

Mutual Fund: Analysis the Performance in Long Term

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Abstract- LPG had ushered in a new era in the evolution of the Indian mutual fund sector. Since then the industry continued to grow by leaps and bounds to reach a big and expectable position. Furthermore, with the increasing emphasis in domestic savings and investment through markets, need and scope for mutual fund investment has gained a dramatic pace. Mutual fund is a collective investment vehicle that pools the money from the investors. Those are purchasing unit from mutual fund. Considering this large investment interest, performance evaluation of the mutual fund schemes always remains in vogue and merits for a continuous assessment. In practice, active fund managers always strive to outperform the market and diversify the risk by resorting to scores of strategies like strategic asset allocation, selection of securities (micro-forecasting), market timing (macro-forecasting), etc. The present paper examines analysis the performance of mutual fund in long term basis. This performance can be measured by two ways one is selected schemes performance and the other ways is managerial performance. We concluded that our selected schemes were performed well as compare with their benchmark in long run but managerial performance was not acceptable.

Indexed Terms- Mutual Fund, Stock Selection, Market Timing, Diversification

I. INTRODUCTION

Now a day financial sectors can play an important role for economic development in our country like India. Mutual fund is one of the important instruments for financial sectors. People of India those who are totally depending on the banking sectors for earning some returns from interest after invested own money into bank fixed deposit. In past, banking sectors was generated more and more return but now a day, bank interest rate is reducing year after year. Their income from investment is reduced from year by year. But some people are depending on the interest which come

from own investment. Furthermore, with the increasing emphasis in domestic savings and investment through markets, need and scope for mutual fund investment has gained a dramatic pace. Mutual fund is coming for them who are wanted to increase own money after investing money into stock market. Some investors are not wanted to invest own money directly into stock market. So, mutual fund is helpful for them. Mutual fund is a collective investment vehicle that pools the money from the investors. Those are purchasing unit from mutual fund. The investors have not sufficient knowledge about stock market. They are going to invest own money into stock market through mutual fund. Mutual fund is totally monitored by the different fund manager. These fund managers have the sufficient knowledge about stock market. They are collecting money from investors then investing that money into various stock and right time that generating more and more return for the investors. So, there are vary us types of mutual fund schemes available for the investors. Selection of mutual fund schemes is one of the important factors for investors to earn more and more return. Every investor should analysis the performance of a schemes before investing own money. The aim of our study is to analysis the performance of some selected schemes of mutual fund in India in long term basis.

II. LITERATURE REVIEW

Ali,Naseen and Rehman(2010), in their article on the “ *Performance evaluation of mutual funds*” had examined of ten mutual funds in which five were conventional and five were Islamic for the period from 2006 to 2008 by using Sharpe and Jensen measure. They found that the funds of Pakistan were able to add more value either conventional or Islamic. They had concluded that some of the funds were under performance so these were facing diversification problems during the study period.

Bauman and Mikker(1994), in their article on “ *Can managed portfolio performance be predicted*” had

analyzed the performance of ranked mutual funds on the basis of return and risk. They had observed that top performing schemes were not produced same performance after using performance measurement tools Sharpe Ratio, Jensen Alpha, Treynor Ratio, risk and return of portfolio as well as benchmark.

Gupta (2002), in his article on “*Mutual funds and assets performance*” had analyzed the performance of mutual funds from 1994-1999 on the basis of risk return parameter. Sample size was Forty-two. He found that asset performance of mutual were not acceptable after comparing with their respective benchmark.

Joydev(1996), in his article on “*Mutual funds’ performance- an analysis of monthly returns*” had analyzed the performance of two schemes from June 1992 to March 1994 on the basis of risk, return and other parameters. He found that those schemes failed to produce more return than market return, these schemes were not good for the investors’ point of view.

Kundu (2009) in his article on “*Stock selection performance of mutual fund manager in India: an empirical study*” had analyzed an attempt to evaluate the stock picking performance of the mutual fund managers in India using related time models and to trace out the adjust of different in the ranking of the schemes across these selectivity measurement criteria .He found that over the period, mutual fund schemes on an average have failed to outperformance the market even after taking a risk that of the market.

