PERFORMANCE OF EQUITY SCHEMES OF MUTUAL FUNDS IN INDIA: AN ANALYSIS ACROSS FUND CHARACTERISTICS

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ABSTRACT

The economic reforms initiated by Indian government over the last two decades have resulted in the asset management industry moving centre-stage in the Indian financial services sector. With the growing risk appetite, rising income, and increasing awareness, mutual funds in India are becoming a preferred investment option.They now play a very significant role in channelizing the saving of millions of individuals into the investment in equity and debt instruments. In this paper, an attempt has been made to evaluate the performance of Equity Schemes of selected mutual funds during the recent nine-year period from January 1, 2002 to May 31, 2010. For this purpose, 27 Equity schemes belonging to 9 asset management companies are considered. S&P CNX Nifty Index has been used as a proxy for the market portfolio, while weekly average yields on 91-day Treasury bills (T-bills) have been used as a surrogate for risk-free rate of return. The investment performance has been studied in terms of measures viz., Average weekly Returns and Risk, Sharpe's Measure, Treynor's Measure, Jensen's alpha and FAMA's Measure. The results indicate that Equity schemes have succeeded in providing a fair rate of return to the investors. The performance of equity schemes, during the study period, is just at par to the market and no significant difference observed in their performance across fund characteristics like age, size and ownership of fund. However, there is some substantiation that one or two schemes are performing better than the market. Thus, the results are similar to the ones reported earlier for the Indian market.

Keywords: *Mutual Fund, Equity Schemes, Sharpe Ratio, Treynor Measures*

INTRODUCTION

India's mutual fund industry has experienced an impressive growth after 1987 when all Indian financial Institutions and banks were permitted to launch their mutual funds. Presently, it is passing through a transformation. On one side it has seen a number of regulatory developments while on the other the overall economy is just recovering from the global crisis of year 2008. The industry also faces a number of issues which are characterized by lack of investor awareness, low penetration levels, high dependence on corporate sector and spiraling cost of operations. Inspite of all this, in today's volatile market environment, mutual funds are looked upon as a transparent, well managed, adequately diversified and low cost & risky investment vehicle. On account of above features, they attract a fair share of investor attention helping spur the growth of the industry. Even amidst volatile market conditions, average assets under management indicated vibrant growth levels posting a year on year growth of 47% in 2009-10, and the total assets under management (AUM) stood at Rs 613,979 crore, as of March 31, 2010. Aggregate funds mobilized during the year 2009-10 also grew 84%, supplemented by around 174 new schemes launched during April 2009 to March 2010. The investor base has also steadily expanded and between November 2009 to March 2010, there was an addition of 60,834 investors. However, despite this growth, penetration levels in India are low as compared to other global economies. Assets under management as a percentage of GDP is less than 5 per cent in India as compared to 70 per cent in the US, 61 per cent in France and 37 per cent in Brazil. The Indian Mutual Fund industry continues to be a very small market; comprising 0.32 percent share of the global AUM of USD18.97 trillions of December 2008.

A mutual fund pools resources from thousands of investors and then diversifies its investment into many different holdings such as stocks, bonds, or government securities in order to provide high relative safety and returns. Mutual Funds now represent perhaps the most appropriate opportunity for most investors. Mutual funds are offering a variety of schemes based on objective to suit the needs of varied class of investors, namely, income, growth, balanced, equity linked savings, gilt, money market. Among the varied schemes of mutual funds, growth oriented schemes are expected to gain more momentum in future in the background of buoyant and stable stock market and the kind of tax relief granted. However, now a day, the potential investors find it difficult to make investment decision in the present scenario of multitudinous mutual fund schemes, continuous appraisal of various funds is, thus, required so as to help investors to make right investment decision. This Study is an attempt in this direction.

LITERATURE REVIEW

A large number of studies have been conducted in India and abroad covering different aspects of mutual funds. The several scholars have investigated whether or not mutual funds outperform the market. Initially,Treynor (1965) developed a methodology for evaluating mutual fund performance that is referred as reward to volatility ratio. Sharpe (1966) developed a composite measure for performance evaluation and reported superior performance for 11 funds out of 34 during the period 1944-63. Treynor and Mazuy (1966) developed a methodology for testing mutual funds' historical success in anticipating major turns in the stock market and found no evidence that the funds had successfully outguessed the market. Jensen's (1968) developed an absolute measure of performance based upon the Capital Asset Pricing Model and reported that mutual funds did not appear to achieve abnormal performance when transaction costs were taken into account. Fama (1972) developed a methodology for evaluating investment performance of managed portfolios. He suggested that the overall performance could be broken down into several components. Henriksson and Merton (1981) developed a statistical framework for both parametric and non-parametric tests of market timing ability of fund managers. According to Henriksson (1984), mutual fund managers were not able to follow an investment strategy that successfully times the return on the market portfolio. Ariff and Johnson (1990) found that the performance of Singapore unit trusts spread around the market performance with approximately half of the funds performing below the market and another half performing above the market on a risk-adjusted basis. Coggin, Fabozzi and Sahfiqur (1993) found that regardless of the choice of the benchmark portfolio or estimation model, the average selectivity measure was positive and the average timing measure was negative to the choice of the benchmark when managers were classified by investment style. Cole and IP (1993) present evidence that portfolio managers were unable to earn overall positive excess risk-adjusted returns. Ferson and Schadt (1996) were the first to explore the effects of incorporating lagged information variables in the analysis of investment performance, an approach that they called conditional performance evaluation. They found evidence that risk exposures of mutual funds change in response to public information on the economy. Jiang (2001) concluded a very weak relation between market timing ability and fund characteristics and found an average negative parameter for actively managed equity funds. Gallagher and Martin (2005) found no statistically significant difference in the return of large and small funds in Austalia.

Insofar as India is concerned, some of the important studies pertaining to the performance evaluation of mutual funds are : Jaydev (1996), Dave (1998), Susan Thomas (1998), Kulkarni, Vivek (1998), Hudson (1998), Chakrabarti Anjan and Harsha Rungta (2000), Amitab Gupta (2001), Narasimhan and Vijaylakshmi (2001), Turan , Bodla and Mehta (2001), Biswadeep (2002), Ramesh Chander (2002), Sethu and Baid (2002), Sadhak (2003), and Mishra (2002). The majority of research studies conducted in between 1995 and 2002 have shown that the mutual funds in India could not win the confidence of investors due to their low return, lack of transparency and ambiguity in rules and regulations. Nalini Prava Tripathy (2004) evaluates the performance of 31 tax planning schemes in India over the period 1994-95 to 2001-2002. The results indicate that the fund managers under study have not been successful in reaping returns in excess of the market or in ensuring an efficient diversification of portfolio.

