

# Analysis Of Risk and Return in Terms of Microeconomic Factors of Selected Mutual Funds Schemes in India.

T Kusuma<sup>1</sup>, Dr. J P Senthil Kumar<sup>2</sup>

<sup>1</sup>Research Scholar, School of Business Management, GITAM University, Bengaluru, India.  
Asst. Professor, Dept. of Commerce, Sree Vidyanikethan Engineering College, Tirupati.

<sup>2</sup>Asst. Professor, School of Business Management, GITAM University, Bengaluru, India.

## Abstract:

Investing in mutual funds, among other financial instruments, ensures that investors are exposed to the least amount of risk and receive the highest possible return. As a result, it became critical to research the mutual fund performance. This study attempts to assess the performance of selected Indian mutual fund schemes using a risk-return analysis, Treynor's ratio, Sharp's ratio, and Jensen's measure based on their daily net asset value during 2011-2021. The data comes from the Association of Mutual Funds in India's website. For analysis, 27 equities funds were chosen. The results show the majority of mutual fund schemes in the sample were able to meet investor expectations by providing excess returns over projected returns based on both premium for systematic risk and total risk. The data suggest that in selected funds, Nippon India Large Cap Fund, Canara Robeco Bluechip Equity Fund, and Invesco India Large-cap Fund had the highest returns. Many portfolio managers recommend consumers invest in large-cap mutual fund schemes during times of crisis for these reasons. The analysis yields a positive result from all the schemes. The Treynor ratio, Sharpe ratio, and Jensen's ratio were used to evaluate the past performance of the selected mutual fund schemes, and the results will be useful to current and future potential investors in making informed investment/financial decisions.

**Keywords:** Mutual Funds, Investment avenues, Evaluation of Performance, Risk-return analysis, Sharpe, Treynor and Jensen Measures

## I. INTRODUCTION

A mutual fund is a trust that pools the savings of numerous investors in order to pursue a shared financial aim. This sum of money has been set aside with the intention of achieving a specific goal. As a result, the funds' common ownership is referred to as 'Mutual,' meaning that the fund is owned equally by all or any investors. The monies raised are then invested in securities such as stocks, bonds, and other assets in the capital markets. Unitholders receive income and capital gains generated by mutual fund investments in proportion to the amount of units they own. As a result, mutual funds are the greatest investment for the average person since they allow them to invest in a diversified, professionally managed portfolio of securities at a cheap cost. Risk-adjusted metrics like Sharpe, Treynor, and Jensen's ratios, as well as a comparison to their benchmarks, are used to assess the performance of specific mutual fund schemes. This is a quantitative statistical method for calculating the reward to variability, reward to volatility, and reward to expected return of mutual funds. Return variability is caused by variations in total risk, which is influenced by the internal and external mechanisms of mutual funds. The variance created by changes in systematic risk, that is, the elements impacted by external macroeconomic variables, is represented by the volatility of returns.

The capital markets, money markets, and other financial services in India are well-structured and controlled by authorities such as the RBI and SEBI. Since independence, our economy has grown tremendously both globally and domestically, particularly in the area

of mutual funds. As a result, the purpose of this research is to see if, among the various growth plans, mutual funds provide adequate returns while posing the least amount of danger to the investor.

The current research intends to consider investors while investing in mutual funds, which will assist mutual fund providers in developing new programmes. The past/historic performance of mutual funds is essential for both investors and portfolio managers. It enables an investor to understand how much profit the portfolio manager has generated and what amount of risk was assumed in order to achieve those earnings. Fund managers would be able to track their own performance as well as that of their competitors in the same way.

