Comparison of Selected Mutual Funds of SBI and Birla Sun Life

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Abstract: The present paper reports the performance evaluation of selected mutual fund schemes using three performance evaluation models. The models have been applied to see whether there is any relationship among the performance evaluation models. The aim was also to study there is any significant difference between the public sector and private sector select mutual fund schemes. The results found that there is a significant relationship among the performance evaluation methods. In addition the study also found that there was no significant difference between the performances of two sector schemes. Further, the paper also discussed the applied aspects of this investigation.

Keywords: Jensen index, Mutual fund, Sharpe index, Treynor index.

I. Introduction

Mutual funds have gained a significant status among various investment avenues available in India. The paradigm shift towards mutual funds assumed greater importance ever since the financial sector gained momentum under the globalized and liberalized environment. The financial sector reforms and SEBI (Mutual Funds) Regulations brought out healthy competition in the mutual fund industry ensuring enhanced opportunities for the investing public.

It is important to understand the performance of the funds from various view points. From investors' point of view; investors always look for safer investment avenues with maximum returns. From fund manager's point of view; his ability to identify the right time to invest and also to select right stocks is the key issues in mutual fund investment strategy.

Return is the motivating factor and the major reward in the investment process. Measuring historical returns helps investors to evaluate the returns that can be expected from their investments. While return and risk are positively interrelated, it is always imperative to consider both risk and return when evaluating any investment alternative.

NAV is the commonly applied tool for assessing the performance of mutual fund scheme. Tracking NAV helps one to understand the performance of a scheme over a period of time. As funds are bought and sold based on NAV of schemes, the future performance can be predicted from past records of NAVs. Hence, a better way to assess the portfolio is to consider return per unit of risk.

To measure the risk, two appropriate quantitative risk surrogates that can be used and they are: standard deviation of rate of return and beta coefficient of the portfolio. In all the developed nations where options are traded in exchanges, risk-free rate of interest is calculated by the yield of the Treasury Bills which will mature as on the same date of expiration of the options. But in India, the Treasury Bills market is not matured and deep, the NSE itself uses the MIBOR and MIBID rates as the risk-free rate of interest. Hence, this study also takes the same, for calculating the risk free rate of interest. There are 4 types of these data available, which are overnight, 14 days, 1 month and 3 months rates. The same were downloaded from NSE website from 2000 till December, 2011.

A new direction in the risk-return analysis of portfolios was made possible by Markowitz's portfolio theory. In addition, Sharpe (1964) and John Lintner (1969) developed CAPM that laid the foundation stone for the growth of capital market. Remarkable contribution was made by Treynor (1965) and Jensen (1968) through developing models to evaluate portfolios. The return could be divided into various components with a valuable contribution made by Fama. Numerous research studies followed the methodology of Treynor, Sharpe and Jensen. On the same lines, and also based on the background of the previous studies reviewed, the researcher has attempted to make a close assessment of the mutual funds in the interest of the investors and others.

The following tools of analysis adopted in this study were the same as used in the previous studies by Carlson (1970), Fama Eugene (1972), Sarkar (1991), Shashikant Uma (1993), Yadav (1996), Jayadev (1996), Dellava (1998), Gupta (2000), Sondhi and others (2005) over the time period.

Empirical reviews of NAV of the selected equity schemes, which are growth schemes, give an understanding of the mutual fund schemes performance. Equity schemes are the close substitute for direct investment in capital market. As equity based schemes are comparatively riskier; investors expect return in relation to the risk involved. This part of the research work is an attempt to test the hypotheses to ascertain whether the performance evaluation models are similar to each other or different. And also to see whether there was any significant difference in the performance of public sector and private sector mutual funds.

