PERFORMANCE OF SELECTED BANK MUTUAL FUND SCHEMES IMPACT IN INVESTORS' DECISION MAKING

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Abstract: *This article focused on investors' investment decision making towards mutual funds by using of Statistical tools and ratio analysis of mutual fund schemes (tax saving schemes) of selected banks (State Bank of India, Canara Bank- Public Bank, ICICI Bank, HDFC Bank-Private Bank).The objective of this research work is to exploits the use of statistical tools and ratio analysis in terms of financial performance of selected mutual fund schemes through the statistical parameters (Standard Deviation, Beta and Alpha) and ratio analysis (Sharpe Ratio, Treynor Ratio, Jenson Ratio, Information Ratio).The results of the research work concern Among the Open ended – Tax Saving schemes. Based on the findings of the Research work Canara bank performance is higher and useful for the investor to make their investment decision in it. Also the research findings are useful to the Mutual Fund Companies in terms of understand their performance among the mutual fund companies in the market.*
Key words: *Mutual Fund, Open ended schemes, Tax Saving Scheme, Ratio Analysis, Statistical Tools, Investors' investment decision making.*

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INTRODUCTION

The Securities and Exchange Board of India (SEBI) regulations 1993, defines a "mutual fund as a fund in the form of a trust by a sponsor, to raise money by the trustees through the sale of units to the public, under one or more schemes, for investing in securities in accordance with these regulations". A mutual fund is a professionally-managed form of collective investments that pools money from many investors and invests it in stocks, bonds, short-term money market instruments, and other securities. In a mutual fund, the fund manager, who is also known as the portfolio manager, trades the fund's underlying securities, realizing capital gains or losses, and collects the dividend or interest income. The investment proceeds are then passed along to the individual investors. The value of a share of the mutual fund, known as the net asset value per share Net Asset Value (NAV), is calculated daily based on the total value of the fund divided by the number of shares currently issued and outstanding. The Net Asset Value (NAV) of each of these mutual funds one year data is taken in account to find out the standard deviation of each of the funds. These are taken into account to measure the returns of those funds. The returns are compared with each other. Using the NAV value of these mutual funds, beta (β) co-efficient of each of them has been calculated to know whether they are less risky, average risky or high risky funds. Similarly, Alpha (α), and standard deviation (α) also calculated to understand the risk and return profile of the selected funds. The returns of these funds over the last one year are also be analyzed. In today situation, it is mandatory that the investor should analyze the performance of any investment. The performance of mutual fund can be assessed by using CAPM ratios like Sharpe Ratio, Treynor Ratio, Jensen Ratio, and Information Ratio. However these calculations can be arrived with the help of Rp, Rf, Rm, Beta, Standard Deviation. In case if the investor doesn't have this information, he/she can analyze the performance of mutual fund by NAV value. I made this research material in such a way that it will be helpful for the investors and students.

REVIEW OF LITERATURE

Review of the literature plays an important role in any research, it is considering the importance of mutual funds and several academicians have tried to study the performance of various mutual funds. Literature on mutual fund performance evaluation is enormous.

Herewith some of the research studies that have influenced the preparation of this Research work substantially are discussed in this section.

In depth financial review to identify among the selected equity funds that earns higher returns than benchmark and competitors, M.Vijay Anand (2000)[1].

R.Nithya (2004)[2] state that the values of mutual funds to the target people by identifying Asset Management Company that is performing well and identifying the top schemes in the category such as equity, balanced, Monthly Income Plan(MIP) & Income in the Assets Management Company (AMC), and it performed well and met the expectations.

Prasath.R.H in Anna University (2009)[3],emphasizes the core values of mutual fund investment, benefits of mutual funds and types of mutual funds and before choosing the mutual fund scheme, the investor should undergo fact sheet thoroughly and he has to choose the best one by calculating Sharpe Ratio, Treynor's Ratio, Jensen Ratio, IR Ratio and NAV calculation. If the investor finds difficulty of getting Rp, Rf, Standard deviation, and Beta parameters, NAV calculations are the best alternative to assess the performance.

Open ended mutual funds have provided better returns than others and some of the funds provided excess returns over expected returns based on both premium for systematic risk and total risk. S Narayan Rao (2002)[4].

An Indian sponsored mutual fund seems to have outperformed both Public- sector sponsored and Private-sector foreign sponsored mutual funds, Sharad Panwar and Madhumathi.R, (2005)[5].

