

A comparative Study of Selected Market Capitalization Based Mutual Fund Schemes in India

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Abstract

All risk-seeker finds its better to invest their saving money in those investment avenues which give higher returns even if it involves more risk. Equity-based Mutual Funds might be a favourable option for them. India's Mutual Fund sector has experienced significant growth over the past decade. They cover a vast range of investment options for individual and institutional investors. Among these, equity or stock based Mutual Fund schemes have garnered significant attention due to their possibility for higher returns, though they have higher risk also as compared to other fund types. This study targets three equity based Mutual Fund schemes, namely accounts: large, medium and small cap funds to the top ten Mutual Fund houses that hold for approx. 78% of assets specifically under management (AUM) to assess variations in the risk-return profile of various Mutual Fund schemes based on annual returns from the year 2020 to 2024. For analysis purposes, descriptive statistics and ANOVA are mainly used to check the variability among the schemes. After examination of the study, it's found that there is significant variation in risk-returns profiles of large, mid and small cap funds in every year excluding only the exceptional year 2022. The findings will help investors produce informed decisions by highlighting the risk and return variation of these schemes, thereby optimizing their portfolio returns. The study concludes with recommendations for investors based on different risk appetites and investment goals, alongside potential implications for fund managers.

Keywords: Equity Mutual Funds, Asset under the Management, Mutual Fund House, Portfolio returns, Risk-return

I. Introduction:

I.1 Meaning of Investment

Successful investing is about managing risk, not avoiding it. -Benjamin Graham

Investment may be defined as the process of allocating money into different types of assets and portfolios with the goal of shaping good returns with minimizing risk. The two fundamental components of investment are risk-return. Risk is an unavoidable factor when dealing with certain securities or assets, especially in the finance sector, where a significant level of risk is present. There are several types of risks that investors need to consider when building portfolios. To invest surplus money in different assets or funds, investors must be ready to face different forms of investment risk.

I.2 Nature of Mutual Funds

Mutual Funds serve as financial mediator who pools the surplus funds that an individual investor is ready to invest for collective investment in diverse market securities portfolios. The term "mutual" shows that all profits, after deducting charges, are distributed among the Mutual Fund investors. Mutual Funds refer to the capital accumulated by financial institutions by pooling public savings and investing these funds into a diversified portfolio. They provide investment opportunities for those retail investors who may not be comfortable to make direct invest in large corporations' equities.

The funds collected for various Mutual Funds are supervised by professional fund managers, who invest in stocks and bonds in alignment with the scheme's objectives. The profits generated from these collective pools of investments are proportionally distributed among the investors after subtracting applicable expenses and fees, calculated through the scheme's Net Asset Value (NAV). As a result, the Mutual Fund charges a small fee for its services.

I.3 Equity-Based Mutual Funds

Financial market of developing countries like India has seen significant progress in Mutual Fund market over the past few decades, with equity-based Mutual Fund schemes emerging as one of the most popular avenues for wealth creation. Equity Mutual Funds mainly invest in shares or stocks of companies across various sectors and are known for their potential to generate great returns in the long term, though they also involve a higher degree of risk compared to debt or hybrid funds. As the Indian economy expands and more investors seek participation in stock markets, Mutual Funds are now a critical investment tool for retail and institutional investors alike.

3.1 Market Capitalisation Based Funds

There is various type of funds in this category. These are as under:

- **Large-cap Funds:** Large-cap funds mainly invest in companies with the largest market capitalization, typically those ranked between 1 and 100 on the Indian stock exchanges. According to SEBI regulations, it is compulsion to allocate at least 80% of their entire assets into equity and equity-based instruments of large-cap companies to be termed as large cap funds.
- **Mid-cap Funds:** Mid-cap funds mainly invest in companies with market capitalizations between ₹5,000 crores and ₹20,000 crores, usually, their rank from 101 to 250 in the value of market capitalisation. According to guideline provided by Security Exchange Board of India (SEBI), mid cap funds are required to allocate minimum 65% of their total assets to equity and equity-based instruments of mid-cap companies.
- **Small-cap Funds:** These funds often invest in companies having a market value of less than ₹5,000 crores, ranking higher than the 250th position in an index. According to SEBI requirements, small-cap funds compulsory invest minimum 65% of their total assets to small-cap companies. Small-cap funds are appropriate for investors who are ready to have more risk and are prepared to handle with the inherent volatility of these assets.
- **Multi-cap Funds:** Multi-cap funds have the advantage of diversifying investments among large-cap, mid-cap, and small-cap enterprises. SEBI laws order these funds to invest at least 25% of their assets in each of the following three categories: large-cap, mid-cap, and small-cap enterprises. The remaining 25% of the funds are at the fund manager's discretion for the investments. Investors seeking diversity across market sectors in order to control risk in their portfolios may invest in such funds.
- **Flexi-cap Funds:** Flexi-cap funds, like multi-cap funds, invest in firms across all market capitalization segments, but the fund manager has more freedom. If desired, the manager might remove mid- and small-cap companies while increasing allocation to large-cap firms, particularly during economic downturns or market volatility. Flexi-cap funds have no fixed allocation limitations for each market capitalization category, allowing the management to tailor the portfolio to market conditions. However, SEBI mandates that minimum 65% of the fund's investments be in Equities and equity-related securities.
- **Large and Mid-Cap Funds:** These funds invest in a mix of large-cap and mid-cap corporate equities, giving investors exposure to both large and medium-sized businesses. SEBI standards guide these funds to invest minimum 35% of their entire assets value in large-cap equities and the remaining 35% in mid-cap stocks.

3.2 Features of Equity-related Mutual Funds

- **Stock Investment:** Equity-based Mutual Funds mainly invest in share or stocks of companies, offering exposure to stock markets.
- **High Return Potential:** Historically, equity funds have provided higher returns over the long term compared to debt or fixed-income instruments.
- **Risk Factor:** Equity funds carry a higher level of risk, as their performance depends on stock market fluctuations, economic conditions, and the specific companies they invest in.

- **Diversification:** these funds often invest in diverse portfolio of equities from several sectors and industries, which mitigate the impact of bad performance in single stocks or area.
- **Tax Benefits:** Equity linked saving schemes (ELSS) with tax benefits under section 80C of the Income Tax Act in India.

IV. Related Literatures:

Sahil Jain evaluated the outcomes of equity-based Mutual Funds over a 15-year period, analysing 45 schemes from 1997 to 2012. The study assessed performance using Capital Asset Pricing Model (CAPM) with beta risk and expected return, calculated through the. Beta was determined by regressing market returns against the returns of individual Mutual Fund (MF) schemes. The expected returns were then compared to the actual returns, indicating whether a fund had outperformed, underperformed, or performed in line with expectations. Based on the examination of beta risk- return performance, it was observed that private sector Mutual Fund schemes outperformed public sector schemes (Jain, 2012).

Raghu Anand analysed the outcome of various Mutual Fund schemes related to risk-returns point of view, focusing on two asset management companies: HDFC and SBI. The study utilized statistical tools such as Compounded Annual Growth Rate (CAGR), Alpha, Beta, Standard Deviation, and the Sharpe Ratio. Covering the period from 2005 to 2014, the research highlighted the significant potential of growing of Mutual Funds as a medium of investment option. The findings suggest that, based on CAGR, a 1-year investment horizon is preferable. The term risk analysis (beta), HDFC appeared as the more favourable investment choice. Additionally, HDFC offered better returns when considering the expense ratio (Anand, 2017).

Aniruddh Sahai (2020) conducted an evaluation of Mutual Funds related to return, risk analysis, and risk-adjusted performance metrics, including the Jensen's alpha, Sharpe ratio, and Treynor ratio. The study explored that 94% of diversified equity fund schemes delivered higher average returns than their benchmark indices. In the term of risk, 90% of the such schemes were showing comparatively less movement than the market, as indicated by their standard deviation. Additionally, 44% of the funds had a beta below one and positive, indicating lesser risk. Regarding the Coefficient of Determination (R^2), 85% of the funds exceeded 0.8, signifying a high degree of portfolio diversification. The risk-adjusted performance, assessed through Sharpe, Treynor, and Jensen's metrics, revealed that most schemes had Sharpe and Treynor ratios above 1, along with a positive Jensen's Alpha, indicates, these funds generated superior returns.

