A comparative performance of top three mutual funds in india (equity, income & balanced funds) during the year 2006-2008

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ABSTRACT

Mutual funds are an integral part of the stock market. It has become the investment avenue for large number of investors in the recent years. Also the stock market volatility is high in these years. Thus in order to analyze the performance of top funds under important schemes, a research has been done. Top three mutual funds in the equity, income and the balanced funds category were selected based on their return. The main focus of this research is to find out the risk and return features and study the performance of the funds and to compare it with the market return. This research is limited to 9 open-ended funds, 3 each in the equity, income & the balanced funds respectively to the availability of NAV data for three years (2006-2008) . The findings will be useful to bring out insight into investment avenues .

Introduction

There are a number of investment opportunities available to an investor. Each of these investments has its own risk and return features. An investor must learn to analyse and measure the risk and return of the portfolio. The mutual fund industry plays a significant role in the development of the economy. Its buoyant growth leads to lower intermediation costs, more efficient financial markets, and increased vibrancy of the capital markets and higher local ownership of financial assets. If retail investment is directed through the mutual fund route, it will lead to greater wealth creation in the long run. Thus, the industry can be one of the causative factors for a healthy economy. The Indian mutual funds business is expected to grow significantly in the coming years due to a

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high degree of transparency and disclosure standards comparable to anywhere in the world, though there are many challenges that need to be addressed to increase net mobilisation of funds in the sector.

Objectives

The main focus of this research article is to analyze the risk, return parameters of the top performing equity, income and balanced funds, rank the funds based on various measures, to compare the performance of fund returns with the market returns, to analyze the stock selecting ability and the market timing ability of the fund managers of the top performing funds, and also to analyze the timing ability & the stock selecting capacity of the fund manager s in these funds.

Literature review

Michael C. Jensen, Harvard Business School (2002) 'The performance of Mutual Funds in the period 1945-1964'. In this paper a risk adjusted measure of portfolio performance that estimates how much a managers forecasting ability contributes to the funds return. The measure is based on the theory of the pricing of Capital assets by Sharpe (1964) Lintner (1965) and Treynor. **Timotej Jagric, Boris Podobnik, Sebastjan, Strasek, and Vita Jagric** "Risk adjusted performance of Mutual funds: some tests, (2007). They studied the mutual fund industry and apply various tests to evaluate the performance capacity of mutual funds. They used performance measure to evaluate funds and also they rank them according to the results. **Arnod L.Redman, N.S. Gullet and Herman Manakyan** "The performance of Global and International mutual funds (2000). This paper examines the risk-adjusted returns using Sharpes Indix, Treynors Index, Jensens Alpha for five portfolios of international mutual funds and for three time period: 1985-1994, 1985-1989 and 1990-94. The bench mark for comparison was the US market provided by the Vanquand Index 500 mutual funds and a portfolio of funds that invest solely in US stocks. J**.Cai,KC Chan and T.Yamada** ' The performance of Japanese mutual funds'. They analyze the performance of Japanese open-type stock mutual funds for the 1981 -1992 period. **David Blake**, Birbeck College, 'Performance Persistence in mutual funds'. (2003) their study reviewed the extensive empirical literature on mutual fund performance and also conducted an empirical analysis of the performance of a large sample of UK unit trusts. **S.P. Kothari, Jerold B, Warner** Evaluating Mutual fund performance (2005) this paper indicates standard modal fund performance measures, using simulated funds whose characteristics mimic actual funds.

