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# Climbing the Wall of Worry: A Study of Ups and Downs of Selected Mutual Funds Schemes with respect to COVID19

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**Abstract:** During recent years, the Indian financial sector has undergone revolutionary changes and has become broad based with size and resources so as to meet diverse needs of the economy. Mutual funds are becoming attractive avenue for investors because of various benefits attached to them. Due to lack of professional expertise and knowledge about capital market and also pros and cons of investment, the small investors hesitate to invest their hard earned money in corporate securities. Common man may hesitate to invest in corporate securities directly, however, during COVID 19, large number of demat accounts have been opened. Thus, a mutual fund is the suitable investment for common man as it offers an opportunity to invest in diversified, professionally managed avenues for securities at the lowest cost. In this research paper an attempt is made to analyse the performance of the growth oriented direct equity mutual fund schemes on the basis of risk and return analysis especially with reference to COVID 19. The funds' risks and returns have been analysed with time frame of "Pre-COVID19" and "Post-COVID19". The analysis is done through various statistical tools and tests like Average Return, Standard Deviation, Beta, Sharpe Ratio, Jensen Measure, Treynor Ratio, and Coefficient of Determination ( $R^2$ ) to assess the impact of COVID 19 recovery rate of mutual funds.

**Keywords:** Mutual fund and COVID 19, Standard Deviation, Return, Beta, Sharpe Ratio, Jensen Measure, Treynor Ratio

## I. INTRODUCTION

Mutual funds returns have taken a sharp turn due to COVID 19 pandemic hit. COVID 19 pandemic has brought about economic disruption globally and the Indian stock market has been roiling since then. But, this pandemic seemed to have disrupted mutual funds segment too. Meanwhile, Franklin Templeton Mutual Fund has decided to wind up six debt schemes with a combined asset base of 258.56 billion rupees (US\$3.4 billion). The Indian arm of US fund group confirmed that this was due to redemption pressure and lack of liquidity in debt markets. Total Assets under Management (AUM) of Franklin Templeton India was 1.04 trillion rupees (\$13.62 billion) as of March 2020.<sup>1</sup> ([1])

This development has created a stir in the mutual fund industry and investors who were risk averse really threatened because of this fiasco. There were lots of questions about mutual fund schemes in the minds of investors like "should we increase our fallen equity allocation? In times of uncertainty like this pandemic, should we make our portfolio conservative? Should we invest more or redeem all of the units from the schemes? Should we keep our SPI running or stop?" The lockdown has impacted the income of almost 60% households across India, according to a survey conducted by Nielsen across 12 Indian cities in the second week of May 2020.<sup>2</sup> ([2]) However, mutual fund's investments have been increased to four fold despite the economic slowdown caused by COVID 19 pandemic. Equity oriented mutual funds have been the winner in the game. Despite a sharp slowdown in economic activity across the globe, mutual funds have made a net investment of Rs 39,498 crore in stocks in the first six months of 2020, more than four-times (Rs 8,735 crore) the amount infused a year ago. Of this, over Rs 30,000 crore was invested in March alone. Market expert said that this development shown the mature behaviour of investors who seen this as the market correction and took this as an opportunity instead of threat. Even the aggressive hybrid mutual funds had increased equity allocation in March, Bajaj Capital noted.<sup>3</sup> ([3])

<sup>1</sup> Asia Times dated 25<sup>th</sup> April 2020. <https://bit.ly/2Y66en2>

<sup>2</sup> Survey: Times of India dated 23<sup>rd</sup> May 2020. <https://bit.ly/2E7GZcH>

<sup>3</sup> New India Express article dated 6<sup>th</sup> July 2020. <https://bit.ly/2PVQ0Z0>

