A Study of Performance Analysis of HSBC Small Cap Equity Fund

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Abstract : Mutual funds have played important role in financial market in recent decades so it is pertinent to study the performance of mutual funds. The investment performance of mutual funds has been extensively examined for the development of capital market. There are 44 mutual fund houses offering various schemes. In the present study equity diversified schemes were selected and particularly HSBC Small Cap Equity Fund Growth scheme is analysed.

IndexTerms – Mutual Fund.

I. INTRODUCTION

Mutual funds have played important role in financial market in recent decades so it is pertinent to study the performance of mutual funds. The investment performance of mutual funds has been extensively examined for the development of capital market. There are 44 mutual fund houses offering various schemes. In the present study equity diversified schemes were selected and particularly HSBC Small Cap Equity Fund Growth scheme is analysed.

II. Review of Literature

There are number of studies on performance evaluation of mutual funds schemes such as Dhanda et.al. , Kumar and Devi Rama, Gohar et.al., Prince and Bacon, Debashish, Guha, Jagroc Timotj et.al, Panwar Sharad and Madhumathi, Noulas et.al., Ravindram, Shukla and Singh etc., the researchers have analysed the schemes with single market index. The analysis may give different results if compared to two or more market indices. In the present study HSBC Small Cap Equity Fund Growth scheme is chosen and compared with 4 market indices such as Nifty, Nifty Next 50, Nifty 100, Nifty 200.

III. Objectives of the study

1. To study the returns earned by the HSBC Small Cap Equity Fund Growth scheme and compared against the benchmark market returns and
2. To examine the degree of correlation that exists between fund and market return.

IV. Research Methodology

The period of the study is from January 2008 to December 2017. There are number of equity diversified schemes. The HSBC Small Cap Equity Fund Growth scheme is selected for the case study. The study has used secondary date. Monthly Net Asset Value of the HSBC Small Cap Equity Fund Growth scheme along with monthly closing index values of the benchmark market indices are taken from the official websites of National Stock Exchange. The performance analysis is done by calculating return on portfolio of the Growth scheme, return of the market indices Nifty, Nifty Next 50, Nifty 100, Nifty 200 , beta, standard deviation of the portfolio of the scheme and market indices, Sharpe ratio of the scheme and market indices, Treynor ratio, Jensen, Fama, Franco Modigliani and Lea Modigliani and Correlation-squared. The limitation of the study is that the NAVs were studied for only ten years.

V. Analysis:

Table 1 Performance Analysis of HSBC Small Cap Equity Fund Growth scheme with NIFTY

YEAR	Rp	Rm	Beta	SDp	SDm	S p	S m	T	J	Fama	M^2	R^2
2008	-7.50	-5.10	0.94	12.08	11.56	-0.63	-0.45	-8.04	-12.05	40.69	-7.17	0.96
2009	5.89	4.82	0.90	10.06	9.08	0.58	0.52	6.45	9.92	30.74	5.32	0.79
2010	-0.02	0.92	0.88	6.01	4.77	-0.01	0.18	-0.08	0.69	-0.08	0.00	0.57

2011	-4.87	-2.31	1.10	8.34	5.96	-0.59	-0.40	-4.49	-7.33	16.31	-3.46	0.73
2012	3.11	2.24	1.13	7.05	5.31	0.43	0.41	2.69	5.45	8.83	2.35	0.87
2013	-0.54	0.19	1.21	7.47	3.95	-0.08	0.03	-0.49	-0.39	-0.15	-0.26	0.49
2014	4.90	2.47	0.71	4.70	3.82	1.03	0.63	6.83	6.48	14.41	4.00	0.40
2015	0.24	-0.47	0.77	4.34	3.62	0.04	-0.15	0.24	-0.14	-0.12	0.21	0.49
2016	-0.65	-0.02	1.28	6.69	4.29	-0.11	-0.02	-0.55	-0.74	0.08	-0.40	0.80
2017	3.40	1.66	0.71	3.76	2.78	0.89	0.58	4.72	4.45	7.24	2.53	0.33

Table 1 shows the performance analysis of Mutual Fund HSBC Small Cap Equity Fund Growth scheme in terms of return on portfolio of the Growth scheme (Rp), return of the market index Nifty (Rm), beta, standard deviation of the portfolio of the scheme (SDp), standard deviation of the market index (SDm), Sharpe ratio of the scheme (Sp), Sharpe ratio of the index (Sm), Treynor ratio (T), Jensen (J), Fama, M^2 (Franco Modigliani and Lea Modigliani) and R^2 (Correlation-squared).