Sondhi and Jain (2006) examine the performance of 36 mutual funds for the period 1993 to 2002 and conclude that performance of the sample funds remained far from satisfactory in terms of rates of return and risk adjusted returns. Anand (2007) report that the mutual funds are not able to compensate the investors for the additional risk that they have taken by investing in growth schemes. Madhumita Chakraborthy (2007) study provides some evidence of satisfactory performance in terms of returns generated per unit of risk, yet, a conclusive statement regarding the capabilities of mutual fund managers is still elusive. Bodla and Garg (2007) find that growth mutual funds have succeeded in providing a fair rate of return to the investors. Garg and Soni (2008) shows that growth mutual funds have succeeded in providing a fair rate of return to the investors. Soumya Guha Deb (2008) shows that the funds have not been able to beat their style benchmarks on the average. Lakshmi, Deo & Murugesan (2009) reveals that the sample growth schemes did not provide adequate return in terms of systematic risk and unsystematic risk. Jaiswal & Nigam (2010) find that Mutual Fund's provide better return than any return on risk free securities but unable to outperform the benchmark portfolio in terms of average return. Amar Ranu and Depali Ranu (2010) critically examine the performance of equity funds and bring out 10 best performing funds among 256 equity mutual fund schemes. They suggest that HDFC TOP 200(Growth) option was outperforming among the top 10 best performing equity funds.

The review of existing studies brings out that there are some gaps in them. Firstly, most of the previous studies on mutual funds do not take any logic/base for selection of asset management companies. Secondly, they make overall analysis of performances of the sample schemes, i.e. characteristics basis analysis of performance is missing. Majority of the studies conducted to evaluate Indian mutual funds are also subject to some criticisms of relatively small sample size, short time period, limited to either open ended or closed ended or listed schemes. Moreover, various studies have found varying evidence about the performance of mutual funds. Some indicate that growth funds have outperformed the market, whereas others do not agree and indicate no significance difference between the two. Thus, the literature survey reveals that there is still a lot of scope for advanced research in this area. The present research work is essentially needed to fill the above mentioned gaps in the existing studies. Also, a fresh appraisal of mutual funds is required in the first decade of 21st century. On account of the above, the present research work entitled "Performance of Equity Schemes of Mutual Funds in India: An Analysis across Fund Characteristics" has been performed.

The paper is organized into five sections. Section 1, provides to a brief introduction of Indian Mutual Fund Industry. Section 2, has covered the review of literature and objective of the study. Section 3 discusses the Sampling and Database, while Data analysis tool is given in Section 4. Section 5 presents the empirical results. The final Section 6 presents the summary and conclusions of the study.

More specifically, the study is an endeavour to achieve the following objectives:

1. To evaluate investment performance of selected mutual funds in terms of risk and return.
2. To make analysis of risk adjusted return performance of Equity schemes through Sharpe, Treynor, Jensen and FAMA model with Benchmark (S&P CNX Nifty).
3. To bring out the variation in performance of select mutual funds across fund characteristics (i.e. age, size and ownership).

In view of the above objectives, the study endeavors to test the following null hypotheses **:-**

H_0: That there is no difference between the performance of the Equity schemes of mutual funds and market return.

H_0: That there is no variation in the return and risk of various mutual funds across their size, age and ownership pattern.

SAMPLING AND DATABASE

The study encompasses 27 Equity schemes belonging to 9 mutual fund institutions belonging to public and private sector. The funds under reference of this study have been chosen scientifically, so as to make the results representative of the entire Mutual Fund Industry of India. For the purpose, a list of mutual funds showing assets under management (AUM) for the month of March, 2010 was taken from the website of Association of Mutual Funds of India. As per this list, there are 38 mutual fund institutions in India. According to size of AUM, these funds were categorized in three parts namely: Large Size Funds (above Rs. 50,000 Cr.), Medium Size Funds (From Rs. 10,000 Cr. to 50,000 Cr.) and Small Size Funds (Below Rs. 10,000 Cr.). Amongst these groups, 2 large size, 2 medium size and 5 small size funds are selected purposively. For giving due representation to various sector funds, 3 categories were formed as (I) Public Sector Funds (II) Private Sector Domestic Funds, and (III) Foreign Sector Funds. Out of 9 mutual fund institutions, 2 belong to Public Sector, 2 to Foreign and the remaining five are Private Sector domestic funds.

At the second stage of sampling, 3 Equity schemes were selected from each Mutual Fund by using simple random sampling method. Thus, a sample of 27 Equity schemes (i.e 9x3) is considered to evaluate their performance across fund characteristics. Insofar as age-wise composition of sample is concerned , the select schemes are divided into three categories as (I) New Age Schemes (launched 2007 onwards), (II) Middle Aged Schemes (launched between 2004 and 2006), and (III) Old Aged Schemes (launched before 2004). According to age-wise classification, there are 4 schemes considered as new age, 11 as middle age, and the remaining 12 in the category of old aged schemes.

This study has used the S&P CNX Nifty Index as benchmark as it is a widely used index by both practitioners and researchers. Further, the weekly yields on 91-day Treasury bills (T-bills) are used as a surrogate for the risk-free rate of return. Due care has been taken to take identical time periods and equal sample observations for comparison of funds' performance and benchmark performance.The secondary data was collected from the records of AMFI, Bluechip India Pvt. Ltd and web sites of respective mutual funds, while Treasury bill data have been collected from the web site of RBI and data on S&P CNX Nifty Index from the website of NSE.

DATA ANALYSIS TOOLS

The various measures applied to make performance analysis of the selected funds are described in this section. Firstly, the daily NAV is converted into average weekly NAV, and then Fund' return (R_p) is calculated by using the following formula:

$$R_p = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}}$$

Where, R_p = Weekly Return of a Scheme

NAV_t = Net Asset Value of Current Week

NAV_{t-1} = Net Asset Value of Previous week

R_m (market return) is the difference between markets indices of two consecutive weeks divided by market index for the preceding week. The returns so obtained are multiplied by 100 so as to obtain percentage weekly return. The risk is calculated by determining the standard deviation of weekly returns.

In order to determine risk-return relationship, Karl Pearson product moment formula is used.

Coefficient of Determination (r2): It is the square of Coefficient of Co-relation. It is a comprehensive measure for indicating the percentage variation in the fund return which is accounted for by the market return. It gives the ratio of explained variance to the total variance.

Beta which is a measure of systematic risk is calculated as follows:

Beta ( ) = Cov (R_P, R_m) /$\sigma 2_m$

$\sigma 2_m$ = Variance of weekly return of the market

Cov (R_p, R_m) = Covariance of return of fund and market portfolio

In order to examine risk adjusted return performance various established measures such as *Sharpe ratio, Treynor ratio* and *Jensen alpha* and *FAMA* have been applied.

The performance of the selected funds is also examined in terms of Fama's Components of Investment Performance Measure. In terms of Fama's framework, portfolio return constitutes the following four components: (a) Risk-free return, (b) compensation for systematic risk, (c) compensation for diversification and (d) net selectivity. The different components have been worked out using the following:

- Risk-free return: given
- Compensation for systematic risk: $[\beta (R_m - R_f)]$,
- Compensation for diversification: $[R_m - R_f][\sigma_p/\sigma_m - \beta]$, and
- Net selectivity: $[R_p - R_f]) - [\sigma_p/\sigma_m][(R_m - R_f]$.

To test whether the difference between the performance of a fund and the market is significant, we have applied t-test at 5% level of significance. ANOVA has been used for testing the difference in performance of a fund across fund characteristics like age, size and ownership.

