

A Study on the Changes in the Composition of Portfolio of Select Mutual Fund Schemes due to COVID-19 Pandemic

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Abstract: Investment Decisions keep changing as per the economic, political and social environments and continuous monitoring and rebalancing of portfolio becomes important for any investor so as to minimise the risk and maximise the returns. Covid-19 pandemic is not an exception to the many changing environment, which has significantly changed the outlook and the performance of the economy and the financial markets. In view of this, it was of interest to study the investment decisions of Asset Management Companies (AMCs). The study aims to compare the changes in the composition of portfolio by industry classification of select Mutual Fund Schemes of sample AMCs due to the pandemic. March 2020 has been taken as the event month as the lockdown was announced during this month. The study aims to compare the changes in the composition of portfolio by industry allocation in select MF Schemes of sample AMCs in the months of January and February 2020 (pre lockdown) and April and May 2020 (post lockdown) and to analyse the impact of lockdown on the performance of the select MF Schemes of the sample AMCs.

Keywords: Investment Decisions, Portfolio by Industry Classification, Bluechip Fund, Large Cap, NAV

JEL classification: G11, G12

1. INTRODUCTION

The environment in which a business is operating is never static and hence business decisions need to be dynamic. Asset Management Companies (AMCs) are no exception to this and the investment decisions of these AMCs have to keep pace with the changing economic, political and social environments. This calls for continuous monitoring and rebalancing of portfolio of different Mutual Fund (MF) Schemes so as to minimise the risk and maximise the returns.

2. CONCEPTUAL BACKGROUND

An AMC manages the funds that are invested by individuals, corporates and institutions by investing the pooled amount in different investments including shares, government bonds, corporate bonds and debentures, real

estate, etc. It is a huge responsibility of the AMCs to constantly review the portfolio so as to earn better returns for the investors. Constant monitoring of portfolio is a norm in AMCs. However, certain events trigger this monitoring and rebalancing of portfolio to a greater extent such as events like recession, war, etc. Covid-19 pandemic is not an exception to the many changing environment, as it goes untold that it is a major event that has happened which has significantly changed the outlook and the performance of the economy, the financial markets and the AMCs.

In India, the performance of stock market showed a decline due to fears of recession triggered by Covid-19. This also affected the performance of MF Schemes especially the Equity schemes. The decline started even before the lockdown. Even retail investors started to focus on asset allocation. A primary data analysis by Kumthakar S, Nerlekar V(2020) concluded that investment patterns and investment preferences of retail investors post Covid-19 have changed and retail investors have shown preference to invest in mutual fund schemes.

Rizvi, Mirza, Naqvi and Rahat (2020) examined some of the preliminary evidences of performance and investment styles of European funds during the evolution of Covid-19. The study reveals that Social Entrepreneurship funds demonstrated positive returns, whereas most of the other subcategories yielded negative returns. The research also included style analysis which revealed that fund managers have been shifting from high risk option to low risk option in terms of size and investment strategy.

Jacob J, Gupta N, and Gopalakrishnan B (2020), examine the investment decisions of equity mutual funds during various stages of the COVID-19 pandemic. They collected data on monthly portfolio holdings of different AMCs. The study also included data about the companies which was taken from prowess database. The study reveals that mutual funds favoured stocks with larger size, lower beta, and higher financial flexibility during the early months of the crisis. The AMCs preferred relatively safe firms which indicate a reallocation of funds towards safer assets given the high uncertainty in the starting stages of the crisis. The study also finds that mutual funds preferred growth firms over value firms. Firms affiliated with big business groups were highly favoured by the institutional investors throughout the crisis, which reflects the understanding that the ability of group firms to wade through the economic shock is comparatively easier. The research brings out key firm-level characteristics that impact the asset allocation of institutional investors during the pandemic. The study also finds that funds have increased their holdings in firms that have higher leverage compared

to lower leverage firms and from funds with higher liquidity relative to those with lower liquidity. Overall, the study concludes that there is a noticeable difference in the asset allocation of mutual funds during the course of the pandemic.

Lubos Pastor M., Blair Vorsatz (2020) presents a detailed analysis of the performance and flows of U.S. actively-managed equity mutual funds during the COVID-19 crisis of 2020. The study finds that most of the active funds have underperformed the passive fund benchmarks during the crisis which is contradiction to the popular hypothesis that actively managed funds perform well compared to passive funds. Funds with high sustainability ratings, especially environmental ones, performed well, as do funds with high star ratings.