Research Methodology

Descriptive research is used in this research article. The top performing equity, income & balanced funds are selected subject to the availability of NAV prices for the period 2006-2008. After this fundamental screening, a total of 9 funds, 3each in equity, income & balanced funds are chosen. This research pertains to collection of secondary data. The following statistical tools are used for analysis:-

Return

$$R_i = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}} \times 100$$

Risk:

$$\sigma_i = [\, \Sigma (R_i - R)_2 / n]^2$$

Beta : Beta is the slope of the characteristic regression line. Beta describes the relationship between the stock's return and the index returns

$$\beta = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{N\Sigma X^2 - (\Sigma X)^2}$$

Sharpe Performance Index: The sharpe's performance index gives a single value to be used for the performance ranking of various funds.

$$S = \frac{R_i - R_f}{\sigma_i}$$

Treynor Performance Index: The fund's performance is measured in relation to the market performance.

$$T = \frac{R_i - R_f}{\beta_i}$$

Jensens Performance Index: The standard is based on the manager's predictive ability.

$$R_p = \alpha + \beta\, (R_m - R_f)$$

Fama's Performance Index: The Fama's measure of net selectivity reflects the difference between the return earned on the funds and the return posited by the capital market line

$$= R_i - R_f\, (\sigma_i / \sigma_m)\, (R_m - R_f)$$

The various performance measures like Sharpe, Treynor ratios are calculated to analyze the risk return parameters of the funds.

Equity Funds

Sundaram annual return for the fund has been less than the market return for the years 2006 & 2008. The annual return during the year 2007 is higher than the market return due to the boom in the stock market. The sharpe, Treynor & Jensen's ratio are the greatest for the year 2007. It implies that

Table 1.1 Performance measures –Growth fund

	2006	2007	2009	2006	2007	2008	2006	2007	2008
	Sundaram BNP Paribas			ICCI Prudential FMCG			Reliance Growth		
Market Return %	46.823	47.146	-52.445	46.823	47.146	-52.445	46.823	47.146	-52.445
Annual Return %	30.722	68.384	-47.575	23.271	42.747	-45.144	39.815	76.850	-54.173
Beta	0.898	0.898	0.810	0.868	0.414	0.655	1.004	0.903	0.966
Correlation	0.734	0.756	0.945	0.744	0.673	0.863	0.814	0.885	0.982
Monthly average return	2.512	4.681	-4.843	1.986	4.680	-4.561	3.085	5.049	-5.767
Risk	7.335	7.463	9.084	7.006	5.800	-4.561	7.395	6.474	10.421
Sharpe ratio	3.154	8.147	-6.071	2.239	6.062	11.558	4.358	10.698	-5.925
Treynor ratio	25.783	68.367	-68.095	18.060	84.860	-80.423	32.096	69.267	-63.915
Fama Measure	-24.822	14.264	-3.683	-30.123	-1.001	-78.576	-16.123	28.896	-2.706
Jensens alpha	-12.078	25.615	-6.534	-18.398	35.678	-13.371	-7.174	33.804	-3.755
R square	0.493	0.529	0.882	0.509	0.126	0.72	0.631	0.763	0.961
Average TE (Active Return)	-0.914	1.232	0.609	-1.439	-0.295	0.891	-0.339	1.599	-0.314
TE volatility	5.0175	4.935	3.597	4.747	6.366	5.456	4.286	3.067	1.988
Information ratio	-0.182	0.250	0.169	-0.303	-0.046	0.163	-0.079	0.521	-0.158

this year has the best risk adjusted performance. The treynor again declined in 2008 to the same extent. The jensen's in the year 2006 & 2008, it is negative which indicates that the return earned on the portfolio is less than the expected return posited by the security market line in these years.

ICICI prudential annual return for the fund has been less than the market return for the year 2006 & 2007. Even though it is negative in the year 2008 the return did not drop much when compared to that of the market return. The monthly average return of the fund has increased in the year 2007 but became negative in 2008. The return per unit of risk as expressed by Sharpe ratio shows that return per unit of risk has increased over years. The sharpe ratio is the greatest for the year 2008. It implies that this year has the best risk adjusted performance. The Treynor ratio also increased for the year 2007. It again declined in 2008 to the same extent. The Jensen's & Fama measure is positive only for the year 2007. In the year 2006 & 2008, It is negative which indicates that the return earned on the portfolio is less than the expected return posited by the security market line in these years since the fund is conservative in nature.