The highest positive return of HSBC Small Cap Equity Fund Growth Option scheme is 5.89 in the year 2009 and the benchmark return during the same year is 4.82 shows that the scheme has more returns than the market returns. The schemes returns are positive in 5 out of 10 years and the market returns are positive in 6 out of 10 years. The fund is getting more returns than the market returns in 5 out of 10 years indicating that the fund returns are better than the market return.

The highest standard deviation is 12.08 in the year 2008 that the fund is more risky than the benchmark return which is 11.56 during the same year. The scheme is riskier than the market in all the 10 years.

The calculated beta of the scheme is positive in all the years indicating that the investments risk is going along with the market. Beta is less than 1 in 6 out of 10 years indicating that the scheme is less volatile than the market. Beta is greater than 1 in 4 out of 10 years indicating that the scheme is more volatile than the market signifying that the scheme is offering a higher rate of return but also posing more risk. The highest beta value is 1.28 in the year 2016 shows that scheme is more volatile and posing more risk and higher rate of loss.

Sharpe ratio of the scheme have the positive value in 5 out of 10 years indicating that the scheme have produced greater return as compared to risk free rate. Sharpe ratio shows negative values in the 5 years (i.e., 2008, 2010 2011, 2013, 2015) out of 10 years indicating that the scheme has underperformed than the risk free rate of return. The fund Sharpe ratio is better than market Sharpe ratio in 5 out of 10 years indicating that fund shows equal performance to the market.

The highest Treynor's ratio of the scheme is 6.45 in the year 2009 shows a superior risk-adjusted performance. The Treynor's ratio is positive in 5 out of 10 years indicating that the fund outperformed than the market but in the 5 out of 10 years underperformed than the market.

Jensen ratio is positive in 5 out of 10 years indicating that the funds return is higher than the expected beta statistic. Jensen ratio is negative in 5 out of 10 years indicating that the funds return lower than the market return implying that the mutual fund manager would not have earned enough return given the amount of risk he was taking. The highest Jensen ratio of the scheme is 9.92 in the year 2009 shows the fund return is higher than the market return.

Fama shows the highest value is 40.69 in the year 2008. Fama values are positive in 7 out of 10 years shows that the fund outperformed than the market. Fama values are negative in 3 years i.e.,2010, 2013 and 2015 out of 10 years, indicating that the fund performance is poor in that two years.

The highest positive M^2 value is 5.32 in the year 2009 shows that the fund outperformed the market. M^2 values are positive in 6 out of 10 years shows that the fund outperformed the market portfolio. M^2 values are negative in 4 out of 10 years shows that the funds poor performance than the market portfolio.

The R^2 value is high in 3 out of 10 years indicating that the fund is in positive correlation with the market volatility indicating that the fund is getting positive returns with the market returns. The R^2 value is low in 7 out of 10 years indicating that the fund is in positive correlation with the market volatility but less positive returns with the market returns.

Table 2 Performance Analysis of HSBC Small Cap Equity Fund Growth scheme with NIFTY NEXT 50

Year	Rp	Rm	Beta	SDp	SDm	S p	S m	T	J	Fama	M^2	R^2
2008	-7.50	-6.50	0.66	12.08	16.35	-0.63	-0.40	-11.52	-11.43	36.60	-10.17	0.94
2009	5.89	7.23	0.72	10.06	12.26	0.58	0.59	8.12	10.63	34.35	7.16	0.91
2010	-0.02	0.47	1.26	6.01	4.06	-0.01	0.10	-0.06	0.48	-0.05	0.01	0.86
2011	-4.87	-3.14	1.21	8.34	5.32	-0.59	-0.60	-4.07	-8.55	24.69	-3.08	0.71
2012	3.11	3.29	0.87	7.05	6.99	0.43	0.46	3.52	5.72	9.95	3.08	0.88
2013	-0.54	-0.33	1.09	7.47	5.30	-0.08	-0.07	-0.55	-0.94	0.33	-0.37	0.71
2014	4.90	2.95	0.63	4.70	5.55	1.03	0.52	7.64	6.57	11.86	5.78	0.67
2015	0.24	-0.01	1.38	4.34	2.48	0.04	-0.03	0.13	0.15	-0.02	0.16	0.74
2016	-0.65	-0.10	1.09	6.69	5.27	-0.11	-0.03	-0.65	-0.82	0.14	-0.50	0.88
2017	3.40	2.57	0.86	3.76	3.33	0.89	0.75	3.89	5.42	9.48	3.02	0.69

