2.1Studies related to Mutual Funds and Investment Performance

From 1953 to 58, **Brown and Vickers (1963)** conducted a study comparing the Performance of different types of funds. It found that the relationship between the fund's net inflow and market index changes can vary. The study also analyzed the various features of funds that can affect their Performance, such as portfolio turnover, security transactions, and structure. According to the study, large and small-size funds have lower turnover rates, while the turnover rates for small-size funds tend to be higher. It also noted that when market prices go up, the turnover rates tend to increase.

The study found that the average performance of the funds was similar to that of their market counterparts during the period. However, it did not find a consistent correlation between the returns and the annual turnover rates. It also noted that active management did not provide superior results compared to static market portfolios.

Another study by **Sharpe (1966)** used the Sharpe Ratio as a parameter for assessing the Performance of mutual funds. The study analyzed 34 open-end funds that were issued from 1954 to 1963. It found that the performance of these funds varied significantly. The reward-to-variance ratio, which was derived from the sample funds' Performance, varied from 0.78 to 0.43. It was suggested that the fund managers' ability to identify incorrectly priced stocks and the expense ratios of the funds might explain the differences in their results.

In 1966, Treynor and Mazury conducted a study on the market timing abilities exhibited by fund managers. The study analyzed the performance of 57 different open-end mutual funds from 1953 until 1962. It revealed that a fund manager's only way to predict the direction of the market is by continuously adjusting the fund's volatility. The study also concluded that attempting to guess the market is useless.

The study conducted by **Jensen in 1968** sought to analyze the performance of mutual funds. It utilized the CAPM model in order to measure the fund's overall performance. The study's alpha measure is regarded as a portfolio manager's ability to predict the future prices of securities. The study was conducted on 115 open-end funds from 1955 to 1964. It revealed that the managers of the sample funds were able to outperform the market by correctly identifying the security prices.

The study **by Bauman (1968)** analyzed the various factors that can affect a fund's future Performance of a fund. He focused on the economic environment, investment management operations, and portfolio objectives. It revealed that environmental conditions significantly affected the fund's Performance.

The study conducted by Tito and **Smith in 1969** analyzed the relationship between the performance measures of Treynor, Sharpe, and Jensen. It revealed that the former is equal to the latter for funds that have no unsystematic risk. The study noted that the ranking through the alpha derived from the Jensen measure is consistent with the Treynor measure. However, it also assumed that the risk-free rate is constant. To address this issue, the researchers developed a new measure called the modified Jensen. The study analyzed the Performance of 38 different funds from 1958 to 1967. It found that the four criteria had strong correlations. The study, conducted by McDonald in 1974, analyzed the Performance of 123 mutual funds from 1960 to 1969. It revealed that funds with aggressive goals had better alpha and beta ratios.

The study by **McDonald (1974)** found that the average returns of the sample funds were increasing with the risk. Almost 70% of the funds had Treynor alpha greater than the market, while 50% had positive Jensen's alphas. Out of the 123 funds, over 80% have Sharpe ratios that are less than the market average.

In **1984**, **Lewellen and Chang** conducted a study to determine if fund managers were able to provide superior returns by altering the risk profile of their portfolios in anticipation of market price movements. The study analyzed 67 funds with varying investment objectives from 1971 to 1977. Through a statistical procedure, the researchers were able to test the fund managers' market timing and security selection abilities. They found that the funds did not perform well compared to the passive portfolio.

The study by **Sharpe (1992)** noted that the fund classification method is very important when it comes to assessing the Performance of fund managers. It also used a factor model to analyze 34 open-end funds from 1985 to 1989. The researchers noted that this method could be used to construct benchmarks.

To understand the various characteristics of diversified equity mutual fund performance, **Malkiel (1995)** conducted a study that analyzed the fund performance, expense ratios, and survivorship bias of 724 funds from 1971 to 1991. It also found that persistence did not exist during the 1980s. It did not find that high-risk strategies deliver superior returns. According to the study, the average return of all funds was 15.99% during the period. It also noted that the markets were relatively efficient, and funds did poorly.

The study was conducted by **Khan and Rudd (1995)** from 1983 to 1993. It analyzed the Performance of fixed-income and equity mutual funds. It focused on these funds for a period of 10 years. It found no evidence of persistence in the equity fund industry. According to the study, investors should consider investing in index funds as they have low fees, low turnover, and average Performance. These funds are above the median of all funds that follow similar styles.

Malkiel, B. G. (1995) study analyzes the returns from the equity mutual fund industry from 1971 to 1991 using a unique data set. It shows that fund managers can achieve superior returns. Through this data set, it can now analyze how survivorship bias affects fund performance. It has been estimated that this factor is more important than other factors. Out of all the funds analyzed, the average has performed poorly after fees and expenses.During the 1970s, fund returns were consistently strong. However, during the 1980s, returns were not as consistent.

Golec conducted a study in **1996** to analyze the impact of fund managers' characteristics on their fund performance and fees. It examined over 530 funds from 1988 to 1990. It found that those with an MBA degree were more successful than those without it. According to the study, investors can expect better returns from fund managers with more than seven years of experience. The study also advised investors to avoid funds that have high operating expenses. It noted that certain factors, such as the size of the team, the beta, and the duration of the managers' education, can affect a fund's risk-adjusted returns.

A study conducted by **Jayadev in 1996** analyzed the monthly returns of Magnum Express and Master Gain funds. It also compared their Performance with that of the benchmark. The study was conducted for 21 months, from 1992 to 1994. The study noted that Master Gain and Magnum Express were underperforming the benchmark. It also found that the former had low diversification and could not capitalize on market timing and selectiveness.

The study conducted **by Murthi, Biswas, Choi, and Desai (1997)** examined the effectiveness of mutual funds using a nonparametric approach. It is an integral part of economic research. The two most popular performance indexes are Sharpe and Jensen's Alpha.

Due to the shortcomings of the previous measures, we came up with a new benchmark that aims to improve the performance of these indices. The new index is based on the data envelopment analysis method.

The study analyzed the various advantages of utilizing a non-parametric approach to fund selection. It also compared its results with traditional indices.

The study conducted by **S.K. Goyal in 1999** analyzed the performance of various Indian mutual funds. His main objective was to analyze how these funds affect the country's economy and investment climate. In addition, he looked into the various advantages of investing in such funds. Both, Secondary and primary data were used for the study. Different statistical techniques were utilized, such as regression, correlation, and dispersions. The study also tried to determine if there was a relationship between the Performance of the proposed portfolio mix and the returns it generated. It found that the schemes that target increasing returns in equity were similar in terms of their performance.

The study conducted by **Chan and colleagues in 2002** sought to analyze the investment strategies of equity fund managers. The objective of this study was to classify funds according to their market capitalization and value-growth orientation. The objective of the study was to provide a deeper understanding of fund managers' behavior. The study included 3,336 funds as of the end of 1997. It found that the funds follow their own styles, and styles tend not to deviate from the widely followed benchmark. According to the researchers, funds that differ from their index tend to favor growth and higher-return stocks when it comes to value. The study also noted that the size and volume of book-to-market and fund offerings are good indicators of the

style of funds. According to the authors, the alpha for growth mutual funds was 1.2 percent higher than that of value funds during the period 1976 to 1997.

The research paper by **Sapar, N. R., & Madava, R. (2003).** The study seeks to analyze the performance Indian equity funds during the recent bear market. Different strategies and measures are used such as the Sharpe's, Fama, Treynor, and relative performance index. The data for the study is derived from the monthly prices of the different funds in the country.

The study was conducted from September 1998 to 2002. It analyzed 270 open-end funds and found 58 similar funds. After excluding funds that have lower risks-free returns, the total number of analyzed schemes was 58.

The sample funds' mean monthly and risk-free returns were, respectively, 0.59% and 7.10%. The average annual returns of the market portfolio are compared with the figures of the performance measures. The funds that used the systematic risk premium and absolute risk were able to deliver better returns than expected.

The study, which was conducted by **Singh Gurucharan in 2003**, was about the performance of Indian stock funds using the Sharpe and Treynor indexes. Data for the study came mainly from secondary sources, such as reports submitted by financial institutions.

Nithya R. conducted a study **in 2004** on the Performance of Franklin Mutual Funds. He focused on analyzing the various schemes offered by the company and identifying the ones that are performing well. He also emphasized on the value of the funds by identifying the top-performing funds in the different categories. He selected Franklin Mutual funds as the preferred asset management company (AMC). It performed well and met his expectations.

Dor, A. B., Jagannathan, R., & Meier, I. (2005).in this paper, the authors of Return-based Style Analysis demonstrate the advantages of this technique in practice. They also discuss the factors that should be considered when selecting the appropriate style benchmarks.

The study shows how asset turnover and style charts can be used to provide the correct inference regarding a fund's effective style. It also discusses extending the return-based style analysis technique to hedge fund styles. These insights are not available through standard peer-evaluation methods.

N.P. Tripathy (2006) conducted a study on the performance of 31 Indian fund managers from 1995 to 2004. It analyzed their market timing abilities and performance. It revealed that they could not reap the returns they were expecting due to their poor timing. The study also found that the fund managers could not capitalize on the opportunities the market had to offer them.

The study conducted by the researchers, namely **Acharya, D., & Sidana, G. (2007),** analyzed the classification of mutual funds in India using a cluster analysis method. They then used various criteria, such as the alpha, beta, standard deviation, and R-squared, to classify the funds. They found inconsistencies between the returns that the funds generated and the investment style that they adopted.

Chakrabarti, B. B. Deb, & S. G., Banerjee, A., (2007) The researchers conducted this study to analyze the market timing and stock selection abilities of fund managers in India. They applied both unconditional and conditional approaches to the study. The study was conducted on 96 Indian mutual fund schemes. Out of these, the stock selection ability of the managers was not found in both conditional or unconditional approaches. The results of the study revealed that the managers did not have the necessary skills to perform well in the stock selection and market timing arenas.

Bodla, B. S., & Bishnoi, S. (2008) The study on emerging trends in India's mutual fund industry analyzed the different types of schemes and their emerging scenario. It also covered the sectors and types of the portfolio that are involved in the industry. The various tools used by investors to analyze the growth of the fund industry include the year-on-year change, the annual growth rate, and the market share. The reference period for these tools is from 1998 to 2006.

According to the study, over 600 mutual fund schemes in India provide various features such as dividends and growth, sectoral plans, and equity-linked funds. Although closed-end and open-end fund schemes have been performing well in terms of fund mobilization, the former is preferred by investors. The performance of income funds has been better than that of growth funds. Moreover, the share of the UTI in total assets has dropped to 11.8 percent from 82.5 in 1998.

B. Phaniswara & K. Mallikarjuna Rao (2008), the study analyzed the returns and risks of various mutual fund schemes from April 2000 to March 2005 across different sectors. He has

used the components of the performance measure of Fama, Treynor, Sharpe, and Jensen. Out of the 450 schemes that the various mutual funds floated in India as on March 31, 2005, 60 were selected for detailed study. The findings indicate that many of these schemes failed to outperform the market. They also showed that the mismatch of the returns and returns relationship between the various schemes is not resolved adequately.

The study conducted by **Sensoy in 2009** examined the relationship between Performance and self-defined benchmarks in the mutual fund sector. It revealed that a fund's Performance relative to the benchmark is a significant factor influencing its subsequent cash inflows. The study also found that the incentive for a fund to improve its flows is why some self-designed benchmarks are mismatched.

The study by Gupta, M., & Aggarwal, N. (2009) focused on creating a mutual fund portfolio using industry concentration. It was mainly concerned with analyzing the various factors that affect the fund's Performance. There is a lack of research on the various factors that influence a mutual fund's performance. This study aims to provide a comprehensive view of these factors. It was conducted through a cluster method, which took into account the industry concentration. The results of the study were very encouraging, as they showed that the use of industry concentration could help mitigate risk.

S, Sangeetha (2009) The study aims to analyze the performance of different mutual fund schemes across the country. It also focuses on the relationship between the market returns and the Net Asset Value returns. The data used in this study came from 138 mutual fund schemes. It is divided into three categories: growth, income, and balanced. Of these, 61 of the schemes fall under the growth category, 53 are in the income category, and 23 are in the balanced fund category. The study analyzed the various statistical measures, such as the standard deviation, kurtosis, and average, to determine the correlation between the daily, weekly, and monthly returns. It revealed that out of the 138 mutual fund schemes, 122 have a beta of less than one. On the other hand, 121 have a beta of less than one in the weekly and 117 in the monthly returns.

Dhume, P., & Ramesh, B. (2011) The paper aims to analyze the performance of the various Indian mutual fund sectors. It uses a special reference for the sector fund. They have utilized different methods to measure the Performance of these funds. Some of these include Treynor Ratio, Sharpe Ratio, M-squared Measure, and Information Ratio. The study was conducted on

different sectors such as banking, Infrastructure, FMCG, pharma, and technology. The period covered under the study was from April 1, 2008, to March 31, 2011. All the schemes were selected from the existing sectors. According to the study, open-ended equity mutual funds have performed well according to the Treynor and Sharpe Ratio method. Infrastructure funds have lagged behind the market. On the other hand, FMCG has the lowest beta and standard deviation among the different sectors. Banking and Infrastructure have the highest degree of volatility.

Agrawal, D. (2011) The study aims to analyze recent trends within the mutual fund industry of India. It mainly focuses on analyzing the multiple parameters that influence the industry's Performance. These include the increasing number of schemes and the growth rate of the assets under management. The study covers the period 1998 to 2006. It provides a comprehensive analysis of the country's various features of the mutual fund industry. It shows over 600 different types of schemes in the country, including dividend, growth, sectoral plans, monthly income schemes, equity-linked schemes, and money market instruments. Although closed-end and open-end funds have been performing well, the former is preferred by investors. According to a portfolio-wise analysis, income schemes have a significant advantage over growth funds.

Selvam et al. (2011) The study analyzed the correlation between the returns and risks of Indian mutual fund schemes. Out of the 35 sample funds, only eleven exhibited significant t-value. The other twenty-four funds had no similar relationship. T alpha values revealed that most of the funds' returns were similar to the market. Furthermore, the returns of a few sample funds were different from that of the market.

Munusamy, D., & Natarajan, P. (2011). The study empirically analyzed the returns and risks of the NSEs and the Shariah index from 2007 to 2010. It also divided the sample period into a bear market and a bull market period, considering the movement of both indices.

The objective of this research is to examine the performance of the standard and Islamic indices in India. It also aims to test the difference between these two indices. The paper uses various risk-adjusted measures such as the Treynor Index, Sharpe index, and Jensen alpha.

The study used a t-test to analyze the returns difference between the two indices. It revealed that the Islamic index has been underperforming the common one during the sample and sub-

sample periods. However, the paper found that the difference between these two indices is not significant.

Using risk-adjusted returns, it has been revealed that both indices are underperforming regarding the risk-free rate of return. It also noted that the Islamic index's low volatile nature is not a significant factor that affects its Performance. The study concluded that both indices are performing well in India.

Santhi, N. S., & Balanaga Gurunathan, K. (2012) The study seeks to analyze the tax-saving fund returns of different schemes in India. It is focused on comparing these returns with those of the S & P CNX 100 NIFTY. The performance of these funds was analyzed using the various risk-adjusted measures provided by Sharpe, Treynor, and Jensen. It was revealed that there was significant volatility in the funds' returns during the study period. The various tax-saving schemes follow a similar pattern when it comes to returns. They also follow the stock market index S& P CNP NIFTY. During the 2008 financial crisis, the funds exhibited negative returns, which were higher than the market's Performance. The average return of these schemes is higher than that of the benchmark.

Roy, S., & Ghosh, S. K. (2012) The study sought to analyze the performance of the ELSS fund schemes during the 2008 financial crisis in India.The data for the study was obtained from AMFI's website. The net asset values of the various equity-linked saving fund schemes were analyzed study empirically analyzed the multiple aspects of the open-end mutual fund industry's Performance, such as its risk-adjusted, market-timing, and diversification. It revealed that the Treynor and Sharpe ratios of the different open-end fund schemes were negative during the financial crisis. It found that the stock-selection and market-timing returns of the managers during the financial crisis were insignificant. This suggests that the overall performance of the ELSS fund industry was not good.

Inder, S., & VOHRA, D. S. (2012) The study sought to analyze the long-term performance of different index fund schemes. It utilized a risk-return framework to analyze the funds' long-term performance. The fund's alpha, standard deviation, beta, R-Squared, Sharpe measure, and Beta were analyzed.

The results revealed that the funds that were evaluated performed better in the Growth option of a diversified index fund. On the other hand, Franklin India Mutual Fund was able to outperform the other funds when it came to the dividend option.

The fund was able to capture the market's share in both the growth and dividend options by showing low tracking errors.

Kumar, R. (2012) The study aims to analyze the performance of equity and hybrid mutual funds in the country. It was conducted from 2002 to 2011. The study also used a questionnaire to collect data on the perceptions of 200 investors in Punjab. The study used various analytical tools to analyze the data. Several of these measures are used by researchers to analyze the performance of various mutual fund categories. Secondary data shows that the majority of these funds have medium risk. They also noted that the growth and balanced funds that were selected performed well against the benchmark indices.

The study analyzed the data and noted that hybrid and equity mutual fund schemes performed better than their benchmark indices from 2002 to 2005. From 2005-06 to 2010-11, they lagged behind the benchmarks. The study also revealed that investors tend to allocate their funds when the market takes a turn for the worse.

The question of whether or not a benchmark index should have alpha has been studied. In a study conducted by **Cremers, Petajisto, and Zitzewitz(2012),** They discovered that the Carhart Fama-French and Standard Fama models produce alphas that are not negative for passive indices, like the Russell 2000. The main causes of these alphas are the heavy weights of the Fama French factors relative to the small-value stocks in the market and the market cap-weighted index of the Center for Research in Security Prices (CRSP). It was proposed to eliminate nonzero alphas in the Fama-French factors through a combination of methodological changes and factor models.

A portfolio's Performance can be evaluated using either index-based or alternative models. The former provides better results when compared to the latter.

Petajisto, A. (2013) A study conducted by A. Petajisto analyzed the performance of various all-equity mutual funds by splitting them into different categories. The most active stock picker

groups performed better than their benchmark indices after fees, while the closet indexers lagged.

The patterns of Performance exhibited by the stock picker groups during the 2008 to 2009 financial crisis and the subsequent bear markets were similar. The correlation between the cross-sectional dispersion of stock returns and the Performance of the stock pickers was also positive.

Kaur, I. (2013) The study was conducted on Indian equity funds to analyze their performance and timing characteristics. It also aims to carry out an attribution analysis of the different managerial factors that affected the funds' Performance. The study was conducted on the top ten open-end funds from 2008 to 2010. It was evaluated using three different indices: the Sharpe index, the Treynor index, and the Jensen alpha. The researchers used the Fama measure to test the fund managers' selectivity skills and the Treynor-Mazuy method to test the timing. The study revealed that the average track of a fund is beneficial for investors as it allows them to benefit from the lower-risk investment. However, this finding contradicts previous research conducted in developed markets.

Dhanraj Sharma (2013), The objective of the study was to analyze the performance of various Indian equity mutual funds over a period of five years, starting from the year 2000. He used a sample composed of 10 growth-oriented open-end equity fund schemes from different companies. The results of the study were analyzed through various statistical techniques such as the risk-return analysis, the coefficient of variation, and the Sharpe ratio. The data used for the study period was from the market index's monthly closing prices and the mutual funds' monthly closing. Out of 10 of the ten fund schemes, the risk-return analysis revealed that they had underperformed in the market. On the other hand, the seven schemes with lower total risk have given higher returns than the market.

Das, S. (2014) The study, which is focused on analyzing Indian Mutual Funds' Performance, is an empirical analysis. It aims to determine how these performed in line with the risk-return parameters. The study period began in 2004 and ended in September 2014. Several measures, such as the Treynor Ratio, the Sharpe Ratio, the SDM, and the Jensen alpha, have also been utilized. The research indicates that the schemes have superior risk-adjusted returns, are adequately diversified, and are defensive.

Furthermore, most fund managers have exceptional stock-picking skills. The study found that the systematic investment plan (SIP) returns were satisfactory. Also, the schemes' overall Performance was satisfactory compared to the benchmark.

Renu Ghosh (2014) The study analyzed the performance of nine mutual funds by applying different Sharpe and risk-return ratios. The data was gathered from January 2010 until December 2013. The results of the study revealed that out of the nine funds, three of them performed better than the benchmark index. It has been concluded that the Performance of foreign private companies sponsored mutual funds is superior to that of public and private firms.

Narayan, P. K. et al. (2014). The paper analyzed the relationship between the stock returns and the mutual fund flows in India using a generalized VAR model. It revealed that spillover stocks could explain up to 20% of the variance in forecast error between the two types of assets.

The paper created a spillover index that measures the effects of mutual fund flow and stock return shocks. It tests whether this model can predict the future returns of both types of assets. In addition, it offers trading strategies that a mean-variance investor can use.

Roy, S. (2015) The study will look into the fund's selection and market timing based on traditional and customary measures. It also takes into account the 12-calendar year period from 2001 to December 2012. The results of the analysis are analyzed to determine the fund's conditional Performance, which is then taken into account. The goal of conditional CAPM is to provide a better performance estimate by incorporating public information into the evaluation process. This method is commonly used in market timing and portfolio evaluation.

Gandhi, R. K., & Perumal, R. (2016) The study aimed to analyze the impact of bank mutual fund schemes on investors' decision-making process. The study focused on exploring the effect of different bank mutual fund schemes and the decision-making procedure of investors on the financial performance of these funds.

It was conducted from August 2009 to July 2014. The paper used various statistical tools to analyze the financial performance of different bank mutual fund programs. The study revealed that among the open-ended tax saving and midcap mutual fund schemes, the most preferred and ranked are the Canara Robeco Equity Diversification and HDFC Capital Builder.

These findings are helpful for investors as they help them understand the various aspects of the mutual fund industry and their decision-making process. It analyzed the various aspects of the mutual fund industry and provided investors with valuable insight into its performance.

Singh, G. (2016) The study aims to analyze the various factors that influence the returns of mutual funds in India. It is conducted through a 5-year analysis of data collected from ten different mutual fund companies. The study also analyzed the different types of products that these companies offer. The study found that the long-term relationship between independent variables and returns of mutual funds can be explained by various factors. Various factors affect the returns of a fund. Some of these include the size of the family, the fund's age, and the management experience of the fund manager.

Dhar, J. (2017). His research study on the investment performance of Indian equity mutual funds from May 2000 to March 2012 analyzed the various aspects of the fund management's Performance, such as their expense management and market timing. It has been conducted to provide a comprehensive view of the multiple factors that influence the Performance of these funds. Besides these, the study also focuses on other aspects like the persistence of the Performance and the volatility of returns. He has used various statistical tools such as Malkiel's Z-test, the Cross Product Ratio, Kahn and Rudd's Chi-square test, the Spearman rank correlation coefficient, and the Sharpe Ratio to study the volatility of the market. It has been concluded that although there is a significant dependence on the returns of mutual funds on the stock market, it is impossible to transmit the volatility of the market to the investors in India due to the country's professional fund management and operational practices. The risk analysis results revealed that the returns data of Indian mutual funds were less susceptible to extreme market movements.

According to **RENUKA** (2017), The Performance of an equity-linked savings scheme is analyzed by taking into account the various risks associated with its investment. For instance, the fund manager might take on a different risk strategy than the other investors. A fund's investor is a part of the company's liabilities and assets. The two most important factors that determine the returns it offers are the cost and the net asset value.

$$NAV = \frac{\text{Net asset of the scheme}}{\text{Number of units outstanding}}$$

Where net asset of the scheme is defined as;

Net Assets of the scheme= Market value of investment + Receivables + Other accrued income + other assets – Accrued expenses – Other payables – other liabilities

The absolute dispersion measure is additionally used to measure the volatility of the market. It shows the difference between the actual values and the expected values. Lastly, beta is a measure of the risk that is related to the fund's modality. This measure can be used to analyze the level of exposure the fund has to risk.

Inderjit Kaur (2018) The research conducted by this study analyzed the effects of fund characteristics on trading strategies and Performance. It collected data from 2004 to 2013 from Indian equity funds. The study was able to use the statistical method known as the system-Generalised method of moment(sys-GMM) to analyze the data. The study explained that the fund's performance can be explained by various factors, such as the flow of funds, the cash ratio, and the past year's performance. It was also noted that the study did not extensively study the lagged dependent variable.

The study also explained that certain factors can affect a fund's performance. These include the size of the fund and the expense ratio.

This study has important implications for investors who are planning on optimizing their portfolio return. For fund-ranking firms, conditional Carhart alpha is an excellent criterion to consider when it comes to identifying the best mutual funds.

The study by **Vorsatz, Pstor, and M. B. (2020)** analyzes the flows and Performance of US actively managed equity funds during the COVID-19 pandemic. It debunks the widespread belief that most active funds during the crisis performed poorly against passive benchmarks.

The study found that funds with high ratings for sustainability performed well, while those with low ratings did not significantly outperform their peers. During the financial crisis, investors shifted their focus away from luxury goods to sustainability. This suggests that they are willing to pay more for such benefits.

2.2 Studies relating to Investor Perception of Mutual Funds

The study conducted by **Madhusudhan V. Jambodekar (1996)** sought to identify the factors and information sources that influence the buying decisions of investors when it comes to investing in M.F.s. It revealed that open-end and income schemes are preferred compared to closed-end and growth schemes during the prevailing market conditions. The importance of capital appreciation, liquidity, and the principal is considered by investors when it comes to investing in mutual fund schemes. Besides the advertisements in newspapers and magazines, other factors, such as the service provided by the intermediaries, are also taken into account to select the right mutual fund.

The study conducted by **Syama Sunder in 1998** sought to understand the operations of private financial institutions. The survey results revealed that the public's awareness of the concept of mutual funds was poor in small cities. Besides being agents, the other factors that influence the selection of a fund or scheme are also important.

Moorthy and Rajeshwari (2001) studied the factors influencing investors' selection of mutual funds. The study analyzed 350 investors. It revealed that bank deposits were investors' most preferred type of investment. Mutual funds came in fourth place, followed by open-ended growth schemes. The study showed that investors consider various factors when it comes to investing, such as tax benefits, safety, and returns. They also said that the fund house's image and the fund's intrinsic qualities are some of the factors that influence their decision-making process.

Singh and Vanita (2002) The study was conducted to analyze the perceptions and preferences of 150 investors in Delhi. According to a study, most investors prefer to allocate their funds to public sector mutual funds that are focused on getting tax exemptions. They also stated that they are dissatisfied with the performance of their funds.

The study conducted by **Chander and Singh in 2004** explored the perceptions of investors on the various factors that influence their decision to withdraw from a mutual fund. It was conducted in three cities: Delhi, Mumbai, and Punjab. The study revealed that professionals and salaried individuals prefer to see the daily disclosure of the fund's net asset value (NAV). The study revealed that investors prefer to list funds on stock exchanges as they believe they offer better returns. However, low returns are some of the reasons why many salaried

individuals withdraw from mutual funds. Other factors, such as poor regulations and inefficient management, are also cited as reasons for investors to pull out.

The study was conducted by **Prabakaran in 2008** to investigate the perceptions of investors about mutual funds in the district of Dharmapuri. The study analyzed the various factors influencing an investor's decision to invest in a fund. It also looked into the Performance of different types of schemes. The study sought to identify the factors that influence an investor's decision-making process and the performance of mutual funds. It also analyzed the returns and risk factors of the selected fund schemes. The study was conducted on 42 sample mutual fund schemes. The objective of the study was to analyze the performance of different types of mutual fund schemes from 2002 to 2007. It was conducted through a sample size of about 10 million units. It revealed that the various types of funds did not meet the stated investment objectives.

The study conducted by the researchers, namely, **Upadhaya, V. K., and Kaushal (2009)**, analyzed the perceptions of residents of Chandigarh regarding the mutual fund industry. They noted that the industry has helped boost the capital market by attracting vast numbers of investors. Mutual funds are commonly preferred by small investors due to their lower cost of investing.They prefer to invest in these types of funds over the equity market. The industry has seen massive growth, with over 30 million investors have joined the platform. Financial markets are also influenced by their behavior. The study's objective was to analyze investors' perceptions and attitudes toward the mutual fund industry. It also tried to identify the factors that influence their behavior.

Walia and Kiran's (2009) study looked into investors' perceptions regarding the return and risk of investing in mutual funds. It also identified the gaps in this perspective. The study was conducted in Punjab and had a sample size of about 100 participants. The age of the respondents was a determining factor in setting investment goals. According to the study, understanding investors' expectations is very important to grow the mutual fund industry. It provides investors with a better idea of the various types of services and products that are available in the market.

An empirical study on people's perceptions of mutual funds was conducted in Chandigarh by **Upadhaya Gitnanjali and Kumar Vijay in 2009**. The study sought to analyze the various facets of the attitudes of investors toward mutual funds. The study collected data on about 225 individuals in Chandigarh using a convenience sampling method. The primary data were gathered through structured questionnaires. The respondents were categorized into various age

groups, income groups, educational qualifications, occupations, and gender. The results of the survey were analyzed using simple mathematical tools, such as addition and subtraction. Most investors consider mutual funds to be very important for the growth of the Indian capital market. They also believe that the organization's past record and tax rebate are some factors influencing their decision to invest in them. Unlike investing directly in the stock market, mutual funds are less risky. They also provide better returns than bank deposits.

The study conducted by **Meena in 2011** focused on the various factors that affect the quality of investment advice and perceptions of investors in financial firms. The study also found that continuous improvement is needed to improve these institutions' operations. The study noted that the industry needs to develop new investment products to provide investors with more options. It also states that advisers need to educate their clients about the risks and returns involved in investing.

Nihar conducted a study **in 2011** to analyze the knowledge levels of investors in Visakhapatnam. It also tried to look into the relationship between knowledge and risk. The study, which was conducted with 436 participants, revealed that investors' awareness levels were average. According to the study, the respondents preferred to invest in bank accounts or post office savings. However, they noted that the lack of knowledge about the subject could prevent investors from making informed decisions.

Rao, K. L. (2011), The study analyzed the behavior of individual investors toward mutual fund schemes. It focused on adopting and awareness of different types of mutual funds' educational levels. The importance of educational level is acknowledged as a factor that influences the decisions made by investors. The study revealed that increasing educational levels were associated with decreased risk tolerance. It was conducted in three districts and five mutual fund schemes in the state of Andhra Pradesh. The study used a chi-square test to analyze the link between technical and formal education factors and mutual fund awareness.

V.M. Selva and A. Bala (2011), The study sought to analyze how consumers view various factors that affect the selection of funds. It was conducted through a qualitative and quantitative method from June 2010 until August 2010, and the sample size was limited to 50 participants. The study revealed that most investors prefer good returns, tax benefits, and liquidity in mutual funds.