For the purpose of the study the non-probability method of purposive or judgment sampling has been chosen many studies have used big companies, most of the companies selected were private (Gomathy Thyagarajan, 2012). In the present study one SBI and Birla Sun Life mutual fund companies were selected. One company is from public sector and the other company was from private sector. Under each company ten equity schemes have been selected for the purpose of evaluation. These equity schemes have been selected based on the seniority. Ten years of data from 2001-2010 have been analyzed. Performance evaluation has been done using Sharpe Reward to Variability, Treynor Reward to Volatility, Jensen Alpha, and Eugene Fama Decomposed Total Return.

II. The Objectives

- Is there a significant relationship among the mutual fund evaluation models namely, Sharpe, Treynor and Jensen indexes?
- Is there a significant difference in the performance of select mutual fund schemes of public sector in comparison to the select mutual fund schemes of private sector?

III. The Hypotheses

- There will be a significant relationship among the mutual fund evaluation models namely Sharpe, Treynor and Jensen Indexes.
- There will be a significant difference between the performances of public sector select mutual fund schemes in comparison to the select mutual fund schemes of private sector.

IV. Analysis of Results

The collected data was subjected to analysis. The Sharpe index, Treynor index, and Jensen alpha was applied to evaluate the performance of the select mutual fund schemes. Along with the performance evaluation models t test has been applied to find out the difference between the select mutual funds of public sector and private sector.

Sharpe Index: (S_t) is based on the scheme's total risk and is a summary measure of scheme's performance adjusted for risk.

S_t = [(Return from the Portfolio – Risk-free Rate of Return) ÷ Total Risk of Portfolio]

Treynor Index: Treynor single-parameter investment performance index is used for ranking mutual funds based on systematic risk.

Treynor Index = [(Return from the Portfolio – Risk free rate of return) ÷ Beta of the Portfolio]

Jensen Ratio: Jensen developed a measure of absolute performance on a risk-adjusted basis, with equilibrium average return on a portfolio as the benchmark.

Scheme's Expected Return = Risk free return + (Beta Risk Premium)

TABLE I: Shows Performance Evaluation based on Sharpe Index, Treynor Index and Jensen Alpha Models

Mutual Fund	Return	Risk	Risk Premium	Sharpe Index	Treynor Index	Jensen Alpha
SBI Magnum Equity Fund	0.0012	0.0763	-0.0751	-0.0357	-0.0815	0.0402
SBI Magnum Multiplier Plus 1993	0.0225	0.0762	-0.0537	-0.0283	-0.0621	0.0552
SBI Magnum Global Fund	0.0311	0.0763	-0.0452	-0.0246	-0.0572	0.0563
SBI Magnum Sector Funds Umbrella - Contra Fund	0.0408	0.0763	-0.0355	-0.0197	-0.0495	0.0569
SBI Magnum Sector Funds Umbrella - FMCG Fund	0.0297	0.0763	-0.0466	-0.0330	-0.0924	0.0304
SBI Magnum Sector Funds Umbrella - IT Fund	-0.0208	0.0763	-0.0971	-0.0414	-0.1092	0.0161
SBI Magnum Sector Funds Umbrella - Pharma Fund	0.0368	0.0763	-0.0395	-0.0262	-0.0716	0.0386
SBI Magnum Tax Gain Scheme 1993	0.0041	0.0763	-0.0722	-0.0335	-0.0795	0.0420
Birla Sun Life 95 Fund	0.0542	0.0763	-0.0221	-0.0173	-0.0430	0.0454
Birla Sun Life Advantage Fund	0.0200	0.0762	-0.0562	-0.0234	-0.0640	0.0540
Birla Sun Life Basic Industries Fund	0.0085	0.0759	-0.0674	-0.0225	-0.0816	0.0360
Birla Sun Life Buy India Fund	0.0445	0.0759	-0.0314	-0.0220	-0.0489	0.0526
Birla Sun Life Equity Fund	0.0550	0.0763	-0.0214	-0.0114	-0.0232	0.0930
Birla Sun Life Freedom Fund	0.0276	0.0759	-0.0483	-0.0427	-0.1169	0.0218
Birla Sun Life India Opportunities Fund	0.0151	0.0763	-0.0612	-0.0312	-0.1545	0.0158
Birla Sun Life MNC	0.0671	0.0762	-0.0091	-0.0048	-0.0163	0.0582