Thus, there are many studies analysing the performance of AMCs and MF Schemes and change in the allocation of portfolio in MF Schemes to different sectors depending on risk, liquidity, sustainability, *etc.* The performance of MF Schemes deteriorated even before the lockdown in India because of the Covid-19 fears. At low prices in the month of March 2020, valuations seemed attractive. However, pessimism continued amidst fears. Markets continued to fall. The sector wise allocation of funds in a portfolio was changing. The performance measures of MF Schemes were also deteriorating and changes in the allocation to different sectors in a mutual fund portfolio was also evident after the lockdown.

3. NEED FOR THE STUDY

In view of this, it was of interest to study the investment decisions of AMCs. The study aims to compare the changes in the composition of industry portfolio of select MF Schemes of sample AMCs due to the pandemic. March 2020 has been taken as the event month as the lockdown was announced during this month. The study focuses on the composition of portfolio pre and post the lockdown.

4. OBJECTIVES

The main objectives of this study are

- i) to analyse the impact of lockdown on the performance of the select MF Schemes of the sample AMCs
- ii) to compare the changes in the allocation to different sectors in the portfolio classified by industry of select MF Schemes of sample AMCs in the months of January and February 2020 (pre lockdown) and April and May 2020 (post lockdown)

5. METHODOLOGY

The study involves the comparison of the composition of portfolio by industry classification of select MF Schemes of sample AMCs in the months of January and February 2020 (pre lockdown) and April and May 2020 (post lockdown).

5.1. Sample Selection

The first step was to select the sample AMCs. The top Five AMCs as per market capitalisation listed in Economic Times has been considered for the study. They are SBI Mutual Fund (Rs. 422122.96 crores), HDFC Mutual Fund (Rs. 376379.10 crores), ICICI Prudential Mutual Fund (Rs. 368697.71 crores), Birla Sun Life Mutual Fund (Rs. 239028.96 crores) and Nippon India Mutual Fund (Rs. 201301.77 crores)

The next step was to select MF Schemes. The study plans to focus on the Blue Chip Fund/Large Cap Fund that is comparable across these five AMCs. Due to time constraint the study is limited only to Blue Chip Fund schemes of the five sample AMCs. Data on these MF Schemes are collected from Factsheets of the AMCs. The study is likely to throw light on the changes in the investment preference following the COVID-19 pandemic.

MF Schemes of different AMCs selected for the study are as follows

1. SBIMF - Blue Chip Fund (SBIMF-BC)
2. HDFCMF - Top 100 Fund (HDFCMF-Top100)
3. ICICI Prudential MF - Blue Chip Fund (ICICIPMF-BC)
4. Aditya Birla Sun Life Mutual Fund - Frontline Equity Fund (ABSLMF-FE)
5. Nippon India Mutual Fund - Large Cap Fund (NIMF-LC)

5.2. Data Source

After selecting the Blue Chip schemes of these 5 AMCs, the data required for the study was collected from the Fact sheets of these AMCs. In the case of SBI Mutual Fund, Aditya Birla Sun Life Mutual Fund and Nippon India Mutual Fund, Fact Sheet of a month reports the investments as at the end of the previous month. Hence, Factsheets of February, March, April, May and June 2020 are considered for investments in January, February, March, April, and May in the case of these AMCs. However, in the case of HDFC Mutual Fund and ICICI Prudential Mutual Fund, Fact Sheets of January reports data as at the end of the month and hence, Factsheets of January, February, March, April and May are considered in these cases.

To study the changes in the composition of portfolio of the schemes, the study has selected the portfolio by industry classification. It should also be noted that in the Factsheets referred, Aditya Birla Sun Life Mutual Fund and Nippon India Mutual Fund reports only top 10 holdings. Hence, only top ten holdings are reported. The study then restricted to analyse only holdings in top 6 sectors which were common across all the MF Schemes and were present in the top 10 holdings of all select schemes. These 6 sectors were Finance (FIN), Consumer Goods (CG), Energy (EN), Construction (CON), IT (IT) and Pharma (PH).

Certain adjustments were made in the data taken from the Factsheets. In the case of SBIMF–Blue Chip Fund, Energy, Oil and Gas and Power were grouped together under the category of Energy. In the case of HDFCMF–Top 100 Fund, Oil and Gas and Power were grouped together under the category of Energy. Similarly, Software and IT were grouped as one. Banks and Financial Services were grouped under Finance.

5.3. Period of Study

The study covered data on NAV and Composition of Portfolio by Industry Classification for five month period from January 2020 to May 2020. January and February were considered as month's pre lockdown and April and May were considered as months post lockdown.

