PERFORMANCE EVALUATION OF SELECT MUTUAL FUND SCHEMES IN INDIA – A COMPARATIVE STUDY

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ABSTRACT

Mutual funds are collective savings and investment vehicles where savings of investors are pooled together to invest for their mutual benefit and returns distributed proportionately. The objective sought to be achieved by Mutual Fund is to provide an opportunity for lower income groups to acquire good return without much difficulty. They cater mainly to the needs of the individual investor in a manner that provides a regular income, growth, safety, liquidity and diversification opportunities. So, there is a need for the mutual fund investors to evaluate the performance of schemes before deciding on investments. Past performance is taken as reference by many investors. The present paper investigates the performance of 9 funds from three different companies for the period from April 2007 to March 2012 (five years). Yearly NAV of different schemes have been used to calculate the returns from the fund schemes. NSE- Nifty has been used for market portfolio. The historical performance of the selected schemes were evaluated on the basis of Sharpe, Treynor, and Jensen's measure whose results will be useful for investors for taking better investment decisions. The results of various statistical measures are tabulated and consolidated to get a comprehensive picture of the performance of the selected schemes.

***Key words:** Mutual fund, Sharpe, Treynor, and Jensen's measure*

INTRODUCTION

There are a lot of investment avenues available today in the financial market for the investor. He can invest in Bank Deposits, Corporate Debentures, and Bonds where there is low risk but low return. He may invest in companies' shares where the risk is high and the returns are also proportionately high. The recent trends in the Stock Market have shown that an average retail investor always lost with periodic bearish trends. People began opting for portfolio managers with expertise in stock markets who would invest on their behalf. Thus we had wealth management services provided by many institutions. However they proved too costly for a small investor. These investors have found a good shelter with the mutual funds. A mutual fund is a common pool of money into which investors place their contributions that are to be invested in accordance with a stated objective. The ownership of the fund is thus joint or mutual; the fund belongs to all investors. A Mutual Fund is a corporation and the fund manager's interest is to professionally manage the funds provided by the investors and provide a return on them after

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deducting reasonable management fees. Thus investors choose mutual funds as their primary means of investing, as Mutual funds provide professional management, diversification, convenience and liquidity. Each investor in the fund is a part owner of all the fund's assets, thus enabling him to hold a diversified investment portfolio even with a small amount of investment that would otherwise require big capital. The investment management skills, along with the needed research into available investment options, ensure a much better return than what an investor can manage by his own.

Few investors have the skill and resources of their own to succeed in today's fast moving, global and sophisticated markets. When an investor invests directly, all the risk of potential loss is his own, whether he places a deposit with a company or a bank or he buys a share or debenture on his own or in any other from. While investing in the pool of funds with investors, the potential losses are also shared with other investors. The risk reduction is one of the most important benefits of a collective investment vehicle like the mutual fund. When they invest in the units of a fund, they can generally cash their investments any time, by selling their units to the fund if open-ended or selling them in the market if the fund is close-ended. Liquidity of investment is clearly a big benefit. Mutual fund management companies offer many investor services that a direct market investor cannot get. Investors can easily transfer their holding from one scheme to the other; get updated market information and so on. Mutual Funds offer a family of schemes to suit the varying needs over a lifetime. All Mutual Funds are registered with SEBI and they function within the provisions of strict regulations designed to protect the interests of investors. The operations of Mutual Funds are regularly monitored by SEBI. You get regular information on the value of your investment in addition to disclosure on the specific investments made by your scheme, the proportion invested in each class of assets and the fund manager's investment strategy and outlook.

OBJECTIVES OF THE STUDY

1. To determine the performance of selected open end mutual fund schemes using various statistical measures like Sharpe ratio, Treynor ratio, and Jensen Ratio.