## II. REVIEW OF LITERATURE

**Panigrahi, C. M. A., Mistry, M., Shukla, et al. (2020)**, a mutual fund is a company that pools money from a group of investors and invests it in a variety of securities, including stocks, bonds, and debt. The Equities Linked Savings Scheme is an open-ended equity expanded fund that offers investors a tax benefit under Section 80C of the Income Tax Act of 1961, which allows investors to claim a tax credit of up to Rs. 45,000 at a 30% tax rate with no surcharge on investments of Rs.1.5 lakh [1]. The goal of this study is to assess the performance of the top five ELSS of altered mutual funds in India using a variety of riggings such as Beta, Sharpe ratio, Jensen ratio, and others. It also suggests suitable ELSS for investors to meet their investment goals.

**Khanum, M. R. (2019)** defined that mutual fund are positively assembling domiciliary savings to manage the funds competently to deliver an adequate return to the investors. In this context, the current study aims to assess the mutual fund industry's and schemes' growth rates and capacity in terms of investment objectives [2]. In addition, the research will look at the elements that influence an investor's decision to invest in a variety of mutual fund schemes.

**Verma, J. H. (2018)** An Equity Linked Savings Scheme (ELSS) is an open equity mutual fund that allows participants to save money on taxes while also growing their wealth through tax exemptions. The study examines the performance and development of ELSS at a few institutions using return, Beta () value (risk measures), R Standard Deviation, Sharpe's Ratio, Risk-Adjusted CAGR, Expense Ratio, and other limitations [3]. ELSS mutual funds surpassed alternative tax-saving solutions in terms of returns, according to the survey, making them the preferred investment option.

**R. Gandhi and R. Perumal (2016)** This study looked at how investors make mutual fund investment selections using statistical measurements and ratio analysis of mutual fund schemes (tax-saving plans) offered by various banks (State Bank of India, Canara Bank-Public Bank, ICICI Bank, HDFC Bank-Private Bank). The goal of this research is to show how statistical measures and ratio analysis can be used to analyze the financial performance of various mutual fund schemes. Statistical measures such as Standard Deviation, Beta, and Alpha, as well as ratio analysis using Sharpe Ratio, Treynor Ratio, Jensen Ratio, and Information Ratio, will be used. The research findings have sparked frustration among open-ended – tax-saving programs [4]. Canara Bank, according to the conclusions of the study, offers higher returns and should be considered by investors when making an investment decision.

Since the early 1990s, the Indian financial system, in general, and the mutual fund industry, in particular, have been in a downward spiral, according to **Srivastava (2014)**. The study assesses the market timing abilities of Indian fund managers of thirty-one tax planning schemes in India from December 1995 to January 2004 using the Jensen and Mazuy Model and the Henriksson and Merton Model [5]. According to the study, fund managers have not been able to outperform the market; rather, they have been mistiming the market.

**V. A. Pandian and G. Thangadurai (2013)**, according to the survey, the major qualities of investment are principal amount security, liquidity, income consistency, growth, and ease of transferability. There are a variety of investment options accessible, including stocks, banks, businesses, gold and silver, real estate, life insurance, postal savings, and others. The researchers discovered that the majority of investors chose bank deposits guaranteed by gold assets in their study area [6].

**Kumar (2012)** looked at the performance of 20 open-ended mutual fund plans from five mutual fund companies: LIC, HDFC, ICICI, Reliance, and Birla Sun Life. From January 2000 to December 2009, these schemes were chosen based on the regular availability of data. The data was reviewed from the scheme's launch on January 1, 2000, or from the date of availability to December 31, 2009, using monthly Net Asset Value (NAV) data. Five out of twenty open-ended schemes, namely Reliance Growth Fund, Reliance Vision Fund, ICICI Prudential Tax Plan, HDFC Top 200, and Birla Sun Life Equity Fund, outperform the benchmark index BSE-100 index in terms of monthly average return and risk, according to the report [7]. These methods also outperform models based on observations by Sharpe, Treynor, and Jensen.

### III. OBJECTIVES OF THE STUDY

1. To inspect and measure the performance of the number of large-cap equity mutual fund schemes.
2. To determine the impact of micro-economic variables on mutual fund returns.
3. To look into the relationship between mutual fund scheme monthly returns and volatility and other microeconomic variables.