## II. REVIEW OF LITERATURE

- A. A study on Mutual Funds by Prof. Badri Narayan Ratha (2020), the Indian Institute of Technology-Hyderabad indicates that investors need not panic as long as the net asset value (NAV) of their investment drastically does not fall during the present quarter. The study reveals that Ministry of Finance and RBI stimulus package encouraged mutual funds investors through SIP but, at the same time it also posed an uncertainty for the future cash flows. The study also told the investors not to panic as long as the NAV of mutual fund doesn't get eroded much.<sup>4</sup> ([4])
- B. Vikas Kumar and Ankit Srivastava (2016), evaluated the performance of 20 open-ended equity schemes of private sector mutual funds. The period of study was from 1st April 2006 till 31<sup>st</sup> March 2015. By comparing overall performance ranking of all schemes it could be seen that Reliance Pharma Fund had been the best.<sup>5</sup> ([5])
- C. The study on "Mutual fund performance and flows under COVID 19" by Lubos Pastor and Blair Varsatz (July 2020) indicates that active funds performed poorly during COVID 19. 58% funds underperformed their benchmark index at an annualised basis of -2.11% to -11%. They also found that funds with above average sustainability outperformed the remaining funds at an annualised rate of 14.2% in terms of FTSE benchmark adjusted returns. The study also revealed that Five-Star rated funds also outperformed the One-Star rated funds by annualised rate of 23%.<sup>6</sup> ([6])
- D. The study of Albuquerque et al. (2020) found that the firms whose ratings were high on environment and social context were dominated the first quarter 2020 in terms of earnings. Another study of Ding et al. (2020) also confirmed this conclusion based on the study conducted in 56 countries on social responsibility ratings.<sup>7</sup> ([7])
- E. The working paper from Columbia University, (2020), on "Mutual fund liquidity transformation and reverse flight to liquidity", by Ma, Yiming, Kairong Xiao, and Yao Zeng tried to focus on the liquidity issues arising out of masses sale of funds units by investors in the crises period. It also observed that liquid schemes have much selling pressure than conventional funds in the times of COVID 19. It was also concluded that such volatility in the liquid funds can be alleviated by commercial banks if they provide financial intermediation.<sup>8</sup> ([8])

## III. OBJECTIVES OF THE STUDY

The first objective is to study and analyse the impact of COVID-19 on selected mutual funds schemes.

The second objective is to analyse the impact of COVID-19 on funds schemes with the context of Pre-COVID-19 and Post-COVID-19 time period. An attempt has also been made to analyse the impact in terms of ups and downs. i.e. negative impact of COVID-19 and the recovery of Indian mutual fund industry from this pandemic.

## IV. RESEARCH METHODOLOGY

### A. Scope of the Study

To analyse the mutual fund performance, 10 months period ranging from 1st October 2019 to 31st July 2020 is selected. Top Ten Hybrid Mutual Fund schemes have been selected for the study. (Quarter ending July 2020- CRISIL.) The schemes have been selected on the basis of CRISIL Rank 2020. The schemes selected are: BNP Paribas Substantial Equity Hybrid Fund, ICICI Prudential Equity & Debt Fund, Canara Robeco Equity Hybrid Fund, IDBI Equity Hybrid Fund, SBI Equity Hybrid fund, DSP Equity & Bond Fund, Kotak Equity Hybrid Fund, Sundaram Equity Hybrid Fund, HDFC Equity Hybrid Fund, Mirae Equity Hybrid fund. The time of 10 months is selected for the study from 1<sup>st</sup> October 2019 to 31<sup>st</sup> July 2020. Time period of 1<sup>st</sup> October to 28<sup>th</sup> February 2020 is selected as pre-COVID-19 and time period of 1<sup>st</sup> March 2020 to 31<sup>st</sup> July 2020 is selected as Post-COVID-19.

### B. Sources of Data

To analyse the impact of COVID-19 on mutual funds schemes, secondary data have been selected and collected from the factsheets, websites of AMCs and AMFI. The NAVs of selected schemes have been collected on daily basis from the various AMCs website and AMFI for a period of 10 months. i.e. Pre-COVID-19 and Post-COVID-19.

