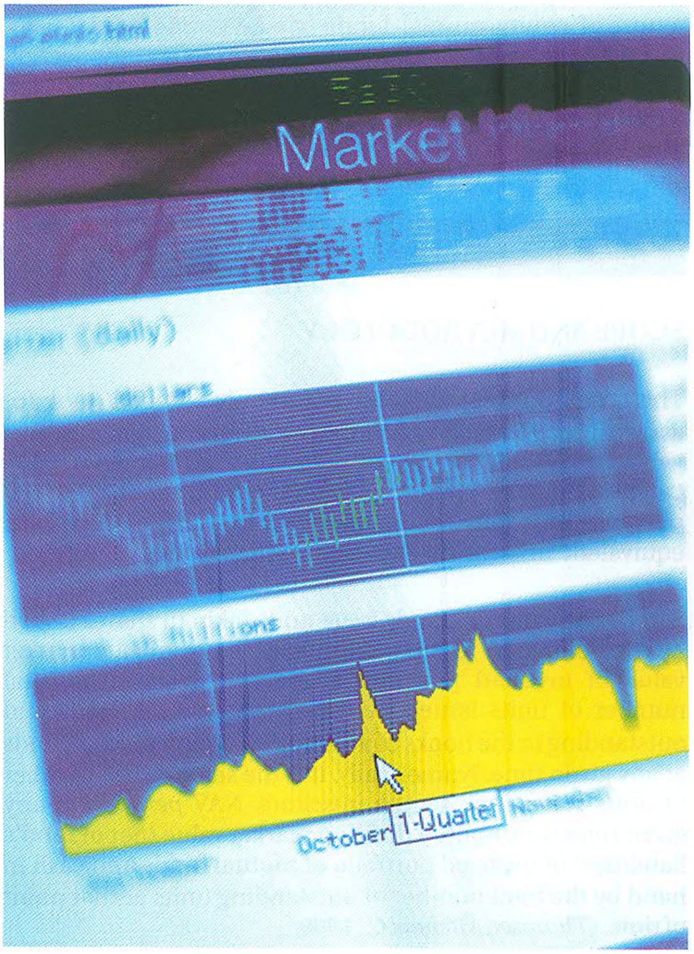
Financial Performance Of Equity Mutual Funds: Empirical Evidences From INDIA



Prof. H. J. Sondhi & Dr. P. K. Jain

ABSTRACT

Mutual funds are popular vehicle to manage surplus funds in the hands of public so as to bring them the benefits of capital market in terms of earning expected rates of return on their investments. History of mutual funds management in India is rather new, vis-à-vis, mutual funds in U.S.A. or U.K. Yet the mutual fund industry in India has caught up the attention of millions of investors with diverse interest revolving around three basic principles of investments viz. safety, liquidity and returns. This paper examines the rates of returns generated by equity mutual funds, vis-à-vis, 364 days T-bills during 1993-2002. Rates of Return of 364 days T-bill is surrogate measure for risk-free return in our analysis. While investment in risk-free assets are expected to provide high safety of capital and low returns, investment in equities are expected to provide high returns as the capital is exposed to risk of erosion. Hence, risk premium is implied expectation of the investors. The term 'Risk Premium' is associated with risky investments and may be defined as the rate of return earned by the investment in excess of risk-free rate of return. The sample of thirty-six equity mutual funds has been drawn from twenty-one asset management companies belonging to private and public sectors. The sample is true representative of the Universe, as it constitutes more than two-thirds of the total equity mutual funds operating in India.

INTRODUCTION

The objective of the present paper is to evaluate financial performance of equity mutual funds operating in India for the period, 1993-2002. For better exposition, the paper has been divided into four sections. Section I outlines the scope and methodology of the study that includes, *inter alia*, the basis of computation of rates of return earned by the equity mutual funds. Section II computes and analyses rates of return of equity mutual funds, vis-à-vis, 364-days T-bills, surrogate measure for risk-free return in our study. Section III is concerned with comparison of rates of return of open-ended and close-ended funds. Concluding observations have been recapitulated in Section IV.

SECTION I

SCOPE AND METHODOLOGY

The most appropriate and commonly applied tool for assessing the financial performance is tracking the "net asset value" (NAV) per unit of mutual funds. The net asset value can be defined as the aggregate market value of the invested portfolio of equity mutual funds plus the 'cash' or 'its equivalent' in hand less total external liabilities.

