Comparative Performance Evaluation of Open Ended Equity Mutual Fund Schemes: Indian Evidence

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Abstract

Small investors look at mutual funds as safest avenue to enter equity markets. They expect that the fund management with large Assets Under Management (AUM), professional managers, low transaction fees, access to information, and ability to forecast the markets will fetch them more returns than a naïve investment strategy. These expectations of small investors lead to large volumes of research on performance of mutual funds. In this study we tried to assess the performance of mutual fund schemes offered by a public sector undertaking in India. In all, eight open ended equity schemes were selected for the study. One year Net Asset Values (NAVs) of these schemes were used to measure the performance. We found that majority of the schemes have positive excess returns.

Keywords: Mutual Fund Performance, Sharpe Index, Pivot Table, Beta, NAV

I. Introduction

An extensive research had been done on performance evaluation of mutual funds. The results of those studies were mixed. Few researchers argued that mutual funds will outperform their benchmarks and yield higher returns to investors. Superior performance is attributed to fund managers' ability to pick the stocks, low expense ratio, smaller portfolio, lower turnover, and fund size. On the other hand, few studies reported inferior performance of the schemes. Poor performance of the schemes is because of larger assets under management, marketing abilities, and high expense ratio. Performance of funds also varied among the type of fund offer. Equity schemes reported higher returns when compared to debt schemes. Few researchers distinguished schemes offered by public sector undertakings and private fund houses. In those situations also fund performances differed. Fund performance measures varied from simple return, log returns, average monthly returns, annualized returns, risk adjusted measures (Sharpe, Treynor), and Factor Models (Fama, Carhart etc.).

In this context, we aim to evaluate the performance of open ended equity schemes offered by a large public sector undertaking in India. This paper is structured into five sections. Section II deals with review of literature, Methodology is presented in Section III and Data analysis is depicted in Section IV. Finally, conclusions are drawn in Section V.

II. II. Literature Review

Mutual fund performance, comparison, modeling, market timing and other related issues are of great interest among portfolio researchers. In this section we provide a brief review of prevailing research on mutual fund performance with special reference to research in India and Asia Pacific regions.

Annapoorna & Gupta (2013) reported that in short run mutual funds failed to report returns equal to bank term deposit, and in long run only equity schemes yielded greater returns. However, these returns from equity schemes may not persist. Jayadev (1996) evaluated the performance of two growth schemes offered by a same mutual fund trust and found that one scheme reported better performance and the other poor performance. The fund with poor performance was well diversified and had reduced risk. He concluded that, growth oriented funds did not offer any advantage of diversification or professionalism to the investors. Kothari & Warner (2001) found abnormal fund performance particularly in style investment schemes. In another study, Revathy & Santhi (2013) found greater returns in equity schemes compared to their benchmark funds. Positive returns were achieved by equity schemes during bull market conditions (Prajapati & Patel, 2012). Research work of Narayanasamy and Rathnamani (2013) reported superior scheme returns during their study period and related that to market movements. Fund returns where very low when compared to market returns (Alekhya, 2012).

In Bangladesh, Md.Qamruzzaman (2014) found a positive monthly return and upward trend in comparison to market return in dividend schemes and with regard to growth schemes he found poor performance because of high volatility in markets. According to Manuel Alcino R. da Fonseca & Larissa Sant'Ana Ponce (2012) debt funds reported superior results in Brazil. These higher returns on debt funds were attributed to higher interest rate in Brazil. Timotej et. al. (2007) ranked the mutual funds using Sharpe and Treynor indexes and found that all diversified funds reported good returns and outperformed the market on risk-adjusted basis.

III. Methodology

For this study we considered eight open ended equity schemes offered by LIC Nomura mutual fund. Net Asset Values (NAVs) of these schemes were collected from LIC Nomura mutual fund official website. We gathered 242 data points for each scheme during the period October 1, 2013 to September 30, 2014. First we calculated daily returns, and then split the data on monthly basis. Average return and risk were calculated on monthly basis. Annual return and risk were aggregated on the basis of average monthly values. For calculating systematic risk we used NSE CNX 500 as benchmark. While performing risk adjusted performance measure of Sharpe, we applied six percent as annual risk free rate.