In 2012, Das conducted a study to find out the views of investors in the State of Assam about the advantages of investing in mutual funds. It collected data from 250 individuals from various towns within the state. The study also found that the level of interest that women and men have in mutual funds is related to their level of interest in other investments. It also states that the main reasons for doing so are the high returns and safety.

The study by **D'Silva et al. (2012)** analyzed the various factors that influence the interest of mutual fund investors. This study analyzed the various factors that influence the popularity of funds. It was carried out with a sample of over a hundred individuals in Mumbai.

According to the study, investors prefer to have their funds invested in equity funds as they have various tax advantages. Educational background does not influence their decision-making process when it comes to investing. The researchers concluded that funds should be customer-centric in order to attract more investors.

In 2012, a study conducted by **Jain and Rawal** analyzed the various factors that influence the choice of funds. The study also looked into the connection between savings and age. The study, which was conducted with a sample of 123 participants, showed that there is a link between the two. Contrary to popular belief, mutual fund schemes are not linked to gender. A study revealed that most investors prefer to allocate their funds to tax-saving and growth-oriented investments. It also revealed that there is financial illiteracy among the educated respondents.

The study, conducted **in 2013** by **Agarwal and Jain**, sought to identify the factors that influence investors' investment preferences in Mathura. It revealed that almost all of them are aware of the importance of mutual funds. The investors also ranked tax benefits and returns as the most important factors that influence their decisions. The study also revealed that mutual funds are not a preferred option for small investors. It noted that the concept of investing in mutual funds is still in its nascent stages.

The study conducted by **Mindargi and Kothari in 2013** explored the impact of demographic factors on investors' attitudes toward mutual funds. It had a sample of about 200 individuals in Solapur city. The findings showed that 42 percent of the respondents invested in tax benefits, while 33 percent were more likely to get higher returns. The study revealed that about 50 percent of the respondents were not interested in participating in the mutual fund industry. About 33 percent of the respondents said they have inadequate knowledge about funds. The

study noted that there is a need to create awareness about the importance of investing in mutual funds among customers.

The study, which was conducted **in 2013 by Khan and Kotishwar (2013)**, The study was conducted on a sample of 500 investors from Telangana. It analyzed the various factors that influence the perception of the selection process and the preferred public and private sector mutual fund. The study revealed that various factors influence the decisions that investors make when it comes to investing in funds. These include liquidity, flexibility, taxation savings, and transparency. Although the study showed no significant difference between private and public sector funds' perceptions of these factors, there were notable differences when it came to certain factors such as security, returns, and management fees. The study also revealed that investors' perception of the selection process is influenced by various demographic factors, such as gender class and education.

In his study on investors' perceptions of various investment tools, such as mutual funds**, S. Bansal, in 2014,** noted that most of them prefer to invest through mutual funds in developing countries such as India. Besides investing in blue chip companies, mutual funds also provide investors with a way to save money. The study aims to analyze the various perceptions of investors about the mutual fund and investment tools industry in the nation. It also aims to identify the factors that have caused the industry to face competition. The study seeks to understand the behavior of investors when it comes to investing through various investment plans, such as PPF, equity, and life insurance.

It conducted a survey to gather information about investors' perceptions of the different investment tools. The study also analyzed the various factors influencing an investor's decision while investing through a mutual fund. It found that most investors are unaware of the various investment tools available to them. They also tend to see the transparency in the advertisements and other features of these tools.

Chaudhury, S. K., & Pattnaik, M. C. (2014) The study utilized statistical and mathematical tools to interpret and analyze the data. The findings and suggestions were then put forth at the end of it. The data collection process was carried out using various sources. These included the primary and secondary sources. A structured questionnaire was utilized for the data gathering, while the unstructured interviews were conducted with the company websites, newspapers, and executives.

The study was conducted on a case-control basis to analyze the customer and visitor behavior of Silk City Securities in Berhampur. It was carried out through various methods, such as formal and informal talks, as well as the filling of the questionnaire. The data collected during the study were analyzed using statistical and mathematical tools. The study was conducted on a limited sample of 200 individuals. Mutual funds are considered to be one of the most prominent financial sectors. This paper aims to analyze the investors' preference for investing in such funds. This paper aims to analyze the various factors that influence an investor's decision-making process regarding investing in mutual funds.

The study conducted by **Bhuvaneswari in 2014** analyzed the perceptions of investors on equity and tax-saving mutual funds. The study's objective was to find out factors that influence the perception of these funds among investors.The researcher is also looking into the other factors that can contribute to the Perception of these funds among investors.

The researcher utilized various statistical tools to analyze the data gathered in her study. These included the Chi-Square Test, Simple Ratio Analysis, and rank correlation analysis. After arriving at the significant findings of her research, the suggestions she presented were geared toward helping the investors achieve their wealth maximization goals. The researcher also utilized various statistical tools for analyzing and interpreting the data. These included the Chi-Square Test, Simple Percentage Analysis, and rank correlation analysis. The findings of her study were then analyzed, and suggestions were made to help the investors achieve their goals.

The study by **P. Khitoliya in 2014** looked into the perceptions of investors about the risks associated with using mutual funds. It also discovered that the financial markets have become more attractive to investors.

However, they have not yet emerged as an asset class that can be considered an investment alternative. One of the most important financial instruments a country can use to channel its household savings is mutual funds. This type of financial instrument provides investors various benefits, such as liquidity, diversification, and tax benefits. It is also very cheap to access stocks.

Mutual fund structures help minimize the risk associated with wealth accumulation and maximize the returns. Despite the various advantages of this type of financial instrument, it has

not gained widespread popularity among investors. This study investigates investors' perceptions of the risks and opportunities of investing in mutual funds.

The study conducted by **Makwana C. in 2014** aimed to analyze the perceptions about the investment opportunities available in Gujarat State among mutual fund investors. The data collected through the questionnaire was analyzed by a simple and descriptive research design. It was conducted across various cities in Gujarat in 2013. The objective of this study is to compare the perceptions and awareness of investors between two groups: gender and experience-wise comparison. The difference between these two groups is used in the analysis of variance test to measure the influence of factors on the Perception of investors. This finding will help the mutual fund industry identify the factors that can influence the success of their products. The findings of the study revealed that most investors are aware of the advantages of investing in a mutual fund. However, their Perception of the fund industry differs depending on their experience level.

In 2015, Manimurugan studied investors' perceptions of the potential investment opportunities in Kerala's Namakkal district. The study looked into various socio-economic elements that can affect the development of a particular industry. Through the use of data collected from various sources, it was able to identify the multiple factors that can influence the industry's progress. It also revealed that the private sector mutual fund industry is vital for the country's growth.

Despite the various factors that can influence the Perception of a potential investor's interest in the mutual fund sector, the most critical factor that investors should consider is the level of expertise related to the product.

M. Mohansundari (2015) The study conducted by this researcher sought to understand the impact of investors perception on the performance of tax savings schemes. It used a questionnaire to collect information about the investors' perception of tax savings funds. The research also utilized factor analysis, Chi-Square test, and percentage analysis to analyze the data.

The study was conducted from 2011 to 2014. The data collected from AMFI was analyzed using the Treynor's, Sharpe, and Jensen's indices. It was compared with the benchmark of the Bombay Stock Exchange.

T.Velmurugan (2015). He conducted a study on the factors that influence the decision-making process of mutual fund investors in the pharmaceutical sector of the city of Chennai from 2006-14. The study analyzed the various factors that affect the investment decision-making process of a mutual fund. Besides the size of the fund, other factors such as the type of schemes and the expected return are also taken into account to determine the investment strategy of a mutual fund.

The study used a combination of qualitative and quantitative factors to analyze the various factors that influence an investor's decision-making process. Some of these include the size and past performance of the fund, as well as the reputation of the manager. Other factors such as the fund's dividend history and the establishment of a good fund management company are also taken into consideration to determine the investor's strategy.

In 2017, Anindita Adhikary studied the perceptions and preferences of small active investors in Eastern India regarding tax-saving mutual fund schemes. She found that these two factors are essential in helping investors make informed decisions. The study sought to analyze the preferences and perceptions of investors based on the different demographic factors in Eastern India. The survey method was employed to collect the responses of over 700 individuals from various states, such as Bihar, Jharkhand, West Bengal, and Sikkim.

The study revealed that the demographic factors that influence the perceptions and preferences of investors in Eastern India significantly impact the decisions they make regarding tax-saving investments.

M. Karthikeyan (2018). The goal of this study is to analyze the various types of mutual funds and their customer perceptions. It also looks into the management of these funds. Individuals tend to lean toward managed mutual funds as with other savings schemes, such as bonds and shares.

This study revealed that most people are reluctant to invest in new-age investments such as mutual funds. They also prefer investing their savings into less risky options such as recurring deposits.

Arora, N., Dhami, J. K., & Chawla (2019) A study conducted by researchers analyzed the returns that mutual fund schemes provide. It revealed that many investors are not happy with

the returns that they receive from their investments, and they also stated that they have no knowledge of investing. Diversification is an important factor that investors should take into account. This is because, in order to reduce the risk of investing in one company, one should consider investing in multiple companies. Diversification can be done through the use of mutual funds. Although they carry some risks, such as exposure to different sectors, funds are managed by experienced professionals and fund managers.

The study was conducted to analyze the performance of various mutual funds in India. Besides the performance of the schemes, it also analyzed the investors' risk perception and demographic characteristics. The researchers contacted 274 investors from the majha region to get their views on the industry.

The researchers found that the income and occupation characteristics of the investors were significantly associated with the Performance of the mutual fund. They also noted that the education and gender of the investors were not related to the Performance of the fund.

2.3 GAPS IDENTIFIED FROM THE LITERATURE REVIEW

According to a literature review, the researchers have made substantial efforts to evaluate mutual fund performance. They have used various statistical tools to analyze the data. Some of these include standard deviation, correlation coefficient, mean, and multiple index models. In India, researchers have extensively studied the various aspects of mutual fund performance using different measures, such as Treynor, Sharpe, and Jensen's alpha.Since there have been various changes regarding the tax benefits associated with investments over the years, it is important to review the investment's objective to ensure that it is achieving its goals.

In India, researchers have been working on analyzing the returns and risks of mutual funds. They have also conducted various studies on the persistence of performance. However, the exact mechanisms by which efficiency can be improved in the industry have not been thoroughly explored. Some studies have examined the link between the characteristics of a fund and its performance, but they have only considered a few factors. Hence, it is unclear as out of the total, which characteristics of mutual funds affect their efficiency. These gaps will be filled in the present study by identifying all the attributes affecting the Performance of mutual funds and providing a framework for measuring the Performance of Indian mutual funds.

There are several studies on the performance of ELSS funds. However, they do not provide a comprehensive view of the various aspects of the fund's investment performance. This study aims to address these gaps and provide a more accurate evaluation of the fund's performance. Policymakers, regulators, and mutual fund companies must understand investors' perceptions of the various investment options available. This issue has been studied relatively little in the past. This study aims to comprehensively analyze the different types of investment options available to investors. It also seeks to identify the advantages of ELSS funds over other options.

Although previous studies have examined the level of awareness of investors about various types of mutual funds, they have not been able to ascertain their perceptions of the tax-saving fund options versus those of diversified equity funds. This study aims to provide a comprehensive view of the investors' perceptions of these funds.

Although there are studies on investors' perceptions about mutual fund selection and their preference for certain types of funds, there are also limited studies on the relationship between risk and knowledge. This study aims to explore the perceptions of investors on the lock-in period of ELSS and the perceived risk-reward of investing in these funds.

This study is the first attempt to study investors' perceptions regarding the lock-in periods of ELSS funds. Besides this, other vital issues, such as the opportunity cost of investing in a locked fund, are also taken into account by the researchers to enhance the investment capabilities of mutual funds.

2.4 Conclusion

For a long time now, researchers have been fascinated by the subject of mutual funds. According to a review, they have covered a wide range of topics related to the activity of funds. These include performance evaluation, attribution, size, expenses, and manager characteristics. Aside from these, studies on investor preferences are also available.

Indian researchers mainly looked into the Performance of funds and individual categories. They have also conducted comparative studies on investors' perceptions of investments in various types of mutual funds. There have been several studies on the region-wise preferences and attitudes of investors toward the industry. The studies on equity-linked savings scheme funds are very few.

In 1991, the government launched a series of equity-linked savings schemes to provide small investors with a way to invest their savings. The objective of these schemes was to encourage them to participate in the equity market. Over the years, the investment scheme has gained widespread popularity. It is now time to analyze its Performance and determine its success.

The study aims to analyze how investors perceive the ELSS funds and their performance. It also explores their performance compared to other tax-efficient avenues.

CHAPTER 3

THE CONCEPTUAL AND THEORETICAL FRAMEWORK OF MUTUAL FUNDS IN INDIA

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3.1 Concept of Mutual Funds

Investors can directly or indirectly invest in various types of securities through a financial intermediary. These funds are then invested in a portfolio. Mutual funds are financial intermediaries that allow investors to pool their funds and invest in different types of securities. These types of funds provide a variety of investors with an equal distribution of their assets. They are commonly referred to as mutual funds, and the term refers to the total returns minus the expenses that the fund's unit holders pay.

A mutual fund is considered to be the purest type of financial intermediary since it allows investors to receive a pass-through of their money between the fund and the securities it invests in. Unitholders are informed in advance which securities the fund will be investing in. The value of the fund's assets is then computed daily and distributed to the unit holders.

Although specific regulations are designed to limit the risks associated with investing in a mutual fund, investors should still be aware of the possibility of losing money. Since the fund invests in various types of securities, its potential loss of principal can occur.

Although a mutual fund is not insured by the Deposit Insurance Corporation of America , it has an upside to its investment risk. This is because the more significant the fund's risk, the higher its potential reward.

3.2 Why should investors invest in Mutual funds?

The mutual fund industry, which started as a small operation, has grown significantly over the years. One of the main factors contributing to the industry's development is the increased complexity of investing. The number of securities available for purchase has increased dramatically.

Due to the complexity of investing, it has been difficult for a small-time investor to make sound decisions regarding the purchase and sale of securities. With the help of mutual funds, they can better understand the various factors that affect the prices of stocks and bonds.

Mutual funds are also beneficial for small-time investors due to their low transaction costs and professional management. They can help minimize the risk of investing.

3.3 Mutual Funds Current Scenario and Recent Developments in India

The Indian mutual fund industry is expected to overgrow over the next few years. The industry has seen a substantial increase in the quality of its offerings and the number of its products and services over the past couple of years. The surge in the popularity of mutual funds as a tool for asset management has also been reflected in the sector's robust growth.

The average assets under management of the Indian mutual fund industry during November 2022 were at 40,49,440. As on November 30, 2022, the industry's assets under management stood at 40,37,561. The industry's total assets have grown by over five-fold from 7.93 trillion on November 30, 2012, to 40.38 trillion on November 30, 2022. The assets under management of the MF industry have increased by over two-fold in just five years. As of November 30, 2022, the industry's total assets amounted to 40.38 trillion. (Source: www.mfiindia.com)

The industry's asset management industry crossed the 10 trillion mark in May 2014. It continued to grow over the next couple of years, and in August 2017, it crossed the 20 trillion mark for the first time. In November 2020, the industry's total asset management industry size crossed the 30 trillion mark. As of November 30, 2022, the industry's total assets under management stood at 40.38 trillion. (Source: www.mfiindia.com)

In May 2021, the mutual fund industry crossed the 10 million mark. As of November 30, 2022, the total number of accounts in the industry was 13.98 million. There were also over 111.8 million accounts under the equity, hybrid, and solution-oriented schemes segment. Retail investors contributed the majority of the industry's total assets. (Source: www.mfiindia.com)

The rising income levels of Indian households have increased their financial savings. This indicates the country's potential to grow its mutual fund industry. India's securities market regulator, SEBI, has taken various steps to protect investors' interests. Mutual fund schemes

offer different tax benefits, such as a deduction for the investment made through ELSS. This has helped the industry to grow as a preferred type of investment for salaried individuals.

The industry has expanded its product offerings by introducing various mutual funds. Some of these include debt funds, balanced funds, and equity funds. The industry has introduced different types of mutual funds. These include money market, sector-specific, index, and capital protection-oriented funds. In 2007, the industry also launched Gold ETF, which aims to allow investors to participate in the gold and related markets.

In addition, the industry has also launched special schemes that allow investors to participate in foreign securities. With the wide variety of funds available, the ordinary person can easily find an investment opportunity.

3.1 Graph Shows the growth of assets under management Since Inception.

Source: www.amfiindia.com

The mutual fund industry has grown manifold since it was established in 1964. As shown in the graph above, the industry's average annual managed fund assets under management (AUM) was just Rs.25 crores in March 1965. It has since gone up to over Rs.1082757 crore as of March 31, 2015. Despite the industry's various ups and downs, it has still managed to grow.

The mutual fund industry suffered a massive setback in 2008 following the stock market crash. It lost over Rs.87 billion in the following year. It managed to bounce back and grow at a rate

of 5% to reach a total of Rs.613979 crores. However, in 2011 and 2012, it exhibited slow growth.

The subdued performance of the market and rising inflation have resulted in a reduction in the growth of the mutual fund industry. However, despite the various factors that have affected its development, the industry still managed to maintain a total asset under management of over Rs.825240 crores as of March 31, 2014, and Rs 1082757 crore in 2015.

The mutual fund industry in India is transforming. Following various development measures, the industry has been continuously adapting to meet the changing needs of its investors.

3.3.1 Recent Developments:

Withdrawal of initial issue expenses and Entry load:

In response to the increasing number of complaints about the lack of investor protection, the Securities and Exchange Commission of India (SEBI) has started implementing various regulations to empower retail investors in the mutual fund industry. One of these is the ban on initial issue expenses. This was done to prevent the charging of these expenses for closed-end funds. Besides this, the regulator also enforced the requirement that such funds only recover the sales and distribution charges through the entry load.

Allowing Online transactions through the Stock Market platform:

The objective of these regulations is to make the fees paid by investors more transparent. They also aim to help investors make informed decisions. In November 2009, the Securities and Exchange Board of India (Sebi) allowed investors to transact in mutual funds through the Stock Exchange's infrastructure. This was done through online mode. The main advantage of this approach is that it allows the investors to participate in the market from their remote locations. Besides the stock exchange, many companies also provide online trading terminals. This method will enable investors to access the multiple services of the exchange. They have to open a trading account and enter their details.

Debt securities Valuations:

To ensure that the market value of debt securities is reflected in the net asset value calculation, the Securities and Exchange Board of India (SEBI) has brought down the markdown on the discretionary portion of the asset value.

SIP Investments exempted from PAN:

To provide more transparency regarding the investment opportunities in micro schemes such as SIP, the Securities and Exchange Board of India (Sebi) has informed that particular mutual fund schemes such as SIP may not require PAN.

Introduction of Rajiv Gandhi Equity saving scheme (RGESS):

The government has launched the R.G.E.S.S to encourage the flow of capital into the stock market by providing small investors with a financial incentive. This scheme is aimed at making the market more accessible to them.

3.4 Concept of ELSS Mutual Funds

An ELSS is a type of mutual fund which allows individuals to get a tax reduction on their investments. Unlike other tax-saving instruments, this fund's lock-in period is shorter.

You can sell your ELSS investments after three years, though keeping them intact is essential to maximize their returns. Each fund instalment has a three-year lock-in period if you have an automatic investment plan (AIP). This means that the different instalments will have different maturity dates.

3.4.1 ELSS Mutual Funds, how it works?

The ELSS Funds aim to provide long-term capital growth by selecting various stocks. The fund invests in companies based across multiple industry sectors and market capitalizations. The fund manager's thorough research process ensures that the returns are delivered to its investors.

3.4.2 ELSS Tax Benefits:

Through an ELSS fund, you can get tax benefits. There is no limit on the amount invested in it, and a maximum deduction of up to 1.5 lakhs can be claimed. This can help you save about 46,800 annually.

3.5 Investments in ELSS Mutual Funds, who can invest?

Salaried Person: For most employees, a portion of their salary goes toward the Employee Pension Fund (EPF). If one wants to take advantage of the tax deduction available under section 80C, one can invest in ELSS. This investment also benefits investors who wish to maintain a balanced portfolio.

Although the NPS and ULIPs are similar, they have different lock-in periods and lower returns potential. With ULIPs, the investment amount is locked for five years. On the other hand, with the NPS, the invested amount is subject to partial exposure to equity until the age of 60.

First-time investors: ELSS is an excellent choice for new investors as it provides them with tax benefits and a taste of mutual funds and equity investing. Although equity investments can carry higher risks, they are generally lower over the long run. One of the most effective ways to invest in this asset is through monthly systematic investments. This type of investment allows you to build up a steady amount of units

3.5.1 Things to Consider Before Investing in ELSS Funds

Returns: Before an investor can start investing in a fund, they should first analyze its past performance. This is done to ensure that the fund can deliver high returns.

Past Performance: It is recommended to consider investing in funds that have performed well over a certain period.

Fund Expense ratio: A fund's expense ratio is a measure of how much money is allocated to managing a portfolio. Having a lower ratio can help boost returns.

Financial parameters: A fund's financial parameters can be analyzed by considering various factors, such as its alpha, Sharpe Ratio, and standard deviation. For instance, a fund with a high standard deviation is riskier than a low beta fund.

Manager of the portfolio fund: A good fund manager can help you create a solid portfolio and pick the right stocks for your investment. Having the right skills is very important for a successful fund manager.

3.6 Advantages of ELSS Mutual Funds

These are the main advantages of investments in ELSS Mutual Funds:

Shortest lock-in: For ELSS investments, the lock-in duration is three years. On the other hand, Bank tax-saving Fix deposits have 5-year lock-ins, and the Public provident fund has a 15-year lock-in. Also, the ELSS provides greater liquidity compared to these other tax savings avenues.

Wealth Creation: Unlike ELSS, other products that provide tax benefits under Section 80C, such as fixed-interest certificates, are not linked to the market. These can give the investors higher wealth accumulation potential.

Better post-tax returns: The ELSS provides long-term capital gains with a tax-free limit of 1 lac. This allows investors to maximize their returns after taxes.

Regular investing is hassle-free and convenient: Regular investors can easily invest in ELSS funds with a monthly SIP. It is very convenient and hassle-free.

Higher Returns: The average returns that the ELSS has generated over the last ten years are around 14.32%. However, it is essential to note that investing in equity funds can add to your portfolio's Risk. It is recommended to maintain a long-term investment horizon to minimize this Risk.

3.6.1 Implications of Tax on ELSS: Similar to other equity instruments, the ELSS treatment of capital gains is similar. The taxable rate for short-term gains is 15%, while for long-term gains, the gains are only taxed at a 10% tax rate if the total gains exceed Rs 100,000 in a particular financial year.

3.6.2 Ways to Invest in ELSS Funds:

Growth option: Although the growth option is not suitable for everyone, it can benefit investors as it allows them to get the gains when they redeem their shares. Keep in mind that the total returns are subject to market risk.

Dividend option: A steady source of income is the dividend option for investors. It can provide them with tax-free returns on their investments. But it is important to note that these dividends are only issued once the profits have been excessive.

Dividend Reinvestments option: A dividend reinvestment option is an excellent way for investors to add to their fund's net asset value. It allows them to reinvest the dividends they receive. If the market continues to go up, this strategy would be beneficial.

3.7 Diversified Equity Mutual Funds

A diversified equity mutual fund seeks to provide investors with diversified exposure to companies across various sectors, regardless of their size. These include large-cap, mid-cap, and small-cap companies. These sectors include banking and financial services, IT, engineering, pharmaceuticals, and oil and gas.

The terms small-cap and mid-cap imply that these are the sizes of businesses that offer a small and medium-sized market capitalization.

A diversified equity fund seeks to provide long- term capital appreciation by investing in different sectors. It minimizes risks and offers good returns even during difficult economic times. Moreover, these funds can help investors meet their long-term financial objectives, such as providing for their children's education and retirement.

Various insurance companies, such as mutual funds and ULIPs, provide diversified equity funds. These funds allow investors to benefit from a company's growth through its financial expansion. A portion of these gains is then passed to the investors who have previously invested in the company.

Due to the varying terms and conditions of ULIPs, investors are always informed about the guidelines related to their investments. Examples of this fund are the Reliance Growth Fund and the HDFC Equity Fund.

3.7.1 Classification of Diversified Equity Funds:

The size of the companies initiating the investments in diversified equity funds is categorized based on the size of their operations.

Small-cap Diversified Funds: For younger investors looking for high returns and having a high-risk appetite, small-cap diversified mutual funds are a good choice. They must be managed carefully to ensure their returns are high and minimize their risks.

Mid-cap Diversified Funds: A fund is a good choice for investors looking to achieve high returns and avoid the risks associated with small-cap diversified funds. These funds are usually riskier than small-cap diversified funds.

Large-cap Diversified Funds: A large-cap diversified fund aims to provide high returns and minimize the Risk associated with investing in companies with a market capitalization of over Rs. 20,000 crores. It seeks to find returns that are both profitable and reasonable by investing in stocks or shares of companies that are expected to perform well based on the Standard & Poor's 500 index.

3.7.2 Advantages of Diversified Equity Mutual Funds Suitable for Diverse Market Caps and Sectors:

Multi-cap funds are suitable for investors who seek to take advantage of the various characteristics of the market cap universe. While large-cap and mid-cap funds primarily invest in the stock market, multi-cap funds can allocate their assets across multiple sectors. This allows them to avoid unsystematic Risk. However, you should still take the necessary steps to understand the risks.

Professional Management:

Besides being able to anticipate market moves, Fund managers also have a team of research experts who monitor the changes in the market. They follow an investment procedure and implement strategies designed to manage Risk. Since these professionals have accumulated years of experience, you can make the most out of them by taking advantage of their fees, which are typically deducted from the fund's net asset value.

Diversity in Prices of Shares:

The diversity of the fund's approach can help you make the most out of the market's various characteristics. This is especially beneficial for new investors looking to take advantage of the market's multiple offerings.

Save on Additional Costs:

Diversification of equity mutual funds can reduce the monthly transaction cost. You can also avoid costly errors by regularly managing your portfolio and selecting stocks with high potential capital gains.

Even if you prefer to receive advice from a Fund Manager, buying or selling mutual funds in bulk can help boost economies of scale. Short-term capital gains tax is not applicable to these funds. They can help you achieve higher returns. Moreover, the minimal expense ratio of these funds can help you manage your expenses.

Avail Diverse Modes of Investments:

The diversity of asset classes within diversified equity mutual funds also extends to various investing options.

One of the most common investment options is a monthly savings plan known as a systematic investment plan (SIP). This plan allows you to set a predetermined amount and automatically transfer it from one fund to another. Another option is a regular withdrawal plan known as a systematic withdrawal plan (SWP). This plan allows you to withdraw a set amount at regular intervals.

3.8 Difference between Diversified Equity Funds and ELSS Funds:

A diversified equity fund seeks to expose investors to various sectors such as IT, banks, capital goods, and oil and gas. Unlike other funds, these funds do not limit themselves to a single theme or sector. Some prominent examples of such funds are the HDFC Equity Fund, Reliance Growth Fund, and the Dynamic Plan of India.

ELSS funds are tax-saving options. They can reduce your taxable income by investing up to Rs. 1.5 lacs annually. This deduction can be carried out under Section 80C of Income Tax. As a diversified fund, an ELSS fund is typically focused on investing in various sectors.

The lock-in period for ELSS funds is three years. This means that you won't be able to sell your units before their expiration. You can invest in these types of funds through a systematic investment plan or a one-time investment approach. But, if you're planning on investing through a different method, every subsequent instalment will have a similar three-year duration.

Some prominent ELSS funds include the Nippon India Tax Plan, Axis Long-Term Equity fund, and the ICICI Tax Plan fund.

3.9 Prominent Tax saving instruments available in India other than ELSS:

1. **Banks Fixed deposit:**

   You can get a tax-free return by investing in fixed deposits, which can be used to reduce your tax liability. These can be advantageous because they can be claimed for a deduction of up to Rs.1.15 lakh. The interest on these deposits is taxable, though a 5-year lock-in period can be provided. The interest rates on these deposits are typically between 5.5% and 7%.

2. **PPF (Public provident scheme):**

   One of the most popular ways to save tax is by opening a Public Pension Scheme (PPF) account. This investment product usually begins at the post office or a designated bank branch. It offers a guaranteed interest rate. You can also claim tax benefits on these deposits.

3. **ULIP (Unit linked insurance plan):**

   Uniti-linked Investment Plans (ULIPs) are long-term investments that allow you to select various fund types and manage your financial goals. They can also help you save taxes. You can benefit from these investments by reducing your tax liability under sections 80C and 10D of the Income Tax Act 1961.

4. **National Savings Certificate (NSC):**

   The National Savings Certificate is a savings bond that allows investors to earn interest while reducing their tax liability. It can be bought through an e-mode account if they have a bank or post office account. An investor can also purchase these certificates on behalf of a minor or a joint account holder.

5. **Senior Citizen Savings scheme:**

   The government-backed SCS plan is a retirement savings plan that people above 60 years old can use. It offers them a steady income and a good investment return. However, this benefit can only be claimed for the current tax year and is not available under the new system introduced by the Union Budget of 2020. The interest earned from the account is also subject to the applicable taxes.

6. **Life Insurance Policies:**

A life insurance policy is significant for an individual's financial security. It can help protect their family in case something unfortunate happens. It is the responsibility of the breadwinner to take out life insurance policies at the earliest possible opportunity to ensure the family's security. Regardless of the type of insurance product, such as a market-linked or an endowment, life insurance policies offer tax benefits to their customers.

There are various types of life insurance plans that cater to different needs. These include universal life insurance, whole life insurance, and unit-linked insurance. The premium paid for a death or maturity policy can be covered under section 80 C of the Income Act. Section 10(D) provides that the proceeds of such policies are tax-free. The policy's surrender or termination can also result in deductions.

7. **Pension Plans:**

   Another type of life insurance is a pension plan. Unlike traditional life insurance, which mainly focuses on providing for the individual's financial security, pension plans aim to provide for the individual's long-term needs. Unlike protection plans, which are usually geared toward financial security, pension plans are designed to provide for the individual's financial needs and ensure that his family is financially secure once he dies. The limit of deduction that can be claimed under Section 80C is Rs 1.5 lakh. A pension plan provides for tax-free maturity, and the accumulated amount is not subject to tax. The remaining portion, which is considered income, is subjected to the marginal rate.

8. **Mediclaim /Health Insurance:**

   Mediclaim is a type of health insurance that provides coverage for the expenses associated with hospitalization or accident. It also covers the pre and post-treatment expenses. It comes with tax benefits, such as a deduction for senior citizens and those eligible for a premium of up to Rs 20,000.

   For instance, if a policyholder spends Rs 15,000 on a health insurance policy and Rs 20,000 on his parent, he can claim a tax benefit of Rs 35,000. The maturity value of the policy is also tax-free.