2. To suggest the investors, on investment in mutual funds according to their performance.

REVIEW OF LITERATURE

Studies by Treynor and Mazuy (1966), Jensen (1968), Kon and Jen (1979), Henriksson and Merton (1981), Chang and Lewellen (1984), Henriksson (1984) and Jagannathan and Korajczyk (1986) have generally concluded that mutual fund managers cannot consistently time the market or select under-priced securities. This has led to the conclusion that long-term individual mutual fund performance can best be described as random. Very few studies have attempted to explain the flow of money into and out of mutual funds. Harry Markowitz (1952) provides a theory about how investors should select securities for their investment portfolio given beliefs about future performance. He claims that rational investors consider higher expected return as good and high variability of those returns as bad. From this simple construct, he says that the decision rule should be to diversify among all securities, securities which give the maximum expected returns. His rule recommends the portfolio with the highest return is not the one with the lowest variance of returns and that there is a rate at which an investor can increase return by increasing variance. This is the cornerstone of portfolio theory as we know it. His portfolio theory shows that an investor has a choice of combinations of return and variance depending on the percentage of wealth invested in various combinations of risky assets. William Sharpe (1964) and John Lintner (1965) separately extend the work of Markowtiz. They show that the theory implies that the rates of return from efficient combinations of

risky assets move together perfectly (will be perfectly correlated). Spitz (1970) related mutual growth to performance. Growth was measured by net cash inflows which were defined as sales of capital shares less the redemption of capital shares. A study by Smith (1978) related mutual fund growth to fund performance and found some positive relationships after adjusting for risk using Jensen's Alpha. Santini, Donald Louis (1990) made an attempt to measure the competitive success of the mutual funds by assessing the ability to attract new money. In 1992 Pinto and Jerald have incorporated three empirical studies investigating the informational efficiency of the U.S. capital markets. The evidence of each study is consistent with a traditional view of market efficiency. Another study by Prather and Larry Joseph (1995) re-examines performance evaluation of managed portfolios. The Capital Market Research Bureau (1993) made a research presentation explaining how different mutual funds and their various schemes fared during 1992, the turbulent period. The financial express investment magazine, (1997) conducted a study jointly with Value Research, a pioneer in tracking mutual funds in India shows that the bond funds have emerged as winners, while equity funds plunged deeper into red.

RESEARCH METHODOLOGY

The study is empirical in nature. The present paper investigates the performance of 9 funds from three different companies for the period from April 2007 to March 2012 (five years). Yearly NAV of different schemes have been used to calculate the returns from the fund schemes. NSE - Nifty has been used for market portfolio. The historical performances of the selected schemes were evaluated on the basis of Sharpe, Treynor, and Jensen's measure.

Risk free rate of Return

The weekly yields on 91-day treasury bills (T-bills) are used as a surrogate for risk free rate of return. The T-bills information has been obtained from the Annual Reports of the RBI for the current year.

Benchmark portfolio

S&P CNX Nifty Index has been used as the benchmark portfolio to compare with the performance of the sample schemes. The S&P CNX Nifty is a well-diversified 50 stock index accounting for 25 sectors of the economy. It is used for a variety of purposes such as bench marking fund portfolios, index based derivatives and index funds. The index is computed using market capitalization weighted method, wherein the level of the index reflects the total market value of all the stocks in the index relative to a particular base period. The method also takes into account constituent changes in the index and importantly corporate actions such as stock splits, rights etc without affecting the index value.

Measures of Mutual Fund Performance

There are various measures to evaluate the performance of mutual funds. This study has attempted to calculate three measures viz. Sharpe ratio, Treynor ratio, and Jensen ratio.

Sharpe ratio:

It is also called Sharpe's reward to variability ratio. It measures the excess return per unit of total risk as measured by standard deviation. It is computed by the following formula:

$$S_t = \frac{R_p - R_f}{\sigma_p}$$

Rp – Portfolio's average rate of return
Rf – Riskless rate of return
σp - Standard deviation of the portfolio return
The larger the St, better the fund has performed

Treynor ratio:

The Treynor ratio's reward to volatility ratio measures the excess return per unit of market (systematic) risk.

$$T_n = \frac{R_p - R_f}{\beta_p}$$

The larger the Tn, better the fund has performed. Larger Tn is more desirable because it earned more risk premium per unit of systematic risk.

Jensen ratio:

This is an absolute measure whereas Sharpe and Treynor ratios are relative measures. It reflects whether or not fund managers are able to generate returns in excess of equilibrium returns.

The basic model of Jensen is:

Rp = a + b (Rm − Rf)

Rp = average return of portfolio

Rf = riskless rate of interest
a = the intercept
b = a measure of systematic risk
Rm = average market return

ANALYSIS AND INTERPRETATION

The analysis includes calculation of Sharpe, Treynor and Jensen ratios for different funds which will help the investor to invest their money in right avenues for the profitable purpose.