III. Data Analysis

During the 12 months of study period, Infrastructure fund reported highest returns in four months and Tax Plan reported highest returns among all schemes in three months. When we looked at the fact sheets for those months, we found that, even though these two schemes have different names, their portfolio exposure was more or less same. These two schemes invested a large chunk of their AUM in banking stocks (Approx 25 %). Next highest performing schemes like Equity Fund, Growth Fund also had similar investments in banking stocks. With these observations we can say that, any change in the performance of banking stocks have significant impact on the performance of LIC Nomura schemes. Instead of diversifying their portfolio, the fund managers created concentrated portfolio. In case of Sensex fund also there was no diversification akin to BSE Sensex or NSE Nifty.

Even though there were eight different schemes, a detailed study of fact sheets revealed that, all these equity schemes have near to similar investment objectives, and managed by two fund managers (Nobutaka Kitajima or Killol Pandya). For all the schemes one of the two managers mentioned above acted as fund managers. This may be one reason for same investment style followed in all schemes.

Total risk of the schemes was presented in Table II. Of the total schemes infrastructure scheme had highest total risk. This may be because of its larger exposure to banking stocks, high expense ratio, smaller AUM, and low turnover ratio. Tax plan, equity fund, Nifty plan also had higher risk levels. Approximately 25 % of AUMs were invested in banking stocks by all the schemes. Performance of banking stocks and factors those influence the bottom line of the banks have direct impact on performance of these schemes.

	Table I: Monthly Average Returns												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual Return
Equity Fund - (G)	9.53	0.25	2.89	-5.88	4.53	7.09	0.97	9.45	5.64	1.21	4.08	0.50	3.35
Growth Fund (G)	8.16	-1.70	3.21	-2.38	**4.92**	1.96	0.71	5.08	6.91	2.18	5.27	**1.92**	3.02
Sensex Advantage (G)	7.50	-1.26	1.89	-2.83	3.11	4.84	0.93	7.30	5.26	2.57	3.24	0.38	2.74
Nifty Plan (G)	8.62	-1.99	1.98	-3.42	3.00	6.49	-0.07	7.62	5.60	1.78	3.02	0.10	2.73
Sensex Plan (G)	8.10	-1.77	1.77	-3.13	2.82	5.58	0.25	7.75	5.17	2.18	2.87	-0.11	2.62
Infrastructure Fund (G)	**10.85**	**1.08**	1.56	-7.15	2.95	**14.36**	0.65	**14.34**	6.67	0.02	2.12	-0.59	**3.90**
RGESS Fund Series 1 - Regular (G)	8.97	0.30	**4.21**	-7.23	3.09	9.45	**1.07**	11.54	5.79	0.31	2.67	0.61	3.40
Tax Plan - (G)	8.77	-0.30	3.19	-3.16	3.99	3.77	0.40	7.79	**7.58**	**3.00**	**5.41**	1.75	3.52

	Table II: Monthly SD												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual SD
Equity Fund - (G)	4.00	4.79	3.82	4.01	2.69	3.10	3.50	4.12	3.84	4.47	3.50	4.33	13.33
Growth Fund (G)	3.81	4.06	2.85	3.75	2.21	2.45	2.82	3.65	3.35	3.72	3.14	4.17	11.54
Sensex Advantage (G)	3.84	4.43	3.47	3.63	2.56	2.81	3.20	4.19	3.96	3.71	3.22	3.44	12.26
Nifty Plan (G)	4.16	4.90	3.85	3.66	2.91	3.15	3.03	4.51	4.14	3.86	3.35	3.74	13.06
Sensex Plan (G)	3.85	4.74	3.68	3.64	2.79	3.01	3.13	4.49	4.19	3.81	3.32	3.70	12.80
Infrastructure Fund (G)	**4.40**	**5.51**	**4.90**	**4.53**	**3.36**	**4.14**	**4.30**	**6.85**	**6.06**	**6.14**	**4.30**	**5.46**	**17.30**
RGESS Fund Series 1 - Regular (G)	4.11	5.14	4.23	4.53	3.09	3.53	3.77	5.40	4.57	5.30	3.53	4.53	14.94
Tax Plan - (G)	3.81	4.00	3.05	4.09	2.62	2.30	3.01	3.29	3.66	4.08	3.46	4.97	12.22
Highest Monthly SD	**4.40**	**5.51**	**4.90**	**4.53**	**3.36**	**4.14**	**4.30**	**6.85**	**6.06**	**6.14**	**4.30**	**5.46**	

Table III presents the monthly beta values of all the schemes. To calculate beta values we considered NSE CNX 500 as benchmark index. Among the eight schemes Equity fund and Nifty plan moved in tandem with benchmark index with beta values of 0.99 and 0.98 respectively. Infrastructure fund reported a high beta (1.22). This shows that, infrastructure fund was highly sensitive to market movements. Even a minor change in market movement will adversely impact the performance of this fund. Growth fund and Tax plan schemes reported low beta values (0.79, and 0.88 respectively).