EMPIRICAL RESULTS

At the outset, the return performance of select Equity schemes has been analysed. The average weekly return, in percentage, has been computed for 27 Equity schemes and shown with their ranks in Table 1. It is evident from the table that each and every scheme has succeeded in providing a positive return to the investors at the overall level i.e. when total period from 2002 to 2010 is considered. Average weekly return, for the above mentioned duration varies from 0.128 percent to 0.683 percent. The overall weekly return has been found 0.405 percent for the entire study period. In terms of overall average return, the top five performers are: Reliance Vision Fund (.683%), Franklin India Prima Fund (.638%), Franklin India Bluechip Fund (.565%), Reliance Growth Fund (.546%) and Canara Robecco Equity (.543%). The Religare Growth and Religare Equity comprises the last two ranks with 0.153 and 0.128 percent weekly return. Fidelity Equity Fund and Reliance Growth fund have been successful in securing the rank between first to fourteen for the entire study period.

The period between 2002 and 2005 has been observed a boom period for the mutual fund industry as is evidenced by the statistics related to average weekly return in this duration. Overall average weekly return for the entire sample of Equity schemes works out 0.704 percent during 2002-2005 as compared to 0.405 percent during 2002-2010. Table 1 shows clearly that 6 Equity schemes out of 27 have yielded more than 1 percent return per week during the years 2002-2005. In this period, Franklin India Prima Fund enjoyed the highest weekly growth (1.098%) in its return, followed by Fidelity Equity Fund (1.084%) and Reliance Vision Fund (1.041%). The overall average weekly return between 2006 and 2010 is less than half (i.e. 0.304%) as compared to that of the period 2002-2005. This decline is clearly attributed to the great setback suffered by various markets on account of global financial crisis during 2008. Some economists and politicians expressed that Indian economy was least affected by the global crisis. However, their opinions have no substance as is indicated by the significant fall in the security prices on Indian bourses. Further, the overall mean return of growth schemes has been observed highest in 2009(1.231%) as majority of the schemes secured return above 1.00 percent. But the year 2008 portrayed pitiable picture as compared to the year 2009. Infact, not even a single scheme could earn positive return in 2008. Table 1, shows a vast recovery in mutual fund industry in the year 2009 as well as 2010. After a long spell of growth, the Indian economy experienced a downturn in year 2008. The most immediate effect of the crisis on India has been in the form of outflow of foreign institutional investment from the equity market.

The year 2007 has been a remarkable year, with most of the schemes having more than 0.70 percent average weekly return. GDP growth rate in India was above 8 percent in this duration.

Table 1. Weekly returns (%) of Equity Schemes (Growth Option) of Mutual Funds

S.	Name of the Schemes	Date of Scheme	Sector	2010		2009		2008		2007		2006		2006-10		2002-05		2002-10	
				R_p	Rank	R_p	Rank	R_p	Rank	R_p	Rank	R_p	Rank	R_p	Rank	R_p	Rank	R_p	Rank
	LARGE FUNDS																		
1	**UTI Master Value Fund**	9/Jan/02	PS*	0.175	7	1.568	2	-1.484	19	0.873	17	0.101	23	0.263	19	0.505	16	0.377	16
2	**UTI Master plus unit scheme**	4/Jan/02	PS	-0.337	26	1.059	22	-1.340	13	0.771	22	0.859	4	0.282	17	0.524	15	0.398	14
3	**UTI Top 100 Funds**	4/Jan/02	PS	-0.345	27	0.049	27	-1.373	15	0.860	18	0.667	14	0.018	27	0.481	18	0.239	24
4	**Reliance Growth Fund**	7/Jan/05	PVT.**	0.079	9	1.379	10	-1.340	12	1.097	5	0.737	10	0.437	3	1.031	5	0.546	4
5	**Reliance Vision Fund**	4/Jan/02	PVT.	-0.128	22	1.228	16	-1.296	10	0.886	14	0.801	5	0.359	9	1.041	3	0.683	1
6	**Reliance NRI Equity Fund**	19/Nov/04	PVT.	0.013	16	1.397	9	-1.349	14	0.899	12	0.862	3	0.416	4	0.813	8	0.496	7
	MIDDLE FUNDS																		
7	**Franklin India Bluechip Fund**	4/Jan/02	F.S***	0.022	13	1.234	15	-1.145	6	0.763	23	0.791	6	0.379	7	0.770	9	0.565	3
8	**Franklin India Opportunity Fund**	4/Jan/02	F.S	-0.277	24	1.127	20	-1.476	18	0.805	20	0.970	1	0.302	15	0.636	14	0.461	10
9	**Franklin India Prima Fund**	4/Jan/02	F.S	-0.035	18	1.508	5	-1.683	25	0.715	26	0.458	21	0.229	23	1.098	1	0.638	2
10	**Relligare Contra Fund**	4/13/2007	PVT.	1.541	1	0.951	26	-1.131	3	0.877	16			0.349	11			0.349	19
11	**Relligare Equity Fund**	9/9/2007	PVT.	0.055	11	1.040	23	-1.108	2	1.476	1			0.128	26			0.128	27
12	**Relligare Growth Fund**	8/17/2007	PVT.	0.016	14	0.976	25	-1.138	5	1.471	2			0.153	25			0.153	26
	SMALL FUNDS																		
13	**Canara Robecco Equity Diversified**	19/Sep/03	P.SF	0.188	6	1.488	7	-1.238	9	0.949	7	0.614	16	0.442	2	0.736	11	0.543	5
14	**Canara Robecco Emerging Equity**	24/Mar/05	P.SF	0.313	2	1.544	3	-1.912	27	0.893	13	0.532	17	0.274	18	0.682	12	0.336	21
15	**Canara Robecco Infrstructure**	9/Dec/05	P.SF	0.074	10	1.311	11	-1.524	21	1.327	3	0.656	15	0.413	5	-0.042	22	0.405	13
16	**Fidelity Equity Fund**	20/May/05	F.S	0.171	8	1.242	14	-1.217	8	0.901	11	0.722	11	0.396	6	1.084	2	0.483	9
17	**Fidelity India Special Situation Fund**	29/May/06	F.S	0.218	4	1.243	13	-1.316	11	0.721	25	0.879	2	0.322	13			0.322	22
18	**Fidelity International Opportunity Fund**	1/Jun/07	F.S	-0.040	19	1.258	12	-1.131	4	0.623	27			0.168	24			0.168	25
19	**ING Core Equity**	8/Mar/02	PVT.	-0.124	21	1.169	19	-1.430	17	0.935	8	0.688	13	0.302	16	0.468	19	0.379	15
20	**ING Domestic Opportunity Fund**	17/Sep/04	PVT.	-0.105	20	1.187	17	-1.416	16	0.885	15	0.761	7	0.316	14	0.931	7	0.456	11
21	**ING Midcap Fund**	10/Jun/05	PVT.	0.023	12	1.513	4	-1.781	26	0.844	19	0.523	19	0.257	20	1.033	4	0.347	20
22	**Sahara Growth Fund**	6/Sep/02	PVT.	-0.289	25	1.069	21	-0.959	1	0.912	10	0.745	8	0.378	8	0.751	10	0.539	6
23	**Sahara MIDCAP Fund**	20/Jan/05	PVT.	0.196	5	1.503	6	-1.529	22	1.069	6	0.416	22	0.354	10	0.329	21	0.350	18
24	**SaharaWealth Plus - Fixed Price Option**	9/Sep/05	PVT.	0.015	15	0.978	24	-1.165	7	0.748	24	0.530	18	0.247	22	0.666	13	0.277	23
25	**L & T Growth Fund**	4/Jan/02	PVT.	-0.208	23	1.184	18	-1.512	20	0.795	21	0.706	12	0.251	21	0.487	17	0.363	17
26	**L & T Opportunity Fund**	4/Jan/02	PVT.	0.270	3	1.464	8	-1.535	23	1.200	4	0.742	9	0.450	1	0.434	20	0.443	12
27	**L&T Midcap Fund**	13/Aug/04	PVT.	-0.016	17	1.569	1	-1.617	24	0.934	9	0.517	20	0.323	12	1.028	6	0.493	8
	Overall Return		PVT.	**0.054**		**1.231**		**-1.376**		**0.934**		**0.664**		**0.304**		**0.704**		**0.405**	

** PS - Public Sector Fund* *PVT** -Private Sector Domestic Fund* *FS*** - Foreign Sector Fund*

So, the potential for investment was much higher in this period due to high expected return. The overall return is at 0.934 percent in 2007, in contrast the same works out 0.664 percent for the year 2006 and -1.376 percent for the year 2008. A close watch of the table indicates that there is inconsistent behaviour in ranking of various schemes as returns of most of the schemes have shown ups and downs during the study period.

