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A comparative study on the performance of TATA and SBI DEBT mutual funds: An *IPSO facto* analysis

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Abstract
The savings of the general public has become mandatory in order to help the exchequer to overcome the balance of payment of problem. When the excessive money is enrouted to the financial system, it gives a financial stability to an economy. Capital market participations are less liked by Indians. Small investors are more likely favourable towards mutual funds as they are managed by professionals. So mutual funds helps the nation by contributing to the financial system and provides returns to the various stakeholders. In this study, the performance of Tata and SBI debt mutual funds were analyzed using the secondary data collected for a period of 5 years from January 2014 to December 2018. The impact of net assets and expense ratio on the performance of debt funds were examined by using Simple Linear Regression Analysis. The intensity of competition among the funds were analyzed using Concentration Ratio and Herfindahl - Hirschman Index. The net assets and expense ratio influenced only a few debt fund performance.

Keywords: debt mutual funds, expense ratio, net assets, net asset value, returns

Introduction
Every country around the world requires money to perform routine economic activities and every people living in this world require money to have their daily bread. It is necessary to save an excessive portion of disposal income of people for the future which is very much uncertain. This scenario is much prevalent in the Indian economy. Savings will apparently increase the financial strength of any nation as it may directly or indirectly reach the exchequer of the Government and help to overcome the financial imbalance. So it is substantial that every country requires both the enmasse savings of the public and enlarged savings of the companies in order to meet out the total financial requirements. It was also witnessed during recession that many countries landed in doldrums due to lack of savings.
Financial market is an indicator of the economic growth and progress of a country. The success of every financial market depends upon the instruments traded in that market. Mutual funds have become an easy, low cost and less risky for investors to participate in financial market in. Mutual fund helps small and the retail investor to mobilise their hard earned money in a diversified portfolio across different sectors and companies. With the increasing performance of mutual funds, it has become the investor's vehicle of choice for long-term investment. They are generally very liquid investments unless they have pre-specified lock in period.

Uniqueness of the Study
From analyzing various reviews, the following are the uniqueness of this article:
Firstly, the performances of funds are analyzed on the basis of their returns and were compared with risk-free returns. Secondly, evaluate the influence of net assets and expenses ratio on the performance of debt mutual funds. Thirdly, analyze the level of competition among the debt mutual funds.

Objectives of the Study
1. To analyze the performance of debt mutual funds of Tata and SBI on the basis of returns.
2. To evaluate the impact of net assets on the performance of debt mutual funds of Tata and SBI.
3. To estimate the impact of expenses ratio on the performance of debt mutual funds of Tata and SBI.
4. To identify the intensity of competition among debt mutual funds of Tata and SBI.

Importance of the Study
All investors may not be in a position to undertake detailed analysis before they decide about their investment options. Mutual funds provide a mechanism that helps the retail investors to enter the capital market through Systematic Investment Plan (SIP). Though the concept of mutual funds were started to have safer capital market participation for the investors, there are some black swan investors. For those the concept of debt mutual funds emerged in the Indian mutual fund industry. Unlike equity mutual funds, the debt mutual funds are not affected by the movement of benchmark indices. The reason for studying debt mutual funds of two big giants (i.e.) Tata Groups and SBI are quite obvious. Therefore, the present study would throw light on the performance of debt mutual funds of the two big companies of India.

Materials and Methods
The research work is a comparative and analytical study about the performance of debt mutual fund schemes of Tata and SBI. The required secondary data were collected from the websites of AMFI, RBI, Value Research and the concerned websites of mutual fund companies. The data were collected over a period of 60 months (i.e.) from January 2014 to December 2018.

Results

Analysis of Objective 1

Performance of Tata and SBI debt mutual funds

H_{01}: There is no significant difference between annual returns of Tata and SBI debt mutual funds and annual returns of Treasury Bills.

H_{a1}: There is significant difference between annual returns of Tata and SBI debt mutual funds and annual returns of Treasury Bills.