9. **New Pension Scheme:**

   The PFRDA regulates the New Pension Scheme or NPS. It is open to all citizens of India aged 18 to 60. It provides a cost-effective and flexible way for people to participate in the pension system. The fund managers of the scheme manage the money in three different accounts. Individuals can claim a deduction of up to Rs 1.5 lakh from the contributions made to the national pension system through Section 80CCD of the

Income Tax Act. There are various types of investments that can be made for retirement savings.

3.10 Concept of risk-return in Mutual fund

The concept of the risk-return trade-off indicates that the higher the Risk, the more likely the return will be higher. Individuals tend to associate low uncertainty with relatively low returns.

3.10.1 Risk involved while investing in Mutual funds

Before investing, prospective investors need to consider the various risks associated with the transaction.

1) **No Guarantee of Returns:**

   Mutual funds do not guarantee a certain level of capital appreciation, income, or returns. This is why investors must thoroughly consider the risks associated with these types of investments.

2) **Market-related Risk:**

   Although a mutual fund can be expected to provide a steady return, it can also be prone to experiencing changes in market conditions due to various factors. These include the emergence of new political or economic policies, foreign events' impact, and overall investor sentiment development.

3) **Security-related Risk:**

   Individual securities are also subject to various risks. These include the possibility that a company will default on its obligations or its credit rating will be downgraded.

4) **Liquidity Risk:**

   Liquidity risk is a type of Risk that investors should consider when it comes to investing in securities. It can be defined as the ability to sell a security at a price close to its fair value.

5) **Loan Financing Risk:**

   When financing the purchase of mutual fund units, investors should understand that taking out a loan increases the possibility of losses and gains. If the investment's value drops below a certain level, the financial institution may ask investors to increase the collateral or reduce the loan amount. The interest rate and other factors

that affect the cost of borrowing can also vary. In addition, investors should carefully consider the risks associated with using a loan.

6) **Inflation risk:**

   The inflation rate risk is a type of financial Risk that investors should consider while investing. The rising prices of various products and services can cause it.

7) **Non-Compliance Risk:**

   The potential risks associated with investing in a mutual fund are also discussed here. These include the possible failure of the fund's management to follow proper procedures and regulations.

8) **Portfolio or fund Manager Risk:**

   Various factors can affect the performance of a fund. For instance, the expertise of its managers and the methods they use can influence its results.

3.10.2 Ways to measure Risk in mutual funds

The concept of Risk is a significant factor that investors should consider when it comes to choosing a fund. It can be crucial that the fund has an excellent risk-mitigation strategy and can achieve its goals. For instance, a short-duration debt fund might be a good choice for investors with low risk.

Some investors prefer hybrid funds with moderate Risk. Others prefer equity funds with aggressive tendencies. Although every mutual fund has its risk level, it is essential to consider the type of fund that fits your needs.

Factors such as economic changes, foreign exchange rates, and inflation can influence a fund's risk. Although risk can be measured, it is still essential to analyze it properly. A variety of standard measures can be used to measure a fund's risk.

BETA:

The relative volatility of a stock or a mutual fund is computed by comparing its returns with its benchmark. Although the beta is used to measure the risk of an asset, it does not take into account its inherent volatility. A stock market's default Beta is always the numerical value 1.

Mutual Fund returns are computed against the benchmark, so the value of Beta can range. If a mutual fund's Beta is 1, it means that the fund is in line with the market's benchmark. For instance, if the NIF 50 goes up by 1%, the fund's value will increase by 1%.

A fund's Beta should be higher than 1.5 if the NIF 50 rises by 1%. This would result in the fund's benchmark increasing by 1.5%. A similar pattern will occur if the fund's Beta goes under 1.

Using Beta to align your fund portfolio with your risk appetite can be done as an investor. For instance, conservative investors might want to allocate their assets to low-risk stocks.

However, Beta doesn't provide a comprehensive view of an investment's inherent Risk. For instance, if you are a conservative investor who is only looking to allocate your assets to low-risk stocks, then you might be surprised by the results of your analysis. Despite its shortcomings, Beta is still helpful as a statistical measure for investors looking to diversify their assets.

ALPHA:

Even though zero alpha is not ideal, it is not bad when a fund struggles to beat the market. The key to remember is that both alpha and Beta are based on historical data and change from time to time. Therefore, investors should not rely on past performance to predict future results.

R-Squared:

The goal of the R-squared is to measure the correlation between a fund's performance and its benchmark. If the R-squared is at 100, then the Mutual Fund's performance is wholly correlated with that of the benchmark. Mutual Funds that are actively managed can have varying R-squared values. However, these tend to perform poorly when compared to standard index funds. R-squared can serve as a useful tool when it comes to selecting a fund. For instance, if a fund has an extremely high R-squared value, it might be better to replace it with a low-cost index fund.

Most mutual funds in various categories have an R-squared value of 90 or above. If you're looking for funds with an R-squared value of less than 90, then the Value Fund category might be a good choice.

STANDARD DEVIATION (SD):

The standard deviation measures the dispersion of data from a fund's mean. It shows the fund's volatility and riskiness. For instance, if a mutual fund returns 10% annually, it would have experienced some good and bad months.

The standard deviation of a fund's returns is the trajectory of its returns over a specific period. For instance, if a fund's average annual return is 10%, its standard deviation would be around 3%. But, on 68% of the occasions, its returns would be between 7% to 13%.

A standard deviation measure that covers 95% of the events is called the mean plus/minus 2. For instance, 10% minus 2 is equivalent to 3% in the lower range. On the other hand, 10% plus 2 is 16% in the upper portion.

A fund's returns will typically move from 4% to 16% during most of the year. The higher the standard deviations, the more volatility the fund will experience on a yearly basis. For instance, certain types of mutual funds, such as small-cap and sectoral funds, have high standard deviations due to their volatility.

Some investors prefer higher volatility, allowing them to achieve superior returns in the long run. The risk profile of a fund can be influenced by standard deviation. For instance, a fund with a low standard deviation might be the best choice if you look for more predictable returns. However, if you are still not comfortable with the volatility of a fund, then don't hesitate to go for high-risk funds.

SHARPE RATIO:

The Sharpe Ratio measures a fund's performance after considering the factors affecting its returns. It can be used to identify if the fund's returns were due to the good decisions made by the manager or if they were due to excessive Risk.

SORTINO RATIO:

The Sharpe Ratio considers the total volatility in the fund's returns and uses this method to calculate its overall performance. The Sortino Ratio, on the other hand, only takes into account the fund's downside standard deviation. As a result, it doesn't consider the fund's risk-free returns.

For conservative or risk-averse investors, the higher the Sortino Ratio indicates a lesser chance of the fund experiencing a negative downside surprise. This is beneficial because it allows a fund to cap its downside volatility. It can also be used by other investors, such as asset managers and analysts, to evaluate a fund's overall performance.

3.11 CONCLUSION:

In the past few years, the mutual fund industry in India has seen various changes. From March 1965, the industry's asset under management was at Rs 25 crores, and to March 2015, it was at Rs 1082757 crores. However, it has not been a one-way growth story. Instead, it has seen various ups and lows. One main factor that has changed the industry's focus is the increasing number of offerings in smaller towns.

The share of household financial savings allocated to mutual funds must be improved to establish an inclusive growth story. Various components of this initiative, such as increasing awareness about the products and broadening investors' participation, need to be aligned.

A high alpha, Sortino, and Sharpe Ratio can help a fund achieve better potential returns. Low Beta, a low standard deviation, and a high R-Squared mean that the fund is more correlated with the benchmark.

This is a systematic approach to using the six risk measures explained in this report. They help you evaluate the various aspects of a fund and make informed decisions regarding investing. Having a well-defined risk measurement system can also help you avoid making mistakes.

To ensure that the industry is operating efficiently, it is crucial that the various factors that affect it are taken into account. This can be done through the development of a well-designed business model. It is also vital that the industry can address the changes brought about by the

regulatory environment. As the regulatory environment changes, it is also essential that the mutual fund industry's growth continues to be supported by the necessary changes.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION –INVESTMENT PERFORMANCE OF MUTUAL FUNDS

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The study looked into the Performance of 43 ELSS funds, which had a track record of over three years as of March 2019. As of March 31, 2019, the sample set for the Diversified Equity Funds included 12 open-end units. The objective of the study is to analyze the performance of these funds based on their NAV of growth plans. The sample set also includes the market indices that the ELSS funds use. This set further consists of 7 market indices: four belong to the Mumbai Stock Exchange, and the other three belong to the National Stock Exchange of India. The list of 43 sample funds and seven benchmark Indices are shown in Table 4.01 and 4.02, respectively.

The study takes into account the various interest rates offered by the SCB 5 banks during the period from 2009 to 2019. It shows these institutions' average interest rate is 7.9 percent for 3 to 5 years. These are shown in table 4.07.

Objectives 1 & 2 are based on secondary data, and objectives 3,4 & 5 are based on primary data. To meet the objectives, there are hypotheses related to each objective. It is essential to understand the related ratios to test the hypothesis about objectives 1 and 2, as the first two objectives' related hypotheses are based on these ratios.

SHARP RATIOS:

To know the investment portfolio's performance and that with risk-adjusted performance, the Sharpe Ratio gives complete information about risk-adjusted portfolio performance. This ratio provides information related to the portfolio's earnings with a risk premium. It tells about 1 unit of the portfolio risk. The upper side of the Sharpe ratio reflects the portfolio's good performance (including risk). Similarly, a lower ratio reflects the poor performance of the portfolio concerned.

SORTINO RATIOS:

As far as Sortino Ratio is concerned, this ratio reflects the quantum of premium earned against the riskiness of the portfolio or investment. Unlike sharp ratio-upside risk, this ratio is related to down side risk of the portfolio.

The standard deviation of the investment generally measures absolute risk. This variation goes upside and downside as well. Upside variation is good for the investor's point of view and vice versa. A higher Sortino ratio suits investors, reflecting the investment's risk-adjusted performance.

JENSEN'S ALPHA:

Jensen's alpha ration is linked with "Beta, " a tool to measure the risk involved in the investment. Beta is correlated with both variables, i.e., independent and dependent variables. Beta explains how much the dependent variables change for a given change in the independent variable.

TREYNOR RATIO:

The Treynor ratio is a performance measure that shows how much excess returns were generated for each risk category taken on by a portfolio.

4.1ELSS FUNDS:

Sr.No.	Fund Name	Category
1	SBI LT Advantage Fund-IV	Equity-Tax Planning
2	Axis Equity Fund	Equity-Tax Planning
3	Birla Tax Relief 96	Equity-Tax Planning
4	BNP ParibasTax Adv	Equity-Tax Planning
5	BOI AXA Eco	Equity-Tax Planning
6	Mahindra Manulife ELSS fund	Equity-Tax Planning
7	Sundaram Tax advantage-III	Equity-Tax Planning
8	DSP Tax Saver	Equity-Tax Planning
9	DWS Tax Saving	Equity-Tax Planning

10	Edelweiss ELSS	Equity-Tax Planning
11	Escorts Tax Plan	Equity-Tax Planning
12	Franklin Tax Sheild	Equity-Tax Planning
13	HDFC Long Term Adv	Equity-Tax Planning
14	HDFC Tax Saver	Equity-Tax Planning
15	HSBC Tax Saver	Equity-Tax Planning
16	ICICI Pru Right	Equity-Tax Planning
17	ICICI Pru Tax Plan	Equity-Tax Planning
18	IDFC Tax Adv	Equity-Tax Planning
19	IDFC Tax Saver	Equity-Tax Planning
20	Birla Retire Invest	Equity-Tax Planning
21	Birla Tax Savings	Equity-Tax Planning
22	JM Tax Gain	Equity-Tax Planning
23	JP Morgan Tax Advantage	Equity-Tax Planning
24	Kotak Tax Saver	Equity-Tax Planning
25	LIC Tax Plan	Equity-Tax Planning

26	LNT Long Term Adv	Equity-Tax Planning
27	LNT Tax Advantage	Equity-Tax Planning
28	LNT Tax Saver	Equity-Tax Planning
29	Essel LT Advantage fund	Equity-Tax Planning
30	Nippon Equity Linked Savings	Equity-Tax Planning
31	Nippon Tax Saver	Equity-Tax Planning
32	Religare Invesco Agile	Equity-Tax Planning
33	Religare Invesco Tax Plan	Equity-Tax Planning
34	Sahara Tax Gain	Equity-Tax Planning
35	SBI Tax Gain	Equity-Tax Planning
36	SBI Tax Advantage I	Equity-Tax Planning
37	Sundaram Tax Saver	Equity-Tax Planning
38	Tata Tax Savings	Equity-Tax Planning
39	Tata Tax Adv Fund I	Equity-Tax Planning
40	Taurus Tax Shield	Equity-Tax Planning
41	UTI ETSP	Equity-Tax Planning

42	UTI LTA V	Equity-Tax Planning
43	UTI LTA VI	Equity-Tax Planning

Source: Author's Compilation of Secondary data

As far as diversified equity funds are concerned, there were 12 diversified funds taken into consideration for the study. These diversified finds were open-ended funds. The selection criteria of these diversified funds have been followed based on the track record of over three years and highest AUM as of the financial year of 2019.

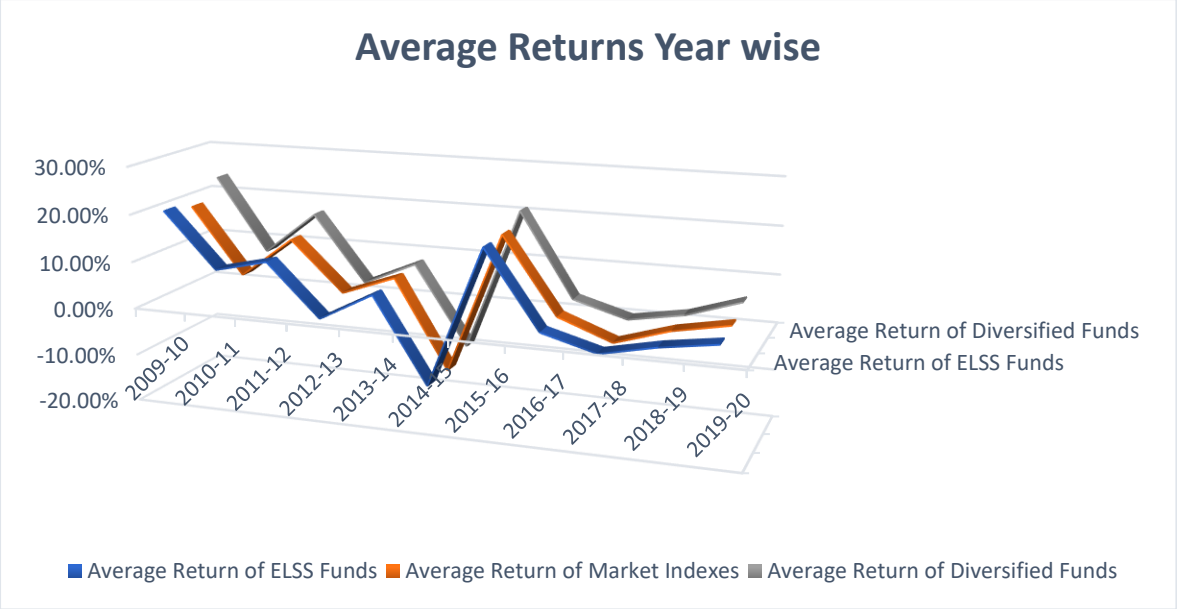
4.2 LIST OF 12 DIVERSIFIED FUNDS CONSIDERED FOR THE STUDY:

Sr. No	Fund Name	Category
1	Birla Frontline Equity	Equity-Diversified
2	DSP Top 100	Equity-Diversified
3	Franklin India Blue-chip	Equity-Diversified
4	HDFC Equity Fund	Equity-Diversified
5	HDFC Top 200	Equity-Diversified
6	ICICI Pru Dynamic	Equity-Diversified
7	Mirae Large Cap Fund	Equity-Diversified
8	IDFC Premier Equity	Equity-Diversified
9	Nippon Growth	Equity-Diversified
10	Nippon Equity Opportunities Fund	Equity-Diversified
11	SBI Multicap fund	Equity-Diversified
12	UTI Opportunities Fund	Equity-Diversified

Source: Author's Compilation of Secondary data

This analysis aims to evaluate the fund's investment performance, so the Net Assets Value of the funds has been considered. Additionally, only Growth funds have been taken into consideration to meet the purpose of the objectives.

4.1AVERAGE RETURN OF FUNDS: ELSS, DIVERSIFIED & INDICES:



Source: Authors' compilation

The graph presented above shows the 10-year average returns of the ELSS and the diversified fund categories. The former's return rate is 3.29 percent, while the latter's is 5.66 percent. The chart also shows the returns of market indexes which is 3.90 percent.

OBJECTIVE: (1) To compare and analyse the investment performance of the Equity Linked Savings Scheme mutual funds (Growth) plans with other Diversified Equity mutual funds (Growth) plans.

4.3 QUARTERLY AVERAGE RETURNS of ELSS and Diversified funds (YEARLY)

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	ELSS :											
1	SBI LT Advantage Fund-IV								0.0364	0.0053	0.0329	0.0248
2	Axis Equity Fund					0.0619	(0.1133)	0.1670	0.0232	(0.0123)	0.0241	0.0251
3	Birla Tax Relief 96						(0.1390)	0.2236	0.0091	(0.0199)	0.0247	0.0197
4	BNP Tax Adv				0.0044	0.0713	(0.1359)	0.1596	0.0174	0.0157	0.0238	0.0223
5	BOI AXA Eco							0.2326	(0.0016)	(0.0149)	0.0143	0.0576
6	Mahindra Manulife ELSS fund							0.2319	(0.0023)	(0.0154)	0.0134	0.0569

7	Sundaram Tax advantage-III							0.2282	0.0281	0.0048	0.0193	0.0701
8	DSP Tax Saver					0.1084	(0.1090)	0.1997	0.0228	(0.0111)	0.0276	0.0397
9	DWS Tax Saving				(0.0161)	0.1013	(0.1211)	0.1610	0.0028	(0.0258)	0.0226	0.0178
10	Edelweiss ELSS							0.1423	0.0247	0.0045	0.0178	0.0473
11	Escorts Tax Plan	0.1933	0.0622	0.1423	0.0176	0.0950	(0.1643)	0.1639	0.0033	(0.0312)	(0.0373)	0.0345
12	Franklin Tax Sheild	0.2222	0.0772	0.1549	0.0058	0.0692	(0.0912)	0.1866	0.0351	0.0041	0.0187	0.0490
13	HDFC Long Term Adv	0.2416	0.1203	0.1609	0.0072	0.0441	(0.1137)	0.2115	0.0426	(0.0036)	0.0181	0.0689
14	HDFC Tax Saver	0.2224	0.1489	0.1822	0.0119	0.0496	(0.0981)	0.2199	0.0346	(0.0055)	0.0044	0.0494
15	HSBC Tax Saver					0.0580	(0.0836)	0.1794	0.0169	(0.0065)	0.0315	0.0326
16	ICICI Pru Right								0.0306	0.0206	0.0315	0.0276
17	ICICI Pru Tax Plan	0.2596	0.1714	0.1663	(0.0016)	0.0542	(0.1101)	0.2352	0.0279	(0.0028)	0.0186	0.0540
18	IDFC Tax Adv							0.1561	0.0283	(0.0117)	0.0319	0.0511
19	IDFC Tax Saver					0.0766	(0.1158)	0.1731	0.0222	(0.0120)	0.0290	0.0288
20	Birla Retire Invest					0.0549	(0.1122)	0.1546	0.0122	(0.0294)	0.0068	0.0145
21	Birla Tax Savings		0.0698	0.1792	0.0226	0.0255	(0.1465)	0.2117	0.0401	(0.0214)	0.0122	0.0437
22	JM Tax Gain						(0.1937)	0.1686	0.0015	(0.0207)	0.0054	(0.0078)
23	JP Morgan Tax Advantage							0.1364	0.0357	(0.0136)	0.0129	0.0429
24	Kotak Tax Saver				0.0277	0.0700	(0.1321)	0.1829	0.0217	(0.0092)	0.0156	0.0252
25	LIC Tax Plan	0.2139	0.0284	0.1142	(0.0023)	(0.0533)	(0.1064)	0.1457	0.0266	(0.0220)	0.0134	0.0149
26	LNT Long Term Adv							0.1850	0.0174	(0.0086)	0.0068	0.0501
27	LNT Tax Advantage				0.0378	0.0658	(0.0875)	0.1850	0.0464	(0.0117)	0.0127	0.0355
28	LNT Tax Saver				0.0196	0.0310	(0.1330)	0.2197	0.0215	(0.0280)	0.0025	0.0190
29	Essel LT Advantage fund							0.1835	0.0442	0.0001	0.0228	0.0627
30	Nippon Equity Linked Savings						(0.0822)	0.1716	0.0344	0.0038	0.0230	0.0301
31	Nippon Tax Saver				0.0115	0.0407	(0.0849)	0.1887	0.0346	0.0122	0.0054	0.0297
32	Religare Agile						(0.1043)	0.0803	0.0245	(0.0101)	0.0197	0.0020
33	Religare Tax Plan					0.1022	(0.0997)	0.1965	0.0288	0.0017	0.0222	0.0419
34	Sahara Tax Gain	0.2000	0.0720	(0.1175)	(0.0018)	0.0923	(0.0907)	0.1989	0.0337	0.0033	0.0013	0.0132
35	SBI Tax Gain						(0.1131)	0.1826	0.0116	(0.0023)	0.0194	0.0197
36	SBI Tax Advantage I						(0.1148)	0.2021	0.0029	(0.0120)	0.0182	0.0193
37	Sundaram Tax Saver				0.0201	0.0911	(0.0910)	0.1760	0.0162	(0.0024)	0.0186	0.0326
38	Tata Tax Savings							0.1422	(0.0104)	(0.0288)	(0.0090)	0.0235
39	Tata Tax Adv Fund I				(0.0070)	0.0717	(0.0895)	0.1744	0.0313	0.0004	0.0144	0.0280
40	Taurus Tax Shield	0.0927	0.0527	0.0547	(0.0341)	0.1583	(0.0864)	0.1972	0.0342	(0.0189)	0.0191	0.0303
41	UTI ETSP				(0.0063)	0.0712	(0.1074)	0.1597	0.0203	(0.0128)	0.0176	0.0203
42	UTI LTA V					0.0432	(0.1155)	0.1849	0.0132	(0.0171)	0.0130	0.0203
43	UTI LTA VI						(0.0688)	0.1614	0.0218	(0.0089)	0.0190	0.0249
	ELSS Funds Average	**0.2057**	**0.0892**	**0.1152**	**0.0065**	**0.0662**	**(0.1111)**	**0.1820**	**0.0225**	**(0.0087)**	**0.0158**	**0.0329**

	Diversified											
1	Birla Frontline Equity	0.1933	0.0567	0.1431	0.0561	0.0754	(0.0914)	0.1962	0.0291	(0.0152)	0.0348	0.0678
2	DSP Top 100	0.2404	0.0586	0.1602	0.0410	0.0852	(0.0704)	0.1607	0.0282	(0.0002)	0.0085	0.0712
3	Franklin India Bluechip	0.2454	0.0526	0.1580	0.0305	0.0628	(0.0821)	0.1873	0.0326	(0.0031)	0.0151	0.0518
4	HDFC Equity Fund	0.2426	0.0754	0.1758	0.0345	0.0573	(0.0947)	0.2317	0.0496	(0.0117)	0.0107	0.0590
5	HDFC Top 200	0.2561	0.0774	0.1657	0.0268	0.0756	(0.0787)	0.2042	0.0430	(0.0101)	0.0127	0.0563
6	ICICI Pru Dynamic	0.1838	0.1048	0.1917	0.0507	0.0483	(0.0873)	0.1854	0.0356	(0.0007)	0.0112	0.0723
7	Mirae Large Cap Fund			0.1759	(0.0008)	0.0464	(0.1057)	0.2892	0.0300	0.0087	0.0291	0.0591
8	IDFC Premier Equity				0.0188	0.1501	(0.1013)	0.2218	0.0380	0.0172	0.0292	0.0534
9	Nippon Growth	0.2948	0.1317	0.1803	0.0386	0.0949	(0.1094)	0.2236	0.0138	(0.0073)	0.0076	0.0637
10	Nippon Equity Opportunities			0.1709	0.0317	0.0448	(0.1105)	0.2420	0.0393	0.0122	0.0335	0.0580
11	SBI Multicap fund				0.0304	0.0880	(0.0976)	0.1849	0.0018	(0.0117)	0.0246	0.0315
12	UTI Opportunties Fund				(0.0252)	0.0992	(0.0740)	0.1832	0.0364	0.0142	0.0134	0.0353
	Diversified fund Average	**0.2366**	**0.0796**	**0.1691**	**0.0278**	**0.0773**	**(0.0919)**	**0.2092**	**0.0315**	**(0.0006)**	**0.0192**	**0.0566**

Source: Computation based on secondary Data

The table above shows quarterly average annual returns. Compared to the average ELSS funds, the diversified fund generated a better performance of 23.66% during that period. However, in 2010-11 and 2014-15, the ELSS performed better than the average diversified fund.

Based on the 10-year historical performance of diversified funds, the Diversified fund has generated a return of 5.66%, while the ELSS fund has generated a 3.29% return.

4.4 ABSOLUTE OUT PERFORMANCE of ELSS FUNDS Compared to DIVERSIFIED EQUITY FUND (AVERAGE QUARTERLY RETURNS) (2009-2019)

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	No. of Diversified Funds	7	7	9	12	12	12	12	12	12	12	12
	ELSS Funds											
1	SBI LT Advantage Fund-IV								0.0049	0.0059	0.0137	0.0082
2	Axis Equity Fund					(0.0154)	(0.0213)	(0.0422)	(0.0083)	(0.0116)	0.0049	(0.0157)
3	Birla Tax Relief 96						(0.0470)	0.0144	(0.0224)	(0.0193)	0.0055	(0.0138)

4	BNP Tax Adv				(0.0233)	(0.0060)	(0.0440)	(0.0496)	(0.0140)	0.0164	0.0046	(0.0166)
5	BOI AXA Eco							0.0234	(0.0331)	(0.0142)	(0.0049)	(0.0072)
6	Mahindra Manulife ELSS fund							0.0227	(0.0338)	(0.0148)	(0.0058)	(0.0079)
7	Sundaram Tax advantage-III							0.0190	(0.0033)	0.0054	0.0001	0.0053
8	DSP Tax Saver					0.0310	(0.0171)	(0.0095)	(0.0087)	(0.0104)	0.0084	(0.0010)
9	DWS Tax Saving				(0.0438)	0.0240	(0.0291)	(0.0482)	(0.0287)	(0.0252)	0.0034	(0.0211)
10	Edelweiss ELSS							(0.0692)	(0.0063)	0.0065	(0.0019)	(0.0177)
11	Escorts Tax Plan	(0.0433)	(0.0174)	(0.0268)	(0.0102)	0.0177	(0.0724)	(0.0453)	(0.0282)	(0.0305)	(0.0565)	(0.0216)
12	Franklin Tax Sheild	(0.0145)	(0.0024)	(0.0142)	(0.0219)	(0.0082)	0.0008	(0.0226)	0.0036	0.0048	(0.0005)	(0.0071)
13	HDFC Long-Term Adv	0.0049	0.0407	(0.0082)	(0.0206)	(0.0332)	(0.0218)	0.0023	0.0111	(0.0030)	(0.0011)	(0.0008)
14	HDFC Tax Saver	(0.0143)	0.0693	0.0131	(0.0159)	(0.0277)	(0.0061)	0.0107	0.0031	(0.0049)	(0.0148)	(0.0067)
15	HSBC Tax Saver					(0.0193)	0.0083	(0.0298)	(0.0146)	(0.0059)	0.0124	(0.0081)
16	ICICI Pru Right								(0.0008)	0.0213	0.0123	0.0109
17	ICICI Pru Tax Plan	0.0229	0.0918	(0.0027)	(0.0293)	(0.0231)	(0.0182)	0.0260	(0.0036)	(0.0021)	(0.0006)	(0.0021)
18	IDFC Tax Adv							(0.0531)	(0.0032)	(0.0111)	0.0127	(0.0137)
19	IDFC Tax Saver					(0.0008)	(0.0239)	(0.0361)	(0.0092)	(0.0114)	0.0098	(0.0119)
20	Birla Retire Invest					(0.0224)	(0.0202)	(0.0546)	(0.0193)	(0.0287)	(0.0124)	(0.0263)
21	Birla Tax Savings		(0.0098)	0.0101	(0.0051)	(0.0519)	(0.0546)	0.0025	0.0086	(0.0208)	(0.0070)	(0.0142)
22	JM Tax Gain						(0.1017)	(0.0406)	(0.0300)	(0.0200)	(0.0138)	(0.0412)
23	JP Morgan Tax Advantage							(0.0728)	0.0042	(0.0130)	(0.0063)	(0.0219)
24	Kotak Tax Saver				(0.0001)	(0.0073)	(0.0402)	(0.0263)	(0.0097)	(0.0086)	(0.0035)	(0.0137)
25	LIC Tax Plan	(0.0228)	(0.0512)	(0.0549)	(0.0300)	(0.1307)	(0.0144)	(0.0635)	(0.0049)	(0.0214)	(0.0058)	(0.0412)

26	LNT Long-Term Adv							(0.0242)	(0.0140)	(0.0080)	(0.0124)	(0.0147)
27	LNT Tax Advantage				0.0101	(0.0116)	0.0044	(0.0242)	0.0149	(0.0111)	(0.0065)	(0.0034)
28	LNT Tax Saver				(0.0082)	(0.0463)	(0.0411)	0.0105	(0.0099)	(0.0273)	(0.0167)	(0.0199)
29	Essel LT Advantage fund							(0.0257)	0.0128	0.0007	0.0037	(0.0021)
30	Nippon Equity Linked Savings						0.0097	(0.0376)	0.0029	0.0044	0.0039	(0.0033)
31	Nippon Tax Saver				(0.0162)	(0.0367)	0.0070	(0.0205)	0.0031	0.0129	(0.0138)	(0.0092)
32	Religare Agile						(0.0123)	(0.1289)	(0.0069)	(0.0095)	0.0005	(0.0314)
33	Religare Tax Plan					0.0249	(0.0078)	(0.0127)	(0.0027)	0.0023	0.0030	0.0012
34	Sahara Tax Gain	(0.0367)	(0.0076)	(0.2866)	(0.0296)	0.0150	0.0012	(0.0103)	0.0022	0.0039	(0.0179)	(0.0429)
35	SBI Tax Gain						(0.0211)	(0.0266)	(0.0198)	(0.0016)	0.0003	(0.0138)
36	SBI Tax Advantage I						(0.0229)	(0.0071)	(0.0286)	(0.0114)	(0.0010)	(0.0142)
37	Sundaram Tax Saver				(0.0077)	0.0138	0.0009	(0.0332)	(0.0153)	(0.0018)	(0.0006)	(0.0063)
38	Tata Tax Savings							(0.0284)	(0.0051)	(0.0039)	(0.0048)	(0.0105)
39	Tata Tax Adv Fund I				(0.0347)	(0.0057)	0.0024	(0.0348)	(0.0002)	0.0011	(0.0048)	(0.0110)
40	Taurus Tax Shield	(0.1439)	(0.0269)	(0.1143)	(0.0619)	0.0810	0.0055	(0.0120)	0.0028	(0.0183)	(0.0001)	(0.0258)
41	UTI ETSP				(0.0340)	(0.0062)	(0.0155)	(0.0495)	(0.0112)	(0.0121)	(0.0016)	(0.0186)
42	UTI LTA V					(0.0341)	(0.0236)	(0.0243)	(0.0183)	(0.0165)	(0.0062)	(0.0205)
43	UTI LTA VI						0.0231	(0.0478)	(0.0096)	(0.0082)	(0.0002)	(0.0085)
	Average											(0.0131)

Source: Author's Compilation of Secondary data

Any fund's absolute return or performance is the return a fund gives over a specified period. After consideration of appreciation or depreciation, expressed as a percentage, a fund achieves over a given period. Absolute performance is different from the relative return, and this is because absolute return does not compare with any other benchmark.