Since equity mutual funds issue units (akin to shares issued by the company) to the subscribers, the aggregate market value of invested portfolio is marked against the total number of units issued by the equity mutual funds and outstanding in the books of accounts of equity mutual funds at any given time. Numerically, it is the same as the number of units subscribed by the investors. NAV *per unit* at any given time is computed dividing market value (net of fund's liabilities) of invested portfolio of mutual funds and cash in hand by the total number of outstanding units at that point of time. (*Thomset, Michael C., 1989*)[1]

In our study, month-end values form the basis of NAV per unit. NAVs per unit have been adjusted for dividend, bonus and rights issues for appropriate comparison and, *inter alia*, include all income and profits / loss on value of financial assets held under the mutual fund during period of our study.

Bonus factor has been calculated dividing "number of units after the bonus issue" with "the number of units before the bonus issue"; for instance, bonus factor for issue of two bonus units for every three units held will be taken as 5/3. Ex-right net asset value per unit has been calculated dividing "net asset value of units held just before the right issue plus the value paid for subscribing the rights entitlement" with "the number of units held by the investor after the rights issue" (*L C Gupta, 1981*)[2]. Dividend, if any, has been taken as reinvested at the internal rate of return

Single period change of NAV per unit has been computed. Single period has been defined as one month. The period of our study is 1993-2002, divided into 108 single periods of one month each. The sample observations are less in the case of those equity mutual funds whose operations are for a period less than nine years as they came into existence subsequent to April 1993.

Monthly returns have been based on month-end NAVs per unit. The monthly returns for each of the single periods so computed have been compounded to get single compounded monthly rates of return on the mutual fund portfolio as per equation 1.

$$R_{jn} = (NAV_n - NAV_{n-1}) / NAV_{n-1}, \qquad (1)$$

Where,

R_{jn}	=	Single period return on fund "j" for n^{th} month
NAV_{n-1}	=	net asset value at the end of $(n-1)^{th}$ month (i.e., preceding month)
NAV_n	=	net asset value at the end of n^{th}, month (i.e., current month)

The monthly returns so computed for different single periods have been compounded to get compounded monthly rates of return of equity mutual funds. The expression shown in equation 2 has been used to compute monthly compounded rates of return, R, for fund 'j'.

$$R = (R_{j1} \times R_{j2} \times R_{j3} \times \ldots\ldots \times R_{jn})^{1/n} \qquad (2)$$

Where,

R	=	Compounded monthly rate of return of fund 'j'
R_{jn}	=	Monthly rate of return of fund 'j' for $(n+1)^{th}$ month.
n	=	Number of months

The study period, 1993-2002, has been segregated into two sub-periods, sub-period 1 (April 1993-to-March 1998) and sub-period 2 (April 1998-to-March 2002), to ascertain whether their performances varied during two sub-periods. Thus, the compounded rates of return for sample funds has been computed for 1993-2002 on an aggregative basis and for two sub-periods, sub-period 1 (1993-98) and sub-period 2 (1998-2002) on disaggregative basis.

The sample has been classified into two groups, namely, open-ended and close-ended equity mutual funds based on the nature of subscription. While, open-ended funds are open for subscription by the investors throughout the year, except for a short duration of one week or ten days etc., the close-ended funds are opened initially for subscription only for a short duration of either one week or a fortnight or so and do not allow addition or dilution of the initial funds collected under the scheme during the lock-in-period*. Close-ended funds have maturity period.

The observations considered for each fund are from the date of inception of the fund to 31st, March, 2002. The study relates to thirty-six equity mutual funds affiliated to twenty-one asset management companies. The sample comprises of twenty five open-ended and eleven close-ended equity mutual funds.

All equity mutual funds in our sample have been in operation for more than three years as on 31st March, 2002. Besides the period may be considered adequate for peer group comparison of rates of return. From investors' point of view, track record of more than three years is perceived significantly long period to judge the performance of equity mutual funds for investment purpose.

Rate of return of 364-days T-bills has been taken as surrogate measure for risk-free return in our study. The average monthly returns of 364 days T-bills have been computed corresponding to each mutual fund and shown in relevant columns of various Tables against respective mutual funds.

Finally, rates of return are on pre-tax basis for two major reasons:

i. The tax rates differ among investors and
ii. To exclude the impact of taxes on the performance of equity mutual funds.

SECTION II

RATES OF RETURN OF EQUITY MUTUAL FUNDS, VIS-à-VIS, 364-DAYS T-BILLS

The aim of this section is to compute monthly returns generated by sample equity mutual funds over a long period (1993-2002) and compare the same with 364 days treasury bills. Rates of return is significant factor in financial performance measure of equity mutual funds. Investors prefer to invest in equity mutual funds in order to get higher returns. Since equity mutual funds are more risky investment, the investors expect risk premium i.e. they expect superior returns than risk-free returns. In our study returns provided by 364 days treasury bills (T-bills) have been taken as surrogate measure of risk-free return. This section examines whether fund managers have been able to provide higher returns than the risk-free returns in the form of risk premium to the investors or not.