Bhansali and Nag (2021) summarised that the Axis Mutual Funds outperformed Mutual Fund backed by State Bank of India (SBI). This conclusion was based on various performance evaluation metrics, including Net Asset Value (NAV), average-based return(R), standard deviation (SD), and the Sharpe ratio. This study provides valuable insights to help investors select the appropriate Mutual Fund categories for their investments.

Aisharya Ghosh and Subhamoy Das (2018) conducted a comparative study on the basis of performance of preferred Mutual Fund schemes focusing on Equities in India. They utilized measurement techniques such as standard deviation (SD), R-squared, Beta, Sharpe Ratio, and Treynor Ratio to assess the returns generated by the chosen equity schemes and compared them to benchmark returns. The aim was to differentiate between high-performing and underperforming funds in terms of risk and return.

Pandow, B. A., and Butt, K. A. (2017) conducted a risk-return analysis of 40 preferred Mutual Funds (MF) in India, on the basis of funds' daily NAVs. They used the Sharpe and Treynor measures to assess the funds' performance over the duration between 2007 to 2011. The study examines that all the funds, except for the Sahara Growth Fund, delivered positive returns. Additionally, 80% of the schemes generated a higher average return compare to Benchmark S&P CNX Nifty's mean return, while exhibiting lower standard deviation compare to the market average during the study period. Furthermore, 31 funds were capable to produce returns that exceeded risk-free rates.

V. Research Objectives

1. To present the historical annual returns of the large cap, mid-cap and small-cap Mutual Fund Schemes.
2. To evaluate the variation in returns of preferred large-cap, mid-cap and small-cap funds.

VI. Research Methodology

VI.1. Sources of the data: This study was mainly using secondary data. For the collection of data, websites are used for money control, economic times, ET money and AMFI's websites and other reliable sources are used.

VI.2. Duration: From 1st January, 2020 to 20th September, 2024, the year is being used for conducting this study.

VI.3. Sample: This study focuses on three equity-based Mutual Fund schemes, namely large, mid, and small-cap funds, from the top ten Mutual Fund houses, which account for approximately 78% of the total assets under management (AUM). However, due to the unavailability of data for the complete period, only eight Mutual Fund houses' schemes have been selected for study purposes, as listed below:

Table VI.1.0 Mutual Fund House and their schemes:

Sr. no.	Name of the Mutual Fund Houses	Large Cap	Mid Cap	Small cap
1	SBI Mutual Fund	SBI Blue Chip Fund - Regular Plan - Growth	SBI Magnum Midcap Fund - Regular Plan - Growth	SBI Small Cap Fund - Regular Plan - Growth
2	ICICI Prudential Mutual Fund	ICICI Prudential Bluechip Fund - Growth	ICICI Prudential Midcap Fund - Growth	ICICI Prudential Small cap Fund - Regular Plan - Growth
3	HDFC Mutual Fund	HDFC Top 100 Fund - Growth	HDFC Mid-Cap Opportunities Fund - Growth	HDFC Small Cap Fund - Growth
4	Aditya Birla Sun Life Mutual Fund	Aditya Birla Sun Life Frontline Equity Fund - Regular Plan - Growth	Aditya Birla Sun Life Midcap Fund - Regular Plan -Growth	Aditya Birla Sun Life Small Cap Fund - Regular Plan - Growth
5	Kotak Mahindra Mutual Fund	Kotak Bluechip Fund - Growth	Kotak Emerging Equity Fund - Growth	Kotak Small Cap Fund - Growth
6	Nippon India Mutual Fund	Nippon India Large Cap Fund - Growth	Nippon India Growth Fund - Growth	Nippon India Small Cap Fund - Growth
7	Axis Mutual Fund	Axis Bluechip Fund - Growth	Axis Midcap Fund - Growth	Axis Small Cap Fund - Growth
8	DSP Mutual Fund	DSP Top 100 Equity Fund - Regular Plan - Growth	DSP Midcap Fund - Regular Plan - Growth	DSP Small Cap Fund - Regular Plan - Growth

Source: amfiindia.com

VI.4. Techniques: For the comparative analysis of these schemes' different descriptive statistics like average, standard deviation etc. and One-Way ANOVA is used.

