



Performance Analysis And Risk Assessment Of Mutual Fund Schemes Selected For The Study Through Sips: A Comparative Study Of Large-Cap And Small-Cap Schemes

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Abstract:

This study examines the market capitalization-based performance and risk characteristics of Indian mutual fund schemes for the Large Cap and Small Cap funds. The study analyzes the annual returns throughout a range of investment periods (1 year, 2 years, 3 years, 5 years, and 10 years), as well as risk indicators including Standard Deviation, Beta, Sharpe, Jensen's Alpha, and Treynor's Ratio. By analyzing their past performance, the conclusions give light on the growth potential and risk profiles of mutual fund schemes. Depending on their investment goals and risk tolerance, investors can make informed decisions using the findings. The research aims to assist investors in understanding the risk-return trade-off and selecting the proper mutual fund schemes, within each market capitalization category, the study aims to support fund managers, financial advisors, and investors.

Keywords: Mutual funds, Large Cap funds, Small Cap funds, Performance analysis, Risk assessment, Investment returns, Risk ratios, Regular Plan

1. Introduction:

In order to participate in the Indian stock market financial market, people and prospective investors are increasingly turning to mutual funds as a means of investing. Mutual funds are a popular option for investors looking to reach their financial objectives since they offer diversity and professional management. Based on the stock market capitalisation of the major stocks, there are several groups in the mutual fund sector: Small, Mid, and large cap funds are available. The mutual fund systematic investment plan (SIP), which enables investors to make regular contributions over time and potentially profit from rupee-cost averaging, has emerged as the optimum way of mutual fund investment. Here, investors divide their funds across numerous market capitalization categories, making it crucial to analyze the performance and risk associated with each type of mutual fund plan.

The goal of the current study is to provide a thorough analysis of Indian mutual fund schemes via SIPs, with a primary focus on Small Cap and Large Cap funds operating under the conventional mutual fund plan. In order to calculate retroactive returns, the current study will examine the performance of a few chosen funds throughout a range of investment times, from one year to 10 years.

Additionally, the current study will examine major financial risk ratios, including CRISIL Rank, Standard Deviation, Beta, Sharpe Ratio, Jensen's Alpha, and Treynor's Ratio, in a systematic manner. These risk analyses offer a priceless insight of market turbulence, market sensitivity, risk-adjusted returns, and fund managers' propensity to beat the market norms. Investors and financial professionals will obtain a deeper

understanding of the potential benefits, dangers, and return relation with each category through the performance and risk profiles study of Small Cap and Large Cap funds. The goal of the current study is to provide important information for decision-making and assist investors in adapting their investment goals with the best mutual fund schemes.

This study can also provide fund managers and other industry professionals with useful information that will assist them examine their fund's performance in comparison to that of its peers and pinpoint crucial areas for improvement. The findings from this study's observations can be used to create investing strategies that efficiently manage risk while generating predictable returns.

By providing a comparative analysis of Small Cap and Large Cap funds through SIPs, the present study will, in conclusion, add to the body of knowledge already available on the Indian mutual fund sector. Investors can improve their awareness of mutual fund dynamics in various market capitalization categories by making informed decisions with the aid of the examination of performance and risk indicators.

2. Review of Literature

There are many studies that examine the overall performance of mutual funds, but there is a dearth of studies that specifically examine the performance of mutual funds through SIPs. The current study is based on prior research that emphasizes the necessity of a customized perspective and optional measures for a successful performance evaluation of SIP. Additionally, research in this field is essential to close the knowledge gap and contribute to a thorough understanding of performance assessment using SIPs in mutual funds.

The performance of a few large-cap equity funds on the Indian mutual fund market from 2018 to 2022 was assessed and contrasted by **Khurana (2023)**. The study used financial ratio analysis to look at the risk and return adjustments. The study illustrated useful information for investors, the general public, fund managers, and different mutual fund industry shareholders and helped them with the current best-performing mutual fund scheme where investors may make wise investment decisions.

