
THE INFORMATION RATIO ON INDIAN MUTUAL FUNDS

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Abstract

The mutual fund industry is a fast growing sector of the Indian capital and financial markets. Total assets under management of mutual funds in India as on December 31, 2015 were Rs. 10,51,343 crore under 1,861 schemes. The enormous growth in the number of mutual funds and the volume of investment in them worldwide has led to an increasing demand for techniques to evaluate their performance. In the present study an attempt has been made to assess the performance of mutual fund managers on the basis of Information Ratio (IR). IR is a measure of fund manager's performance against risk and return relative to a benchmark. The sample contains 100 mutual fund schemes selected on the basis of availability of consecutive data during the period 1st April, 2000 to 31st March, 2008. The study period 2000-2008 has been segregated into two sub-periods, sub-period I (2000-2004) and sub-period II (2004-2008) to ascertain whether the performance of mutual fund schemes varied during the two sub-periods as these were bear and bull phases. The findings suggest that although, majority of the schemes had positive Information ratio which indicates above average performance of the fund managers, yet none of the schemes had an information ratio higher than or equal to 0.5. The results indicate signs of an efficient market since a manager's ability per se, can neither add nor subtract value in such a percent so as to be worth noticing.

Key Words: Performance, Mutual fund, Fund managers, Information Ratio, Benchmark indices, Sub-periods.

Introduction

Mutual Funds are financial intermediaries, which collect the savings of investors and are supposed to invest them in a well-diversified portfolio of securities such as money market instruments, corporate and government bonds and equity shares of joint stock companies. The popularity of mutual funds in India has increased manifold over the years as is evident from the increase in number of investors and the asset base of the industry. Total assets under management of mutual funds in India as on March 31, 2001 were Rs. 90,587 crore under 393 schemes which have grown to Rs. 10,51,343 crore under 1,861 schemes as on December 31, 2014. To fulfill the expectations of millions of investors, the mutual funds are required to function as successful institutional investors. Evaluating performance for mutual fund managers vis-à-vis such a goal, is important for both the investors as well as the portfolio managers. Last decade has seen vigorous fluctuations in the stock market. There has been a bull as well as a bear phase in the stock market. It is essential for the investors as well as the fund managers to observe the impact of such changes on the returns generated by the mutual funds. Hence, the need arises for an extensive study to evaluate the performance of mutual funds in India during a more recent period.

Literature Review

Since 1980's there has been a substantial global increase in the importance of mutual funds as investment instruments, with a corresponding escalation in research in the field. One of the most important areas of study is mutual fund performance. The portfolio management evaluation has been studied extensively, and from various different perspectives, in the financial literature. The literature proposes several performance measures and a variety of empirical results, as seen in the work of Sharpe (1966), Jensen (1968), Elton et al. (1987), Carhart (1997), Gupta (2002), Bhandari (2008), Chopra (2011), Low (2012), Narayanasamy and Rathnamani (2013). On the whole, the main outcome of the vast analysis in the finance literature is that the majority of mutual funds have not been able to perform better than the indices against which they have been compared. The performance measurement techniques are primarily within the risk return framework, based on the Capital Asset Pricing Model (CAPM), assuming that a fund's investment behaviour can be explained by a single market index. In addition to the traditional measures of performance-Sharpe (1966), Treynor (1965) and Jensen (1968) - numerous new performance measures have been proposed. The present study evaluates the performance of mutual fund schemes in India using Information ratio.

Objectives of the Study

The present study is aimed at evaluating the performance of mutual fund schemes in India using Information ratio during 1st April, 2000 to 31st March, 2008. The study period 2000-2008 has been segregated into two sub-periods, sub-period I (2000-2004) and sub-period II (2004-2008) to ascertain whether the performance of mutual fund schemes varied during the two sub-periods as these were bear and bull phases.

RESEARCH METHODOLOGY

Sample and Data Sources

The sample contains 100 mutual fund schemes selected on the basis of availability of consecutive data during the period 1st April, 2000 to 31st March, 2008. The sample comprises 53 growth schemes, 20 tax planning schemes, 11 balanced schemes and 16 income schemes. The data comprises weekly NAVs already adjusted for dividend and bonus for the eight-year period from 1st April, 2000 to 31st March, 2008. This study period is long enough to generalize on the stock selection skills and market timing abilities of the fund managers in India during upswings and down swings of the stock markets. It is recent enough to generalize on the contemporary portfolio management practices in this regard. Figure 1 presents a graphical representation of S&P CNX Nifty Index values during the study period. Index values have been collected from the website of National Stock Exchange.