<sup>4</sup> "Impact of COVID 19 on Indian mutual fund industry" by Prof. Badri Narayan Ratha, IIT research study

<sup>5</sup> "Performance evaluation of mutual funds: A study if Reliance Mutual Fund". By Vikas Kumar & Ankit Srivastava.

<sup>6</sup> Research study: Mutual funds performance and flows under COVID19. <https://bit.ly/3g5Qjei>

<sup>7</sup> Resiliency of environmental and social stocks: An analysis of the exogenous COVID-19 market crash, Review of Corporate Finance Studies, forthcoming.

<sup>8</sup> Columbia University, (2020), "Mutual fund liquidity transformation and reverse flight to liquidity", by Ma, Yiming, Kairong Xiao, and Yao Zeng

### C. Tools Used

To analyse the impact of COVID-19 on selected fund schemes, various tools and techniques have been employed. For risk and return determination of schemes, Total Risk (SD) Beta ( $\beta$ ), and Co-efficient of Determination ( $R^2$ ) are used. For performance measurement and impact of COVID-19, Sharpe Ratio (SR), Treynor Ratio (TR), Jensen Measure ( $\alpha$ ) have been used. 10 year Government Bond yield is selected as the risk free rate of return for comparing the schemes performance.

## V. RESULTS AND FINDINGS

### A. Performance in terms of Total Returns, Total Risk, Beta, $R^2$

Selected schemes have been analysed in terms of Total Returns, total Risk, Beta, and Coefficient of Determination ( $R^2$ ) as the market returns alone is not enough to judge the overall performance of the schemes.

Five schemes have provided positive returns in the time of COVID-19 pandemic. These schemes are BNP Paribas Substantial Equity Hybrid Fund (5.30%), Canara Robeco Equity Hybrid Fund (6.97%), IDBI Equity Hybrid Fund (2.24%), DSP Equity & Bond Fund (0.74%), and SBI Equity Hybrid fund (0.03%). These schemes have provided higher returns than the market returns of (-2.27%). These schemes have outperformed the market returns. Kotak Equity Hybrid Fund, Sundaram Equity Hybrid Fund have given negative returns in these 10 months but, these schemes also have outperformed the market returns. Schemes which have given negative returns than the market returns are Mirae Equity Hybrid fund, HDFC Equity Hybrid Fund, ICICI Prudential Equity & Debt Fund. These three schemes have underperformed the market returns.

TABLE NO 1.1					
Returns & risk of mutual fund schemes					
SR. NO.	Schemes	TOTAL Returns (%)	TOTAL Risk (%)	BETA	$R^2$
1	BNP Paribas Substantial Equity Hybrid Fund	5.30	20.06	0.6599	0.9651
2	ICICI Prudential Equity & Debt Fund	-2.60	20.38	0.6464	0.90
3	Canara Robeco Equity Hybrid Fund	6.97	18.85	0.6224	0.97
4	IDBI Equity Hybrid Fund	2.24	16.81	0.5429	0.93
5	SBI Equity Hybrid fund	0.03	19.50	0.6370	0.95
6	DSP Equity & Bond Fund	0.74	20.59	0.6690	0.94
7	Kotak Equity Hybrid Fund	-0.04	21.76	0.7151	0.96
8	Sundaram Equity Hybrid Fund	-0.11	18.91	0.6170	0.95
9	HDFC Equity Hybrid Fund	-3.28	20.37	0.6667	0.96
10	Mirae Equity Hybrid fund	-14.15	27.56	-0.0639	0.00
NIFTY 50		-2.27	29.86	1	1

Table no 1.1 shows that all the selected schemes have lower risk ratio as compared to market risk, but, the only five schemes have provided positive returns in this COVID-19 pandemic. The schemes with lowest risk ratio and higher returns are Canara Robeco Equity Hybrid Fund, BNP Paribas Substantial Equity Hybrid Fund, IDBI Equity Hybrid Fund. The coefficient of determination  $R^2$  of all the schemes except Mirae Equity Hybrid Fund are in accordance with market risk-returns movement. Mirae Equity Hybrid Fund went in the opposite movement from the market and given negative returns than the market returns. The betas of all the schemes also confirm this. Thus, as per the risk-reward ratio, the best schemes which outperformed the market are Canara Robeco Equity Hybrid Fund, BNP Paribas Substantial Equity Hybrid Fund and IDBI Equity Hybrid Fund. Thus, these are the winning schemes during COVID-19 pandemic.