Poornima and Sudhamashi (2013), in their article on “*Performance analysis of growth-oriented equity diversified mutual fund schemes using sorting ratio*” had analyzed the performance of selected schemes of mutual fund using Sortino ratio. This ratio measured the performance of the funds in term of downside risk. That indicated if fund produced return more than benchmarks return, these schemes has no downside risk. On the other hand, if fund produced less return than benchmark return, these schemes have downside risk. They used 25 sample schemes of mutual fund during the period of April 2006 to March 2011 also used monthly NAV value. They had concluded and suggested that carefully choice of mutual funds after

evaluating their associated return and risk using suitable measure will surely provided the investors with attractive return.

Roy (2015), in his article on “*Performance analysis of fund manager of selected schemes of mutual in India*” had made a study on the stock selection and timing performance based on conditional as well as traditional performance of schemes of Unit trust of India. (UTI). The study was measured by Jensen and Treynor and Mazuy technique to analysis the performance of mutual fund of 30 UTI securities to evaluate the market timing ability of sample mutual fund schemes. The author found that most of the fund managers of sample schemes were not able to timing the market correctly. He had concluded and suggested that return of a scheme of mutual fund is totally depends on the fund manager skill of stock selection ability that produced more amount of return.

Swaroop and Debases (2010), in their article on “*Investing performance of equity based mutual funds schemes in India scenario*” had analyzed the performance of equity based mutual fund schemes in India. They compared the performance of the mutual funds schemes of public sectors and private sectors mutual fund. They found that the mutual funds were instruments of diversified choice between the many available mutual fund schemes would go a long way. Treynor and Mazuy(1966), The authors made a study on development a methodology for testing mutual fund funds historical successful in anticipating major turns in the stock market and found no evidence that the funds had successfully outturned the market.

Research gap:

1. Most of research was based on short term basis.
2. The researchers were analysis the performance only selected schemes.
3. Managerial performance was not analysis by the previous researches.

Objectives: For the study, we have selected following objectives

- a) To assess the performance of selected mutual fund in long term basis.
- b) To assess the managerial performance of selected mutual fund in long term basis.

c) To assess the impact of managerial performance on the sample schemes for producing good result.

III. METHODOLOGY OF THE STUDY

Our study is based on the descriptive and analytical. Secondary data has been used for the study. For the study, we have used 25 sample schemes of diversified opened mutual fund which have randomly collected from the AMFI. 91-day Treasury bill has used for measure risk free rate of return. Time period of our study was 2001-2018.

1. Calculate rate of return of schemes:

Rate of return = (Ending NAV value-Beginning NAV value)/ Beginning NAV value (In case of non-dividend mutual fund schemes)

Rate of return = {(Ending NAV value-Beginning NAV value) +dividend paid}/ Beginning NAV value (In case of dividend paid mutual fund schemes)

2. Treynor Measure:

According to jack Treynor, systematic risk or beta is the appropriate measure of risk, as suggested by the capital assets pricing model. The Treynor measure of portfolio performance relates the excess return on a portfolio to the portfolio beta.

Treynor's measure = $\frac{\text{Excess return on portfolio P}}{\text{Beta of portfolio P}}$

=

$\frac{\text{average rate of return on portfolio P} - \text{average rate of return on a risk-free investment}}{\text{beta of portfolio P}}$

The numerator of the treynor measure is the risk premium earned by the portfolio; the denominator, the systematic risk (beta). Hence, the Treynor measure reflects the excess return earned per unit of risk. As systematic risk is the measure of risk, the Treynor measure implicitly assumes that the portfolio is well diversified.

3. Sharpe Measure:

The Sharpe measure is similar to the Treynor measure except that it employs standard deviation, not beta, as the measure of risk. Thus,

Sharpe measure

$= \frac{\text{Average rate of return On portfolio P} - \text{Average rate of return on risk-free investment}}{\text{Standard deviation of return of portfolio P}}$

Hence, the Sharpe measure reflects the excess return earned on a portfolio per unit of its total risk (standard deviation).

