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COMPARATIVE STUDY OF SBI MUTUAL FUND AND HDFC MUTUAL FUND

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ABSTRACT

This study looks at the evolution of two of India's leading mutual fund companies, SBI Mutual Fund and HDFC Mutual Fund. The analysis uses secondary data to estimate risk and return indicators using various metrics: standard deviation, alpha, beta, Sharpe ratio, and Treynor ratio. The objective of the study is to identify which fund house offers better risk-adjusted returns based on historical data. The main objective of this study is to identify which fund house offers better risk-adjusted returns based on historical data and selected measurements By analyzing these metrics, the study aims to provide insight into the risk-return characteristics of each fund house and their investment strategies..

INTRODUCTION

Mutual Fund of the State Bank of India (SBI):

SBI Mutual Fund is one of the largest and most well-known mutual fund companies in India. It is managed by SBI Funds Management Private Limited, a joint venture between the State Bank of India, the biggest bank in India, and Amundi, a well-known global asset management company with its headquarters situated in France. SBI Mutual Fund offers a wide range of investment products, including debt funds, hybrid funds, equity funds, and other expert funds, to meet the diverse financial needs of its clients. The fund company is well-versed in research techniques, has a strong nationwide distribution network, and prioritizes its clients.

• HDFC Mutual Fund

Managed by HDFC Asset Management Limited, HDFC Mutual Fund is another prominent mutual fund provider in India. It is a branch of the Housing Development Finance Corporation (HDFC), one of the leading financial institutions in India. HDFC Mutual Fund offers a wide range of mutual funds, including debt, hybrid, equity, and solution-oriented funds. This fund provider has a stellar reputation for its innovative fund offerings, attentive customer care, and methodical approach to investing. HDFC Mutual Fund has a significant market share and is renowned for its fund expertis

LITERATURE REVIEW

1. 1. In her paper "Comparative Analysis on Performance of SBI and HDFC Equity, Balanced, and Gilt Mutual Funds," **Ms. Dhanalakshmi K. (2013**) compared and examined the performance of SBI and HDFC mutual funds, with an emphasis on equities, gilt, and balanced mutual funds.

2. Money in the connection between Treynor, Jensen, and Sharpe. Just three years of operating finance—from January 2010 to December 2012—are covered by the study. He concluded that the funds' returns changed according to the state of the market; that is, in 2010 and 2011, the return was impacted by market volatility, but in 2012, scheme performance improved. Research has demonstrated that, in the long run, investing in HDFC (Equity, Balanced, Gilt) mutual funds performs better than SBI funds.

3. In a 2013 study titled "A. A Comparative Study of Mutual Fund Performance SBI Mutual Funds V/S Others," Dr**. Rajesh Manikraoji Naik and MR Senapathy** compared the 2011–2012 performance of the SBI Magnum Equity mutual fund and the top 100 mutual funds from HDFC using standard deviation, beta, and Sharpe ratio. Ultimately, the authors concluded that there is little difference between SBI and HDFC mutual funds and that both are excellent mutual funds.

4. In a 2014 study titled "A Comparative Study of Diversified Mutual Fund Schemes of Selected Public and Private Equity Funds in India," **Dr. Vinay Kandpal and Prof. P. C. Kavi Dayal** included HDFC Premier Multi-Cap, HDFC Growth, and HDFC Core and Satellite funds. Examine the results for the private sector mutual fund category during five years (2008–2013). chosen mutual funds for the public sector based on the Jensen, Sharpe, standard deviation, and beta

5. In a study titled "Analysis and Comparative Study of SBI and HDFC Mutual Fund," **Babasaheb Patil (2012)** evaluated the risk and return of the growth of the SBI Magnum Equity Fund and the HDFC Growth of the share fund over one year (2.4.2007 - 31.3. 2008) using a variety of statistical techniques, including variance, standard deviation, covariance, and correlation. He concluded that the SBI Magnum Equity fund offered greater risk and returns than HDFC Equity, although both funds performed poorly when the author took investor expectations into account.

6. In a study titled "Comparison of Endowment Funds especially for SBI Mutual Funds," **Mrinal Manish (2010)** examined the risk and returns of a few carefully chosen private sector mutual funds by contrasting their five-year performance with that of SBI Magnum Equity and SBI Magnum Against. Upon analysis of all statistical characteristics, Magnum Contra was confirmed to be the best foundation within its class.

7. Investment policy, portfolio turnover rate, mutual fund performance, and stock market effects were all examined by **Irwin, Brown, and FE (1965)**. Research revealed that mutual funds significantly influenced the movement of stock market prices. The study concludes that there was no consistent correlation between portfolio turnover and fund performance and that on average, funds did not outperform the composite markets.