After analyzing the return performance of select mutual fund schemes, an attempt was made to examine the variation in return across fund characteristics. Table 1A reveals return across fund characteristics. Part A of table 1A demonstrates the average return in case of public, foreign and domestic sector funds. It is clear from this part that the overall (2002-2010) average weekly return is the highest in case of foreign sector (0.440%), followed by domestic sector (0.400%) and the lowest in case of private sector (0.383%). However, the one way Anova test results indicate that there is no significant difference amongst the return offered by public, foreign and domestic sector mutual funds in most of the years except 2007 where domestic sector schemes outperform the other two sectors. An attempt has also been made to compare mean return across age factor (Part – B, Table 1A). old age schemes indicate average return of 0.469 percent as compared to 0.410 percent and 0.200 percent in case of middle and new age schemes respectively. According to one way ANOVA, there is no significant difference in most of the years as significance level are greater than 0.05for new, middle and old age schemes.

Size-wise analysis as shown in Table 1A exhibits the highest mean return in case of large size funds (0.457%), followed by small size (0.394%), and medium size funds (0.382%). But the analysis has not depicted any significant difference (at 5% level) among large, medium and small size funds.

Table 2 presents ranking of the Equity schemes based on risk associated with them. It needs mention that total risk associated with investments in mutual fund schemes is measured through standard deviation of average weekly returns. Table 2 indicates that the overall standard deviation of select schemes during 2006-2010 (3.97%) is higher than that during 2002-2005 (2.09%). This shows that the variation of earnings among funds has increased significantly during 2006-2010 period. For the whole period, the standard deviation of weekly return is 3.72%. The analysis of entire period risk shows that Religare Contra Fund is the most risky scheme followed, in downside, by ING Midcap, Canara Robecco Infrastructure, Canara Robecco Growth and L&T Growth Fund. L&T opportunity fund has been ranked among the top five since the last four years, meaning thereby that returns associated with this fund are more volatile than the other funds. Year-on-year analysis provides that 2008 remain the most volatile period between 2006 and 2010. The year 2009 also indicate very high level of fluctuations in the returns of most of the schemes. This is definitely because the markets recovered fastly from the downfall of 2008**.** Franklin India Opportunity fund which was found most volatile during 2006, indicates moderate ranks during 2008 and 2009 (i.e. 15th and 17th ranks respectively). Similar is the case with Canara Robecco Funds, UTI Top 100 funds, Religare Contra Fund and L&T Opportunity Fund. Each of these funds has indicated varying level of variability in their returns over the last five years.

TABLE 1A. CHARACTERISTICS-WISE COMPARISON OF RETURN PERFORMANCE OF EQUITY SCHEMES OF MUTUAL FUNDS

CHARACTERISTICS-WISE	Statistics	2010	2009	2008	2007	2006	2006-10	2002-05	2002-10
PART-A	**OWNERSHIP-WISE**								
PUBLIC SECTOR	Mean Return	0.011	1.170	-1.479	0.946	0.572	0.282	0.481	0.383
FOREIGN SECTOR		0.010	1.269	-1.328	0.755	0.764	0.299	0.897	0.440
DOMESTIC SECTOR		0.089	1.240	-1.354	1.002	0.669	0.315	0.751	0.400
	FVALUE	0.159	0.160	0.834	3.371	1.486	0.206	3.38	0.251
	Significance	0.854	0.853	0.446	0.051	0.250	0.816	0.06	0.780
PART-B AGE-WISE									
NEW AGE SCHEMES	Mean Return	0.393	1.056	-1.127	1.112		0.200		0.200
MIDDLE AGE SCHEMES		0.089	1.351	-1.470	0.938	0.649	0.341	0.756	0.410
OLG AGE SCHEMES		-0.091	1.179	-1.373	0.872	0.679	0.305	0.661	0.469
	FVALUE	3.591	1.767	4.342	2.020	0.138	3.186	0.556	9.042
	Significance	0.043	0.192	0.025	0.155	0.714	0.059	0.465	0.001
PART-C	**SIZE-WISE**								
LARGE FUND	Mean Return	-0.091	1.113	-1.364	0.898	0.671	0.296	0.733	0.457
MIDDLE FUND		0.220	1.139	-1.280	1.018	0.740	0.257	0.835	0.382
SMALL FUND		0.046	1.315	-1.419	0.916	0.645	0.326	0.661	0.394
	FVALUE	1.229	1.297	0.826	0.578	0.295	0.979	0.444	0.516
	Significance	0.310	0.292	0.450	0.569	0.748	0.390	0.648	0.603