5.4. Statistical Technique Used

The changes in the Net Asset Value (NAV) of the MF Schemes was analysed using the t test for comparison of means, pre and post the lockdown. Similarly, the changes in the composition of the allocation to various sector pre and post the lockdown was also analysed using the t test for comparison of means.

6. LIMITATIONS OF THE STUDY

Only top five AMCs are considered for the study. Moreover, the research limits itself to the study of portfolio of Large Cap Funds. The analysis further considers only the top 6 Industries for analysing the composition of Portfolio by Industry Classification which were common across the Blue Chip/Large Cap MF Schemes.

7. DATA ANALYSIS AND FINDINGS

The main objectives of this study are to analyse the impact of lockdown on the performance of the select MF Schemes of the sample AMCs and to

compare the changes in the allocation to different sectors in the portfolio classified by industry of select MF Schemes of sample AMCs in the months of January and February 2020 (pre lockdown) and April and May 2020 (post lockdown).

7.1. Analysis of the Impact of Lockdown on the Performance of the select MF Schemes of the sample AMCs

To analyse the impact of the lockdown on the performance, NAV of the MF Schemes were averaged for the months of Jan and Feb '20 as Average NAV Pre Lockdown (Average NAVpre). Similarly, NAV of the MF Schemes were averaged for the months of April and May '20 as Average NAV Post Lockdown (Average NAVpost). The NAV for Mar'20 was not considered for the study as the Lockdown was announced during the month of March.

The returns of NAV during the lockdown was calculated as $(NAV_{post} - NAV_{pre})/NAV_{pre}$. All these returns are negative indicating that the NAV decreased in the post lockdown period of April and May, as given in Table 1.

Table 1: Changes in NAV

<i>MF Scheme</i>	<i>Average NAVpre</i>	<i>Average NAVpost</i>	<i>NAV Returns = (NAVpost - NAVpre)/NAVpre</i>
SBIMF-BC	40.21	33.63	-0.1636
HDFCMF-Top100	466.87	384.32	-0.1768
ICICIPMF-BC	36.47	36.07	-0.0109
ABSLMF-FE	224.33	186.26	-0.1697
NIMF-LC	34.08	26.63	-0.2183
		Mean	-0.1479
		t	-4.1602

As indicated in Table 1, the Averages of NAVs Post Lockdown of all select MF Schemes have decreased compared to the Averages of NAV Pre Lockdown. The study aimed to test whether the NAV Post Lockdown was significantly different from NAV Pre Lockdown. For this purpose, comparison of means using t test was done. The changes in the Average NAV pre and post were taken to calculate the returns during the lockdown and the mean of the returns of various schemes (Mean) is calculated. This overall mean of the changes in the NAV is tested as to whether it is significantly different from zero. The null hypothesis tested was as follows.

H_{01} : The Mean Returns earned by all the sample schemes of select MFs is not significantly different from Zero

$$i.e., \bar{X} = 0$$

As calculated 't' of -4.16024 is more than critical value of 2.132 at 4 df, the null hypothesis is rejected. Hence, the Mean Returns earned by the sample schemes of select MFs are significantly different from Zero. Since the Mean Returns is negative, it can be concluded that the NAV Post Lockdown has decreased compared to Pre Lockdown and the difference is also significant.

7.2. Comparison of Changes in the Composition of Portfolio

Six sectors were chosen for this analysis which appeared in all the portfolios of selected MF Schemes of sample AMCs. Few of the AMCs reported only top 10 holdings. Hence, all the sectors could not be covered in the study. The sectors that appeared common across all selected MF schemes are classified for the study as Finance, Consumer Goods, Energy, Construction, IT and Pharma.

7.2.1. Changes in the Allocation of Finance Industry in the Portfolio

The Changes in allocation to Finance Industry in the portfolio are negative in four out of the five schemes selected, as shown in Table 2. The study aimed to test whether the allocation to Finance industry in the Portfolio Post Lockdown was significantly different from allocation to Finance Industry in the Portfolio Pre Lockdown. For this comparison of Means using t test was done. The t value is also shown in Table 2.