Kaushi k, Bhattacharjee and Bijan Roy (2008)[6,] state that to understand whether or not the selected mutual funds (hence forth called funds) are able to outperform the market on the average over the studied time period and concluded that there are positive signals of information asymmetry in the market with mutual fund managers having superior information about the returns of stocks as a whole.

Jaspal Singh and Subhash (2006)[7], stated that the investors consider gold to be the most preferred form of investment, followed by National Savings Certificate and Post Office schemes. Hence, the basic psyche of an Indian investor, who still prefers to keep his savings in the form of yellow metal, is indicated.

Performance is affected saving and investment habits of the people at the second side the confidence and loyalty of the fund Manager and rewards affects the performance of the MF industry in India. Deepak Agrawal (2007)[8].

S. Anand & V Murugaiah (2003)[9], indicates that the majority of schemes were showed underperformance in comparison with risk free return.

Soumya Guha Deb, Ashok Banerjee, B.B.Chakrabarti (2005)[10] stated that Indian equity mutual fund managers have not been able to beat their style benchmarks on the average and Mohit Gupta and Navdeep Agarwal (2009)[11] state that Prevalent modes of mutual fund purchase Results were found to be encouraging, as far as risk mitigation is concerned.

NEED OF THE RESEARCH

Mutual fund is booming sector now a days and it has lot of scope to generate income and providing return to the investor. The impressive growth of mutual funds in India has attracted the attention of Indian researchers, individuals and institutional investors. The need of the Research work is to evaluate the performance of different mutual funds in India available in the selected banks and keep the mutual fund investors fully aware of it. Thus, there is the need to investigate how efficiently the hard earned money of the investors and scarce resources of the economy are efficiently utilized by

OBJECTIVES OF THE RESEARCH

1) To analyze the performance of any mutual fund scheme offered in the selected banks like State Bank of India , Canara Bank, ICICI Bank , HDFC Bank

2) To study the performance of Mutual fund with the help different parameters such as Standard Deviation, Beta, Sharpe Ratio, Treynor Ratio, Jenson alpha and NAV Calculation mutual funds.

METHODOLOGY

Sampling methods

A convenient sampling is the one in which the only criterion for selecting the sampling units in the convenience of the sample. To obtain information quickly and inexpensively a convenience sampling could be adapted.

Sample size

The 4 schemes are taken from selected Public banks (SBI & Canara Bank) and Private Bank (HDFC & ICICI) for 1 year. All the data used for analysis is taken from the period June-2008 to the period June-2009

TOOLS FOR ANALYSIS

STATISTICAL TOOL - STANDARD DEVIATION

Standard Deviation is a statistical tool, which measures the variability of returns from the expected value, or volatility. It is denoted by sigma(σ) . It is calculated using the formula mentioned below: $\sigma = \sqrt{\{1/(N-1)\} \sum (x_i - \bar{x})^2}$ over $i = 1$ to N Where, $\bar{x}$ is the sample mean, xi's are the observations (returns), and N is the total number of observations or the sample size. Standard Deviation allows evaluating the volatility of the fund. Volatility is often a direct indicator of the risks taken by the fund. The standard deviation of a fund measures this risk by measuring the degree to which the fund fluctuates in relation to its mean return, the average return of a fund over a period of time.

BETA

Systematic risk is measured in terms of Beta, which represents fluctuations in the NAV of the fund vis-à-vis market. The more responsive the NAV of a Mutual Fund is to the changes in the market; higher will be its beta. Beta is calculated by relating the returns on a Mutual Fund with the returns in the market, Market will have beta 1.0 Mutual fund is said to be volatile, more volatile or less volatile. If beta is greater than 1 the stock is said to be riskier than market. If beta is less than 1, the indication is that stock is less risky in comparison to market. If beta is zero then the risk is the same as that of the market. Negative beta is rare.

Beta is calculated as :

$$\beta = \frac{Covariance\ (R_p,\ R_m)}{Variance\ (R_m)}$$

where, Rp is the returns on the portfolio or stock(dependent variable).Rm is the market returns or index(independent variable).Variance is the square of standard deviation. Covariance is a statistic that measures how two variables co-vary, and is given by:

$$Cov(x,y) = [1/(N-1)] \sum_{t=1}^{N} [x_t - \bar{x}][y_t - \bar{y}]$$

Where, N denotes the total number of observations, and $\bar{x}$ and $\bar{y}$ respectively represent the arithmetic averages of x and y. In order to calculate the beta of a portfolio, multiply the

weightage of each stock in the portfolio with its beta value to arrive at the weighted average beta of the portfolio

RETURNS

Returns for the last one-year of different schemes are taken for the comparison analysis