### B. Risk and Returns During Pre-COVID-19 and Post-COVID-19

TABLE NO 1.2

#### RETURNS & RISK OF MUTUAL FUND SCHEMES

SR. NO	SCHEMES	TOTAL RETURNS (%)		TOTAL RISK (%)		BETA		R <sup>2</sup>	
		Pre-COVID	Post-COVID	Pre-COVID	Post-COVID	Pre-COVID	Post-COVID	Pre-COVID	Post-COVID
1	BNP Paribas Substantial Equity Hybrid Fund	5.76	0.54	5.61	19.21	0.6249	0.6631	0.8817	0.9731
2	ICICI Prudential Equity & Debt Fund	0.98	-2.68	7.08	19.07	0.7765	0.6354	0.8526	0.9069
3	Canara Robeco Equity Hybrid Fund	6.82	0.58	5.02	18.12	0.5677	0.6274	0.9130	0.9782
4	IDBI Equity Hybrid Fund	3.34	1.26	4.76	16.09	0.4982	0.5468	0.7773	0.9443
5	SBI Equity Hybrid fund	4.13	-3.32	5.46	18.67	0.5998	0.6405	0.8657	0.9609
6	DSP Equity & Bond Fund	5.95	-4.43	5.38	19.82	0.5943	0.6758	0.8660	0.9497
7	Kotak Equity Hybrid Fund	3.71	-3.09	6.06	20.85	0.6830	0.7181	0.8998	0.9689
8	Sundaram Equity Hybrid Fund	4.72	-3.81	5.45	18.06	0.6047	0.6183	0.8759	0.9579
9	HDFC Equity Hybrid Fund	-0.56	-2.45	6.42	19.29	0.7304	0.6613	0.9191	0.9603
10	Mirae Equity Hybrid fund	2.17	-17.13	6.49	26.70	0.2618	-0.0915	0.1156	0.0096
NIFTY 50		-1.39	-0.27	8.42	28.58	1		1	

Table no 1.2 shows that the schemes which have outperformed the market during 10 months ranging from 1<sup>st</sup> October 2019 to 31<sup>st</sup> July 2020, have also outperformed the market during Pre-COVID-19 and Post-COVID-19 time period. In the Pre-COVID-19 time duration, market returns were negative. But, all the schemes except HDFC Equity Hybrid Fund have performed well and given positive returns than the market returns. During this time period, seven schemes have given superior returns than market returns and other selected schemes. These are Canara Robeco Equity Hybrid Fund, DSP Equity & Bond Fund, BNP Paribas Substantial Equity Hybrid Fund, Sundaram Equity Hybrid Fund, SBI Equity Hybrid fund, Kotak Equity Hybrid Fund and IDBI Equity Hybrid Fund. During this time period, Canara Robeco Equity Hybrid Fund has provided superior returns over all other selected schemes and outperformed the market. Thus, during Pre-COVID-19, this scheme wins the “wall of worry” and clearly has defeated all the contents in the game. During Post-COVID-19, the market returns were also negative. All the schemes except three, have given negative returns. The schemes which had provided positive returns during Pre-COVID-19 have also turned downward and returns became negative with the market. Clearly these schemes haven’t climbed the “wall of worry” even after Post-COVID-19 time duration when the market has given clear signals of improvement. But, three schemes namely IDBI Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund, BNP Paribas Substantial Equity Hybrid Fund have outperformed the market and have given superior returns after the global pandemic time. These schemes have corrected fast and outperformed the market. IDBI Equity Hybrid Fund has corrected very fast climbed the “wall of worry” and has become clear winner of the game.

