Research paper
Impact Factor (GIF) 0.314

IJBARR
E- ISSN -2347-856X
ISSN -2348-0653

PERFORMANCE EVALUATION OF SELECTED EQUITY-BASED MUTUAL FUND SCHEMES IN INDIA: AN ANALYSIS OF QUARTERLY RETURNS

Dr. Brajaballav Pal
Assistant Professor, Dept. of Commerce With Farm Management, Vidyasagar University, Midnapur(West).

Abstract
The performance evaluation of the mutual fund products become more complex in context of accommodating both return and risk measurements while giving due importance to investment objectives. In this paper, an attempt has been made to study the performance of selected schemes of mutual funds based on risk-return relationship. 14 equity-based mutual fund schemes have been studied for twelve quarters from 3rd January, 2011 to 1st October, 2013. The analysis has been made on the basis of average return, risk, beta, Sharpe ratio, Treynor ratio and Jensen Alpha. The overall analysis finds ICICI Pru Exp & Other Services Fund being the best performer and Kotak Nifty ETF and ICICI Pru Infrastructure mutual funds showing poor performances when measured against the risk-return relationship. The performance evaluation of funds using performance ratios enables the investors to recognise and select the benchmarking companies.

Key words: Investors, Returns, Risk, Mutual Fund, Beta, Sharpe Ratio, Treynor Ratio, Jensen Alpha.

I .Introduction

Mutual Funds are the Indirect Investments of various Financial Assets in Financial Markets. When it is difficult to evaluate Equity, Debt or any other Financial Instruments which have high/moderate risk with volatile returns, an Investor will always look for an avenue which gives him a standard return with average risk. Mutual Funds answer this with safety of low risk and high returns under proper Fund Management Services. It can play a central role in an individual's investment strategy. They offer the potential for capital growth and income through investment performance, dividends and distributions under the guidance of a portfolio manager who makes investment decisions on behalf of mutual fund unit holders. Over the past decade, mutual funds have increasingly become the investor's vehicle of choice for long-term investment. It becomes pertinent to study the performance of the mutual fund. The relation between risk-return determines the performance of a mutual fund scheme. Many asset management companies are working in India, so it is necessary to study the performance of it which may be useful for the investors to select the right mutual fund.

1.1 Constituents of Mutual Funds

A mutual fund is set up in the form of a trust, which has Sponsor, Trustees, Asset Management Company (AMC) and Custodian. The trust is established by a sponsor or more than one sponsor who is like a promoter of a company. The trustees of the mutual fund hold its property for the benefit of the unit holders. Asset Management Company (AMC) manages the funds by making investments in various types of securities. Custodian holds the securities of various schemes of the fund in its custody. The trustees are vested with the general power of superintendence and direction over the AMC.

1.2 Types of Equity-based Mutual Funds

Equity funds invest in equity shares. These funds are riskier compared to debt funds and they can be classified as follows:

i) Diversified Equity Funds

These funds invest in equity shares and hold a diversified equity portfolio and characterised as high risk high return investments as their returns are linked to the performance of the stock market. It can be categorised as (a) Large-cap Funds, (b) Mid-cap Funds and (c) Small-cap Funds.

- **(a)** Large-cap Funds: These are funds that make investments mainly in the shares of big companies. The investors prefer to make investments in these funds as the portfolio consists of well established companies with high trading volumes and market capitalisation of more than Rs.1000 crores. Examples of large-cap funds are Franklin India Blue Chip, HDFC Top 200, reliance Growth Fund and Kotak 30.

- **(b)** Mid-cap Funds: These funds invest in equity shares of medium sized companies that have a market capitalisation between Rs. 500 crore and Rs. 1000 crore and a huge potential to become big. Examples of mid-cap funds are Sundaram BNP Paribas Select Mid Cap Fund, Franklin India Prima Fund, etc.
- **(c)** Small-cap Funds: These funds invest in equity shares of small companies with a market capitalisation of up to Rs. 500 crore. Examples are DSPBR Small and Mid Cap Fund and Sundaram BNP Paribas Select Small Cap Fund.

