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A Comparative Analysis of Risk and Return of Large Cap Equity Mutual Fund Schemes in India

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Abstract
Investment in mutual fund has gained substantial attention of small investors in India during past few years. Especially after Covid phase there is numerous increases in mutual fund investment. Investment in mutual fund is subject to market risk and it is very important for the investors to understand and measure risk for making informed investment decisions. Risk in mutual fund investment analysed with the help of various measures. Value at Risk is a simple approach to measure the possible expected loss. VaR determine downside risk at given period of time for associated probability applicable. The present study employs Value at Risk (VaR) approach to determine potential downside risk of large cap equity mutual fund schemes in India. Our study on Value at Risk provide a deep insight on downside risk associated with large cap mutual funds in pre and post Covid period. In this paper, we have determined Value at Risk by following Historical Approach (Non-parametric) and Variance-Covariance Approach (Parametric) to understand risk associated with large cap mutual funds. This study analysed and compared pre and post covid risk and return of seventeen large cap mutual fund schemes in India. The study concluded that large cap mutual fund has given higher return during post covid period as compare to return during pre-covid period. Correspondingly potential downside risk in large cap mutual fund schemes has also increased during post covid period.

Keywords: Large Cap, Mutual Fund, Risk, Return, Value at Risk, India.

Introduction
Investment in mutual fund has gained substantial attention of small investors in India during past few years. Especially after Covid phase there is numerous increases in mutual fund investment. As per the December 2024 report of Association of Mutual Fund in India (AMFI), the Net Asset Under Management (AUM) stands at ₹ 66,93,032 Crore. As compare to April 2020, there is almost three-fold rise in Asset Under Management of mutual fund companies in India. It shows investors attraction toward various schemes offered by different mutual fund companies. Mutual fund companies pool money from small investors and invest it in different securities. Investment in financial securities are subject to various risks. A small investor may not able to mitigate risk in professional way. Mutual fund offers advantage of diversification and professional fund management allowing investors to minimize their risk in investment. Apart from these two important features, individuals have an option to invest funds in lumpsum and / or in SIP mode with minimum cost that provide good returns. Advancement in financial technology has made investment in mutual fund easy and accessible to everyone. Mutual funds are managed by expert and professional fund managers

and are governed by market regulator. It ensures transparency and governance in mutual fund business. Over the years, variety of mutual fund schemes has been launched in the market. Individuals can invest their money as per their goals and objectives in various schemes. Mutual funds are considered most liquid compare to their counterpart investment options. Except few schemes, investors can sell their holdings as and when they are in need.

Mutual fund investment is an effective vehicle which provides good returns to the investors but the risk factors associated with mutual funds drive and control the returns. No mutual fund scheme give assurance of return as value of investment in mutual fund may vary depending upon fluctuation in invested securities price and interest rate. Apart from specific securities related factors, there could be other factors like, volatility in equity or bond market, government policies, domestic and international economics changes, political and other general factors may influence the risk and return of mutual fund investment.

Investment in mutual fund is subject to market risk and it is very important for the investors to understand and measure risk for making informed investment decisions. Risk in mutual fund investment analysed with the help of various measures. A simple measure that quantifies variability of scheme's return from its expected or average return can be evaluated with the help of standard deviation and coefficient of variance. Relative volatility of mutual fund with market or benchmark index is measured with the help of Beta. Whereas Alpha evaluates fund's performance compare to its benchmark. Diversification advantages of mutual fund in a portfolio in relation to benchmarks can be measured with the help of R-Square. All these are relative measures of mutual fund performance. Sharpe (1966), Treynor (1965) and Jensen (1967) has made an early attempt to use mean variance approach and risk adjusted measures to evaluate the performance of portfolio.

The above measures are reflected in funds fact sheet. But most often small investors ignore it while investing in mutual funds or they may not find it relevant for decision making. It could be possible that small investors may not know the technical aspects of all the above measures. Hence it is very much important to disclose risk associated with mutual fund using simple measure form small investors point of view. Value at Risk is a simple approach to measure the possible expected loss. VaR determine downside risk at given period of time for associated probability applicable. Many banks, insurance companies, asset management companies etc. use VaR as risk measure tool to manage their portfolios. Similarly, VaR can be a part of fund fact sheet to describe downside probable risk associated with the scheme. Since investors most often try to mitigate or limit the losses rather than earning higher profit, a small investor can easily understand on how much money he or she may lose under given conditions with the help of VaR