In order to examine the characteristics and risk analysis of particular funds, **Jain (2022)** evaluated the key distinctions between large-cap, small-cap, and mid-cap funds. The primary goal of the study was to assess the performance of a sample of five mutual funds from 2017 to 2021 utilizing secondary data and a descriptive research design. According to the analysis, investors should

Dr.Shriprakashsoni, Dr.Deepalibankapue, Dr.maheshbhutada, (2015) conducted study on “Comparative Analysis of Mutual Fund Schemes available at Kotak Mutual Fund and HDFC Mutual Fund”. In this study authors conclude that Kotak Mutual Fund schemes are more destructive in Large Cap Equity schemes and HDFC Mutual Fund schemes are more destructive in Mid Cap Equity schemes whereas both the company's schemes are properly executed in the debt market. Kotak Select Focus is the best scheme in Large-cap Equity, HDFC Mid-Cap is the best scheme in the Mid-Cap area and HDFC Balanced Fund is the best scheme in Balanced Fund for investment.

R.Nandhini, & Dr.V.Rathnamani, (2017) conducted study to examined Performance of Equity Mutual Funds With special reference to equity large cap and mid cap mutual funds. In this study they were examined funds like 1. Franklin India smaller companies fund, 2. Mirae asset emerging blue chip fund, 3. Reliance smaller cap fund, 4. SBI magnum mid cap fund and 5. Franklin India prima fund for the five years of time period 2012 to 2016. They used standard deviation, beta, alpha, sharpe ratio and R-squared measures for that study. In this study author has found that there is an influence of mutual fund flow in the Indian equity markets. Volatility and risk are part of equity investing.

Mrs.O.V.A.M.Sridevi (2018) conducted study to examine performance of mid cap and small cap schemes of balanced funds. In this study she examined SUNDRAM, RELIANCE and HSBC funds for the period of 31st March 2016 to 1st April 2017. For calculate returns of the fund schemes she examines daily closing NAV of that schemes. The author concluded that the two schemes, the mid-cap and small-cap funds are proven to outperform the benchmark. Not all the funds have represented positive values in respect of model suggested by SHARPE, TREYNOR and JENSEN INDEX.

3. Research Methodology

3.1. Objectives of The Study

The study's primary goals are to:

- Compare the performance of mutual funds utilizing regular plans for Large-cap and Small-cap companies in India, using the Systematic Investment Plan (SIP) strategy.
- To assess the risk-adjusted returns of SIPs in particular mutual funds.
- To assist investors in making wise selections using SIPs by sharing knowledge and suggestions the market for mutual funds in India.

3.2. Measurement of Scale

Data has been gathered from secondary sources, which include records kept on the websites of the National Stock Exchange, Bombay Stock Exchange, Securities Exchange Board of India, Association of Mutual Funds in India, and other sources, to satisfy the study's objectives.

3.3. Sampling method

3.3.1. Target population

The current study, which has 44 active mutual fund companies, focuses on the Indian investment market in order to achieve its purpose. The study's goal was to evaluate the top five large-cap and small-cap mutual fund schemes in terms of their SIP (Systematic Investment Plan) return while taking their NAVs (Net Asset Values) into consideration.

3.3.2. Sampling Technique

The top 5 schemes listed by Crisil on June 30, 2023 were selected for the current study's mutual fund schemes.

3.3.3. The sample size

Based on past performance, the top five large-cap and small-cap funds are chosen by using convenience sampling, which comprises funds that have beaten their benchmark returns since inception, is used to choose the mutual fund schemes. The following fund schemes were chosen for analysis in the current study:

Large cap Funds	Crisil Rank	Small cap Funds	Crisil Rank
Nippon India Large cap Fund	1	Quant Small cap Fund	1
HDFC Top 100 Fund	1	Nippon India Small cap Fund	1
ICICI Prudential Blue chip Fund	1	HDFC Small cap Fund	2
SBI Blue chip Fund	2	ICICI Prudential Small cap Fund	2
Aditya Birla Sun Life Frontline Equity Fund	2	Franklin India Smaller companies Fund	2