TABLE 2 RISK BASED RANKING OF EQUITY SCHEMES (GROWTH OPTION) OF MUTUAL FUNDS

S.	Name of Scheme	2010	2009	2008	2007	2006	2006-10	2002-05	Overall Average								
		Std dev	Rank	Std dev	Rank	Std dev	Rank	Std dev	Rank	Std dev	Rank	Std dev	Rank	Std dev	Rank	Std dev	Rank
1	**Franklin India Bluechip Fund**	1.58	24	3.38	24	4.53	21	2.71	11	3.17	19	3.47	24	2.56	11	3.07	25
2	**Franklin India Opportunity Fund**	2.07	8	3.94	17	4.88	15	2.87	4	4.11	1	3.98	11	3.06	5	3.58	16
3	**Franklin India Prima Fund**	2.36	4	4.38	12	5.05	8	2.47	23	3.38	15	3.96	13	3.22	4	3.65	14
4	**Canara Robecco Equity Diversified**	1.61	23	6.92	2	4.91	12	2.83	6	3.80	3	4.73	2	2.92	7	4.20	4
5	**Canara Robecco Emerging Equity**	2.24	6	4.50	10	4.98	9	2.68	14	3.90	2	4.14	8	2.52	12	3.94	9
6	**Canara Robecco Infrstructure**	1.87	15	4.23	13	5.44	5	4.72	1	3.60	7	4.48	6	0.81	22	4.45	3
7	**Fidelity Equity Fund**	1.75	20	3.41	23	4.33	24	2.47	22	3.21	17	3.41	25	1.94	19	3.27	22
8	**Fidelity India Special Situation Fund**	1.88	13	4.76	8	4.74	17	2.66	16	3.25	16	3.97	12			3.97	7
9	**Fidelity International Opportunity Fund**	1.55	25	4.61	9	4.09	26	2.19	27			3.85	14			3.85	11
10	**ING Core Equity**	1.79	18	3.52	22	4.90	13	2.79	8	3.53	11	3.74	19	2.82	8	3.34	21
11	**ING Domestic Opportunity Fund**	2.01	11	3.78	19	5.07	7	2.50	21	3.42	13	3.78	17	1.95	18	3.46	20
12	**ING Midcap Fund**	2.02	10	5.89	3	5.88	2	2.58	19	3.77	4	4.69	3	2.08	16	4.48	2
13	**UTI Master Value Fund**	2.46	3	3.98	15	4.97	10	2.53	20	3.39	14	3.85	15	3.96	2	3.90	10
14	**UTI Master plus unit scheme**	1.86	16	3.59	20	4.56	20	2.81	7	3.65	5	3.69	20	2.52	13	3.18	24
15	**UTI Top 100 Funds**	2.09	7	7.25	1	4.64	18	2.92	3	3.17	18	4.69	4	2.93	6	3.95	8
16	**Sahara Growth Fund**	1.63	22	3.52	21	4.16	25	2.72	10	3.09	20	3.37	26	2.58	10	3.06	26
17	**Sahara MIDCAP Fund**	2.30	5	4.78	7	4.93	11	2.60	17	3.56	10	4.08	9	3.53	3	3.98	6
18	**SaharaWealth Plus - Fixed Price Option**	1.69	21	2.92	25	3.73	27	2.36	24	3.02	21	3.04	27	1.96	17	2.98	27
19	**Religare Contra Fund**	8.36	1	4.95	4	4.80	16	2.21	26			5.09	1			5.09	1
20	**Religare Equity Fund**	1.31	27	2.53	27	4.89	14	2.69	12			3.64	22			3.64	15
21	**Religare Growth Fund**	1.48	26	2.91	26	4.48	22	2.33	25			3.50	23			3.50	19
22	**Reliance Growth Fund**	1.93	12	3.94	16	4.63	19	2.60	18	3.64	6	3.75	18	2.30	15	3.54	17
23	**Reliance Vision Fund**	1.84	17	3.92	18	4.34	23	2.67	15	3.58	9	3.64	21	2.61	9	3.21	23
24	**Reliance NRI Equity Fund**	1.76	19	4.16	14	5.15	6	2.79	9	2.93	23	3.85	16	1.76	20	**3.53**	18
25	**L & T Growth Fund**	1.88	14	4.40	11	5.62	4	2.83	5	3.00	22	4.07	10	4.21	1	4.13	5
26	**L & T Opportunity Fund**	2.60	2	4.93	5	6.13	1	3.03	2	3.59	8	4.55	5	2.51	14	3.73	13
27	**L&T Midcap Fund**	2.06	9	4.80	6	5.70	3	2.69	13	3.51	12	4.29	7	1.68	21	3.84	12
	Overall Risk	**2.15**		**4.29**		**4.87**		**2.71**		**3.45**		**3.97**		**2.09**		**3.72**	
	*** Corelation between Return and Risk**	**0.86**		**-0.09**		**-0.69**		**0.37**		**-0.01**		**0.06**		**-0.11**		**-0.25**	

* Co-relation CoefficientS between average weekly return (table 1) and standard deviation (table 2) for the corresponding duration.

The analysis also brings out that some schemes indicate very low level of variability in their return in case of most of the years. Such schemes include Franklin India Bluechip Fund, Franklin India Prima Fund, Fidelity Equity Fund, Fidelity International Opportunity, ING Core Equity, UTI Master Plus Unit Scheme, Sahara Growth Fund, Sahara Wealth Plus – Fixed Price Option, Religare Equity Fund, Religare Growth Fund, Reliance Growth Fund, Reliance Vision Fund and Reliance NRI Equity Fund. In contrast to the above, some schemes have shown higher volatility in their returns in most of the years under reference. These include Franklin India Opportunity, Canara Robecco Equity Diversified, Canara Robecco infrastructure, ING madcap Fund, UTI Top 100 Fund, L&T Growth Fund, L&T Opportunity Fund and L&T Midcap Fund. Surprisingly, either low or negative correlation coefficient is found between weekly returns and risks of Equity schemes except the year 2010 where the correlation is quite high(0.86). Hence the results do not prove the claim of financial theorists that "higher the risk, higher the return". It has been confirmed by a negative correlation between return and risk of Equity schemes in most of the years of study.

The characteristic wise position about risk found in case of Equity schemes is presented in tables 2A. Table 2A shows that the standard deviation in the returns of the public sector mutual funds (3.937%) is higher than domestic (3.701%) and foreign sector (3.565%) for the entire period data. F values given in the table indicate that, there is no significant difference between the risk associated with Pubic Sector, Domestic private sector and Foreign Sector funds when whole period data considered. The above is also true in each of the individual year of study.

Table 2A also depicts age-wise variation in risk associated with mutual fund schemes. The new age schemes are found more risky with 4.02% standard deviation followed by middle age (3.767%) and old age schemes (3.583%) for the entire period data. Size-wise risk comparison, show that the highest variability in returns is in case of small funds followed by medium and large size-funds.

F-values and level of significance is given in tables 2A. It is obvious that, at the overall level, as well as in each of the individual year, there is no significant variation (at 5 percent significance level) in the risk associated with different sectors, age and size schemes.

A further glance through the table under reference provides that the majority of sample schemes is well diversified as indicated by R2 which is showing values greater than 0.70 for majority of schemes (Table 3). Diversified schemes give room to fund managers to maximize returns while controlling risk.

To make the analysis easier and better, ranking has been given to the various schemes based on the size of their beta values. Beta values calculated with reference to fund return and S&P CNX Nifty are also presented in Table 3. It shows that beta values for majority of schemes are lying between 0.6 and 0.9 when calculated for overall study period (i.e. 2002-10). Only a few schemes have beta more than one. On the basis of the size of the beta, the overall average of beta, Canarra Robeco Infrastructure, ING Midcap, and Canara Robeco Emerging Equity have got Ist , 2nd and 3rd ranks respectively. In Contrast, UTI Top 100 Funds shows the lowest value of Beta follwed, in upside, by Fidelity India special situation and Canara Robecco Equity diversified fund. Franklin India Opportunity Fund has been successful in securing the rank in between

