

Asian Resonance

Gauging Performance of Some Mutual Funds (The Indian Experience)



Pranav Mishra

Assistant Professor,
Deptt. of Commerce,
Institute of Business Management,
G.L.A. University, Mathura

Gulab Singh

Professor,
Deptt. of M.B.A.
Institute of Business Management,
G.L.A. University, Mathura

Abstract

The mutual fund industry in India and abroad is witnessing expansion which is proved by the increasing AUM (Asset under Management) each quarter. However investors who show their interest in mutual funds have very limited exposure to finance concepts and terms. In such a situation the common investor is provided with a number of indices through which he can judge the performance of a fund and take a decision. This paper tries to probe into the question whether all indices provide the same outcome so that the investor can take a decision or they simply add to the confusion of the common investor.

Keywords: Mutual Fund, Asset Under Management, Investors, Performance of A Fund.

Introduction

Investing in the mutual funds have become the second best option for investors who wish to reap the benefits of the capital market especially in a growing economy like India but are not ready to bear the amount of risk involved in direct investment. Furthermore most of the investors are also not able to devote the required time for critically following up and managing their portfolio owing to other equally important engagements. Instead they prefer to hand-over their hard earned savings to a Fund Manager who they believe to have sufficient expertise in Portfolio Management and on whom they place their trust of getting them an attractive return on their investment.

But with an increase in the number of players in the mutual fund industry the common investor is faced with the dilemma of selecting the right fund and thus the right fund manager. This study aims at addressing to the above mentioned problems by evaluating the performance of some of the major mutual funds in the recent past. Further this study can also be found to be of assistance to others interested in the mutual fund which will include researchers, academicians, industry experts as well as students beside persons having general inclination to acquire knowledge in this field. The study would focus mainly on the private sector as it contributes to around 82.25% of the AUM (Asset Under Management) (AMFI Newsletter, September 2015).

For the purpose of evaluating the performance of the selected funds more than one evaluating index has been used. An attempt is also made to perform a comparative analysis of the outcomes of different performance index. This will enable us to judge whether all indices provide the same end result. The risk free return for the study should be based on the average yield of the 91-days T Bills during October 2014 to October 2015 which works out to be 7.35 % further rounded off to 7% p.a. (www.rbi.org.in). However the T Bills are not available to the general public easily so instead of T Bills the rate on Term deposits of nationalized banks must be used as a close substitute of the risk free return (Rao & Ravindran, 2003). The rate of interest available at SBI during the period of study averaged out to be 6.75%p.a. for a 90 days term deposit which can be rounded off to 7% p.a. (www.sbi.co.in). This has been considered as the value of risk free return for the purpose of the study. Selection of mutual fund is based on their contribution to the total AUM of the industry as per the latest AMFI Newsletter of September 2015.

Objective of Study

This study is undertaken with the following objectives in mind:-

1. To evaluate the performance of the selected mutual funds during the period of April 2012 to September 2015.
2. To judge whether all performance indices provide the same end result for an investor to take a decision.

Asian Resonance

Review of Literature

Cumby and Glen (1990) measured the performance of US-based mutual funds using Treynor's measure and some other measures. Later Eun *et al* (1991) studied the performance of some US-based international mutual funds. Grinblatt and Titman (1994) performed their research based on the Jensen's alfa and Treynor's ratio as their index for measuring performance of mutual funds. Rao and Ravindran (2003) studied the performance evaluation of mutual funds in the Indian industry during the bear phase of the economy. They carried out their evaluation based on relative performance index, risk-return analysis, Treynor's ratio, Sharp's ratio, Sharp's measure, Jensen's measure, and Fama's measure.

A critical perusal of the above mentioned papers reveal that most of the researchers used monthly returns of mutual funds for evaluating the performance. Thus it was thought worthwhile to consider quarterly returns to gauge the performance of the selected mutual funds.

Hypothesis

H₀

All performance evaluation index provide the same outcome to the investor.

H₁

There is difference in the outcomes from different performance evaluation index.

Scope of the Study

The study is based only on secondary data which was fetched from www.amfiindia.com and some business newspapers like Economic Times etc. The NAV values are supplied by the members of AMFI. Due to the flexibilities offered by SEBI members have not followed any uniform rule to calculate the NAV values. (Rao & Ravindran, 2003). Study covers a

period of three and a half year starting from April 2012 and ending with September 2015. NAV value for open-ended schemes is considered appropriate for the study as in this case the purchase and sale prices are linked with NAVs.