Table 1: Result of paired t-test

S.No.	Debt Mutual Funds	Mean Difference	t-test Value	Significance Value
1	Tata Dynamic Bond Fund	2.458	1.822	0.143
2	Tata Floater Fund	1.298	4.877	0.008*
3	Tata Gilt Mid-Term Fund	3.418	1.923	0.127
4	Tata Gilt Securities Fund	2.758	1.118	0.326
5	Tata Gilt Short Maturity Fund	1.306	1.594	0.186
6	Tata Income Plus Fund	1.494	1.130	0.322
7	Tata Liquid Fund	0.994	4.963	0.008*
8	Tata Money Market Fund	1.092	5.512	0.005*
9	Tata Short-Term Bond Fund	1.568	3.364	0.028*
10	Tata Treasury Manager Fund	0.918	2.853	0.046*
11	SBI Corporate Bond Fund	2.378	4.782	0.009*
12	SBI Dynamic Bond Fund	1.990	0.818	0.459
13	SBI Magnum Gilt Fund – Long-Term Plan	4.426	1.610	0.183
14	SBI Magnum Gilt Fund – Short-Term Plan	2.732	2.289	0.084
15	SBI Magnum Income Fund	1.900	0.872	0.433
16	SBI Savings Fund	1.120	3.868	0.018*
17	SBI Short-Term Debt Fund	1.402	1.613	0.182
18	SBI Ultra Short-Term Debt Fund	1.148	3.745	0.020*

Mean Difference = Funds' Returns – Treasury Bills' Returns *Significant ($p<0.05$)

Interpretation

From the Table, the returns provided by Tata Floater Fund, Tata Liquid Fund, Tata Money Market Fund, Tata Short-Term Bond Fund, Tata Treasury Manager Fund, SBI Corporate Bond Fund, SBI Savings Fund and SBI Ultra Short-Term Debt Fund are more than the returns provided by 364 days Treasury Bills. But 364 days Treasury Bills generated better annual returns than remaining funds.

Analysis of Objective 2

Impact of net assets on the performance of Tata and SBI debt mutual funds

H_{02}: Net assets do not influence the net asset value of Tata and SBI debt mutual funds.

H_{a2}: Net assets influence the net asset value of Tata and SBI debt mutual funds.

Table 2: Result of simple linear regression analysis

S.No.	Debt Mutual Funds	R-square value	F-value	p-value
1	Tata Dynamic Bond Fund	0.911	30.688	0.012*
2	Tata Floater Fund	0.211	0.802	0.437
3	Tata Gilt Mid-Term Fund	0.893	24.968	0.015*
4	Tata Gilt Securities Fund	0.385	1.879	0.264
5	Tata Gilt Short Maturity Fund	0.719	7.673	0.070
6	Tata Income Plus Fund	0.035	0.109	0.763
7	Tata Liquid Fund	0.793	11.468	0.043*
8	Tata Money Market Fund	0.901	27.371	0.014*
9	Tata Short-Term Bond Fund	0.918	33.593	0.010*
10	Tata Treasury Manager Fund	0.587	4.257	0.131
11	SBI Corporate Bond Fund	0.697	6.750	0.081
12	SBI Dynamic Bond Fund	0.482	2.796	0.193
13	SBI Magnum Gilt Fund – Long-Term Plan	0.699	6.970	0.078
14	SBI Magnum Gilt Fund – Short-Term Plan	0.706	7.203	0.075
15	SBI Magnum Income Fund	0.085	0.276	0.635
16	SBI Savings Fund	0.853	17.436	0.025*
17	SBI Short-Term Debt Fund	0.758	9.422	0.055
18	SBI Ultra Short-Term Debt Fund	0.387	1.890	0.263

*Significant ($p<0.05$)

Interpretation

From the Table, for Tata Dynamic Bond Fund it was found that R^2 = 0.911, F-value = 30.688 and p-value = 0.012 which are statistically significant at 5% level. This reveals that net asset has 91.1% of variance on the performance of Tata Dynamic Bond Fund. The regression equation: $NAV_{(Tata\ Dynamic\ Bond\ Fund)} = 0.06\ Net\ Assets_{(Tata\ Dynamic\ Bond\ Fund)} + 17.028$

From the Table, for Tata Floater Fund it was found that R^2 = 0.211, F-value = 0.802 and p-value = 0.437 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of Tata Floater Fund. The regression equation: $NAV_{(Tata\ Floater\ Fund)} = 0.127\ Net\ Assets_{(Tata\ Floater\ Fund)} + 1633.085$