PERFORMANCE OF ING FUND

Performance of different funds of ING has been calculated through the Sharpe, Treynor and Jensen ratio in the table no 1.

TABLE - 1
Sharpe, Treynor & Jensen Ratios Of Ing Fund

YEAR	FUND	ING short term income fund(G)	ING income fund(G)	ING treasury advantage fund-institutional plan(G) .
	Ratios			
2007-2008	Sharpe	0.53	0.15	0.24
	Treynor	-42.65	-7.97	-15.7
	Jensen	1.37	3.11	-0.53
	Benchmark index	-73.46	-73.46	-73.46
2008-2009	Sharpe	2.07	0.6	1.69
	Treynor	-165.29	-30.46	-109.64
	Jensen	4.69	4.97	-2.7
	Benchmark index	60.21	60.21	60.21
2009-2010	Sharpe	1.04	0.303	0.72
	Treynor	-83.26	15.41	-46.81
	Jensen	-1.11	-0.84	-0.63
	Benchmark index	16.93	16.93	16.93
2010-2011	Sharpe	0.2	0.06	-0.07
	Treynor	-15.99	-3.08	4.71
	Jensen	0.12	-5.3	0.85
	Benchmark index	-27.42	-27.42	-27.42
2011-2012	Sharpe	-0.24	0.068	-0.49
	Treynor	19.68	3.45	12.04
	Jensen	0.98	0.01	0.68
	Benchmark index	23.73	23.73	23.73

Table 1 explains that in 2007-2008, the Sharpe ratio of ING short term income fund(G), ING income fund(G) and ING treasury advantage fund-institutional plan(G) are 0.53, 0.15 and 0.24 respectively. The Treynor ratios are -42.65, -7.97 and -15.7 and Jensen ratios are 1.37, 3.11 and -0.53.The benchmark index was -73.46. The benchmark index was less than the ratios. So it would be good opportunity for the investor to invest in these funds.

In 2008-2009, the Sharpe ratio of ING short term income fund (G),ING income fund (G) and ING treasury advantage fund-institutional plan (G) are 2.07, 0.6 and 1.69 respectively. The Treynor ratios are -165.29, -30.46 and -109.64 and Jensen ratios are 4.69, 4.97 and -2.7. The benchmark index was 60.21. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

In 2009-2010, the Sharpe ratio of ING short term income fund (G),ING income fund (G) and ING treasury advantage fund-institutional plan (G) are 1.04, 0.303 and 0.72 respectively. The Treynor ratios are -83.26, 15.41 and -46.81 and Jensen ratios are -1.11, -0.84 and -0.63. The benchmark index was 16.93. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

In 2010-2011, the Sharpe ratio of ING short term income fund(G), ING income fund(G) and ING treasury advantage fund-institutional plan(G) are 0.2, 0.06 and -0.07 respectively. The Treynor ratios are -15.99, -3.08 and 4.71 and Jensen ratios are 0.12, -5.3 and 0.85. The benchmark index was -27.42. The benchmark index was less than the ratios. So it would be good opportunity for the investor to invest in these funds.

In 2011-2012, the Sharpe ratio of ING short term income fund (G), ING income fund (G) and ING treasury advantage fund-institutional plan (G) are -0.24, 0.068 and -0.49 respectively. The Treynor ratios are 19.68, 3.45 and 12.04 and Jensen ratios are 0.98, 0.01 and 0.68. The benchmark index was 23.73. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

PERFORMANCE OF IDFC FUND

Performance of different funds of IDFC has been calculated through the Sharpe, Treynor and Jensen ratio in the table no 2.

