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Evaluating the Risk-Adjusted Performance of Equity Mutual Funds in India: An Empirical Analysis

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Name of Author:

Srinivas P¹, Dr. Hemanth Kumar M S² and Dr Kavitha A Karkera³

Affiliation:

¹Assistant Professor, Department of Commerce and Management, IIBS, Bangalore,

²Assistant Professor, School of Management and Commerce, S-Vyasa Deemed to be University, Bangalore

³Associate Professor, Department of MBA, Nagarjuna Degree College, Bengaluru

Corresponding Author:

Srinivas P

Email: gowdasrinivasp@gmail.com

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Abstract: The present study aims to analyze the performance of five selected equity mutual fund schemes in India—SBI Contra Fund, Nippon India Large Cap Fund, Canara Robeco Equity Fund, Edelweiss Large Cap Fund, and Motilal Oswal Midcap Fund—over the period from 2022 to 2025. The study evaluates the funds' risk-return characteristics using key performance measures such as Sharpe Ratio, Treynor Ratio, Beta, Standard Deviation, and R-Squared values. The analysis is based on secondary data collected from annual reports of asset management companies, journals, financial bulletins, and credible online databases. Findings reveal that Motilal Oswal Midcap Fund consistently outperformed its peers, achieving the highest average Sharpe and Treynor ratios, thereby delivering superior risk-adjusted returns. Canara Robeco Equity Fund also showed stable performance, particularly during volatile market conditions in 2024. Conversely, SBI Contra Fund exhibited higher volatility, while Nippon India and Edelweiss funds demonstrated moderate but steady growth. The study concludes that evaluating mutual fund performance through multidimensional parameters—beyond Net Asset Value (NAV)—offers a more accurate assessment for investors. The findings serve as a useful guide for retail and institutional investors in making informed portfolio decisions aligned with their risk tolerance and financial goals.

Keywords: Equity Mutual Funds, Sharpe Ratio, Treynor Ratio, Risk-Return Analysis, Performance Evaluation, India.

INTRODUCTION

A mutual fund is a professionally managed investment vehicle that pools financial resources from numerous investors and channels them into various asset classes such as equities, bonds, money market instruments, and government securities. The fund is managed by a professional known as the fund manager or portfolio manager, who makes investment decisions, executes trades, and manages the fund's portfolio to generate capital appreciation

and income through dividends or interest. In the present financial landscape, mutual funds are considered a superior investment avenue compared to other traditional options, as they offer potentially higher returns through expert management and in-depth research. Fund managers continuously monitor the performance of domestic and global markets, evaluate industry trends, analyze company fundamentals, and adjust portfolios accordingly. Consequently, many investors prefer mutual funds

over direct equity investments, as they provide better risk-adjusted returns and professional oversight.

Mutual funds invest across diverse industries and sectors, ensuring broad diversification that helps mitigate risk. This diversification works because not all securities move in the same direction or by the same magnitude at any given time. Mutual funds issue units to investors based on their contribution to a specific scheme, and these investors are referred to as unit holders.

The aggregate investments held by a mutual fund are collectively termed its portfolio. The returns generated from dividends, interest, and capital gains are distributed among unit holders in proportion to the number of units they own. Investors benefit from the professional expertise of fund managers without the need to directly manage individual securities.

A portfolio represents the total collection of an investor's financial assets. Effective portfolio management involves striking a balance between risk—the uncertainty or fluctuation in returns—and return, which represents the gain an investor expects from their investments. Mutual funds enable investors to achieve optimal risk-return trade-offs by spreading their investments across multiple securities, thereby reducing potential losses while maximizing returns.

REVIEW OF LITERATURE

Ramesh (2020) examined the performance of growth-oriented mutual fund schemes over the period from April 2018 to March 2021, using the BSE SENSEX as a benchmark. The study found that for 10 selected schemes, the average returns were slightly lower than the market returns, while the standard deviation of returns exceeded that of the market. The analysis also concluded that the size of a fund had little impact on its performance.

Verma (2022) studied 36 mutual fund schemes, analyzing three fund characteristics with 91-day treasury bills considered as risk-free investments, covering January 2017 to December 2021. The results showed that the NAV-based returns of many schemes were higher but more volatile than the BSE SENSEX. Open-ended schemes outperformed close-ended schemes, and income-oriented funds delivered better returns than growth funds. Schemes sponsored by banks and UTI performed reasonably well compared to others. The average annual return attributed to diversification was 7.5%, while 4.3% was due to stock selectivity. The study also highlighted the weak market timing ability of fund managers and identified 12 factors explaining most of the variance in portfolio management practices.

Nikhil S (2022) evaluated 75 selected schemes from both public and private sector fund houses using Market Index and Fundex for the period April 2017 to March 2020. The study revealed that many schemes were not properly diversified, and their risk-return profiles did not align with stated objectives. There was also no evidence suggesting that fund managers in India demonstrated significant market timing skills.