Reliance annual return for the fund has been less than the market return for the years 2006 & 2008. The annual return during the year 2007 is higher than the market return due to the boom in the stock market.The Sharpe, Treynor, Jensen's & Fama ratios increased for the year 2007. But Treynor ratio declined in 2008 to the same extent. And also Jensen's& fama shows only negative return which indicates that the return earned on the portfolio is less than the expected return posited by the security market line in these years.

Income Funds

The Escorts, Canara Robecco & DBS Chola Monthly Income plan annual return for the fund has always been less than the market return since it is an income fund. Because of its conservatives, the annual return during the year 2008 which faced a stock market crash, the fund also declined less when compared with the market return. The Escorts return per unit of risk expressed by Sharpe ratio always that return per unit of risk has increased in 2007 but became negative in 2008. The Sharpe ratio is the greatest for the year 2007. It implies that this year has the best risk adjusted performance. The Treynor ratio also increased for the year 2007. It again declined in 2008 to a much greater extent indicating high systematic risk. The Jensen's & Fama measure is high only for the year 2007. In the year 2006 & 2008, it is very less/ negative which indicates that the return earned on the portfolio is less than the expected return. It shows that the stock selection skill of the fund manager is good only for the year 2007.

The sharpe ratio shows that the Canara Robecco return per unit of risk is positive only for 2008.In

Table 1.2 Performance measures – Income funds

	2006	2007	2009	2006	2007	2008	2006	2007	2008
	Escorts Income fund			Canara Robecco fund			DBS Chola Monthly Income plan		
Market Return %	46.823	47.146	-52.445	46.823	47.146	-52.445	46.823	47.146	-52.445
Annual Return %	21.744	24.282	-7.938	4.559	6.462	29.953	7.652	15.984	7.524
Beta	0.343	0.293	0.0967	0.001	0.003	0.048	0.100	0.181	0.117
Correlation	0.702	0.740	0.538	0.173	0.274	0.244	0.775	0.498	0.480
Monthly average return	1.692	1.857	-0.669	0.372	0.523	2.226	0.619	1.266	0.636
Risk	2.931	2.517	1.901	0.061	0.092	2.092	0.780	2.304	2.584
Sharpe ratio	4.831	6.632	-8.161	-48.894	-12.153	10.690	0.090	3.645	-0.022
Treynor ratio	41.272	56.866	-160.420	-1692.687	-280.582	463.101	0.699	46.393	-0.494
Fama Measure	-5.002	1.000	-4.745	-3.427	-1.694	34.227	-5.032	-5.969	14.587
Jensons alpha	0.697	5.081	-9.712	-3.092	-1.277	25.270	-3.886	1.236	6.984
R square	0.443	0.502	0.220	-0.067	-0.017	-0.034	0.561	0.173	0.154
Average TE (Active Return)	-1.733	-1.591	4.783	-3.053	-2.925	7.680	-2.806	-2.182	6.090
TE volatility	4.459	4.790	9.702	5.991	6.320	10.284	5.418	5.566	9.621
Information ratio	-0.38866	-0.332	0.493	-0.509	-0.462	0.746	-0.517	-0.392	0.632

the year 2006 & 2007, it is negative which indicates that the return earned on the portfolio is less than the expected return. The Treynor ratio also positive only for 2008 indicating less systematic risk. The jensens & Fama measure also increased for the year 2008. In the year 2006 & 2007 , it is negative return.It shows that the stock selection skill of the fund manager is good only for the year 2008.

The Sharpe ratio of DBS Chola ratio shows that the return per unit of risk has increased in 2007 but declined in 2008. The Sharpe ratio is the greatest for the year 2007. It implies that this year has the best risk adjusted performance.The Treynor ratio also increased for the year 2007. It again declined in 2008 to a much greater extent indicating the systematic risk. The jensen's & Fama measure is high only for the year 2008. It shows that the stock selection skill of the fund manager is good in the year 2008.