Table I presents the return, risk, risk premium and Sharpe index of the sample schemes which have been analyzed so far. The return from Birla Sun Life MNC (0.0671) was the highest and the SBI Magnum Sector Funds Umbrella - IT Fund (- 0.0208) was the lowest. The risk premium was negative for all the schemes; imply that the return of the sample schemes was less than the risk-free rate of return and risk covered. The Sharpe's index ranged from 0.0048 to -0.04427. The select sample schemes found to be negative that indicates the poor performance of all the sample schemes in terms of total risk taken by the investors.

The Treynor index for the entire sample schemes ranged from -0.0163 to 0.1545. The select sample schemes have negative Treynor index, which indicate that the sample schemes provided insufficient returns compared to the risk free return and the market risk involved. The Table I also shows the Jensen Alpha of sample schemes. The sample schemes in the above table show positive Jensen values. The positive Jensen's alpha indicates superior performance compared to that of expectations.
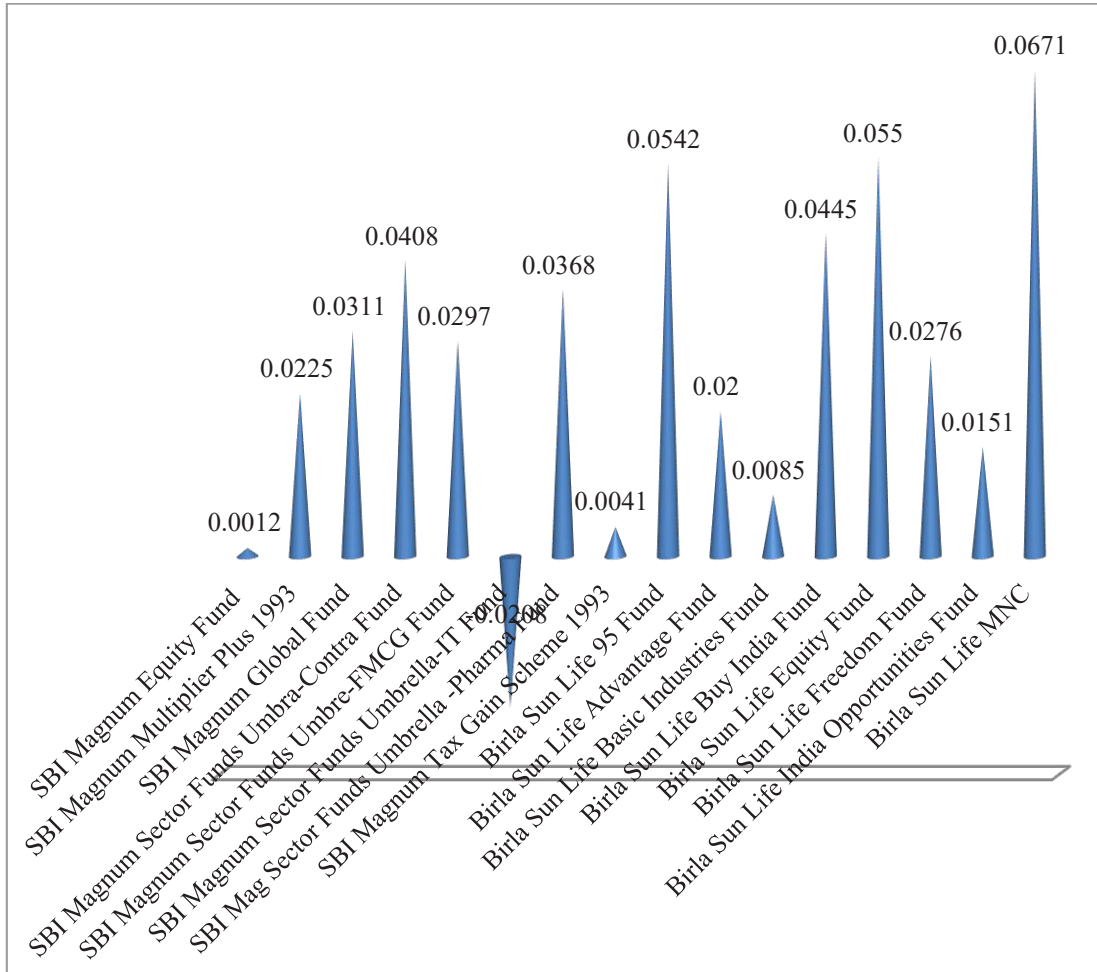
Graph 1: Exhibits the Return (Overall) of Select Sample Mutual Funds