Figure 1

As shown in Figure 1 the study period 2000-2008 can be segregated into two sub-periods with contrasting market conditions. The period from 1st April 2000 to 31st March, 2004 (sub-period I) experienced a prolonged downturn. On the contrary, the period from 1st April, 2004 to 31st March, 2008 (sub-period II) reflects recovery in the stock market. To ascertain whether the performance of sample schemes has varied during the two sub-periods, a detailed analysis of performance of sample schemes has been made during the full study period as well as both the sub-periods. The adjusted data have been collected from the databases of indiaonline.com and Value Research India Private Limited.

In this study, S&P CNX Nifty Index is used as the benchmark for evaluating the performance of equity and tax planning schemes. It is a well diversified index constituting 50 stocks and accounting for 25 sectors of the economy. Composite Bond Fund Index (Compbex) and the Balanced Fund Index (Balance EX) are taken as the benchmarks for the performance evaluation of income schemes and balanced schemes respectively. Both the indices have been developed jointly by Association of Mutual Funds in India (AMFI), Credit Rating and Information Services of India Limited (CRISIL) and ICICI securities. Both of these indices are derived indices. The index history is calculated from the base date of 31st March, 2002. Since, the values for these indices are available only since 1st April, 2002, the study period for income schemes and balanced schemes is 1st April, 2002 to 31st October, 2008.

The weekly yields on 91-Days Treasury Bills (T-Bills) have been used as a surrogate for risk free rate of return. The T-Bills information has been obtained from the official web site of Reserve Bank of India.

In the present study the returns have been computed using the Rate of Return Measure. This measure computes the average weekly return of the series by using the following formula:

$$R_{pt} = [NAV_t - NAV_{t-1}] / NAV_{t-1}$$

Where,

R_{pt} is the return of the mutual fund scheme on the basis of dividend and bonus adjusted NAV for 't' period.

't' and 't-1' indicate week end and week beginning

respectively.

Similarly, the weekly returns for the S & P CNX Nifty Index have been computed.

Information Ratio

It is a measure of risk-adjusted return. It is defined by the residual return of the portfolio compared with its residual risk. The residual return of a portfolio corresponds to the share of the return that is not explained by the benchmark. The Information ratio is often interpreted as a measure of manager's skill in adding value over the index. It also measures the manager's efficiency of converting additional risk into additional return. Information ratio attempts to measure not just the excess returns to an index, but also how consistent is that performance.

$$\text{Information Ratio} = \frac{R_p - R_m}{(\sigma_p - \sigma_m)}$$

Where,

R_p = Return of the scheme,

R_m = Return on the market,

$(\sigma_p - \sigma_m)$ = Standard deviation of excess return of portfolio over the index.

The Information ratio captures the active return and relates it to excess or active risk. It is a convenient way of comparing more aggressive and less aggressive managers at the same time. This attribute makes the Information ratio particularly attractive when comparing the performance of fund managers. A high Information ratio is indicative of a manager's performance in terms of being able to consistently deliver high returns on a portfolio. The Information ratio is thus an indicator that allows us to evaluate the manager's level of information, compared with the public information available, together with his skill in achieving a performance that is better than that of an average manager.

Grinold and Kahn [2000] state that top quartile managers have IRs of at least 0.5, while exceptional managers achieve values above 1.0. These numbers are unqualified and should hold irrespective of asset class, country, or time period. Clearly, a positive information ratio indicates outperformance and a negative information ratio indicates underperformance. However, Goodwin [2000] suggests that it is difficult to sustain a high information ratio above 0.5.

RESULTS

Analysis of Information Ratios

Average Information ratios of the schemes for the full study period 2000-2008 and both the sub-periods are given in Table 2.