From the Table, for Tata Gilt Mid-Term Fund it was found

that R^2 = 0.893, F-value = 24.968 and p-value = 0.015 which are statistically significant at 5% level. This reveals that net asset has 89.3% of variance on the performance of Tata Gilt Mid-Term Fund. The regression: NAV (Tata Gilt Mid-Term Fund) = 0.027 Net Assets (Tata Gilt Mid-Term Fund) + 11.501

From the Table, for Tata Gilt Securities Fund it was found that R^2 = 0.385, F-value = 1.879 and p-value = 0.264 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of net asset value of Tata Gilt Securities Fund. The regression equation: NAV (Tata Gilt Securities Fund) = 68.222 – 0.027 Net Assets (Tata Gilt Securities Fund)

From the Table, for Tata Gilt Short Maturity Fund it was found that R^2 = 0.719, F-value = 7.763 and p-value = 0.070 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of Tata Gilt Short Maturity Fund. The regression equation: NAV (Tata Gilt Short Maturity Fund) = 34.129 – 0.373 Net Assets (Tata Gilt Short Maturity Fund)

From the Table, for Tata Income plus Fund it was found that R^2 = 0.035, F-value = 0.109 and p-value = 0.763 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of Tata Income plus Fund. The regression equation: NAV (Tata Income Plus Fund) = 0.009 Net Assets (Tata Income Plus Fund) + 20.312

From the Table, for Tata Liquid Fund it was found that R^2 = 0.793, F-value = 11.488 and p-value = 0.043 which are statistically significant at 5% level. This reveals that net asset has 79.3% of variance on the performance of Tata Liquid Fund. The regression equation:

NAV (Tata Liquid Fund) = 3341.076 – 0.195 Net Assets (Tata Liquid Fund)

From the Table, for Tata Money Market Fund it was found that R^2 = 0.901, F-value = 27.371 and p-value = 0.014 which are statistically significant at 5% level. This reveals that net asset has 90.1% of variance on the performance of Tata Money Market Fund. The regression equation: NAV (Tata Money Market Fund) = 0.378 Net Assets (Money Market Fund) + 2.236

From the Table, for Tata Short-Term Bond Fund it was found that R^2 = 0.918, F-value = 33.593 and p-value = 0.010 which are statistically significant at 5% level. This reveals that net asset has 91.8% of variance on the performance of Tata Short-Term Bond Fund. The regression equation: NAV (Tata Short-Term Bond Fund) = 0.001 Net Assets (Short-Term Bond Fund) + 22.201

From the Table, for Tata Treasury Manager Fund it was found that R^2 = 0.587, F-value = 4.257 and p-value = 0.131 which are statistically insignificant at 5% level. This reveals that net asset has 58.7% of variance on the performance of Tata Treasury Manager Fund The regression equation: NAV (Tata Treasury Manager Fund) = 1.318 Net Assets (Treasury Manager Fund) + 1382.060

From the Table, for SBI Corporate Bond Fund it was found that R^2 = 0.697, F-value = 6.750 and p-value = 0.081 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of SBI Corporate Bond Fund. The regression equation: NAV (SBI Corporate Bond Fund) = 0.003 Net Assets (SBI Corporate Bond Fund) + 19.638

From the Table, for SBI Dynamic Bond Fund it was found that R^2 = 0.482, F-value = 2.796 and p-value = 0.193 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of SBI Dynamic Bond Fund. The regression equation: NAV (SBI Dynamic Bond Fund) = 22.902 - 0.002 Net Assets (SBI Dynamic Bond Fund)

From the Table, for SBI Magnum Gilt Fund – Long-Term Plan it was found that R^2 = 0.699, F-value = 6.970 and p-value = 0.078 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of SBI Magnum Gilt Fund – Long-Term Plan. The regression equation: NAV (SBI Magnum Gilt Fund – Long-Term Plan) = 0.004 Net Assets (SBI Magnum Gilt Fund – Long-Term Plan) + 24.699

From the Table, for SBI Magnum Gilt Fund – Short-Term Plan it was found that R^2 = 0.706, F-value = 7.203 and p-value = 0.075 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of SBI Magnum Gilt Fund – Short-Term Plan. The regression equation: NAV (SBI Magnum Gilt Fund – Short-Term Plan) = 0.035 Net Assets (SBI Magnum Gilt Fund – Short-Term Plan) + 23.111