Lakshmi et al. (2021) analyzed the performance of selected large-cap mutual funds in India before and during the COVID-19 pandemic. Using data from two years, the study highlighted that most schemes experienced losses due to the pandemic. Both Sharpe and Treynor ratios were negative, reflecting the decline in returns across various fund houses.

Fernando (2023) examined the impact of conditioning information variables on Portuguese equity funds. The study found that unconditional Jensen's alpha indicated strong performance before considering public information variables. After incorporating public information, alpha values were not statistically significant, whereas beta values were influenced by such variables. The study suggested that fund managers in foreign markets struggled to generate excess returns due to limitations in stock selection and market timing, although short-term superior returns were occasionally achieved.

Meera (2024) highlighted that investors' decisions in mutual funds were influenced by past performance and growth potential of schemes. Investors expected easy redemption, prompt services, and adequate information. Factors such as returns, portfolio composition, and NAV were key criteria for fund evaluation. ANOVA results indicated that age and occupational status had an insignificant effect on scheme selection, though salaried and retired investors prioritized past performance and safety in their investment choices.

Suresh (2010) investigated stock selectivity strategies of selected equity mutual fund managers using conditional and unconditional performance measures for the period April 2007 to December 2010. Average daily returns were positive for all schemes. Using the traditional Jensen measure, 23 out of 36 schemes showed positive alpha values, indicating superior performance, but only three schemes had statistically significant alphas. The study suggested that these fund managers could forecast stock price movements and identify undervalued stocks, and their stock selection skills improved when incorporating market information variables, increasing the number of schemes with positive alpha from three to ten.

Objectives

1. To study the performance of a selected equity mutual funds in India.
2. To evaluate the performance of mutual funds with special reference to Sharpe model and Treynor's model.

METHODOLOGY

This study made an attempt to analyze the performance of the selected 5 equity mutual fund schemes from 2022 to 2025. In order to achieve the

objectives an analysis has been made to compare these selected equity schemes with the market on the basis of risk and return. Different statistical and financial tools are used to evaluate the performance of these selected mutual fund schemes under this study. The present study is based on secondary data which is collected from various sources like published annual reports of asset management companies, online bulletins, journals books, magazines, brochures, newspapers and other published and online material

Data Analysis and Interpretation
Table 1: Performance analysis based on statistics

Name of the Equity Fund	Standard Deviation	Beta	R square
SBI Contra Fund	19.91	1.31	0.71
Nippon India Large Cap Fund	20.19	1.48	0.86
Canara Robeco Equity Fund	20.98	1.18	0.89
Edelweiss Large Cap Fund	19.12	0.91	0.66
Motilal Oswal Midcap Fund	15.92	0.82	0.91

In table 1 reveals about the statistical parameters used to analyze the performance of the selected mutual fund scheme. For Motilal Oswal Midcap Fund the beta value of fund is 0.82 which means that the fund is less volatile to bench mark indices and it has performed well by providing an better return to the investors while it has standard deviation of fund 15.92 which shows that the funds risk factor is below average and overall the fund has performed well, R- Squared value of the fund is 0.91 hence the fund has good correlation between funds return with its benchmark return . SBI Contra Fund beta value is 1.31 and standard deviation is 19.91 which means the fund has high risk factor but also provides good returns to the investors. R-Squared value of a fund is 0.71 therefore it has good correlation with its benchmark return.

Table 2: Equity Fund Schemes on 2022

Sr. No.	Scheme Name	Sharpe Ratio	Rank	Treynor Ratio	Rank
1	SBI Contra Fund	0.24	4	-3.46	5
2	Nippon India Large Cap Fund	0.41	3	-3.05	4
3	Canara Robeco Equity Fund	-0.34	5	5.58	2
4	Edelweiss Large Cap Fund	0.45	2	-2.92	3
5	Motilal Oswal Midcap Fund	0.66	1	6.63	1

The Sharpe and Treynor Index for 5 Equity - 2022 depicted in table 2. Equity schemes are specially framed for the risk taker investors. From the above table it can be analysed that Motilal Oswal Midcap Fund performs better among all equity funds with highest Sharpe and Treynor Index of 0.66 and 6.63 whereas the least performer of the group is SBI Contra Fund with negative Treynor Index of -3.46 and Canara Robeco Equity Fund with negative Sharpe Index of -0.34 as per above table.