3.4. Research Methodology Used For Data Analysis:

For a comprehensive analysis of the risk and performance evaluation of mutual funds through SIPs, the study employed various tools and techniques, such as the following,

1. Rate of return: To calculate the chosen funds' average return.

$$\frac{(\text{Closing Price} - \text{Opening Price})}{\text{Opening Price}} * 100$$

2. Beta: To measure the fund's sensitivity to market movements.

$$\beta = \frac{\text{Cov}(R_{\text{Fund}}, R_{\text{Market}})}{\text{Var}(R_{\text{Market}})}$$

3. Standard Deviation: To measure the volatility of returns, which indicates risk.

$$\sigma = \sqrt{\frac{\sum(R_i - \bar{R})^2}{n}}$$

4. Sharpe ratio: For evaluating risk-adjusted returns with considering volatility.

$$(SR) = \frac{R_p - R_f}{S_p}$$

5. Jenson ratio: To Measures fund manager's performance vis-à-vis a benchmark.

$$(JR) = R_p - [R_f + \beta * (R_m - R_f)]$$

6. Treynor's ratio: To Measures fund manager's performance vis-à-vis a benchmark.

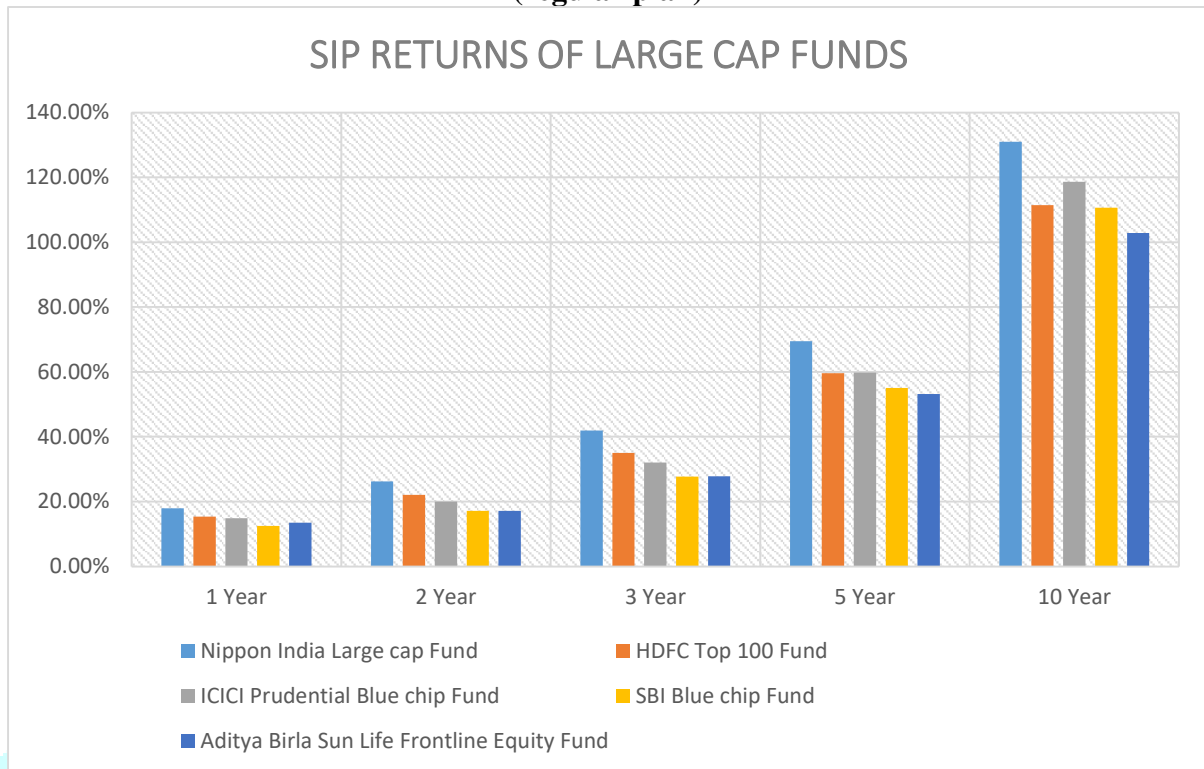
$$(TR) = \frac{R_p - R_f}{\beta}$$

4. Analysis and Findings

Table: 4.1
SIPs returns of large-cap mutual fund schemes selected for the study (regular plan)

