

An Empirical Study on the Performance of Select Mutual Fund Schemes in India

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Introduction

The Indian mutual fund industry has come a long way from its inception in 1964. There is lot of structural transformation in the industry over the years. The competition is intense in the current scenario as there are a variety of players in all types of fund schemes. At present, there are four players in the industry viz. UTI, Public sector banks, Insurance corporations and the private sector. The industry has witnessed enormous growth in terms of size, operations, investor base, and variety of schemes. It is further expanding in tune to the needs of the investors and market pressures. At this juncture, there is a need for the mutual fund investors to evaluate the performance of schemes before deciding on investments. Past performance is taken as reference by many investors, though it may not be a true indicator of future performance. Statistical measures are available which utilizes past data to know about the worthiness of schemes in a scientific manner. This paper attempts to evaluate select Indian open end mutual fund schemes by using such measures to throw light on the risk and returns of the schemes. A cross section of various types of schemes is taken for analysis, by considering their NAV's. The results of various statistical measures are tabulated and consolidated to get

a comprehensive picture of the performance of the select schemes.

Objectives of the Study

- To determine the performance of select open end mutual fund schemes using various statistical measures like Sharpe ratio, Treynor ratio, and Jensen Differential measure.
- To analyze the risk-return relationships of the select open ended mutual fund schemes.

Data

The study is empirical in nature. The study is carried out for open end mutual fund schemes and 51 schemes are selected by convenient sampling method. The choice of sample is based on the availability of data. NAV's are taken for a period of one year from 1st October 2004 to 30th September 2005. This period is selected because the stock market has witnessed major changes with the Sensex crossing the 8000 mark.

Risk free rate of Return

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

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Benchmark portfolio

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

Research Methodology

Hypotheses

The study tests the following hypotheses in respect of performance evaluation of mutual fund schemes:

- The investment performance of schemes is superior to the relevant benchmark portfolio.
- The mutual fund schemes are well diversified.
- There is a relationship between investment objectives of the schemes and their risk characteristics.

Measures of Mutual Fund Performance

There are various measures to evaluate the performance of mutual funds like

- Rate of return method

- Sharpe ratio
- Treynor ratio
- Jensen differential return measure
- Sharpe differential return measure, and
- Fama's components of investment performance

This study has attempted to calculate three measures viz. Sharpe ratio, Treynor ratio, and Jensen differential return measure.

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

$$\text{Sharpe ratio} = \frac{\overline{R_p} - \overline{R_f}}{\sigma_p}$$

$\overline{R_p}$ = Observed average fund return,

$\overline{R_f}$ = Average risk free return

σ_p = Standard deviation of fund returns

Treynor ratio - The Treynor ratio's reward to volatility ratio measures the excess return per unit of market (systematic) risk. We calculate Treynor ratios for the sample funds using:

$$\text{Treynor ratio} = \frac{\overline{R_p} - \overline{R_f}}{\beta_p}$$

β_p is the beta of the fund. The market model is used to estimate the sample betas:

$$R_{it} = \alpha + \beta R_{mt} + \sum_i$$

R_{it} = Returns on the sample fund

R_{mt} = Returns on the S&P CNX Nifty index

Σ_i = Random error term

α and β are the parameters of the model.

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

$$R_{pt} - R_{it} = \alpha + \beta[R_{mt} - R_{it}] + \Sigma_{pt}$$

R_{pt} = Return for the scheme

R_{it} = Risk free return

R_{mt} = Return on the market portfolio

Σ_{pt} = Random error term

α and β are the parameters of the model.

Alpha is a measure of differential return earned by the fund while beta measures its systematic risk. The parameters are estimated by regression method.

Empirical Results

Risk and Return Analysis

Table 1 represents the risk and return statistics for the sample funds and for the market portfolio. Of the 51 funds as many as 18 schemes (35%) earned higher returns than the market return. The remaining 33 funds (65%) however generated lower returns than the market. Almost all the funds during this period earned positive returns. The average return earned by the sample funds is .109%. The average return for the market is .157%. This implies that the sample funds, on average, performed lower than the risk free asset. The average risk of the funds is .699% which is lower than the average market risk of 1.002%. This implies that the funds have taken lower risk than the market. While looking at the coefficient of determination values, R^2 is very low. This shows that the Indian mutual fund industry is not adequately diversified.