Monthly returns in percentage have been computed for thirty-six sample equity mutual funds and 364 days treasury bills for the sample period 1993-2002 on an aggregative basis and for the periods, 1993-1998 and 1998-2002 on disaggregative basis. The funds have been arranged in descending order of returns based on aggregative basis (1993-2002) and tabulated in Table 1. Financial performance of the sample equity mutual funds on disaggregate basis has been shown in Table 2

The findings are revealing in that the *mean* as well as *median* returns for the aggregate period as well as two sub-periods are higher in the case of 364 days T-bills, vis-à-vis, the combined sample of equity mutual funds (Table 1). In operational terms, it implies that the investors would have been better off by investing in the risk-free T-bills than investing in equity mutual funds.

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Table 1 Rates of return of sample equity mutual funds, Vis-à-vis, risk-free rates of return, 1993-2002

(Figures are in percentages)

Fund code	Name of the Fund	Month / year of inception	Monthly rates of return of sample funds (in per cent)			Monthly rates of return of 364 day treasury bill (in per cent)		
			93-98	98-02	93-02	93-98	98-02	93-02
1	Alliance equity fund – Growth option	Aug-98	NA	2.17	2.17	NA	0.76	0.76
2	Birla Advantage equity fund	Jan-95	0.48	3.45	2 15	0.89	0.89	0.75
3	Prudential-ICICI growth fund	Jun-98	NA	1.53	1.53	NA	0.76	0.76
4	Tata Pure equity fund	May-98	NA	1.33	1.33	NA	0.76	0.76
5	KP Bluechip - Growth option	Dec-93	0.34	2.19	1.29	0.88	0.75	0.88
6	Reliance Growth fund - Growth option	Oct-95	0.96	1.26	1.15	0.85	0.75	0.79
7	DSP Merrill Lynch equity fund	Apr-97	1.44	0.99	1.08	0.69	0.75	0.74
8	Zurich India equity fund	Nov-94	0.77	2.30	0.92	0.82	0.82	0.81
9	SUN F&C Value fund - Growth option	Jul-97	0.88	0.92	0.92	0.67	0.76	0.74
10	Zurich India top 200 fund	Aug-96	1.46	0.44	0.73	0.74	0.75	0.75
11	UTI-Equity opportunity fund	Aug-96	(0.16)	1.02	0.67	0.73	0.80	0.78
12	Reliance vision	Oct-95	0.74	0.59	0.65	0.85	0.77	0.80
13	Templeton India Growth fund	Aug-96	(0.14)	0.87	0.58	0.74	0.76	0.76
14	JM equity fund - Growth option	Mar-95	(0.08)	1.02	0.55	0.89	0.75	0.81
15	UTI-Primary equity fund 95	Apr-95	0.23	0.70	0.51	0.87	0.75	0.80
16	KP Prima - Growth option	Dec-93	(1.09)	2.01	0.50	0.88	0.75	0.81
17	Sundaram Growth fund	Mar-97	0.13	0.42	0.36	0.69	0.76	0.74
18	UTI - UGS 2000	Dec-90	0.55	(0.04)	0.34	0.88	0.82	0.86
19	UTI-Mastergrowth 93	Jan-93	1.04	(0.64)	0.28	0.89	0.76	0.83
20	UTI-Masterplus 91	Dec-91	0.85	(0.49)	0.25	0.88	0.75	0.82
21	Morgan Stanley equity fund	Jan-94	(0.18)	0.63	0.22	0.89	0.75	0.82
22	UTI-Mastergain 92	May-92	0.55	(0.33)	0.16	0.88	0.75	0.82
23	ICICI Premium	Feb-94	(0.70)	0.93	0.13	0.88	0.76	0.82
24	Zurich India Capital Builder-Gr option	Oct-94	(0.62)	0.86	0.10	0.88	0.75	0.81
25	GIC Growth plus II	Jan-94	(0.50)	0.58	0.05	0.88	0.75	0.81
26	UTI-Grandmaster 93	Apr-93	0.53	(0.54)	0.05	0.82	0.75	0.82
27	BOB Growth 95	Nov-95	0.23	(0.09)	0.03	0.84	0.75	0.78
28	UTI-Mastershare 86	Oct-86	0.84	(1.05)	(0.00)	0.88	0.75	0.82
29	UTI - UGS 5000	Oct-91	0.67	(0.99)	(0.04)	0.88	0.77	0.83
30	IDBI-PRINCIPAL Equity Fund-Gr option	May-95	(0.31)	0.17	(0.06)	0.88	0.80	0.83
31	SBI Magnum equity fund	Jan-91	(0.75)	0.58	(0.07)	0.88	0.75	0.81
32	UTI-Unit Scheme 92	Nov-92	0.27	(0.50)	(0.10)	0.88	0.75	0.82
33	SBI Magnum Multiplier Plus 1993	Mar-93	(0.59)	(0.23)	(0.41)	0.88	0.75	0.81
34	GIC Fortune 94	Dec-94	(0.68)	(0.32)	(0.48)	0.89	0.75	0.81
35	Canbonus	Jul-91	(0.88)	(0.50)	(0.68)	0.88	0.75	0.81
36	LIC Dhanavikas (1)	Jun-93	(1.32)	(0.59)	(0.94)	0.89	0.75	0.81