### IV. HYPOTHESIS

The following assumptions are formulated based on the preceding objectives:

1. Ho: The performance of a few large-cap equity mutual fund schemes did not outperform the benchmark.
2. H1: There is no correlation between economic indicators and large equity funds.
3. H2: Changes in the microeconomic factors do not affect the fund returns.

### V. RESEARCH METHODOLOGY

- **Research design:** For this study longitudinal descriptive design has been applied.
- **Data-collection method:** For this study, secondary data was employed. Secondary data was gathered from the Association of Mutual Funds in India (AMFI) website, Value Research, Asset Management Companies (AMCs) websites, and journals, among other sources.
- **Time period:** The research period for this study is from 2011 to 2021. The daily NAV and return of the selected large-cap scheme were compared to an annual return over ten years.

- **Tools and techniques:** Various statistical methods, such as average return, beta, Sharpe- ratio, Jensen-ratio, and Treynor-ratio, were used to analyze performance.
- **Sample Size:** According to the CRISIL rating, 27 Equity Large Cap Mutual Fund Schemes from various fund companies are shortlisted out of the total fund schemes.

## VI. DATA ANALYSIS

**Table-1: Performance evaluation of Mutual Funds during 2011-2021**

S.No	Fund Name	Fund Return (Rp)	Standard Deviation of the Fund ( $\sigma_P$ )	Risk-free rate (Rf)	Beta of the portfolio ( $\beta$ )	Sharpe Ratio	Treynor Ratio	Jensen's Ratio
1	Canara Robeco Bluechip Equity Fund	288.19	1.009	6.369	0.89	279.30	316.65	275.62
2	IDBI India Top 100 Equity Fund	281.81	1.00143	6.369	0.92	275.04	299.39	97.48
3	Kotak Bluechip Fund	282.2	1.001433	6.369	0.92	275.43	299.8	11.02
4	Franklin India Bluechip Fund	33.70442	1.2021	6.369	0.93	22.73	29.39	-197.37
5	Invesco India Large-cap Fund	283.84	1.02	6.369	0.91	272	304.9	13
6	SBI Blue Chip Fund	217.68	0.010693	6.369	0.96	197.61	220.11	-134.89
7	Union Large-cap Fund	69.76	1.159	6.639	0.97	54.69	65.35	5.46
8	UTI Master-share Unit Scheme	80.29	1.11	6.369	0.92	66.59	80.34	-161.51
9	Aditya Birla Sun Life Frontline Equity Fund	77.13	1.13	6.639	0.92	62.62	76.91	-203.08
10	Axis	92.58	1.13	6.639	0.82	76.29	105.13	-201.12

	Bluechip Fund							
11	Baroda Large Cap Fund	114.32	1.18	6.639	0.77	91.48	140.19	40.56
12	Edelweiss Large Cap Fund	124.73	1.05	6.639	0.89	112.72	132.68	-149.84
13	ICICI Prudential Bluechip Fund	6.321	0.8818	6.639	0.92	-0.0544	-0.0521	-245.08
14	L&T India Large Cap Fund	225.17	1.05	6.639	0.94	208.38	232.76	7.25
15	LIC MF Large Cap Fund	226.86	1.003	6.639	0.85	219.83	259.40	4.61
16	Mirae Asset Large Cap Fund	263.98	1.088	6.639	0.84	236.77	306.67	-84.11
17	Navi Large Cap Equity Fund	47.82	1.23	6.639	0.95	33.7	43.63	-63.13
18	Nippon India Large Cap Fund	303.08	1.102	6.639	0.97	269.24	305.88	47.45
19	Tata Large Cap Fund	113.13	1.11	6.639	0.96	96.18	111.2	-109.16
20	BNP Paribas Large Cap Fund	88.89	1.08	6.639	0.87	76.40	94.85	-156.89
21	HSBC Large Cap Equity Fund	66.97	1.18	6.639	0.97	51.35	62.47	-122.54
22	IDFC Large Cap	75.70	1.11	6.639	0.90	62.46	77.03	-144.65
23	PGIM India Large Cap Fund	52.84	1.088	6.639	0.92	42.71	50.51	-45.93
24	Taurus Largecap Equity Fund	2.928	1.33	6.639	0.91	-2.58	-3.78	-125.84