The absolute outperformance of ELSS funds concerning the diversified equity funds (in the above table) demonstrates that ELSS Individual funds have outperformed very rarely compared to diversified equity funds. Additionally, it has been noticed that some funds under the ELSS category have underperformed continuously.

4.5 STANDARD DEVIATION-2009-2010 TO 2018-2019 (QUARTERLY AVERAGE)

Sl No.	Funds / Index	Average
	ELSS :	
1	SBI LT Advantage Fund-IV	0.07
2	Axis Equity Fund	0.12
3	Birla Tax Relief 96	0.12
4	BNP Tax Adv	0.12
5	BOI AXA Eco	0.11
6	Mahindra Manulife ELSS fund	0.11
7	Sundaram Tax advantage-III	0.10
8	DSP Tax Saver	0.13
9	DWS Tax Saving	0.11
10	Edelweiss ELSS	0.09
11	Escorts Tax Plan	0.12
12	Franklin Tax Sheild	0.10
13	HDFC Long-Term Adv	0.11
14	HDFC Tax Saver	0.13
15	HSBC Tax Saver	0.11
16	ICICI Pru Right	0.08
17	ICICI Pru Tax Plan	0.13
18	IDFC Tax Adv	0.09
19	IDFC Tax Saver	0.10
20	Birla Retire Invest	0.10
21	Birla Tax Savings	0.12
22	JM Tax Gain	0.12
23	JP Morgan Tax Advantage	0.08
24	Kotak Tax Saver	0.13
25	LIC Tax Plan	0.11

26	LNT Long-Term Adv	0.10
27	LNT Tax Advantage	0.11
28	LNT Tax Saver	0.13
29	Essel LT Advantage fund	0.09
30	Nippon Equity Linked Savings	0.10
31	Nippon Tax Saver	0.13
32	Religare Agile	0.07
33	Religare Tax Plan	0.11
34	Sahara Tax Gain	0.15
35	SBI Tax Gain	0.10
36	SBI Tax Advantage I	0.17
37	Sundaram Tax Saver	0.12
38	Tata Tax Savings	0.10
39	Tata Tax Adv Fund I	0.10
40	Taurus Tax Shield	0.16
41	UTI ETSP	0.11
42	UTI LTA V	0.12
43	UTI LTA VI	0.08
	Average	0.11
	Index	
1	BSE 30	0.10
2	BSE 100	0.11
3	BSE 200	0.12
4	BSE 500	0.12
5	CNX 500	0.12
6	CNX Nifty	0.10
7	CNX 100	0.11
	Average	0.11
	Diversified Equity Funds	
1	Birla Frontline Equity	0.11
2	DSP Top 100	0.11
3	Franklin India Bluechip	0.11

4	HDFC Equity Fund	0.12
5	HDFC Top 200	0.12
6	ICICI Pru Dynamic	0.13
7	Mirae Large Cap Fund	0.13
8	IDFC Premier Equity	0.14
9	Nippon Growth	0.13
10	Nippon Equity Opportunities	0.12
11	SBI Multicap fund	0.12
12	UTI Opportunties Fund	0.11
	Average	0.12

Source: Authors Compilation from secondary data

The standard deviation for the ten years shown in the above table is based on the quarterly average. It shows that the long-term advantage fund of HDFC, the LIC tax plan, and the Franklin India tax shield with ten years of performance history have less variation than other funds in the ELSS category. It indicates that investments in these funds come with low risk. Similarly, in the Diversified equity category, Birla frontline equity, DSP top 100, and Franklin blue-chip have shown fewer variations. Whereas in Benchmark indices, BSE30, CNX Nifty, and BSE 100 have shown better performance.

OBJECTIVE: (2) To compare and analyse the investment performance of the various Equity Linked Savings Scheme mutual funds (Growth) plans with relevant Benchmark Market Indices.

To achieve this objective study has been conducted on seven benchmark indexes (sample), and individual ELSS funds have been considered as their respective benchmarks. The below table shows the seven benchmark indices.

4.6 SAMPLE MARKET INDICES TAKEN FOR THE STUDY:

Sl.No.	IndexName	Exchange
1	BSE Sensex	Bombay Stock Exchange
2	BSE 100	Bombay Stock Exchange
3	BSE 200	Bombay Stock Exchange
4	BSE 500	Bombay Stock Exchange
5	CNX 100	National Stock Exchange
6	CNX 500	National Stock Exchange
7	CNX Nifty	National Stock Exchange

Source: Authors Compilation of Secondary Data

4.7 TERM DEPOSIT RATES: 2009/10 TO 2018/19

	1 TO 3 YEARS TERM			3 TO 5 YEARS TERM		
YEAR	**Low**	**High**	**Average**	**Low**	**High**	**Average**
2009-10	6	7	6.5	6.5	7.5	7
2010-11	8.25	9	8.6	8.25	8.75	8.5
2011-12	9	9.25	9.1	9	9.25	9.1
2012-13	8.75	9	8.8	8.75	9	8.8
2013-14	8.75	9.25	9	8.75	9.10	8.9
2014-15	8.50	8.75	8.6	8.50	8.75	8.6
2015-16	7.25	7.50	7.3	7	7.50	7.2
2016-17	6.75	7	6.8	6.50	6.90	6.7
2017-18	6.40	6.75	6.5	6.25	6.70	6.4
2018-19	6.25	7.75	7	6.27	7.75	7
Average	**7.59**	**8.1**	**7.8**	**7.57**	**8.12**	**7.9**

Source: https://rbi.org.in/Scripts/Publications

Term Deposits for term upto 3 to 5 years of top 5 commercial banks , is on an average 7.9 percentage p.a.

4.8 ELSS FUNDS ABSOLUTE OUTPERFORMANCE AGAINST MARKET INDICES: (QUARTERLY AVERAGE RETURN) 2009-10 to 2018-19

Sl.No.	Fund / Index	Average
	No. of Indexes	7
	ELSS	
1	SBI LT Advantage Fund-IV	0.0173
2	Axis Equity Fund	(0.0029)
3	Birla Tax Relief 96	0.0009
4	BNP Tax Adv	(0.0063)
5	BOI AXA Eco	0.0061
6	Mahindra Manulife ELSS fund	0.0054
7	Sundaram Tax advantage-III	0.0186
8	DSP Tax Saver	0.0117
9	DWS Tax Saving	(0.0287)
10	Edelweiss ELSS	(0.0041)
11	Escorts Tax Plan	(0.0013)
12	Franklin Tax Sheild	0.0132
13	HDFC Long Term Adv	0.0209
14	HDFC Tax Saver	0.0136
15	HSBC Tax Saver	0.0046
16	ICICI Pru Right	0.0200
17	ICICI Pru Tax Plan	0.0182
18	IDFC Tax Adv	(0.0003)
19	IDFC Tax Saver	0.0008
20	Birla Retire Invest	(0.0135)
21	Birla Tax Savings	0.0003

22	JM Tax Gain	(0.0265)
23	JP Morgan Tax Advantage	(0.0086)
24	Kotak Tax Saver	(0.0034)
25	LIC Tax Plan	(0.0209)
26	LNT Long Term Adv	(0.0013)
27	LNT Tax Advantage	0.0068
28	LNT Tax Saver	(0.0096)
29	Essel LT Advantage fund	0.0112
30	Nippon Equity Linked Savings	0.0113
31	Nippon Tax Saver	0.0011
32	Religare Agile	(0.0168)
33	Religare Tax Plan	0.0140
34	Sahara Tax Gain	(0.0226)
35	SBI Tax Gain	0.0009
36	SBI Tax Advantage I	0.0005
37	Sundaram Tax Saver	0.0040
38	Tata Tax Savings	(0.0280)
39	Tata Tax Adv Fund I	(0.0007)
40	Taurus Tax Shield	(0.0055)
41	UTI ETSP	(0.0083)
42	UTI LTA V	(0.0077)
43	UTI LTA VI	0.0061
	Average	(0.0002)

Source: Authors Computation of Secondary data

The absolute outperformance of returns of individual ELSS funds as against the Market Indices category averages depicts Individual ELSS funds have rarely outperformed. Some of the ELSS funds have constantly shown underperformance. However, the outperformance of individual ELSS funds is much better when compared with Market Indices average. from the above table,

it can be seen that out of the forty-three ELSS funds listed above, thirty have beaten the benchmark indices during the study period. But, the overall data reveals that the ELSS fund has suffered a negative return of 0.002 during the same period.

4.9 COEFFICIENT OF VARIATION OF RETURN (QUARTERLY AVERAGE) 2009-10 to 2018-19

Sl.No.	Fund / Index	Average
	ELSS:	
1	SBI LT Advantage Fund-IV	6.470
2	Axis Equity Fund	0.120
3	Birla Tax Relief 96	1.200
4	BNP Tax Adv	7.000
5	BOI AXA Eco	(12.180)
6	Mahindra Manulife ELSS fund	(8.610)
7	Sundaram Tax advantage-III	5.970
8	DSP Tax Saver	(0.230)
9	DWS Tax Saving	3.640
10	Edelweiss ELSS	7.350
11	Escorts Tax Plan	3.380
12	Franklin Tax Sheild	3.280
13	HDFC Long Term Adv	(0.050)
14	HDFC Tax Saver	0.500
15	HSBC Tax Saver	(0.800)
16	ICICI Pru Right	3.000
17	ICICI Pru Tax Plan	(9.710)
18	IDFC Tax Adv	(0.760)
19	IDFC Tax Saver	0.380
20	Birla Retire Invest	2.560
21	Birla Tax Savings	2.270
22	JM Tax Gain	10.880
23	JP Morgan Tax Advantage	0.050
24	Kotak Tax Saver	0.740
25	LIC Tax Plan	(6.230)

26	LNT Long Term Adv	0.220
27	LNT Tax Advantage	0.550
28	LNT Tax Saver	4.810
29	Essel LT Advantage fund	379.050
30	Nippon Equity Linked Savings	8.640
31	Nippon Tax Saver	7.160
32	Religare Agile	(0.120)
33	Religare Tax Plan	10.810
34	Sahara Tax Gain	2.160
35	SBI Tax Gain	(7.370)
36	SBI Tax Advantage I	3.820
37	Sundaram Tax Saver	(3.470)
38	Tata Tax Savings	(4.750)
39	Tata Tax Adv Fund I	25.950
40	Taurus Tax Shield	1.370
41	UTI ETSP	(2.580)
42	UTI LTA V	1.180
43	UTI LTA VI	(1.210)
	Average	10.380
	Indexes	
1	BSE 30	(9.910)
2	BSE 100	1.240
3	BSE 200	0.830
4	BSE 500	0.810
5	CNX 500	1.110
6	CNX Nifty	2.900
7	CNX 100	0.880
	Average	(0.310)
	Diversified Equity Funds	
1	Birla Frontline Equity	0.560
2	DSP Top 100	(47.740)
3	Franklin India Bluechip	(11.860)
4	HDFC Equity Fund	2.630
5	HDFC Top 200	1.150
6	ICICI Pru Dynamic	(15.570)
7	Mirae Large Cap Fund	(16.610)

8	IDFC Premier Equity	3.090
9	Nippon Growth	1.010
10	Nippon Equity Opportunities	3.000
11	SBI Multicap fund	5.200
12	UTI Opportunities Fund	1.260
	Average	(6.160)

Source: Computation based on secondary Data

The table shows the average coefficient variation of returns among different types of funds. For instance, the ELSS fund has a coefficient of variation of 10.38, while the benchmark indices have a coefficient of 0.31, and the diversified fund has a coefficient of 6.16. It shows that the benchmark indices performed better than the other funds during the study period.

4.10 Sharpe Ratio based on Quarterly Average Returns (2009-10 to 2018-19)

Sl.No.	Fund / Index	Average
	ELSS Funds	
1	SBI LT Advantage Fund-IV	0.10
2	Axis Equity Fund	-0.10
3	Birla Tax Relief 96	-0.21
4	BNP Tax Adv	-0.12
5	BOI AXA Eco	0.05
6	Mahindra Manulife ELSS fund	0.04
7	Sundaram Tax advantage-III	0.23
8	DSP Tax Saver	-0.11
9	DWS Tax Saving	-0.18
10	Edelweiss ELSS	0.18
11	Escorts Tax Plan	-0.12
12	Franklin Tax Sheild	0.44
13	HDFC Long Term Adv	0.5
14	HDFC Tax Saver	0.28
15	HSBC Tax Saver	-0.11
16	ICICI Pru Right	0.12
17	ICICI Pru Tax Plan	0.34
18	IDFC Tax Adv	0.3
19	IDFC Tax Saver	-0.19

20	Birla Retire Invest	-0.35
21	Birla Tax Savings	0.35
22	JM Tax Gain	-0.34
23	JP Morgan Tax Advantage	0.21
24	Kotak Tax Saver	-0.15
25	LIC Tax Plan	0.10
26	LNT Long Term Adv	0.21
27	LNT Tax Advantage	0.03
28	LNT Tax Saver	-0.28
29	Essel LT Advantage fund	0.34
30	Nippon Equity Linked Savings	-0.01
31	Nippon Tax Saver	-0.07
32	Religare Agile	-0.19
33	Religare Tax Plan	-0.02
34	Sahara Tax Gain	-0.03
35	SBI Tax Gain	-0.18
36	SBI Tax Advantage I	-0.2
37	Sundaram Tax Saver	-0.25
38	Tata Tax Savings	-0.01
39	Tata Tax Adv Fund I	-0.11
40	Taurus Tax Shield	-0.04
41	UTI ETSP	-0.13
42	UTI LTA V	-0.17
43	UTI LTA VI	-0.18
	Average	-0.03
	Indexes	
1	BSE 30	0.35
2	BSE 100	0.36
3	BSE 200	0.27
4	BSE 500	0.26
5	CNX 500	0.29
6	CNX Nifty	0.35
7	CNX 100	0.33
	Average	0.31
	Diversifed Equity Funds	
1	Birla Frontline Equity	0.37
2	DSP Top 100	0.4

3	Franklin India Bluechip	0.17
4	HDFC Equity Fund	0.23
5	HDFC Top 200	0.31
6	ICICI Pru Dynamic	0.2
7	Mirae Large Cap Fund	0.16
8	IDFC Premier Equity	0.03
9	Nippon Growth	0.15
10	Nippon Equity Opportunties	0.22
11	SBI Multicap fund	-0.07
12	UTI Opportunties Fund	-0.04
	Average	2.13

Source: Authors Computation of secondary data

4.11 Sortino Ratio based on Quarterly Average Returns 2009-10 to 2018-19

Sl.No.	Fund / Index	Average
	ELSS Funds	
1	SBI LT Advantage Fund-IV	0.15
2	Axis Equity Fund	(0.11)
3	Birla Tax Relief 96	(0.26)
4	BNP Tax Adv	(0.16)
5	BOI AXA Eco	0.07
6	Mahindra Manulife ELSS fund	0.05
7	Sundaram Tax advantage-III	0.40
8	DSP Tax Saver	(0.09)
9	DWS Tax Saving	(0.24)
10	Edelweiss ELSS	0.27
11	Escorts Tax Plan	(0.08)
12	Franklin Tax Sheild	0.61
13	HDFC Long Term Adv	0.97
14	HDFC Tax Saver	0.65
15	HSBC Tax Saver	(0.11)
16	ICICI Pru Right	0.18

17	ICICI Pru Tax Plan	0.51
18	IDFC Tax Adv	0.44
19	IDFC Tax Saver	(0.41)
20	Birla Retire Invest	(0.51)
21	Birla Tax Savings	0.76
22	JM Tax Gain	(0.40)
23	JP Morgan Tax Advantage	(0.16)
24	Kotak Tax Saver	(0.18)
25	LIC Tax Plan	0.13
26	LNT Long Term Adv	0.28
27	LNT Tax Advantage	0.05
28	LNT Tax Saver	(0.42)
29	Essel LT Advantage fund	0.48
30	Nippon Equity Linked Savings	0.03
31	Nippon Tax Saver	(0.04)
32	Religare Agile	(0.37)
33	Religare Tax Plan	(0.013)
34	Sahara Tax Gain	0.03
35	SBI Tax Gain	(0.21)
36	SBI Tax Advantage I	(0.21)
37	Sundaram Tax Saver	(0.42)
38	Tata Tax Savings	0.03
39	Tata Tax Adv Fund I	(0.09)
40	Taurus Tax Shield	(0.02)
41	UTI ETSP	(0.17)
42	UTI LTA V	(0.20)
43	UTI LTA VI	(0.24)
	Average	0.40
	Indices	
1	BSE 30	0.49
2	BSE 100	0.44
3	BSE 200	0.38
4	BSE 500	0.37
5	CNX 500	0.40
6	CNX Nifty	0.49

7	CNX 100	0.47
	Average	0.43
	Diversifed Equity Funds	
1	Birla Frontline Equity	0.50
2	DSP Top 100	0.55
3	Franklin India Bluechip	0.54
4	HDFC Equity Fund	0.69
5	HDFC Top 200	0.69
6	ICICI Pru Dynamic	0.44
7	Mirae Large Cap Fund	0.37
8	IDFC Premier Equity	0.12
9	Nippon Growth	0.50
10	Nippon Equity Opportunties	0.35
11	SBI Multicap fund	(0.09)
12	UTI Opportunties Fund	(0.06)
	Average	0.54

Source: Authors Computation of secondary data

JENSEN'S ALPHA:

4.12 Beta of Funds based on BSE 30 (Sensex) 2009-10 to 2018-19

Sl No.	Funds Name	Average
	ELSS Funds	
1	SBI LT Advantage Fund-IV	0.01
2	Axis Equity Fund	0.001
3	Birla Tax Relief 96	(0.002)
4	BNP Tax Adv	(0.008)
5	BOI AXA Eco	0.002
6	Mahindra Manulife ELSS fund	0.002
7	Sundaram Tax advantage-III	0.016
8	DSP Tax Saver	0.008
9	DWS Tax Saving	(0.009)
10	Edelweiss ELSS	0.008
11	Escorts Tax Plan	(0.033)
12	Franklin Tax Sheild	0.011

13	HDFC Long Term Adv	0.030
14	HDFC Tax Saver	0.019
15	HSBC Tax Saver	0.002
16	ICICI Pru Right	0.020
17	ICICI Pru Tax Plan	0.008
18	IDFC Tax Adv	0.018
19	IDFC Tax Saver	(0.003)
20	Birla Retire Invest	(0.014)
21	Birla Tax Savings	0.003
22	JM Tax Gain	(0.013)
23	JP Morgan Tax Advantage	0.011
24	Kotak Tax Saver	(0.004)
25	LIC Tax Plan	(0.028)
26	LNT Long Term Adv	0.019
27	LNT Tax Advantage	0.012
28	LNT Tax Saver	(0.019)
29	Essel LT Advantage fund	0.026
30	Nippon Equity Linked Savings	0.021
31	Nippon Tax Saver	0.006
32	Religare Agile	(0.000)
33	Religare Tax Plan	0.010
34	Sahara Tax Gain	0.032
35	SBI Tax Gain	0.002
36	SBI Tax Advantage I	(0.000)
37	Sundaram Tax Saver	(0.005)
38	Tata Tax Savings	(0.004)
39	Tata Tax Adv Fund I	0.005
40	Taurus Tax Shield	(0.026)
41	UTI ETSP	0.001
42	UTI LTA V	(0.004)
43	UTI LTA VI	0.004
	Average	0.003
	Diversified Equity Funds	
1	Birla Frontline Equity	0.007
2	DSP Top 100	0.012

3	Franklin India Bluechip	0.008
4	HDFC Equity Fund	0.021
5	HDFC Top 200	0.021
6	ICICI Pru Dynamic	(0.005)
7	Mirae Large Cap Fund	0.000
8	IDFC Premier Equity	0.017
9	Nippon Growth	0.011
10	Nippon Equity Opportunties	0.004
11	SBI Multicap fund	0.003
12	UTI Opportunties Fund	0.002
	Average	0.010

Source: Authors Computation of secondary data

4.13 Treynor's Ratio based on BSE 30 (Sensex) 2009-10 to 2018-19

Sl. No.	Funds Name	Average
	ELSS Funds	
1	SBI LT Advantage Fund-IV	0.003
2	Axis Equity Fund	0.007
3	Birla Tax Relief 96	-0.004
4	BNP Tax Adv	0.002
5	BOI AXA Eco	0.033
6	Mahindra Manulife ELSS fund	0.033
7	Sundaram Tax advantage-III	0.046
8	DSP Tax Saver	0.008
9	DWS Tax Saving	0.001
10	Edelweiss ELSS	0.039
11	Escorts Tax Plan	-0.006
12	Franklin Tax Sheild	0.009
13	HDFC Long Term Adv	0.214
14	HDFC Tax Saver	-0.089
15	HSBC Tax Saver	0.007
16	ICICI Pru Right	0.007
17	ICICI Pru Tax Plan	0.056
18	IDFC Tax Adv	0.057
19	IDFC Tax Saver	-0.005

20	Birla Retire Invest	-0.014
21	Birla Tax Savings	0.038
22	JM Tax Gain	-0.015
23	JP Morgan Tax Advantage	0.050
24	Kotak Tax Saver	0.001
25	LIC Tax Plan	-0.006
26	LNT Long Term Adv	0.066
27	LNT Tax Advantage	0.020
28	LNT Tax Saver	-0.013
29	Essel LT Advantage fund	0.063
30	Nippon Equity Linked Savings	0.024
31	Nippon Tax Saver	0.009
32	Religare Agile	0.038
33	Religare Tax Plan	0.012
34	Sahara Tax Gain	-1.638
35	SBI Tax Gain	0.001
36	SBI Tax Advantage I	-0.003
37	Sundaram Tax Saver	-0.016
38	Tata Tax Savings	0.036
39	Tata Tax Adv Fund I	0.005
40	Taurus Tax Shield	-0.003
41	UTI ETSP	0.004
42	UTI LTA V	0.002
43	UTI LTA VI	0.003
	Average	-0.021
	Diversifed Equity Funds	
1	Birla Frontline Equity	0.044
2	DSP Top 100	0.049
3	Franklin India Bluechip	0.030
4	HDFC Equity Fund	0.039
5	HDFC Top 200	0.040
6	ICICI Pru Dynamic	0.040
7	Mirae Large Cap Fund	0.019
8	IDFC Premier Equity	0.023
9	Nippon Growth	0.022
10	Nippon Equity Opportunties	0.028

11	SBI Multicap fund	0.010
12	UTI Opportunties Fund	0.016
	Average	0.030

Source: Authors Computation of secondary data

In the above table no the Sharpe ratio of ELSS funds and Diversified Equity funds is tabulated. As it can be seen from the table, the average Sharpe ratio of ELSS funds over the 10 year period is -0.03 as against 2.13 for Diversified Equity funds and 0.31 for benchmark indices. Similarly, the Sortino ratio also shows that ELSS has underperformed compared to Diversified equity and benchmark indices although on an average it has shown positive returns. Jensen and Treynor ratio also the performance of ELSS funds have been found poor compared to Diversified equity funds.

TEST OF HYPOTHESIS: USING SHARPE RATIO, SORTINO RATIO, JENSEN'S ALFA, AND TREYNOR'S RATIO:

4.1 HYPOTHESIS 01

To analyse the Investment Performance of ELSS funds, the following Hypothesis have been formulated:

H_{01} = The average Sharpe Ratio of ELSS (Growth) and diversified equity funds (Growth) is not significantly different.

Variables taken: ELSS Funds and Diversified Funds Average

4.14. ANOVA

SHARP RATIO RETURN ELSS VS DIVERSIFIED

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	0.608	1	0.608	12.366	0.001
Within Groups	2.604	53	0.049		
Total	3.212	54			

Source: SPSS Output

Robust Tests of Equality of Means

SHARP RATIO RETURN ELSS VS DIVERSIFIED

	Statistic[a]	df1	df2	Sig.
Welch	14.701	1	20.133	.001

a. Asymptotically F distributed.

The above Anova test has been used to test the hypothesis significance keeping in mind sample size of both variables is not equal. There are 43 funds in the ELSS category, and 12 funds are there in the other diversified fund category. The reason behind Anova is to use Welch's t-test (considered most suitable in case of unequal sample size); this option is available in Anova using SPSS. The above test has been done at a degree of freedom one and a significance level of 5%. The null hypothesis was rejected, as the p-value was .001, which is equivalent to >.05. The difference between the average sharp ratio of diversified funds and ELSS funds is significant.

As SPSS does not differentiate unequal samples, a normal t-test will also give the same result. As In Anova Welch's statistics reflecting is 14.701, its square root is basically a t value, i.e., 3.834, which can be seen below in the t-test using the variables and data of ANOVA. So again, the t-test has also been done below.

4.15 T-Test

Group Statistics

	GROUP ELSS AND DIVERSIFIED	N	Mean	Std. Deviation
SHARP RATIO RETURN ELSS VS DIVERSIFIED	ELSS AVERAGE RETURN	43	.00260	.227932
	DIVERSIFIED AVERAGE RETURN	12	.25708	.195860

Group Statistics

	GROUP ELSS AND DIVERSIFIED	Std. Error Mean
SHARP RATIO RETURN ELSS VS DIVERSIFIED	ELSS AVERAGE RETURN	.034759
	DIVERSIFIED AVERAGE RETURN	.056540

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for of Means
		F	Sig.	t
SHARP RATIO RETURN ELSS VS DIVERSIFIED	Equal variances assumed	.306	.582	-3.517
	Equal variances not assumed			-3.834

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
SHARP RATIO RETURN ELSS VS DIVERSIFIED	Equal variances assumed	53	.001	-.254479
	Equal variances not assumed	20.133	.001	-.254479

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
SHARP RATIO RETURN ELSS VS DIVERSIFIED	Equal variances assumed	.072367	-.399628	-.109329
	Equal variances not assumed	.066370	-.392865	-.116092

Levene's test has been conducted to check the assumption that the variances of the two groups are equal, i.e., not significantly different. The table above shows that Levene's test is not significant; p = 0.582 at the .05 alpha level in our case. Thus, the assumption of homogeneity of variance is met (i.e., not violated). In the above t-test, it can be seen that the t value is 3.834 (Reflected in the t-test above), which is equal to the square root of Welch statistics 14.701 (as reflected in Anova). So both the tests ANOVA and t-test meet the objectives of unequal sample size in SPSS. That is why all other hypotheses have been tested using ANOVA and Welch tests below.

4.2 HYPOTHESIS 02

H_{02} = The average Sharpe Ratio of ELSS funds and benchmark market indices is not significantly different.

Variables taken: ELSS fund and Benchmark Indices average

4.16 ANOVA

SHARP RATIO RETURN ELSS VS INDEX

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	0.571	1	0.571	12.528	0.001
Within Groups	2.190	48	0.046		
Total	2.761	49			

Source: SPSS Output

Robust Tests of Equality of Means

SHARP RATIO RETURN ELSS VS INDEX

	Statistic[a]	df1	df2	Sig.
Welch	68.256	1	47.983	.000

a. Asymptotically F distributed.

The above ANOVA table shows that our F ratio (12.528) is significant (p= 0.001) at the 0.05 alpha level. F(1,48)=12.52 , p<0.05. The 1 and 48 are two degrees of freedom values (df) for between group and within groups, respectively. The mean squares of .571 and .046 indicate the amount of variance.

In the above Anova test outcome, the p-value is .001, less than .05 (level of significance); this implies that the null hypothesis has been rejected. This means a significant difference exists between the Sharp ratio of ELSS funds and the Sharp ratio of the benchmark index.

The Robust test of equality of means shows that the welch statistic of 68.256 is found to be significant (p= 0.001). Thus, we reject the hypothesis and conclude that at least one group's mean was significantly different from the others. It states that there is sufficient evidence to say that the means of the two populations are significantly different.

4.3 HYPOTHESIS 3

H_{03} = The average Sortino ratio of ELSS growth funds and diversified equity funds is not significantly different.

Variables taken: ELSS Funds and Diversified equity funds average

4.17 ANOVA

SORTINO RETURN ELSS VS DIVERSIFIED

	Sum of Squares	Df	Mean Square	F	Sig
Between Groups	1.195	1	1.195	11.196	0.002
Within Groups	5.655	53	0.107		
Total	6.850	54			

Source: SPSS Output

Robust Tests of Equality of Means

SORTINO RETURN ELSS VS DIVERSIFIED

	Statistic[a]	df1	df2	Sig.
Welch	15.053	1	22.513	.001

a. Asymptotically F distributed.

The above ANOVA table shows that our F ratio (11.196) is significant (p= 0.002) at the 0.05 alpha level. F (1,53) =11.19, p<0.05. The 1 and 53 are two degrees of freedom values (df) between and within groups, respectively. The mean squares of 1.195 and 5.655 indicate the amount of variance.

The above one-way Anova test outcome revealed that the p-value is .002, less than .05 (level of significance); it means the null hypothesis has to be rejected. It implies a statistically significant difference exists between the Sortino ratio of ELSS and Diversified funds.

The Robust test of equality of means shows that the welch statistic of 15.053 is found to be significant (p= 0.001). Thus, we reject the hypothesis and conclude that at least one group's

mean was significantly different from the others. It states that there is sufficient evidence to say that the means of the two populations are significantly different.

4.4 HYPOTHESIS 04

H_{04} = The average Sortino ratio of the ELSS growth funds and benchmark market indices is not significantly different.

Variables taken: ELSS funds and Benchmark Indices average

4.18 ANOVA

SORTINO RETURN ELSS VS INDEX

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	1.018	1	1.018	9.950	0.003
Within Groups	4.913	48	0.102		
Total	5.931	49			

Source: SPSS Output

Robust Tests of Equality of Means

SORTINO RETURN ELSS VS INDEX

	Statistic[a]	df1	df2	Sig.
Welch	54.532	1	48.000	.000

a. Asymptotically F distributed.