TOOLS FOR ANALYSIS

RATIO ANALYSIS TOOL - SHARPE RATIO

In this model, performance of a fund is evaluated on the basis of Sharpe Ratio, which is a ratio of returns generated by the fund over and above risk free rate of return and the total risk associated with it.

$$S_P = \frac{Risk\,\Pr emium}{TotalRisk} = \frac{r_p - r_f}{\sigma_P}$$

Where, Sp= Sharpe's Ratio, Rp = portfolio return, Rf= risk free return, σP = standard deviation of portfolio returns. While a high and positive Sharpe Ratio shows a superior risk-adjusted performance of a fund, a low and negative Sharpe Ratio is an indication of unfavorable performance. If Sp of the mutual fund scheme is greater than that of the market portfolio, the fund has outperformed the market. He assumes that a small investor invests fully in the mutual fund and does not hold any portfolio to eliminate unsystematic risk and hence demands a premium for the total risk. A mutual fund scheme with large Treynor ratio and low Sharpe ratio can be concluded to have relatively larger unique risk. Thus the two indices rank the schemes differently.

TREYNOR'S RATIO

Treynor's ratio is a measurement of the returns earned in excess of what could have been earned on a riskless investment. Higher the Treynor Ratio is meant the better portfolio.

$$T_P = \frac{Risk\,\Pr emium}{Systematic\,Risk\,Index} = \frac{r_p - r_f}{\beta_P}$$

Where, Tp = Treynor's performance index, Rp = Portfolio's actual return during a specified time period, Rf = Risk-free rate of return during the same period, βp = beta coefficient of the portfolio. Whenever Rp> Rf and βp > 0 a larger T value means a better portfolio for all investors regardless of their individual risk preferences. In two cases we may have a negative T value: when Rp < Rf or when βp < 0. If T is negative because Rp < Rf, we judge the portfolio performance as very poor. However, if the negativity of T comes from a negative beta, fund's performance is superb. Finally when Rp- Rf, and βp are both negative, T will be

positive, but in order to qualify the fund's performance as good or bad we should see whether Rp is above or below the security market line pertaining to the analysis period

JENSEN RATIO

It measures the difference between market risk and actual performance of the fund. Positive Jensen Ratio shows Superior

Michael C.Jensen (1968) has given different dimension and confined his attention to the problem of evaluating a fund manager's ability of providing higher returns to the investors. He measures the performance as the excess return provided by the portfolio over the expected (CAPM) returns.

$$J = Portfolio.Return - CAPM.Return$$

$$Jensen = \alpha_P = R_P - \left[R_f + \beta_P \left(R_M - R_f \right) \right]$$

Where, α p= Jenson's measure for portfolio, Rp=portfolio return, Rf= risk free return, Rm= Market return, βP = beta coefficient of the portfolio.

A positive value of JP would indicate that the scheme has provided a higher return over the CAPM return and lies above Security Market Line (SML) and a negative value would indicate it has provided a lower than expected returns and lies below SML.

Jensen uses αj as his performance measure. A superior portfolio manager would have a significant positive αj value because of the consistent positive residuals. Inferior managers, on the other hand, would have a significant negative αj. Average portfolio managers having no forecasting ability but, still, cannot be considered inferior would earn as much as one could expect on the basis of the CAPM. . In other words, a positive value for Jensen's alpha means a fund manager has beat the market with his or her stock picking skills

INFORMATION RATIO

The Information ratio is a measure of the risk-adjusted return of a financial security. The information ratio is often used to gauge the skill of managers of mutual funds, hedge funds, etc. A high ratio means a manager can achieve higher returns more efficiently than one:

IR= Alpha/Standard Deviation

FINDINGS

Finding of the Research work plays the crucial role or part in the research paper. Likewise, in this article also present the research finding based on the secondary data.

COMPARISON AMONG TAX SAVING SCHEMES- BY RATIO ANALYSIS AND STATISTICAL ANALYSIS

These schemes offer tax rebates to the investors under specific provisions of the Income Tax Act, 1961 as the Government offers tax incentives for investment in specified avenues. e.g. Equity Linked Savings Schemes (ELSS). Pension schemes launched by the mutual funds also offer tax benefits. These schemes are growth oriented and invest pre-dominantly in equities. Their growth opportunities and risks associated are like any equity-oriented scheme.