Research Methodology

The research conducted is empirical in nature and is based on judgmental sampling technique. The sampling universe in this case is the mutual fund industry of India. Following performance evaluation techniques are used for the study:

1. Sharpe's ratio
2. Treynor's ratio
3. Jensen's alfa
4. Fama's measure
5. Sortino ratio

From the universe of Asset Management Companies operating in India five top contributors to the total AUM as on 30th September 2015 have been selected which all fall under the Private sector category with share 82.25% of total AUM. These are HDFC Asset Management Co Ltd (12.98%), ICICI Prudential Asset Management Co Ltd (12.51 %), Reliance Capital Asset Management Ltd (11.62%), Birla Sun Life Asset Management Co Ltd (10.14%) and Franklin Templeton Asset Management (India) Pvt Ltd (5.88%). However as Franklin Templeton is a foreign company operating in India and rest all were either Indian companies or Indian joint ventures it has been decided to drop it from the sample and instead include Kotak Mahindra Asset Management Co Ltd which contributes 4.29 % to the AUM. Total contribution of the sample works out to be 51.54 % of the overall AUM and covers 62.66% of the private sector contribution. The table below depicts the funds name used in the study.

S No.	Asset Management Company	Mutual fund's Name	Nature of Fund
1.	HDFC Asset Management Co Ltd	HDFC Capital Builder Fund	Open Ended Growth Scheme
2.	ICICI Prudential Asset Management Co Ltd	ICICI Prudential Junior Index Fund-Regular	Open Ended Growth Scheme
3.	Reliance Capital Asset Management Ltd	Reliance Index Fund-Nifty Plan	Open Ended Growth Scheme
4.	Birla Sun Life Asset Management Co Ltd	Birla Sun Life Equity Fund	Open Ended Growth Scheme
5.	Kotak Mahindra Asset Management Co Ltd	Kotak Classic Equity Fund	Open Ended Growth Scheme

Data Description

From the NAV values collected from the website of AMFI (Association of Mutual Funds of India) quarterly returns of the mutual funds along with CNX Nifty(benchmark) are calculated starting with April 2012 onwards, based on the below mentioned formula

$$\text{Return}(x) = (\text{NAV}_t - \text{NAV}_{t-1}) / \text{NAV}_{t-1} \times 100$$

From the information relating to the quarterly return earned by the above mentioned five mutual fund schemes the following statistical measures are computed as below

Asian Resonance

Statistical Measure	HDFC Capital Builder Fund	ICICI Prudential Junior Index Fund-Regular	Reliance Index Fund-Nifty Plan	Birla Sun Life Equity Fund	Kotak Classic Equity Fund	CNX Nifty
Mean Return	4.76	4.75	3.21	5.53	4.04	3.07
Std. deviation	7.18	7.89	5.31	9.26	5.67	5.29
Variance	51.59	62.33	28.17	85.77	32.18	27.97
Semi dev.	5.79	6.63	5.83	7.44	4.44	5.30
Covariance	35.92	37.42	28.03	44.21	27.87	27.97
Beta(β)	1.28	1.34	1.00	1.58	0.99	1.00
CAPM Return	3.44	3.52	3.07	3.84	3.04	3.07

Note: Above Data has been Rounded off to two Decimal Places.

During the same Period the risk-free Return was 7% p.a which means 1.75% on Quarterly Basis

Data Interpretation (Horne 2012)

Next the performance evaluation indices are calculated whose short description is given below

Sharpe Ratio

William F. Sharpe (1966) has proposed an index for evaluating the performance of mutual funds and other similar diversified portfolios. He opined that a small investor invests his entire available funds in the mutual fund as he is ignorant of the intricacies of market operations and so feels confident on placing trust on the fund manager than himself managing his portfolio. He gave an index and named it the Sharpe index which is given as under

$$S_p = (R_p - R_f) / \sigma_p$$

Where S_p is the Sharpe index

R_p is the portfolio return

R_f is the risk free return

and σ_p is the standard deviation of the portfolio return.

Higher Sharpe index indicates that the portfolio offers greater premium per unit of risk that the investor bears.

Treynor Ratio

Jack Treynor (1965) gave a somewhat similar index for portfolio evaluation called the reward to volatility ratio. He argued that in a diversified portfolio like a mutual fund all the idiosyncratic risk has already been eliminated so what remains is the systematic part of the risk against which the investor expects a premium. Thus Treynor ratio measures risk premium per unit of the systematic risk.

$$T_p = (R_p - R_f) / \beta$$

Where T_p is the Treynor index

R_p is the portfolio return

R_f is the risk free return

and β is the beta coefficient of the portfolio.