Table 2 shows the performance analysis of Mutual Fund HSBC Small Cap Equity Fund Growth scheme with nifty next 50

The highest positive return of HSBC Small Cap Equity Fund Growth Option scheme is 5.89 in the year 2009 and the benchmark return during the same year is 7.23 shows that the scheme has less return than the market returns. The schemes returns are positive in 5 out of 10 years and the market returns are positive in 5 out of 10 years. The fund is getting more returns than the market returns in 3 out of 10 years indicating that the fund returns are lower than the market returns.

The highest standard deviation of the fund is 12.08 in the year 2008 that the fund is less risky than the benchmark return which is 16.35 during the same year. The scheme is more riskier than the market in 7 out of 10 years but less riskier than the market in 3 out of 10 years.

The calculated beta of the scheme is positive in all the years indicating that the investments risk is going along with the market. Beta is less than 1 in 5 out of 10 years indicating that the scheme is less volatile than the market indicating that the scheme is getting less returns. Beta is greater than 1 in 5 out of 10 years indicating that the scheme is more volatile than the market signifying that the scheme is offering a higher rate of return but also posing more risk. The highest beta value is 1.38 in the year 2015 shows that scheme is more volatile and posing more risk than the market and higher rate of return than the market.

The fund Sharpe ratio is better than market Sharpe ratio in 3 out of 10 years indicating that fund shows poor performance than the market.

The highest Treynor's ratio of the scheme is 8.12 in the year 2009 shows the funds superior risk-adjusted performance. The Treynor's ratio is positive in 5 out of 10 years indicating that the fund outperformed than the market but in the 5 out of 10 years underperformed than the market.

The highest Jensen ratio of the scheme is 10.63 in the year 2009 shows the fund return is higher than the market return. Jensen ratio is positive in 6 out of 10 years indicating that the funds return is higher than the expected beta statistic. Jensen ratio is negative in 4 out of 10 years indicating that the funds return are lower than the market return implying that the mutual fund manager would not have earned enough return given the amount of risk he was taking.

Fama shows the highest value is 36.60 in the year 2008 shows the fund return is higher than the market return. Fama values are positive in 8 out of 10 years shows that the fund outperformed than the market. Fama values are negative in 2 years (i.e.,2010,2015) out of 10 years, indicating that the fund performance is poor in that year.

The highest positive M^2 value is 7.16 in the year 2009 shows that the fund outperformed the market. M^2 values are positive in 6 out of 10 years shows that the fund outperformed the market portfolio. M^2 values are negative in 4 out of 10 years shows that the funds poor performance than the market portfolio.

The R^2 value is high in all the years indicating that the fund is in positive correlation with the market volatility indicating that the fund is getting positive returns with the market returns.

Table 3 Performance Analysis of HSBC Small Cap Equity Fund Growth scheme with NIFTY 100

YEAR	Rp	Rm	Beta	SDp	SDm	S p	S m	T	J	Fama	M^2	R^2
2008	-7.50	-5.32	0.90	12.08	12.16	-0.63	-0.44	-8.44	-12.01	40.39	-7.55	0.97
2009	5.89	5.16	0.89	10.06	9.42	0.58	0.54	6.54	10.14	31.76	5.52	0.83
2010	-0.02	0.84	0.98	6.01	4.53	-0.01	0.17	-0.08	0.70	-0.08	0.00	0.64
2011	-4.87	-2.45	1.14	8.34	5.79	-0.59	-0.43	-4.32	-7.57	17.76	-3.36	0.74
2012	3.11	2.39	1.10	7.05	5.52	0.43	0.42	2.77	5.55	9.11	2.44	0.88
2013	-0.54	0.10	1.25	7.47	4.07	-0.08	0.01	-0.48	-0.49	-0.05	-0.27	0.55
2014	4.90	2.53	0.73	4.70	3.99	1.03	0.62	6.60	6.58	14.13	4.17	0.46
2015	0.24	-0.41	0.85	4.34	3.39	0.04	-0.14	0.21	-0.13	-0.11	0.20	0.53
2016	-0.65	-0.04	1.30	6.69	4.36	-0.11	-0.02	-0.55	-0.77	0.10	-0.40	0.85
2017	3.40	1.80	0.81	3.76	2.76	0.89	0.63	4.15	4.71	7.93	2.52	0.42