8. Treynor (1965) employed the 'characteristic line' to establish a relationship between the predicted rate of return of a fund and the rate of return of a representative market average. He developed a fund performance metric that considered investment risk. The most prominent study is by sharp ratio.

Research Methodology

Research design: quantitative research and type is a comparative study

Sources of data: Financial news websites, company websites,research reports

Data collection: both funds 10 years of NAV data collected through websites. For yearly NAV I have taken the difference between
31 December to 31 December each year.

Data collection instruments: Historical Performance Data: Get historical performance data directly from official sources such as mutual fund company websites, financial news websites, or financial databases. Focus on metrics or annual returns over some time.

METHOD OF CALCULATION

(1) STANDARD DEVIATION = it is calculated after calculating the return of mutual funds.

RETURNS = NAV CURRENT CLOSE – NAV PREVIOUS CLOSE

(2) return of portfolio; N = number of years

(3) CORRELATION COEFFICIENT

➢ It shows the linear dependency between fund returns and returns of the benchmark index. The correlation coefficient is calculated here using MS Excel.

➢ If $0.5 < r < 1$, then there is a high positive correlation between the fundreturns and the benchmark returns.

➢ If $0<r<0.5$, then there is a low positive correlation between the fund returns and the benchmark returns.

(5) BETA

- Beta, also known as the "beta coefficient," is a measure of the value, or systematic risk, of a security or fund compared to the market as a whole.

Beta here is calculated as (p,b). S.D.p/S.Db

- r(p,b) = correlation coefficient between the returns of the concerned portfolio and the returns of the benchmark index. (BSE 100)

S.D.p =Standard Deviation of the concerned portfolio , S.D.b =Standard Deviation of the benchmark index (BSE 100)

ALPHA

- Alpha measures the difference between a fund's actual returns and its expected performance, given its level of risk. A fund's alpha is often considered to represent the value that a portfolio manager adds to or subtracts from a fund's return above and beyond a relevant index's risk/reward profile.

Alpha (α) is calculated here as =X - β(Y) where,

X = average return to NAV returns; Y = average return to market index,β=Be

SHARPE RATIO

- The Sharpe ratio formula is:

Where,

Ra= Concerned portfolio return , Rf = Risk Free Rate , σ = StandardDeviation

Sharpe ratio can be used to rank the desirability of a fund or portfolio.

TREYNOR RATIO

- The Treynor ratio is a measurement of the returns earned more than that which could have been earned on an investment that has nodiversifiable risk, per each unit of market risk assumed.

- The higher the Treynor ratio, the better the performance of the portfolio under analysis.

- Formula: T = Ri-Rf/BiWhere,

T= Treynor ratio , Ri= Portfolio I's return , Rf = Risk Free Rate , β=Portfolio I's Beta

Problem statement

- The need to thoroughly examine and compare the investment strategies, performance indicators, and operational frameworks of SBI Mutual Fund and HDFC Mutual Fund is the central challenge of this comparative study. The study specifically aims to answer the following important question.

What are the differences in the investment philosophies, asset allocation plans, and portfolio development techniques of SBI Mutual Fund and HDFC Mutual Fund?

What past performance patterns have SBI Mutual Fund and HDFC Mutual Fund shown throughout many mutual fund schemes and market cycles?

How are investment risks, including market, credit, and liquidity concerns, managed by SBI and HDFC mutual funds within their separate portfolios?

objective

2. Analysis of risk and return through using statistical methods with special reference to small-cap and mid- and large-cap funds.

3. To compare schemes' return and risk with benchmark i.e. S&P BSE 250

Hypothesis

The null hypothesis (H_0) states that the overall returns of Mutual Funds A and B do not differ significantly from one another.

The alternative hypothesis, H_1, states that mutual funds A and B have significantly different total returns.

Data collection & analysis

BSE 250 TRI

year	S&P BSE TRI
2014	8324
2015	7786
2016	8082.4
2017	10333.25
2018	10888.35
2020	13529.1
2021	17511.3
2022	18609.35