- **Average:** The average or arithmetic mean is a measure of central tendency in statistics. It represents the typical value of a dataset. The average is the sum of the all numbers in a group divided by the total number of values in a group.

Formula,

$$\text{Arithmetic Mean} = \frac{\sum_{i=1}^n x_i}{n}$$

Where:

- X_i are the individual data points,
- n is the number of data points,
- $\sum$ represents the summation.

- **Standard Deviation (SD):** Standard deviation (SD) is a measurement techniques used to examine of how spread out the values in a dataset are. It quantifies the amount of variation or dispersion from the mean (average) of the dataset. A low standard deviation means the data points are close to the mean, while a high standard deviation indicates the data points are spread out over a wider range.

The formula for standard deviation is: $SD = \sqrt{\sum_{i=1}^n (x_i - \bar{x})^2 / n - 1}$

Where:

- SD is the standard deviation,
- x_i the individual data points,
- $\bar{x}$ is the mean of the data,
- n is the number of data points.

- **ANOVA-** ANOVA allows us to test the significance of differences among the means of more than two samples. By using ANOVA, we can determine whether the samples are drawn from populations with the same mean. In this study, ANOVA was employed to assess the likelihood of variance among the returns of the three groups selected for analysis. These groups are as follows:

Group I	Large Cap Fund
Group II	Mid Cap Fund
Group III	Small Cap Fund

Hypothesis: Before applying test of significance, first set up null and alternative hypothesis. Which are as follows:

$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4$

$H_1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$

Following is the formula for calculating F static:

Formula: $F = \frac{\text{Mean sum of squares between the groups}}{\text{Mean sum of squares within the groups}}$

VI.5. Hypothesis:

$H_0: \mu_1 = \mu_2 = \mu_3$ (There is no significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap)

$H_1: \mu_1 \neq \mu_2 \neq \mu_3$ (there is a significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap)

VII. Findings and Interpretation:

- **Annual return of selected sample schemes for the year 2020**

Table VII.1 includes the information based on annual return of the selected three Mutual Fund schemes namely large-cap, mid-cap, and small-cap funds.

Table VII.1 Annual return of the companies selected for the study period 2020

Sr.no.	Mutual Fund House	Large Cap	Mid Cap	Small cap
1.	SBI MF	4.79	29.55	33.48
2.	ICICI Prudential MF	12.99	18.94	22.26
3.	HDFC Mutual Fund	5.47	21.32	19.30
4.	A Birla Sun Life MF	13.55	15.15	18.94
5.	Kotak Mahindra MF	16.25	21.34	33.73
6.	Nippon India MF	4.79	21.49	27.84
7.	Axis MF	19.58	25.75	22.70
8.	DSP MF	7.54	23.25	31.86

Source: Moneycontrol.com

Descriptive Analysis related to Mean and standard deviation for the year 2020

Table VII.2 shows the data related to mean and standard deviation for these three funds of selected schemes for the year 2020.

Descriptive statistical analysis for the year of 2020, table VII.2.

Type of the fund	N	Mean	SD
Large-cap	8	10.62	5.73
Mid-cap	8	22.09	4.30
Small-cap	8	26.26	6.23
Total	24	20.30	8.12

Source: Authors own contribution

Use of ANOVA of selected sample for the year 2020

Following assumption were made to check the probability of variance among the annual returns of large, mid and small-cap funds for the year 2020:

$H_0: \mu_1 = \mu_2 = \mu_3$ (There is no significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap)

$H_1: \mu_1 \neq \mu_2 \neq \mu_3$ (there is a significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap)

ANOVA for the year 2020, Table VII.3.

Source of variation	Sum of Squares	df	Mean Squares	F-static	p-value	F-crit. value
Between groups	1050.22	2	525.11	17.43	0.00003	3.46
Within groups	632.64	21	30.12			
Total	1682.86	23				

Source: Authors own contribution

For analysing and interpretation of the data, it has been considered that the level of significance is equal to 5%.