4. Jensen Measure:

Like the treynor measure, the Jensen measure or Jensen alpha is based on the capital asset pricing model. It reflects the difference between the return actually earned on a portfolio and the return the portfolio was supposed to earn, given its beta as per the capital asset pricing model. Thus, the Jensen alpha is:

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

Fund evaluation services often place heavy reliance on alpha because it is a risk adjusted measure positive alpha is considered good and a negative alpha bad. John C. Bogle, however, is critical of such emphasis on alpha. He argues: "but alphas are volatile and can swiftly move from +to -. In my view, alpha because of its unpredictable and backward-looking nature is a counterproductive measure. I believe alpha is a flawed measure of what to expect from a fund and should generally be ignored." The essence of his argument is that past performance of an equity mutual fund cannot predict its future performance

5. Mazuy Model:

These are several procedures that have been proposed to correct the effect of timing ability on the estimation of beta. The first is a quadratic proposed by mazuy technique. This regression model is

$$(R_p - R_f) = \alpha + \beta (R_m - R_f) + \beta_1 (R_m - R_f)^2 + \epsilon_p$$

Where R_f is the risk-free return, α , β , β_1 are the parameter of the model. Mazuy has argued that estimated value of parameter beta one as measure of market timing ability skill of the fund manager. If fund manager could able to select the time correctly, the estimated value of beta would be significantly positive. On the contrary if the estimated value of beta should not be significantly different from zero, the

fund manager are not be able to select the market timing correctly

IV. ANALYSIS AND FINDING

Table-1
Schemes risk and return and market risk and return

	Return	Risk	Market Return	Risk	Risk Free
NAME OF SCHEMES					
ABSL Digital India Fund Growth	14.77 %	2.3	14.87 %	3.52	6.63 %
ABSL Equity Advantage Fund - Growth	16.52 %	3.98	14.86 %	3.49	6.63 %
ABSL Equity Fund - Growth	20.22 %	3.92	14.87 %	3.52	6.63 %
ABSL Equity Hybrid '95 Fund - Growth	16.47 %	2.74	14.87 %	3.52	6.63 %
ABSL India Opportunities Fund - Growth	17.44 %	3.65	15.18 %	3.56	6.63 %
ABSL MNC Fund Growth	19.81 %	2.74	15.07 %	3.54	6.63 %
Canara Robeco Conservative Equity fund	9.41 %	1.06	15.05 %	3.51	6.63 %
Canara Robeco	16.32 %	2.32	14.28 %	3.49	6.63 %

Equity Hybrid Fund					
DPS Equity and bond Fund	15.57 %	2.23	14.71 %	3.47	6.63 %
DPS Equity Opportunities Fund	19.91 %	3.27	14.71 %	3.47	6.63 %
DSP bond fund	7.32 %	0.42	14.90 %	3.48	6.63 %
Nippon India Growth-Dividend	12.06 %	3.84	15.83 %	3.65	6.63 %
Nippon India Vision Fund	21.14 %	3.32	14.70 %	3.48	6.63 %
Nippon Indian Income Fund	8.02 %	0.57	14.89 %	3.48	6.63 %
Principal Multi Cap Growth Fund	16.80 %	3.25	14.65 %	3.48	6.63 %
Principal Tax Savings Fund - Growth	18.26 %	3.3	14.75 %	3.48	6.63 %
SBI Contra Fund - Regular Plan - Growth	16.79 %	3.57	14.82 %	3.48	6.63 %
SBI Healthcare Opportunities Fund - Growth	15.93 %	3.15	14.83 %	3.48	6.63 %
Taurus large cap equity fund	15.36 %	3.65	14.80 %	3.47	6.63 %
Taurus Starshare	17.15 %	3.8	14.74 %	3.48	6.63 %

(multi cap) fund					
Taurus Tax Shield Fund	13.59 %	3.8 2	14.75 %	3.4 8	6.63 %
UTI Equity Fund	16.08 %	3.0 3	14.99 %	3.5	6.63 %
UTI Health Fund	13.16 %	2.7 4	14.98 %	3.5 1	6.63 %
UTI MNC Fund	17.58 %	2.6 1	15.01 %	3.5 1	6.63 %
UTI Nifty Index Fund	15.03 %	3.4 9	14.91 %	3.5	6.63 %