The above ANOVA table shows that our F ratio (9.950) is significant (p= 0.003) at the 0.05 alpha level. F (1,48) =9.95, p<0.05. The 1 and 48 are two degrees of freedom values (df) for between group and within groups, respectively. The mean squares of 1.018 and .102 indicate the amount of variance.

The above one-way Anova test outcome revealed that the p-value is .003, less than .05 (level of significance); it means the null hypothesis has to be rejected. It implies a statistically significant difference between the Average Sortino ratio of ELSS funds and Benchmark market Indices.

The Robust test of equality of means shows that the welch statistic of 54.532 is found to be significant (p= 0.001). Thus, we reject the hypothesis and conclude that at least one group's mean was significantly different from the others. It states that there is sufficient evidence to say that the means of the two populations are significantly different.

4.5 HYPOTHESIS 05

H_{05} = The average Jensen's Alpha of ELSS (Growth) funds and Diversified Equity (Growth) funds based on BSE Sensex is not significantly different.

Variables taken: ELSS funds and Diversified Funds averages based on BSE30

4.19 ANOVA

JENSENS ALFA RETURN ELSS VS DIVERSIFIED

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	2.439	1	2.439	1.357	0.249
Within Groups	95.285	53	0.798		
Total	97.724	54			

Source: SPSS Output

Robust Tests of Equality of Means

JENSENS ALFA RETURN ELSS VS DIVERSIFIED

	Statistic[a]	df1	df2	Sig.
Welch	2.465	1	31.765	.126

a. Asymptotically F distributed.

The above ANOVA table shows that our F ratio (1.357) is not significant (p= 0.249) at the 0.05 alpha level. F (1,53) =1.357, p>0.05. The 1 and 53 are two degrees of freedom values (df) between and within groups, respectively. The mean squares of 2.439 and 1.798 indicate the amount of variance.

The above one-way Anova test outcome revealed that the p-value is .0249, more than .05 (level of significance); hence the null hypothesis must be accepted. It implies no statistically

significant difference exists between Jensen's alpha of the ELSS fund and the BSE Sensex index.

The Robust test of equality of means shows that the welch statistic of 2.465 is found to be not significant (p= 0.126). Thus, we accept the hypothesis and conclude that the group's mean was not significantly different. It states that there is sufficient evidence to say that the means of the two populations are not significantly different.

5.6 <u>HYPOTHESIS 06</u>

H_{06} = The average Jensen's Alpha of ELSS (Growth) funds based on BSE Sensex and Market Indices is not significantly different.

Variables taken: ELSS funds based on BSE Sensex and Benchmark Indices averages

4.20 **Chi-Square Test**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi Square	50.000	29	0.009
Likelihood Ratio	40.496	29	0.076
Linear by Linear Association	48.093	1	0.000
	50		

Source: SPSS Output

Based on the provided data, a chi-square test was conducted to analyze the hypothesis related to the average Jensen's Alpha of ELSS (Growth) funds based on BSE Sensex and Market Indices. The test results indicate the following:

Pearson Chi-Square: The chi-square value is 50.000 with 29 degrees of freedom. The p-value associated with this test is .009. Since the p-value is less than the conventional significance level of .05, we can reject the null hypothesis (H0), that asserts the variables are independent of each other and conclude that there is a significant difference in the average Jensen's Alpha of ELSS (Growth) funds based on BSE Sensex and Market Indices.

Likelihood Ratio: The likelihood ratio chi-square value is 40.496 with 29 degrees of freedom. The p-value associated with this test is .076. Although the p-value is greater than .05, it is still relatively close to the significance level. Therefore, caution is advised in interpreting this result.

Linear-by-Linear Association: The chi-square value for the linear-by-linear association is 48.093 with 1 degree of freedom. The p-value for this test is .001, indicating a significant association between the variables.

Overall, the chi-square test results suggest that there is a significant difference in the average Jensen's Alpha of ELSS (Growth) funds based on BSE Sensex and Market Indices.

4.7 HYPOTHESIS 07

H_{07} = The average Treynor's Ratio of ELSS (Growth) funds and Diversified Equity (Growth) funds based on BSE 30 (Sensex) is not significantly different.

Variables taken: ELSS funds and Diversified equity based on BSE30 averages

4.21 ANOVA

TREYNORS RETURN ELSS VS DIVERSIFIED BASED ON BSE 30 (SENSEX)

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	0.010	1	0.010	0.213	0.646
Within Groups	2.599	53	0.049		
Total	2.610	54			

Source: Authors SPSS Output

Robust Tests of Equality of Means				
TREYNORS RETURN ELSS VS DIVERSIFIED BASED ON BSE 30 (SENSEX)				
	Statistic[a]	df1	df2	Sig.
Welch	.767	1	42.817	.386

Source: SPSS output

The ANOVA table shows that our F ratio (.213) is not significant (p= 0.646) at the 0.05 alpha level. F (1,53) = .21, p>0.05. The 1 and 53 are two degrees of freedom values (df) between and

within groups, respectively. The mean squares of .010 and 2.599 indicate the amount of variance.

The above one-way Anova test outcome revealed that the p-value is .646, more than .05 (level of significance); hence the null hypothesis must be accepted. It implies no statistically significant difference in the average Treynor's ratio of the ELSS (Growth) funds and Diversified Equity (Growth) funds based on BSE 30 (Sensex) found true.

The Robust test of equality of means shows that the welch statistic of .767 is not significant (p= 0.386). Thus, we accept the null hypothesis and conclude that the group's mean was not significantly different. It states that there is sufficient evidence to say that the means of the two populations are not significantly different.

4.8 HYPOTHESIS 08

H_{08} = The average Treynor's Ratio of ELSS (Growth) funds based on BSE 30 (Sensex) and Market Indices is not significantly different.

Variables taken: ELSS funds based on BSE30 and Diversified equity fund averages

4.22 Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi Square	50.000	48	0.394
Likelihood Ratio	40.496	48	0.771
Linear by Linear Association	11.758	1	0.001
	50		

Source: SPSS Output

A chi-square test was conducted to analyze the hypothesis based on the provided data. The test results indicate the following:

Pearson Chi-Square: The chi-square value is 50.000 with 48 degrees of freedom. The p-value associated with this test is 0.394. Since the p-value is more than the conventional significance level of .05, the null hypothesis is accepted (H0), that asserts the variables are dependent on each other and conclude that there is no significant difference in the average Treynor's Ratio return of ELSS Growth) fund based on BSE (Sensex) and Market Indices.

Likelihood Ratio: The likelihood ratio chi-square value is 40.496 with 48 degrees of freedom. The p-value associated with this test is .771. The p-value is greater than .05 and is not statistically significant.

Linear-by-Linear Association: The chi-square value for the linear-by-linear association is 11.758 with 1 degree of freedom. The p-value for this test is .001, indicating a significant association between the variables.

Overall, the chi-square test results suggest no significant difference between the average return of Treynor's Ratio of ELSS (Growth) fund based on BSE (Sensex) and Market Indices.

4.9 Conclusion

In order to analyse the investment performance Sharpe, Sortino, has been used, taking into account the average of ELSS and Diversified equity funds and Benchmark Indices. Welch's ANOVA test (considered most suitable in case of unequal sample available in size) and Chi-Square has been used to test the hypothesis significance, keeping in mind that the sample size of both variables is not equal. There are 43 funds in the ELSS category and 12 in the other diversified fund category. Jensen's Alpha and Treynor's Ratio are also being used to compare and measure the Performance as these are also risk-adjusted portfolio performance evaluation measures used in investment performance.

The difference between the risk adjusted performance of ELSS Funds and the diversified equity funds using the Jensen, Sharpe, and Sortino measures is significant. Based on the three measures, it is clear that the former has a significantly higher mean than the latter.

The difference in the absolute return performance of diverse equity funds and that of the ELSS Funds using the Sharpe and Sortino measures suggests that the latter has a superior risk-adjusted performance. The difference between the performance of the benchmark market indexes and those of the ELSS funds using the Sharpe and Sortino measures does not differ.

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION –

PERCEPTIONS OF RETAIL INVESTORS

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION –

PERCEPTIONS OF RETAIL INVESTORS

To study the perception of individual retail investors, 600 retail investors from the state of Goa consisting of 492 investing in ELSS and diversified Equity funds and 108 investing in other investments are considered. The survey was conducted between Feb2022 and July 2022.

Before testing the hypothesis and implementing the questionnaire, Cronbach's alpha was used to test the reliability of the questionnaire since it has been described as 'one of the most important and pervasive statistics in research involving test construction and use.

5.1 Reliability Statistics

Cronbach's Alpha	N of Items
.845	85

Source: SPSS output

The reliability statistics provide information on the internal consistency of the scale used in the study, measured by Cronbach's alpha coefficient. The alpha coefficient ranges from 0 to 1, where values closer to 1 indicate higher internal consistency or reliability of the scale. In this case, Cronbach's alpha coefficient is 0.845, which suggests high internal consistency of the scale with 85 items. This indicates that the items included in the study measure the same construct or variable consistently and that the scale is reliable.

5.2 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.754
Bartlett's Test of Sphericity	Approx. Chi-Square	44221.495
	Df	1596
	Sig.	.000

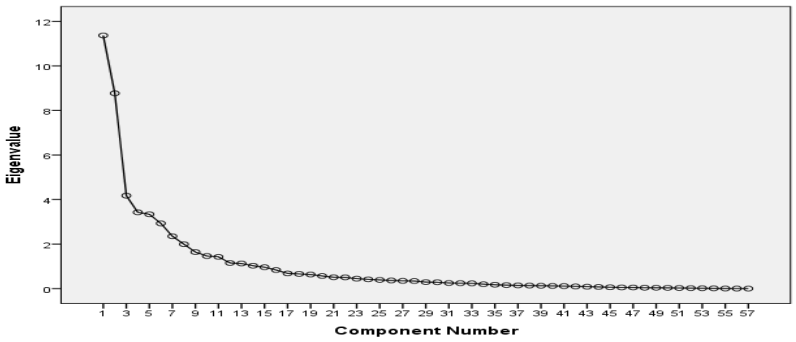
Source: SPSS output

The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) is a statistic that measures the suitability of data for factor analysis. The KMO test was conducted to examine the strength of the partial correlation (how the factors explain each other) between the variables. It ranges from

0 to 1, with values closer to 1 indicating better sampling adequacy. In this case, the KMO value of .754 suggests that the data are suitable for factor analysis.

Bartlett's sphericity test is used to determine whether a correlation matrix is significantly different from an identity matrix (i.e., whether variables are independent of each other). The test's null hypothesis is that the correlation matrix is an identity matrix, which would indicate no correlations among variables. In this case, the test produced an approximate chi-square value of 44221.495 with 1596 degrees of freedom and a p-value of .000, which indicates that the correlation matrix is significantly different from an identity matrix. Therefore, it is appropriate to use factor analysis to explore the underlying structure of the data.

5.1 Scree Plot



Source: SPSS Output

Further, Scree Plot has been plotted based on the percentage of variance or Eigenvalues. Scree Plot has been plotted based on percentage of variance or Eigenvalues. In the scree plot high value has been shown at top, and gradually low values has been plotted. All variances are up to the elbow of the scree plot. Remaining plotted values in horizontal line is having less percentage of the variance, so they are not much relevant and valuable. All valuable 14 constructs have been forming an elbow shape in scree plot has been considered.

Demographic Profile of Respondents in terms of Age, Gender, Marital, Income, Education and Occupation:

5.3 AGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25 Years	96	16.0	16.0	16.0
	26-35 Years	168	28.0	28.0	44.0
	36-50 Years	210	35.0	35.0	79.0
	51-65 Years	48	8.0	8.0	87.0
	Above 65 Years	78	13.0	13.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

This data represents age group, frequency, and percentage distribution in a sample of 600 individuals. The sample is divided into five age groups: 18-25 years, 26-35 years, 36-50 years, 51-65 years, and above 65 years. The table shows that the largest age group in the sample is 36-50 years, which comprises 35% of the sample. The next largest group is 26-35 years, which comprises 28% of the sample. The smallest age group is 51-65 years, which contains only 8% of the sample.

The cumulative percentage column shows the percentage of individuals in the sample who fall into each age group or below. Overall, this data provides insight into the age distribution of the sample, which may help to understand demographic characteristics and make generalizations about the population from which the sample was drawn.

5.4 GENDER

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	414	69.0	69.0	69.0
	Female	186	31.0	31.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

5.5 MARITAL STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	186	31.0	31.0	31.0
	UnMarried	348	58.0	58.0	89.0
	Widow	42	7.0	7.0	96.0
	Divorced / Separated	24	4.0	4.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

As shown in the above table 5.4 &5.5, most respondents are male, representing 69% of the total population, and 58% of respondents were unmarried.

5.6 HIGHEST EDUCATIONAL QUALIFICATION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non-Matriculation	6	1.0	1.0	1.0
	High School / SSC (10TH)	6	1.0	1.0	2.0
	Higher Secondary School / HSC (12TH)	24	4.0	4.0	6.0
	Graduate	342	57.0	57.0	63.0
	Post Graduate Degree	210	35.0	35.0	98.0
	Others	12	2.0	2.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The above table depicts that 92% of the respondent's retail investors are highly educated. The given data presents the distribution of respondents according to their highest educational qualification. The categories range from non-Matriculation to Post Graduate Degrees, with an "Others" category also included.

Out of the total 600 respondents, the highest percentage of respondents, 57%, reported having a graduate degree, followed by 35% with a post-graduate degree. Only 1% of respondents reported having a non-matriculation or high school degree, while 4% reported having a higher

secondary school degree. The remaining 2% reported having an educational qualification that does not fall under any of the given categories.

5.7 OCCUPATION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government Job	72	12.0	12.0	12.0
	Private Job	102	17.0	17.0	29.0
	Self Employed	78	13.0	13.0	42.0
	Professional (CA/ Doctor / Lawyer)	156	26.0	26.0	68.0
	Retired	102	17.0	17.0	85.0
	House Wife	90	15.0	15.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

This table shows the frequency and percentage distribution of occupation categories among the 600 participants.

The most common occupation among the participants was "Professional (CA/ Doctor / Lawyer)," with a frequency of 156, accounting for 26% of the total participants. The second most common occupation was "Private Job," with a frequency of 102, accounting for 17% of the total participants, followed by "Retired," with a frequency of 102, accounting for 17% of the total participants.

Other occupation categories included "Self Employed" with a frequency of 78, accounting for 13% of the total participants, "House Wife" with a frequency of 90, accounting for 15% of the total participants, and "Government Job" with a frequency of 72, accounting for 12% of the total participants.

This data can be useful in understanding the demographics and socioeconomic status of the participants, which can be relevant in analyzing and interpreting the study results.

5.8 YEARLY INCOME

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 250000	24	4.0	4.0	4.0
	250000-500000	246	41.0	41.0	45.0
	500000-1000000	294	49.0	49.0	94.0
	Above 1000000	36	6.0	6.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The above tables show that 68% of the respondents are working population, and 90% of the total population sample taken have yearly income between 2,50,000 to 10,00,000.

To determine the impact of demographic profile on investor's perception, it was tested using ANOVA, wherein it was found that there is a significant impact of Age, Education, occupation, and income on the perception of retail investors as in all cases the null hypothesis has been rejected since P value is less than 0.05.

OBJECTIVE 3

5.1 HYPOTHESIS 09

H_{O9}: The retail investors' Perceptions of return/reward in the case of ELSS compared to Diversified Equity funds is not significant.

(A) RETURN IS BETTER IN ELSS

Variables taken:

Perception of ELSS Investors: Reward/Return is better in ELSS

Perception of Diversified Investors: Reward/Return is better in ELSS

5.9 REWARD/ RETURN IS BETTER IN ELSS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	3.0	3.0	3.0
	Disagree	12	2.0	2.0	5.0
	Neutral	54	9.0	9.0	14.0
	Agree	342	57.0	57.0	71.0
	Strongly Agree	174	29.0	29.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The table above displays the percentage and frequency of the 600 respondents who stated that returns from ELSS funds are better than those from other types of investments. Most respondents (57%) believe that the returns from these funds are better than those from other types of investments.

5.10 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
REWARD/ RETURN IS BETTER IN ELSS	OTHER THAN ELSS	234	4.10	.812	.053
	ELSS	258	4.07	.901	.056

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
REWARD/ RETURN IS BETTER IN ELSS	Equal variances assumed	.861	.035	.423
	Equal variances not assumed			.425

Independent Samples Test

		t-test for Equality of Means		
		Df	Sig. (2-tailed)	Mean Difference
REWARD/ RETURN IS BETTER IN ELSS	Equal variances assumed	490	.673	.033
	Equal variances not assumed	489.978	.671	.033

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
REWARD/ RETURN IS BETTER IN ELSS	Equal variances assumed	.078	-.120	.185
	Equal variances not assumed	.077	-.119	.185

Source: SPSS Output

The tables provide statistical information on the Perception of ELSS & diversified investors regarding the reward/return in ELSS (Equity-Linked Savings Scheme).

The "Group Statistics" table shows the mean, standard deviation, and standard error of the mean for two groups of investors. The mean for the ELSS group is 4.07, while the mean for the other group is 4.10. The standard deviations for both groups are 0.901 and 0.812, respectively.

Levene's test for equality of variances (p=.035) shows that the variances are unequal, and both groups have a significant difference in variances. The t-test for equality of means indicates that the mean difference between the two groups is 0.033, which is not statistically significant (p=.671). With (DF= 490) and a 95% confidence interval of difference (-0.120 and 0.185) indicates the mean difference between these two groups for the entire population.

Since the p-value (0.671) for our independent t-test is more than the standard significance level of 0.05, the statistical analysis indicates that there is no significant difference in the perception of both the groups regarding the reward/return in ELSS is better.

(B) REWARD/RETURN IS BETTER IN DIVERSIFIED

Variables taken:

Perception of ELSS Investors: Reward/Return is better in Diversified Funds.

Perception of Diversified Investors: Reward/Return is better in Diversified Funds.

5.11 REWARD/RETURN IS BETTER IN OTHER DIVERSIFIED FUND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	462	77.0	77.0	77.0
	Disagree	138	23.0	23.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The table above clearly shows that a large majority (77%) of survey respondents think that returns from diversified funds aren't better than those from other types of investments.

5.12 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
REWARD/RETURN IS BETTER IN OTHER DIVERSIFIED FUND	OTHER THAN ELSS	234	1.21	.405	.026
	ELSS	258	1.23	.423	.026

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
REWARD/RETURN IS BETTER IN OTHER DIVERSIFIED FUND	Equal variances assumed	2.164	.014	-.733
	Equal variances not assumed			-.735

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
REWARD/RETURN IS BETTER IN OTHER DIVERSIFIED FUND	Equal variances assumed	490	.014	-.027
	Equal variances not assumed	488.634	.013	-.027

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
REWARD/RETURN IS BETTER IN OTHER DIVERSIFIED FUND	Equal variances assumed	.037	-.101	.046
	Equal variances not assumed	.037	-.101	.046

Source: SPSS Output

The tables provide statistical information on the Perception of ELSS & diversified investors regarding the reward/return in Diversified Equity funds. The "Group Statistics" table shows the mean, standard deviation, and standard error of the mean for two groups of investors. The mean

for the ELSS group is 1.21, while the mean for the other group is 1.23. The standard deviations for both groups are 0.405 and 0.423, respectively.

The independent samples t-test analysis shows a significant difference in the investors' Perceptions of both groups regarding the return/reward in diversified funds, as indicated by the significant Levene's test for equality of variances (p=.014). The t-test for equality of means shows that the mean difference between the two groups is -.027, which is statistically significant (p=.013), with a 95% confidence interval of (-0.101 and 0.046).

The above t-test table shows that the P value is .013, which is less than the significance value at 5% (.05); this means the null hypothesis has been rejected. This indicates a difference of opinion between both groups about reward/return being better in diversified funds.

Overall, the data suggest a significant difference in the investors' Perceptions regarding reward/returns in diversified funds.

5.2 HYPOTHESIS 10

RELATED TO RISK PERCEPTION OF TWO GROUPS OF RESPONDENTS: GROUP 1: WHO INVESTS IN OTHER THAN ELSS, GROUP 2: WHO INVESTS IN ELSS.

Ho_{10}: Retail investors' perceptions of the risk of investing in ELSS are significantly different as compared to Diversified Equity Fund.

(A) RISK IS HIGHER IN ELSS

Variables taken:

Perception of ELSS Investors: Risk is higher in ELSS

Perception of Diversified Investors: Risk is higher in ELSS

5.13 RISK HIGHER IN ELSS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	5.0	5.0	5.0
	Disagree	36	6.0	6.0	11.0
	Neutral	18	3.0	3.0	14.0
	Agree	366	61.0	61.0	75.0
	Strongly Agree	150	25.0	25.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The table above shows the percentage of respondents who believe a high risk is associated with investing in ELSS funds. The figure suggests that over 60% of respondents think such investments are risky.

5.14 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
RISK HIGHER IN ELSS	OTHER THAN ELSS	234	4.18	.676	.044
	ELSS	258	3.72	1.130	.070

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
RISK HIGHER IN ELSS	Equal variances assumed	34.604	.000	5.395
	Equal variances not assumed			5.521

Independent Samples Test

		t-test for Equality of Means		
		Df	Sig. (2-tailed)	Mean Difference
RISK HIGHER IN ELSS	Equal variances assumed	490	.000	.459
	Equal variances not assumed	426.649	.000	.459

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
RISK HIGHER IN ELSS	Equal variances assumed	.085	.292	.626
	Equal variances not assumed	.083	.295	.622

Source: SPSS Output

The table provides statistical data on the risk perception of both groups in ELSS.The group statistics show that the mean perception of investors in the "other than ELSS" group is 4.18 with a standard deviation of 0.676, while the mean perception of investors in the ELSS group is 3.72 with a standard deviation of 1.130.

The independent samples t-test analysis shows a significant difference in the investors' Perceptions of both groups regarding the risk in diversified funds, as indicated by the significant Levene's test for equality of variances (p=.000). The t-test for equality of means shows that the mean difference between the two groups is .459, which is statistically significant (p=.000), with a 95% confidence interval of (.292 and 0.626).

The above t-test table shows that the P value is .001, less than the significance value at 5% (.05); this means the null hypothesis has been rejected. This shows that there is a difference of opinion between both groups about risk being higher in ELSS.

Overall, the data suggest that there is a significant difference in the perception of investors in both groups regarding risk higher in ELSS funds.

(B) RISK IS HIGHER IN OTHER DIVERSIFIED FUND

Variables taken:

Perception of ELSS Investors: Risk is higher in diversified funds.

Perception of Diversified Investors: Risk is higher in diversified funds.

5.15 RISK HIGHER IN OTHER DIVERSIFIED MUTUAL FUND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	3.0	3.0	3.0
	Neutral	36	6.0	6.0	9.0
	Agree	336	56.0	56.0	65.0
	Strongly Agree	210	35.0	35.0	100.0
	Total	600	100.0	100.0	

Source: SPSS output

The table shows the percentage and frequency of respondents' opinions about the risks associated with investing in diversified equity funds. It also shows that a significant portion of the respondents (56%) believe the risks are high.

5.16 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
RISK HIGHER IN OTHER DIVERSIFIED MUTUAL FUND	OTHER THAN ELSS	234	4.21	.759	.050
	ELSS	258	4.16	.889	.055

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
RISK HIGHER IN OTHER DIVERSIFIED MUTUAL FUND	Equal variances assumed	.962	.327	.565
	Equal variances not assumed			.570

Independent Samples Test

		t-test for Equality of Means		
		Df	Sig. (2-tailed)	Mean Difference
RISK HIGHER IN OTHER DIVERSIFIED MUTUAL FUND	Equal variances assumed	490	.572	.042
	Equal variances not assumed	488.223	.569	.042

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
RISK HIGHER IN OTHER DIVERSIFIED MUTUAL FUND	Equal variances assumed	.075	-.105	.190
	Equal variances not assumed	.074	-.104	.188

Source: SPSS Output

The data represents diversified and ELSS investors' perceptions of the risk associated with diversified mutual funds. The mean and standard deviation of responses to the statement "Risk is higher in diversified funds" were calculated for each group.

The group statistics indicate that investors believe the risk is slightly higher in other diversified mutual funds (mean = 4.21, SD = 0.759) than in ELSS (mean = 4.16, SD = 0.889), although the difference is not significant.

Levene's Test for Equality of Variances table shows that the P value is .327, which is non-significant and indicates that the variances are equal and there is no difference in variances of both groups.

The independent samples t-test indicates no significant difference between the two groups regarding their risk perception (t = 0.570, df = 488.223, p = 0.569, two-tailed). The 95% confidence interval for the mean difference in risk perception between the two groups is (-.105 and .190), which includes zero, further indicating no statistically significant difference in risk perception.

(C) OVERALL RISK HIGHER IN ELSS

Variables taken:

Perception of ELSS Investors: Overall risk higher in ELSS

Perception of Diversified Investors: Overall risk higher in ELSS

5.17 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
OVERALL RISK HIGHEST IN ELSS	OTHER THAN ELSS	234	3.92	1.097	.072
	ELSS	258	3.84	1.079	.067

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
OVERALL RISK HIGHEST IN ELSS	Equal variances assumed	.053	.0218	.874
	Equal variances not assumed			.874

Independent Samples Test

		t-test for Equality of Means		
		Df	Sig. (2-tailed)	Mean Difference
OVERALL RISK HIGHEST IN ELSS	Equal variances assumed	490	.382	.086
	Equal variances not assumed	483.620	.383	.086

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
OVERALL RISK HIGHEST IN ELSS	Equal variances assumed	.098	-.107	.279
	Equal variances not assumed	.098	-.107	.279

Source: SPSS Output

The output indicates that the mean for ELSS is 3.84, and for Other Diversified, it is 3.92. Looking at the Standard Deviation column, one can see that they are not exactly equal, but they are close enough to assume equal variances. Levene's Test for Equality of Variances is (p=0.0218), which is significant.

Because the p-value (0.383) for our independent samples t-test is less more the standard significance level of 0.05, we accept the null hypothesis. It means our sample data doesn't support the claim that the population means are different.

The two-sample t-test estimates that the mean difference is 0.086. However, that estimate is based on 492 observations split between the two groups, which is unlikely to equal the population difference. The confidence interval indicates that the mean difference between these two groups for the entire population is likely between -0.107 and 0.279. Because the confidence interval includes zero (difference), we can conclude that the population means are not different.

(D) OVERALL RISK HIGHEST IN DIVERSIFIED

Variables taken:

Perception of ELSS Investors: Overall risk is highest in Diversified funds.

Perception of Diversified Investors: Overall risk is highest in Diversified funds.

5.18 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
OVERALL RISK HIGHEST IN OTHER DIVERSIFIED FUND	OTHER THAN ELSS	234	3.87	.913	.060
	ELSS	258	3.91	.962	.060

Independent Samples Test

		Levene's for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
OVERALL RISK HIGHEST IN OTHER DIVERSIFIED FUND	Equal variances assumed	.462	.497	-.415
	Equal variances not assumed			-.416

Independent Samples Test

		t-test for Equality of Means		
		Df	Sig. (2-tailed)	Mean Difference
OVERALL RISK HIGHEST IN OTHER DIVERSIFIED FUND	Equal variances assumed	490	.678	-.035
	Equal variances not assumed	488.985	.677	-.035

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
OVERALL RISK HIGHEST IN OTHER DIVERSIFIED FUND	Equal variances assumed	.085	-.202	.131
	Equal variances not assumed	.085	-.201	.131

Source: SPSS Output

The output indicates that the mean for ELSS is 3.91, and for Other Diversified, it is 3.87. Looking at the Standard Deviation column, one can see that they are not exactly equal, but they are close enough to assume equal variances.

We can accept the null hypothesis because the p-value (0.677) for our independent samples t-test is more than the standard significance level of 0.05. It means our sample data does not support the claim that the population means are different.

The two-sample t-test estimates that the mean difference is -0.035. The confidence interval indicates that the mean difference between these two groups for the entire population is likely between -0.202 and 0.131. Because the confidence interval includes zero (difference), we can conclude that the population means are not statistically different.

OBJECTIVE 04

5.3 HYPOTHESIS 11

RELATED TO THE LOCK-IN PERIOD OF ELSS FUND PERCEPTION OF TWO GROUPS OF RESPONDENTS: GROUP 1: WHO INVESTS IN OTHER THAN ELSS, GROUP 2: WHO INVESTS IN ELSS.

H_{O11}: There is no significant difference in retail investors' Perceptions towards Lock in Period of the ELSS Fund.

(A) LOCK IN PERIOD IN ELSS SHOULD NOT BE THERE

Variables taken:

Perception of ELSS Investors: Lock in period in ELSS should not be there.

Perception of Diversified Investors: Lock in period in ELSS should not be there.

5.19 LOCK-IN PERIOD ELSS SHOULD NOT BE THERE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	66	11.0	11.0	11.0
	Disagree	24	4.0	4.0	15.0
	Neutral	84	14.0	14.0	29.0
	Agree	138	23.0	23.0	52.0
	Strongly Agree	288	48.0	48.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The table above shows the cumulative and frequency responses of those who were asked whether or not the lock-in period should be reinstated in ELSS. The results indicate that almost half of the respondents think it should not be.

5.20 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
LOCK-IN PERIOD ELSS SHOULD NOT BE THERE	OTHER THAN ELSS	234	3.64	1.408	.092
	ELSS	258	4.30	1.213	.076

Independent Samples Test

		Levene's for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
LOCK-IN PERIOD ELSS SHOULD NOT BE THERE	Equal variances assumed	11.781	.001	-5.594
	Equal variances not assumed			-5.554

Independent Samples Test

		t-test for Equality of Means		
		Df	Sig. (2-tailed)	Mean Difference
LOCK-IN PERIOD ELSS SHOULD NOT BE THERE	Equal variances assumed	490	.000	-.661
	Equal variances not assumed	462.424	.000	-.661

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
LOCK-IN PERIOD ELSS SHOULD NOT BE THERE	Equal variances assumed	.118	-.894	-.429
	Equal variances not assumed	.119	-.895	-.427

Source: SPSS Output

The Group statistic table output indicates that the mean for ELSS is 4.30, and for Other Diversified, it is 3.64. Looking at the Standard Deviation column, one can see that they are not exactly equal, but they are close enough to assume equal variances. Levene's Test for Equality of Variances is (p=0.001), which is significant.

We reject the null hypothesis because the p-value (0.001) for our independent samples t-test is less than the standard significance level of 0.05. It means our sample data support the claim that the population means are different.

The two-sample t-test estimates that the mean difference is -0.661. However, that estimate is based on 492 observations split between the two groups, which is unlikely to equal the population difference. The confidence interval indicates that the mean difference between these two groups for the entire population is likely between 0.895 and 0.427. Because the confidence interval excludes zero (no difference), we can conclude that the population means are different.

(B) OPPORTUNITY AVAILABLE IN THE MARKET COULD HAVE BEEN ENCASED.

