

Evaluating the Performance of Selected Growth Oriented Diversified Mutual Funds in India

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ABSTRACT: The present paper tries to investigate the performance of eight open ended growth oriented Diversified Equity mutual fund schemes in India for the period from January 2011 to December 2016 (six years). NAV of the selected schemes have been used to calculate the return on monthly basis. CNX-Nifty has been used for market portfolio return. The performances of the selected funds are evaluated on the basis of Sharpe ratio, Treynor ratio and Jensen's alpha measure. These ratios are used to take investment decision for mutual fund investment. The study revealed that all selected mutual fund schemes had outperformed market that is the benchmark return. In this study Sharpe ratio, Treynor ratio and Jensen's alpha measure all are positive which indicate superior performance of the schemes. ICIC Pru Value Discovery fund (G), Franklin India Prima Plus Fund (G) and Reliance Equity Opportunity RP (G) are the good performer from the view point of all measure out of selected mutual fund.

KEYWORDS: Mutual fund, Sharpe ratio, Treynor ratio and Jensen's alpha measure, performance evaluation.

I. INTRODUCTION

The general people can invest indifferent ways. Considering risk and return parameter people can invest through Post Office, Banks, Mutual funds, Stock Market etc. In our country equity market is not very much popular investment avenue as stock price is very fluctuating. The price of stock is also depends on prospect of balance sheet. The stock price is very fluctuating on the expectation of future prospect of the business. Investing in Stock market may be done for long term as well as for short term. An investor must consider fundamental and technical analysis for a particular stock before investing but this job is very difficult in the part of general retail investor. In our country with less knowledge of stock market people do not have very much interested to invest in stock market. That is why investor consider mutual fund which are professionally managed by fund managers to invest in stock market as criteria for investment. During last two decade in India mutual fund industry has gone through rapid changes. In mutual fund performance of the fund mainly depends on the portfolio of the fund. The success of any fund greatly depends upon the competence of fund manager. Different type of portfolio strategies are applied by the fund managers for their fund and success of the fund depends on the performance of the portfolio. So, one important type of portfolio is diversified equity mutual fund. A diversified equity fund is a fund which comprises of large cap equity, Mid-cap equity and small cap equity in a single portfolio. These funds are very risky as the money invested in stock market portfolio. The present study evaluates the performance of some selected mutual fund schemes in India to see whether mutual fund schemes are outperforming or underperforming the bench mark index.

II. RELATED WORK

Dr. Sarita Bahl and Meenakshi Rani (2012) evaluated the performance of 29 open ended growth oriented mutual fund schemes by using monthly return, Sharpe ratio and Treynor ratio and Jensen measure and pointed out that 14 funds had out performed benchmark index, Sharpe ratio was positive for all fund, 19 fund showed positive Jensen alpha indicating superior performance of the fund for the study period April 2005- March 2011.

Ms. Annapurna and Pradeep K. Gupta (2013) investigated the performance of mutual fund schemes ranked 1 by CRISIL for the period 2008-13 and compare the mean returns with the SBI domestic term deposit rates. The result of

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the paper expressed that most of mutual fund schemes have failed even to provide the return of SBI domestic term deposits.

Ms. Sarika Keswani (2011) evaluated the effect of fund size on the performance of 30 balanced mutual fund classifying according to size using correlation matrix. This paper concluded that there was no significance evidence that the fund size affect the performance of selected balanced mutual fund.

Dr.S.Vasanthal, Uma Maheswari, K.Subashini (2013) examined the Performance of some selected open ended equity diversified Mutual fund in Indian mutual fund Industry for 5 years from January 2008 using rate of return, Sharpe ratio and Treynor ratio and Jensen measure and pointed out that HDFC Top 200 and Birla sun life from line equity fund was good performer with low beta value.

Dr. V. Ramanujam and A. Bhuvanewari(2015) evaluated growth and performance of Indian Mutual fund industry for the period of April 2004 to March 2014 from the view point of different parameters like asset under management, sector wise mutual fund sale, Scheme wise resource mobilization, total number of schemes. They pointed out that the investor preference towards financial assets is increasing as all the parameters had shown a tremendous increasing growth rate.

Krishna Kumar Kadambat, Raghavendra T and B M Singh (2015) studied the performance of ELSS in Indian mutual fund for 2001-2013 comparing with 12 top Diversified Equity Funds and 7 Benchmark Indexes. They pointed out that ELSS funds, overall has underperformed both against sample Diversified Equity Funds and Benchmark Indexes on a risk adjusted basis.

Dr.R.Narayanasamy, V. Rathnamani (2013) evaluated Performance of Equity Mutual Funds on selected Equity Large Cap Funds through the statistical parameters such as alpha ,beta, standard deviation, r-squared, Sharpe ratio and concluded that all the funds have performed well in the high volatile market movement expect Reliance vision.