Table 1: Risk and Return analysis of Sample Funds

No.	Scheme Name	Fund	Risk Return	Fund free ret	Market risk	Market return	Fund risk	R2 Beta
1	Birla Balance (G)	0.0012	-0.0085	0.0062	0.0016	0.0100	0.0044	0.0001
2	Birla Equity Plan	0.0023	-0.0085	0.0099	0.0016	0.0100	-0.0249	0.0006
3	Birla Gilt Plus - Liquid (G)	0.0002	-0.0085	0.0004	0.0016	0.0100	0.0023	0.0063
4	Birla Gilt Plus - Regular (G)	0.0002	-0.0085	0.0024	0.0016	0.0100	-0.0012	0.0000

No.	Scheme Name	Fund	Risk Return	Fund free ret	Market risk	Market return	Fund risk	R2 Beta
5	Birla Asset Allocation Fund-Aggressive (G)	0.0014	-0.0085	0.0063	0.0016	0.0100	-0.0013	0.0000
6	Birla MNC Fund-B(G)	0.0017	-0.0085	0.0074	0.0016	0.0100	-0.0120	0.0003
7	Birla India Opportuni-ties Fund - B (G)	0.0014	-0.0085	0.0085	0.0016	0.0100	0.0114	0.0002
8	Cancigo (Growth)	0.0008	-0.0085	0.0038	0.0016	0.0100	-0.0146	0.0014
9	Canexpo (Growth)	0.0023	-0.0085	0.0130	0.0016	0.0100	-0.0116	0.0001
10	Can Gilt (PGS)-(G)	0.0002	-0.0085	0.0015	0.0016	0.0100	0.0076	0.0003
11	CanEquity - Tax Saver	0.0019	-0.0085	0.0171	0.0016	0.0100	0.0230	0.0025
12	Chola Opportunities Fund - (Cumulative)	0.0019	-0.0085	0.0101	0.0016	0.0100	-0.0462	0.5254
13	Birla Asset Allocation Fund-Aggressive (G)	0.0014	-0.0085	0.0063	0.0016	0.0100	-0.0013	0.0011
14	DSP ML Bond Fund - Retail Plan (G)	0.0002	-0.0085	0.0010	0.0016	0.0100	0.0034	0.0002
15	Franklin India Index Fund-BSE Sensex Plan(G)	0.0013	-0.0085	0.0084	0.0016	0.0100	-0.0105	0.0001
16	Franklin Infotech Fund - (G)	0.0015	-0.0085	0.0125	0.0016	0.0100	-0.0095	0.0000
17	Franklin India Prima Fund - (G)	0.0026	-0.0085	0.0094	0.0016	0.0100	0.0667	0.0001
18	FT India Dynamic PE Ratio Fund of Funds (G)	0.0015	-0.0085	0.0078	0.0016	0.0100	0.0097	0.0001

No.	Scheme Name	Fund	Risk Return	Fund free ret	Market risk	Market return	Fund risk	R2 Beta
19	FT India Life Stage Fund of Funds - 40 (G)	0.0008	-0.0085	0.0035	0.0016	0.0100	-0.0204	0.0044
20	GIC Growth Plus II	0.0023	-0.0085	0.0190	0.0016	0.0100	-0.1372	0.0014
21	GIC Balanced Fund	0.0017	-0.0085	0.0071	0.0016	0.0100	0.0289	0.0054
22	GIC Fortune 94	0.0023	-0.0085	0.0197	0.0016	0.0100	-0.1491	0.0001
23	Grindlays Cash Fund - Plan C (G)	0.0002	-0.0085	0.0003	0.0016	0.0100	-0.0003	0.0015
24	HDFC Liquid Fund (G)	0.0002	-0.0085	0.0002	0.0016	0.0100	0.0009	0.0005
25	Pru ICICI Index Fund-Nifty Plan	0.0017	-0.0085	0.0102	0.0016	0.0100	-0.0219	-1.0667
26	JM Balanced Fund - (G)	0.0012	-0.0085	0.0071	0.0016	0.0100	-0.0480	0.0001
27	Kotak Bond - Regular Plan (G)	0.0002	-0.0085	0.0012	0.0016	0.0100	-0.0010	0.0000
28	Kotak Gilt - Invest Plan (G)	0.0002	-0.0085	0.0021	0.0016	0.0100	-0.0012	1.3637
29	LICMF G-Sec Fund - (G)	0.0001	-0.0085	0.0043	0.0016	0.0100	0.0391	0.0008
30	LICMF Unit Linked Insurance Scheme - (G)	0.0003	-0.0085	0.0104	0.0016	0.0100	-0.0293	0.0006
31	Pru ICICI Growth Fund - (G)	0.0020	-0.0085	0.0098	0.0016	0.0100	-0.0094	0.0001
32	Pru ICICI Technology Fund (G)	0.0017	-0.0085	0.0117	0.0016	0.0100	-0.0733	0.0040