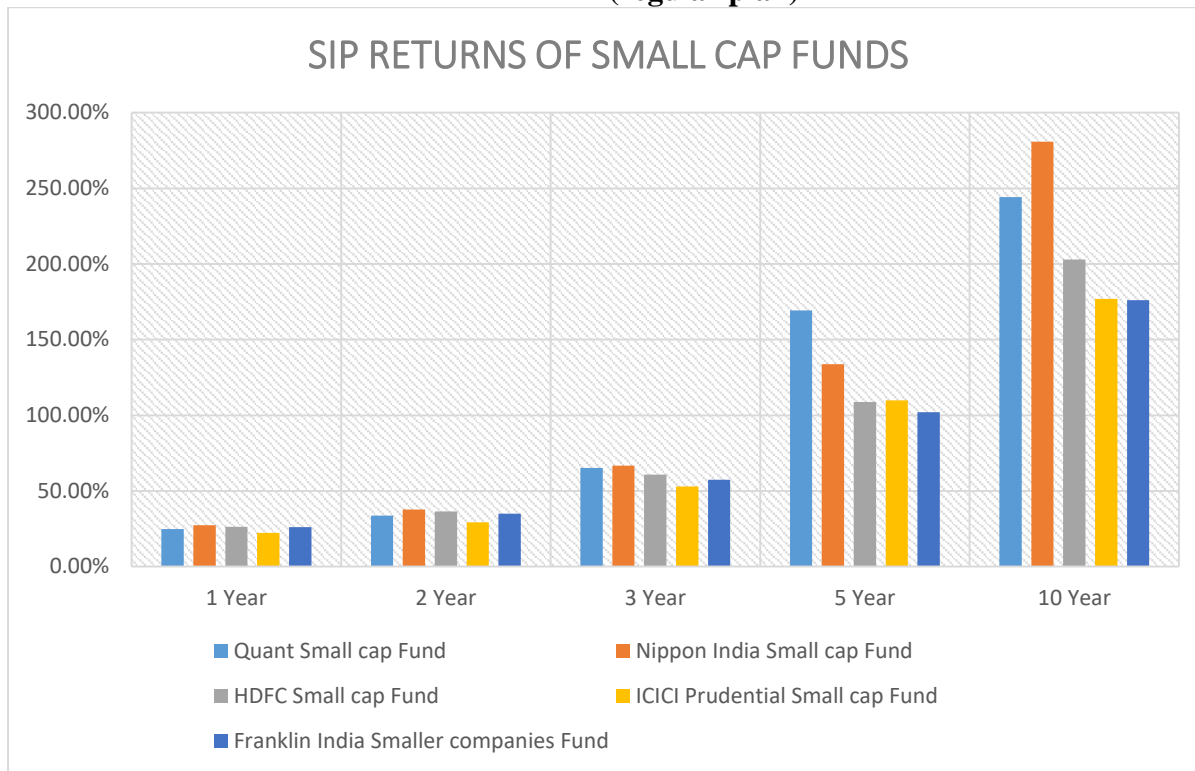
Schemes Name	AUM	1 Year	2 Year	3 Year	5 Year	10 Year
Nippon India Large cap Fund	15855.03	17.97%	26.19%	41.95%	69.43%	130.93%
HDFC Top 100 Fund	25422.81	15.35%	22.04%	35.05%	59.55%	111.38%
ICICI Prudential Blue chip Fund	40078.90	14.84%	19.97%	32.09%	59.79%	118.61%
SBI Blue chip Fund	38881.48	12.52%	17.18%	27.70%	55.00%	110.61%
Aditya Birla Sunlife Frontline Equity Fund	23427.30	13.48%	17.16%	27.75%	53.13%	102.84%

In the large-cap mutual fund schemes, Nippon India Large Cap Fund resulted in consistent performance with returns of 17.97%, 26.19%, 41.95%, 69.43% and 130.93% for 1 year, 2 years, 3 years, 5 years, and 10 years respectively. HDFC Top 100 Fund and ICICI Prudential Blue chip Fund also demonstrated decent returns over different periods.