Sources: computed value

Above table depicts the rate of annualized return and risk of sample schemes and market return and risk and also risk-free rate of return. We saw that all our selected sample schemes produced higher return than risk free rate of return. Only 7 sample schemes of mutual fund produced rate of returns which was lower than market rate of return. Rest of 18 sample schemes produced return which was more than market or benchmark rate of return. After comparing sample schemes return and risk, we saw that higher return was taken by higher risk and vice versa. Only 8 sample schemes produced risk which was more than market risk. Rest of 17 sample schemes produced risk which was lower than market risk. In our study, we saw that Nippon India Vision Fund and ABSL Equity Fund – Growth were produced higher return of 21.14%, 20.22% respectively but corresponding have risk of 3.32, 3.92 respectively. On the other hand, DSP bond fund and Nippon Indian Income Fund were produced lower return of 7.32%, 8.02% respectively correspondingly have risk of 0.42, 0.57 respectively. After comparing sample schemes return and risk, we saw that higher return was taken by higher risk and vice versa.

Table-2
Treyner ratio and Sharpe Ratio

NAME OF SCHEMES	Treyner Measure		Sharpe Measure	
	Schemes	Market	Schemes	Market
ABSL Digital	9.61	9.72	1.89	2.34

India Fund Growth				
ABSL Equity Advantage Fund - Growth	10.91	9.08	2.48	2.35
ABSL Equity Fund - Growth	15.15	9.18	3.46	2.34
ABSL Equity Hybrid '95 Fund - Growth	16.76	14.03	3.59	2.34
ABSL India Opportunities Fund - Growth	13.82	10.93	2.96	2.4
ABSL MNC Fund Growth	24.36	15.6	4.81	2.38
Canara Robeco Conservative Equity fund	14.4	43.62	2.62	2.39
Canara Robeco Equity Hybrid Fund	16.86	12.83	4.17	2.19
DPS Equity and bond Fund	15.38	13.9	4	2.32
DPS Equity Opportunities Fund	15.26	9.28	4.06	2.32
DSPbond fund	40.58	48.68	1.64	2.37
Nippon India Growth-Dividend	23.5	39.82	1.41	2.52
Nippon India Vision Fund	16.79	9.34	4.37	2.31

Nippon Indian Income Fund	66.19	39.33	2.43	2.37
Principal Multi Cap Growth Fund	11.36	8.96	3.12	2.3
Principal Tax Savings Fund - Growth	13.71	9.57	3.53	2.33
SBI Contra Fund - Regular Plan - Growth	12.18	9.82	2.84	2.35
SBI Healthcare Opportunities Fund - Growth	16.48	14.53	2.95	2.35
Taurus large cap equity fund	9.73	9.1	2.39	2.35
Taurus Starshare (multi cap) fund	11.54	8.9	2.76	2.33
Taurus Tax Shield Fund	8.18	9.55	1.82	2.33
UTI Equity Fund	12	10.62	3.11	2.38
UTI Health Fund	13.321	16.98	2.38	2.37
UTI MNC Fund	20.27	15.51	4.19	2.38
UTI Nifty Index Fund	8.58	8.45	2.45	2.36

Sources: computed value

Above table depicts the Treynor sample schemes return and Treynor market return and Sharpe schemes return and Sharpe market return. The Treynor measure reflects the excess return earned per unit of risk. As systematic risk is the measure of risk. The Sharpe measure reflects the excess return earned on a portfolio per unit of its total risk (standard deviation).