ii) **Special Funds-** Mutual Funds have launched special schemes to cater to the special needs of investors. Examples of special schemes are ICICI Child Care Plan-Gift Plan, Tata Young Citizen's Fund and UTI Mahila Unit Schemes.

iii) **Sectoral (thematic) Funds-** These funds restricts their investments to a particular segment or sector of the economy such as infrastructure, banking, technology, energy, real estate, power, health care, FMCG, pharmaceuticals, etc. They generate high returns if the particular sector in which funds are invested perform well. Examples are Reliance Diversified Power Sector Fund, Reliance Pharma Fund, etc.

iv) **Derivatives Arbitrage Funds-**They are open-ended equity schemes aimed to generate low volatility and better returns. This fund claims to provide better returns, tax benefits and greater liquidity. Examples of derivatives arbitrage funds are ICICI Blended Plans A & B, JM Advantage Arbitrage, etc.

v) **Tax Savings Schemes-** Tax-savings schemes are equity-oriented schemes designed on the basis of tax policy with special tax incentives to investors. Equity-linked Savings Schemes (ELSS) related mutual fund invests major portion of its corpus into equity and equity related instruments. But there are some distinct features which makes ELSS plans different from other equity mutual funds. Investments made in ELSS plans are eligible for deduction from the taxable income under Section 80C of the Income Tax Act.

vi) **Index Funds-** An index fund is a mutual fund which invests in securities in the index on which it is based-BSE Sensex or S&P CNX Nifty.

Apart from the above, there are many other innovations in funds namely Funds of Funds (FOFs), Exchange Traded Funds (ETFs), Commodity Funds, etc.

1.3Concept of NAV

Net Asset Value **(** NAV) is nothing but the total market value of all the assets held in the mutual fund portfolio less the liabilities, divided by all the outstanding units. That amounts to nothing but the "book value". The NAV measures how much each share of a mutual fund is worth. So essentially, the NAV of a mutual fund is the cost of one share of the fund.

Thus NAV = Market Price of securities + Other assets – Total liabilities / units outstanding as at the NAV date.

NAV = Net assets of the scheme / Number of units outstanding,

= Market value of investments + Receivables + Other Accrued Income + Other Assets- Accrued Expenses – Other Payables –Other Liabilities / No. of units outstanding as at the NAV date.

II. Review of Literature

A large number of studies on the growth and financial performance of mutual funds have been carried out during the past, in the developed and developing countries. Researchers and practitioners have produced literatures covering different aspects of mutual funds. Review of previous studies provides the need and justification for the research work to be undertaken. A variety of technical and quantitative measures have been developed to assess and compare the financial performance of mutual fund schemes as well as the performance of fund managers. These measures provide the methods of comparing risk-adjusted returns of a portfolio with other portfolios or with other benchmarks.

The pioneering work on the mutual funds in U.S.A. was done by Friend, et al., (1962) in Wharton School of Finance and Commerce for the period 1953 to 1958. The study considered 152 mutual funds with an annual data from 1953 to 1958 and found that mutual fund schemes earned an average annual return of 12.4 percent, while their composite benchmark earned a return of 12.6 percent. Their alpha was negative with 20 basis points. Overall results did not suggest widespread inefficiency in the industry. Comparison of fund returns with turnover and expense categories did not reveal a strong relationship.

Treynor and Mazuy (1966) recommended that improvement in the rate of return was due to the fund manager's ability to identify under priced industries and companies.

Jensen (1968) derived a risk adjusted measure of portfolio performance that estimates how much a manager's ability contributes to a fund's return.

Carlson (1970) examined the performance of mutual funds relative to size, expense-ratio and a new funds factor. The results indicated no relationship with size or expense ratio although there was a relationship between performance and a measure of new cash into funds.

Ippolito (1989) conducted a study and found that there was no significant relationship between performance, turnover and investment fees.

Review of Indian Studies

Brief reviews of the following research works reveal the wealth of contributions towards the performance evaluation of mutual fund, market timing and stock selection abilities of fund managers.

Gupta Ramesh (1989) evaluated fund performance in India comparing the returns earned by schemes of similar risk and similar constraints. An explicit risk-return relationship was developed to make comparison across funds with different risk levels. His study decomposed total return into return from investors risk, return from managers' risk and target risk. Mutual fund return due to selectivity was decomposed into return due to selection of securities and timing of investment in a particular class of securities.