Table 2

The results given in Table 1 show that 60 per cent of mutual fund schemes in sub-period I had positive information ratios. It means that fund managers of majority of mutual fund schemes were successful in adding value over the index. However, in sub-period II, only 44 per cent of mutual fund schemes and in the full study period 50 per cent of mutual fund schemes had positive information ratios. It means that in sub-period II fund managers of majority of mutual fund schemes were not able to convert additional risk into additional returns. Further, none of the schemes in both the sub periods as well as full study period had an information ratio higher than or equal to 0.5. The following sub-sections present an analysis of Information ratios of schemes on the basis of their investment objectives.

Growth Schemes

Table 2 shows that in sub-period I of the study, the average Information ratio of growth schemes was 0.0115 and in sub-period II it had declined to -0.0123. It was observed that 47 per cent of growth schemes had positive Information ratios in sub-period I of the study whereas, in sub-period II and the full study period, 43 per cent of growth schemes had positive Information ratios. It implies that during the study period managers of majority of growth schemes were not able to convert additional risk into additional return.

Tax Planning Schemes

In sub-period I, average Information ratio of tax planning schemes was -0.0029 and in sub-period II, it was -0.0411. In sub-period I, 50 per cent of tax planning schemes had positive Information ratios. In sub-period II, the percentage of schemes having positive Information ratio has declined to 35 per cent. It implies that in sub-period II, the number of schemes efficiently converting additional risk into additional return had decreased. Similarly, only 35 per cent of tax planning schemes in full study period had positive Information ratio. It means that fund managers of majority of tax planning schemes were not rewarded for taking additional risk.

Balanced Schemes

The results given in Table 2 further disclose that during the study period, performance of balanced schemes was better than growth and tax planning schemes. In sub-period I, 91 per cent, in sub-period II, 64 per cent and in full study period 73 per cent of balanced schemes respectively had positive Information ratio. It indicates that the fund managers of majority of the balanced schemes were able to convert additional risk into additional return.

Income Schemes

In sub-period I, average Information ratio of income schemes was 0.0932 and 94 per cent of income schemes had positive Information ratio. According to this measure of performance evaluation, in sub-period II the performance of schemes had declined substantially. In sub-period II, average Information ratio was -0.0198 and only 44 per cent of income schemes were successful according to this measure. Decline in performance of income schemes indicates that over the years managers of these schemes could not sustain their performance. However, during the full study period 75 per cent of the income schemes had positive Information ratios, signifying above average performance of the fund managers.

It was also observed that none of the schemes had an information ratio higher than or equal to 0.5. As stated earlier, Grinold and Kahn [2000] stated that a top-quartile portfolio manager would have an Information ratio of 0.5, and an exceptional manager would achieve a 1.0 or above.

Conclusion

The performance of 100 mutual fund schemes across the mutual fund spectrum was examined against their respective benchmarks over the study period. It was observed that mutual funds, which are the vehicle for risk diversification and investment planning particularly for small investors, do not consistently earn excess returns over the benchmark returns. The comparison of returns generated by the sample schemes with those of their respective indices shows that the overall performance of mutual fund schemes was not superior to their respective benchmark indices. The results of Information ratios of schemes reveal that 60 per cent of schemes in sub-period I, 44 per cent of schemes in sub-period II and 50 per cent

of schemes in the full study period respectively had positive information ratios thereby implying that managers of these schemes were able to convert additional risk into additional return. The findings also suggest that the overall performance of mutual fund schemes was not superior to their respective benchmark indices. During the study period majority of the schemes had positive Information ratio which indicates above average performance of the fund managers. However, none of the schemes had an information ratio higher than or equal to 0.5. The results indicate signs of an efficient market since a manager's ability per se, can neither add nor subtract value in such a percent so as to be worth noticing.

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- 18) cwww.nseindia.com, for more details about S & P CNX NIFTY Index

Table 2: Results of Information Ratios

S. No.	Name of the Scheme	Average Information Ratio			Percentage of schemes having positive Information Ratio		
		2000-04	2004-08	2000-04	2000-04	2004-08	2000-08
A.	Growth Schemes	0.0115	-0.0123	0.0004	47	43	43
B.	Tax Planning Schemes	-0.0029	-0.0411	-0.0146	50	35	35
C.	Balanced Schemes	0.0497	0.0224	0.0364	91	64	73
D.	Income Schemes	0.0932	-0.0198	0.0467	94	44	75
	Total				60	44	50