Large cap mutual funds invest money in companies with large market capitalisation. These are preferred by investors as they give steady and stable return in long period. Biswas & Dutta (2022) reported that investment in large cap mutual fund is considered safer as compare to small-cap, mid-cap and balanced mutual funds. Covid pandemic has significant impact on Indian stock market. Mutual fund industry is no exception to this. During pandemic equity market corrected by around 40 to 50%. It also has large effect on investment in mutual fund industry. Does pandemic have adverse impact on return of large cap fund? What is the downside risk of large cap funds? Is there any difference in pre and post pandemic VaR of

large cap funds? These questions are addressed in the present paper. We estimated pre covid and post covid Value at Risk of selected large cap mutual funds to answer these questions.

Review of Literature

Selvem & Bhuvaneswari (2011) evaluated risk and return relationship of thirty five open ended equity (dividend) mutual fund scheme during 2002 to 2007. Daily average NAV was determined and compared with daily market return. The study showed that there is no significant relationship between risk and return of majority of schemes. The study also concluded that, the scheme returns are not significantly different than market return. Using the Treynor's ratio, Sharpe's ratio, Jensen's measure, risk-return analysis, and relative performance index, **Sapar and Madava (2003)** assessed the performance of Indian mutual fund schemes during a bear market through various performance measures. The study concluded that, most of the mutual fund schemes have outperformed the market return during bear market. **Goyal (2015)** evaluated the top 10 mutual funds in India based on their performance as determined by the Crisil September 2014 ranking and compared it to the benchmark index, the S&P CNX Nifty. The performance is being compared using a range of absolute and relative performance measurements, including Jensen Alpha, Treynor Ratio, and Sharp Ratio measures. According to the analysis, all of the schemes offer an average return that is larger than the market. **Treynor (1965)** created the reward to volatility metric, a system for assessing the performance of funds. In his groundbreaking research, **Sharpe (1966)** created a measure of reward to variability and discovered that, out of 34 funds, 11 funds had better performance than the Dow Jones Industrial Asset (DJIA). When transaction costs were taken into account, mutual funds did not seem to attain abnormal performance, according to **Jensen's (1968)** assessment based on CAPM. A methodology for assessing managed portfolios' investment performance was created by **Fama (1972)**. He proposed that there were multiple components that might be used to analyze overall performance.

The theory suggests that the rates of return from effective combinations of risky assets move together flawlessly (will be perfectly correlated), as demonstrated by **William Sharpe (1964) and John Lintner (1965).** This may be the outcome of their shared reliance on the overall economy. If this is the case, investors can protect themselves from all risks aside from those brought on by fluctuations in the economy by spreading their investments among riskier assets. Thus, the only factor that matters when determining an asset's risk is how responsive its return is to shifts in the economy.

Dhanda and et al (2012) examined open-ended mutual funds in India and assessed the performance of a few chosen open-ended schemes in terms of the link between risk and return. The Treynor ratio, Sharpe ratio, beta, and standard deviation were employed. The BSE-30 was employed as a reference point for examining the performance of mutual funds in India. It was reported that only three schemes had outperformed the benchmark. **Jain (2012)** compared performance of 45 mutual fund schemes of two public sector and two private sector companies. The study was carried out over a period of fifteen years. The Capital Asset Pricing Model (CAPM) and the risk-return relationship of selected schemes showed that, the private sector companies give higher return as compare to public sector companies with minimum risk.

Mailcontractor, R. (2016) assessed 20 large- and mid-cap mutual fund schemes using the Sharpe and Treynor ratio and monthly NAVs from January 1, 2011 to December 31, 2015.

The average yearly risk of the funds were found to be five times higher than the average annual return. According to the study, there was a strong degree of correlation between the Treynor and Sharpe ratio results, and both measures produced results that were comparable. In order to separate the performers from the non-performers and assess the risk-return performance of chosen mutual fund schemes, **Ghosh and Das (2018)** conducted a comparative study on the performance of selected equity mutual fund schemes in India using Standard Deviation, R-Squared, Beta, Sharpe Ratio, and Treynor Ratio. The study measured the return earned by selected equity schemes of mutual funds and compared them against the benchmark returns.