5.21 OPPORTUNITY AVAILABLE IN MARKET COULD HAVE BEEN ENCASHED RATHER LOCK FOR 3 YEARS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	3.0	3.0	3.0
	Disagree	48	8.0	8.0	11.0
	Neutral	90	15.0	15.0	26.0
	Agree	300	50.0	50.0	76.0
	Strongly Agree	144	24.0	24.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The table above shows the investors' views on the available opportunities in the market and whether the lock-in period of the ELSS fund prevented them from cashing in better. The results indicate that the majority (74%) of the participants agreed/strongly agreed that the investments could have been more profitable if the lock-in period had not been in place.

Variables taken:

Perception of ELSS Investors: The opportunities available in the market could have been encased instead lock for three years.

Perception of Diversified Investors: The Opportunities available in the market could have been encased instead lock for three years.

5.22 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
OPPORTUNITY AVAILABLE IN THE MARKET COULD HAVE BEEN ENCASED RATHER LOCK FOR 3 YEARS	OTHER THAN ELSS	234	3.79	.968	.063
	ELSS	258	3.93	1.089	.068

Independent Samples Test

		Levene's for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
OPPORTUNITY AVAILABLE IN THE MARKET COULD HAVE BEEN ENCASED RATHER LOCK FOR 3 YEARS	Equal variances assumed	1.882	.171	-1.452
	Equal variances not assumed			-1.460

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
OPPORTUNITY AVAILABLE IN THE MARKET COULD HAVE BEEN ENCASED RATHER LOCK FOR 3 YEARS	Equal variances assumed	490	.147	-.135
	Equal variances not assumed	489.800	.145	-.135

Independent Samples Test

		t-test for Equality of Means		
			95% Confidence Interval of the Difference	
		Std. Error Difference	Lower	Upper
OPPORTUNITY AVAILABLE IN THE MARKET COULD HAVE BEEN ENCASED RATHER LOCK FOR 3 YEARS	Equal variances assumed	.093	-.319	.048
	Equal variances not assumed	.093	-.318	.047

Source: SPSS Output

The above Group statistic table output shows that the mean for ELSS is 3.93, and Other Diversified's is 3.79. Looking at the Standard Deviation column (1.089,0.968), one can see that they are not exactly equal, but they are close enough to assume equal variances.

We accept the null hypothesis because the p-value (0.145) for our independent samples t-test is more than the standard significance level of 0.05. It means our sample data support the claim that the population means are not different.

The two-sample t-test estimates that the mean difference is 0.135. However, that estimate is based on 492 observations split between the two groups, which is likely to equal the population difference. The confidence interval indicates that the mean difference between these two groups for the entire population is expected between -0.318 and 0.047. These values reflect that the ELSS group has a higher mean than others.

Because the confidence interval includes zero (no difference), we can conclude that the population means are not statistically different.

(C) IMPACT OF LOCK-IN PERIOD.

5.23 LOCKING PERIOD OF ELSS FUND IMPACTS ADVERSELY ON ITS POPULARITY

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	36	6.0	6.0	6.0
	Disagree	48	8.0	8.0	14.0
	Neutral	72	12.0	12.0	26.0
	Agree	306	51.0	51.0	77.0
	Strongly Agree	138	23.0	23.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The above table indicates that a more significant percentage of respondents feel that the Lock-in period adversely affects the popularity of the ELSS funds among investors.

Variables taken:

Perception of ELSS Investors: Lock in period of the ELSS fund adversely impacts its popularity.

Perception of Diversified Investors: Lock in period of the ELSS fund adversely impacts its popularity.

5.24 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
THE LOCKING PERIOD OF THE ELSS FUND IMPACTS ADVERSELY ON ITS POPULARITY	OTHER THAN ELSS	234	3.72	.988	.065
	ELSS	258	3.84	1.202	.075

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	T
THE LOCKING PERIOD OF THE ELSS FUND IMPACTS ADVERSELY ON ITS POPULARITY	Equal variances assumed	3.938	.048	-1.195
	Equal variances not assumed			-1.207

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
THE LOCKING PERIOD OF THE ELSS FUND IMPACTS ADVERSELY ON ITS POPULARITY	Equal variances assumed	490	.233	-.119
	Equal variances not assumed	485.410	.228	-.119

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
THE LOCKING PERIOD OF THE ELSS FUND IMPACTS ADVERSELY ON ITS POPULARITY	Equal variances assumed	.100	-.315	.077
	Equal variances not assumed	.099	-.313	.075

Source: SPSS Output

The above output table on Group statistics shows the mean of 3.72 and 3.84 for the Other than ELSS group and ELSS group, respectively. The standard deviation column shows that they are not precisely equal but are close enough to assume equal variances.

Levene's Test for Equality of Variances, which check the equality of variances, shows a p-value of 0.048 which is statistically significant. It shows that variances are unequal, and both groups have a difference in variances.

Since, in the above table, the p-value (0.228) for our independent samples t-test is more than the standard significance level of 0.05, we accept the null hypothesis. It means our sample data support the claim that the population means are not different.

The two-sample t-test estimates that the mean difference is -0.119. However, that estimate is based on 492 observations split between the two groups, which is unlikely to equal the population difference. The confidence interval indicates that the mean difference between these two groups for the entire population is expected between -0.313 and 0.015. Because the confidence interval includes zero (difference), we can conclude that the population means are not different.

(D) LOCK-IN PERIOD GOOD FOR GROWTH.

5.25 LOCKING PERIOD GOOD FOR WEALTH GROWTH

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	78	13.0	13.0	13.0
	Disagree	24	4.0	4.0	17.0
	Neutral	102	17.0	17.0	34.0
	Agree	168	28.0	28.0	62.0
	Strongly Agree	228	38.0	38.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The table above indicates that while most respondents think that lock-in periods are beneficial for wealth creation, about 13% disagree.

Variables taken:

Perception of ELSS Investors: Lock-in period good for wealth growth.

Perception of Diversified Investors: Lock-in period good for wealth growth.

5.26 Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
LOCKING PERIOD GOOD FOR WEALTH GROWTH	OTHER THAN ELSS	234	3.31	1.525	.100
	ELSS	258	4.30	1.092	.068

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
LOCKING PERIOD GOOD FOR WEALTH GROWTH	Equal variances assumed	60.930	.000	-8.374
	Equal variances not assumed			-8.243

Independent Samples Test

		t-test for Equality of Means		
		Df	Sig. (2-tailed)	Mean Difference
LOCKING PERIOD GOOD FOR WEALTH GROWTH	Equal variances assumed	490	.000	-.995
	Equal variances not assumed	418.109	.000	-.995

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
LOCKING PERIOD GOOD FOR WEALTH GROWTH	Equal variances assumed	.119	-1.228	-.761
	Equal variances not assumed	.121	-1.232	-.757

Source: SPSS Output

The above output table on Group statistics shows the mean of 3.31 and 4.71 for the Other than ELSS group and ELSS group, respectively. The standard deviation column shows that they are not precisely equal but are close enough to assume equal variances.

Levene's Test for Equality of Variances, which check the equality of variances, shows a p-value of 0.000 which is statistically significant. It shows that variances are unequal, and both groups have a difference in variances.

Since, in the above table, the p-value (0.001) for our independent samples t-test is less than the standard significance level of 0.05, we reject the null hypothesis. It means our sample data support the claim that the population means are different.

The two-sample t-test estimates that the mean difference is -0.995. The confidence interval at 418 Degrees of freedom indicates that the mean difference between these two groups for the entire population is expected between -1.232 and -0.757. Because the confidence interval excludes zero (difference), we can conclude that the population means are different

OBJECTIVE 5:

5.4 HYPOTHESIS 12

RELATED TO PERCEPTION AND PREFERENCE: ELSS COMPARED TO OTHER TAX SAVING INVESTMENTS OF TWO GROUPS OF RESPONDENTS: GROUP 1: WHO INVESTS IN OTHER THAN ELSS, GROUP 2: WHO INVESTS IN ELSS.

Ho_{12}: The Investors' perception/preference towards ELSS funds compared to other tax-saving investments is not significantly different.

(A) PERCEPTION AND PREFERENCE: ELSS COMPARED TO OTHER TAX-SAVING INVESTMENTS

5.27 PREFER ELSS BECAUSE IT HAVING TAX BENEFITS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	102	17.0	17.0	17.0
	Disagree	30	5.0	5.0	22.0
	Neutral	120	20.0	20.0	42.0
	Agree	90	15.0	15.0	57.0
	Strongly Agree	258	43.0	43.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The table above shows the investors' opinions on whether or not they prefer to invest in ELSS funds, which have tax advantages. The results show that around 43% of the respondents agreed with the statement, 17% strongly disagreed, and 20% neutral. Most investors have stated that they prefer to invest in such funds due to their tax benefits.

Variables taken:

Investor's Perception and Preference: Prefer ELSS because it has tax benefits.

5.28 ANOVA

PREFER ELSS BECAUSE IT HAS TAX BENEFITS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	122.178	2	61.089	30.211	.000
Within Groups	1207.182	597	2.022		
Total	1329.360	599			

Source: SPSS Output

A one-way ANOVA was performed to determine retail investors' preference and perception toward investments in ELSS due to its tax benefits. The Above test of the Anova table reveals that there is a statistically significant difference between the mean of both the groups of investors as df (02,587) = F value(F=30.211) and the P value is 0.001 which is less than the significance value 5% (.05). This means the null hypothesis is rejected. This indicates that differences of opinion exist between and within the groups.

(B) PERCEPTION AND PREFERENCE: TAX SAVING INVESTMENT AVENUES.

5.29 GIVE RANK TO TAX-SAVING INVESTMENT AVENUES AS PER YOUR PREFERENCE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	GPF/EPF/NPS	54	9.0	9.0	9.0
	Life Insurance Plan	90	15.0	15.0	24.0
	PPF	126	21.0	21.0	45.0
	Tax Saving Bank Fixed Deposit	102	17.0	17.0	62.0
	National Saving Scheme	54	9.0	9.0	71.0
	Others	24	4.0	4.0	75.0
	ELSS Mutual Funds	150	25.0	25.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

The above table, which depicts the ranking given by retail investors as per their preference for various tax-saving investments avenues, clearly indicates that a more significant number of investors (25%) have given their priority to ELSS, most of which are graduate and above, followed by 21% investors who prefer to invest in PPF, Tax saving Fixed Deposit (17%) and Life insurance plans (15%) which are traditional products for saving tax.

Variables taken:

Investor's Perception and Preference: Rank to tax saving investment avenues as per preference.

5.30 ANOVA

GIVE RANK TO TAX-SAVING INVESTMENT AVENUES AS PER YOUR PREFERENCE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	98.652	2	49.326	12.469	.000
Within Groups	2361.588	597	3.956		
Total	2460.240	599			

Source: SPSS Output

The ANOVA test has been used to determine retail investors' preferences and perceptions toward various investment avenues. The above ANOVA test table shows that there is a statistically significant difference between the mean of both the groups of investors as df (2,597) = F value(F=12.469) and the p-value is 0.001 which is less than the significance value at 5% (.05). This means the null hypothesis is rejected. This indicates that differences of opinion exist between and within the groups regarding their preference toward various tax-saving avenues.

(C) PERCEPTION AND PREFERENCE: INVESTMENT ATTRIBUTES.

5.31 GIVE RANK TO INVESTMENT ATTRIBUTES IN ORDER OF THEIR IMPORTANCE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Risk Appetite	12	2.0	2.0	2.0
	Return	138	23.0	23.0	25.0
	Liquidity	132	22.0	22.0	47.0
	Knowledge of the Investment Products	84	14.0	14.0	61.0
	Tax Benefits	102	17.0	17.0	78.0
	Convenience/Flexibility	114	19.0	19.0	97.0
	Cost efficient	18	3.0	3.0	100.0
	Total	600	100.0	100.0	

Source: SPSS Output

Retail investors' preference is reflected in the table above, which shows the various attributes they consider when investing. Most (23%) stated that returns are important, followed by liquidity(22%), tax benefits(17%), and convenience(19%).

Variables taken:

Investor's Perception and Preferences: Rank investment attributes in order of their importance.

5.32 ANOVA

GIVE RANK TO INVESTMENT ATTRIBUTES IN ORDER OF THEIR IMPORTANCE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	39.133	2	19.566	7.963	.000
Within Groups	1466.867	597	2.457		
Total	1506.000	599			

Source: SPSS Output

To reveal investor's rankings to investment attributes, the above Anova test was conducted, which shows that there is a statistically significant difference between the mean of both the groups of investors as df (2,597) = F value(F=7.963) and the p-value is 0.001 which is less than 5% (.05) level of significance. This means the null hypothesis is rejected, and there is strong evidence for an alternate hypothesis. This indicates that differences of opinion exist between and within the groups regarding the ranking given to various investment attributes in order of importance.

(D) PERCEPTION AND PREFERENCE: Changes in ELSS Regulations.

5.33 WHAT CHANGES WOULD YOU LIKE TO SEE IN ELSS FUND REGULATIONS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Reduction Lock-in period	390	65.0	65.0	65.0
	High Lock-in Period	18	3.0	3.0	68.0
	Reduction in Equity Allocation	156	26.0	26.0	94.0
	Dedicated Deductions U/s 80C for ELSS	18	3.0	3.0	97.0
	Others	18	3.0	3.0	100.0
	Total	600	100.0	100.0	

Source: SPSS output

The table above shows the responses of various retail investors on the changes in regulations. It revealed that 65% favored reducing the lock-in duration of the ELSS fund, and 26% favored reducing the corpus allocation to equity stocks.

Variables taken:

Investors Perception & Preference: Changes in ELSS Regulations.

5.34 ANOVA

WHAT CHANGES WOULD YOU LIKE TO SEE IN ELSS FUND REGULATIONS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.313	2	2.157	2.289	.102
Within Groups	562.380	597	.942		
Total	566.693	599			

Source: SPSS output

The above one-way ANOVA test was conducted to determine the changes investors want to see in ELSS fund regulations. It shows a p-value of Anova is not a statistically significant difference between the mean of both the groups of investors as df (2,597) = F value(F=2.157) and the p-value is 0.102, which is more than 5% (.05) level of significance. It means the null hypothesis has to be accepted. This indicates that no differences of opinion exist between and within the groups regarding the changes in ELSS regulation in relation to the other investments.

5.5 Conclusion:

Based on the above interpretations and findings, it may be concluded that most retail investors believe that returns or rewards are better in ELSS compared to Diversified equity funds. Similarly, regarding the risk factor involved in these funds, investors feel more risk in diversified as against ELSS funds. However, overall, the investors consider that there is risk involved in investment in both types of funds. It may be due to a larger percentage of the corpus being invested in equities in these funds. Regarding the three-year lock-in period of the ELSS fund, investors have different opinions regarding the existence of a lock-in period and a lock-in period good for growth. However, the majority agree that there is an impact on the fund's popularity, so it also lost opportunities available in the market, which could have been encashed better. When it comes to preferences of retail investors towards ELSS fund as compared to other tax saving investments, differences of opinion were found among the investors, except changes in the regulations where most of them agree that changes required in lock-in period and special deduction in 80C for the said fund to give a boost.

CHAPTER 6

FINDINGS, CONCLUSION AND SUGGESTIONS

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The present research focused on analysing and comparing the Performance of ELSS Growth funds to other diversified equity growth funds and benchmark Indices. The study also examines the perceptions and preferences of retail investors towards various aspects of mutual funds, as discussed above. The objective wise Findings are given below:

6.1 Major Findings

Objective 1:

- The 10-year historical returns of the two funds indicate that the ELSS fund generated a 3.29% annual return while the Diversified fund returned 5.66%.
- The study shows that the individual ELSS funds have not been able to outperform the returns of the diversified equity funds category consistently.
- The absolute performance of ELSS funds against diversified equity funds has been exceptional, demonstrating that the funds under this category have rarely outpaced the others. It has also been observed that some funds under this category have consistently underperformed.
- Individual ELSS funds' outperformance is superior compared to the Market Indices average. Although, few ELSS fund schemes have consistently shown underperformance.
- The standard deviation of the ELSS based on quarterly average over the ten-year period was found to be less than that of the market indices and diversified equity. This indicates that these funds have low risk.
- It was found that the long-term advantage fund of HDFC, the LIC tax plan, and the franklin India tax shield with ten years of performance history have less variation than other funds in the ELSS category are the best performers.
- Over the past ten years, the average Sharpe ratio of the ELSS funds has been -0.03, as against 2.13 for the diversified equity funds. This shows that the funds have lost money due to the absolute risk they take. On the other hand, the equity funds that are part of the same category earned a premium of two paise. This shows that the sector has performed poorly when it comes to carrying out the riskiest strategy.

- HDFC Long Term Advantage and Franklin India Tax Shield have 10-year track records and outperformed the other funds within their respective categories.
- The null hypothesis that the risk-adjusted performance of the ELSS funds based on Sortino and Sharpe was not different from that of the diversified equity funds was rejected. The t-test revealed that the p-value is statistically significant at 5%.
- The results of the analysis of risk-adjusted performance are similar to those of Roy and Ghosh (2012) and Santhi & Gurunathan (2011).

Objective 2:

- The absolute returns of ELSS funds have rarely been better than those of the Market Indices category. Some of the ELSS funds have persistently shown underperformance. However, when compared with the Market Indices average, the outperformance of individual ELSS funds is much better. For instance, the Franklin India tax shield, HDFC long-term advantage fund, and HDFC tax saver fund with ten years of track record have given an average return of 78%, 70%, and 69%, respectively.
- The standard deviation has been lesser for ELSS funds for four of the ten years compared to diversified equity funds.
- ELSS funds' ten-year quarterly average standard deviation has been around 10.92 percent. The standard deviation for Market Indices and Diversified Equity funds is approximately 11.25 percent and 12.02 percent, respectively. This shows that the variation in ELSS funds is less compared to Market Indices and other Diversified Equity funds.
- The absolute risk that ELSS funds carry is less than that of a diversified equity fund. When compared with market indexes, the difference is less than 0.1 percent. This shows that the funds' total risk is similar to the stock markets.
- The average Coefficient of variation of ELSS funds during the period was 10.38, which is higher than that of Market indexes and diversified equity funds. This shows that the risk that an ELSS fund will earn a unit of Return is greater than that of both Market indexes and diversified equity funds.

- The null hypothesis that the risk-adjusted Performance of ELSS funds using the Sortino and Sharpe measures is different from that of Benchmark Market indices has been rejected. Welch's test revealed that the Alpha was equal to 0.05 at Alpha.
- The null hypothesis regarding the Performance of the diversified fund and the Alpha based on Treynor's and Jensen's ratios has been retained. ANOVA was used to test the hypothesis. It revealed that the p-value at Alpha was not significant.
- The null hypothesis regarding the Performance of the diversified fund and the ELSS based on the Alpha of Jensen's Alpha has also been rejected after it was tested using the Chi-Square test. The test revealed that the p-value was not statically significant, and since Treynor's Ratio was not significant, the null hypothesis was retained.
- The findings partially support ELSS funds' performance over Benchmark Indices to those of Kumar R (2012), S. Das and Renu Ghosh (2014)

Objective 3:

- The results of the study revealed that demographic factors such as education, income, and age significantly influenced investors' perceptions. The null hypothesis was rejected in all cases since the P value was less than 0.05.
- Investors' Perception of risk in ELSS and Diversified equity funds shows that most agree that risk is high in both types of investments.
- Based on the hypothesis drawn, the 't-test of the Perception of both investors on risk shows that the P value is 0.001, which is less than the significant value of 0.05, which indicates it is statistically significant and strong evidence against the null hypothesis. This makes us conclude that retail investors have different opinions about higher risk in ELSS funds than diversified ones. However, in the case of diversified equity funds, the P value is 0.569, which is not statistically significant and indicates strong evidence for the null hypothesis. This makes us conclude that risk is considered to be higher in such funds.
- Regarding the Perception of investors in terms of their expectations regarding reward/returns, most respondents agree that the reward is better in ELSS funds if they remain invested for the long term compared to diversified ones. Similarly, regarding the investors' expectations, most investors in the ELSS and

the diversified category expect average annual returns to be higher in their funds than other tax savings avenues.

- When asked about the actual returns, it was surprising to note that only a few investor respondents in ELSS agree that real returns are higher than those of Diversified funds. In contrast, most agree that returns are higher in other diversified equity funds.
- The 't' test table shows that the P value is 0.671& 0.013 in the case of ELSS and Diversified, respectively. It means it is not significant in the case of the former, and in the case of the latter, it is significant. This shows that neither group has a difference of opinion on whether reward/return is better in ELSS. However, in the case of Diversified funds, there is a statistical difference between both groups of retail investors.
- Overall, it was found that both the category of investors feels that there is a risk involved in investments in both types of funds.

Objective 4:

- The Lock-in period has been the Unique and prominent feature of the ELSS fund, which is also the primary differentiation between ELSS and Diversified funds. To gain a deeper understanding of how investors view the lock-in period for ELSS, we conducted a survey to ask about their views on the issue. It was revealed that a majority (74%) of the respondents agree that the period negatively affects the popularity of the stock. They also believe the market could have been better served by encashing the opportunity instead of having it locked for three years.
- However, when asked whether the lock-in period is suitable for wealth creation, the majority (66%) agree/strongly agree. On the contrary, when asked whether the lock-in period should be removed from the ELSS fund, (71%) of the respondents agreed/strongly agreed. Investors feel that eliminating or reducing the lock-in period would increase investments in ELSS funds.
- Based on the hypothesis tested on perceptions of both the investors regarding whether the lock-in period should be there or not, we found the P value of 0.001, which is less than the significant value of 0.05, which indicates it is statistically significant and strong evidence against the null hypothesis. Hence, a difference

of opinion exists among both the category of investors regarding the lock-in period.

- Similarly, regarding the encashment of opportunity available in the market during the lock-in period, the t-test shows that at a 5% significance level, it gives a P value of 0.145, which is not statistically significant and indicates strong evidence for the null hypothesis. This implies that there is NO difference of opinion among both the category of investors on the opportunity available in the market could have been encashed better if the lock-in period had not been there in the ELSS fund.
- This study aims to determine the impact of lock-in periods on the popularity of ELSS mutual funds and to analyze if they are suitable for wealth creation. The P value indicated that in the former, it is not statistically significant, while in the latter, it is statistically significant. The study results revealed that retail investors believe that the lock-in period of ELSS funds significantly impacts their popularity. But they also think that this period is necessary for wealth creation.

Objective 5:

- Perceptions and preferences of the retail investors towards ELSS compared to other tax savings investment avenues have been an important aspect to understand from the point of view of its tax saving benefits, tax saving avenues available, investment attributes, and lock-in period.
- From the study, it was found that perceptions and preference of investors towards ELSS fund investments were basically due to its tax benefits, as it can be seen from the responses that the majority of the total respondents agree/strongly agrees with it.
- While choosing tax-saving investment options, it is revealed that 25% prefer to invest in ELSS, 21% in PPF, and 17% in tax-saving bank fixed deposit. This indicates that ELSS is the preferred choice especially among the educated and middle-income groups.
- A survey revealed the perceptions and preferences of investors regarding the different attributes of investments. Most of them favor the return and liquidity attributes, with 22% of the respondents stating that they prefer the latter, followed by convenience and flexibility with 19% and tax benefits with 17%.
- The above parameters we tested based on the hypothesis using ANOVA at a 5% significance level where we found the P value of 0.001in all three cases, which is less than the significance value of 5% (.05). This indicates it is statistically significant and

strong evidence against the null hypothesis. The findings suggest a difference of opinion regarding the preferences and perceptions of different groups of investors when it comes to investing in ELSS funds.

- The study also shows that 51% of the respondent investors consider the 3-year lock-in period and the High allocation of funds in Equity in ELSS funds as additional risk factors influencing their investments decision compared to other tax-saving funds. Similarly, almost 65% of retail investors sought a reduction in the lock-in period in ELSS, followed by 26% seeking a reduction in the allocation of funds in equities.
- When perceptions and preferences on lock in the period were tested using ANOVA test table shows that the P value is .102, which is more than the significance value of 5% (.05). This means it is not statistically significant and indicates strong evidence for the null hypothesis which concludes that there is NO difference of opinion exists as far as removal or reduction in the lock-in period in ELSS fund is concerned.

6.2 CONCLUSION

This study aims to analyze the Performance of ELSS funds based on the data collected from 2009 to 2019. It also seeks to provide a comprehensive view of the investors' Perceptions of the funds. The study revealed that the ELSS funds performed poorly relative to the diversified equity funds category average during the period. The individual funds also exhibited inconsistent performance. However, it has performed at par when it comes to market indices category average for this period.

The survey was conducted on the investors' Perceptions of ELSS and their preference for these funds. It was taken from a sample of investors from Goa. The results show that although the Perception of risk in these funds is lower, the investors' expectations of Return are similar in both funds. As an asset class, ELSS funds' success relies on the level of investor awareness. The level of education investors has about these products is very important to ensure they know the risks and opportunities available to them. That is why regulators and asset managers must work together to ensure that these reforms are implemented.

In the study, most of the hypothesis, sample data favor the alternative hypothesis, which suggests that the effect exists in the population. The reason could be it may be due to the sample size effect. Secondly, it may be due to variability in the data being too high. As also,

few hypotheses have been accepted in this study; this shows that the results are consistent with the null hypothesis and that the experiment was a reasonable effort to find an effect. (JIM FROST, MS)

6.3 SUGGESTIONS

- Regardless of their demographic backgrounds, investors should consider investing a portion of their tax-free savings into ELSS funds to enhance their returns and overall asset allocation.
- For long-term wealth accumulation, an equity investment is ideal with ELSS funds. An investor should hold their investments for three years or longer.
- Although equity investments are generally considered an excellent way to create wealth, they should not be considered a replacement for regular income. Investors should instead opt for a growth or dividend reinvestment strategy.
- While it's essential to focus on returns and tax-free savings, investors should additionally consider the potential risks involved in investing. After-tax performances have been calculated; the appropriate adjustment should be made.
- As a mutual fund category, the performance of ELSS funds has been relatively poor compared to market indexes and diversified equity funds. Even individual funds exhibited high variability in their performance. The underperformance of these funds can be attributed to their low asset values and the fund manager's failure to manage them efficiently. This needs to be taken care of by the Asset Management Companies.
- The Asset Management Companies' marketing campaigns should focus more on the younger demographic groups and those employed by private sector companies and self-employed individuals. They should also encourage people from the low-savings category to invest.
- The distribution network of mutual fund companies needs to be strengthened to reach out to more investors and educate them about the advantages of investing in ELSS funds. Besides this, distributors can also help in the cross-selling of other products.
- The Government should provide sufficient incentives to the fund distributors and advisors to encourage them to promote using ELSS as a tax-saving investment option.
- Instead of clubbing the ELSS under 80C, the Government may provide exclusive benefits to investors in different sections. It will help boost the fund flow into equity and ELSS investments.

- The current three-year lock-in period for investing in ELSS funds may be reduced to two years to make it a more attractive investment.
- Since there is not much difference in ELSS and diversified equity funds except tax benefit, lock in period and equity allocation, Government can consider extending tax benefits for investments in diversified equity funds.

6.4 SCOPE FOR FUTURE RESEARCH

Mutual fund, as a part of the Indian financial sector, has gained a prominent position in the economy since the liberalization process started. Capital market growth and Economic growth have been possible due to the rapid growth of the mutual fund industry in the recent past.

- Although the present study provides a strong base for studying the performance of the ELSS funds compared to diversified mutual funds, it also gives ample scope for researching the performance of other types of mutual funds using similar or different techniques. In the future, research can be carried out as an extension of this work for other categories of the funds, such as Mid-cap and small-cap funds, etc., which are getting more popular in recent times due to their higher returns.
- The present study has surveyed the investors' perceptions in the state of Goa. A similar survey can be conducted in other parts of the country by taking this study as a base to know if similar outcomes can be obtained. Similarly, while analyzing the investors' perceptions, the present study has been undertaken based on specific parameters like risk-reward, preferences, Demographic factors, etc. The investors' perceptions can be analysed in the future by taking other parameters that may influence their mutual fund's decisions. The specific areas in which there is ample scope for research are:
- To study the impact of fund ratings on investment performance and investors' perceptions.
- To develop the model for ELSS benchmarking.
- Performance persistence of ELSS and diversified equity fund compared to other funds.

6.5 RESEARCH PAPERS PUBLISHED & CONFERENCES ATTENDED

RESEARCH PAPERS PUBLISHED:

- Published a Research article titled "A study of Investment Performance and Investors perception on Mutual Fund- An analysis of Past Studies" in Shodh Sanchar Bulletin Vol.10, Issue 40, October-December 2020, 118-124 ISSN-2229-3620 **(UGC Care list Journal).**
- Published a Research paper titled "A Comparative Study of Equity Linked Saving Scheme (ELSS) Mutual fund and Benchmark Market Indices and its Performance Evaluation" in Webology Vol.18 No.6 2021 ISSN:1735-188X. **(Scopus Q3)**
- Published a Research paper titled "Performance Evaluation of Mutual funds using Risk-Return relationship Models-An Empirical Study" in International Journal of Professional Business Review Vol.8 No 6 2023 **(Scopus Q4).**
- Published a Research paper titled "Comparative study of Equity linked Saving Scheme (ELSS), Diversified Equity Fund and benchmark market indices -An Empirical study" in Journal of Management & Entrepreneurship Vol.16, No.02(VI), April-June 2022 (**UGC Care list Journal)**

PAPERS PRESENTED AT CONFERENCE.

- Presented a research paper in international conference on "A Study of Investors Perception and Behaviour on Mutual Funds – An Analysis of Past Studies" organized by prestige institute of management and research in PIMR Fifteenth International Conference held on January 30-31, 2021.
- Presented a research paper in national conference on "Comparative study of Equity linked Saving Scheme (ELSS), Diversified Equity Fund and benchmark market indices -An Empirical study at national conference organised by K.S. School of Business Management Gujarat University on 26th Nov 2021.

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APPENDICES

APPENDIX: A

QUESTIONNAIRE

CONSENT FORM AND QUESTIONNAIRE (PAPER AND ONLINE VERSION)

Objectives:

I am doing research on **"Investment Performance of Mutual Funds In Goa: An Empirical Study"** I want to thank you for managing your precious time to respond by filling out this questionnaire. Before ticking the options available in the questionnaire related to your perception of the ELSS fund, kindly be sure how strongly you agree or disagree with the statement and then tick (√) the appropriate response category. It is requested to answer each statement included in the questionnaire. Your cooperation is essential for my successful completion of this study; therefore, kindly reply to each statement after due consideration. I assure you that the information imparted by you shall be kept CONFIDENTIAL and used purely for academic purposes.

Yours sincerely,
Shekhar V Sawant
Research Scholar
SSA Government College of Arts and Commerce
Pernem Goa

SECTION A: DEMOGRAPHIC PROFILE

The following questions are intended to help to understand your profile. The information provided by you will be kept highly confidential.