TABLE - 2
Sharpe, Treynor & Jensen Ratios Of IDFC Fund

YEAR	FUND	IDFC Dynamic Bond Fund - Regular Plan (G)	IDFC Classic equity fund-plan A (G)	IDFC Money Manager Fund - Treasury Plan A - Regular Plan (G)
	Ratios			
2007-2008	Sharpe	-0.61	-0.019	-0.16
	Treynor	58.27	-0.91	13.15
	Jensen	-3.91	12.43	75.13
	benchmark index	-73.46	-73.46	-73.46
2008-2009	Sharpe	-0.15	-0.0502	1.83
	Treynor	14.49	2.34	-150.68
	Jensen	7.38	8.9	-49.39
	Benchmark index	60.21	60.21	60.21

2009-2010	Sharpe	-0.46	0.0035	0.5
	Treynor	13.77	0.16	-41.09
	Jensen	-1.67	-1.93	-10.13
	Benchmark index	16.93	16.93	16.93
2010-2011	Sharpe	-0.71	-0.0347	-0.59
	Treynor	67.78	-1.62	48.76
	Jensen	-10.96	-1.96	33.73
	Benchmark index	-27.42	-27.42	-27.42
2011-2012	Sharpe	-0.84	-0.0551	-1.17
	Treynor	8.52	-2.57	9.43
	Jensen	3.2	15.62	-13.27
	Benchmark index	23.73	23.73	23.73

Table 2 explains that in 2007-2008, the Sharpe ratio of IDFC Dynamic Bond Fund - Regular Plan (G), IDFC Classic equity fund - plan A (G) and IDFC Money Manager Fund - Treasury Plan A - Regular Plan (G) are -0.61, -0.019 and -0.16 respectively. The Treynor ratios are 58.27, -0.91 and 13.15 and Jensen ratios are -3.91, 12.43 and 75.13. The benchmark index was -73.46. The benchmark index was less than the ratios. So it would be good opportunity for the investor to invest in these funds.

In 2008-2009, the Sharpe ratio of IDFC Dynamic Bond Fund - Regular Plan (G), IDFC Classic equity fund - plan A (G) and IDFC Money Manager Fund - Treasury Plan A - Regular Plan (G) are -0.15, -0.0502 and 1.83 respectively. The treynor ratios are 14.49, 2.34 and -150.68 and Jensen ratios are 7.38, 8.9 and -49.39. The benchmark index was 60.21. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

In 2009-2010, the Sharpe ratio of IDFC Dynamic Bond Fund - Regular Plan (G), IDFC Classic equity fund - plan A (G) and IDFC Money Manager Fund - Treasury Plan A - Regular Plan (G) are -0.46, 0.0035 and 0.5 respectively. The Treynor ratios are 13.77, 0.16 and -41.09 and Jensen ratios are -1.67, -1.93 and -10.13. The benchmark index was 16.93. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

In 2010-2011, the Sharpe ratio of IDFC Dynamic Bond Fund - Regular Plan (G), IDFC Classic equity fund-plan A (G) and IDFC Money Manager Fund - Treasury Plan A - Regular Plan (G) are -0.71, -0.0347 and -0.59 respectively. The Treynor ratios are 67.78, -1.62 and 48.76 and Jensen ratios are -10.96, -1.96 and 33.73. The benchmark index was -27.42. The benchmark index was less than the ratios. So it would be good opportunity for the investor to invest in these funds.

In 2011-2012, the Sharpe ratio of IDFC Dynamic Bond Fund - Regular Plan (G), IDFC Classic equity fund - plan A (G) and IDFC Money Manager Fund - Treasury Plan A - Regular Plan (G) are -0.84, -0.0551 and -1.17 respectively. The Treynor ratios are 8.52, -2.57 and 9.43 and Jensen ratios are 3.2, 15.62 and -13.27. The benchmark index was 23.73. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

PERFORMANCE OF HSBC FUND

Performance of different funds of HSBC has been calculated through the Sharpe, Treynor and Jensen ratio in the table no 3.

TABLE-3

Sharpe, Treynor & Jensen Ratios Of HSBC Fund

YEAR	FUND	HSBC Income Fund-investment plan(G)	HSBC Flexi debt fund-institutional plus(FD)	HSBC Floating rate fund-LTP (regular plan)(G)
	Ratios			
2007-2008	Sharpe	0.16	-2.91	-0.04
	Treynor	-8.24	157.74	3.001
	Jensen	1.06	-7.28	-0.41
	Benchmark index	-73.46	-73.46	-73.46
2008-2009	Sharpe	0.65	-1.67	1.62
	Treynor	-32.88	-90.74	-109.19
	Jensen	2.13	-5.69	2.51
	Benchmark index	60.21	60.21	60.21
2009-2010	Sharpe	0.32	-2.5	0.5
	Treynor	-16.4	5.55	-34.14
	Jensen	0.35	-5.71	-1.28
	Benchmark index	16.93	16.93	16.93
2010-2011	Sharpe	0.05	-3.18	-0.4
	Treynor	-2.88	172.3	27.39
	Jensen	-3.38	-9.4	-0.65
	Benchmark index	-27.42	-27.42	-27.42
2011-2012	Sharpe	-0.08	-3.54	-0.89
	Treynor	4.28	11.73	6.03
	Jensen	2.65	-7.03	0.21
	Benchmark index	23.73	23.73	23.73