From the Table, for SBI Magnum Income Fund it was found that R^2 = 0.085, F-value = 0.276 and p-value = 0.635 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of SBI Magnum Income Fund. The regression equation: NAV (SBI Income Fund) = 35.214 - 0.001 Net Assets (SBI Income Fund)

From the Table, for SBI Savings Fund it was found that R^2 = 0.853, F-value = 17.436 and p-value = 0.025 which are statistically significant at 5% level. This reveals that net asset has 85.3% of variance on the performance of SBI Savings Fund. The regression equation:

NAV (SBI Savings Fund) = 0.002 Net Assets (SBI Savings Fund) + 18.943

From the Table, for SBI Short-Term Debt Fund it was found that R^2 = 0.758, F-value = 9.422 and p-value = 0.055 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of SBI Short-Term Debt Fund. The regression equation: NAV (SBI Short-Term Debt Fund) = 0.000 Net Assets (SBI Short-Term Debt Fund) + 11.083

From the Table, for SBI Ultra Short-Term Debt Fund it was found that R^2 = 0.387, F-value = 1.890 and p-value = 0.263 which are statistically insignificant at 5% level. This reveals that net asset do not influence the performance of SBI Ultra Short-Term Debt Fund. The regression equation:

NAV (SBI Ultra Short-Term Debt Fund) = 0.040 Net Assets (SBI Ultra Short-Term Debt Fund) + 1474.518

Analysis of Objective 3

Impact of expense ratio on the performance of Tata and SBI debt mutual funds

H_{03}: Expense ratio do not influence the net asset value of Tata and SBI debt mutual funds.

H_{a3}: Expense ratio influence the net asset value of Tata and SBI debt mutual funds.

Table 3: Result of simple linear regression analysis

S. No.	Debt Mutual Funds	R-square value	F-value	p-value
1	Tata Dynamic Bond Fund	0.585	4.266	0.132
2	Tata Floater Fund	0.718	7.644	0.070
3	Tata Gilt Mid-Term Fund	0.146	0.514	0.525
4	Tata Gilt Securities Fund	0.043	0.134	0.739
5	Tata Gilt Short Maturity Fund	0.767	9.849	0.052
6	Tata Income Plus Fund	0.220	0.847	0.425
7	Tata Liquid Fund	0.050	0.156	0.719
8	Tata Money Market Fund	0.241	0.952	0.401
9	Tata Short-Term Bond Fund	0.153	0.542	0.515
10	Tata Treasury Manager Fund	0.782	10.759	0.046*
11	SBI Corporate Bond Fund	0.751	9.044	0.057
12	SBI Dynamic Bond Fund	0.039	0.122	0.750
13	SBI Magnum Gilt Fund – Long-Term Plan	0.238	0.938	0.404
14	SBI Magnum Gilt Fund – Short-Term Plan	0.184	0.676	0.471
15	SBI Magnum Income Fund	0.565	3.895	0.143
16	SBI Savings Fund	0.758	9.378	0.055
17	SBI Short-Term Debt Fund	0.396	1.965	0.256
18	SBI Ultra Short-Term Debt Fund	0.747	8.866	0.059

*Significant *(p<0.05)*

Interpretation

From the Table, for Tata Dynamic Bond Fund it was found that R^2 = 0.585, F-value = 4.266 and p-value = 0.132 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Dynamic Bond Fund. The regression equation: NAV $_{(Tata\ Dynamic\ Bond\ Fund)}$ = 8.693 Expense Ratio $_{(Tata\ Dynamic\ Bond\ Fund)}$ + 7.834

From the Table, for Tata Floater Fund it was found that R^2 = 0.718, F-value = 7.644 and p-value = 0.070 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Floater Fund. The regression equation:

NAV $_{(Tata\ Floater\ Fund)}$ = 5453.730 Expense Ratio $_{(Tata\ Floater\ Fund)}$ + 370.886

From the Table, for Tata Gilt Mid-Term Fund it was found that R^2 = 0.146, F-value = 0.514 and p-value = 0.525 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Gilt Mid-Term Fund. The regression: NAV $_{(Tata\ Gilt\ Mid\text{-}Term\ Fund)}$ = 20.530 – 3.818 Expense Ratio $_{(Tata\ Gilt\ Mid\text{-}Term\ Fund)}$