Suchita Shukla (2015) depicted a comparative performance of selected mutual fund with the statistical parameters such as alpha, beta, standard deviation, r-squared, Sharpe ratio and pointed out that Infrastructure and Mid & Small Cap funds have performed better than the benchmark, large cap and hybrid funds on return parameters.

III. OBJECTIVE OF THE STUDY

1. To study the performance of selected diversified equity mutual fund on the basis of risk and return with benchmark index.
2. To study the performance of selected diversified equity mutual fund on the basis of Sharpe Ration, Treynor Ratio and Jenson measure.

IV. RESEARCH METHODOLOGY

In this paper growth oriented diversified equity mutual fund scheme were selected on basis of ascending order of Asset Under Management (AUM) on 31.12.2016 and the average ages of the fund is more than ten years. Monthly average NAV of the schemes have been used for the period January 2011 to December 2016. CNX-Nifty and 91 day Treasury bill average monthly rate have been considered for market portfolio and Risk free return respectively. Monthly averages of daily NAV are taken into consideration for calculation of return and others parameter. Monthly averages are taken assuming an investor can enter and exit any time from the portfolio. So, Monthly return is taken into consideration keeping in mind that investor is free to enter and exit from the funds. The study is totally based on secondary data. Various books, research paper, web sites are used to prepare the paper.

Return: the monthly return of the scheme is calculated by using the following formula.

$$R_{pi} = (NAV_i - NAV_{i-1}) / NAV_{i-1}$$

Where R_{pi} is monthly return of the selected scheme of i^{th} month, NAV_i is the net asset value of the selected scheme at beginning of the i^{th} month and NAV_{i-1} is the net asset value of the selected scheme at beginning of the $i-1^{th}$ month. The average return is calculated by mean of R_{pi} .

Similarly market return is calculated as follows

$$R_{mi} = (Market Index_i - Market Index_{i-1}) / Market Index_{i-1}$$

Where R_{mi} is monthly return of the CNX-Nifty of i^{th} month, $CNX-Nifty_i$ is the nifty at beginning of the i^{th} month and $CNX-Nifty_{i-1}$ is the nifty beginning of the $i-1^{th}$ month. The average market return is calculated by mean of R_{mi} .

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Risk: Risk of selected mutual fund schemes and market are measured with the help of standard deviation of return of selected mutual fund schemes and market index respectively.

Beta(β): Beta is indication of systematic risk of the portfolio. It is calculated as follows-

$$\text{Beta} = \frac{\text{Cov}(R_p, R_m)}{\text{VAR}(R_m)}$$

Sharpe ratio: William F. Sharpe (1966) invented a measure to judge the performance of mutual fund scheme. It is a risk adjusted return over the risk free return. Higher the Sharpe ratio is better the fund.

$$\text{Sharpe Ratio} = (R_p - R_f) / \sigma_p$$

Where R_p is the return of the mutual fund scheme, R_f is the risk free return and σ_p is the standard deviation of the portfolio return.

Treynor Ratio: This ratio is developed by Jack Treynor (1965) that measures returns earned in excess of that which could have been earned on a risk free investment per each unit of market risk.

$$\text{Treynor Ratio} = (R_p - R_f) / \beta_p$$

Jenson Measure: This measure uses α_p to indicate the performance of the mutual fund portfolio. The formula is as follows-

$$(R_p - R_f) = \alpha_p + \beta_p (R_m - R_f) + \epsilon_p$$

R-Squared: It is the value range from 0 to 100 indicates movement of the selected fund is completely explained by the movement of the benchmark index. A high R-Squared between 85 to 100 signifies funds performance has been in line with performance of the index.

General range for R-Squared signifies

- 70-100 - Good correlation between fund return and index return
- 40-70 - Average correlation between fund return and index return
- 1- 40 - Low correlation between fund return and index return

V. FINDINGS AND ANALYSIS

In this paper summary of Fund Return, fund Risk, Beta R Square and absolute Return of selected Diversified Equity funds are shown in table-1. From this table it is clear that the entire fund outperform the benchmark index in terms of average monthly return as well as absolute return. The maximum return was from ICICI Pru Value Discovery Fund (G) from both view point of monthly return and absolute return. Four funds had beta more than one that is these fund had more risk than the market risk. From table-1 it is also found that R squared value for all selected funds are nearer to 0.9 which indicate good level of diversification and fund's performance almost in line with the market. UTI Dividend Yield fund(G) faced problem of diversification as in spite of good R squared value its monthly average return and absolute return both were very low in comparative to other fund even fund's risk was in line with other fund.