Jensen's Alfa

Micheal C. Jensen (1968) believed that a fund's true performance could be judged by comparing its return against the expected return based on the fundamentals of the CAPM model. He

assumed that investors expect at least the CAPM return. A fund manager's skill can be assessed by comparing the return that the fund provides to the minimum expected return from the fund. Hence Jensen's measure calculates the excess of fund's return over the minimum expected return and is given as under

$$J_p = \text{Portfolio return} - \text{CAPM return} = R_p - \{R_f + \beta(R_m - R_f)\}$$

Where J_p is the Jensen's alfa

R_p is the returns from the portfolio/mutual fund

R_f is the risk-free return

β is the beta coefficient of the portfolio

and R_m is the return of the market index.

Fama's Measure

Eugene F Fama (1972) argued that a fund's performance can only be judged when its actual return is compared with premium expectation on total risk. Thus Fama's measure can be computed as under

$$F_p = \text{Portfolio return} - \text{Risk-free return} - \text{Returns due to all risks}$$

$$= R_p - R_f - \sigma_p / \sigma_m (R_m - R_f)$$

A positive value of Fama's measure indicates that the fund earned a return which is higher than the expected returns and vice-versa.

Sortino Ratio

Briam M Rom (1983) argued that penalizing both the upside and downside variability is not justifiable. Instead one should consider only the downward deviations and thus gave a different ratio named after Frank A Sortino which is calculated as follows

$$S_p' = (R_p - R_f) / \text{Semi dev.}$$

Where S_p' is the Sortino ratio

R_p is the returns from the portfolio/mutual fund

R_f is the risk-free return.

and Semi dev is semi deviation or the downside risk.

The table below shows the value of different indices mentioned above for the selected mutual funds and the CNX Nifty

Performance Index	HDFC Capital Builder Fund	ICICI Prudential Junior Index Fund-Regular	Reliance Index Fund-Nifty Plan	Birla Sun Life Equity Fund	Kotak Classic Equity Fund	CNX Nifty
Sharpe Ratio	0.42	0.38	0.27	0.41	0.40	0.25
Treynor Ratio	2.35	2.24	1.46	2.39	2.31	1.32
Jensen's Alfa	1.32	1.23	0.14	1.69	1.00	0.00
Fama's Measure	1.22	1.03	0.14	1.47	0.88	0.00
Sortino Ratio	0.52	0.45	0.25	0.51	0.52	0.25

Conclusion

As can be seen from the above Table that the investor is advised to invest in HDFC Capital Builder Fund in case Sharpe Ratio is used to make a decision. On the other hand if reliance is placed on Treynor Ratio, Jensen's alpha or Fama's measure then the investor should park his hard earned money in Birla Life Equity Fund. The investor will be indifferent between HDFC Capital Builder Fund & Kotak Classic Equity Fund if his decision of selecting a mutual fund is based on the results of Sortino ratio.

Even after having so many performance indicators at the investor's disposal for gauging the performance of mutual funds and in a way judging the competency of the fund manager, the investor's dilemma continues. It is yet to be established which performance index should the investor with limited exposure to finance terms and concepts use to take a decision of investing his money and earn the maximum return taking the minimum required risk.

Suggestion

The common investor needs to be equipped with an index which will guide him take an investment decision without indulging into complex financial concepts.

References

1. assetmanagement.kotak.com
2. Cumby R.E. and Glen J.K.(1990), Evaluating the Performance of International Mutual Funds, The Journal of Finance, Vol XLV No 2 , pp 497-521
3. Eun C. S., Kolodny R. and Resnick B.G. (1991), US-based international mutual funds: A performance evaluation, The Journal of portfolio Management Vol 17 (3) pp88-94
4. Grinblatt M.and Titman S.(1994), A Study of Mutual Fund Returns and Performance Evaluation Techniques, Journal of Financial and Quantitative Analysis, Vol 29 (3) pp419-444
5. <http://mutualfund.birlasunlife.com/>
6. <http://www.amfiindia.com>
7. <http://www.hdfcfund.com>
8. <http://www.icicipruamc.com>
9. <http://www.nseindia.com>
10. <http://www.rbi.org.in>
11. <http://www.reliancemutual.com>
12. <http://www.sbi.co.in>
13. James C. Van Horne,(2012) Financial Management and Policy, Prentice Hall Upper Saddle River, New Jersey,12th Edition page 49
14. Narayan Rao S and Ravindran M (2003) Performance Evaluation of Indian Mutual Funds, Social Science Research Network SSRN: <http://ssrn.com/abstract=433100>.