Vidhyashankar S (1990) identified a shift from bank or company deposits to mutual funds due to its superiority by way of ensuring a healthy and orderly development of capital market with adequate investor protection through SEBI interference. The study identified that mutual funds in the Indian capital market have a bright future as one of the predominant instruments of savings by the end of the century.

Sarkar A K (1991) critically examined mutual fund evaluation methodology and pointed out that Sharpe and Treynor performance measures ranked mutual funds alike inspite of their differences in terms of risk. The Sharpe and Treynor index could be used to rank performance of portfolios with different risk levels.

Gupta L C (1992) attempted a household survey of investors with the objective of identifying investors' preferences for mutual funds so as to help policy makers and mutual funds in designing mutual fund products and in shaping the mutual fund industry.

Lal C and Sharma Seema (1992) identified that, the household sector's share in the Indian domestic savings increased from 73.6 percent in 1950-51 to 83.6 percent in 1988-89. The share of financial assets increased from 56 percent in 1970-71 to over 60 percent in 1989-90 bringing out a tremendous impact on all the constituents of the financial market.

Sahu R K and Panda J (1993) identified that, the savings of the Indian public in mutual funds was 5 to 6 percent of total financial savings, 11 to 12 percent of bank deposits and less than 15 percent of equity market capitalization. The study suggested that, mutual funds should develop suitable strategies keeping in view the savings potentials, growth prospects of investment outlets, national policies and priorities.

Tripathy, Nalini Prava **(**1996) identified that the Indian capital market expanded tremendously as a result of economic reforms, globalization and privatization. Household sector accounted for about 80 percent of country's savings and only about one-third of such savings were available for the corporate sector. The study suggested that, mutual funds should build investors' confidence through schemes meeting the diversified needs of investors, speedy disposal of information, improved transparency in operation, better customer service and assured benefits of professionalism.

Yadav R A and Mishra, Biswadeep (1996) evaluated 14 close end schemes over the period of April 1992 to March 1995 with BSE National Index as benchmark. Their analysis indicated that, 57 percent of sample schemes had a mean return higher than that of the market, higher Sharpe Index and lower Treynor index. Schemes performed well in terms of diversification and total variability of returns but failed to provide adequate risk-premium per unit of systematic risk. 57 percent had positive alpha signifying superior performance in terms of timing ability of fund managers. Fund managers of growth schemes adopted a conservative investment policy and maintained a low portfolio beta to restrict losses in a rapidly falling stock market.

Krishnamurthi S **(**1997) identified mutual funds as an ideal investment vehicle for small and medium investors with limited resources, to reap the benefits of investing in blue chip shares through firm allotment in primary market, avoid dud shares, access to price sensitive information and spread risk along with the benefits of professional fund management.

Saha, Tapas Rajan (2003) identified that Prudential ICICI Balanced Fund, Zurich(I) Equity Fund were the best among the equity funds while Pioneer ITI Treasury scheme was the best among debt schemes. He concluded that, the efficiency of the fund managers was the key in the success of mutual funds and so the AMCs had to ensure more professional outlook for better results.

III. Objectives of the Study

1. To investigate the financial performance of the mutual funds with the tools of return,standard deviation and beta.
2. To evaluate the selected funds assessment on the basis of various performance ratios (Sharpe, Treynor, Jensen).
3. To compare the mutual funds' performance with the S&P CNX Nifty Index, to give rankings of mutual funds by their outstanding performance.

IV. Research Methodology

Secondary data is taken as a basis of analysis in this study. Equity-based mutual fund schemes have been screened on the basis of CRISIL Rank No. 1 for the study. Resultantly, 15 equity-based mutual fund schemes have been selected as shown in the Annexure 1. The study period has been considered to be a period of 3 years, covering 12 quarters, ranging between 3rd January, 2011 and 1st October, 2013.

Since one of the objectives of the study is to investigate the financial performance of the mutual funds, secondary data of NAV of each mutual fund scheme is collected from the website www. moneycontrol.com.

To compare the mutual funds' performance with the S&P CNX Nifty Index, I have taken closing value of S&P CNX Nifty Index as proxy of the market return from the website www.moneycontrol.com.