Graph 1 exhibit the overall return of select sample mutual fund schemes from 2000-2011. The graph shows very clearly that the return from Birla Sun Life MNC (0.0671) was the highest and the SBI Magnum Sector Funds Umbrella - IT Fund (- 0.0208) was the lowest for overall returns from 2000 to 2011.

To test the following hypothesis the correlation coefficient using Pearson and Kendall's Tau methods have been applied.

H1: There will be a significant relationship among the mutual fund evaluation models namely Sharpe, Treynor and Jensen Indexes.

TABLE II: SHOWING THE CORRELATION COEFFICIENT BY TWO METHODS AMONG THE MUTUAL FUND PERFORMANCE EVALUATION MODELS

Models	Measures	Treynor	Jensen
Sharpe	Pearson Correlation	.817**	.755**
	Kendall's tau_b	.717**	.533**
Treynor	Pearson Correlation		.868**
	Kendall's tau_b		.783**

**. Correlation is significant at the 0.01 level

Table II showed the correlation among Sharpe, Treynor and Jensen models of mutual fund performance evaluation. There is a significant relationship among the three models according to Pearson correlation and Kenadall Tau correlation coefficients. This indicated that all the three Models evaluated in similar way. Hence, the first hypothesis has been accepted.

To test the second hypothesis the t test has been applied for overall return as well as for performance evaluation models.

H2: There will be a significant difference between the performances of public sector select mutual fund schemes in comparison to the select mutual fund schemes of private sector.

TABLE III: SHOWING THE T TEST BETWEEN SELECT MUTUAL FUND SCHEMES OF PUBLIC SECTOR AND SELECT MUTUAL FUND SCHEMES OF PRIVATE SECTOR

Variables	Mutual Fund	Mean	S. D.	t	df	Sig.
Return	Public	.0182	.02132	-1.710	14	.109 (NS)
	Private	.0365	.02155			
Sharpe	Public	-.0303	.00692	-1.754	14	.101 (NS)
	Private	-.0219	.01162			
Treynor	Public	-.0754	.01956	-.376	14	.712 (NS)
	Private	-.0686	.04742			
Jensen	Public	.0420	.01425	-.520	14	.611 (NS)
	Privtate	.0471	.02406			

NS – Not Significant

According to the Table III there is no significant difference between public and private sector select mutual fund schemes in their return as well as the three performance evaluation models that were applied to study the performance of the select mutual fund schemes. Hence, the second hypothesis which stated that there will be a significant difference in the performance of select mutual fund schemes of public sector and private sector has been rejected.

Sharpe's ratio tries to look to at the total risk of the investment, where as Treynor index attempts to evaluate the risk free return as well as market risk involved in the performance. Jensen alpha tries to understand the expectations involved in the investment and whether the expectation were fulfilled. The performance evaluation by three models appear to somewhat similar in nature though they attempt to see different things in mutual funds.

Select schemes of both public sector and private sector are doing in similar fashions. In Indian setup, people generally believe public sectors when it comes to financial affairs for various reasons. India in recent past has seen a surge of companies entering into the Indian financial market to make good profits. Slowly the mind set of people is changing and people are actually taking brave risks to invest in various avenues, even if they are private sector. However, the present investigation made it clear that there are no statistical differences between both sectors in mutual funds.

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