Sr. no.	Statistical Measures	Monthly rates of return of sample equity mutual funds			Monthly rates of return of 364 days T-bill		
		93-98	98-02	93-02	93-98	98-02	93-02
1	Mean	0.15	0.57	0.44	0.84	0.77	0.80
2	Maximum	1.46	3.45	2.17	0.89	0.89	0.88
3	Minimum	(1.32)	(1.05)	(0.94)	0.67	0.75	0.74
4	Median	0.23	0.59	0.31	0.88	0.75	0.81

(Figures in the brackets indicate negative rates of return)

Further, it is clear from the data contained in Table 2 that for the entire 9 year period, only one-fourth of our sample funds, i.e., nine out of thirty-six funds have earned higher return than T-bills for the period, 1993-2002. It indicates poor performance of equity mutual funds. The top performer amongst these nine funds is Alliance equity fund, a foreign company sponsored mutual fund, which has posted a compounded monthly rate of return of 2.17 per cent followed closely by Indian corporate sponsored mutual fund, Birla advantage equity fund with a monthly compounded rate of return of 2.15 per cent. The worst performers have been Canbonus (-0.68 per cent) and Dhanvikas-I (-0.94 per cent).

Inter-se, for the sub-period 1, 1993-1998, only one fifth (21 per cent) of the total funds analysed could generate higher returns than the 364 days treasury bills, whereas the number increased to two fold for the second sub-period, 1998-2002 (Table 2). It shows that there was better fund management approach during the sub-period 2. As a result, they have generated better returns during this period.

Table 2: Number of equity mutual funds showing higher rates of return than 364 days T-bills, 1993-2002

Periods	Total funds	Number of funds earned higher returns than 364 days T-bills	Number at column '3' as percentage of number at column '2'
1	2	3	4
Sub-period-1, 1993-98	33	7	21%
Sub-period-2, 1998-02	36	15	42%
Aggregate period, 1993-2002	36	9	25%

While five best performing funds *(1. Alliance equity fund-Gr option, 2. Birla Advantage equity fund, 3. Prudential-ICICI growth fund, 4. Tata Pure equity fund and 5. K P Bluechip growth fund) during the period of the study are from the foreign and domestic asset management companies, the five worst performers (1. Dhanvikas-1, 2. Canbonus, 3. GIC Fortune, 4. SBI Magnum Multiplier plus, 5. UTI-Unit Scheme 92) are Public sector undertaking (PSU) sponsored equity mutual funds. The study also indicates that all the best performing and four-fifths of the worst performers are open-ended equity mutual funds leading to the inference that the variability in return exhibits wider range in open-ended equity funds than their close-ended counterparts. Thus, open-ended funds are more vulnerable in providing stable returns.*

In a similar study on cumulative real returns on Bonds and Equities for twenty year period, 1959-60 to 1979-1980, in Netherlands market, the returns of bonds outperformed equities in twelve of the twenty annual periods. *(Bain, Willium G., 1996)*[3]

CONSISTENCY OF PERFORMANCE

One of the most important aspects of performance is the consistency factor. Equity mutual funds may be said to be consistent in performance if the equity mutual funds generate better returns over different sub-periods under consideration. In other words, the equity mutual funds may be said to have shown consistent performance, if these equity mutual funds have generated higher returns than T-bills during both the sub-periods. Needless to state that in that event returns on aggregative basis would also be higher than T-bills. In this study, two sub-periods (i.e. 1993-1998 and 1998-2002) have been defined to examine the consistency of performance in terms of rates of return.

Table 3 shows that only three equity mutual funds or less than one tenth of the thirty-three mutual funds, for which the observations are available for both the sub-periods, have displayed consistent performance. In other words, vast majority of equity mutual funds (91 per cent) have failed to perform consistently i.e. these equity mutual funds have failed to produce higher returns than T-bills in both the sub-periods. The most notable feature of the outcome of the present analysis is that none of the PSU sponsored equity mutual funds has displayed consistent performance.