No.	Scheme Name	Fund	Risk Return	Fund free ret	Market risk	Market return	Fund risk	R2 Beta
33	Principal Tax Saving Fund	0.0020	-0.0085	0.0090	0.0016	0.0100	-0.0930	0.0108
34	Reliance Vision Fund - (G)	0.0018	-0.0085	0.0091	0.0016	0.0100	0.0558	0.0041
35	Reliance Income Fund - (G)	0.0002	-0.0085	0.0009	0.0016	0.0100	-0.0070	0.0104
36	Sahara Liquid Fund (G)	0.0001	-0.0085	0.0003	0.0016	0.0100	0.0004	0.0002
37	Pru ICICI SPICe Fund	0.0017	-0.0085	0.0096	0.0016	0.0100	-0.0819	0.0073
38	Sundaram Money Fund - Appreciation	0.0001	-0.0085	0.0002	0.0016	0.0100	-0.0020	0.0098
39	Tata Index Fund - Nifty Plan (A)	0.0018	-0.0085	0.0107	0.0016	0.0100	-0.0087	0.0001
40	Tata Equity Opportunities Fund - (App)	0.0022	-0.0085	0.0100	0.0016	0.0100	-0.0741	0.0055
41	Tata Gilt RIP (G)	0.0001	-0.0085	0.0017	0.0016	0.0100	-0.0064	0.0013
42	Tata Income Fund - (AO)	0.0002	-0.0085	0.0005	0.0016	0.0100	-0.0007	0.0001
43	Tata Young Citizens Fund	0.0010	-0.0085	0.0047	0.0016	0.0100	-0.0276	0.0035
44	Taurus Libra Taxshield	0.0027	-0.0085	0.0167	0.0016	0.0100	0.0957	0.0033
45	Templeton India Children's Asset - Gift Plan (G)	0.0003	-0.0085	0.0014	0.0016	0.0100	-0.0188	0.0169

No.	Scheme Name	Fund	Risk Return	Fund free ret	Market risk	Market return	Fund risk	R2 Beta
46	Templeton India G-Sec Fund - LTP (G)	0.0002	-0.0085	0.0024	0.0016	0.0100	-0.0050	0.0004
47	UTI MIP 2001 (G)	0.0006	-0.0085	0.0048	0.0016	0.0100	0.0364	0.0056
48	UTI-Balanced Fund (G)	0.0010	-0.0085	0.0060	0.0016	0.0100	-0.0178	0.0009
49	UTI-Bond Fund (G)	0.0004	-0.0085	0.0010	0.0016	0.0100	0.0064	0.0045
50	ING Vysya Income Portfolio - (G)	0.0002	-0.0085	0.0011	0.0016	0.0100	-0.0054	0.0023
51	ING Vysya Select Stocks Fund (G)	0.0004	-0.0085	0.0278	0.0016	0.0100	-0.0694	0.0006
	Average	0.0011	-0.0085	0.0070	0.0016	0.0100	-0.0127	0.0185

Results of Sharpe Ratio

Table 2 gives Sharpe ratios for the Indian funds as well as for the benchmark portfolios. Of the 51 funds, 39 funds(74%) have better Sharpe ratios in comparison to the relevant

benchmark portfolios. The Top five performers are: Sundaram Money Fund – Appreciation scheme, HDFC Liquid Fund (G), Sahara Liquid Fund (G), Grindlays Cash Fund - Plan C (G), Birla Gilt Plus - Liquid (G).