Chart: 4.1**Graphically Representation of SIPs returns of large-cap mutual fund schemes selected for the study (regular plan)****Table: 4.2****SIPs returns of Small-cap mutual fund schemes selected for the study (regular plan)**

Schemes Name	AUM	1 Year	2 Year	3 Year	5 Year	10 Year
Quant Small cap Fund	8075.14	24.86%	33.68%	65.14%	169.21%	244.29%
Nippon India Small cap Fund	36539.55	27.43%	37.71%	66.63%	133.73%	280.83%
HDFC Small cap Fund	22560.06	26.30%	36.36%	60.79%	108.85%	202.89%
ICICI Prudential Small cap Fund	6989.26	22.29%	29.20%	52.90%	109.93%	176.95%
Franklin India Smaller companies Fund	9595.27	25.96%	34.94%	57.40%	101.98%	176.12%

Out of the small-cap mutual fund schemes, Nippon India Small Cap Fund has shown stable growth across all periods, with impressive returns of 27.43%, 37.71%, 66.63%, 133.73% and 280.83% for 1 year, 2 years, 3 years, 5 years, and 10 years respectively. With favourable returns across different periods, Quant Small Cap Fund and HDFC Small Cap also demonstrate strong performance.

Table: 4.2**Graphically Representation of SIPs returns of Small-cap mutual fund schemes selected for the study (regular plan)**

Overall, the results point to the fact that small- cap mutual fund schemes typically offer larger returns than large-cap ones. Additionally, prior to making an investing selection, it's crucial to take other aspects like risk tolerance, investment objectives, and market conditions into account. The study makes the recommendation that, in order to make wise investing decisions based on particular circumstances, one should speak with a financial advisor or do more research.

Table: 4.3**Risk Ratio of Large-cap mutual fund schemes selected for the study (regular plan)**

Scheme Name	Crisil Rank	S.D.	Beta	Sharpe Ratio	Jenson's Alpha	Treynor's Ratio
Nippon India Large cap Fund	5	15.54	1.00	1.19	4.56	0.18
HDFC Top 100 Fund	5	15.12	0.98	1.05	3.54	0.16
ICICI Prudential Blue chip Fund	5	14.02	0.92	1.05	3.06	0.16
SBI Blue chip Fund	4	14.75	0.96	0.96	0.72	0.15
Aditya Birla Sun Life Frontline Equity Fund	4	14.43	0.95	0.94	1.43	0.14

The following resulted from the large-cap mutual fund schemes' risk ratios:

Among the schemes it was found that, Aditya Birla Sun Life Frontline Equity Fund has the lowest Sharpe Ratio and Jenson's Alpha as well as Treynor's Ratio, which leads to considerably lower risk-adjusted returns and likely underperformance.

Nippon India Large Cap Fund and HDFC Top 100 Fund displayed comparable standard deviations and beta values, indicating comparable volatility and market sensitivity.

Chart: 4.3

Graphically Representation of Risk Ratio of Large-cap mutual fund schemes selected for the study (regular plan)