Gupta (1989) assessed the performance of funds in India by contrasting the returns obtained from plans with comparable risk and restrictions. A clear relationship between risk and return was established in order to compare funds with varying degrees of risk. They examined the fund's risk and return connection from the viewpoint of major investors using the capital market line, and from the standpoint of small investors, they utilized the security market line. Using the CAPM approach, **Barua and et al (1991)** assessed the master share's performance from 1987 to 1991 from the perspectives of fund management, small investors, and large investors. Sharpe, Jensen, and Treynor's metrics were used to calculate the risk-adjusted performance. They examined the fund's return connection from the viewpoint of major investors using the capital market line, and from the standpoint of small investors, they used the security market line. According to the study's findings, the fund outperformed the market for small investors and fund management, although it is underperformed when compared to Capital Market Line (CML).

Problem Description

The common perception about large cap mutual fund is that, the risk associated with large cap fund is low as compare to other types of mutual funds. Covid pandemic has significant effect on all types of mutual fund schemes in terms of risk and return. Our study on Value at Risk provide a deep insight on downside risk associated with large cap mutual funds in pre and post Covid period. In this paper, we have determined Value at Risk by following Historical Approach (Non-parametric) and Variance-Covariance Approach (Parametric) to understand risk associated with large cap mutual funds. Daily VaR is determined on the basis of daily Net Asset Value (NAV) of 17 large cap mutual fund schemes in India for the period 1st March 2017 to 18th August 2023. The present study measures maximum risk potential through Value at Risk of selected large cap mutual funds during pre and post covid period.

Methodology

The descriptive study based on secondary data has been used as mentioned in various literature in the similar field. Present paper has made an attempt to measure the risk and return of selected large cap equity mutual fund in India during pre and post covid period. Daily return of large cap equity mutual fund schemes for both pre and post covid period has been calculated in the basis of daily NAV. The study estimates and compares potential downside risk of selected large cap equity mutual funds in India in pre and post covid period. Following hypotheses has been framed to evaluate statistical significance in risk and return performance of selected mutual fund schemes.

H_{a1}: There is no significant difference in pre and post covid daily return of selected large cap equity mutual fund schemes.

H_{a2}: There is no significant difference in pre and post covid daily VaR of selected large cap equity mutual fund schemes.

The potential risk of large cap mutual funds has been evaluated on the basis of Value at Risk (VaR) measure. VaR is measured mainly by following parametric, non-parametric and Monte Carlo simulation methodology (Culp 2001; Jorion 2001; Linsmeier & Pearson 2000). We have adopted historical simulation (non-parametric) and Variance-Covariance (parametric) to assess the potential risk over a period of time for given significance level.

Historical simulation method is simplest of all other methods and assumes history repeats itself. Historical simulation method assumes no change in risk factors for underlying period and hence it considers varied risk associated with that period. This method does not use any parametric method and hence it is free from statistical errors. The historical VaR for given return at α level of significance and relevant quantile function for period $t+1$ is denoted as

$VaR_\alpha = - Q_{1-\alpha}(r_t, r_{t-1}, ..., r_{t-\infty+1})$

Unlike historical simulation method, parametric method assumes returns are normally distributed over a period of time. Expected return and standard deviation are determined to calculate VaR. According to Berry (2008) VaR is estimated as

$VaR_\alpha = -X_\alpha \, x \, P$

Where, VaR_α is the estimated value at risk for given significance level, $-X_\alpha$ is left tailed α percentile of normal distribution which is generally negative and P is marked to market value of asset. Replacing X_α with Z_α according to standard normal distribution, above formula is expressed as

$VaR_\alpha = - (\mu + z_\alpha \, x \, \sigma_p) \, x \, P$

We have collected the daily Net Asset Value (NAV) of seventeen large cap funds in India from 1st March 2017 to 18th August 2023. These data are collected from Association of Mutual Funds in India (AMFI) website. The selected period cover pre and post covid daily NAV's of mutual fund schemes. From 1st March 2020 up to 17th August 2020 is considered as event (covid) period. On 1st March 2020 Nifty 50 was at 11201 level and it reclaimed 11259 level on 18th August 2020, hence daily NAV's of selected mutual fund schemes during this period is excluded to avoid skewness in data.

For each fund scheme, daily return is determined on the basis of closing value of NAV's. Let V_t indicate daily closing value of NAV, then, $log\frac{V_t}{V_{t-1}}$ is the daily log return for the t^{th} day. Similarly, $-log\frac{V_t}{V_{t-1}}$ is the daily loss for the t^{th} day.