Since the start of the financial year (2012-13), yields on the 91-days treasury bills have moved in the range of 8.3-8.4 per cent, while those on the 10-year benchmark government bond have fluctuated at 8.3-8.7 per cent, I have taken 8.3 per cent as risk free rate of return. The data for that is collected from the official website of Reserve Bank of India. Microsoft Excel is used for all the calculations.

Sampling tools used

Return	$(P_1-P_0/P_0)x100$
Standard deviation	$\sqrt{D^2/N}$
Beta	Covariance/ δm x δm
Shape's ratio	$(R_m - R_f)/\delta$
Treynor's ratio	$(R_m - R_f)/\beta$

V. Hypothesis

5.1 H_0 (Null Hypothesis): The performance evaluation of funds using performance ratios enables the investors to recognise and select the benchmarking companies.

5.2 H_1 (Alternative Hypothesis): The performance evaluation of funds using performance ratios unable the investors to recognise and select the benchmarking companies.

VI. Analysis and Findings

Table 1, Analysis of performance of selected mutual fund schemes based on return(R), Standard deviation (δ) and Beta (β)

Sl No.	Name of Fund	Avg. Return	Risk (S.D)	Beta	Sharpe's Ratio	Treynor's Ratio	Jenson's Alfa
1	ICIC Pru Focused BluechipEquity Fund(G)	0.88	5.9	0.83	-0.2	-1.43	1.22
2	BNP Paribas Equity Fund (G)	0.94	5.75	0.78	-0.18	-1.44	1.28
3	UTI Opportunities Fund(G)	0.84	5.70	0.79	-0.20	-1.55	1.18
4	Canara Robeco Large Cap (G)	1.00	5.43	0.76	-0.19	-1.40	1.34
5	Birla SL MNC Fund (G)	1.88	8.98	1.06	-0.02	-0.17	2.22
6	SBI Emerging Bus Fund	1.63	9.76	0.93	-0.03	-0.40	2.03
7	Birla SL India Gen Next Fund (G)	2.14	9.09	1.16	0.007	0.06	2.48
8	ICICI Pru Exp & Other Services Fund	2.41	8.65	0.98	0.03	0.34	2.75
9	Tata Ethical Fund	0.98	6.44	0.86	-0.16	-1.26	-0.92
10	ICICI Pru Dynamic Plan (G)	0.74	7.07	0.93	-0.18	-1.43	1.08
11	Axis Long Term Equity Fund (G)	1.37	6.40	0.87	-0.10	-0.80	1.71
12	BNP Paribas tax Advantage Plan (G)	0.66	6.67	0.84	-1.41	-1.67	1.00
13	Kotak Nifty ETF	-0.22	6.64	0.94	-0.34	-2.33	0.12
14	ICICI Pru Infrastructure Fund	-2.74	10.01	1.08	-0.48	-5.19	-2.40

From the Table 1, it is seen that average return of all the equity schemes are positive except Kotak Nifty ETF and ICICI Pru Infrastructure Fund. It is also observed that ICICI Pru Exp & Other Services Fund indicates high return among the selected funds. When compared to Companies' risk and market risk (β), Canara Robeco Large Cap has low risk.

As per performance ratios of all the funds, ICICI Pru Exp & Other Services Fund's performance is better in comparison to others.

Table 2, Ranking of Funds according to 3 Performance Ratios

Sharpe		Treynor		Jenson	
Name of Fund	**Rank**	**Name of Fund**	**Rank**	**Name of Fund**	**Rank**
ICICI Pru Exp & Other Services Fund	1	ICICI Pru Exp & Other Services Fund	1	ICICI Pru Exp & Other Services Fund	1
Birla SL India Gen Next Fund (G)	2	Birla SL India Gen Next Fund (G)	2	Birla SL India Gen Next Fund (G)	2

It is observed from Table 2 that out of the selected funds, the interested investor can invest in ICICI Pru Exp & Other Services Fund as it is ranked in the top position as per the performance ratios. Funds which have negative value relating to Sharpe Ratio and Treynor Ratio are to be excluded from the decision.