TABLE 2A. CHARACTERISTICS-WISE COMPARISON OF RISK OF EQUITY SCHEMES OF MUTUAL FUNDS

Sector	Statistics	2010	2009	2008	2007	2006	2006-10	2002-05	2002-10
PART-A	**OWNERSHIP-WISE**								
PUBLIC SECTOR	Mean S.D.	2.022	5.078	4.917	3.082	3.585	4.263	2.610	3.937
FOREIGN SECTOR		1.865	4.080	4.603	2.562	3.424	3.773	2.695	3.565
DOMESTIC SECTOR		2.311	4.063	4.961	2.626	3.387	3.939	2.574	3.701
	FVALUE	0.281	2.188	0.928	3.030	0.841	1.713	0.033	0.897
	Significance	0.757	0.134	0.409	0.067	0.446	0.202	0.967	0.421
PART-B	**AGE-WISE**								
NEW AGE SCHEME	Mean S.D.	3.175	3.750	4.565	2.355		4.020		4.020
MIDDLE AGE SCHEME		1.955	4.288	4.962	2.786	3.437	3.953	2.053	3.767
OLG AGE SCHEME		1.981	4.478	4.891	2.765	3.455	3.978	2.992	3.583
	FVALUE	1.586	0.650	0.765	1.548	0.018	0.027	12.424	1.306
	Significance	0.225	0.531	0.476	0.233	0.894	0.973	0.002	0.290
PART-C	**SIZE-WISE**								
LARGE FUND	Mean S.D.	1.990	4.473	4.715	2.720	3.393	3.912	2.680	3.552
MIDDLE FUND		2.860	3.682	4.772	2.547	3.553	3.940	2.947	3.755
SMALL FUND		1.925	4.465	4.974	2.777	3.446	4.013	2.424	3.779
	FVALUE	1.224	1.234	0.585	1.306	0.253	0.104	0.626	0.460
	Significance	0.312	0.309	0.565	0.290	0.779	0.901	0.545	0.637

first to ten for the entire study period. It is also noteworthy that the average value of beta has increased from 0.495 (2002-2005) to 0.88 (2006-2010). The overall beta value for 2006 works out 1.019, the highest during the entire study and this pattern holds good for majority of the schemes in this year. Except 2006, only a small proportion of schemes have got beta value greater than 1. It implies that the Equity schemes tend to hold portfolios which are less risky than the market portfolio.

Table 4 presents Sharpe ratio, rank assigned to various Equity schemes based on the size of Sharpe ratio, difference between Sharpe ratio of the mutual fund schemes and market portfolio, and -values for examining the significance of difference between Sharpe ratios of Equity schemes and market portfolio. The Sharpe ratio for each and every scheme is found positive meaning thereby that the Equity schemes in India have succeeded in providing the risk premium to fund investors. The Sharpe ratio has been found the highest (0.179) in Reliance Vision Fund followed by Franklin India Bluechip Fund (0.149) and Franklin India Prima Fund (0.145). The Sharpe Index is found the lowest in case of Religare Equity Fund(0.005) followed, in upside, by Religare Equity Fund(0.012) and Fidelity International Literature Fund(0.015). Table further shows that 18 (67%) schemes have Sharpe ratio higher than that of the market. It means that a large majority of Equity schemes have outperformed the Benchmark S&P CNX Nifty according to sharpe measure.

To get further insights, t-test was applied to examine the significance of difference in the risk premium offered by the select schemes and the Benchmark. The values of t-test, indicates that such differences are insignificant in case of all 25 schemes except only two i.e. Franklin India Bluechip Fund, Reliance NRI Equity Fund.

The Sharpe ratio based comparison across fund characteristics is exhibited in Table 4A. It can be seen from the table that the percentage of schemes which have higher ratios than that of the benchmarked portfolio is higher in case of foreign sector (83.33%) than other two sectors. The above phenomenon is also found true in case of middle-age (72.22%) and medium-size schemes (83.33%) as compared to other sectors.

Table 4 presents Treynor ratios of Equity schemes and market. Each of the sample schemes has provided a positive value. It means, all the Equity schemes have earned return in excess to risk free return. Treynor ratio is found the highest in case of Reliance vision Fund followed by Canara Robecco Equity Diversified and Franklin India Prima Fund. It is also clear from the table that out of 27 schemes, 23 schemes have outperformed the benchmark, NSE Nifty. The number of schemes outperforming the market is higher according to Treynor measure as compared to Sharpe measure. The reason for this deviation is that the portfolio under consideration may have a relatively larger amount of unique risk. The presence of unique risk in the portfolio does not affect the Treynor measures, but it would affect the Sharpe measures as it is based on the total risk. To examine whether the variation between risk adjusted return performance of equity schemes and the market portfolio is significant, t-test is applied. The results of the test indicate that hypothesis of no difference between Treynor ratio of a fund and that of market is accepted at 0.05 level in case of each scheme. It means both ratios do not differ significantly.

The characteristics-wise position of Treynor ratio of the sample equity schemes is exhibited in Table 4B. The percentage of schemes having Treynor ratio greater than market is highest in case of foreign funds followed by public sector and private sector funds. Age-wise analysis of the difference between Treynor ratio of the scheme and market reveals that old schemes have an edge over the middle age and new age scheme. It is because 91.66 percent of the old schemes have beaten up the market as against 81.88 percent in case of middle age and 75 percent in case of new age schemes. Impact of size of the fund on the risk adjusted return performance can be judged from the table 4B where in 100 percent of the large schemes have outperformed the market as per Treynor ratio. The percentage of such schemes is 83.33 and 80 in case of medium and small size respectively.

Table 4 also presents the Jensen measure of select Equity schemes. It is obvious from the table that, out of 27 schemes, 22 equity schemes have positive alpha values indicating superior performance of the schemes than that of the market. Thus, there is clear verdict that majority of sample schemes have outperformed the market. Ranking of schemes according to the value of indicates that the first rank is obtained by Reliance Vision Fund followed by Franklin India Prima Fund and Canara Robecco Equity Diversified. At the opposite side, ING Midcap Fund has stood at last rank, followed, downside by Canara Robecco Emerging Equity and Religare Growth Fund. The null hypothesis that = 0 is accepted in case of each scheme except one Franklin India Bluechip Fund because the significance level is above 0.05 in each case. Hence, the values are positive but they are not significant.

The alpha based comparison across fund characteristics is presented in Table 4C. It is visible from the table that the characteristics wise position of Equity schemes according to Jensen alpha is almost similar to that obtained according to Treynor measure. To be precise, the percentage of outperforming schemes is highest in case of foreign sector followed by public sector and private sector. Further, old schemes have performed higher than middle age as well as new age according to alpha measure. Similarly, the Jensen alpha is found positive in case of all the schemes of large size, 83.33 percent of medium size and 73.33 percent small size.

Table 5 gives us information regarding Fama's Components of performance for the Equity Schemes. It reveals that 26 sample schemes out of 27 have ensured positive performance on account of risk bearing activity of their fund managers. Only one scheme i.e. Religare Equity fund suffered the negative performance in this respect. Regarding the fund managers performance on diversification, it can be seen that all schemes

TABLE 3 COORELATION BETWEEN RETURN OF SELECT EQUITY SCHEMES & MARKET RETURN AND BETA VALUES(2002-2010)