Table 3: Equity Fund Schemes on 2023

Sr. No.	Scheme Name	Sharpe Ratio	Rank	Treynor Ratio	Rank
1	SBI Contra Fund	0.77	1	6.61	1
2	Nippon India Large Cap Fund	0.39	3	3.45	2
3	Canara Robeco Equity Fund	0.20	4	2.80	4
4	Edelweiss Large Cap Fund	0.19	5	2.93	3
5	Motilal Oswal Midcap Fund	0.55	2	1.03	5

The Sharpe and Treynor Index for 5 Equity - 2023 depicted in table 3. Equity schemes are framed for the risk taker investors. From the above table it can be analysed that SBI Contra Fund performs better among all equity funds with

highest Sharpe and Treynor Index of 7.70 and 6.61 whereas the least performer of the group is Motilal Oswal Midcap Fund with positive Treynor Index of 1.03 and Edelweiss Large Cap Fund with positive Sharpe Index of 0.19

Table 4: Equity Fund Schemes on 2024

Sr. No.	Scheme Name	Sharpe Ratio	Rank	Treynor Ratio	Rank
1	SBI Contra Fund	-0.32	3	-5.43	3
2	Nippon India Large Cap Fund	-0.29	2	-3.83	2
3	Canara Robeco Equity Fund	-0.02	1	-0.34	1
4	Edelweiss Large Cap Fund	-0.82	5	-13.39	5
5	Motilal Oswal Midcap Fund	-0.47	4	-6.60	4

The Sharpe and Treynor Index for 5 Equity – 2024 depicted in table 4. Equity schemes are framed for the risk taker investors. From the above table it can be analysed that Canara Robeco Equity Fund performs better among all equity funds with highest Sharpe and Treynor Index of -0.02 and -0.34 whereas the least performer of the group is Edelweiss Large Cap Fund with negative Treynor Index of -12.39 and Sharpe Index of -0.82

Table 5: Equity Fund Schemes on 2025

Sr. No.	Scheme Name	Sharpe Ratio	Rank	Treynor Ratio	Rank
1	SBI Contra Fund	0.39	5	6.41	4
2	Nippon India Large Cap Fund	0.54	4	6.02	5
3	Canara Robeco Equity Fund	0.92	3	13.56	3
4	Edelweiss Large Cap Fund	0.94	2	15.04	2
5	Motilal Oswal Midcap Fund	0.99	1	17.76	1

The Sharpe and Treynor Index for 5 Equity – 2025 depicted in table 5. From the above table it can be analysed that Motilal Oswal Midcap Fund performs better among all equity funds with highest Sharpe and Treynor Index of 17.76 and 0.99 whereas the least performer of the group is Nippon India Large Cap Fund with positive Treynor Index of 6.02 and SBI Contra Fund of 0.39

Scheme Name	Avg. Sharpe Ratio	Avg. Treynor Ratio	Average Rank	Overall Performance
SBI Contra Fund	0.27	1.43	3	Good
Nippon India Large Cap Fund	0.26	0.65	4	Moderate
Canara Robeco Equity Fund	0.19	5.40	2	Very Good
Edelweiss Large Cap Fund	0.19	0.91	4	Moderate
Motilal Oswal Midcap Fund	0.43	4.71	1	Excellent

The average performance across four years shows that Motilal Oswal Midcap Fund consistently outperformed its peers with the highest average Sharpe and Treynor ratios, indicating superior risk-adjusted returns. Canara Robeco Equity Fund also maintained a stable performance, especially during volatile periods like 2024, while SBI Contra Fund demonstrated high return potential but with relatively higher volatility. The Nippon India and Edelweiss funds displayed moderate performance, reflecting steady but less aggressive growth patterns.

CONCLUSION

The comparative performance evaluation of the selected five equity mutual funds from 2022 to 2025 reveals significant insights into their risk-return dynamics. Based on Sharpe and Treynor ratios, Motilal Oswal Midcap Fund consistently achieved the highest risk-adjusted returns, followed by Canara Robeco Equity Fund. The SBI Contra Fund, despite its higher risk exposure, provided strong returns during bullish market conditions, validating its aggressive

investment style. Conversely, Nippon India Large Cap Fund and Edelweiss Large Cap Fund showed relatively conservative patterns, catering to investors with moderate risk appetites. Overall, the findings emphasize that performance evaluation through multi-dimensional measures such as Sharpe Ratio, Treynor Ratio, Beta, and R-Squared offers a more realistic understanding of fund efficiency compared to conventional NAV analysis. These parameters help investors make informed

decisions aligning their risk tolerance with return expectations. In conclusion, all five funds demonstrated positive performance trends over the period, with varying degrees of risk exposure and market responsiveness, reaffirming the importance of diversified equity mutual fund investment in the Indian context.

Scope for Further Research

1. Including additional performance metrics such as Jensen's Alpha, Information Ratio, and Sortino Ratio for a more comprehensive performance analysis.
2. Comparing sectoral or thematic funds (ESG, Infrastructure, Technology) to understand performance differences across investment themes.
3. Applying time-series econometric models like ARIMA, GARCH, or CAPM extensions to predict fund performance under different market conditions.
4. Analyzing the impact of macroeconomic variables (GDP growth, inflation, and interest rates) on mutual fund performance in India.
5. Conducting investor sentiment and behavioral analysis to link performance perceptions with actual risk-return outcomes.

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