A Study on Performance Evaluation of Selected Diversified Equity Mutual Funds in India

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Abstract- *A mutual fund is an investment scheme that pools the savings of a number of investors who share a common financial goal. The money so collected is then invested in capital market instruments such as shares, debentures and other securities. The income earned from these investments and the capital appreciation is shared by its unit holders in ratio to the number of units owned by them. Thus, a mutual fund is the most appropriate investment for the common man as it provides a chance to invest in a diversified, professionally managed portfolio of securities at a relatively low cost.*

The statistics revealed that the world mutual fund industry managed financial assets of $ 25.59 trillion and the number of mutual funds has also grown to 73343 funds worldwide at the end of March 2012, including 28358 equity funds contribute nearby 38% of total scheme. The Indian mutual fund industry has gained immense experience and continues to reinvent itself gradually, exhibiting steady growth over the last decade. The wide range of schemes floated by these mutual fund companies gave wide investment preference for the investors. Among wide range of funds equity diversified fund is considered as alternate for direct stock market investment. The analysis was derived by assessing various financial tests like Sharpe Ratio, Treynor Ratio, Average Return, Standard Deviation, Beta and Coefficient of Determination (R2). The data has been taken from various websites of mutual fund schemes and from amfiindia.com. The analysis shows that majority of funds selected for study have outperformed under Sharpe Ratio as well as Treynor Ratio.

Keywords- Mutual Fund, Investors, Portfolio, Average Return, Standard Deviation, Beta.

I. INTRODUCTION

Investment is the forfeit of certain present value for some uncertain future reward. In other words an investment can be defined as commitment of funds to one or more assets that will be held over some future time period. Broadly, an investment decision is a transaction between risk and return. A mutual fund is a special type of trust that acts as an investment instrument. Mutual funds provides advantages like risk diversification, professional management and ease of investment process.

According to Association of Mutual Funds in India (AMFI), "A mutual fund is an investment scheme that pools the savings of a number of investors who share common financial goal. Any person with an investible surplus of as little as a few thousand rupees can invest in mutual funds. This investor buys units of a particular mutual fund scheme that has a definite investment objective and strategy."

This study aimed at analyzing the performance of best Diversified Mutual Funds schemes which are primarily equity based.

1. SBI Contra Fund
2. Kotak Opportunities Fund
3. Birla Sun life Dividend Yield Plus Fund
4. HDFC Growth Fund
5. ICICI Prudential Dynamic Plan Fund
6. Tata Ethical Fund
7. UTI MNC Fund
8. HSBC India Opportunities Fund

II. REVIEW OF LITERATURE

Deepak Agrawal (2007) in his paper provides, An Overview of Mutual Fund activity in India He also analyzes data at both the fund manager and fund investor levels. The study revealed that the performance of the Mutual Fund Industry in India is affected by saving and investment habits of the people on one hand and on the second side, the confidence and loyalty of the fund Manager.

Ramamurthy and Reddy (2008) conducted a study to analyze. Recent Trends in the Mutual Fund Industry and draw a conclusion that the main benefits for small investors' due to efficient management, diversification of investment etc.

M. Vijay Anand (2010) focused on the schemes of Birla Sunlife and the competitor's schemes available in the market.

Author studied the analysis of Performance of Equity fund for 4 years.

Gupta & Agarwal (2014) found very little research on the Construction of best Mutual Fund Portfolio. Their objective of the research was to construct the best portfolio using cluster method, taking industry concentration as a variable and compares the performance of two types of portfolios with selected standards. Results are found to be encouraging, as far as risk mitigation is concerned. The results expected to help in the construction of best portfolio of mutual funds.

III. OBJECTIVES OF THE STUDY

1. To Analyze and compare the performance of selected diversified equity mutual funds.
2. To study the Risk, Return and its Performance of selected Equity Mutual Funds in Current Scenario.

IV. RESEARCH METHODOLOGY

A. Scope of Study

The study uses a sample of 8 mutual fund schemes comprising of all equity diversified funds.

B. Sources of Data

To gain a summary of the current performance trends of the Indian mutual fund industry, secondary data have been used and collected from the fact sheets, newspapers, journals, books and periodicals. The data were also collected from various websites of AMCs, AMFI, moneycontrol.com etc. BSE Sensex has been used as a standard for performance evaluation of different schemes and provides the time series data over a reasonably long period of time.

C. Tools Used

To analyze whether mutual funds under-perform or over perform the market index, the following statistical methods and techniques have been used:

S.No	Purpose	Tools
1	**For Risk Analysis**	Standard deviation (Total Risk), and Beta (Systematic Risk)
2	**For Return Analysis**	Average Return
3	**Performance Evaluation**	Sharpe Ratio and Treynor Ratio

V. ANALYSIS OF DATA

A. Average Returns

The performance valuation is done by comparing the returns of a mutual fund scheme with returns of a standard portfolio. In this study, the returns are termed as average returns. Average return is obtained by taking the simple mean of monthly returns, whereby monthly returns are calculated by using the Net Asset Values of the mutual fund scheme.