Table 2: Changes in Allocation of Finance Industry in the Portfolio

MF Scheme	FINpre	FINpost	Percent Change in Finance Sector Holding = (FINpost - FINpre)/FINpre
SBIMF-BC	41.27	35.26	-0.1457
HDFCMF-Top100	38.30	33.84	-0.1318
ICICIPMF-BC	22.79	28.17	0.1909
ABSLMF-FE	40.30	32.76	-0.2301
NIMF-LC	28.23	24.23	-0.1650
		Mean	-0.0963
		t	-1.3060

H_{02} : The mean change in the allocation to finance industry in the portfolio of the select MFs schemes is not significantly different from Zero

$$i.e., \bar{X} = 0$$

As calculated 't' of -1.30603 is less than critical value of 2.132 at 4 df, the null hypothesis is accepted. It can be concluded that the mean change in the allocation to Finance Industry of select MF Schemes are not significantly different from Zero. Hence, it can be concluded that there is a decrease in the allocation to Finance Industry in the portfolio but the difference is not significant.

7.2.2. Changes in the Allocation of Consumer Goods Industry in the Portfolio

As indicated in Table 3, the Changes in allocation to Consumer Goods Industry in the portfolio are positive in three out of the five schemes selected.

Table 3: Change in Allocation to Consumer Goods Industry in the Portfolio

<i>MF Scheme</i>	<i>CGpre</i>	<i>CGpost</i>	<i>Percent Change in Consumer Goods Sector Holding = (CGpost – CGpre)/CGpre</i>
SBIMF-BC	10.66	10.62	-0.0037
HDFCMF-Top100	5.15	6.42	0.2453
ICICIPMF-BC	12.59	10.38	-0.1755
ABSLMF-FE	8.36	8.85	0.0586
NIMF-LC	7.98	10.14	0.2706
		Mean	0.0790
		t	0.9572

The Null Hypothesis tested was as follows.

H_{02} : The mean change in the allocation to consumer goods industry in the portfolio of the select MFs schemes is not significantly different from Zero

$$i.e., \bar{X} = 0$$

As calculated 't' of -1.30603 is less than critical value of 2.132 at 4 df, the null hypothesis is accepted. It can be concluded that the mean change in the allocation to Consumer Goods Sector of select MF Schemes are not significantly different from Zero. The positive mean indicates that the allocation to Consumer Goods Sector increased but the increase is not significant.

7.2.3. Changes in the Allocation of Energy Industry in the Portfolio

From Table 4 it is clear that the Average changes in the allocation to Energy Sector in the portfolio is positive in all cases. Hence, the overall Mean of the changes is positive.

Table 4: Changes in Allocation to Energy Industry in the Portfolio

MF Scheme	ENpre	ENpost	Percent Change in Energy Sector Holding = (ENpost – ENpre)/ENpre
SBIMF-BC	8.28	9.15	0.1056
HDFCMF-Top100	21.34	25.35	0.1876
ICICIPMF-BC	8.44	14.32	0.6966
ABSLMF-FE	7.36	10.58	0.4375
NIMF-LC	7.43	10.77	0.4485
		Mean	0.3752
		t	3.5739

H_{02} : The mean change in the allocation to Energy Sector in the portfolio of the select MFs schemes is not significantly different from Zero

$$i.e., \bar{X} = 0$$

As calculated 't' of 3.5739 is more than critical value of 2.132 at 4 df, the null hypothesis is rejected. It can be concluded that the mean change in the allocation to Energy Sector of select MF Schemes is significantly different from Zero. Hence, it can be concluded that there is an increase in the allocation to Energy Sector and the increase is significant.

7.2.4. Changes in the Allocation of Construction Industry in the Portfolio

As indicated in Table 5, the Average change in the allocation to Construction Sector has decreased in all the sample cases.

Table 5: Changes in Allocation to Construction Industry in the Portfolio

MF Scheme	CONpre	CONpost	Percent Change in Construction Sector Holding=(CONpost – CONpre)/CONpre
SBIMF-BC	7.10	5.72	-0.1942
HDFCMF-Top100	6.02	5.47	-0.0905
ICICIPMF-BC	2.81	2.45	-0.1281
ABSLMF-FE	4.67	0	-1
NIMF-LC	6.89	4.84	-0.2980
		Mean	-0.3421
		t	-2.0345

H_{02} : The Mean change in the allocation to Construction Sector in the portfolio of the select MFs schemes is not significantly different from Zero

$$i.e., \bar{X} = 0$$

As calculated 't' of -2.0346 is less than critical value of 2.132 at 4 df, the null hypothesis is accepted. Hence, it can be concluded that there is a

decrease in the allocation to Construction Sector in the portfolio but the decrease is not significant.