The sample schemes are outperformed or underperform by comparing between Treynor schemes return with Treynor market return and also Sharpe schemes return with Sharpe market return. If Treynor schemes return is higher than Treynor market return. This scheme is out performed in the market. Otherwise underperform in the market. In our study, we saw that all of our selected schemes produced positive value of Treynor ratio. That means all schemes generated positive return per unit of systematic risk. Only 7 sample schemes produced lower value of Treynor ratio than Treynor market ratio. These sample schemes are underperformed. But rest of the sample schemes produced Treynor ratio which was more than market Treynor ratio. These sample schemes are outperformed. On the other hand, we saw that all selected sample generated positive value of Sharpe ratio. That means, all schemes produced positive return per unit of total risk. Only 4 sample schemes produced lower value Sharpe schemes value lower than Sharpe market value. These sample schemes are underperformed. But rest of sample schemes produced higher value of Sharpe ration than market Sharpe ratio. These sample schemes are outperformed.

It was found from the study that 72% sample schemes have out perform in the market but only 28% sample schemes have underperformed according to Treynor measure. On the other hand, only 16% sample schemes have underperformed and 84% sample schemes have outperformed in the market according to Sharpe measure. In general, we conclude that 70% of our selected schemes have outperformed than market and investors were getting more return from these schemes.

Table-3
Jensen Measure

NAME OF SCHEMES	Alpha	t-value	p-value
ABSL Digital India Fund Growth	-0.001	-0.072	0.943
ABSL Equity Advantage Fund - Growth	0.010	0.669	0.504
ABSL Equity Fund - Growth	0.021	1.480	0.139

ABSL Equity Hybrid '95 Fund - Growth	0.004	0.353	0.724
ABSL India Opportunities Fund - Growth	0.008	0.551	0.582
ABSL MNC Fund Growth	0.017	1.384	0.166
Canara Robeco Conservative Equity fund	-0.027	-5.219	0.000
Canara Robeco Equity Hybrid Fund	0.003	0.543	0.587
DPS Equity and bond Fund	0.001	0.107	0.915
DPS Equity Opportunities Fund	0.021	2.657	0.008
DSP bond fund	-0.037	-13.968	0.000
Nippon India Growth-Dividend	-0.017	-0.724	0.469
Nippon India Vision Fund	0.025	2.920	0.004
Nippon Indian Income Fund	-0.034	-9.729	0.000
Principal Multi Cap Growth Fund	0.008	0.988	0.323
Principal Tax Savings Fund - Growth	0.009	1.001	0.317
SBI Contra Fund - Regular Plan - Growth	0.007	0.542	0.588
SBI Healthcare Opportunities Fund - Growth	0.002	0.127	0.899
Taurus large cap equity fund	0.002	0.140	0.888
Taurus Starshare (multi cap) fund	0.009	0.715	0.474
Taurus Tax Shield Fund	-0.006	-0.388	0.698
UTI Health Fund	-0.010	-0.771	0.441
UTI Master unit fund	-0.011	-0.559	0.576
UTI MNC Fund	0.008	0.726	0.468
UTI Nifty Index Fund	0.000	0.049	0.961

Sources: computed value

Above table shows the Jensen alpha. By this alpha, we say that sample schemes fund manager have stock selection ability. If the value of alpha is significantly positive then this schemes fund manager has stock selection ability otherwise no stock selection ability prevail. In our study, we saw that only 17 sample schemes have positive value of alpha. Only two sample schemes have alpha value which was significantly positive. These sample schemes were DPS Equity Opportunities Fund and Nippon India Vision Fund. These schemes also produced higher rate of return. But rests of 15 sample schemes have not any significant positive value of alpha. We could not draw any conclusion on these sample schemes. But positive value of alpha indicated that there were some stock selection ability of fund manager prevails. On the other hand, we saw that only 8 sample schemes produced negative value of Jensen alpha. Only 3 sample schemes generated significant negative value of alpha. These schemes were Canara Robeco Conservative Equity fund, DSP bond fund and Nippon Indian Income Fund. These sample schemes fund manager did not able to select the stock. Rate of return of these schemes are 9.41%, 7.32%, 8.02% respectively. This return was lower than market return. But rests of 5 sample schemes have not ant significance negative alpha value. So, we do not draw any conclusion on these sample schemes.

It was found from our study that stock selection is one of the important factors for mutual fund for generation more and more return. Those sample schemes fund managers have stock selection skill, these schemes produced more return than market but those sample schemes fund manager do not have any stock selection skill, these schemes produced lower return than market return.