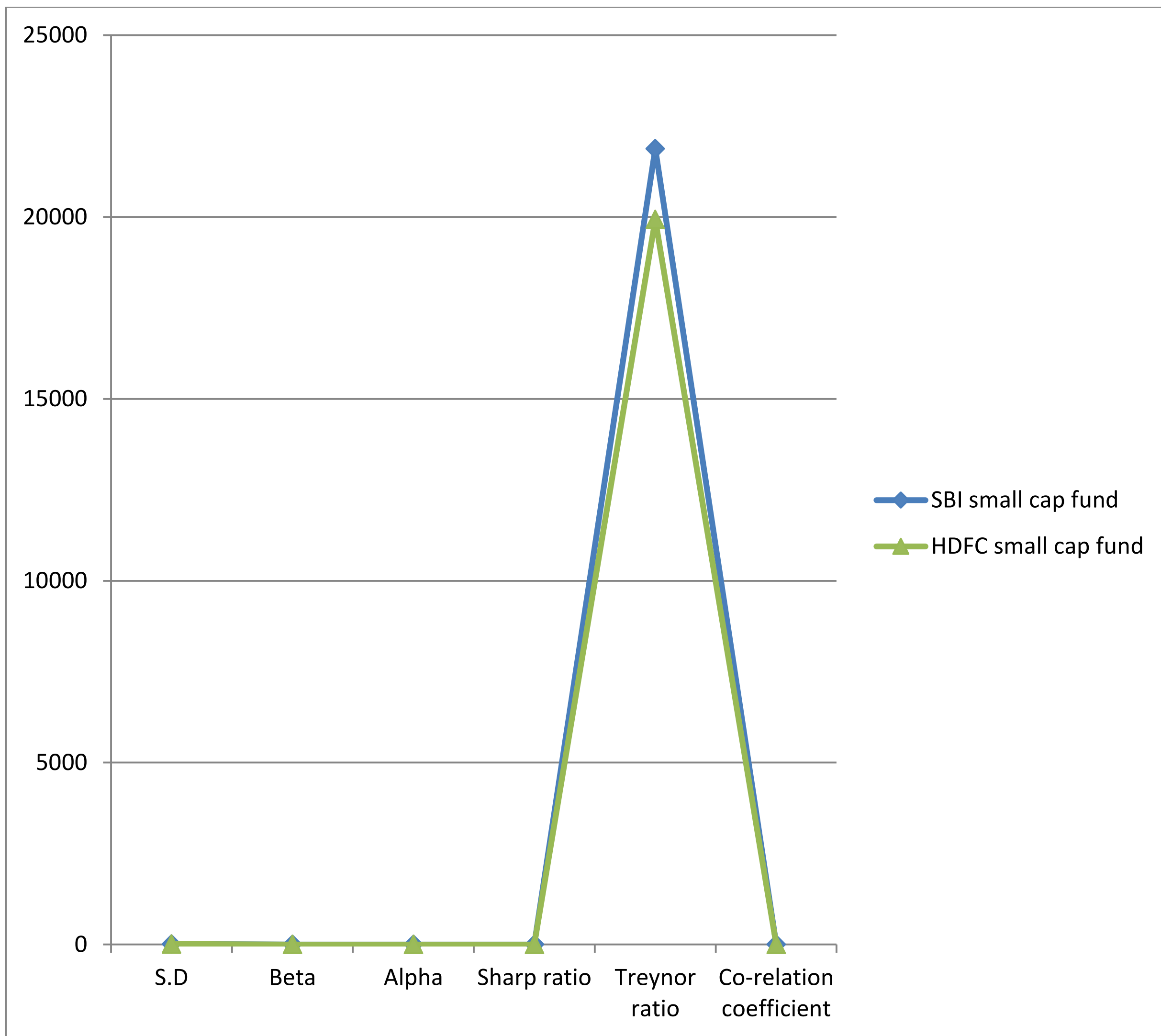
- This is the market return index BSE 250 TRI for comparison of mutual fund return with the market.
- Standard deviation is calculated using this data for the beta calculation of selected mutual funds.

SBI AND HDFC SMALL-CAP FUND

SBI SMALL CAP FUND		HDFC SMALL CAP FUND	
Year(1 Jan to 30 dec)	NAV	year	NAV
2014	29.37	2014	26.13
2015	35.72	2015	28.02
2016	36.33	2016	29.56
2017	66.2	2017	48.63
2018	53.83	2018	45.07
2019	57.8	2019	41.30
2020	78.16	2020	50.43
2021	115.11	2021	83.13
2022	126.24	2022	88.03

TABLE: 1 CALCULATION

	S.D	Beta	Alpha	Sharp ratio	Treynor ratio	Correlation coefficient
SBI small cap fund	13.26	0.000092	0.1167	1.5180	21880.43	0.00961686
HDFC small cap fund	11.69	0.000072	0.0920	1.2275	19930.55	0.008542636
S&P BSE 250 (market return)	1368.43					