From the Table, for Tata Gilt Securities Fund it was found that R^2 = 0.043, F-value = 0.134 and p-value = 0.739 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Gilt Securities Fund. The regression equation: NAV $_{(Tata\ Gilt\ Securities\ Fund)}$ = 47.227 – 4.683 Expense Ratio $_{(Tata\ Gilt\ Securities\ Fund)}$

From the Table, for Tata Gilt Short Maturity Fund it was found that R^2 = 0.767, F-value = 9.849 and p-value = 0.052 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Gilt Short Maturity Fund. The regression equation:

NAV $_{(Tata\ Gilt\ Short\ Maturity\ Fund)}$ = 28.945 – 6.028 Expense Ratio $_{(Tata\ Gilt\ Short\ Maturity\ Fund)}$

From the Table, for Tata Income Plus Fund it was found that R^2 = 0.220, F-value = 0.847 and p-value = 0.425 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Income Plus Fund. The regression equation: NAV $_{(Tata\ Income\ Plus\ Fund)}$ = 14.647 Expense Ratio $_{(Tata\ Income\ Plus\ Fund)}$ + 3.732

From the Table, for Tata Liquid Fund it was found that R^2 = 0.050, F-value = 0.156 and p-value = 0.719 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Liquid Fund. The regression equation:

NAV $_{(Tata\ Liquid\ Fund)}$ = 2665.158 – 301.859 Expense Ratio $_{(Tata\ Liquid\ Fund)}$

From the Table, for Tata Money Market Fund it was found that R^2 = 0.241, F-value = 0.952 and p-value = 0.401 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Money Market Fund. The regression equation:

NAV $_{(Tata\ Money\ Market\ Fund)}$ = 2465.313 – 2437.123 Expense Ratio $_{(Tata\ Money\ Market\ Fund)}$

From the Table, for Tata Short-Term Bond Fund it was found that R^2 = 0.153, F-value = 0.542 and p-value = 0.515 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of Tata Short-Term Bond Fund. The regression equation:

NAV $_{(Tata\ Short\text{-}Term\ Bond\ Fund)}$ = 36.422 – 8.828 Expense Ratio $_{(Tata\ Short\text{-}Term\ Bond\ Fund)}$

From the Table, for Tata Treasury Manager Fund it was found that R^2 = 0.782, F-value = 10.759 and p-value = 0.046 which are statistically significant at 5% level. This reveals that expense ratio has 78.2% variance on the performance of Tata Treasury Manager Fund. The regression equation:

NAV $_{(Tata\ Treasury\ Manager\ Fund)}$ = 1221.837 Expense Ratio $_{(Tata\ Treasury\ Manager\ Fund)}$ + 733.209

From the Table, for SBI Corporate Bond Fund it was found that R^2 = 0.851, F-value = 9.044 and p-value = 0.057 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of SBI Corporate Bond Fund. The regression equation: NAV $_{(SBI\ Corporate\ Bond\ Fund)}$ = 6.166 Expense Ratio $_{(SBI\ Corporate\ Bond\ Fund)}$ + 14.467

From the Table, for SBI Dynamic Bond Fund it was found that R^2 = 0.039, F-value = 0.122 and p-value = 0.750 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of SBI Dynamic Bond Fund. The regression equation:

NAV $_{(SBI\ Dynamic\ Bond\ Fund)}$ = 23.786 – 4.150 Expense Ratio $_{(SBI\ Dynamic\ Bond\ Fund)}$ + 14.467

From the Table, for SBI Magnum Gilt Fund – Long-Term Plan it was found that R^2 = 0.238, F-value = 0.938 and p-value = 0.404 which are statistically insignificant at 5%

level. This reveals that expense ratio do not influence the performance of SBI Magnum Gilt Fund – Long-Term Plan. The regression equation: NAV (SBI Magnum Gilt Fund – Long-Term Plan) = 39.998 – 9.273 Expense Ratio (SBI Magnum Gilt Fund – Long-Term Plan)

From the Table, for SBI Magnum Gilt Fund – Short-Term Plan it was found that R^2 = 0.184, F-value = 0.676 and p-value = 0.471 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of SBI Magnum Gilt Fund – Short-Term Plan. The regression equation: NAV (SBI Magnum Gilt Fund – Short-Term Plan) = 83.364 Expense Ratio (SBI Magnum Gilt Fund – Short-Term Plan) − 47.907