25	DSP Top 100 Equity Fund	9.97	1.29	6.639	0.99	2.79	3.63	-217.27
26	HDFC Top 100 Fund	23.87	1.33	6.639	0.97	13.15	18.04	-170.07
27	Indiabulls Bluechip Fund	73.51	1.31	6.639	0.93	51.04	71.90	15.79

**Table-2: Mutual Funds Ranking based on Performance Ratios**

S.No	Fund Name	Sharpe-Ratio	Rank	Treynor-Ratio	Rank	Jensen's - Ratio	Rank
1	Canara-Robeco Bluechip Equity Fund	279.30	1	316.65	1	275.62	1
2	IDBI India Top 100 Equity Fund	275.04	3	299.39	6	97.48	2
3	Kotak Bluechip Fund	275.43	2	299.8	5	11.02	7
4	Franklin India Bluechip Fund	22.73	23	29.39	23	-197.37	22
5	Invesco India Large-cap Fund	272	4	304.9	4	13	6
6	SBI Blue Chip Fund	197.61	9	220.11	9	-134.89	17
7	Union Large-cap Fund	54.69	18	65.35	19	5.46	9
8	UTI Master-share Unit Scheme	66.59	16	80.34	15	-161.51	21
9	Aditya Birla Sun Life Frontline Equity Fund	62.62	15	76.91	17	-203.08	25
10	Axis Bluechip Fund	76.29	14	105.13	13	-201.12	24
11	Baroda Large Cap Fund	91.48	12	140.19	10	40.56	4
12	Edelweiss Large Cap Fund	112.72	10	132.68	11	-149.84	19
13	ICICI Prudential Bluechip Fund	-0.0544	26	-0.0521	26	-245.08	27
14	L&T India Large Cap Fund	208.38	8	232.76	8	7.25	8
15	LIC MF Large Cap Fund	219.83	7	259.40	7	4.61	10
16	Mirae Asset Large Cap Fund	236.77	6	306.67	2	-84.11	13
17	Navi Large Cap	33.7	22	43.63	22	-63.13	12

	Equity Fund						
18	Nippon India Large Cap Fund	269.24	5	305.88	3	47.45	3
19	Tata Large Cap Fund	96.18	11	111.2	12	-109.16	14
20	BNP Paribas Large Cap Fund	76.40	13	94.85	14	-156.89	20
21	HSBC Large Cap Equity Fund	51.35	19	62.47	20	-122.54	15
22	IDFC Large Cap	62.46	17	77.03	16	-144.65	18
23	PGIM India Large Cap Fund	42.71	21	50.51	21	-45.93	11
24	Taurus Large Cap Equity Fund	-2.58	27	-3.78	27	-125.84	16
25	DSP Top 100 Equity Fund	2.79	25	3.63	25	-217.27	26
26	HDFC Top 100 Fund	13.15	24	18.04	24	-170.07	23
27	Indiabulls Bluechip Fund	51.04	20	71.90	18	15.79	5