Table.1 Comparison among Tax Saving Schemes- Ratio Analysis

Bank/Scheme Name	Treynor Ratio	Rank	Sharpe Ratio	Rank	Information Ratio	Rank
Canara Robeco quity TaxSaver	0.153	1	0.033	1	0.0250	1
HDFC Tax Saver	-0.0636	2	-0.0156	2	0.0055	2
ICICI Prudential Tax Plan	-0.1181	4	-0.0278	4	-0.0104	4
SBI Magnum Tax Gain Scheme 93	-0.078	3	-0.020	3	-0.0030	3

Source: Secondary data

Canara Bank sponsored Canara Robeco Equity Tax Saver has a higher Treynor's ratio and expected to perform well among the other tax saving schemes**.** Canara Bank sponsored Canara Robeco Equity Tax Saver has a higher Sharpe's ratio & expected to perform well among the other tax saving schemes**.** Canara Bank sponsored Canara Robeco Equity Tax Saver has a higher Information ratio & expected to perform well among the other tax saving schemes

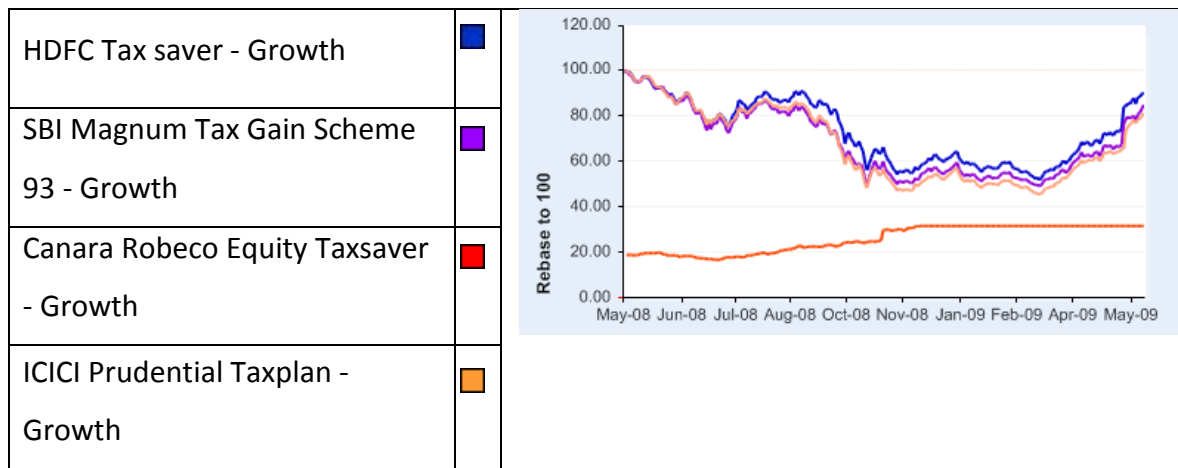**Table.2 Comparison among Tax Saving Schemes- Statistical Analysis**

Fund Name	Variance	Standard deviation	Rank	Jenson Alpha	Rank
Canara Robeco Equity TaxSaver	9.828	3.135	3	0.0780	1
HDFC Tax Saver	7.888	2.809	1	0.0155	2
ICICI Prudential Tax Plan	9.087	3.014	2	-0.0314	4
SBI Magnum Tax Gain Scheme 93	10.03	3.17	4	-0.0090	3

Source: Secondary data

HDFC offered HDFC Tax Saver scheme has a lower Variance and Standard deviation and is expected to be less risky among the other tax saving schemes. Canara Bank offered Canara Robeco Equity Tax Saver has the positive Alpha value of 0.0780 implies that the fund return has over performed the benchmark index by 0.0780 percent over the last one year.

Figure.1 NAV Comparison of Tax Saving Schemes

HDFC Tax saver - Growth	■ (blue)
SBI Magnum Tax Gain Scheme 93 - Growth	■ (purple)
Canara Robeco Equity Taxsaver - Growth	■ (red)
ICICI Prudential Taxplan - Growth	■ (orange)

Source: Secondary data

CONCLUSION

Among Open-Ended (Tax Saving Schemes) The Canara Robeco Equity Tax Saver schemes is perform well in a particular scheme in banking sector. Whereas HDFC offered HDFC Tax Saver - Growth scheme has a lower Variance and Standard deviation and that is less risky among taken banking tax saving schemes.

DIRECTIONS FOR FUTURE RESEARCH

A comparative analysis is also done between the sectors, different investment avenues and different schemes. The future work will consists of the study of the portfolio of each of the funds. The proportion of investments of the funds invested in different sectors and also in different type of stocks (like large cap, mid cap and small cap stocks) will also be found out and analyzed. Thus, it will give an overall view of the risks and returns of the selected funds over the last one year and also analysis of their portfolio to understand the variability of returns over the last one year.

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