From the Table, for SBI Magnum Income it was found that R^2 = 0.565, F-value = 3.895 and p-value = 0.143 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of SBI Magnum Income. The regression equation: NAV (SBI Magnum Income Fund) = 17.811 Expense Ratio (SBI Magnum Income Fund) + 0.668

From the Table, for SBI Savings Fund it was found that R^2 = 0.758, F-value = 9.378 and p-value = 0.055 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of SBI Savings Fund. The regression equation:

NAV (SBI Savings Fund) = 5.565 Expense Ratio (SBI Savings Fund) + 15.923

From the Table, for SBI Short-Term Debt Fund it was found that R^2 = 0.396, F-value = 1.965 and p-value = 0.255 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of SBI Short-Term Debt Fund. The regression equation: NAV (SBI Short-Term Debt Fund) = 0.467 Expense Ratio (SBI Short-Term Debt Fund) + 11.233

From the Table, for SBI Ultra Short-Term Debt Fund it was found that R^2 = 0.747, F-value = 8.866 and p-value = 0.059 which are statistically insignificant at 5% level. This reveals that expense ratio do not influence the performance of SBI Ultra Short-Term Debt Fund. The regression equation:

NAV (SBI Ultra Short-Term Debt Fund) = 972.842 Expense Ratio (SBI Ultra Short-Term Debt Fund) + 1434.243

Analysis of Objective 4

Intensity of competition among Tata and SBI debt mutual funds

Table 4: Concentration Ratio – Tata Debt Mutual Funds

S.No.	Debt Mutual Funds	CR-2014	Rank-2014	CR-2015	Rank-2015	CR-2016	Rank-2016	CR-2017	Rank-2017	CR-2018	Rank-2018
1	TDBF	0.07	9	2.61	4	3.85	5	9.13	5	10.54	5
2	TFF	21.72	2	20.69	2	16.81	3	19.52	3	16.50	4
3	TGM-TF	0.81	6	1.56	6	1.16	7	2.04	7	2.26	7
4	TGSF	0.53	7	0.76	10	0.47	10	0.75	8	0.72	8
5	TGSMF	0.87	5	1.47	7	0.52	9	0.24	9	0.21	9
6	TIPF	0.02	10	0.86	9	0.61	8	0.11	10	0.07	10
7	TLF	72.95	1	62.05	1	37.86	1	18.16	4	19.53	3
8	TMMF	1.48	3	2.31	5	19.63	2	26.46	1	22.79	2
9	TS-TBF	1.31	4	6.70	3	16.71	4	20.45	2	24.33	1
10	TTMF	0.24	8	0.99	8	2.37	6	3.15	6	3.05	6

Interpretation

From the above Table, it is clearly inferred that in the years 2014 and 2018, Tata Liquid Fund and Tata Floater Fund had concentration ratio ranging from 82% to 92% which were controlling the entire debt mutual funds of Tata. But from the year 2017, their concentration ratio fell below 40% thus losing its market leader position. Though Tata Liquid Fund and Tata Floater Fund always featured in Four Firm Concentration Ratio, both of them lost their first two spots. For the past three years, Tata Money Market Fund occupied top two spots. Especially, in the year 2017, in terms of market share, Tata Liquid Fund lost its top spot to Tata Money Market Fund. In the year 2014, Tata Dynamic Fund which was ranked ninth in terms of market share rose to fourth place in 2015 and from 2016 remained constantly at fifth place. During the entire study period, the bottom of the table position was held by Tata Gilt Securities Fund, Tata Short Maturity Fund and Tata Income plus Fund.