Table 3: Sample equity mutual funds showing consistently superior performance than T-bills, 1993-2002

(Figures are in percentages)

Sr no.	Mutual Funds	Month /year of Inception	Monthly rates of return of sample equity mutual funds			Monthly rates of return of 364 days treasury bill		
			98-98	98-02	93-02	93-98	98-02	93-02
1	Reliance Growth Fund - Growth option-close-ended	Oct-95	0.96	1.26	1.15	0.85	0.75	0.79
2	DSP Merrill Lynch Equity Fund-open-ended	Apr-95	1.44	0.99	1.08	0.69	0.75	0.74
3	SUN F&C Value Fund-Growth option-open-end	Jul-97	0.88	0.92	0.92	0.67	0.76	0.74

While '*consistency*' is the most important parameter of mutual fund performance, *improved performance* in the second sub-period is another feature of fund performance. Improved performance may be defined as higher monthly returns produced by the fund in the second sub-period (1998-02) over first sub-period (1993-98) and have generated superior monthly returns than the 364 days T-bills for the period, 1993-2002.

Out of thirty three equity mutual funds which failed to show *consistent performance*, only four (12 per cent) have shown *improved performance*. Table 4 shows list of equity mutual funds which have shown *improved performance* in the second sub-period (1998-02) and have performed superior to 364 days T-bills on an aggregative basis for the period, 1993-2002. It may be pertinent to mention that in this case, too, none of the funds is PSU sponsored fund.

Table 4: Sample equity mutual funds showing improved performance during 1998-2002 and have performed superior to T-bills during 1993-2002

(Figures are in percentages)

Fund code	Funds	Month / year of inception	Monthly rates of return of sample funds			Monthly rates of return of 364 days treasury bill		
			93-98	98-02	93-02	93-98	98-02	93-02
1	Birla Advantage equity fund	Jan-95	0.48	3.45	2.15	0.89	0.89	0.75
2	KP Blue chip - Growth option	Dec-93	0.34	2.19	1.29	0.88	0.75	0.88
3	Zurich India equity fund	Nov-94	0.77	2.30	0.92	0.82	0.82	0.81
4	SUN F&C Value Fund-Growth opt	Jul-97	0.88	0.92	0.92	0.67	0.76	0.74

Since vast majority of funds have shown dismal performance in both the sub-periods, the data indicate that equity mutual funds have been inconsistent in producing higher returns than the T-bills during 1993-2002. Dismal performance by the funds during entire 9 year period of the study indicates failure of the fund managers to track the portfolio performance regularly and apply superior 'stock selection' and 'timing' abilities.

The above finding is in sharp contrast to the findings of the study on performance of UK equities during the period 1946-1991 (Barcleys de Zoete Wedd, 1992, p3)[4]. The UK equities exhibited higher return (13.1 per cent per annum) than the gilts (5.6 per cent per annum) and were substantially riskier (Standard deviation of equities being, 29.5 per cent as against 14.2 per cent for gilts).

In yet another similar study (Bain, William G, 1996)[5] on cumulative real returns on Equities and Bonds for twenty year period, 1959-60 to 1979-1980, in Netherlands market, the returns of equities outperformed bonds in eight of the twenty annual periods.

SECTION III

RATES OF RETURNS OF OPEN-ENDED EQUITY MUTUAL FUNDS, CLOSE-ENDED EQUITY MUTUAL FUNDS AND 364 DAYS T-BILLS

Macro level study in the previous sub-section has shown dismal performance by the equity mutual funds. The objective of this section is to ascertain; (i) whether there are significant differences in the rates of return of open-ended equity mutual funds and close-ended equity mutual funds and (ii) whether 'type of fund' significantly affects the rates of return.

To examine the ex-hypotheses, (i) "Open-ended equity mutual funds are expected to earn higher rates of return than close-ended funds", and (ii) "Open-ended equity mutual funds are expected to earn higher rates of return than risk-free rates of return", the sample equity mutual funds have been classified into two categories, i.e., open-ended funds and close-ended funds and tabulated in Tables 5 and 6. The tables also contain monthly returns of each of the funds and T-bills for three periods, sub-period 1, sub-period 2 and aggregate period. The Tables also contain statistical measures of means, range and median monthly returns for the funds and T-bills.

The sample consists of twenty-five open-ended funds and eleven close-ended funds. Monthly returns have been computed for each of the funds using equation 1. These monthly returns have been scaled down to single compounded monthly return of the fund using equation 2. Corresponding values of monthly return of T-bills have also been computed. The funds, their corresponding value of 'monthly return' and corresponding values of 'monthly return' of T-bills have been placed in Tables 5 (open-ended funds) and 6 (close-ended funds).

OPEN-ENDED FUNDS

Its is clearly evident from the data in Table 5 that only one-third of the open-ended funds have been able to generate higher rates of return than risk-free rates of return during the aggregate period, 1993-2002, of our study. For the sub-period 1 (1993-98), only three funds (Zurich India top 200 fund, monthly return-1.46 per cent, DSP Merrill Lynch Equity Fund, monthly return-1.44 per cent and Sun F&C Value Fund - Growth option, monthly return-0.88 per cent) out of twenty-two funds (i.e. only about one-seventh of the total equity open-ended funds), for which the data is available for both the periods, have been able to earn higher rates of return than the risk-free return.