Table-2 shows the result of Sharpe ratio, Treynor ratio and Jensen measure with their rank. All the selected fund outperformed benchmark index in the study period in term of Sharpe, Treynor and Jensen alpha measure except Reliance Vision fund RP(G) and UTI Dividend Yield fund(G). It is also found that Franklin India Prima Plus Fund (G) had highest Sharpe ratio preceded by ICICI Pru Value Discovery Fund (G). As per Treynor ratio ICICI Pru Value Discovery Fund (G) had first position just before Franklin India High growth Company (G). All the selected funds had positive Jensen alpha for the study period. ICICI Pru Value Discovery Fund (G) had highest Jensen alpha as its return over risk free return was high as well as its beta was not very high for the study period.

Wilcoxon Signed Rank test is conducted to test significance level of Sharpe ratio and Treynor ratio. The z-value is 2.828427. The p-value is .004678. The result is significant at $p < 0.05$.

Calculation

Positive sign count = 8, Negative sign count = 0, Total count = 8

Z-score Calculation

$$z = (X - pn) / \sqrt{npq}$$

$$z = (8 - 4) / \sqrt{2}$$

$$z = 2.828427$$

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VI. CONCLUSION

The present paper analyses the performance of selected growth oriented open-end diversified equity mutual fund for the period January 2011 to December 2016. The past performances are analyzed with the help of the Sharpe ratio, Treynor ratio and Jensen measure. The study indicates all the selected schemes outperform the considered benchmark index i.e. CNX-Nifty. Out of all selected fund ICIC Pru value discovery Fund(G) was extremely good performer in term of fund monthly return (0.01329) and absolute return (141.56%) which were highest among all the funds with beta value (1.0020) almost equal to one followed by the next performer of Franklin India Prima Plus Fund(G) and Franklin India High growth Company . Jensen measure expressed that all the funds had positive alpha which indicate good performance of the scheme except UTI Dividend Yield fund(G) and Reliance Vision fund RP(G) as its monthly average return, sharpen ratio, Treynor ratio, Jensen alpha all parameter was low with high beta that was more market risk. R squared value was also very good but this fund suffered from diversification of portfolio. Two funds were taken from Franklin India Templeton for the study. Franklin India Prima Plus Fund (G) and Franklin India High growth Company (G) both were good performer in the study period from the view point of risk return and other measures. From Reliance mutual fund house Reliance Equity Opportunity RP (G)'s performance was very good but Reliance Vision fund RP (G) was worst performer.

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Table 1
Summary of Fund Return, fund Risk, Beta R Square and absolute Return
(January2011-December2015)

Name of Fund	Fund Return	Fund Risk	Beta	R Squared	Absolute return %
HDFC Equity Fund (G)	0.00841	0.04673	1.1357	0.98083	69.33%
ICICI Pru Value Discovery Fund(G)	0.01329	0.04318	1.0020	0.95686	141.56%
Franklin India Prima Plus Fund(G)	0.01075	0.03566	0.8841	0.94372	106.50%
Reliance Equity Opportunity RP (G)	0.01005	0.04243	0.9936	0.97045	92.97%

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ICIC Pru Dynamic Fund(G)	0.00953	0.03387	0.8141	0.97777	90.20%
Franklin India High growth Company	0.01302	0.04418	1.0659	0.95693	137.05%
Reliance Vision fund RP(G)	0.00763	0.04566	1.1000	0.95160	60.67%
UTI Dividend Yield fund(G)	0.00627	0.03672	0.9108	0.98005	49.54%
Average	0.00986	0.04105	0.9882	0.96478	93.48%
CNX Nifty Index	0.00574	0.03787	1	-	40.27%

Source: Own calculation

Table – 2
Ranking of selected scheme on the basis of the Sharpe ratio, Treynor ratio and Jenson alpha

Fund Name	Sharpe	Rank	Treynor	Rank	Jenson	Rank
HDFC Equity Fund(G)	0.06310	6	0.002597	6	0.00263	6
ICICI Pru Value Discovery Fund(G)	0.17979	2	0.007747	1	0.00748	1
Franklin India Prima Plus Fund(G)	0.30132	1	0.005974	3	0.00503	3
Reliance Equity Opportunity RP (G)	0.10816	5	0.004619	5	0.00431	4
ICIC Pru Dynamic Fund(G)	0.12009	4	0.004996	4	0.00384	5
Franklin India High growth Company(G)	0.17097	3	0.007086	2	0.00726	2
Reliance Vision fund RP(G)	0.04742	7	0.001969	7	0.00186	7
UTI Dividend Yield fund(G)	0.02186	8	0.000881	8	0.00055	8
Average	0.12658		0.004484		0.00412	
CNX-Nifty	0.19494		0.00001			

Source: Own calculation