Table 2: Sharpe Ratios

No.	Scheme Name	Sharpe	Benchmark	Rank
1	Birla Balance (G)	1.571685	1.00857546	23
2	Birla Equity Plan	1.088619	1.00857546	35
3	Birla Gilt Plus - Liquid (G)	24.911	1.00857546	5
4	Birla Gilt Plus - Regular (G)	3.664012	1.00857546	15
5	Birla Asset Allocation Fund - Aggressive (G)	1.56559	1.00857546	24
6	Birla MNC Fund - B (G)	1.38689	1.00857546	27

No.	Scheme Name	Sharpe	Benchmark	Rank
7	Birla India Opportunities Fund - B (G)	1.173526	1.00857546	31
8	Cancigo (Growth)	2.476902	1.00857546	18
9	Canexpo (Growth)	0.828699	1.00857546	44
10	Can Gilt (PGS) - (G)	5.68223	1.00857546	12
11	CanEquity - Tax Saver	0.608815	1.00857546	47
12	Chola Opportunities Fund - (Cumulative)	1.03275	1.00857546	39
13	Birla Asset Allocation Fund - Aggressive (G)	1.56559	1.00857546	24
14	DSP ML Bond Fund - Retail Plan (G)	-0.00854	1.00857546	50
15	Franklin India Index Fund-BSE Sensex Plan(G)	1.165173	1.00857546	33
16	Franklin Infotech Fund - (G)	0.798793	1.00857546	45
17	Franklin India Prima Fund - (G)	1.186638	1.00857546	30
18	FT India Dynamic PE Ratio Fund of Funds (G)	1.287934	1.00857546	29
19	FT India Life Stage Fund of Funds - 40 (G)	2.716174	1.00857546	17
20	GIC Growth Plus II	0.56884	1.00857546	48
21	GIC Balanced Fund	1.449948	1.00857546	26
22	GIC Fortune 94	0.550074	1.00857546	49
23	Grindlays Cash Fund - Plan C (G)	29.42049	1.00857546	4
24	HDFC Liquid Fund (G)	36.02448	1.00857546	2
25	Pru ICICI Index Fund-Nifty Plan	1.000269	1.00857546	40
26	JM Balanced Fund - (G)	1.368489	1.00857546	28
27	Kotak Bond - Regular Plan (G)	7.475771	1.00857546	10
28	Kotak Gilt - Invest Plan (G)	4.218384	1.00857546	14
29	LICMF G-Sec Fund - (G)	1.998795	1.00857546	20

No.	Scheme Name	Sharpe	Benchmark	Rank
30	LICMF Unit Linked Insurance Scheme - (G)	0.851939	1.00857546	43
31	Pru ICICI Growth Fund - (G)	1.077958	1.00857546	36
32	Pru ICICI Technology Fund (G)	0.872353	1.00857546	42
33	Principal Tax Saving Fund	1.169393	1.00857546	32
34	Reliance Vision Fund - (G)	1.138894	1.00857546	34
35	Reliance Income Fund - (G)	10.19538	1.00857546	7
36	Sahara Liquid Fund (G)	33.06174	1.00857546	3
37	Pru ICICI SPICe Fund	1.064601	1.00857546	38
38	Sundaram Money Fund - Appreciation	37.81711	1.00857546	1
39	Tata Index Fund - Nifty Plan (A)	0.957711	1.00857546	41
40	Tata Equity Opportunities Fund - (App)	1.064647	1.00857546	37
41	Tata Gilt RIP (G)	5.015657	1.00857546	13
42	Tata Income Fund - (AO)	16.14855	1.00857546	6
43	Tata Young Citizens Fund	2.033692	1.00857546	19
44	Taurus Libra Taxshield	0.671153	1.00857546	46
45	Templeton India Children's Asset - Gift Plan (G)	6.288034	1.00857546	11
46	Templeton India G-Sec Fund - LTP (G)	3.576442	1.00857546	16
47	UTI MIP 2001 (G)	1.899254	1.00857546	21
48	UTI-Balanced Fund (G)	1.586548	1.00857546	22
49	UTI-Bond Fund (G)	9.363644	1.00857546	8
50	ING Vysya Income Portfolio - (G)	7.718495	1.00857546	9
51	ING Vysya Select Stocks Fund (G)	-0.29171	1.00857546	51