B. Standard Deviation (SD)

SD importance lays in the fact that sample is free from defects of sampling, it provides the absolute dispersion, the greater the SD; greater will be magnitude of the deviation of the values from their mean. The smaller SD means high degree of uniformity and homogeneity of a series. The total risk is calculated in terms of standard deviation.

C. Beta

Beta is a commonly used measure of risk. It essentially signifies the level of risk associated with the fund as compared to the standard. The success of beta is greatly dependent on the correlation between a fund and its standard. If the fund portfolio do not have relevant standard index then the beta would be insufficient. A beta that is greater than 1 means that fund is more volatile than the standard, while a beta of less than one means that the fund is less volatile than the index. A fund with a beta very close to one means the fund's performance intimately matches the index.

D. Coefficient of Determination (R^2)

The Risk is a measure of a security's diversification in relation to the market. The closer the R is to 1.00, the more absolutely diversified the portfolio. R is ranging from 1 to 100, gives a thought about how well a fund's performance correlates with that of the standard. An R of 0 means that a fund's returns have no correlation with the market and an R of 1.00 signifies that a fund's returns are completely in sync-up and down-with the standard

E. The Sharpe Measure

The Sharpe Ratio provides the fund's surplus return per unit of its risk (i.e. total risk). This ratio signifies the relationship between the portfolio's added return over risk-free return and total risk of the portfolio, which measured in terms of standard deviation. A high and positive Sharpe Ratio shows a higher risk-adjusted performance of a fund while low and negative Shape Ratio is an indication of adverse performance. Generally, if Sharpe Ratio is greater than the standard comparison, the fund's performance is superior over the market and vice-versa. The Sharpe Ratio can be calculated as:

$$Sharpe\ Ratio = \frac{R_p - R_{rf}}{\sigma_p}$$

R_p = Expected portfolio/asset return

R_{rf} = Risk-free rate of return

σ_p = Portfolio/asset standard deviation

F. Treynor's Performance Index

The Treynor Index provides a portfolio's excess return per unit of risk, using beta as the risk measure; the higher this number, the greater "excess return" being generated by the portfolio. Generally, if the Treynor ratio is greater than the standard comparison, the portfolio has outperformed the market and indicating superior risk-adjusted performance. Using the beta, rather than the standard deviation (as in the Sharpe Index), we are assuming that the portfolio is a well diversified portfolio.

$$\text{Treynor Ratio} = \frac{r_i - r_f}{\beta_i}$$

r_i = Portfolio's return

r_f = risk free rate

β_i = Portfolio's beta

VI. RESULTS AND FINDINGS

1. Performance in terms of Average Returns, Standard Deviation, Beta and R^2

The performance of selected funds is analyzed using average return, standard deviation, Beta and R^2. Return only should not be taken as the basis of measurement of the performance of a mutual fund scheme, and it should also include the risk taken by the fund manager since diverse funds will have diverse levels of risk attached to them. Risk associated with a fund, in a general, can be defined as variability in the returns generated by it. The greater the fluctuations in the returns of a fund during a given period, higher will be the risk related with it.

TABLE 1.1 RETURN AND RISK OF MUTUAL FUND SCHEMES

S.No	Schemes	Average Return (Monthly)	Total Risk (Std.Deviation)	Beta	R^2
1	SBI Contra Fund	0.01636	0.07867	0.96274*	0.88431
2	Kotak Opportunities Fund	0.01679	0.08156	0.98633*	0.86438
3	Birla Sun life Dividend Yield Plus Fund	0.01427	0.07138	0.81486*	0.76897
4	HDFC Growth Fund	0.01610	0.07210	0.89621*	0.91158
5	ICICI Prudential Dynamic Plan Fund	0.01735	0.07055	0.84459*	0.84375
6	Tata Ethical Fund	0.01554	0.08130	0.96834*	0.83752
7	UTI MNC Fund	0.01395	0.05950	0.66348*	0.73196
8	HSBC India Opportunities Fund	0.01300	0.07242	0.88126*	0.87483
	BSE SENSEX	0.01412	0.07685	1	1

Note: R^2 is a coefficient of determination for a portfolio.
* signifies statistical significance at the five percent level.

Interpretation

Table 1.1 reveals that in case of all Equity option schemes of diversified funds, six out of eight funds have earned higher returns (average returns and average annual returns) in comparison to their standard portfolio returns. The top performers in terms of returns, in decreasing order are ICICI Prudential Dynamic Fund, Kotak Opportunities Fund, SBI Contra Fund, HDFC Growth Fund, Tata Ethical Fund and Birla Sunlife dividend yield plus Fund. The remaining two funds have revealed lesser returns than the market returns and have thus been unsuccessful in beating the market.