S.	Name of Scheme	2002-10		(2002-10)	2006-10		2002-05		2002-10 Overall Average	
		R	Rank	R2	β	Rank	β	Rank	β	Rank
1	**Franklin India Bluechip Fund**	0.883	7	0.780	0.881	17	0.639	6	0.796	17
2	**Franklin India Opportunity Fund**	0.814	20	0.662	0.983	6	0.610	7	0.849	10
3	**Franklin India Prima Fund**	0.756	22	0.571	0.947	11	0.544	13	0.810	14
4	**Canara Robecco Equity Diversified**	0.555	26	0.308	0.695	25	0.496	14	0.636	25
5	**Canara Robecco Emerging Equity**	0.870	12	0.756	0.964	7	0.833	2	0.958	3
6	**Canara Robecco Infrstructure**	0.888	5	0.788	1.054	2	0.337	15	1.051	1
7	**Fidelity Equity Fund**	0.837	16	0.700	0.751	23	0.888	1	0.756	22
8	**Fidelity India Special Situation Fund**	0.592	25	0.351	0.612	26			0.612	26
9	**Fidelity International Opportunity Fund**	0.834	18	0.695	0.776	22			0.776	20
10	**ING Core Equity**	0.887	6	0.787	0.952	10	0.694	5	0.862	7
11	**ING Domestic Opportunity Fund**	0.873	9	0.763	0.961	9	0.198	20	0.819	12
12	**ING Midcap Fund**	0.816	19	0.665	1.017	5	0.709	4	1.007	2
13	**UTI Master Value Fund**	0.593	24	0.351	0.885	16	0.290	17	0.674	24
14	**UTI Master plus unit scheme**	0.870	11	0.757	0.937	13	0.585	9	0.811	13
15	**UTI Top 100 Funds**	0.310	27	0.096	0.423	27	0.237	18	0.358	27
16	**Sahara Growth Fund**	0.876	8	0.768	0.855	18	0.586	8	0.765	21
17	**Sahara MIDCAP Fund**	0.787	21	0.619	0.946	12	0.202	19	0.858	8
18	**Sahara Wealth Plus - Fixed Price Option**	0.922	4	0.850	0.706	24	0.711	3	0.738	23
19	**Relligare Contra Fund**	0.928	3	0.860	0.846	19			0.855	9
20	**Relligare Equity Fund**	0.928	2	0.861	0.790	20			0.790	18
21	**Relligare Growth Fund**	0.944	1	0.892	0.776	21			0.776	19
22	**Reliance Growth Fund**	0.873	10	0.761	0.922	14	0.303	16	0.848	11
23	**Reliance Vision Fund**	0.847	15	0.717	0.913	15	0.581	10	0.797	16
24	**Reliance NRI Equity Fund**	0.857	13	0.734	0.962	8	0.125	22	0.807	15
25	**L & T Growth Fund**	0.722	23	0.522	1.040	3	0.575	11	0.874	6
26	**L & T Opportunity Fund**	0.849	14	0.721	1.119	1	0.564	12	0.917	4
27	**L&T Midcap Fund**	0.836	17	0.698	1.034	4	0.189	21	0.875	5
	Overall Corelation Coefficient	**0.805**		**0.668**	**0.880**		**0.495**		**0.803**	

TABLE 4 SHARPE RATIO, TREYNOR RATIO & JENSEN ALPHA OF EQUITY SCHEMES (2002-10)

S..	Name of Scheme	SR_p	RANK	SR_M	SR_p-SR_M	T-Value	TR_p	RANK	TR_m	TR_p-TR_m	T-Value	Alpha	RANK	T-Value
1	**Franklin India Bluechip Fund**	0.149	2	0.088	0.061	3.49*	0.573	4	0.299	0.275	1.83	0.219	4	3.01*
2	**Franklin India Opportunity Fund**	0.098	10	0.088	0.010	0.99	0.414	11	0.300	0.114	1.06	0.097	12	1.02
3	**Franklin India Prima Fund**	0.145	3	0.089	0.056	1.96	0.652	3	0.303	0.350	1.55	0.283	2	1.81
4	**Canara Robecco Equity Diversified**	0.103	8	0.091	0.013	1.30	0.681	2	0.332	0.349	1.74	0.222	3	1.82
5	**Canara Robecco Emerging Equity**	0.056	19	0.076	-0.020	0.05	0.231	22	0.272	-0.040	0.00	-0.039	26	0.00
6	**Canara Robecco Infrstructure**	0.065	16	0.057	0.008	-0.79	0.275	20	0.214	0.061	-0.60	0.064	15	-0.08
7	**Fidelity Equity Fund**	0.112	6	0.082	0.030	1.39	0.486	7	0.298	0.188	1.44	0.142	8	2.00
8	**Fidelity India Special Situation Fund**	0.052	21	0.044	0.008	0.61	0.336	16	0.169	0.167	-0.96	0.102	10	1.13
9	**Fidelity International Opportunity Fund**	0.015	25	0.016	-0.001	-0.60	0.073	25	0.066	0.007	-0.04	0.006	22	0.07
10	**ING Core Equity**	0.081	14	0.087	-0.006	0.36	0.314	17	0.299	0.015	0.91	0.013	21	0.36
11	**ING Domestic Opportunity Fund**	0.099	9	0.085	0.014	1.77	0.419	10	0.315	0.104	1.17	0.085	13	1.56
12	**ING Midcap Fund**	0.052	22	0.077	-0.025	-0.07	0.230	23		0.230	0.83	-0.050	27	0.51
13	**UTI Master Value Fund**	0.069	15	0.088	-0.019	0.18	0.398	12	0.299	0.099	0.47	0.067	14	0.84
14	**UTI Master plus unit scheme**	0.091	12	0.088	0.003	0.13	0.356	15	0.299	0.057	0.86	0.047	19	0.32
15	**UTI Top 100 Funds**	0.033	24	0.088	-0.055	-1.10	0.363	14	0.299	0.064	0.60	0.023	20	-0.33
16	**Sahara Growth Fund**	0.141	4	0.099	0.041	0.63	0.563	5	0.348	0.215	1.16	0.165	7	1.46
17	**Sahara MIDCAP Fund**	0.059	18	0.057	0.002	0.50	0.274	21	0.207	0.067	0.95	0.058	18	0.51
18	**SaharaWealth Plus - Fixed Price Option**	0.054	20	0.064	-0.010	0.05	0.218	24	0.239	-0.021	-0.12	-0.016	24	-0.18
19	**Relligare Contra Fund**	0.047	23	0.030	0.017	0.91	0.280	19	0.145	0.135	1.41	0.133	9	1.18
20	**Relligare Equity Fund**	0.005	27	-0.011	0.017	2.60	0.025	27	-0.062	0.087	1.91	0.058	17	1.76
21	**Relligare Growth Fund**	0.012	26	0.018	-0.006	1.53	0.056	26	0.101	-0.044	1.22	-0.017	25	1.21
22	**Reliance Growth Fund**	0.122	5	0.081	0.041	1.70	0.510	6	0.294	0.216	1.25	0.183	6	1.48
23	**Reliance Vision Fund**	0.179	1	0.062	0.117	2.07	0.721	1	0.210	0.511	1.46	0.407	1	2.04
24	**Reliance NRI Equity Fund**	0.108	7	0.055	0.054	2.58*	0.474	8	0.205	0.269	1.29	0.217	5	2.14
25	**L & T Growth Fund**	0.062	17	0.088	-0.026	0.82	0.291	18	0.299	-0.008	0.83	-0.007	23	0.30
26	**L & T Opportunity Fund**	0.089	13	0.088	0.002	0.97	0.364	13	0.299	0.065	1.47	0.060	16	1.77
27	**L&T Midcap Fund**	0.098	11	0.087	0.011	1.57	0.431	9	0.318	0.113	1.50	0.099	11	1.43

* Significant at 0.05 level

TABLE 4A CHARACTERISTICS-WISE PERFORMANCE OF EQUITY SCHEMES AS PER SHARPE RATIO

Fund Characteristics	Category	No. Of Scheme Outperforming Market
Ownership	PUBLIC SECTOR	3/6(50.00%)
	FOREIGN SECTOR	5/6(83.33%)
	DOMESTIC SECTOR	10/15(66.66%)
	Total	**18/27(66.66%)**
Age	NEW AGE SCHEME	2/4(50.00%)
	MIDDLE AGE SCHEME	8/11(72.72%)
	OLG AGE SCHEME	8/12(66.66%)
	Total	**18/27(66.66%)**
Size	LARGE FUND	2/6(33.33%)
	MEDIUM FUND	5/6(83.33%)
	SMALL FUND	9/15(60.00%)
	Total	**16/27(59.26%)**