The daily returns determined as above have been used to calculate potential risk of seventeen large cap mutual funds using historical and variance covariance approach at 95% and 99% significance level. The derived results are discussed in following section.

Result and Discussion

1. Return of selected large cap equity mutual fund schemes:

Descriptive statistics of selected seventeen mutual fund schemes have shown in following table.

Table 1: Descriptive statistics for average daily return of selected mutual fund schemes

Mutual Fund Scheme	Pre Covid				Post Covid			
	Mean	SD	Skewness	Kurtosis	Mean	SD	Skewness	Kurtosis
SBI Blue Chip Fund	0.028%	0.00806	0.250	3.777	0.082%	0.00948	-0.582	2.954

Mirae Asset Large Cap Fund	0.045%	0.00796	0.273	2.887	0.074%	0.00923	-0.587	2.427
Axis Blue chip Fund	0.067%	0.00723	0.503	5.278	0.058%	0.00922	-0.466	2.159
HDFC Large Cap Fund	0.021%	0.00899	0.221	2.764	0.090%	0.00971	-0.620	3.098
Aditya Birla Sun Life Frontline Equity Fund	0.024%	0.00776	0.197	3.099	0.080%	0.00928	-0.580	2.339
Nippon India Large Cap Fund	0.031%	0.00920	0.317	3.771	0.101%	0.00999	-0.676	2.870
Canara Robeco Blue Chip Equity Fund	0.050%	0.00751	0.461	4.906	0.075%	0.00904	-0.545	2.440
UTI Large Cap Fund	0.033%	0.00746	0.283	4.325	0.075%	0.00930	-0.553	2.380
Kotak Blue chip Fund	0.034%	0.00780	0.270	3.686	0.079%	0.00913	-0.641	2.451
Franklin India Blue chip Fund	0.016%	0.00800	0.125	2.981	0.079%	0.01002	-0.511	3.118
DSP Top 100 Equity Fund	0.035%	0.00904	0.643	5.804	0.073%	0.00885	-0.604	2.417
Tata Large Cap Fund	0.031%	0.00806	0.287	3.913	0.083%	0.00944	-0.531	2.833
LIC MF Large Cap Fund	0.042%	0.00767	0.418	4.521	0.067%	0.00934	-0.475	2.337
BANDHAN Large Cap Fund	0.034%	0.00771	0.469	5.424	0.071%	0.00953	-0.540	2.342
Invesco India Large cap Fund	0.039%	0.00743	0.046	2.234	0.077%	0.00931	-0.656	2.088
Edelweiss Large Cap Fund	0.047%	0.00741	0.206	3.318	0.080%	0.00918	-0.563	2.249
ICICI Prudential Blue-chip Fund	0.030%	0.00784	0.148	2.442	0.085%	0.00898	-0.508	2.597
Mean	**0.036%**				**0.078%**			
Standard Deviation	**0.00012**				**0.00010**			
Skewness	**0.882**				**0.337**			
Kurtosis	**1.674**				**1.845**			

Descriptive statistics of daily return during pre and post covid indicates that, large cap equity mutual fund schemes daily return have increased after covid. Skewness and kurtosis values

before and after covid are between acceptable range. highest and lowest average daily return before covid period is given by Axis Blue chip Fund and Franklin India Blue chip Fund respectively. Whereas, highest and lowest average daily return in post covid period is offered by Nippon India Large Cap Fund and Axis Blue chip Fund respectively. The paired same t-test result for significant difference in pre and post covid average daily return of selected large cap equity mutual fund schemes is as follows.

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre and Post Covid Return	-0.00043	0.00020	0.00005	-0.00053	-0.00033	-8.987	16	0.000

The mean value of daily return of large cap equity mutual fund schemes before covid was 0.04 percent whereas after covid it was 0.08 percent. The returns were found to be higher in post covid period. It can be seen from above table that the p-value of average daily return was 0.000 at 5% significant level. Since p-value was found to less than the 0.05 ($p > 0.05$), therefore there is sufficient statistical evidence to reject the null hypothesis. It can thus be concluded that there is statistically significant difference in prior to and post-covid average daily return of selected large cap equity mutual fund schemes.