For sub-period 2, less than one half of funds (44 per cent) could generate higher returns than the risk-free return. In other words, none of the periods shows superior performance of open-ended equity mutual funds compared to T-bills.

Table 5: Rates of return of sample open-equity mutual funds, vis-a-vis, risk-free rates of return, 1993-2002

(Figures are in percentages)

Fund code	Funds	Month / year of inception	Monthly rates of return of sample funds			Monthly rates of return of 364 days treasury bill		
			93-98	98-02	93-02	93-98	98-02	93-02
1	Alliance equity fund (Growth)	Aug-98	NA	2.17	2.17	NA	0.76	0.76
2	Birla Advantage equity fund	Jan-95	0.48	3.45	2.15	0.89	0.89	0.75
3	Prudential-ICICI growth fund	Jun-98	NA	1.53	1.53	NA	0.76	0.76
4	Tata pure equity fund	May-98	NA	1.33	1.33	NA	0.76	0.76
5	KP Bluechip - Growth option	Dec-93	0.34	2.19	2.19	0.88	0.75	0.88
7	DSP Merrill Lynch Equity Fund	Apr-97	1.44	0.99	1.08	0.69	0.75	0.74
8	Zurich India equity fund	Nov-94	0.77	2.30	0.92	0.82	0.82	0.81
9	SUN F&C Value Fund - Growth option	Jul-97	0.88	0.92	0.92	0.67	0.76	0.74
10	Zurich India top 200 fund	Aug-96	1.46	0.44	0.73	0.74	0.75	0.75
12	Reliance vision	Oct-95	0.74	0.59	0.65	0.85	0.77	0.80
13	Templeton India Growth Fund	Aug-96	(0.14)	0.87	0.58	0.74	0.76	0.76

Continued ...

(Figures are in percentages)

Fund code	Funds	Month / year of inception	Monthly rates of return of sample funds			Monthly rates of return of 364 days treasury bill		
			93-98	98-02	93-02	93-98	98-02	93-02
14	JM Equity Fund - Growth option	Mar-95	(0.08)	1.02	0.55	0.89	0.75	0.81
15	UTI - Primary equity fund 95	Apr-95	0.23	0.70	0.51	0.87	0.75	0.80
16	KP Prima - Growth option	Dec-93	(1.09)	2.01	0.50	0.88	0.75	0.81
17	Sundaram Growth Fund	Mar-97	0.13	0.42	0.36	0.69	0.76	0.74
20	UTI-Masterplus 91	Dec-91	0.85	(0.49)	0.25	0.88	0.75	0.82
22	UTI-Mastergain 92	May-92	0.55	(0.33)	0.16	0.88	0.75	0.82
25	GIC Growth plus II	Jan-94	(0.50)	0.58	0.05	0.88	0.75	0.81
26	UTI-Grandmaster 93	Apr-93	0.53	(0.54)	0.05	0.82	0.75	0.82
30	IDBI - PRINCIPAL Equity Fund-Gr option	May-95	(0.31)	0.17	(0.06)	0.88	0.80	0.83
31	SBI Magnum Equity Fund	Jan-91	(0.75)	0.58	(0.07)	0.88	0.75	0.81
33	SBI Magnum Multiplier Plus 1993	Mar-93	(0.59)	(0.23)	(0.41)	0.88	0.75	0.81
34	GIC Fortune 94	Dec-94	(0.68)	(0.32)	(0.48)	0.89	0.75	0.81
35	Canbonus	Jul-91	(0.88)	(0.50)	(0.68)	0.88	0.75	0.81
36	LIC Dhanavikas (1)	Jun-93	(1.32)	(0.59)	(0.94)	0.89	0.75	0.81
1	Mean		0.09	0.77	0.53	0.84	0.77	0.79
2	Maximum		0.46	3.45	2.17	0.89	0.89	0.88
3	Minimum		(1.32)	(0.59)	(0.94)	0.67	0.75	0.74
4	Median		0.18	0.59	0.51	0.88	0.75	0.81

(Figures in the brackets indicate negative rates of return)

Trend of extreme and central tendencies of monthly returns of open-ended equity mutual funds have also been studied for the two sub-periods and the aggregate period to analyse as to which period has generated favourable monthly returns for the investors of open-ended equity mutual funds. The analysis also throws light on the *'consistency'* aspect of open-ended equity mutual funds. The relevant values of average monthly returns, maximum and minimum monthly returns and median values have been worked out and tabulated in Table 5.