Table 3 shows the performance analysis of Mutual Fund HSBC Small Cap Equity Fund Growth scheme with nifty 100

The highest positive return of HSBC Small Cap Equity Fund Growth Option scheme is 5.89 in the year 2009 and the benchmark return during the same year is 7.23 shows that the scheme has less returns than the market returns. The schemes returns are positive in 5 out of 10 years and the market returns are positive in 6 out of 10 years. The fund is getting more returns than the market returns in 5 out of 10 years indicating that the fund returns are equal to the market returns.

The highest standard deviation of the fund is 12.08 in the year 2008 that the fund is less risky than the benchmark which is 12.16 during the same year. The scheme is more riskier than the market in 9 out of 10 years but less riskier than the market in 1 out of 10 years.

The calculated beta of the scheme is positive in all the years indicating that the investments risk is going along with the market. Beta is less than 1 in 6 out of 10 years indicating that the scheme is less volatile than the market indicating that the scheme is getting less returns. Beta is greater than 1 in 4 out of 10 years indicating that the scheme is more volatile than the market signifying that the scheme is offering a higher rate of return but also posing more risk. The highest beta value is 1.30 in the year 2016 shows that scheme is more volatile and posing more risk than the market and higher rate of return than the market.

The fund Sharpe ratio is better than market Sharpe ratio in 5 out of 10 years indicating that fund shows equal performance to the market.

The highest Treynor's ratio of the scheme is 6.54 in the year 2009 shows the funds superior risk-adjusted performance. The Treynor's ratio is positive in 5 out of 10 years indicating that the fund outperformed than the market but in the 5 out of 10 years underperformed than the market.

The highest Jensen ratio of the scheme is 10.14 in the year 2009 shows the fund return is higher than the market return. Jensen ratio is positive in 5 out of 10 years indicating that the funds return is higher than the expected beta statistic. Jensen ratio is negative in 5 out of 10 years indicating that the funds return are lower than the market return implying that the mutual fund manager would not have earned enough return given the amount of risk he was taking.

Fama shows the highest value is 40.39 in the year 2008 shows the fund return is higher than the market return. Fama values are positive in 7 out of 10 years shows that the fund outperformed than the market. Fama values are negative in 3 years (i.e.,2010,2013,2015) out of 10 years, indicating that the fund performance is poor in that year.

The highest positive M^2 value is 5.52 in the year 2009 shows that the fund outperformed the market. M^2 values are positive in 6 out of 10 years shows that the fund outperformed the market portfolio. M^2 values are negative in 4 out of 10 years shows that the funds poor performance than the market portfolio.

The R^2 value is high in 6 out of 10 years indicating that the fund is in positive correlation with the market volatility indicating that the fund is getting positive returns with the market returns. The R^2 value is low in 4 out of 10 years indicating that the fund is in positive correlation with the market volatility but less positive returns with the market returns.

Table 4 Performance Analysis of HSBC Small Cap Equity Fund Growth scheme with NIFTY 200

YEAR	Rp	Rm	Beta	SDp	SDm	S p	S m	T	J	Fama	M^2	R^2
2008	-7.50	-5.73	0.85	12.08	12.87	-0.63	-0.45	-8.90	-12.08	41.08	-7.99	0.97
2009	5.89	5.36	0.86	10.06	10.16	0.58	0.52	6.78	10.15	30.64	5.94	0.90
2010	-0.02	0.49	1.13	6.01	4.13	-0.01	0.10	-0.07	0.44	-0.05	0.01	0.71
2011	-4.87	-2.58	1.16	8.34	5.76	-0.59	-0.46	-4.24	-7.78	18.81	-3.34	0.76
2012	3.11	2.42	1.09	7.05	5.64	0.43	0.42	2.81	5.53	8.99	2.50	0.90
2013	-0.54	-0.07	1.27	7.47	4.21	-0.08	-0.03	-0.47	-0.70	0.14	-0.28	0.61
2014	4.90	2.65	0.76	4.70	4.12	1.03	0.63	6.34	6.74	14.35	4.30	0.53
2015	0.24	-0.38	0.86	4.34	3.43	0.04	-0.13	0.21	-0.12	-0.10	0.20	0.55
2016	-0.65	-0.04	1.28	6.69	4.49	-0.11	-0.02	-0.55	-0.76	0.10	-0.42	0.87
2017	3.40	1.94	0.92	3.76	2.71	0.89	0.69	3.66	5.02	8.72	2.47	0.52