VI. Conclusion

Overall, all selected mutual fund schemes have positive return except Kotak Nifty ETF and ICICI Pru Infrastructure Fund during 2011 to 2013. ICICI Pru Exp & Other Services Fund and Birla SL India Gen Next Fund have performed well as compared to the S&P CNX Nifty Index. Canara Robeco Large Cap has lower level of risk as compared to others. Beta is less than one means the funds are less volatile than the Index. Funds with beta close to one, means the fund's performance closely match the benchmark index. Sharpe's Index of Pru Exp & Other Services Fund is higher than the other, so it shows good performance compared to other funds. Treynor's Index result revealed that the ICICI Pru Exp & Other Services Fund offers better return in comparison to ICICI others.

We may now conclude that the mutual funds are one of the best investment sources available for Indian household investors to make an investment, if thoroughly assessed it may give big returns with little savings. The above performance ratios are very much helpful for the small investors to assess the fund's performance.

References

1. Friend et. al, "A Study of Mutual Funds" U.S. Securities and Exchange Commission, USA, (1962).
2. Treynor and Mazuy , "Can Mutual Funds Outguess The Markets" *Harvard Business Review*, Vol. 44, (1966), pp.131-136.
3. Jensen Michael C, "The Performance Of Mutual Funds In The Period 1945-1964", *Journal of Finance*, Vol. 23, (1968), pp.389-416.
4. Carlson, "Aggregate Performance Of Mutual Funds, 1948-1967", *Journal of Financial and Quantitative Analysis*, Vol. 5, (1970), pp.1-32.
5. Carlson, "Aggregate Performance of Mutual Funds, 1948-1967", *Journal of Financial and Quantitative Analysis*, Vol. 5, (1970), pp.1-32.
6. Ippolito R, "Efficiency with Costly Information: A Study of Mutual Fund Performance", *Quarterly Journal of Economics*, Vol. 104, (1989), pp.1-23.
7. Gupta, Ramesh "Mutual Funds", *The Management Accountant*, Vol. 24(5), (May 1989),pp.320-322
8. Vidhyashankar S, "Mutual Funds: Emerging Trends In India", *Chartered Secretary,* Vol. 20(8), (August 1990), pp.639-640.
9. Sarkar A K, "Mutual Funds in India - Emerging Trends", *The Management Accountant*, Vol. 26 (3), (March 1991), pp.171-174.
10. Gupta L C, *Mutual Funds and Asset Preference*, Society for Capital Market Research and Development, New Delhi, First Edition (1992).
11. Lal C and Sharma Seema, "Mutual Fund-A Buoyant Financial Instrument", *Finance India*, Vol. VI (4) (December 1992), pp.811-18.
12. Sahu R K and Panda J, "The Role and Future of Mutual Funds In India", Management Accountant, (February 1993) pp. 91-3.
13. Tripathy, Nalini Prava, "Mutual Fund In India: A Financial Service in Capital Market", *Finance India*, Vol. X (1), (March 1996), pp. 85-91.

IJBARR
E- ISSN -2347-856X
ISSN -2348-0653

14. Yadav R A and Mishra, Biswadeep "Performance Evaluation of Mutual Funds: An empirical analysis", *MDI Management Journal*, Vol. 9(2), (July 1996), pp.117-125.
15. Krishnamurthi S, "Genesis of Mutual Funds in India", Vision Books, New Delhi, (1997).
16. Saha, Tapas Rajan "Indian Mutual Fund Management", *Managment Accountant*, (October 2003), Vol. 38(10), pp.765-771.

ANNEXURE I

Sl No.	Name of Fund
1	ICIC Pru Focused BluechipEquity Fund(G)
2	BNP Paribas Equity Fund (G)
3	UTI Opportunities Fund(G)
4	Canara Robeco Large Cap (G)
5	Birla SL MNC Fund (G)
6	SBI Emerging Bus Fund
7	Birla SL India Gen Next Fund (G)
8	ICICI Pru Exp & Other Services Fund
9	Tata Ethical Fund
10	ICICI Pru Dynamic Plan (G)
11	Axis Long Term Equity Fund (G)
12	BNP Paribas tax Advantage Plan (G)
13	Kotak Nifty ETF
14	ICICI Pru Infrastructure Fund