TABLE 4B CHARACTERISTICS-WISE PERFORMANCE OF EQUITY SCHEMES AS PER TREYNOR RATIO

Fund Characteristics	Category	No. Of Scheme Outperforming Market
Ownership	PUBLIC SECTOR	5/6(83.33%)
	FOREIGN SECTOR	6/6(100%)
	DOMESTIC SECTOR	12/15(80%)
	Total	**23/27(85.18%)**
Age	NEW AGE SCHEME	3/4(75%)
	MIDDLE AGE SCHEME	9/11(81.81%)
	OLG AGE SCHEME	11/12(91.66%)
	Total	**23/27(85.18%)**
Size	LARGE FUND	6/6(100%)
	MEDIUM FUND	5/6(83.33%)
	SMALL FUND	12/15(80%)
	Total	**23/27(85.18%)**

TABLE 4C CHARACTERISTICS-WISE PERFORMANCE OF EQUITY SCHEMES AS PER JENSEN RATIO

Fund Characteristics	Category	No. Of Scheme Outperforming Market
Ownership	PUBLIC SECTOR	5/6(83.33%)
	FOREIGN SECTOR	6/6(100%)
	DOMESTIC SECTOR	11/15(73.33%)
	Total	**22/27(81.48%)**
Age	NEW AGE SCHEME	3/4(75%)
	MIDDLE AGE SCHEME	8/11(72.72%)
	OLG AGE SCHEME	11/12(91.66%)
	Total	**22/27(81.48%)**
Size	LARGE FUND	6/6(100%)
	MEDIUM FUND	5/6(83.33%)
	SMALL FUND	11/15(73.33%)
	Total	**22/27(81.48%)**

TABLE 5 FAMA'S COMPONENTS OF INVESTMENT PERFORMANCE OF SELECT EQUITY SCHEMES (2002-10)

S.	Name of Scheme	Unique Risk	Diversification	Net Selectivity	Selectivity
1	**Franklin India Bluechip Fund**	0.238	0.031	0.187	0.219
2	**Franklin India Opportunity Fund**	0.255	0.060	0.037	0.097
3	**Franklin India Prima Fund**	0.245	0.079	0.204	0.283
4	**Canara Robecco Equity Diversified**	0.211	0.169	0.053	0.222
5	**Canara Robecco Emerging Equity**	0.260	0.039	-0.078	-0.039
6	**Canara Robecco Infrstructure**	0.225	0.028	0.036	0.064
7	**Fidelity Equity Fund**	0.226	0.044	0.098	0.142
8	**Fidelity India Special Situation Fund**	0.104	0.071	0.031	0.102
9	**Fidelity International Opportunity Fund**	0.051	0.010	-0.004	0.006
10	**ING Core Equity**	0.258	0.033	-0.020	0.013
11	**ING Domestic Opportunity Fund**	0.258	0.037	0.048	0.085
12	**ING Midcap Fund**	0.282	0.064	-0.114	-0.050
13	**UTI Master Value Fund**	0.201	0.141	-0.074	0.067
14	**UTI Master plus unit scheme**	0.242	0.036	0.010	0.047
15	**UTI Top 100 Funds**	0.107	0.239	-0.216	0.023
16	**Sahara Growth Fund**	0.266	0.038	0.127	0.165
17	**Sahara MIDCAP Fund**	0.178	0.048	0.010	0.058
18	**SaharaWealth Plus - Fixed Price Option**	0.177	0.015	-0.031	-0.016
19	**Religare Contra Fund**	0.104	0.049	0.084	0.133
20	**Religare Equity Fund**	-0.039	-0.003	0.061	0.058
21	**Religare Growth Fund**	0.060	0.004	-0.021	-0.017
22	**Reliance Growth Fund**	0.249	0.036	0.147	0.183
23	**Reliance Vision Fund**	0.167	0.030	0.376	0.407
24	**Reliance NRI Equity Fund**	0.166	0.028	0.189	0.217
25	**L & T Growth Fund**	0.261	0.101	-0.108	-0.007
26	**L & T Opportunity Fund**	0.274	0.053	0.007	0.060
27	**L&T Midcap Fund**	0.279	0.055	0.044	0.099

except Religare Equity Fund have shown positive compensation for diversification. It shows the fund managers ability to generate additional return for bearing diversifiable return.

After accounting for diversification, a positive net selectivity indicates superior performance. However, in case net selectivity is negative, then it would mean that the fund managers have taken diversifiable risk that has not been compensated by the extra returns. In terms of net selectivity, there are 19 schemes which have positive values and 8 have negative values. This implies that majority of fund managers have succeeded to get some additional compensation for their diversifiable activities. It can be seen that in case of 22 schemes, the selectivity measure is positive, thus reflecting superior stock selection ability on the part of their fund managers

CONCLUSION

This paper has made an attempt to empirically analyse the performance of Equity schemes in terms of return, risk, and risk adjusted return. The results indicate that the select schemes have provided the return between 0.12 to 0.683 percent per week during the period 2002 to 2010. The overall weekly return works out 0.405 percent for this duration. The average weekly return between 2002 and 2005 was 0.704 percent as against to 0.304 percent during 2006and 2010. There is no significant difference in average weekly return across fund characteristics viz; ownership, age and size. The overall risk measured through standard deviation was found 3.97 percent during 2006-10 and 2.09 percent during 2002-05. Most of the schemes are found having beta less than one, as the majority values fall between 0.6 and 0.9. It implies that these schemes tend to hold portfolios which are less risky than the market portfolio. The coefficient of determination is found above 0.70 in majority of schemes indicating a well diversification of schemes.

According to Sharpe and Treynor ratio, the select schemes have succeeded in providing the risk premium. In terms of Sharpe ratio, 18 schemes outperformed the benchmark out of 27 schemes. On the other, 23 schemes outperformed the benchmark portfolio according to Treynor ratio. But the difference in risk premium offered by the select schemes and that of benchmark is not found significant at 0.05 level in case of both Sharpe and Treynor Ratio. Only two schemes are observed with a significant difference as per Sharpe ratio. These are : Franklin India Bluechip Fund, Reliance NRI Equity Fund. According to Jensen measure, 22 schemes have provided a positive alpha value. However, Alpha values are not found statistically significant at 5% level except only one scheme (Franklin India Bluechip Fund). As per FAMA, the selectivity measure is positive in case of 22 schemes, thus reflecting superior stock selection ability on the part of their fund managers. In terms of net selectivity, two-third schemes have positive value of alpha. It indicates that the fund managers have taken diversifiable risk that has been compensated by the extra returns. Thus, a proper balance between selectivity and diversification is maintained by fund managers.

On the whole, it can be concluded that there is no convincing evidence, which recommends that performance of mutual funds is superior to the market during the study period. However, one or two schemes have performed better than the market. Further, it was found that the sample schemes are adequately diversified and have low systematic risk. Overall, the result reported here are similar to the ones reported earlier for the Indian market.

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