	Table III: Monthly Beta												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual Beta
Equity Fund - (G)	1.03	1.06	1.07	1.02	0.96	1.04	1.09	0.86	0.84	0.96	0.96	0.99	0.99
Growth Fund (G)	0.97	0.88	0.76	0.92	0.76	0.73	0.83	0.47	0.64	0.77	0.83	0.94	0.79
Sensex Advantage (G)	0.99	0.97	0.97	0.92	0.94	0.96	1.00	0.87	0.88	0.80	0.87	0.77	0.91
Nifty Plan (G)	1.08	1.08	1.08	0.93	1.09	1.10	0.95	0.94	0.93	0.83	0.91	0.84	0.98
Sensex Plan (G)	0.98	1.03	1.03	0.90	1.03	1.02	0.98	0.93	0.93	0.81	0.88	0.82	0.95
Infrastructure Fund (G)	**1.11**	**1.20**	**1.28**	**1.11**	**1.13**	**1.28**	**1.27**	**1.36**	**1.27**	**1.29**	**1.14**	**1.22**	**1.22**
RGESS Fund Series 1 - Regular (G)	1.06	1.11	1.17	1.14	1.11	1.23	1.15	1.15	1.02	1.15	0.96	1.04	1.11
Tax Plan - (G)	0.97	0.85	0.84	1.03	0.96	0.73	0.94	0.61	0.76	0.87	0.90	1.08	0.88

Table IV portray the ranking of schemes according to Sharpe Index. During the months of October, November, and March infrastructure fund topped the list and in the months of December, February, August, and September Growth fund ranked first. Tax plan was the highest performer during May, June, and July months. These results clearly elicit that no fund manager or fund had performance persistence. Highest risk adjusted performance of Growth fund can be credited to its lower total risk. When compared with other schemes Growth fund had low volatility in NAV movements. Tax plan had low systematic risk during its high performance periods.

	Table IV: Monthly Sharpe Index											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Equity Fund - (G)	2.38	0.05	0.75	-1.47	1.68	2.29	0.28	2.29	1.47	0.27	1.16	0.11
Growth Fund (G)	2.14	-0.42	**1.13**	-0.64	**2.23**	0.80	0.25	1.39	2.06	0.59	**1.68**	**0.46**
Sensex Advantage (G)	1.95	-0.29	0.55	-0.78	1.21	1.72	0.29	1.74	1.33	0.69	1.01	0.11
Nifty Plan (G)	2.07	-0.41	0.51	-0.94	1.03	2.06	-0.02	1.69	1.35	0.46	0.90	0.02
Sensex Plan (G)	2.11	-0.37	0.48	-0.86	1.01	1.85	0.08	1.72	1.23	0.57	0.86	-0.03
Infrastructure Fund (G)	**2.47**	**0.19**	0.32	-1.58	0.88	**3.47**	0.15	2.09	1.10	0.00	0.49	-0.11
RGESS Fund Series 1 - Regular (G)	2.18	0.06	0.99	-1.60	1.00	2.67	0.28	2.13	1.27	0.06	0.76	0.13
Tax Plan - (G)	2.30	-0.08	1.04	-0.77	1.52	1.64	0.13	**2.36**	**2.07**	**0.73**	1.56	0.35

IV. Conclusion

This study intended to evaluate the performance of open ended equity schemes offered by a public mutual fund trust in India. We found that, majority of the schemes had positive monthly returns and also positive risk adjusted returns. However, we didn't find any trend of performance persistence. Funds those reported highest returns in one month failed to repeat the same results in following months. This shows the inefficiency of fund managers to time the market. We also found that funds that reported higher returns were tend to have higher risk. Even though the fund house offered different schemes with different objectives, we found concentration of investments in few sectors rather than uniform diversification. Two major factors that attracted our concern is just two fund managers are managing all these funds and all the schemes have approximately 25% of AUM in banking stocks. It is suggested that, the mutual fund trust should appoint different fund managers for different schemes. Next, the fund house should come up with a style investment fund for Banking. Finally, the fund managers should diversify the portfolio by reducing investments in banking stocks.

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