The analysis was conducted to calculate the F-static. After analysis of the data given in table VII.3 it can be interpreted that F static is 17.43. The critical value of F distribution at above of degree of freedom at 5% level of significance is 3.46.

When the value of F-statistic (17.43) is put for comparison with the table value at 5% level of significance (3.46), it is found that the value of F-static is more than the table value. That's why, it is acknowledged that the Null Hypothesis (H_0) is rejected.

In conclusion, it has been found that there is a significant variance in annual returns of large-cap, mid-cap, and small-cap funds.

Year	H0	Accepted/Rejected
2020	There is no significance variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds	Rejected

- **Annual return of selected sample schemes for the year 2021**

Table VII.4 includes the information related to the annual returns of the selected three Mutual Fund schemes namely large cap, mid cap, and small cap funds.

Table VII.4 Annual return of the companies selected for the study period 2021

Sr.no.	Mutual Fund Houses	Large Cap	Mid Cap	Small cap
1.	SBI MF	30.4	48.66	44.19
2.	ICICI Prudential MF	27.86	41.00	58.17
3.	HDFC Mutual Fund	27.00	36.76	62.17
4.	A Birla Sun Life MF	26.38	47.30	47.94
5.	Kotak Mahindra MF	26.88	44.28	67.33
6.	Nippon India MF	30.40	43.32	71.16
7.	Axis MF	19.39	37.29	56.30
8.	DSP MF	18.31	26.04	56.30

Source: Moneycontrol.com

Descriptive Analysis related to Mean and standard deviation for the year 2021

Table VII.5 shows the data related to mean and standard deviation for these three funds of selected schemes for the year 2021.

Descriptive statistical analysis for the year of 2021, table VII.5

Type of the fund	N	Mean	SD
Large-cap	8	25.82	4.57
Mid-cap	8	40.58	7.25
Small-cap	8	57.94	9.06
Total	24	41.45	15.07

Source: Authors own contribution

Use of ANOVA of selected sample for the year 2021

Following assumption were made to check the probability of variance among the annual returns of large, mid and small-cap funds for the year 2021:

$H_0: \mu_1 = \mu_2 = \mu_3$ (There is no significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

$H_1: \mu_1 \neq \mu_2 \neq \mu_3$ (there is a significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

ANOVA for the year 2021, Table VII.6

Source of variation	Sum of Squares	df	Mean Squares	F-static	p-value	F-crit. value
Between groups	4135.21	2	2067.60	39.81	0.00000007	3.46
Within groups	1090.66	21	51.93			
Total	5225.87	23				

Source: Authors own contribution

For analysing and interpretation of the data, it has been considered the level of significance is equal to 5%.

The analysis was conducted to calculate the F-static. After analysis of the data given in table VII.6, it can be interpreted that F static is 39.81. The critical value of F distribution at above of degree of freedom at 5% level of significance is 3.46.

When the value of F-statistic (39.81) is put for comparison with the table value at 5% level of significance (3.46), it is found that the value of F-static is more than the table value. That's why, it is acknowledged that the Null Hypothesis (H_0) is rejected.

In conclusion, it has been concluded that there is a significant variance in annual returns of large-cap, mid-cap, and small-cap funds.

Year	H0	Accepted/Rejected
2021	There is no significance variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds	Rejected

- **Annual returns of selected sample schemes for the year 2022**

Table VII.7 includes the information based on annual returns of the selected three Mutual Fund schemes namely large-cap, mid-cap, and small-cap funds.

Table VII.7 Annual return of the companies selected for the study period 2022

Sr.no.	Mutual Fund Houses	Large Cap	Mid Cap	Small cap
1.	SBI MF	11.33	3.04	8.14
2.	ICICI Prudential MF	6.85	3.11	5.75
3.	HDFC Mutual Fund	10.61	12.29	4.59
4.	A Birla Sun Life MF	3.54	-5.33	-6.46
5.	Kotak Mahindra MF	1.99	5.13	-3.07
6.	Nippon India MF	11.33	5.81	6.54
7.	Axis MF	-5.66	-5.07	2.62
8	DSP MF	1.44	-4.93	0.46

Source: Moneycontrol.com

Descriptive Analysis related to Mean and standard deviation for the year 2022

Table VII.8. shows the data related to mean and standard deviation for these three funds of selected schemes for the year 2022.