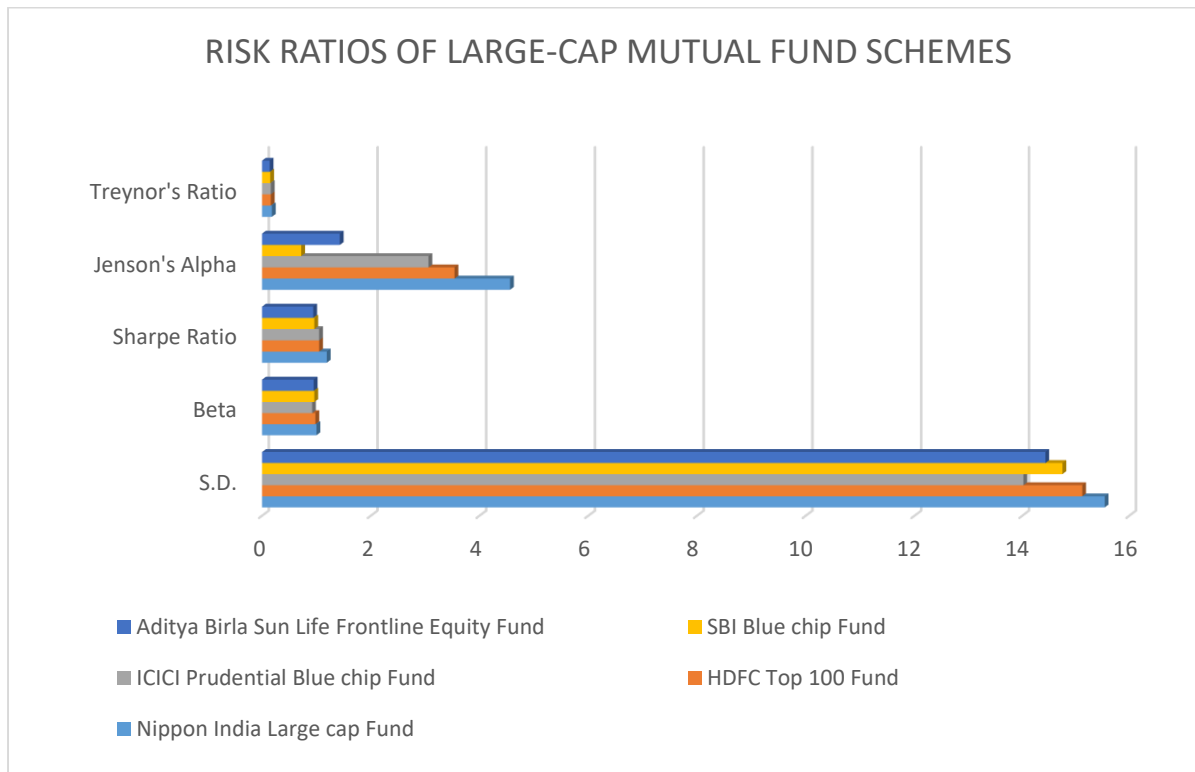


Table: 4.4

Risk Ratio of Small-cap mutual fund schemes selected for the study (regular plan)