**Table-3: Performance evaluation of Mutual Funds in terms of fund return**

S.No	Fund Name	Fund Return (Rp)	Ramk
1	Canara-Robeco Bluechip Equity Fund	288.19	2
2	IDBI India Top 100 Equity Fund	281.81	5
3	Kotak Bluechip Fund	282.2	4
4	Franklin India Bluechip Fund	33.70442	23
5	Invesco India Large-cap Fund	283.84	3
6	SBI Blue Chip Fund	217.68	9
7	Union Large-cap Fund	69.76	19
8	UTI Master-share Unit Scheme	80.29	15
9	Aditya Birla Sun Life Frontline Equity Fund	77.13	16
10	Axis Bluechip Fund	92.58	13
11	Baroda Large Cap Fund	114.32	11
12	Edelweiss Large Cap Fund	124.73	10
13	ICICI Prudential Bluechip Fund	6.321	26
14	L&T India Large Cap Fund	225.17	8
15	LIC MF Large Cap Fund	226.86	7
16	Mirae Asset Large Cap Fund	263.98	6
17	Navi Large Cap Equity Fund	47.82	22
18	Nippon India Large Cap Fund	303.08	1
19	Tata Large Cap Fund	113.13	12
20	BNP Paribas Large Cap Fund	88.89	14
21	HSBC Large Cap Equity Fund	66.97	20

22	IDFC Large Cap	75.70	17
23	PGIM India Large Cap Fund	52.84	21
24	Taurus Large Cap Equity Fund	2.928	27
25	DSP Top 100 Equity Fund	9.97	25
26	HDFC Top 100 Fund	23.87	24
27	Indiabulls Bluechip Fund	73.51	18

## VII. FINDINGS:

The Canara Robeco Bluechip Equity Fund performance of the schemes in terms of Sharpe Ratio (Reward-to-Variability) is shown in table-1, with the highest value of 279.30. The Sharpe Ratio of a portfolio determines its risk-adjusted-performance. Higher Sharpe Ratio gives a better portfolio's risk-adjusted-performance [8]. The Taurus Large Cap has the lowest value of -2.58. The risk-free rate is greater than the portfolio's return, or the portfolio's return is predicted to be negative if the Sharpe ratio is negative. As a result of this study, the security return is not outperforming the market return ( $R_m$ ).

Treynor Ratio (Reward to Volatility) figures indicate how investors benefit from each unit of risk. The risk of a portfolio is calculated using the "beta ( $\beta$ )" of the portfolio. The Treynor Ratio (Reward-to-Variability) of the Canara Robeco Bluechip Equity Fund performance of the schemes indicates the highest value of 316.65 [9]. On a risk-adjusted basis, a high Treynor ratio yields a higher return. The Taurus Large Cap has the lowest value of -3.78. On a risk-adjusted basis, a lower / negative Treynor ratio means a lower return.

The scheme's Jensen's Ratio determines the extra return gained over and above the projected return while taking into account the market's non-diversifiable risk. The Treynor Ratio (Reward-to-Variability) of the Canara Robeco Bluechip Equity Fund performance of the schemes indicates the highest value of 275.62 [10]. With a positive alpha, a higher value of this ratio suggests that the mutual fund manager would have achieved a sufficient return considering the amount of risk they were incurring. The least valuable fund is the ICICI Prudential Bluechip Fund, which has a value of -245.08. The negative value of this ratio implies that, despite meticulous portfolio selection, the fund's management was unable to achieve higher returns than the market [11].

## VIII. FUTURE SUGGESTIONS:

Large-cap mutual fund schemes are characteristically targeted at investors seeking a steady return without taking on the risk of fluctuating returns [12]. As a result of these reasons, many portfolio managers encourage customers to invest in large-cap mutual fund schemes during times of adversity. However, because large-cap schemes cannot provide the above-mentioned predicted returns, it is critical to have a realistic understanding of risk and return while investing in large-cap mutual fund schemes [13].