Notable feature of the analysis is that the average monthly returns of open-ended equity mutual funds during sub-period 2 have, at least, not been inferior to the risk-free return during this period. Both the investments have produced monthly average returns of 0.77 per cent, although fund managers could not produce any risk premium that is associated with such investments and is the prime need of equity fund investors. For the entire period of our study, 1993-02, the average monthly return (0.53 per cent) of equity mutual funds has been far lower as against risk-free return (0.77 per cent) indicating overall poor performance by equity mutual funds.

Median monthly return (0.59 per cent) of open-ended equity mutual funds in the sub-period 2 indicates that 50 per cent of the funds have produced monthly returns higher than 0.59 per cent which is far below the median monthly returns (0.75 per cent) of risk-free assets. It shows that even during the most favourable period for equity mutual funds, the same have not been able to generate returns superior to the risk-free return. For aggregate period, too, the median monthly return (0.51 per cent) of equity mutual funds is far lower than the median monthly returns (0.81 per cent) of T-bills.

Thus, the investors have lost the opportunity of earning superior returns by not having chosen to invest in gilt-edged securities and other risk-free assets during the entire period covered by the study.

It may be pertinent to point out that sub-period-2 characterizes;

(i) Greater transparency and competitiveness in financial sector in India,
(ii) Thrust of globalisation of financial and technological sectors,
(iii) New avenues of investments in technology and financial sector companies,
(iv) Continued stock market and capital market reforms including introduction of derivatives trading,
(v) Competitive interest rates regime and
(vi) Restructuring of financial system etc.

It may be possible that one or more of the above factors may have contributed in bringing about equivalent performance of equity mutual funds as that of T-bills during this period. In other words, the fund managers may have capitalized on the above factors to select under-priced stocks and use timing strategies well so as to generate monthly returns that is, at least, equivalent to the risk-free return, if, not higher than that.

CLOSE-ENDED FUNDS

Previous sub-section showed that open-ended funds performed miserably, vis-à-vis, risk-free return of 364 days T-bills. This section explores the performances of close-ended equity mutual funds.

Monthly returns earned by close-ended equity mutual funds and 364 days T-Bills have been computed and tabulated in Table 6. Table also displays statistical measure of central tendencies and extreme ranges of monthly returns.

It is clear from the data that only one close-ended fund, Reliance Growth Fund - growth option, has been able to generate monthly rate of return (1.15 per cent) higher than the risk-free rate of return (0.79 per cent) during 1993-02. The fund has also produced superior rate of return than risk-free return for sub-periods 1 (0.96 per cent as against 0.85 per cent of T-bills) and sub-periods 2 (1.26 per cent as against 0.75 per cent of T-bills).

Table 6 also reveals that average rate of return generated by the close-ended funds during aggregate period is 0.25 per cent as against 0.81 per cent for 364-days T-bills. This indicates that the fund managers failed to generate higher returns than the risk-free returns. For sub-periods, too, the average returns of close-ended equity funds have been far from satisfactory. In both the sub-periods, the average monthly fund returns have been substantially lower at 0.26 per cent and 0.13 per cent respectively compared to average monthly returns of 0.86 per cent (for sub-period 1) and 0.77 per cent (for sub-period 2) generated by T-bills. To put differently, it indicates that close-ended mutual fund managers could not generate higher rates of return than the risk-free rates of return.

Wider range of monthly fund returns {minimum (-0.10 per cent) / maximum (1.15 per cent)} shows vulnerability of fund returns as compared to T-bills. Lower value of fund median return, 0.13 per cent, as compared to1 median return value, 0.82 per cent, of T-bills shows inferior performance of the close-ended funds.

Comparing the performances of open-ended and close-ended mutual funds, it is noted from the data in Table 7 that, whereas, average rate of return of open-ended funds (0.77 per cent) has been superior to the average rate of return of close-ended funds (0.13 per cent) during sub-period 2, the rate of return of close-ended funds, (0.26 per cent), has been superior to open-ended funds, (0.09 per cent), during sub-period 1. Hence, it can be said that open ended funds are likely to earn higher returns with wider margin as reflected by the available data.