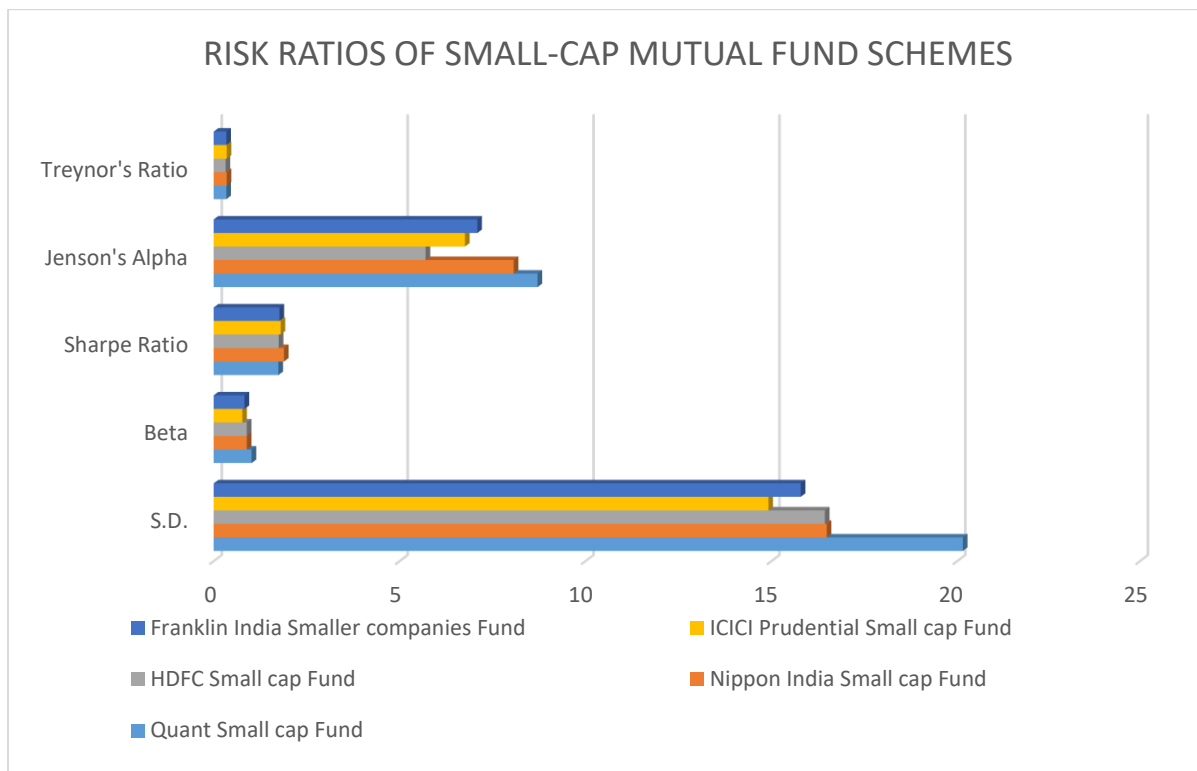
Scheme Name	Crisil Rank	S.D.	Beta	Sharpe Ratio	Jensen's Alpha	Treyner's Ratio
Quant Small cap Fund	5	20.15	1.02	1.74	8.71	0.34
Nippon India Small cap Fund	5	16.49	0.89	1.89	8.07	0.35
HDFC Small cap Fund	4	16.44	0.89	1.75	5.70	0.32
ICICI Prudential Small cap Fund	4	14.92	0.77	1.80	6.76	0.35
Franklin India Smaller companies Fund	4	15.79	0.83	1.77	7.09	0.34

The table above shows outcome of the risk ratios for small-cap mutual fund schemes:

Nippon India Small Cap Fund has the highest Sharpe Ratio, indicating better risk-adjusted returns. HDFC Small Cap Fund, Franklin India Smaller Companies Fund, and Nippon India Small Cap Fund all have comparable standard deviations (S.D.) and beta values, indicating comparable volatility and sensitivity to the market. Additionally, it showed the highest Treynor's Ratio and Jensen's Alpha, which indicate the possibility of excess returns per unit of risk

Chart: 4.4

Graphically Representation of Risk Ratio of Large-cap mutual fund schemes selected for the study (regular plan)



Overall, the research showed that all the Small cap funds and Nippon India Large cap Fund outperformed their counterparts in terms of risk-adjusted returns and performance. Nevertheless, prior to making an investment decision, it's critical to take other aspects into account, such as investing objectives, time horizon, and personal risk tolerance.

5. Conclusion:

For the current study, a thorough analysis of SIP returns and risk ratios across large-cap and small cap mutual fund schemes was carried out. The study's findings shed light on the performance trends and risk factors for each category. Three small-cap funds that have shown steady performance across a variety of time frames include Nippon India Small Cap Fund, HDFC Small Cap Fund, and Franklin India Smaller Companies Fund. Nippon India Small Cap Fund stood out in particular with impressive returns across the board and strong Sharpe, Jensen's Alpha, and Treynor's Ratio values, which show solid risk-adjusted returns. In this study, the Nippon India Large Cap Fund and HDFC top 100 Fund are identified as interesting options due to their excellent risk-adjusted returns and performance.

A person's personal risk tolerance, investment objectives, and market conditions should all be considered while making wise investment decisions, though. This study stresses how important it is to choose investments that are in line with certain financial goals by making informed decisions, perhaps with the assistance of financial experts.

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