Descriptive statistical analysis for the year of 2022, table VII.8

Type of the fund	N	Mean	SD
Large-cap	8	5.17	6.00
Mid-cap	8	1.75	6.36
Small-cap	8	2.32	5.04
Total	24	3.08	5.77

Source: Authors own contribution

Use of ANOVA of selected sample for the year 2022

Following assumption were made to check the probability of variance among the annual returns of large, mid and small-cap funds for the year 2022:

$H_0: \mu_1 = \mu_2 = \mu_3$ (There is no significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

$H_1: \mu_1 \neq \mu_2 \neq \mu_3$ (there is a significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

ANOVA for the year 2022, Table VII.9

Source of variation	Sum of Squares	df	Mean Squares	F-static	p-value	F-crit. value
Between groups	53.86	2	26.93	0.79	0.46	3.46
Within groups	714.34	21	34.01			
Total	768.20	23				

Source: Authors own contribution

For analysing and interpretation of the data, it has been considered the level of significance is equal to 5%.

The analysis was conducted to calculate the F-static. After analysis of the data given in table VII.9, it can be interpreted that F static is 0.79. The critical value of F distribution at above of degree of freedom at 5% level of significance is 3.46.

When the value of F-statistic (0.79) is put for comparison with the table value at 5% level of significance (3.46), it is found that the value of F-static is lower than the table value. That's why, it is acknowledged that the Null Hypothesis (H_0) is accepted.

In conclusion, it has been found that there is no significant variance in annual returns of large-cap, mid-cap and small-cap funds.

Year	H0	Accepted/Rejected
2022	There is no significance variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds	Accepted

- Annual returns of selected sample schemes for the year 2023**

Table VII.10 includes the information based on annual returns of the selected three Mutual Fund schemes namely large cap, mid cap, and small cap funds.

Table VII.10 Annual return of the companies selected for the study period 2023

Sr.no.	the Mutual Fund Houses	Large Cap	Mid Cap	Small cap
1.	SBI MF	32.15	33.37	24.20
2.	ICICI Prudential MF	27.39	31.08	37.94
3.	HDFC Mutual Fund	29.33	42.80	43.55
4.	A Birla Sun Life MF	23.07	37.61	38.73
5.	Kotak Mahindra MF	22.90	30.54	34.22
6.	Nippon India MF	32.15	48.61	48.92
7.	Axis MF	16.78	29.59	34.04
8.	DSP MF	25.33	36.53	40.21

Source: Moneycontrol.com

Descriptive Analysis related to Mean and standard deviation for the year 2023

Table VII.11 mentions the data related to mean and Standard Deviation (SD) for these three funds of selected schemes for the year 2023.

Descriptive statistical analysis for the year of 2023, table VII.11

Type of the fund	N	Mean	SD
Large-cap	8	26.13	5.23
Mid-cap	8	36.26	6.65
Small-cap	8	37.72	7.32
Total	24	33.33	8.11

Source: Authors own contribution

Use of ANOVA of selected sample for the year 2023

Following assumption were made to check the probability of variance among the annual returns of large, mid and small-cap funds for the year 2023:

$H_0: \mu_1 = \mu_2 = \mu_3$ (There is no significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

$H_1: \mu_1 \neq \mu_2 \neq \mu_3$ (there is a significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

ANOVA for the year 2023, Table VII.12

Source of variation	Sum of Squares	df	Mean Squares	F-static	p-value	F-crit. value
Between groups	637.39	2	318.69	7.63	0.003	3.46
Within groups	877.02	21	41.76			
Total	1514.42	23				

Source: Authors own contribution

For analysing and interpretation of the data, it has been considered the level of significance is equal to 5%.

The analysis was conducted to calculate the F-static. After analysis of the data given in table VII.12, it can be interpreted that F static is 7.63. The critical value of F distribution at above of degree of freedom at 5% level of significance is 3.46.

When the value of F-statistic (7.63) is put for comparison with the table value at 5% level of significance (3.46), it is found that the value of F-static is more than the table value. That's why, it is acknowledged that the Null Hypothesis (H_0) is rejected.