## IX. CONCLUSION:

For the ten years from 2011 to 2021, the performance of 27 open-ended large-cap equities mutual fund schemes was examined in this study. The fund scheme returns were determined using the various schemes' daily opening and closing NAVs [14]. The past performance of the selected mutual fund schemes was examined to assess performance using Treynor ratio, Sharpe ratio, and Jensen's ratio as indicators, and results will provide



useful information to current and future prospective investors to make informed investment/financial decisions. All of the schemes yielded positive results. Canara Robeco Bluechip Equity Fund got the best overall performance. In addition, the Taurus Large Cap Fund and the ICICI Prudential Bluechip Fund of the schemes did not perform as expected, owing to a lack of diversification [15]. Furthermore, the Sharpe ratio showed the highest positive result for chosen mutual fund schemes, indicating that these mutual funds performed as well as or better than the risk-free rate.

## REFERENCES:

1. Panigrahi, C. M. A., Mistry, M., Shukla. (2020), "A Study on Performance Evaluation of Equity Linked Saving Schemes (ELSS) of Mutual Funds", NMIMS Journal of Economics and Public Policy, Year : 2020, Volume V, Issue 1, pp. 48-68.
2. Pankaj K Agarwal & H. K. Pradhan (2019), "Mutual fund performance in changing economic conditions: Evidence from an emerging economy", Cogent Economics & Finance, Vol.7(1), pp. 16870-72.
3. Y, Prabhavathi., N.T, Krishna Kishore., 2013, Investor's preferences towards Mutual Fund and Future Investments: A Case study of India, International Journal of Scientific and Research Publications, 3 (11), 1-3.
4. Y, Suneetha., and G, Latha., 2020, A Study on Performance Evaluation of Selected Mutual Funds with special reference to Balanced Funds, Mukta Shabd Journal, 9 (5), 2333-2343.
5. Dang, T., Phan, T., Tran, V., Tran, T., & Pham, T. (2019). The impact of accounting disclosures on individual investors' decision making in Vietnam Stock Market. Management Science Letters, 9(13), pp. 2391-2402.
6. S, Ajith Kumar., and P.K, Balamurugan., 2019, A Study on the Performance of Mutual Funds with Special Reference to Small-Cap Funds, Journal of Analysis and Computation, 1-9.
7. S.K, Gupta., and A. K, Sinha., 2017, Impacts of Economic Events on Performance of Mutual Funds: Evidence from India, ELK Asia Pacific Journals – Special Issue, 1 (1), 1-17.
8. Gandhi, R. & Perumal, R. (2016), "Performance of Selected Bank Mutual Fund Schemes Impact in investors' Decision Making", International Journal of Advanced Research in Management and Social Sciences, Year : 2016, Volume : 5, Issue : 3 First pp. 361- 370.
9. Zahra Pourzamani (2016), "Studying The Adjustment Amount of Ranking the Performance of Mutual Funds based on Omega Ratio and Real Return", International Journal of Finance And Managerial Accounting, Vol.1, No.4, Winter.
10. Srivastava, N. (2014), "Macro Economic Analysis Of Mutual Funds In India", International Journal of Management Research and Reviews; Meerut Vol. 6, Iss. 5, (May 2016): pp.748-753.
11. R, Narayanasamy., and V, Rathnamani., 2013, Performance Evaluation of Equity Mutual Funds (On Selected Equity Large Cap Funds), International Journal of Business and Management Invention, 2 (4), 18-24.

12. Pandian, V. A., & Thangadurai, G. (2013), "A study of investors preference towards various investments avenues in Dehradun district", *International Journal of Management and Social Sciences Research (IJMSSR)*, Vol. 2(4), pp.22-31.
13. Chandra, A., & Kumar, R. (2012), "Factors influencing Indian individual investor behaviour: survey evidence", *Electronic Journal*, Vol. 39(3), pp.141-167.
14. [www.moneycontrol.com](http://www.moneycontrol.com)
15. [www.amfiindia.com/investor-corner=mutual+funds](http://www.amfiindia.com/investor-corner=mutual+funds)
16. [www.valueresearchonline.com](http://www.valueresearchonline.com)
17. [www.tradingeconomics.com](http://www.tradingeconomics.com)