7.2.5. Changes in the Allocation of Construction Industry in the Portfolio

As indicated in Table 6, the Average changes in the allocation to IT Sector in the portfolio is negative in three out of the five schemes selected.

Table 6: Change in Composition of IT Industry in the Portfolio

<i>MF Scheme</i>	<i>ITpre</i>	<i>ITpost</i>	<i>Percent Change in IT Sector Holding = (ITpost – ITpre)/ITpre</i>
SBIMF-BC	5.23	6.11	0.1682
HDFCMF-Top100	11.33	7.46	-0.3411
ICICIPMF-BC	11.53	11.18	-0.0303
ABSLMF-FE	10.24	10.14	-0.0102
NIMF-LC	7.39	8.45	0.1426
		Mean	-0.0141
		t	-0.1558

H_{02} : The Mean change in the allocation to IT Sector in the portfolio of the select MFs schemes is not significantly different from Zero

$$i.e., \bar{X} = 0$$

As calculated 't' of -0.1559 is less than critical value of 2.132 at 4 df, the null hypothesis is accepted. The negative mean indicates that there is a decrease in the allocation to IT Sector but the t value indicates that this decrease is not significant.

7.2.6. Changes in the Allocation of Pharma Industry in the Portfolio

As indicated in Table 7, the Average change in the allocation to Pharma Sector is positive in three out of the five schemes selected.

Table 7: Change in Composition of Pharma Industry in the Portfolio

<i>MF Scheme</i>	<i>PHpre</i>	<i>PHpost</i>	<i>Percent Change in Pharma Sector Holding = (PHpost – PHpre)/PHpre</i>
SBIMF-BC	4.98	7.22	0.4493
HDFCMF-Top100	4.31	5.53	0.2815
ICICIPMF-BC	6.83	3.21	-0.5303
ABSLMF-FE	5.02	7.69	0.5328
NIMF-LC	7.44	6.87	-0.0766
		Mean	0.1313
		t	0.6712

H_{02} : The mean change in the allocation to Pharma Sector in the portfolio of the select MFs schemes is not significantly different from Zero

$$i.e., \bar{X} = 0$$

As calculated 't' of 0.6712 is less than critical value of 2.132 at 4 df, the null hypothesis is accepted. It can be concluded that the average change in the allocation to Pharma Sector in the portfolio of select MF Schemes are not significantly different from Zero. Hence, it can be concluded that there is an increase in the allocation but the increase is not significant.

8. CONCLUSION

The Average NAVs of select MF Schemes have significantly declined post lockdown. The Mean of the changes in NAV is negative and the change is significant. There is also a shift in the portfolio by industry allocation. The average percentage changes in allocation to the Finance Sector, Construction Sector and IT Sector have reduced. However the reduction is not significant. The average percentage changes in the allocation to Consumer Goods Sector and Pharma Sector have increased. However the increase is not significant and in the case of Energy Sector the allocation has significantly increased.

References

- Jacob J, Gupta N, and Gopalakrishnan B (2020). Mutual fund Asset Allocation during COVID-19. SSRN.
- Kumthakar S., Nerlekar V. (2020). Analytical Study of Investment Patterns and Investment Preferences of Retail Investors Post COVID 19. *Journal of Seybold Report* ISSN NO: 1533-9211
- Lubos Pastor M. Blair Vorsatz (2020). Mutual Fund Performance and Flows during the Covid-19 Crisis. Working Paper 27551. <http://www.nber.org/papers/w27551>
- Rizvi, Mirza, Naqvi and Rahat. (2020) Covid 19 and Asset Management in EU: A Preliminary Assessment of Performance and Investment Styles. *Journal of Asset Management*. 21:281–29; <https://doi.org/10.1057/s41260-020-00172-3>, accessed on 5th Nov.2020
- <https://economictimes.indiatimes.com/marketstats/pagano-1,pid-134,sortby-aum.cms>, accessed in Nov.2020
- https://www.business-standard.com/article/markets/covid-19-impact-equity-mf-schemes-give-25-negative-returns-to-investors-120032200247_1.html, accessed on 5th Nov. 2020
- <https://www.sbimf.com/en-us/factsheets>
- <https://www.hdfcfund.com/investor-desk/downloads/downloads>

<https://www.icicipruamc.com/downloads/factsheet-and-portfolio>

<https://mutualfund.adityabirlacapital.com/forms-and-downloads/factsheets>

<https://mf.nipponindiaim.com/investor-service/downloads/factsheets>

<https://faculty.washington.edu/heagerty/Books/Biostatistics/TABLES/t-Tables/>