Table 5: Concentration Ratio – SBI Debt Mutual Funds

S.No.	Debt Mutual Funds	CR-2014	Rank-2014	CR-2015	Rank-2015	CR-2016	Rank-2016	CR-2017	Rank-2017	CR-2018	Rank-2018
1	SCBF	0.24	8	0.52	7	1.35	6	2.61	7	11.06	5
2	SDBF	50.35	1	42.82	1	31.17	2	24.78	1	17.10	2
3	SMGF-LTP	1.33	6	0.72	6	1.02	7	7.90	6	8.49	7
4	SMGF-STP	1.30	7	0.46	8	0.56	8	0.90	8	1.21	8
5	SMIF	8.77	4	35.83	2	36.78	1	22.59	2	15.61	4
6	SSF	3.14	5	1.09	5	7.24	4	9.08	5	16.58	3
7	SS-TDF	15.86	3	12.47	3	14.83	3	16.10	3	19.17	1
8	SUS-TDF	19.02	2	6.09	4	7.05	5	16.03	4	10.79	6

Interpretation

From the above Table, it is clearly inferred that SBI Dynamic Bond Fund remained in the top two spots but its market share was declining. SBI Short-term Debt Fund which was in third place from 2014 to 2017 in terms of market share rose to first place in the year 2018. Similarly SBI Savings Fund which was in fifth place rose to third place. SBI Magnum Income fund showed a palindromic behaviour in market share position between 2014 and 2018. During the entire study period, the bottom of the table position were held by SBI Corporate Bond Fund, SBI Magnum Gilt Fund Long-term Fund and SBI Magnum Gilt

Fund Short-term Fund.

H_{04}: There is no significant difference in the ranks of concentration ratio among Tata and SBI debt mutual funds.

H_{a4}: There is significant difference in the ranks of concentration ratio among Tata and SBI debt mutual funds.

Table 6: Spearman's Rank Correlation

Particulars (Tata)	CR - 2014	CR - 2015	CR – 2016	CR – 2017	CR - 2018
Correlation Coefficient (r_s)	1.000	0.733*	0.685*	0.661*	0.661*
Sig. (2-tailed)	-	0.016	0.029	0.038	0.038
N	10	10	10	10	10

*. Correlation is significant at the 0.05 level (2-tailed).

Interpretation

From the Table, it can be inferred that there was a strong, positive correlation between the concentration ratio's ranks of Tata Debt Mutual Funds from 2014 to 2018 which was statistically significant at 5% level.

Table 7

Particulars (SBI)	CR - 2014	CR - 2015	CR – 2016	CR - 2017	CR - 2018
Correlation Coefficient (r_s)	1.000	0.881**	0.690	0.881**	0.571
Sig. (2-tailed)	-	0.004	0.058	0.004	0.139
N	8	8	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).

Interpretation

From the Table, it can be inferred that there was a strong and positive correlation between the concentration ratio's ranks of SBI Debt Mutual Funds from 2014 to 2018 which was statistically significant at 5% level.

Table 8: Herfindahl - Hirschman Index

Years	Tata Debt Mutual Funds	SBI Debt Mutual Funds
2014	5799.1242	3238.7115
2015	4342.2086	3312.1188
2016	2403.1651	2649.5628
2017	1927.2233	1793.0059
2018	1891.073	1490.7593

Interpretation

From the above Table, it is inferred that in case of Tata Debt Mutual Funds, in the year 2014 HHI was 5799 depicting a highly concentrated competition among them. In 2015, HHI reduced to 4342 though showing highly concentrated competition. But from the next year, HHI fell below 2500 indicating a moderately concentrated competition among them. In the year 2018, HHI of Tata Debt Mutual Funds reached a low of 1891, which is marching towards an unconcentrated competitive market.

From the above Table, it is inferred that in case of SBI Debt Mutual Funds, in the year 2014 HHI was only 3238 far below Tata by 2500, but still were depicting a highly concentrated competition among them. In the year 2016, HHI fell to 2649 and in 2017 to 1793 though trying to remain in a highly concentrated competition. But in 2018, HHI was 1490, though just 10 points below the threshold level of 1500, SBI Debt Mutual Funds are marching towards an unconcentrated competitive market.

Conclusion

The contribution of mutual funds industry in the stock markets helps the nation to convert the savings into capital. The mutual funds investors make investments like any other investors to get good returns on their investments and therefore it is the responsibility of the mutual funds schemes to deliver good returns to retain the investors. The performance of the mutual funds are exposed through the net asset values and the investors can invest in funds which give them good returns, consistent growth in net asset values and able to have resistance during the fall of the stock market. Investors should give preference for investment in the diversified funds to avoid capital erosion and to maximize the returns. The funds must provide periodical information to the investors about the performance of funds. Investment in mutual funds is definitely a long-term wealth creation process and investors must have patience to attain their investment objectives.

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