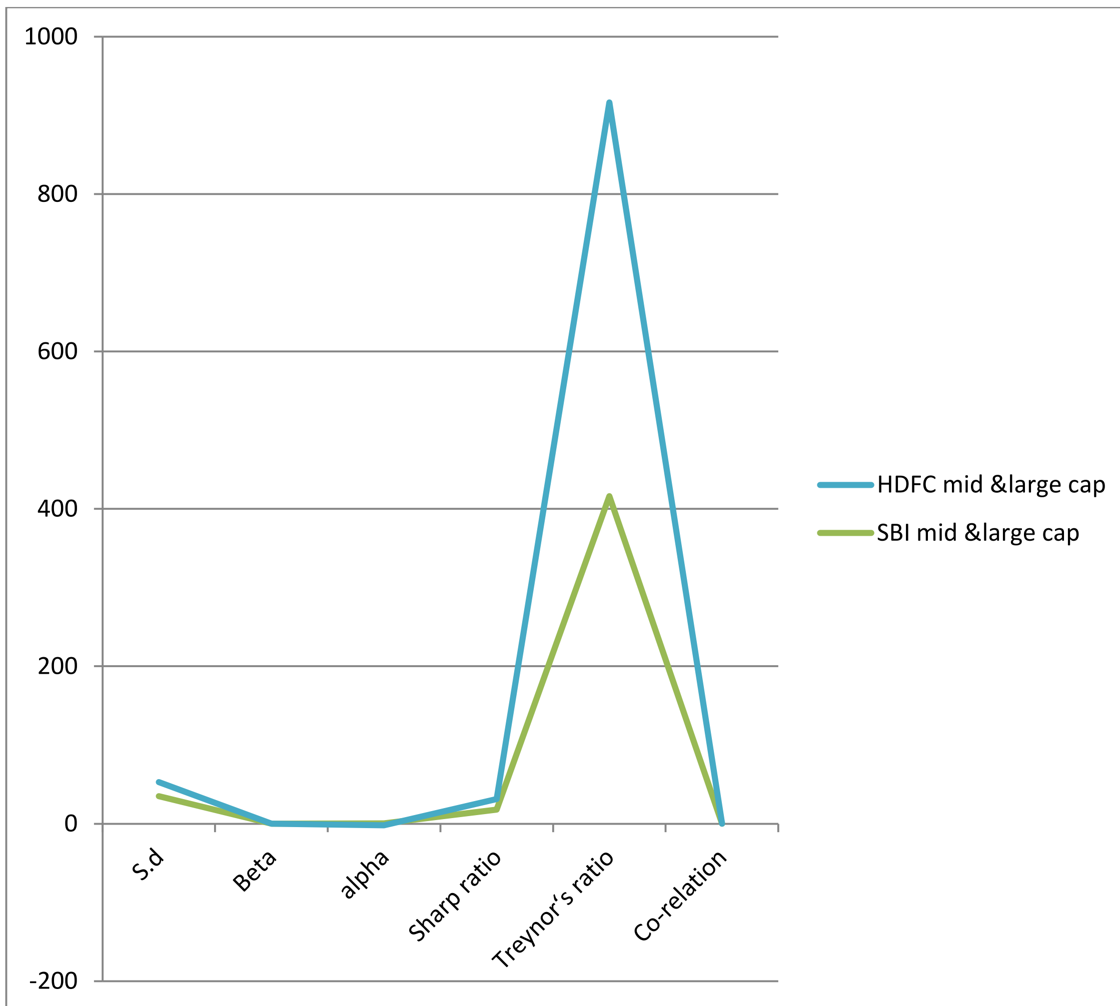


mid &large cap fund of SBI And HDFC

MID &LARGE CAP FUND OF SBI		MID &LARGE CAP FUND OF HDFC	
year	NAV	year	NAV
2013	96.78	2013	69.64
2014	142.06	2014	88.73
2015	161.18	2015	84.56
2016	160.30	2016	87.39
2017	229.36	2017	114.26
2018	217.36	2018	110.02
2019	234.76	2019	117.69
2020	271.70	2020	131.07
2021	382.73	2021	187.01
2022	418.04	2022	206.14

Table 2 CALCULATION

Funds	S.d	Beta	Alpha	Sharp ratio	Treynor ratio	Co-relation Co-efficient
SBI mid &largecap	35.125	0.000658851	0.570555556	17.84989324	416.0806442	0.025668101
HDFC mid &large cap	17.61	0.000165605	-2.443333333	13.40091993	500.4360865	0.012868762



FINDINGS&RESULT

FOR SMALL-CAP FUND

1. Since HDFC's S.D. is lower than SBI's, the HDFC small-cap fund's return is more consistent than that of the SBI small-cap fund.