2. Performance in terms of Sharpe Ratio

The Sharpe Ratio provides the fund's excess return per unit of its risk (i.e. total risk). This ratio signifies the relationship between the portfolio's additional return over risk-free return and total risk of the portfolio, which measured in terms of standard deviation. The results of the Sharpe Ratios of the selected mutual fund schemes of all the growth option with the standard portfolio have been presented below:

TABLE 2.1 SHARPE RATIOS OF MUTUAL FUND SCHEMES-GROWTH OPTION

S.No	Schemes	Sharpe Ratio
1	SBI Contra Fund	0.137560
2	Kotak Opportunities Fund	0.138050
3	Birla Sun life Dividend Yield Plus Fund	0.12237
4	HDFC Growth Fund	0.146609
5	ICICI Prudential Dynamic Plan Fund	0.167534
6	Tata Ethical Fund	0.123095
7	UTI MNC Fund	0.141434
8	HSBC India Opportunities Fund	0.103086
	Sharpe Ratio of the BSE Sensex	**0.111748**

Interpretation

The Sharpe Ratio provides the fund's excess return per unit of its risk (i.e. total risk). This ratio signifies the relationship between the portfolio's additional return over risk-free return and total risk of the portfolio, which measured in terms of standard deviation. A high and positive Sharpe Ratio gives a superior risk-adjusted performance of a fund while low and negative Shape Ratio is an indication of adverse performance. Generally, if Sharpe Ratio is greater than the standard comparison, the fund's performance is superior over the market and vice-versa.the results of the Sharpe Ratios of the selected mutual fund schemes of all the growth/equity options with the standard portfolios have been presented in the table 2.1. Seven selected funds have the greater value than the Sharpe ratio standard which shows their superior performance. Top performing fund schemes as per Sharpe ratio analysis were ICICI Prudential Dynamic Plan fund, HDFC Growth fund, UTI MNC fund, Kotak Opportunities fund, SBI Contra fund, Tata Ethical fund, Birla Sunlife Dividend Yield Plus fund. Thus, it can be concluded that the performance in terms of Sharpe Ratio of most of the selected mutual funds have been satisfactory and have outperformed the market index during the study period.

3. Performance in terms of Treynor Ratio

Treynor ratio provides the relationship between fund's additional return over risk-free return and market risk is measured by beta. The higher the value of Treynor Ratio, the good is the performance of portfolio.

TABLE 3.1TREYNOR RATIOS OF MUTUAL FUND SCHEMES-GROWTH OPTION

S.No	Schemes	Treynor Ratio
1	SBI Contra Fund	0.011242089
2	Kotak Opportunities Fund	0.011415471
3	Birla Sunlife Dividend Yield Plus Fund	0.010720575
4	HDFC Growth Fund	0.011795453
5	ICICI Prudential Dynamic Plan Fund	0.013997783
6	Tata Ethical Fund	0.010335285
7	UTI MNC Fund	0.012685071
8	HSBC India Opportunities Fund	0.00847235
	Treynor Ratio of BSE Sensex	**0.008588184**

Interpretation

Treynor ratio provides the relationship between fund's additional return over risk-free return and market risk which is measured by beta. The greater the value of Treynor ratio, the better is the performance of portfolio. Usually, if the Treynor ratio is greater than the standard comparison, the portfolio is invented to have outperformed the market and signifies superior risk-adjusted performance. Table 3.1 presents the results of Treynor Ratio from the selected mutual fund schemes with their respective standard portfolios. The analysis shows that seven out of eight diversified mutual fund schemes are better than the standard comparison which means that portfolio has outperformed the market and signifies the superior risk- adjusted performance.

VII. CONCLUSION

This study has compared the performance evaluation of best diversified Equity Mutual Funds in India. Summary of results is presented in different tables. This study provides some insights on mutual fund performance so as to assist the common investors in taking the balanced investment decisions for allocating their resources in correct mutual fund scheme. The performance of sample mutual fund schemes has been evaluated in terms of return and risk analysis, and risk adjusted performance provides such as Sharpe ratio and Treynor ratio.

In brief, the performance of mutual fund in terms of Average returns, seventy five percent of the diversified fund schemes have revealed higher and superior returns and remaining have revealed inferior returns. In terms of standard deviation, sixty two percent of the selected schemes are less risky than the market. All the funds have beta less than one and positive which imply that they were less risky than the market portfolio and in terms of coefficient of determination (R^2) all eight funds were near to one which signifies higher diversification of portfolio. Seven out of eight funds have revealed superior performance under the Sharpe ratio as well as Treynor Ratio.

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