Table 4 shows the performance analysis of Mutual Fund HSBC Small Cap Equity Fund Growth scheme with nifty 200

The highest positive return of HSBC Small Cap Equity Fund Growth Option scheme is 5.89 in the year 2009 and the benchmark return during the same year is 5.36 shows that the scheme has more returns than the market returns. The schemes returns are positive in 5 out of 10 years and the market returns are positive in 6 out of 10 years. The fund is getting more returns than the market returns in 5 out of 10 years indicating that the fund returns are equal to the market returns.

The highest standard deviation of the fund is 12.08 in the year 2008 that the fund is less risky than the benchmark which is 12.87 during the same year. The scheme is more riskier than the market in 8 out of 10 years but less riskier than the market in 2 out of 10 years.

The calculated beta of the scheme is positive in all the years indicating that the investments risk is going along with the market. Beta is less than 1 in 5 out of 10 years indicating that the scheme is less volatile than the market indicating that the scheme is getting less returns. Beta is greater than 1 in 5 out of 10 years indicating that the scheme is more volatile than the market signifying that the scheme is offering a higher rate of return but also posing more risk. The highest beta value is 1.28 in the year 2016 shows that scheme is more volatile and posing more risk than the market and higher rate of return than the market.

The fund Sharpe ratio is better than market Sharpe ratio in 5 out of 10 years indicating that fund shows equal performance to the market.

The highest Treynor's ratio of the scheme is 6.78 in the year 2009 shows the funds superior risk-adjusted performance. The Treynor's ratio is positive in 5 out of 10 years indicating that the fund outperformed than the market but in the 5 out of 10 years underperformed than the market.

The highest Jensen ratio of the scheme is 10.15 in the year 2009 shows the fund return is higher than the market return. Jensen ratio is positive in 5 out of 10 years indicating that the funds return is higher than the expected beta statistic. Jensen ratio is negative in 5 out of 10 years indicating that the funds return are lower than the market return implying that the mutual fund manager would not have earned enough return given the amount of risk he was taking.

Fama shows the highest value is 41.08 in the year 2008 shows the fund return is higher than the market return. Fama values are positive in 8 out of 10 years shows that the fund outperformed than the market. Fama values are negative in 2 years (i.e.,2010,2015) out of 10 years, indicating that the fund performance is poor in that year.

The highest positive M^2 value is 5.94 in the year 2009 shows that the fund outperformed the market. M^2 values are positive in 6 out of 10 years shows that the fund outperformed the market portfolio. M^2 values are negative in 4 out of 10 years shows that the funds poor performance than the market portfolio.

The R^2 value is high in all the years indicating that the fund is in positive correlation with the market volatility indicating that the fund is getting positive returns with the market returns.

VI. Conclusion

The study conducts a comparative performance between HSBC Small Cap Equity Fund Growth Option scheme and market indices (Nifty, Nifty Next 50, Nifty 100, Nifty 200) over ten economic periods. It is observed that influence of market factor is closely effected behaviour of mutual funds returns. The correlations shows that mutual funds and benchmark indices returns are significantly high in some years and low in some years. the results shows that the performance of returns of the scheme is outperformed than the market indices in 50 per cent during the study of 10 years. The beta is more than 1 in several years indicating that the scheme is more volatile than the market indices. The overall analysis shows that the scheme performed better than the market indices.

VII. References

Fama Eugene, 1972, Components of investment performance, Journal of Finance, 27, pp.551-567.

Jensen, M. 1968, The performance of Mutual Funds in the period 1945-1964, Journal of Finance, 23(2), pp.389-416.

Sharpe, W.F. 1966, Mutual Fund Performance, Journal of Business, 39, pp.119-138.

Treynor, J.L, 1965, How to rate management of investment funds?, Harvard Business Review, 43 (1), pp.63-75