Results of the Treynor Ratio

Table 3 gives Treynor ratios for the Indian funds as well as for the benchmark portfolios. Of the 51 funds, only 21 (41%) schemes outperformed their relevant benchmark portfolio. The top five performers are, Sahara Liquid Fund (G), HDFC Liquid Fund (G), Birla Gilt Plus - Liquid (G), DSP ML Bond Fund - Retail Plan (G), Birla Balance (G). On the whole, 14 funds have

outperformed in terms of both total risk and systematic risk. The results of the Sharpe and Treynor ratios show some conflict in performance ranking because Sharpe ratios takes into account the total risk of the portfolio, whereas Treynor ratio considers only the systematic risk. Therefore, it is possible that a fund outperforms the market in terms of Treynor ratio, whereas in terms of Sharpe ratio it does not due to the presence of a relatively large amount of unsystematic or unique risk.

Table 3: Treynor Ratios

No.	Scheme Name	Treynor	Benchmark	Rank
1	Birla Balance (G)	2.194724	-0.1164678	5
2	Birla Equity Plan	-0.43432	-0.1164678	29
3	Birla Gilt Plus - Liquid (G)	3.779572	-0.1164678	3
4	Birla Gilt Plus - Regular (G)	-7.51295	-0.1164678	49
5	Birla Asset Allocation Fund - Aggressive (G)	-7.38084	-0.1164678	47
6	Birla MNC Fund - B (G)	-0.85563	-0.1164678	35
7	Birla India Opportunities Fund - B (G)	0.870567	-0.1164678	10
8	Cancigo (Growth)	-0.64173	-0.1164678	34
9	Canexpo (Growth)	-0.93304	-0.1164678	36
10	CanEquity - Tax Saver	0.453014	-0.1164678	11
11	Can Gilt (PGS)-(G)	1.143578	-0.1164678	7
12	Chola Opportunities Fund - (Cumulative)	-0.22522	-0.1164678	26
13	Birla Asset Allocation Fund - Aggressive (G)	-7.38084	-0.1164678	47
14	DSP ML Bond Fund - Retail Plan (G)	2.557696	-0.1164678	4
15	Franklin India Index Fund-BSE Sensex Plan(G)	-0.93379	-0.1164678	37
16	Franklin Infotech Fund - (G)	-1.05719	-0.1164678	38
17	Franklin India Prima Fund - (G)	0.166818	-0.1164678	16

No.	Scheme Name	Treynor	Benchmark	Rank
18	FT India Dynamic PE Ratio Fund of Funds (G)	1.029932	-0.1164678	9
19	FT India Life Stage Fund of Funds - 40 (G)	-0.46014	-0.1164678	30
20	GIC Growth Plus II	-0.07887	-0.1164678	20
21	GIC Balanced Fund	0.353537	-0.1164678	12
22	GIC Fortune 94	-0.07265	-0.1164678	19
23	Grindlays Cash Fund - Plan C (G)	-26.5403	-0.1164678	53
24	HDFC Liquid Fund (G)	10.07006	-0.1164678	2
25	Pru ICICI Index Fund-Nifty Plan	-0.46727	-0.1164678	31
26	JM Balanced Fund - (G)	-0.20289	-0.1164678	25
27	Kotak Bond - Regular Plan (G)	-8.8147	-0.1164678	50
28	Kotak Gilt - Invest Plan (G)	-7.12951	-0.1164678	46
29	LICMF G-Sec Fund - (G)	0.221016	-0.1164678	14
30	LICMF Unit Linked Insurance Scheme - (G)	-0.30359	-0.1164678	27
31	Pru ICICI Growth Fund - (G)	-1.1243	-0.1164678	39
32	Pru ICICI Technology Fund (G)	-0.13958	-0.1164678	23
33	Principal Tax Saving Fund	-0.11323	-0.1164678	21
34	Reliance Vision Fund - (G)	0.184844	-0.1164678	15
35	Reliance Income Fund - (G)	-1.2521	-0.1164678	41
36	Sahara Liquid Fund (G)	24.01047	-0.1164678	1
37	Pru ICICI SPiCE Fund	-0.12519	-0.1164678	22
38	Sundaram Money Fund - Appreciation	-4.39091	-0.1164678	45
39	Tata Index Fund - Nifty Plan (A)	-1.18894	-0.1164678	40
40	Tata Equity Opportunities Fund - (App)	-0.14433	-0.1164678	24
41	Tata Gilt RIP (G)	-1.35843	-0.1164678	42
42	Tata Young Citizens Fund	-0.34603	-0.1164678	28
43	Taurus Libra Taxshield	0.117223	-0.1164678	17