ANNEXURE

Information Ratios of Schemes

S. No.	Name of the Scheme	Information Ratio		
		2000-04	2004-08	2000-08
A.	Growth Schemes			
1	Alliance Equity - D	-0.0715	0.1388	0.0150
2	Birla Advantage – G	-0.0686	-0.0923	-0.0768
3	Birla MNC – G	0.0205	-0.0565	-0.0147
4	Birla Sun Life Buy India	-0.0355	0.0278	-0.0061
5	Birla Sun Life New Millennium	-0.0735	0.0055	-0.0436

6	Birla Sun Life Basic Industries	0.2187	0.0108	0.1221
7	Canara Robeco Expo – G	-0.0426	-0.0938	-0.0574
8	Canara Robeco Fortune 94	0.1235	-0.0391	0.0419
9	DSPML Equity –D	-0.0483	-0.0858	-0.0697
10	DSPML Opportunities	0.0911	0.0200	0.0570
11	DSPML Technology.com	-0.0418	0.0348	-0.0086
12	Franklin FMCG - G	-0.0366	-0.0311	-0.0368
13	FT India Bluechip – G	0.1311	-0.0682	0.0668
14	FT India Prima - G	0.1282	0.0048	0.0680
15	FT India Prima Plus – G	0.0532	0.0429	0.1007
16	Franklin Infotech	-0.0826	-0.0472	-0.0673
17	Franklin Pharma	0.0291	-0.0928	-0.0297
18	HDFC Capital Builder - G	0.0723	0.0424	0.0544
19	HDFC Equity - G	0.1431	0.0416	0.0930
20	HDFC Growth - G	0.0609	0.0628	0.0615
21	HDFC Prudence - G	0.1047	-0.0295	0.0379
22	ICICI Prudential Growth -C	0.0016	-0.0001	-0.0032
23	ING Core Equity	-0.0664	0.0190	-0.0332
24	JM Basic Fund – G	0.0843	0.0358	0.0634
25	JM Equity – G	-0.0530	-0.0113	-0.0371
26	Kotak 30 – G	-0.0440	0.0128	0.0051
27	Kotak MNC	0.0145	-0.0339	-0.0095
28	Kotak Tech	-0.1012	-0.0691	-0.0865
29	LIC Equity – G	-0.0095	-0.1122	-0.0370
30	LIC MF Growth – G	-0.0206	-0.1294	-0.0437
31	Morgan Stanley Growth	-0.0095	-0.0761	-0.0244
32	Principal Growth	0.0651	-0.0070	0.0249
33	Principal Index	0.0123	0.0233	0.0233

34	Principal R India Equity	0.1493	-0.0096	-0.0096
35	Prudential ICICI FMCG - G	-0.0388	0.0763	0.0098
36	Prudential ICICI Power – G	0.0229	0.0345	0.0203
37	Reliance Growth – G	0.0913	0.1256	0.1006
38	Reliance Vision – G	0.1574	0.0489	0.1094
39	SBI Magnum Equity – G	-0.1386	-0.1104	-0.1270
40	SBI Magnum Global 94 - G	-0.0686	0.0497	-0.0167
41	SBI Magnum Multiplier Plus 93 -G	-0.1186	0.0160	-0.0628
42	SBI Magnum Sec Umbrella - FMCG	-0.0722	-0.0564	-0.0665
43	SBI Magnum Sec Umbrella - Pharma	0.0501	-0.0917	-0.0235
44	Sundaram BNP Paribas Growth -G	0.0081	-0.0034	0.0195
45	Tata Life Science & Tech - G	-0.0408	-0.0846	-0.0635
46	Tata Pure Equity - G	-0.0055	-0.0860	-0.0361
47	Taurus Bonanza Exclusive	0.0528	0.0157	0.0417
48	Taurus Discovery Stock	-0.0781	0.0494	-0.0117
49	Taurus Starshare	-0.0481	0.1070	0.0264
50	Templeton India Growth - G	0.1463	-0.0179	0.0647
51	UTI Master Growth	0.0513	-0.0353	0.0110
52	UTI Master Index – G	-0.0338	-0.0338	-0.0187
53	UTI MNC Fund – G	-0.0030	-0.0472	-0.0472
	Average (A)	0.0115	-0.0123	0.0004
B.	Tax Planning Schemes			
54	Birla Equity Plan – D	-0.0186	-0.0588	-0.0365
55	D Birla Sun Life Tax Relief 96 -	-0.0067	-0.1114	-0.0615
56	Birla Taxplan 98	0.0104	0.0108	0.0066
57	Canara Robeco Equity Tax saver	-0.1182	-0.1477	-0.1304
58	Escorts Tax Plan – G	0.1096	0.0013	0.0435