Table-4
Mazuy Measure

NAME OF SCHEMES	Timing	t-value	p-value
ABSL Digital India Fund Growth	-0.017	6.842	0.000

ABSL Equity Advantage Fund - Growth	-0.003	1.459	0.145
ABSL Equity Fund - Growth	0.006	2.979	0.003
ABSL Equity Hybrid '95 Fund - Growth	-0.007	4.669	0.000
ABSL India Opportunities Fund - Growth	-0.012	6.160	0.000
ABSL MNC Fund Growth	-0.009	5.644	0.000
Canara Robeco Conservative Equity fund	-0.000	0.598	0.550
Canara Robeco Equity Hybrid Fund	-0.001	1.433	0.152
DPS Equity and bond Fund	-0.006	7.078	0.000
DPS Equity Opportunities Fund	0.008	7.233	0.000
DSP bond fund	0.000	1.234	0.217
Nippon India Growth-Dividend	-0.018	6.668	0.000
Nippon India Vision Fund	0.005	4.784	0.000
Nippon Indian Income Fund	-0.001	2.512	0.012
Principal Multi Cap Growth Fund	-0.010	9.374	0.000
Principal Tax Savings Fund - Growth	-0.012	8.913	0.000
SBI Contra Fund - Regular Plan - Growth	-0.008	4.134	0.000
SBI Healthcare Opportunities Fund - Growth	-0.017	7.966	0.000
Taurus large cap equity fund	-0.006	3.829	0.000
Taurus Starshare (multi cap) fund	-0.004	2.022	0.043

Taurus Tax Shield Fund	-0.007	3.441	0.001
UTI Equity Fund	-0.011	9.488	0.000
UTI Health Fund	-0.018	9.512	0.000
UTI MNC Fund	-0.011	6.898	0.000
UTI Nifty Index Fund	-0.003	5.552	0.000

Sources: computed value

Above table depicts the Mazuy model for measuring the market timing skill of the mutual fund manager. Here, we measured the beta-1 for analysis the market timing skill of fund manager. if the value of beta-1 is significantly positive, then these fund managers have the market timing skill otherwise no skill prevails. In our study, we saw that only 4 sample schemes produced positive value of beta-1. Only 3 sample schemes have significant beta-1 value. These sample schemes are ABSL Equity Fund – Growth, DPS Equity Opportunities Fund and Nippon India Vision Fund. Rate of return of these schemes were 20.22%, 19.91%, 21.14% respectively. These schemes generated more return than benchmark return for the investors. But one sample scheme has not significant positive value of beta-1. So, we could not draw any conclusion on this scheme. On the other, 21 sample schemes produced negative value of beta-1. 18 sample schemes have significant negative value of beta-1. Thses sample schemes fund manager did not have any market timing skill. Rate of returns of these schemes were lower than market rate of return. We could not draw any conclusion on 3 sample schemes because these schemes have not any significant negative value.

It was found from my study that market timing is required for earning more and more return. In short run, market timing was not required for generating more and more return but in long run there is required market timing for generating more and more return.

CONCLUSION

Mutual fund is one of the important investment avenues for the general investors those who are wanted enhance own money through mutual fund. It

was found from our study that most of the selected schemes of mutual fund were generated more return than benchmark return with taking lower amount of return. 72% sample schemes have outperformed in the market but only 28% sample schemes have underperformed according to Treynor measure. On the other hand, only 16% sample schemes have underperformed and 84% sample schemes have outperformed in the market according to Sharpe measure. In general, we conclude that 70% of our selected schemes have outperformed than market and investors were getting more return from these schemes. Those sample schemes fund managers have stock selection skill, these schemes produced more return than market but those sample schemes fund manager do not have any stock selection skill, these schemes produced lower return than market return. In short run, market timing was not required for generating more and more return but in long run there is required market timing and stock selection for generating more and more return. In our study, we concluded that our selected schemes were performed well as compare with their benchmark in long run. we recommended that before investing own money into any schemes of mutual fund, the performance of schemes and fund manager are essentials for investor for getting more and more return.

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