No.	Scheme Name	Treynor	Benchmark	Rank
44	Templeton India Children's AssetGift Plan (G)	-0.46959	-0.1164678	32
45	Templeton India G-Sec Fund - LTP (G)	-1.75554	-0.1164678	44
46	Tata Income Fund - (AO)	-12.1246	-0.1164678	51
47	UTI MIP 2001 (G)	0.250007	-0.1164678	13
48	UTI-Balanced Fund (G)	-0.53388	-0.1164678	33
49	UTI-Bond Fund (G)	1.388357	-0.1164678	6
50	ING Vysya Income Portfolio - (G)	-1.61013	-0.1164678	43
51	ING Vysya Select Stocks Fund (G)	0.116631	-0.1164678	18

Results of Jensen Differential Return Measure

Table 4 gives the results of the Jensen Measure. Out of the sample 51 funds, 50 funds showed positive alpha values indicating superior performance. Hence these funds have generated returns in excess of equilibrium returns. The equilibrium returns of a fund is the return that it is expected to earn with the given level of systematic risk. We see only for one scheme the alpha value to be statistically significant at 5% level of significance (one tail test), CanEquity - Tax Saver. Thus this fund has generated above normal returns. Thus, the null hypothesis that the observed value of differential measure (alpha) for the sample cannot be rejected; as for majority of the funds the alpha is not found to be different from zero. In general we can see that majority of the schemes have produced normal and below normal returns, and have not generated excess returns than expected. The superior performance is noticeable only in respect of one scheme.

Table 4 : Jensen Measure for Funds

No.	Scheme Name	Fund Return	SML	Alpha	t alpha
1	Birla Balance (G)	0.0012	-0.0085	0.0000	0.1128
2	Birla Equity Plan	0.0023	0.0111	-0.0249	-0.3956
3	Birla Gilt Plus - Liquid (G)	0.0002	0.0088	-0.0052	-1.2505
4	Birla Gilt Plus - Regular (G)	0.0002	0.0088	-0.0012	-0.0769
5	Birla Asset Allocation Fund - Aggressive (G)	0.0014	0.0099	-0.0013	-0.0335
6	Birla MNC Fund - B (G)	0.0017	0.0104	-0.0120	-0.2558

No.	Scheme Name	Fund Return	SML	Alpha	t alpha
7	Birla India Opportunities Fund - B (G)	0.0014	0.0098	0.0114	0.2127
8	Cancigo (Growth)	0.0008	0.0095	-0.0146	-0.5799
9	Canexpo (Growth)	0.0023	0.0109	-1.0116	-11.6507
10	Can Gilt (PGS)-(G)	0.0002	0.0086	0.0076	0.7872
11	CanEquity - Tax Saver	0.0019	0.0102	0.0267	6.7021
12	Chola Opportunities Fund - (Cumulative)	0.0019	0.0059	-0.5029	-16.5017
13	DSP ML Bond Fund - Retail Plan (G)	0.0002	0.0087	0.0034	0.5273
14	Franklin India Index Fund-BSE Sensex Plan(G)	0.0013	0.0097	-0.0105	-0.1934
15	Franklin Infotech Fund - (G)	0.0015	0.0101	-0.0096	-0.1190
16	Franklin India Prima Fund - (G)	0.0026	0.0105	0.0612	0.0893
17	FT India Dynamic PE Ratio Fund of Funds (G)	0.0015	0.0099	0.0097	0.1874
18	FT India Life Stage Fund of Funds - 40 (G)	0.0008	0.0095	-0.0190	0.1128
19	GIC Growth Plus II	0.0023	0.0120	-0.1243	-1.0502
20	GIC Balanced Fund	0.0017	0.0099	0.0258	0.5894
21	GIC Fortune 94	0.0023	0.0123	-0.1491	-1.1406
22	Grindlays Cash Fund - Plan C (G)	0.0002	0.0087	-0.0003	-0.1854
23	HDFC Liquid Fund (G)	0.0002	0.0087	0.0009	0.6117
24	Pru ICICI Index Fund-Nifty Plan	0.0017	0.0105	-0.0219	-0.3380
25	JM Balanced Fund - (G)	0.0012	0.0102	-0.0480	0.0046
26	Kotak Bond - Regular Plan (G)	0.0002	0.0088	-0.0010	-0.1274
27	Kotak Gilt - Invest Plan (G)	0.0002	0.0087	-0.0012	-0.0888
28	LICMF G-Sec Fund - (G)	0.0001	0.0082	0.0391	0.0077
29	LICMF Unit Linked Insurance Scheme - (G)	0.0003	0.0092	-0.0293	-0.4172