59	FT India Taxshield – G	0.0013	-0.0062	0.0496
60	FT India Taxshield 98	-0.0147	-0.0157	-0.0142
61	HDFC Tax saver – G	0.0023	-0.0477	-0.0172
62	HDFC Top 200 – G	0.0793	0.0190	0.0493
63	LIC Tax Plan – G	-0.0310	-0.1669	-0.0561
64	Principal Personal Tax saver	0.0208	-0.0361	-0.0089
65	Principal Tax Savings	0.0706	0.0325	0.0499
66	Sahara Taxgain – G	-0.0915	0.0148	-0.0478
67	GSBI Magnum Tax Gain 93 -	-0.1061	0.0130	-0.0595
68	Sundaram BNP Paribas TaxSaver 97	-0.0464	-0.1549	-0.0845
69	Sundaram BNP Paribas Tax saver	0.0139	-0.0224	-0.0079
70	Sundaram BNP Paribas Tax saver 98	0.0448	-0.0228	0.0051
71	Tata Tax Saving	-0.0057	-0.1030	-0.0431
72	Taurus Libra Taxshield	-0.0298	0.0175	-0.0073
73	UTI Equity Tax Savings	0.0582	-0.0369	0.0792
	Average (B)	-0.0029	-0.0411	-0.0146
C.	Balanced Schemes			
74	Birla Balanced	0.0900	-0.0022	0.1353
75	Birla Sun Life 95 – G	0.0975	0.1916	0.0803
76	DSPML Balanced – D	0.1189	0.0071	0.0452
77	FT India Balanced - G	0.1056	0.0513	0.0728
78	G ICICI Prudential Balanced -	0.0566	0.0611	0.0634
79	JM Balanced – G	-0.0822	-0.1001	-0.0899
80	SBIM Balanced - D	0.0028	0.0181	0.0144
81	SundaramBNP Paribas Balanced – G	0.0485	0.0440	0.0499
82	Tata Balanced - G	0.0523	0.0570	0.0566
83	Tata Young Citizens	0.0435	_0.0279	_0.0011
84	Templeton India Pension - G	0.0128	-0.0540	-0.0269

	Average (C)	0.0497	0.0224	0.0364
D.	Income Schemes			
85	Alliance Income - G	0.0657	0.0088	0.1479
86	Birla Income Plus – G	0.0753	-0.0685	0.0753
87	Birla Sun Life Cash Manager - G	-0.1802	0.1709	0.0165
88	DBS Chola Triple Ace	0.0269	-0.1916	-0.1119
89	DSPML Bond Retail	0.0237	-0.0340	-0.0019
90	Escorts Income Bond – G	0.1749	0.1315	0.1499
91	Escorts Income Plan- G	0.0636	-0.1199	0.1377
92	ICICI Prudential Income - G	0.1557	-0.0845	0.0216
93	JM Income – G	0.1723	-0.2341	-0.0141
94	Kotak Bond Deposit – G	0.4382	-0.1149	0.0796
95	Libra Bond – G	0.0416	0.0416	-0.0174
96	LIC Bond – G	0.0551	0.1091	0.0736
97	Reliance Income – G	0.1237	0.1605	0.0873
98	Sundaram BNP Paribas Bond - G	0.1395	-0.0627	0.0691
99	Templeton India IBA – G	0.0698	-0.0482	0.0060
100	Templeton India Income - G	0.0454	0.0193	0.0288
	Average (D)	0.0932	-0.0198	0.0467
	Average (A+B+C+D)	0.0755	-0.0026	0.0425

Note: The study period for income schemes and balanced schemes is 1st April, 2002 to 31st March, 2008, as values for Composite Bond Fund Index and Composite Balanced Fund Index are available only from 1st April, 2002.