Balanced Funds

The SBI Magnum Balance, Kotak Balance, & DSP BlackRock Balanced fund annual return for the fund has always been less than the market return since it is an income fund. Because of its conservatives, the annual return during the year 2008 which faced a stock market crash, the fund also declined less when compared with the market return. The SBI Magnum return per unit of risk expressed by Sharpe ratio indicates that return per unit of risk has increased in 2007 but became negative in 2008. The Sharpe ratio is the greatest for the year 2007. It implies that this year has the best risk adjusted performance. The Treynor ratio also increased for the year 2007. It again declined in 2008 to a much greater extent indicating high systematic risk. The Jensen's & Fama measure is high only for the year 2007. In the year 2006 & 2008, it is very less/ negative which indicates that the return earned on the portfolio is less than the expected return. It shows that the stock selection skill of the fund manager is good only for the year 2007.

The sharpe ratio shows that the Canara Robecco return per unit of risk is positive only for the year 2007.In the year 2008, It is negative which indicates that the return earned on the portfolio is less than the expected return. The Treynor ratio also increased for the year 2007 indicating high systematic risk. The jensens & Fama measure also increased for the year 2007. In the year 2006 & 2008 , it is negative return.It shows that the stock selection skill of the fund manager is good only for the year 2007.

The Sharpe ratio of DBS Chola ratio shows that the return per unit of risk has increased in 2007 but declined in 2008. The Sharpe ratio is the greatest for the year 2007. It implies that this year has the best risk adjusted performance. The Treynor ratio also increased for the year 2007. It again declined in 2008 to a much greater extent indicating the systematic risk. The jensen's & Fama measure is high only for the year 2008. It shows that the stock selection skill of the fund manager is good in the year 2007.

Table 1.3 Performance measures – Balanced funds

	2006	2007	2009	2006	2007	2008	2006	2007	2008
	SBI Magnum Balanced fund			Kotak Balanced fund			DSP Black Rock Balanced fund		
Market Return %	46.823	47.146	-52.445	46.823	47.146	-52.445	46.823	47.146	-52.445
Annual Return %	33.673	48.374	-44.664	7.197	40.978	-51.195	32.107	51.261	-37.974
Beta	0.836	0.752	0.769	0.464	0.583	0.763	0.735	0.581	0.697
Correlation	0.906	0.950	0.975	0.563	0.759	0.851	0.961	0.786	0.973
Monthly average return	2.589	3.454	-4.473	0.694	3.007	-5.344	2.446	3.606	-3.625
Risk	5.541	5.022	8.355	4.954	4.870	9.496	4.591	4.692	7.590
Sharpe ratio	4.708	8.121	-6.253	-0.077	6.857	-6.189	5.342	9.307	-6.001
Treynor ratio	31.186	54.207	-67.888	-0.828	57.258	-77.009	33.351	75.105	-65.281
Fama Measure	-10.142	9.473	-4.904	-32.781	3.027	-4.965	-5.492	14.417	-2.546
Jensons alpha	-6.737	11.019	-6.049	-18.627	10.320	-12.961	-4.331	20.669	-3.665
R square	0.803	0.894	0.947	0.249	0.535	0.697	0.917	0.580	0.943
Average TE (Active Return)	-0.835	0.005	0.980	-2.730	-0.441	0.108	-0.979	0.157	1.828
TE volatility	2.541	2.212	3.048	5.203	4.125	5.576	2.030	3.931	3.633
Information ratio	-0.328	0.002	0.321	-0.524	-0.107	0.019	-0.482	0.040	0.503

Ranking of the funds based on the measure

Table 1.4 Equity Funds

Growth fund	**2006**				**2007**				**2008**			
	S	T	F	J	S	T	F	J	S	T	F	J
Sundaram BNP Paribas Taxsaver	2	2	2	2	2	3	2	3	2	2	2	2
ICICI Prudential FMCG	3	3	3	3	3	1	3	1	3	3	3	3
Reliance Growth	1	1	1	1	1	2	1	2	1	1	1	1