1. **Name: _____**

2. **Profession: _____**

3. **Age**

□ 18-25 □ 26-35 □36-50 □ 51-65

□ Above 65

4. **Gender**

□ Male □ Female □ others

5. **Marital Status**

□ Married □ Unmarried □ Widow □ Divorced/separated

6. **Highest Educational Qualification**

□ None Matriculation □ High School / SSC (10^{th})

□ Higher Secondary School/ HSSC (12^{th}) □ Graduate

□ Post Graduate degree □ Ph.D.

□ Others (Specify Please)_____

7. **Occupation**

□ Government Job □ Private Job

□ Self-Employed □ Professional (Like CA/Dr./Lawyer, etc.)

□ Retired □ Housewife

8. **Yearly Income (in INR)?**

□ Below Rs.2,50,000 □ Rs2,50,000–Rs.5,00,000

□ Rs.5,00,000– Rs.10,00,000 □ Above Rs.10,00,000

SECTION B: RISK REWARD PERCEPTION

	Risk-reward perception of individual retail investors towards Equity Linked Savings Scheme mutual funds compared to other Diversified Equity mutual funds.	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
	(RISK TOWARDS ELSS COMPARED TO OTHER DIVERSIFIED EQUITY FUNDS)					
1.	Risk is higher in ELSS mutual funds.					
	Risk is higher in Other Diversified Equity mutual funds.					
2.	Systematic risk (factors related to the market n its volatility) is higher in ELSS mutual funds.					
3	Systematic risk (factors related to the market n its volatility) is higher in other diversified mutual funds.					
4	Unsystematic risk (factors related to a specific stock, the performance of the company, etc.) is higher in ELSS mutual Funds.					
5	Unsystematic risk (factors related to a specific stock, performance of the company, etc.) is higher in Other Diversified Mutual Funds.					
6	The overall risk is higher in ELSS mutual Funds.					
7	The overall risk is higher in Other Diversified mutual funds.					
8	The risky fund has an impact on the Investment.					

9	Prefer risky fund if it is ELSS.					
10	Prefer risky fund if it is Other Diversified fund.					
-	**(REWARD TOWARDS ELSS COMPARED TO OTHER DIVERSIFIED EQUITY FUNDS)**					
1.	Reward/Return is better in the ELSS mutual fund.					
2.	Reward/Return is better in Other Diversified mutual funds.					
3.	Your expectation: about Expected Average Annual Return, It should be more in ELSS than other diversified mutual funds					
4.	Your expectation: about Expected Average Annual Return, It should be more in Other Diversified funds than ELSS mutual funds					
5	Actual Return: Your portfolio (risk-adjusted) performance is higher in ELSS than in other diversified mutual funds.					
6	Actual Return (sharp ratio concept): Your portfolio performance (risk-adjusted performance) is higher in Other Diversified mutual funds compared to ELSS.					
7	Estimation of Loss (Sortino ratio concept): Do you feel the potential loss in value of your securities, in case of a declining market, is higher in ELSS mutual funds?					

8	Estimation of Loss (Sortino ratio concept): Do you feel the potential loss in value of your securities, in case of a declining market, is higher in Other Diversified mutual funds?					
9	Compared to market risk-return (Jensen's Alfa concept), portfolio risk-return is higher in ELSS mutual funds than in Diversified mutual funds.					
10	Compared to market risk-return (Jensen's Alfa concept), portfolio risk-return is higher in Diversified mutual funds than ELSS.					
11	Return in ELSS mutual fund as a reward for its risk (Treynor ratio concept) is higher than Diversified mutual funds.					
12	Return in Diversified Mutual funds as a reward for its risk (Treynor ratio concept) is higher than ELSS mutual funds.					

SECTION C: INVESTOR'S PERCEPTION AND PREFERENCE ELSS VS OTHER TAX SAVING INVESTMENT

	Investor's perception and preference towards Equity Linked Savings Scheme mutual funds compared to other Tax Saving Investments.	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
-	**(PERCEPTION TOWARDS ELSS)**					

1.	Do you think Mutual Funds are a destination for Investments in this highly volatile market?					
2.	Investment experience in an Equity Linked Savings Scheme (ELSS) Mutual Fund is very satisfactory.					
3.	Growth option Investment plan option is best while investing in ELSS.					
4	Dividend option Investment plan option is best while investing in ELSS.					
5	The Dividend Reinvestment Investment plan option is best while investing in ELSS.					
6	The investment objective of the ELSS Fund is Tax Benefits.					
7	The investment objective of ELSS Fund is Capital Appreciation					
8	The investment objectives of ELSS Fund are Retirement Planning Needs					
9	The investment objectives of the ELSS Fund are Children's Education/ Marriage Needs.					
10	Lock in Period of the ELSS Fund impact adversely on its popularity.					
11	Opportunities available in the market could have been encased better than kept locked for three years.					

12	The lock-in period is good for the wealth growth of the ELSS Fund.					
-	**(PREFERENCE TOWARDS ELSS)**					
1.	What open-ended scheme do you prefer for your Investment? (Open-end mutual fund are those that does not have a lock-in Period)					
2.	Closed-end scheme do you prefer for your Investment? (Closed-end scheme has locked in Period)					
3	Given all the Investment avenues options, do you think Mutual Funds are a destination for Investments in this volatile market?					
4	Would you prefer Equity Linked Savings Scheme (ELSS) Mutual Fund within mutual funds?					
5	Preference for Growth option investment plan in ELSS					
6	Preference for Dividend option investment plan option in ELSS					
7	Preference for Dividend Reinvestment Investment Plan in ELSS					
8	You prefer ELSS because it has Tax Benefits.					
9.	You prefer that the ELSS fund must be with capital appreciation.					
10.	You prefer ELSS with the Retirement Planning option.					
11.	Do you prefer ELSS with Children's Education / Marriage option?					

12.	Lock in Period of the ELSS fund should not be there.					

SECTION D: For investors investing other than ELSS

(1) Give the rank to the following investments in the order of your preference (Rank 1= Highest)

Bank Deposits □
Post office Saving Schemes □
Equity Shares □
Mutual Funds □
Gold/Silver □
Life Insurance □
Properties
□

(2) Rank the below investment Attributes in order of their Importance (Rank 1= Highest)

Risk appetite □
Return □
Liquidity □
Knowledge of the investment product □
Tax Benefits □
Convenience/Flexibility □
Cost Efficient □

(3) Rank the below Tax saving Investments avenues in the order of your preference (Rank 1= Highest)

GPF/EPF/ NPS □
Life Insurance Plan □
PPF □
Tax saving Bank Fixed Deposits □
National Saving Scheme (NSC) □
Convenience/Flexibility □
ELSS Mutual Funds □

(4) Have you heard of Tax saving ELSS Mutual funds?

YES □
NO □

(5) If yes, what is your perception of ELSS Mutual Funds?

High risk & High returns □
Low risk & Low returns □
High risk & Low returns □
Average risk & average returns □

(6) Reasons for not investing in ELSS Mutual Fund

Lack of awareness □
Lack of Stock market expertise □
High-Risk factor □
Don't Know the process of investing □
Not aware of the benefits of investing □

(7) How do you usually make your investment Decisions?

Personal research □
Recommendations of Friends & relatives □
Recommendations of a financial advisor □
Newspaper / Magazines □
Electronic media □

(8) Are you interested in investing in ELSS Mutual fund in the Future?

YES □
No □

	Perception towards other Tax saving Investments	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	Do you think Public Provident Fund (PPF) meets your purpose compared to ELSS					
2	Do you think Premium of Life Insurance meets your purpose compared to ELSS?					
3	Do you think 5 Year Bank Fixed Deposits (FDs) meet your purpose compared to ELSS					
4	Do you think National Pension Scheme meets your purpose compared to ELSS?					
5	Do you think Senior Citizens Savings Scheme (SCSS) meets your purpose compared to ELSS					

	Preference towards other Tax saving Investments	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
	Public Provident Fund (PPF) should have unit-linked and with a lock-in Period for better Return.					
	The premium of Life Insurance should have unit-linked and with a lock-in Period for better Return.					

	5 Year Bank Fixed Deposits (FDs) should have unit-linked and with a lock in Period for better Return					
	National Pension Scheme should have unit-linked and with a lock-in Period for Better Returns.					
	Senior Citizens Savings Scheme (SCSS) should have unit-linked and with a lock-in Period for Better Returns.					

SECTION E: OTHER QUESTIONS ON MUTUAL FUND

(1) Which Mutual Fund Plan do you consider the best?

Balanced Plan □
Equity Plans □
Income Plans □
Other: □

(2) How long would you like to hold your Mutual Funds Investments?

1 to 3 Years □
4 to 6 Years □
7 to 10 Years □
More than 10 Years □

(3) Which among the following is the safest Investment option?

Mutual Funds □
Stock Markets □
Bank Deposits □
Other: □

(4) Which factors prevent you from investing in a mutual fund?

Bitter Past Experience □
Lack of Knowledge □
Lack of confidence in the service being provided □
Difficulty in the selection of schemes □
Inefficient investment advisors □
Other: □

(5) Rank the following investments in the order of your Investment Preference.

Bank Fixed Deposits □
Post Office Savings □
Equity Shares □
Mutual Funds □
Gold / Silver □
Life Insurance □

(6) Please rank the following Investment Attributes in the order of their Importance.

Returns □
Risk □
Liquidity □
Knowledge of the Investment Product □
Tax Benefit □
Convenience / Flexibility □

. (7) How long have you invested in Equity Linked Savings Scheme (ELSS)?

- Less than 1 Year □
- 1 - 3 Years □
- 3 - 5 Years □
- More than 5 Years □

(8) How much do you invest Annually in ELSS Funds?

- Less than Rs 10000 □
- Rs 10000 - Rs 25000 □
- Rs 25000 - Rs 50000 □
- Rs 50000 - Rs 100000 □
- Above Rs 100000 □

(9) How long will you remain invested in ELSS Funds?

- Just 3 Years □
- 3 - 5 Years □
- 5-10 Years □
- Over 10 Years □

(10) On what basis do you select the ELSS funds for Investment?

- Personal Research □
- Fund Star Ratings (Value Research / Crisil Ratings etc.) □
- Asset Management Company / Fund Manager □
- News Paper / Magazine Recommendations □
- Financial Planner / Advisor Recommendation □

(11) Which other Mutual Funds schemes have you invested in?

- Diversified Equity Funds □
- Index Funds □
- Gold Funds □
- Balanced Funds □
- Debt Funds □
- Liquid Funds □
- Exchange Traded Funds (ETFs) □
- Others_____

(12) In your opinion, what additional risk factors do you consider in ELSS funds as compared to Diversified Equity mutual Funds?

- Three-year lock-in Period □
- High allocation of the corpus in Equities □
- Both the above □
- None □

Any Other ☐

(13) What changes would you like to see in the ELSS Fund Regulations?

Reduction Lock-In Period ☐
Higher Lock-In Period ☐
Reduction in Equity Allocation ☐
Dedicated Deduction U/s 80 for ELSS ☐

Any Other_____

APPENDIX: B:

TABLES RELATED TO CALCULATION OF RATIOS

SHARP RATIOS:

Sharpe Ratio based on Quarterly Average Returns (2009-10 to 2018-19)

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	ELSS Funds											
1	SBI LT Advantage Fund-IV								0.25	-0.18	0.24	0.10
2	Axis Equity Fund					0.20	-1.47	0.88	0.04	-0.31	0.05	-0.10
3	Birla Tax Relief 96						-1.51	0.87	-0.15	-0.36	0.08	-0.21
4	BNP Tax Adv				-0.12	0.18	-1.80	0.93	-0.04	-0.05	0.08	-0.12
5	BOI AXA Eco							0.98	-0.27	-0.42	-0.11	0.05
6	Mahindra Manulife ELSS fund							0.97	-0.29	-0.41	-0.13	0.04
7	Sundaram Tax advantage-III							0.97	0.13	-0.18	-0.01	0.23
8	DSP Tax Saver					0.33	-1.91	1.04	0.04	-0.29	0.11	-0.11
9	DWS Tax Saving				-0.32	0.35	-1.69	1.05	-0.3	-0.53	0.06	-0.18
10	Edelweiss ELSS							0.83	0.08	-0.14	-0.03	0.18
11	Escorts Tax Plan	1.14	0.36	1.01	-0.03	0.35	-3.50	0.75	-0.19	-0.32	-0.79	-0.12
12	Franklin Tax Sheild	1.66	0.7	2.16	-0.12	0.26	-1.30	1.01	0.23	-0.18	-0.03	0.44
13	HDFC Long Term Adv	2.63	0.79	2.65	-0.11	0.14	-1.68	0.94	0.28	-0.21	-0.05	0.5
14	HDFC Tax Saver	1.28	0.88	2.59	-0.07	0.17	-0.99	1.08	0.18	-0.24	-0.26	0.28
15	HSBC Tax Saver					0.17	-1.72	1.02	-0.04	-0.27	0.18	-0.11
16	ICICI Pru Right								0.16	0.02	0.18	0.12
17	ICICI Pru Tax Plan	0.92	1.02	1.77	-0.15	0.17	-1.42	1.21	0.11	-0.2	-0.02	0.34
18	IDFC Tax Adv							1.1	0.21	-0.33	0.2	0.3
19	IDFC Tax Saver					0.24	-2.24	1.10	0.03	-0.44	0.20	-0.19
20	Birla Retire Invest					0.16	-2.37	1.02	-0.14	-0.53	-0.22	-0.35
21	Birla Tax Savings		0.32	3.88	0.02	0.03	-1.57	0.97	0.3	-0.60	-0.17	0.35
22	JM Tax Gain						-1.67	0.74	-0.3	-0.30	-0.16	-0.34
23	JP Morgan Tax Advantage							1.12	0.23	-0.37	-0.13	0.21
24	Kotak Tax Saver				0.05	0.22	-1.95	0.91	0.02	-0.27	-0.06	-0.15
25	LIC Tax Plan	1.51	0.08	1.15	-0.2	-0.31	-1.42	0.68	0.1	-0.40	-0.18	0.10
26	LNT Long Term Adv							1.36	-0.03	-0.24	-0.23	0.21
27	LNT Tax Advantage				0.16	0.23	-1.2	1.07	0.37	-0.33	-0.12	0.03

28	LNT Tax Saver				0	0.06	-2.04	0.8	0.03	-0.45	-0.37	-0.28
29	Essel LT Advantage fund							1.22	0.30	-0.21	0.06	0.34
30	Nippon Equity Linked Savings						-1.20	1.05	0.18	-0.12	0.04	-0.01
31	Nippon Tax Saver				-0.04	0.1	-1.48	1.03	0.17	-0.05	-0.17	-0.07
32	Religare Agile						-1.5	0.97	0.06	-0.47	-0.02	-0.19
33	Religare Tax Plan					0.39	-1.62	1.13	0.12	-0.20	0.04	-0.02
34	Sahara Tax Gain	0.94	0.5	-0.32	-0.18	0.32	-1.56	0.87	0.17	-0.16	-0.26	-0.03
35	SBI Tax Gain						-1.42	0.89	-0.14	-0.21	-0.02	-0.18
36	SBI Tax Advantage I						-1.33	0.83	-0.24	-0.24	-0.04	-0.2
37	Sundaram Tax Saver				0	0.31	-2.60	0.82	-0.06	-0.20	-0.03	-0.25
38	Tata Tax Savings							1.13	-0.42	-0.34	-0.4	-0.01
39	Tata Tax Adv Fund I				-0.26	0.28	-1.60	0.96	0.17	-0.23	-0.12	-0.11
40	Taurus Tax Shield	0.28	0.15	0.24	-0.5	0.46	-1.41	0.76	0.16	-0.53	-0.01	-0.04
41	UTI ETSP				-0.20	0.25	-1.5	0.98	0	-0.37	-0.06	-0.13
42	UTI LTA V					0.11	-1.45	0.91	-0.12	-0.33	-0.14	-0.17
43	UTI LTA VI						-1.66	1.05	0.03	-0.28	-0.04	-0.18
	Average	1.2	0.6	1.68	-0.13	0.21	-1.68	0.97	0.04	-0.28	-0.06	-0.03
	Indexes											
1	BSE 30	1.1500	0.2000	2.5100	0.2200	0.2400	(1.3000)	0.7900	0.1300	(0.4600)	0.0200	0.3500
2	BSE 100	1.2600	0.2200	2.2400	0.1200	0.3000	(1.4100)	0.8000	0.0400	(0.3600)	(0.0400)	0.3170
3	BSE 200	1.2700	0.2300	1.8700	0.1000	0.2800	(1.4800)	0.8200	0.0300	(0.3400)	(0.0700)	0.2710
4	BSE 500	1.2400	0.2800	1.8800	0.0900	0.2800	(1.5400)	0.8400	0.0100	(0.3300)	(0.1200)	0.2630
5	CNX 500	1.2500	0.2700	2.0600	0.0500	0.2600	(1.3700)	0.8300	(0.0100)	(0.3100)	(0.1000)	0.2930
6	CNX Nifty	1.0400	0.1800	2.4400	0.1500	0.2900	(1.1600)	0.8400	0.1300	(0.3900)	(0.0300)	0.3490
7	CNX 100	1.1500	0.2000	2.2100	0.1200	0.2700	(1.2300)	0.8600	0.1000	(0.3400)	(0.0200)	0.3320
	Average	1.1900	0.2300	2.1700	0.1200	0.2800	(1.3600)	0.8300	0.0600	(0.3600)	(0.0500)	0.3110
	Diversifed Equity Funds											
1	Birla Frontline Equity	1.57	0.28	1.70	0.35	0.3	-1.45	0.92	0.15	-0.37	0.26	0.37
2	DSP Top 100	1.52	0.30	2.17	0.20	0.32	-1.15	0.94	0.13	-0.3	-0.19	0.4
3	Franklin India Bluechip	1.60	0.28	1.78	0.10	0.25	-1	0.93	0.19	-0.26	-0.1	0.17
4	HDFC Equity Fund	1.57	0.42	2.6	0.24	0.2	-1.2	0.96	0.37	-0.24	-0.16	0.23
5	HDFC Top 200	1.5	0.46	2.97	0.07	0.31	-1	0.87	0.31	-0.25	-0.14	0.31

6	ICICI Pru Dynamic	0.82	0.59	2.11	0.26	0.12	-1.48	0.77	0.23	-0.18	-0.1	0.2
7	Mirae Large Cap Fund			1.85	-0.17	0.14	-1.88	1.14	0.16	-0.08	0.13	0.16
8	IDFC Premier Equity				-0.01	0.47	-1.6	1.1	0.18	-0.03	0.12	0.03
9	Nippon Growth	1.5	0.76	1.88	0.16	0.31	-1.7	0.96	-0.10	-0.22	-0.15	0.15
10	Nippon Equity Opportunties			1.75	0.1	0.13	-1.93	1.33	0.22	-0.07	0.2	0.22
11	SBI Multicap fund				0.1	0.34	-1.30	0.86	-0.26	-0.27	0.09	-0.07
12	UTI Opportunties Fund				-0.40	0.37	-1.12	0.86	0.22	-0.07	-0.13	-0.04
	Average	1.43	0.44	2.12	0.07	0.27	-1.42	0.97	0.15	-0.19	-0.01	2.13

Outperformance of ELSS Funds over Diversified Funds based on Quarterly Sharpe Ratio (2009-10 to 2018-19)

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	No. of Diversified Funds	7	7	9	12	12	12	12	12	12	12	
	ELSS Funds											
1	SBI LT Advantage Fund-IV								0.83	0.58	0.92	0.78
2	Axis Equity Fund					0.25	0.42	0.33	0.17	0.08	0.58	0.31
3	Birla Tax Relief 96						0.33	0.33	0.08	0.08	0.58	0.28
4	BNP Tax Adv				0.17	0.25	0.17	0.42	0.17	0.92	0.58	0.38
5	BOI AXA Eco							0.75	-	-	0.42	0.29
6	Mahindra Manulife ELSS fund							0.75	-	-	0.33	0.27
7	Sundaram Tax advantage-III							0.75	0.17	0.58	0.58	0.52
8	DSP Tax Saver					0.83	0.08	0.75	0.17	0.08	0.67	0.43
9	DWS Tax Saving				0.08	0.83	0.25	0.75	0.08	-	0.58	0.37
10	Edelweiss ELSS							0.08	0.17	0.67	0.58	0.38
11	Escorts Tax Plan	0.14	0.43	-	0.17	0.83	-	-	0.08	0.08	-	0.27
12	Franklin Tax Sheild	1.00	0.71	0.67	0.17	0.42	0.58	0.75	0.83	0.58	0.58	0.50
13	HDFC Long Term Adv	1.00	1.00	0.78	0.17	0.25	0.25	0.50	0.83	0.50	0.58	0.61
14	HDFC Tax Saver	0.14	1.00	0.78	0.17	0.25	1.00	0.75	0.50	0.42	-	0.52
15	HSBC Tax Saver					0.25	0.25	0.75	0.17	0.17	0.83	0.40
16	ICICI Pru Right								0.42	1.00	0.83	0.75

17	ICICI Pru Tax Plan	0.14	1.00	0.22	0.17	0.25	0.50	0.92	0.17	0.50	0.58	0.44
18	IDFC Tax Adv							0.92	0.17	0.08	0.92	0.52
19	IDFC Tax Saver					0.33	-	0.83	0.17	-	0.83	0.36
20	Birla Retire Invest					0.25	-	0.75	0.08	-	-	0.18
21	Birla Tax Savings		0.43	1.00	0.25	-	0.33	0.67	0.83	-	0.08	0.40
22	JM Tax Gain						0.25	-	-	0.08	0.17	0.10
23	JP Morgan Tax Advantage							0.83	0.83	-	0.25	0.48
24	Kotak Tax Saver				0.25	0.33	-	0.33	0.17	0.33	0.58	0.29
25	LIC Tax Plan	0.43	-	-	0.08	-	0.50	-	0.17	-	0.08	0.19
26	LNT Long Term Adv							1.00	0.17	0.33	-	0.38
27	LNT Tax Advantage				0.67	0.33	0.67	0.75	1.00	0.08	0.25	0.54
28	LNT Tax Saver				0.25	-	-	0.08	0.17	-	-	0.07
29	Essel LT Advantage fund							0.92	0.92	0.50	0.58	0.73
30	Nippon Equity Linked Savings						0.58	0.75	0.50	0.67	0.58	0.62
31	Nippon Tax Saver				0.17	-	0.42	0.75	0.42	0.92	0.08	0.39
32	Religare Agile						0.33	0.75	0.17	-	0.58	0.37
33	Religare Tax Plan					0.92	0.25	0.83	0.17	0.58	0.58	0.56
34	Sahara Tax Gain	0.14	0.43	-	0.08	0.67	0.33	0.08	0.42	0.67	-	0.22
35	SBI Tax Gain						0.50	0.33	0.08	0.50	0.58	0.40
36	SBI Tax Advantage I						0.50	0.08	0.08	0.33	0.58	0.32
37	Sundaram Tax Saver				0.25	0.50	-	0.08	0.17	0.50	0.58	0.30
38	Tata Tax Savings							0.83	-	0.08	-	0.23
39	Tata Tax Adv Fund I				0.08	0.42	0.25	0.75	0.42	0.42	0.42	0.39
40	Taurus Tax Shield	-	-	-	-	0.92	0.50	-	0.42	-	0.58	0.32
41	UTI ETSP				0.08	0.42	0.33	0.75	0.17	0.08	0.58	0.35
42	UTI LTA V					0.08	0.42	0.33	0.08	0.08	0.25	0.21
43	UTI LTA VI						0.25	0.75	0.17	0.08	0.58	0.37
	Average	0.38	0.56	0.38	0.18	0.38	0.32	0.55	0.30	0.29	0.44	0.39

Outperformance of ELSS Funds over Market Index based on Quarterly Sharpe Ratio

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	No. of Diversified Funds	7	7	7	7	7	7	7	7	7	7	
	ELSS Funds											
1	SBI LT Advantage Fund-IV								1.00	1.00	1.00	1.00
2	Axis Equity Fund					-	0.29	1.00	0.57	1.00	1.00	0.64
3	Birla Tax Relief 96						0.14	1.00	-	0.43	1.00	0.51
4	BNP Tax Adv				-	-	-	1.00	-	1.00	1.00	0.43
5	BOI AXA Eco							1.00	-	0.14	0.14	0.32
6	Mahindra Manulife ELSS fund							1.00	-	0.14	-	0.29
7	Sundaram Tax advantage-III							1.00	0.71	1.00	0.86	0.89
8	DSP Tax Saver					1.00	-	1.00	0.43	1.00	1.00	0.74
9	DWS Tax Saving				-	1.00	-	1.00	-	-	1.00	0.43
10	Edelweiss ELSS							0.57	0.57	1.00	0.57	0.68
11	Escorts Tax Plan	0.43	1.00	-	-	1.00	-	-	-	0.71	-	0.45
12	Franklin Tax Sheild	1.00	1.00	0.43	-	0.29	0.71	1.00	1.00	1.00	0.71	0.70
13	HDFC Long Term Adv	1.00	1.00	1.00	-	-	-	1.00	1.00	1.00	0.43	0.70
14	HDFC Tax Saver	1.00	1.00	1.00	-	-	1.00	1.00	1.00	1.00	-	0.76
15	HSBC Tax Saver					-	-	1.00	-	1.00	1.00	0.50
16	ICICI Pru Right								1.00	1.00	1.00	1.00
17	ICICI Pru Tax Plan	-	1.00	-	-	-	0.29	1.00	0.71	1.00	0.86	0.57
18	IDFC Tax Adv							1.00	0.71	0.86	1.00	0.89
19	IDFC Tax Saver					-	-	1.00	0.43	0.14	1.00	0.43
20	Birla Retire Invest					-	-	1.00	-	-	-	0.17
21	Birla Tax Savings		1.00	1.00	-	-	-	1.00	1.00	-	-	0.44
22	JM Tax Gain						-	-	-	1.00	-	0.20
23	JP Morgan Tax Advantage							1.00	1.00	0.29	-	0.57
24	Kotak Tax Saver				-	-	-	1.00	0.29	1.00	0.43	0.39
25	LIC Tax Plan	1.00	-	-	-	-	0.43	-	0.71	0.14	-	0.34
26	LNT Long Term Adv							1.00	-	1.00	-	0.50
27	LNT Tax Advantage				0.86	-	0.86	1.00	1.00	0.71	-	0.63
28	LNT Tax Saver				-	-	-	0.14	0.29	0.14	-	0.08

29	Essel LT Advantage fund							1.00	1.00	1.00	1.00	1.00
30	Nippon Equity Linked Savings						0.86	1.00	1.00	1.00	1.00	0.97
31	Nippon Tax Saver				-	-	0.14	1.00	1.00	1.00	-	0.45
32	Religare Agile						0.14	1.00	0.57	-	0.86	0.51
33	Religare Tax Plan					1.00	-	1.00	0.71	1.00	1.00	0.79
34	Sahara Tax Gain	-	1.00	-	-	1.00	-	1.00	1.00	1.00	-	0.44
35	SBI Tax Gain						0.29	1.00	-	1.00	0.86	0.63
36	SBI Tax Advantage I						0.57	0.57	-	1.00	0.71	0.57
37	Sundaram Tax Saver				-	1.00	-	0.29	-	1.00	0.86	0.45
38	Tata Tax Savings							1.00	-	0.71	-	0.43
39	Tata Tax Adv Fund I				-	0.29	-	1.00	1.00	1.00	0.14	0.49
40	Taurus Tax Shield	-	-	-	-	1.00	0.29	-	1.00	-	0.86	0.47
41	UTI ETSP				-	0.14	0.14	1.00	0.14	0.43	0.43	0.33
42	UTI LTA V					-	0.29	1.00	-	0.71	-	0.33
43	UTI LTA VI						-	1.00	0.29	1.00	0.71	0.60
`	Average	0.55	0.78	0.38	0.05	0.31	0.20	0.84	0.49	0.71	0.52	0.55

SOTINO RATIO'S:

Sortino Ratio based on Quarterly Average Returns

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	ELSS Funds											
1	SBI LT Advantage Fund-IV								0.390	(0.270)	0.330	0.150
2	Axis Equity Fund					0.230	(1.980)	1.460	0.090	(0.550)	0.080	(0.112)
3	Birla Tax Relief 96						(2.110)	1.510	(0.200)	(0.610)	0.090	(0.264)
4	BNP Tax Adv				(0.150)	0.230	(2.650)	1.470	(0.060)	(0.080)	0.090	(0.164)
5	BOI AXA Eco							1.580	(0.490)	(0.680)	(0.150)	0.065
6	Mahindra Manulife ELSS fund							1.580	(0.500)	(0.690)	(0.180)	0.053
7	Sundaram Tax advantage-III							1.740	0.170	(0.290)	(0.020)	0.400
8	DSP Tax Saver					0.410	(2.400)	1.730	0.050	(0.480)	0.140	(0.092)
9	DWS Tax Saving				(0.450)	0.410	(2.210)	1.650	(0.310)	(0.860)	0.090	(0.240)
10	Edelweiss ELSS							1.310	0.090	(0.250)	(0.060)	0.273
11	Escorts Tax Plan	1.600	0.430	1.400	(0.030)	0.410	(4.230)	1.400	(0.250)	(0.510)	(1.030)	(0.081)