Table 3 depicts that in 2007-2008, the Sharpe ratio of HSBC Income Fund - investment plan(G), HSBC Flexi debt fund-institutional plus(FD) and HSBC Floating rate fund - LTP (regular plan) (G) are 0.16, -2.91 and -0.04 respectively. The Treynor ratios are -8.24, 157.74 and 3.001 and Jensen ratios are 1.06, -7.28 and -0.41. The benchmark index was -73.46. The benchmark index was less than the ratios. So it would be good opportunity for the investor to invest in these funds.

In 2008-2009, the Sharpe ratio of HSBC Income Fund - investment plan (G), HSBC Flexi debt fund - institutional plus (FD) and HSBC Floating rate fund-LTP (regular plan)(G) are 0.65, -1.67 and 1.62 respectively. The Treynor ratios are -32.88, -90.74 and -109.19 and Jensen ratios are 2.13, -and 5.69 and 2.51. The benchmark index was 60.21. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

In 2009-2010, the Sharpe ratio of HSBC Income Fund - investment plan (G), HSBC Flexi debt fund - institutional plus (FD) and HSBC

Floating rate fund-LTP (regular plan) (G) are 0.32, -2.5 and 0.5 respectively. The Treynor ratios are -16.4, 5.55 and -34.14 and Jensen ratios are 0.35,-5.71 and -1.28. The benchmark index was 16.93. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

In 2010-2011, the Sharpe ratio of HSBC Income Fund-investment plan(G), HSBC Flexi debt fund-institutional plus (FD) and HSBC Floating rate fund-LTP (regular plan)(G) are 0.05, -3.18, -0.4 respectively. The Treynor ratios are -2.88, 172.3 and 27.39 and Jensen ratios are -3.38, -9.4 and -0.65. The benchmark index was -27.42. The benchmark index was less than the ratios. So it would be good opportunity for the investor to invest in these funds.

In 2011-2012, the Sharpe ratio of HSBC Income Fund-investment plan(G), HSBC Flexi debt fund-institutional plus (FD) and HSBC Floating rate fund-LTP (regular plan)(G) are -0.08, -3.54 and -0.89 respectively. The Treynor ratios are 4.28, 11.73 and 6.03 and Jensen ratios are 2.65, -7.03 and 0.21. The benchmark index was 23.73. The benchmark index was greater than the ratios. So it would not be good opportunity for the investor to invest in these funds.

CONCLUSION

Mutual Funds now represent perhaps most appropriate investment opportunity for most investors. As financial markets become more sophisticated and complex, investors need a financial intermediary who provides the required knowledge and professional expertise on successful investing. As the investor always try to maximize the returns and minimize the risk. Mutual fund satisfies these requirements by providing attractive returns with affordable risks. From the above analysis it is found that the year 2007-08 and 10-11 ware the better period to invest in HSBC funds but 2008-09, 09-10 and 11-12 ware not the right period to invest in HSBC funds. The year 2007-08 and 10-11 ware the better period to invest in ING funds. But the year 2008-09 , 09-10 and 11-12 ware not the right period to invest in ING funds. It is also found that the year 2007-08 and 10-11 ware the better period to invest in IDFC funds. But the year 2008-09, 09-10 and 11-12 ware not the right period to invest in IDFC funds. The fund industry has already overtaken the banking industry, more funds being under mutual fund management than deposited with banks. With the emergence of tough competition in this sector mutual funds are launching a variety of schemes which caters to the requirement of the particular class of investors. Risk takers for getting capital appreciation should invest in growth, equity schemes. Investors who are in need of regular income should invest in income plans. The stock market has been rising for over three years now. This in turn has not only protected the money invested in funds but has also to help grow these investments. This has also instilled greater confidence among fund investors who are investing more into the market through the MF route than ever before.

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