No.	Scheme Name	Fund Return	SML	Alpha	t alpha
30	Pru ICICI Advisor - Aggressive Plan (G)	0.0014	0.0101	-0.0157	-0.3967
31	Pru ICICI Growth Fund - (G)	0.0020	0.0107	-0.0094	-0.1514
32	Pru ICICI Technology Fund (G)	0.0017	0.0110	-0.0733	-0.9886
33	Principal Tax Saving Fund	0.0020	0.0115	-0.0930	-1.6384
34	Reliance Vision Fund - (G)	0.0018	0.0095	0.0558	1.0157
35	Reliance Income Fund - (G)	0.0002	0.0088	-0.0070	-1.6185
36	Sahara Liquid Fund (G)	0.0001	0.0087	0.0004	0.2450
37	Pru ICICI SPiCE Fund	0.0017	0.0111	-0.0819	-1.3489
38	Sundaram Money Fund - Appreciation	0.0001	0.0087	-0.0020	-1.5708
39	Tata Index Fund - Nifty Plan (A)	0.0018	0.0104	-0.0087	-0.1272
40	Tata Equity Opportunities Fund - (App)	0.0022	0.0114	-0.0741	-1.16773
41	Tata Gilt RIP (G)	0.0001	0.0087	-0.0064	-0.5536
42	Tata Income Fund - (AO)	0.0002	0.0087	-0.0006	-0.1611
43	Tata Young Citizens Fund	0.0010	0.0098	-0.0276	-0.9305
44	Taurus Libra Taxshield	0.0027	0.0102	0.0957	0.9064
45	Templeton India Children's AssetGift Plan(G)	0.0003	0.0090	-0.0188	-2.0236
46	Templeton India G-Sec Fund - LTP (G)	0.0002	0.0088	-0.0050	-0.3053
47	UTI MIP 2001 (G)	0.0006	0.0087	0.0364	1.1068
48	UTI-Balanced Fund (G)	0.0010	0.0097	-0.0178	-0.4691
49	UTI-Bond Fund (G)	0.0004	0.0088	0.0064	1.0463
50	ING Vysya Income Portfolio - (G)	0.0002	0.0088	-0.0054	-0.7577
51	ING Vysya Select Stocks Fund (G)	0.0004	0.0097	-0.0694	-0.3950

Summary and Conclusions

This paper has mainly aimed at examining the investment performance of Indian Mutual funds in terms of a) Sharpe Ratio b) Treynor Ratio and c) Jensen differential return measure. The study used daily NAV for 51 mutual fund schemes for a period of one year from 1st October 2004 to 30th September 2005, and the empirical results reported here indicated a mixed performance of sample schemes during the study period. The Sharpe Ratio indicates good performance by majority of the scheme, while in terms of Treynor ratio only few schemes show good performance. The Jensen's measure, alpha is positive for 98% of the funds which shows that the funds are generating good returns. The returns of the funds are positive and hence in general we can say that the performance of the Mutual funds during this period is satisfactory. However we have to note that except one scheme no other scheme has produced excess return in the market and the funds are not adequately diversified. With the positive outlook at the Capital Market, we can hope that the Mutual fund industry would perform better in the days to come.

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