12	Franklin Tax Sheild	2.050	0.690	3.030	(0.190)	0.300	(1.760)	1.890	0.410	(0.330)	(0.030)	0.606
13	HDFC Long Term Adv	4.190	1.130	4.830	(0.160)	0.160	(2.060)	1.650	0.400	(0.360)	(0.070)	0.971
14	HDFC Tax Saver	1.540	1.180	3.760	(0.100)	0.190	(1.380)	1.750	0.270	(0.390)	(0.360)	0.646
15	HSBC Tax Saver					0.170	(1.720)	1.020	(0.040)	(0.270)	0.180	(0.110)
16	ICICI Pru Right								0.280	0.010	0.250	0.180
17	ICICI Pru Tax Plan	1.080	1.380	2.670	(0.230)	0.200	(1.760)	1.980	0.170	(0.330)	(0.030)	0.513
18	IDFC Tax Adv							1.790	0.180	(0.590)	0.280	0.415
19	IDFC Tax Saver					0.300	(3.960)	1.680	0.050	(0.770)	0.270	(0.405)
20	Birla Retire Invest					0.190	(3.480)	1.620	(0.210)	(0.880)	(0.290)	(0.508)
21	Birla Tax Savings		0.460	7.470	0.020	0.030	(1.980)	1.590	0.410	(0.970)	(0.230)	0.756
22	JM Tax Gain						(2.170)	1.360	(0.430)	(0.560)	(0.220)	(0.404)
23	JP Morgan Tax Advantage								0.320	(0.630)	(0.180)	(0.163)
24	Kotak Tax Saver				0.070	0.270	(2.700)	1.570	0.030	(0.440)	(0.080)	(0.183)
25	LIC Tax Plan	1.830	0.110	1.630	(0.280)	(0.390)	(1.970)	1.160	0.160	(0.720)	(0.220)	0.131
26	LNT Long Term Adv							1.900	(0.040)	(0.450)	(0.300)	0.278
27	LNT Tax Advantage				0.200	0.280	(1.630)	1.740	0.520	(0.600)	(0.180)	0.047
28	LNT Tax Saver					0.070	(2.740)	1.450	0.030	(0.850)	(0.470)	(0.418)
29	Essel LT Advantage fund							1.790	0.440	(0.390)	0.090	0.483
30	Nippon Equity Linked Savings						(1.480)	1.540	0.240	(0.190)	0.050	0.032
31	Nippon Tax Saver				(0.070)	0.110	(2.070)	1.830	0.250	(0.090)	(0.210)	(0.036)
32	Religare Agile						(2.440)	1.200	0.080	(0.670)	(0.010)	(0.368)
33	Religare Tax Plan					0.460	(2.270)	1.780	0.180	(0.290)	0.060	(0.013)
34	Sahara Tax Gain	1.240	0.560	(0.380)	(0.240)	0.390	(2.240)	1.360	0.230	(0.250)	(0.330)	0.034
35	SBI Tax Gain						(2.000)	1.510	(0.180)	(0.390)	(0.010)	(0.214)
36	SBI Tax Advantage I						(1.630)	1.430	(0.360)	(0.430)	(0.040)	(0.206)
37	Sundaram Tax Saver					0.370	(3.650)	1.240	(0.070)	(0.400)	(0.030)	(0.423)
38	Tata Tax Savings							1.920	(0.630)	(0.600)	(0.560)	0.033
39	Tata Tax Adv Fund I				(0.360)	0.320	(2.000)	1.730	0.240	(0.390)	(0.160)	(0.089)
40	Taurus Tax Shield	0.380	0.190	0.330	(0.660)	0.560	(1.780)	1.360	0.250	(0.850)	(0.020)	(0.024)
41	UTI ETSP				(0.290)	0.300	(2.060)	1.570	0.010	(0.630)	(0.080)	(0.169)
42	UTI LTA V					0.140	(2.010)	1.610	(0.170)	(0.610)	(0.180)	(0.203)
43	UTI LTA VI						(2.360)	1.660	0.040	(0.490)	(0.040)	(0.238)

	Average	1.740	0.680	2.750	(0.160)	0.240	(2.280)	1.580	0.050	(0.490)	(0.090)	0.402
	Indexes											
1	BSE 30	1.420	0.270	3.520	0.320	0.280	(1.730)	1.340	0.200	(0.780)	0.030	0.487
2	BSE 100	1.520	0.300	3.180	0.180	0.350	(1.870)	1.410	0.070	(0.640)	(0.060)	0.444
3	BSE 200	1.490	0.310	2.640	0.140	0.330	(1.950)	1.450	0.050	(0.600)	(0.100)	0.376
4	BSE 500	1.460	0.380	2.670	0.120	0.330	(2.020)	1.470	0.010	(0.580)	(0.160)	0.368
5	CNX 500	1.470	0.370	2.910	0.070	0.310	(1.880)	1.430	(0.010)	(0.550)	(0.140)	0.398
6	CNX Nifty	1.320	0.240	3.520	0.210	0.340	(1.580)	1.370	0.220	(0.670)	(0.040)	0.493
7	CNX 100	1.420	0.280	3.150	0.180	0.320	(1.670)	1.450	0.160	(0.600)	(0.030)	0.466
	Average	1.440	0.310	3.080	0.170	0.320	(1.820)	1.420	0.100	(0.630)	(0.070)	0.432
	Diversifed Equity Funds											
1	Birla Frontline Equity	1.860	0.370	2.460	0.490	0.350	(2.020)	1.570	0.220	(0.630)	0.350	0.502
2	DSP Top 100	1.870	0.400	3.020	0.270	0.390	(1.530)	1.470	0.210	(0.330)	(0.250)	0.552
3	Franklin India Bluechip	2.010	0.380	2.520	0.130	0.280	(1.380)	1.770	0.330	(0.470)	(0.140)	0.543
4	HDFC Equity Fund	1.840	0.550	4.070	0.190	0.240	(1.630)	1.680	0.540	(0.420)	(0.230)	0.683
5	HDFC Top 200	1.770	0.620	4.000	0.090	0.370	(1.350)	1.530	0.470	(0.460)	(0.170)	0.687
6	ICICI Pru Dynamic	0.920	0.770	2.310	0.330	0.210	(2.030)	1.900	0.550	(0.310)	(0.280)	0.437
7	Mirae Large Cap Fund			2.870	(0.250)	0.150	(2.300)	1.820	0.200	(0.140)	0.190	0.318
8	IDFC Premier Equity				(0.010)	0.600	(2.030)	1.900	0.250	(0.040)	0.150	0.117
9	Nippon Growth	1.640	1.020	2.940	0.200	0.390	(2.150)	1.700	(0.120)	(0.410)	(0.180)	0.503
10	Nippon Equity Opportunties			2.610	0.130	0.140	(1.940)	1.350	0.320	(0.100)	0.260	0.346
11	SBI Multicap fund				0.130	0.380	(1.850)	1.460	(0.390)	(0.460)	0.120	(0.087)
12	UTI Opportunties Fund				(0.590)	0.440	(1.730)	1.420	0.370	(0.150)	(0.160)	(0.057)
	Average	1.700	0.590	2.980	0.090	0.330	(1.830)	1.630	0.250	(0.330)	(0.030)	0.538

Outperformance of ELSS Funds over Diversified Equity Funds category Quarterly Average Sortino Ratio

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	No. of Diversified Funds	7	7	9	12	12	12	12	12	12	12	
	ELSS Funds											
1	SBI LT Advantage Fund-IV								0.0833	0.0833	0.5833	0.2500
2	Axis Equity Fund					0.2500	0.4167	0.1667	0.1667	0.0833	0.5833	0.2800
3	Birla Tax Relief 96						0.1667	0.3333	0.0833	0.0833	0.5833	0.2500

4	BNP Tax Adv				0.1667	0.2500	-	0.2500	0.1667	0.9167	0.5833	0.3300
5	BOI AXA Eco							0.5000	-	-	0.5000	0.2500
6	Mahindra Manulife ELSS fund							0.5000	-	-	0.3333	0.2100
7	Sundaram Tax advantage-III							0.6667	0.1667	0.6667	0.5833	0.5200
8	DSP Tax Saver					0.8333	-	0.6667	0.1667	0.0833	0.6667	0.4000
9	DWS Tax Saving				0.0833	0.8333	0.0833	0.5000	0.0833	-	0.5833	0.3100
10	Edelweiss ELSS							-	0.1667	0.6667	0.5833	0.3500
11	Escorts Tax Plan	0.1429	0.4286	-	0.1667	0.8333	-	0.0833	0.0833	0.0833	-	0.2700
12	Franklin Tax Sheild	1.0000	0.7143	0.7778	0.1667	0.4167	0.5833	0.8333	0.7500	0.5833	0.5833	0.5100
13	HDFC Long Term Adv	1.0000	1.0000	1.0000	0.1667	0.1667	0.1667	0.5000	0.7500	0.5000	0.5833	0.6100
14	HDFC Tax Saver	0.1429	1.0000	0.7778	0.1667	0.1667	0.9167	0.6667	0.5000	0.5000	-	0.5100
15	HSBC Tax Saver					0.1667	0.6667	-	0.1667	0.6667	0.7500	0.4000
16	ICICI Pru Right								0.5000	1.0000	0.8333	0.7800
17	ICICI Pru Tax Plan	0.1429	1.0000	0.4444	0.1667	0.1667	0.5833	1.0000	0.1667	0.5833	0.5833	0.5100
18	IDFC Tax Adv							0.7500	0.1667	0.0833	0.9167	0.4800
19	IDFC Tax Saver					0.4167	-	0.5833	0.1667	-	0.9167	0.3500
20	Birla Retire Invest					0.1667	-	0.5000	0.0833	-	-	0.1300
21	Birla Tax Savings		0.4286	1.0000	0.2500	-	0.4167	0.5000	0.7500	-	0.1667	0.3900
22	JM Tax Gain						0.0833	0.0833	-	0.0833	0.2500	0.1000
23	JP Morgan Tax Advantage								0.5000	0.0833	0.3333	0.3100
24	Kotak Tax Saver				0.2500	0.3333	-	0.4167	0.1667	0.3333	0.5833	0.3000
25	LIC Tax Plan	0.4286	-	-	0.0833	-	0.4167	-	0.1667	-	0.2500	0.2000
26	LNT Long Term Adv							1.0000	0.1667	0.3333	-	0.3800
27	LNT Tax Advantage				0.6667	0.4167	0.7500	0.6667	0.8333	0.0833	0.3333	0.5400
28	LNT Tax Saver				0.2500	-	-	0.1667	0.1667	-	-	0.0800
29	Essel LT Advantage fund							0.7500	0.7500	0.5000	0.5833	0.6500
30	Nippon Equity Linked Savings						0.8333	0.4167	0.4167	0.6667	0.5833	0.5800
31	Nippon Tax Saver				0.1667	-	0.1667	0.8333	0.5000	0.9167	0.2500	0.4000
32	Religare Agile						-	-	0.1667	-	0.5833	0.1500
33	Religare Tax Plan					0.9167	0.0833	0.7500	0.1667	0.6667	0.5833	0.5300
34	Sahara Tax Gain	0.1429	0.5714	-	0.1667	0.8333	0.0833	0.0833	0.4167	0.6667	-	0.2300
35	SBI Tax Gain						0.4167	0.3333	0.0833	0.5000	0.5833	0.3800

36	SBI Tax Advantage I						0.7500	0.1667	0.0833	0.3333	0.5833	0.3800
37	Sundaram Tax Saver				0.2500	0.5833	-	-	0.1667	0.5000	0.5833	0.3000
38	Tata Tax Savings							1.0000	-	0.0833	-	0.2700
39	Tata Tax Adv Fund I				0.0833	0.4167	0.4167	0.6667	0.4167	0.5000	0.4167	0.4200
40	Taurus Tax Shield	-	-	-	-	0.9167	0.5833	0.0833	0.5000	-	0.5833	0.3400
41	UTI ETSP				0.0833	0.4167	0.1667	0.4167	0.1667	0.0833	0.5833	0.2700
42	UTI LTA V					0.0833	0.4167	0.5000	0.0833	0.0833	0.3333	0.2500
43	UTI LTA VI						-	0.5000	0.1667	0.0833	0.5833	0.2700
	Average	0.3800	0.5700	0.4400	0.1900	0.3800	0.2900	0.4500	0.2600	0.3000	0.4500	0.3600

Outperformance of ELSS Funds over Market Indexes Quarterly Average Sortino Ratio

Sl.No.	Fund / Index	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	No. of Diversified Funds	7	7	7	7	7	7	7	7	7	7	
	ELSS Funds											
1	SBI LT Advantage Fund-IV								-	0.430	1.000	0.480
2	Axis Equity Fund					-	0.140	0.860	0.570	1.000	1.000	0.600
3	Birla Tax Relief 96						-	1.000	-	0.430	1.000	0.490
4	BNP Tax Adv				-	-	-	1.000	-	1.000	1.000	0.430
5	BOI AXA Eco							1.000	-	0.140	0.140	0.320
6	Mahindra Manulife ELSS fund							1.000	-	0.140	-	0.290
7	Sundaram Tax advantage-III							1.000	0.710	1.000	0.860	0.890
8	DSP Tax Saver					1.000	-	1.000	0.430	1.000	1.000	0.740
9	DWS Tax Saving				-	1.000	-	1.000	-	-	1.000	0.430
10	Edelweiss ELSS							-	0.570	1.000	0.570	0.540
11	Escorts Tax Plan	1.000	1.000	-	-	1.000	-	0.290	-	1.000	-	0.530
12	Franklin Tax Sheild	1.000	1.000	0.430	-	0.140	0.570	1.000	1.000	1.000	0.710	0.680
13	HDFC Long Term Adv	1.000	1.000	1.000	-	-	-	1.000	1.000	1.000	0.430	0.700
14	HDFC Tax Saver	1.000	1.000	1.000	-	-	1.000	1.000	1.000	1.000	-	0.760
15	HSBC Tax Saver					-	0.710	-	-	1.000	1.000	0.450
16	ICICI Pru Right								1.000	1.000	1.000	1.000
17	ICICI Pru Tax Plan	-	1.000	0.290	-	-	0.570	1.000	0.710	1.000	0.860	0.640

18	IDFC Tax Adv							1.000	0.710	0.710	1.000	0.860
19	IDFC Tax Saver					0.140	-	1.000	0.430	0.140	1.000	0.450
20	Birla Retire Invest					-	-	1.000	-	-	-	0.170
21	Birla Tax Savings		1.000	1.000	-	-	0.140	1.000	1.000	-	-	0.460
22	JM Tax Gain						-	0.140	-	0.860	-	0.200
23	JP Morgan Tax Advantage								1.000	0.430	-	0.480
24	Kotak Tax Saver				-	-	-	1.000	0.290	1.000	0.430	0.390
25	LIC Tax Plan	1.000	-	-	-	-	0.140	-	0.570	0.140	-	0.300
26	LNT Long Term Adv							1.000	-	1.000	-	0.500
27	LNT Tax Advantage				0.710	-	0.860	1.000	1.000	0.430	-	0.570
28	LNT Tax Saver				-	-	-	0.570	0.290	-	-	0.120
29	Essel LT Advantage fund							1.000	1.000	1.000	1.000	1.000
30	Nippon Equity Linked Savings						1.000	1.000	1.000	1.000	1.000	1.000
31	Nippon Tax Saver				-	-	-	1.000	1.000	1.000	-	0.430
32	Religare Agile						-	-	0.570	0.290	0.860	0.340
33	Religare Tax Plan					1.000	-	1.000	0.710	1.000	1.000	0.790
34	Sahara Tax Gain	-	1.000	-	-	1.000	-	0.140	1.000	1.000	-	0.400
35	SBI Tax Gain						0.140	1.000	-	1.000	0.860	0.600
36	SBI Tax Advantage I						0.860	0.570	-	1.000	0.710	0.630
37	Sundaram Tax Saver				-	1.000	-	-	-	1.000	0.860	0.410
38	Tata Tax Savings							1.000	-	0.570	-	0.390
39	Tata Tax Adv Fund I				-	0.290	0.140	1.000	1.000	1.000	-	0.490
40	Taurus Tax Shield	-	-	-	-	1.000	0.570	0.140	1.000	-	0.860	0.510
41	UTI ETSP				-	0.140	-	1.000	0.140	0.430	0.430	0.310
42	UTI LTA V					-	0.140	1.000	-	0.430	-	0.260
43	UTI LTA VI						-	1.000	0.290	1.000	0.710	0.600
	Average	0.630	0.780	0.410	0.040	0.310	0.220	0.770	0.470	0.690	0.520	0.530

JENSEN'S ALPHA:

Beta of Funds based on BSE 30 (Sensex)

Sl No.	Funds Name	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	ELSS Funds											
1	SBI LT Advantage Fund-IV								0.0089	0.0214	0.0118	0.0140
2	Axis Equity Fund					(0.0086)	(0.0153)	0.0179	(0.0043)	0.0132	0.0028	0.0010
3	Birla Tax Relief 96						(0.0281)	0.0232	(0.0197)	0.0097	0.0034	(0.0023)
4	BNP Tax Adv				(0.0453)	(0.0121)	(0.0478)	0.0218	(0.0104)	0.0335	0.0028	(0.0082)
5	BOI AXA Eco							0.0441	(0.0314)	0.0039	(0.0066)	0.0025
6	Mahindra Manulife ELSS fund							0.0436	(0.0321)	0.0033	(0.0076)	0.0018
7	Sundaram Tax advantage-III							0.0416	0.0003	0.0232	(0.0016)	0.0159
8	DSP Tax Saver					0.0270	(0.0442)	0.0430	(0.0061)	0.0192	0.0064	0.0076
9	DWS Tax Saving				(0.0591)	0.0243	(0.0342)	0.0374	(0.0278)	(0.0076)	0.0018	(0.0093)
10	Edelweiss ELSS							0.0084	(0.0036)	0.0294	(0.0031)	0.0078
11	Escorts Tax Plan	0.0063	0.0189	(0.1595)	(0.0258)	0.0230	(0.1188)	(0.0032)	(0.0269)	0.0148	(0.0586)	(0.0330)
12	Franklin Tax Sheild	0.0644	0.0345	(0.0169)	(0.0365)	0.0034	(0.0043)	0.0388	0.0070	0.0219	(0.0022)	0.0110
13	HDFC Long Term Adv	0.2060	0.0769	0.0391	(0.0371)	(0.0171)	(0.0343)	0.0310	0.0129	0.0267	(0.0026)	0.0302
14	HDFC Tax Saver	0.0311	0.0996	0.0211	(0.0338)	(0.0127)	0.0238	0.0544	0.0053	0.0220	(0.0166)	0.0194
15	HSBC Tax Saver					(0.0155)	(0.0258)	0.0376	(0.0122)	0.0193	0.0104	0.0023
16	ICICI Pru Right								0.0032	0.0455	0.0103	0.0197
17	ICICI Pru Tax Plan	(0.0289)	0.1215	(0.0337)	(0.0539)	(0.0143)	(0.0159)	0.0783	(0.0003)	0.0292	(0.0026)	0.0079
18	IDFC Tax Adv							0.0505	(0.0011)	0.0102	0.0108	0.0176
19	IDFC Tax Saver					0.0022	(0.0705)	0.0471	(0.0065)	0.0008	0.0081	(0.0031)
20	Birla Retire Invest					(0.0175)	(0.0634)	0.0319	(0.0152)	(0.0077)	(0.0143)	(0.0144)
21	Birla Tax Savings		0.0200	0.0900	(0.0324)	(0.0443)	(0.0367)	0.0367	0.0126	(0.0092)	(0.0086)	0.0031
22	JM Tax Gain						(0.0520)	(0.0034)	(0.0252)	0.0187	(0.0163)	(0.0130)
23	JP Morgan Tax Advantage							0.0371	0.0071	0.0062	(0.0080)	0.0106

24	Kotak Tax Saver				(0.0216)	(0.0021)	(0.0525)	0.0225	(0.0080)	0.0219	(0.0056)	(0.0040)
25	LIC Tax Plan	0.0536	(0.0119)	(0.1092)	(0.0462)	(0.1271)	(0.0154)	(0.0196)	(0.0016)	0.0052	(0.0073)	(0.0280)
26	LNT Long Term Adv							0.0795	(0.0115)	0.0211	(0.0143)	0.0187
27	LNT Tax Advantage				(0.0076)	0.0010	0.0084	0.0445	0.0185	0.0099	(0.0083)	0.0123
28	LNT Tax Saver				(0.0303)	(0.0338)	(0.0562)	0.0049	(0.0084)	(0.0004)	(0.0184)	(0.0187)
29	Essel LT Advantage fund							0.0610	0.0149	0.0243	0.0020	0.0256
30	Nippon Equity Linked Savings						0.0247	0.0422	0.0069	0.0479	0.0019	0.0206
31	Nippon Tax Saver				(0.0422)	(0.0316)	(0.0193)	0.0425	0.0046	0.0571	(0.0161)	0.0062
32	Religare Agile						(0.0283)	0.0370	(0.0067)	(0.0036)	(0.0010)	(0.0004)
33	Religare Tax Plan					0.0319	(0.0478)	0.0545	0.0006	0.0230	0.0013	0.0106
34	Sahara Tax Gain	(0.0320)	0.0260	0.3493	(0.0489)	0.0199	(0.0301)	0.0185	0.0050	0.0324	(0.0200)	0.0320
35	SBI Tax Gain						(0.0142)	0.0200	(0.0158)	0.0239	(0.0016)	0.0021
36	SBI Tax Advantage I						(0.0075)	0.0108	(0.0256)	0.0248	(0.0030)	(0.0001)
37	Sundaram Tax Saver				(0.0283)	0.0160	(0.0648)	0.0092	(0.0142)	0.0249	(0.0026)	(0.0053)
38	Tata Tax Savings							0.0378	(0.0382)	0.0163	(0.0303)	(0.0036)
39	Tata Tax Adv Fund I				(0.0505)	0.0062	(0.0224)	0.0303	0.0031	0.0173	(0.0065)	0.0047
40	Taurus Tax Shield	(0.1665)	(0.0138)	(0.0522)	(0.0767)	0.0689	(0.0162)	(0.0055)	0.0040	(0.0043)	(0.0020)	(0.0264)
41	UTI ETSP				(0.0531)	0.0028	(0.0188)	0.0270	(0.0090)	0.0079	(0.0032)	0.0011
42	UTI LTA V					(0.0244)	(0.0159)	0.0234	(0.0141)	0.0124	(0.0080)	(0.0044)
43	UTI LTA VI						(0.0209)	0.0359	(0.0064)	0.0153	(0.0017)	0.0037
	Average	0.0168	0.0413	0.0142	(0.0405)	(0.0054)	(0.0301)	0.0316	(0.0062)	0.0169	(0.0052)	0.0033
	Diversified Equity Funds											
1	Birla Frontline Equity	0.0482	0.0098	(0.0501)	0.0131	0.0103	(0.0149)	0.0258	0.0011	0.0085	0.0138	0.0066
2	DSP Top 100	0.0561	0.0118	(0.0095)	(0.0025)	0.0180	0.0109	0.0223	0.0007	0.0270	(0.0126)	0.0122
3	Franklin India Bluechip	0.0657	0.0086	(0.0502)	(0.0153)	0.0001	0.0247	0.0298	0.0042	0.0170	(0.0058)	0.0079
4	HDFC Equity Fund	0.0737	0.0286	0.0395	(0.0081)	(0.0067)	0.0006	0.0408	0.0199	0.0265	(0.0103)	0.0205
5	HDFC Top 200	0.0755	0.0320	0.0382	(0.0177)	0.0131	0.0233	0.0177	0.0141	0.0225	(0.0083)	0.0210

6	ICICI Pru Dynamic	(0.0792)	0.0549	(0.0905)	0.0029	(0.0094)	(0.0213)	0.0570	0.0108	0.0334	(0.0096)	(0.0051)
7	Mirae Large Cap Fund			(0.0316)	(0.0493)	(0.0221)	(0.0442)	0.0871	0.0020	0.0501	0.0080	-
8	IDFC Premier Equity				(0.0332)	0.0713	(0.0265)	0.0580	0.0060	0.0320	0.0078	0.0165
9	Nippon Growth	0.0528	0.0824	(0.0292)	(0.0078)	0.0202	(0.0403)	0.0381	(0.0144)	0.0259	(0.0139)	0.0114
10	Nippon Equity Opportunties			(0.0455)	(0.0143)	(0.0257)	(0.0446)	0.0943	0.0084	0.0473	0.0123	0.0040
11	SBI Multicap fund				(0.0134)	0.0178	(0.0029)	0.0167	(0.0263)	0.0220	0.0037	0.0025
12	UTI Opportunties Fund				(0.0672)	0.0282	0.0080	0.0161	0.0072	0.0264	(0.0077)	0.0016
	Average	0.0418	0.0326	(0.0255)	(0.0177)	0.0096	(0.0106)	0.0420	0.0028	0.0282	(0.0019)	0.0101

Treynor's Ratio based on BSE 30 (Sensex)

Sl.No.	Funds Name	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
	ELSS Funds											
1	SBI LT Advantage Fund-IV								0.0184	-0.0176	0.0093	0.0034
2	Axis Equity Fund					0.0343	-0.1434	0.1758	0.0036	-0.0306	0.0024	0.007
3	Birla Tax Relief 96						-0.1542	0.1743	-0.0105	-0.0347	0.0028	-0.0044
4	BNP Tax Adv				-0.0117	0.0335	-0.183	0.1831	-0.0028	-0.0049	0.0029	0.0024
5	BOI AXA Eco							0.195	-0.0186	-0.0387	-0.0044	0.0333
6	Mahindra Manulife ELSS fund							0.1945	-0.0192	-0.0394	-0.0051	0.0327
7	Sundaram Tax advantage-III							0.193	0.0087	-0.0171	-0.0006	0.046
8	DSP Tax Saver					0.0595	-0.1931	0.203	0.0027	-0.0266	0.0046	0.0083
9	DWS Tax Saving				-0.035	0.059	-0.1675	0.2103	-0.0137	-0.0516	0.0025	0.0006
10	Edelweiss ELSS							0.1658	0.0048	-0.0149	-0.0017	0.0385
11	Escorts Tax Plan	0.1573	0.0489	0.0561	-0.0023	0.0596	-0.3573	0.1512	-0.0139	-0.0334	-0.0325	-0.0075
12	Franklin Tax Sheild	0.2225	0.068	0.1148	-0.0142	0.0444	-0.1321	0.2013	0.0157	-0.0181	-0.001	0.0094
13	HDFC Long Term Adv	2.163	0.1158	0.1788	-0.0118	0.0242	-0.1706	0.1844	0.0198	-0.0202	-0.0019	0.2143
14	HDFC Tax Saver	0.1791	0.1189	0.1486	-0.0071	0.029	-0.1057	0.2122	0.0133	-0.0231	-0.011	-0.0887
15	HSBC Tax Saver					0.0294	-0.169	0.2021	-0.0029	-0.0249	0.0076	0.0071

16	ICICI Pru Right								0.0121	0.0006	0.0075	0.0067
17	ICICI Pru Tax Plan	0.1353	0.1368	0.1051	-0.015	0.0291	-0.1446	0.2428	0.0081	-0.0189	-0.0009	0.0564
18	IDFC Tax Adv							0.2455	0.0074	-0.0326	0.0079	0.0571
19	IDFC Tax Saver					0.043	-0.264	0.2231	0.0022	-0.042	0.0075	-0.0051
20	Birla Retire Invest					0.0275	-0.244	0.2024	-0.009	-0.0511	-0.0085	-0.0138
21	Birla Tax Savings		0.0451	0.2976	0.0017	0.0045	-0.1629	0.191	0.0228	-0.0554	-0.0072	0.0375
22	JM Tax Gain						-0.1678	0.151	-0.0235	-0.0295	-0.0061	-0.0152
23	JP Morgan Tax Advantage							0.2267	0.0154	-0.0364	-0.0056	0.05
24	Kotak Tax Saver				0.0059	0.0397	-0.1938	0.1792	0.0015	-0.0246	-0.0026	0.0008
25	LIC Tax Plan	0.2095	0.0112	0.0598	-0.0209	-0.0564	-0.1446	0.1337	0.0068	-0.0383	-0.0067	-0.0056
26	LNT Long Term Adv							0.2983	-0.0024	-0.0248	-0.0092	0.0655
27	LNT Tax Advantage				0.0157	0.0423	-0.1178	0.2115	0.028	-0.0328	-0.0053	0.0202
28	LNT Tax Saver				-0.0003	0.0102	-0.2005	0.1583	0.0013	-0.0435	-0.0145	-0.0127
29	Essel LT Advantage fund							0.2465	0.0218	-0.0194	0.0024	0.0628
30	Nippon Equity Linked Savings						-0.1022	0.2142	0.0162	-0.0109	0.0019	0.0238
31	Nippon Tax Saver				-0.0056	0.0163	-0.1554	0.2066	0.0123	-0.0052	-0.0069	0.0089
32	Religare Agile						-0.1643	0.4004	0.0034	-0.0488	-0.0004	0.0381
33	Religare Tax Plan					0.0675	-0.2113	0.2234	0.009	-0.0191	0.0018	0.0119
34	Sahara Tax Gain	0.1287	0.0541	0.0365	-0.018	0.0571	-0.1743	0.1722	0.0134	-0.0147	-0.011	-1.6383
35	SBI Tax Gain						-0.1421	0.1762	-0.0094	-0.0208	-0.0004	0.0007
36	SBI Tax Advantage I						-0.1344	0.1642	-0.0169	-0.0243	-0.0011	-0.0025
37	Sundaram Tax Saver				0.0001	0.0534	-0.3048	0.1641	-0.0031	-0.0204	-0.0008	-0.0159
38	Tata Tax Savings							0.2237	-0.0328	-0.0323	-0.0162	0.0356
39	Tata Tax Adv Fund I				-0.0257	0.047	-0.1596	0.1921	0.0116	-0.0228	-0.0045	0.0054
40	Taurus Tax Shield	0.0461	0.019	0.0516	-0.0539	0.0824	-0.1497	0.1499	0.0117	-0.0484	-0.0006	-0.0027
41	UTI ETSP				-0.0219	0.0438	-0.1489	0.1915	0.0002	-0.0347	-0.0024	0.0039
42	UTI LTA V					0.0202	-0.1438	0.1801	-0.0079	-0.0323	-0.0053	0.0018

43	UTI LTA VI						-0.1659	0.207	0.0019	-0.0282	-0.0011	0.0027
	Average	0.4052	0.0686	0.1165	-0.0122	0.036	-0.1741	0.2005	0.0025	-0.0281	-0.0027	-0.0214
	Diversifed Equity Funds											
1	Birla Frontline Equity	0.21	0.0368	0.0918	0.0351	0.0508	-0.1466	0.181	0.0096	-0.0347	0.0106	0.0444
2	DSP Top 100	0.2033	0.0389	0.121	0.02	0.0572	-0.1133	0.1835	0.0092	-0.0184	-0.0079	0.0493
3	Franklin India Bluechip	0.214	0.0367	0.0947	0.0091	0.0414	-0.1022	0.1879	0.0126	-0.0248	-0.0042	0.0302
4	HDFC Equity Fund	0.2266	0.0557	0.1731	0.0144	0.0351	-0.1262	0.1914	0.0256	-0.0235	-0.0064	0.0387
5	HDFC Top 200	0.2229	0.0611	0.1751	0.0062	0.0541	-0.1027	0.1709	0.0218	-0.0247	-0.0053	0.0398
6	ICICI Pru Dynamic	0.1022	0.0765	0.0846	0.0248	0.031	-0.1583	0.2358	0.0277	-0.0165	-0.0086	0.0399
7	Mirae Large Cap Fund			0.1074	-0.0164	0.0225	-0.1958	0.2284	0.0105	-0.0079	0.0061	0.0194
8	IDFC Premier Equity				-0.0008	0.0915	-0.1623	0.2167	0.0126	-0.0035	0.005	0.0227
9	Nippon Growth	0.1877	0.103	0.1093	0.0158	0.0566	-0.1844	0.19	-0.0063	-0.0221	-0.0058	0.0221
10	Nippon Equity Opportuntie s			0.0993	0.0101	0.0203	-0.1928	0.2684	0.0149	-0.0061	0.0081	0.0278
11	SBI Multicap fund				0.0098	0.056	-0.1301	0.1719	-0.019	-0.0254	0.0037	0.0095
12	UTI Opportuntie s Fund				-0.046	0.0643	-0.117	0.1714	0.015	-0.0077	-0.0048	0.0107
	Average	0.1952	0.0584	0.1174	0.0068	0.0484	-0.1443	0.1998	0.0112	-0.0179	-0.0008	0.0296