Table 6: Monthly returns of close-ended equity mutual funds, vis-a-vis, T-bills, 1993-2002

(Figures are in percentages)

Fund code	Close End Mutual Funds	Month / year of inception	Monthly rates of return of sample funds			Monthly rates of return of 364 days treasury bill		
6	Reliance Growth Fund - Growth option	Oct-95	0.96	1.26	1.15	0.85	0.75	0.79
11	UTI - Equity opportunity fund	Aug-96	(0.16)	1.02	0.67	0.73	0.80	0.78
18	UTI - UGS 2000	Dec-90	0.55	(0.04)	0.34	0.88	0.82	0.86
19	UTI - Mastergrowth 93	Jan-93	1.04	(0.64)	0.28	0.89	0.76	0.83
21	Morgan Stanley equity fund	Jan-94	(0.18)	0.63	0.22	0.89	0.75	0.82
23	ICICI Premium	Feb-94	(0.70)	0.93	0.13	0.88	0.76	0.82
24	Zurich India Capital Builder-Gr option	Oct-94	(0.62)	0.86	0.10	0.88	0.75	0.81
27	BOB Growth 95	Nov-95	0.23	(0.09)	0.03	0.84	0.75	0.78
28	UTI - Mastershare 86	Oct-86	0.84	(1.05)	(0.00)	0.88	0.75	0.82
29	UTI - UGS 5000	Oct-91	0.67	(0.99)	(0.04)	0.88	0.77	0.83
32	UTI - Unit Scheme 92	Nov-92	0.27	(0.50)	(0.10)	0.88	0.75	0.82
	Mean		0.26	0.13	0.25	0.86	0.77	0.81
	Mamimum		1.04	1.26	1.15	0.89	0.82	0.86
	Minimum		(0.70)	(1.05)	(0.10)	0.73	0.75	0.78
	Median		0.27	(0.04)	0.13	0.88	0.75	0.82

(Figures in the brackets indicate negative rates of return)

Table 7 shows the rates of return of T-bills for three periods. The data reveal that rates of return of close-ended funds have been much inferior to T-bills for all the three periods indicating poor performance throughout the period of our study.

Table 7: Average monthly returns for sample equity mutual funds (category-wise) and 364-days T-bills during, 1993-2002 (Figures are in percentages)

Type of funds	Number of funds	Average monthly fund returns			Average monthly returns of T-bills		
		93-98	98-02	93-02	93-98	98-02	93-02
Open-ended funds	25	0.09	0.77	0.53	0.84	0.77	0.79
Close-ended funds	11	0.26	0.13	0.25	0.86	0.77	0.81
Total	36	0.15	0.57	0.44	0.84	0.77	0.80

Since both the categories of funds have failed to earn higher returns than T-bills during any of the periods indicated in Table 7, it leads to the conclusion that the "type of fund" is not a significant factor of superior performance of equity mutual funds.

However, based on the above discussion, it can be inferred that between the two categories, open-ended funds are likely to earn higher rates of return than their counterparts in close-ended category. Hence, the available data support the hypothesis that "open-ended equity mutual funds have earned superior returns than their close-ended counter parts". In other words, the financial performance of open-ended equity mutual funds is better than those of the close-ended equity mutual funds.

Thus, the investors of close-ended equity funds, too, have lost the opportunity of earning superior returns by not having chosen to invest in gilt-edged securities and other risk-free assets during the entire period covered by the study.

SECTION IV

CONCLUDING OBSERVATIONS

The main conclusions emerging from the fore-going discussions may now be underlined.

Our data unmistakably reveal overall inferior performance of equity mutual funds compared to risk-free return of 364 days T-bills during aggregate period (1993-2002). It is borne out of the fact that only one-fourth of the sample equity mutual funds have been able to generate superior returns than the risk-free return. Further, lower average monthly fund return of 0.44 per cent compared to risk-free return on T-bills (0.80 per cent) as well as lower median monthly return of 0.31 per cent by these equity mutual funds compared to 0.81 per cent of T-bills are pointers towards the same. The equity mutual funds also did not show consistent performance as less than one-tenth of the funds only could earn higher returns than the T-bills during both the sub-periods of our study.

However, Sub-period 2 (1998-2002) has been the most favourable period for the equity mutual funds as highest numbers of equity mutual funds (two-fifths of the total thirty-six equity mutual funds) have earned monthly returns higher than the returns of 364 days T-bills.

Based on the similarities of characteristics, the funds were classified in two different categories, namely, open-ended equity mutual funds and close-ended equity mutual funds, for financial performance evaluation in terms of earning returns higher than 364 days T-bills.

The notable finding is that open-ended equity mutual funds and equity mutual funds sponsored by private corporate enterprises have performed better than close-ended and PSU sponsored equity mutual funds during the period of our study. In fact, the worst performers have been close-ended equity funds and PSU sponsored equity mutual funds.

Close-ended equity mutual funds provide more flexibility to fund managers to pursue active fund management practices by using 'market timing' models and 'stock selection' strategies yet these funds exhibited overall inferior performance compared to open ended funds. It appears that fund managers of close-ended equity mutual funds have followed poor investment strategies. The crux of the investment strategy that *'funds should be invested when the market is low and assets should be liquidated when the market is high'* may not have been followed by their fund managers. They do not seem to have utilized "stock selection" and "market timing" strategies well leading to unsatisfactory financial performance by these funds.

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