2. Value at Risk of selected large cap equity mutual fund schemes:

The result of daily historical VaR at 99% and 95% confidence level of seventeen large cap equity mutual fund schemes for both pre and post covid period is presented in following table.

a) Historical (Non-parametric) Value at Risk:

Table 2: Historical daily VaR of selected mutual fund schemes

Name of the Scheme	Historical VaR at 95%		Historical VaR at 99%	
	Pre Covid	Post Covid	Pre Covid	Post Covid
SBI Blue Chip Fund	1.22%	1.52%	2.08%	2.87%
Mirae Asset Large Cap Fund	1.22%	1.50%	1.98%	2.73%
Axis Blue-chip Fund	1.04%	1.54%	1.78%	2.66%
HDFC Large Cap Fund	1.39%	1.58%	2.18%	2.79%
Aditya Birla Sun Life Frontline Equity Fund	1.20%	1.49%	2.00%	2.77%
Nippon India Large Cap Fund	1.41%	1.56%	2.29%	3.03%
Canara Robeco Blue-chip Equity Fund	1.12%	1.48%	1.84%	2.66%
UTI - Large Cap Fund	1.15%	1.53%	1.79%	2.69%
Kotak Blue-chip Fund	1.19%	1.50%	1.99%	2.73%
Franklin India Blue-chip Fund	1.33%	1.68%	2.02%	3.08%
DSP Top 100 Equity Fund	1.36%	1.40%	2.19%	2.54%

Tata Large Cap Fund	1.23%	1.55%	1.93%	2.61%
LIC MF Large Cap Fund	1.11%	1.53%	1.85%	2.68%
Bandhan Large Cap Fund	1.24%	1.62%	1.82%	2.83%
Invesco India Large cap Fund	1.15%	1.56%	1.85%	2.86%
Edelweiss Large Cap Fund	1.13%	1.44%	1.94%	2.66%
ICICI Prudential Blue-chip Fund	1.20%	1.43%	2.02%	2.49%
Mean	**1.22%**	**1.52%**	**1.97%**	**2.75%**
Standard Deviation	**0.0010**	**0.0007**	**0.0015**	**0.0016**
Skewness	**0.496**	**0.318**	**0.623**	**0.64**
Kurtosis	**-0.344**	**0.644**	**-0.266**	**0.403**

Post covid mean daily Historical VaR at 99% confidence level is 2.75% which is comparatively higher than pre covid VaR. Similarly, at 95% it stands at 1.52% during post covid period. Both skewness and kurtosis are within the acceptable level suggesting normality of data distribution. The statistically significant difference in mean value of daily Historical VaR at both 99% and 95% confidence level during pre and post covid period is discussed below.

Paired Samples t-test for VaR at 95% Confidence Level								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre and post Covid Historical VaR	-.003070	.001097	.000266	-.003634	-.002506	-11.53	16	.000

Paired Samples t-test for VaR at 99% Confidence Level								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre and post Covid Historical VaR	-.007723	.001836	.000445	-.008668	-.006779	-17.34	16	.000

Daily historical VaR for 95% and 99% confidence level shows that, p value for both level at 95% significance level is less than 0.05, hence there is significant difference in pre and post covid daily historical VaR. Thus, it can be concluded that Covid has affected downside risk of large cap equity mutual fund schemes in India.

b) Variance-Covariance (parametric) Value at Risk:

The result of daily Variance-Covariance (parametric) VaR at 99% and 95% confidence level of seventeen large cap equity mutual fund schemes for both pre and post covid period is presented in following table.

Table 3: Variance-Covariance (parametric) daily VaR of selected mutual fund schemes

Name of the Scheme	**Variance-Covariance (parametric)**	**Variance-Covariance (parametric)**