In conclusion, it has been found that there is a significant variance in annual returns of large-cap, mid-cap and small-cap funds.

Year	H0	Accepted/Rejected
2023	There is no significance variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds	Rejected

- **Annual returns of selected sample schemes for the year 2024**

Table VII.13 includes the information related to the annual returns of the selected three Mutual Fund schemes namely large cap, mid cap, and small cap funds.

Table VII.13 Annual return of the schemes of the companies selected for the study period 2024

Sr.no.	Mutual Fund Houses	Large Cap	Mid Cap	Small cap
1	SBI MF	23.47	26.73	31.00
2	ICICI Prudential MF	24.47	32.07	21.96
3	HDFC Mutual Fund	17.70	25.62	22.45
4	A Birla Sun Life MF	22.43	30.14	25.00
5	Kotak Mahindra MF	23.00	33.48	27.26
6	Nippon India MF	23.47	25.00	30.24
7	Axis MF	21.24	34.29	24.97
8	DSP MF	26.76	26.62	26.33

Source: Moneycontrol.com

Descriptive Analysis related to Mean and Standard Deviation (SD) for the year 2024

Table VII.14 mentions the data related to mean and Standard Deviation (SD) for these three funds of selected schemes for the year 2023.

Descriptive statistical analysis for the year of 2024, table VII.14

Type of the fund	N	Mean	SD
Large-cap	8	22.81	2.61
Mid-cap	8	29.24	3.71
Small-cap	8	26.15	3.28
Total	24	26.07	4.09

Source: Authors own contribution

Use of ANOVA of selected sample for the year 2024

Following assumption were made to check the probability of variance among the annual returns of large, mid and small-cap funds for the year 2024:

$H_0: \mu_1 = \mu_2 = \mu_3$ (There is no significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

$H_1: \mu_1 \neq \mu_2 \neq \mu_3$ (there is a significant variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds)

ANOVA for the year 2024, Table VII.15

Source of variation	Sum of Squares	df	Mean Squares	F-static	p-value	F-crit. value
Between groups	165.26	2	82.63	7.88	0.002	3.46
Within groups	220.00	21	10.47			
Total	385.26	23				

Source: Authors own contribution

For analysing and interpretation of the data, it has been considered the level of significance is equal to 5%.

The analysis was conducted to calculate the F-static. After analysis of the data given in table VII.15, it can be interpreted that F static is 7.88. The critical value of F distribution at above of degree of freedom at 5% level of significance is 3.46.

When the value of F-statistic (7.88) is put for comparison with the table value at 5% level of significance (3.46), it is found that the value of F-static is more than the table value. That's why, it is acknowledged that the Null Hypothesis (H_0) is rejected.

In conclusion, it has been found that there is a significant variance in annual returns of large-cap, mid-cap and small-cap funds.

Year	H0	Accepted/Rejected
2024	There is no significance variance among the annual returns of selected sample schemes of large-cap, mid-cap and small-cap funds	Rejected

VIII. Conclusion

The growth of equity-based Mutual Fund schemes rapidly increased in the last decade. Equity-based Mutual Fund schemes are portfolios consisting of equities or stocks of various companies, which are involved in different business sectors. There are several types of equity-based Mutual Fund schemes that attract different types of investors seeking higher returns while accepting the associated risks. This study investigates the variability in the annual returns of selected capitalization-based Mutual Fund schemes, including large-cap, mid-cap, and small-cap funds, from top selected Mutual Fund houses that account for more than 3/4 of the assets under management (AUM). The study compares the annual return, average return, standard deviation, and variance on the basis of the annual returns of these three types of funds from the top selected Mutual Fund houses. The findings reveal that the average return and standard deviation of annual returns for large-cap, mid-cap, and small-cap funds differ, and there are significant variances in the annual returns of these funds across all years except for 2022. In 2022, the annual returns for large-cap, mid-cap, and small-cap funds were low or negative for, and the variance in returns that year was also insignificant. This study suggests that investors should adopt a different approach when making investment decisions for these funds, with one exception, because of the significant variation in risk and returns.

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