Best performing fund according to the ranking for the year

- 2006 Reliance Growth
- 2007 Reliance Growth
- 2008 – Reliance Growth

Table 1.5 Income Fund

INCOME	2006				2007				2008			
	S	T	F	J	S	T	F	J	S	T	F	J
Escorts Robeco Income fund	1	1	2	1	1	1	1	1	3	3	3	3
Canara Robecco Income Scheme	3	3	1	2	3	3	2	3	1	1	1	1
DBS Chola Monthly Income	2	2	3	3	2	2	3	2	2	2	2	2

Best performing Income fund according to the ranking for the year

- 2006 – Escorts Robeco Income fund
- 2007 – Escorts Income Bond
- 2008 – Canara Robeco Income Scheme

Table 1.6 Balanced Fund

Growth fund	2006				2007				2008			
	S	T	F	J	S	T	F	J	S	T	F	J
SBI Magnum Balanced Fund	2	2	2	2	2	3	2	2	3	2	2	2
Kotak Balance	3	3	3	3	3	2	3	3	2	3	3	3
DSP BlackRock Balanced fund	1	1	1	1	1	1	1	1	1	1	1	1

Best performing fund according to the ranking for the year

- 2006 – DSP BlackRock Balanced fund
- 2007 – DSP BlackRock Balanced fund
- 2008 – DSP BlackRock Balanced fund

Table 1.7 Rank correlations between the measures

MEASURES	RANK CORRELATION		
	EQUITY	INCOME	BALANCED
Sharpe- Treynor	0.833	0.933	0.833
Sharpe – Fama	0.933	0.400	0.933
Sharpe – Jenson	0.867	0.767	0.867
Treynor –Fama	0.833	0.367	0.833
Treynor- Jenson	0.967	0.833	0.967
Fama –Jenson	0.900	0.700	0.900

Equity funds: All the measures – Sharpe, Jenson, Fama, Treynor all show sufficiently higher positive correlation. Among them, Sharpe & Fama as well as the Treynor and Jensen show the greatest correlation. This may be due to the reason that the Sharpe & Fama deal with the total risk whereas the Treynor & Jenson deal with only the systematic risk.

Income fund: Sharpe & the Treynor ratios give the highest correlation. The correlation of Sharpe & Treynor with the Fama measure individually gives the least correlation.

Balanced fund: All the measures show sufficiently higher positive correlation among themselves. Among them, Sharpe & Fama as well as the Treynor and Jenson show the greatest correlation.

Findings

The equity funds have the highest total risk as well as the systematic risk, followed by the balanced funds and the income funds having the least risk. The average returns also follow the same trend with the equity funds earning the highest return & the income funds earning the least average return according to the risk. The equity funds earned higher returns than the market return in the year 2007 which saw a boom in the stock market. But in 2008, there was a severe downtrend, the return declined severely than the market returns. The funds are aggressive. The income funds earned very less return than the market return in the year 2007 in the boom. But in 2008, which had a severe downtrend, the return either declined to a meagre amount or increased. But the returns are very less since these funds are conservative. The Balanced funds also closely follow the bench mark index. They did not over perform the market during the boom and also they did not underperform the market during the down trend. They are neither aggressive nor much conservative.

Conclusion

The mutual fund industry is gaining importance in the recent years. A large number of plans have come up from different financial resources. With the stock markets soaring the investors are attracted towards these schemes. Still only a small segment of the investors invest in mutual funds due to the risk associated with it. Also there is a greater tendency to invest in fixed deposits due to the security. Such investors can invest in safe funds like debt and balanced funds, with comparatively less risk and earn high returns than fixed deposits. In order to excel and make mutual funds a success, companies still need to create awareness and understand the psyche of the Indian customer. Performance analysis helps investor as well as the fund manager to study about the risk return relationship and is a useful tool for making proper investment decisions. It acts as a guide for the investors in choosing the scheme which best suit their expected returns and risk tolerance leve.

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