	VaR at 95%		VaR at 99%	
	Pre Covid	**Post Covid**	**Pre Covid**	**Post Covid**
SBI Blue Chip Fund	1.33%	1.56%	1.88%	2.20%
Mirae Asset Large Cap Fund	1.33%	1.51%	1.87%	2.14%
Axis Blue-chip Fund	1.19%	1.51%	1.68%	2.14%
HDFC Large Cap Fund	1.48%	1.59%	2.09%	2.25%
Aditya Birla Sun Life Frontline Equity Fund	1.28%	1.52%	1.81%	2.15%
Nippon India Large Cap Fund	1.51%	1.64%	2.14%	2.32%
Canara Robeco Blue-chip Equity Fund	1.24%	1.48%	1.75%	2.10%
UTI - Large Cap Fund	1.23%	1.53%	1.74%	2.16%
Kotak Blue-chip Fund	1.28%	1.50%	1.82%	2.12%
Franklin India Blue-chip Fund	1.32%	1.64%	1.86%	2.33%
DSP Top 100 Equity Fund	1.50%	1.45%	2.13%	2.05%
Tata Large Cap Fund	1.33%	1.55%	1.87%	2.19%
LIC MF Large Cap Fund	1.26%	1.53%	1.78%	2.17%
Bandhan Large Cap Fund	1.27%	1.56%	1.79%	2.21%
Invesco India Large cap Fund	1.22%	1.53%	1.73%	2.16%
Edelweiss Large Cap Fund	1.24%	1.51%	1.75%	2.13%
ICICI Prudential Blue-chip Fund	1.29%	1.47%	1.82%	2.08%
Mean	**1.31%**	**1.53%**	**1.85%**	**2.17%**
Standard Deviation	**0.0010**	**0.0005**	**0.0014**	**0.0008**
Skewness	**1.163**	**0.719**	**1.222**	**0.8**
Kurtosis	**0.422**	**0.362**	**0.565**	**0.545**

Post covid mean Variance-Covariance (parametric) daily VaR at 99% confidence level is 2.17% which is comparatively higher than pre covid VaR. Similarly, at 95% it stands at 1.31% during post covid period. Both skewness and kurtosis are within the acceptable level suggesting normality of data distribution. The statistically significant difference in mean value of Variance-Covariance (parametric) daily VaR at both 99% and 95% confidence level during pre and post covid period is discussed below.

Paired Samples t-test for VaR at 95% Confidence Level								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre and post Covid Variance-Covariance (parametric) VaR	-.002224	.000940	.000228	-.002707	-.001740	-9.74	16	.000

Paired Samples t-test for VaR at 99% Confidence Level				
	Paired Differences	t	df	Sig.

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				(2-tailed)
				Lower	Upper			
Pre and post Covid Variance-Covariance (parametric) VaR	-.003171	.001351	.000329	-.003869	-.002472	-9.62	16	.000

Daily Variance-Covariance (parametric) VaR for 95% and 99% confidence level shows that, p value for both level at 95% significance level is less than 0.05, hence there is significant difference in pre and post covid Variance-Covariance (parametric) VaR. Thus, it can be concluded that Covid has affected downside risk of large cap equity mutual fund schemes in India.

Conclusion and Implications

This study analysed and compared pre and post covid risk and return of seventeen large cap mutual fund schemes in India. Pre and post covid average daily return of selected large cap mutual fund scheme was 0.036% and 0.078% respectively. Paired sample t-test showed that there is significant difference in pre and post covid daily return of selected large cap mutual fund schemes.

The study evaluated downside risk of seventeen large cap mutual fund scheme using value at risk methodology. Two approaches namely historical approach (Non-parametric) and Variance-Covariances (Parametric) has been used to assess the potential risk. The study used daily return data to determine VaR under two methods. Under historical method, at 95% confidence level, the average pre covid daily VaR was 1.22% whereas it was 1.52% in post covid period. Similarly at 99% confidence level post covid average daily VaR was higher than pre covid period. Paired samples t-test results for VaR at 95% and 99% confidence level showed that there is significant difference in prior to and post covid daily VaR of large cap mutual fund schemes. Similar results have been drawn under variance-covariance method of VaR. According to variance-covariance method also there is significant difference in pre and post covid daily VaR of large cap mutual fund schemes. All the above results lead to conclude that large cap mutual fund has given higher return during post covid period as compare to return during pre-covid period. Correspondingly potential downside risk in large cap mutual fund schemes has also increased during post covid period.

The present study has an important implication from individual investors and mutual fund managers point of view. Individual investors must understand that, risk is inherent part while earning return on investment in mutual fund. The investors who want to invest in large cap mutual fund schemes need to understand their risk appetite and potential loss associated with the fund to get desired return. Large cap mutual funds are considered less risky as compare to mid-cap and small cap mutual funds. Present study may help fund managers to design their portfolio in such a way that it will give expected return to the individual investors according to their risk bearing capacity. Present research also provides directions for the future study. Similar study can be extended for mid cap and small cap mutual fund schemes. A comparative study between large cap, mid cap and small cap mutual funds schemes can also be undertaken.

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