2. Both funds have very low market movement sensitivity because their betas are close to zero. The overall market fluctuation has little effect on the performance of any fund.

3. Based on beta and the market as a whole, alpha calculates an investment's excess return about its projected return. The positive alpha values in both funds show that they have both fared better than predicted.

4. In this comparison, the HDFC Mid-Cap Fund has a Sharpe Ratio of 1.2275, whereas the SBI Mid-Cap Fund's is 1.5180.

In comparison to HDFC Mid-Cap Fund, SBI Mid-Cap Fund has a higher Sharpe ratio, which suggests that it has delivered superior risk-adjusted returns. SBI Mid- and Large-cap funds are worth considering by investors because they have demonstrated superior risk-weighted returns in this situation.

The risk-adjusted return on systematic risk is measured by the Treynor ratio. When comparing the Treynor ratios of the two funds, the HDFC small cap fund has a greater risk-adjusted return (1993.55) than the SBI (2188.43).

In summary, the HDFC Small Cap Fund exhibits superior stability in returns and a higher risk-adjusted return in comparison to systematic risk, as demonstrated by its larger Treynor ratio and smaller standard deviation. However, the SBI Small Cap Fund offers a higher risk-adjusted return based on the Sharpe ratio, indicating a better balance between risk and return, despite likewise having consistent returns and little market sensitivity. HDFC Small Cap Fund may be the choice of investors wanting stability, while SBI Small Cap Fund may appeal to those seeking a balance between risk and return.

FOR MID&LARGE CAP FUND

1. Since HDFC's S.D. is lower than SBI's, the HDFC small-cap fund's return is more consistent than SBI's small-cap fund's.

2. The beta coefficient calculates how sensitive a stock's price movement is to the market's general movement. A beta of less than one suggests that the stock is less volatile than the market, whereas a beta of more than one denotes higher volatility. With a beta of 0.000658851, the SBI MID & LARGE CAP is less volatile in this instance than the HDFC MID & LARGE CAP fund, which has a beta of 0.000165605. Given that both funds' betas are much below 1, they are both comparatively steady and have less volatility when compared to the overall market.

3. After considering risk, alpha evaluates a fund manager's capacity to beat the benchmark index. In this instance, HDFC Mid-Cap's negative alpha (-2.443333333) means that it underperformed its benchmark, while SBI Mid-Cap's positive alpha (0.57055556) indicates that it has exceeded it. Consequently, in terms of alpha, the SBI Mid-Cap Fund performed better than the HDFC Mid-Cap Fund.

4. The risk-adjusted return on an investment is measured by the Sharpe ratio. A greater Sharpe ratio indicates a greater risk-adjusted return.

- In this comparison, the Sharpe ratio of the SBI Mid-Cap Fund is 17.84989324 while the Sharpe ratio of the HDFC Mid-Cap Fund is 13.40091993.

- In comparison to HDFC Mid-Cap Fund, SBI Mid-Cap Fund has a higher Sharpe ratio, indicating that it has delivered superior risk-adjusted returns.

Based on systematic risk (beta), the Treynor ratio calculates the risk-adjusted return on an investment. For the amount of risk taken, a greater Treynor ratio indicates a better risk-adjusted return.

5. In this comparison, the HDFC Mid-Cap Fund has a Treynor ratio of 500.436, whilst the SBI Mid-Cap Fund has a Treynor ratio of 416.080.

6. The Treynor ratio shows that the HDFC Mid-Cap Fund has outperformed the SBI Mid-Cap Fund in terms of risk-adjusted return, suggesting that it has provided superior returns when taking systemic risk into account.

LIMITATION OF THE STUDY

1. This study has only looked at small, medium, and large mutual fund schemes. If additional scheme types were included, including debt funds and sector-specific funds, a comparable analysis might be performed.

2. A few statistical techniques have been used to analyze the performance of mutual funds. It could be raised to get an exact outcome.

The performance and returns of the mutual fund schemes have only been contrasted with those of the S&P BSE 100. The rate on Indian government 10-year bonds serves as a representative of risk-free returns, but the same can be done with a range of alternative benchmarks

CONCLUSION

SBI mid-cap and large-cap funds have outperformed the other in terms of alpha and Sharpe ratio, indicating superior risk-adjusted returns, even though both funds have low volatility and stable returns. However, despite a greater Treynor ratio and a smaller standard deviation, HDFC Mid-Cap Fund exceeded Alpha and Sharpe. Investors considering SBI's mid- and large-cap stocks may find stability and somewhat greater risk-adjusted returns. Before making a decision, investors must take into account their own risk tolerance and investing objectives.

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