The total risk of the market denoted by standard deviation, is also higher than all the schemes. During Pre-COVID-19 time period, three schemes have very lowest risk namely IDBI Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund, BNP Paribas Substantial Equity Hybrid Fund. In terms of risk parameter, these three schemes are the best choice as lower the risk, better the schemes returns protected. During Post-COVID-19, IDBI Equity Hybrid Fund is the clear winner as it has lower risk in both the time periods, and this fund has very fast corrected from the market downtrends during COVID-19 pandemic. The lower beta also confirms this and can be visible from the table 1.2. In terms of coefficient of determination, three schemes IDBI Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund, BNP Paribas Substantial Equity Hybrid Fund also have registered better correlation with the market correction.

### C. Performance in Terms of Sharpe Ratio, Treynor Ratio and Jensen's Alpha

TABLE 1.3							
SHARPE RATIO, TREYNOR RATIO, AND JENSEN MEASURE OF FUND SCHEMES							
SR. NO.	SCHEMES	SHARPE RATIO		TREYNOR RATIO		JENSEN MEASURE	
		Pre-COVID	Post-COVID	Pre-COVID	Post-COVID	Pre-COVID	Post-COVID
1	BNP Paribas Substantial Equity Hybrid Fund	-0.0371	-0.2821	-0.0033	-0.0817	0.0439	-0.0128
2	ICICI Prudential Equity & Debt Fund	-0.7034	-0.4534	-0.0642	-0.1361	0.0073	-0.0468
3	Canara Robeco Equity Hybrid Fund	0.1711	-0.2972	0.0151	-0.0858	0.0504	-0.0147
4	IDBI Equity Hybrid Fund	-0.5507	-0.2924	-0.0526	-0.0860	0.0104	-0.0129
5	SBI Equity Hybrid fund	-0.3358	-0.4973	-0.0305	-0.1450	0.0258	-0.0529
6	DSP Equity & Bond Fund	-0.0031	-0.5245	-0.0003	-0.1538	0.0436	-0.0618
7	Kotak Equity Hybrid Fund	-0.3714	-0.4341	-0.0330	-0.1260	0.0277	-0.0457
8	Sundaram Equity Hybrid Fund	-0.2294	-0.5408	-0.0206	-0.1580	0.0320	-0.0591
9	HDFC Equity Hybrid Fund	-1.0164	-0.4360	-0.0893	-0.1272	-0.0115	-0.0428
10	Mirae Equity Hybrid fund	-0.5857	-0.8648	-0.1451	2.5241	-0.0187	-0.2366
NIFTY 50		-0.8735	-0.2183	-0.1177	-0.0941	-0.0276	-0.0210

Sharpe ratio of nine schemes is higher than market. Thus, these schemes have given superior returns per unit of risk than the market. But, the Sharpe ratio of Canara Robeco Equity hybrid Fund is positive, and this is the only scheme in the selection that has positive sharpe ratio, this means that, it has provided superior returns than all the schemes and market during pre-COVID-19. This schemes has provided better excess returns over the risk free rate per unit of risk. Thus, it has provided better risk-adjusted returns during Pre-COVID-19. This is the schemes which has provided better returns in last 10 months, has lower risk as compared to market, and has excelled in both the time duration. The Sharpe ratio of HDFC Equity Hybrid Fund is the worst than the market. Thus, this schemes hasn't provided enough returns during time period.

In the Post-COVID-19 time period, the benchmark NIFTY 50 has corrected the downtrend and provided better returns. This is visible from the table 1.3. There are three schemes which have corrected the negative market outlook fast and climbed the "wall of worry" at the fast speed. These schemes are BNP Paribas Substantial Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund, and IDBI Equity Hybrid Fund. These are the schemes which have better performed in terms of returns and risk which can be confirmed from the table no 1.2. Thus, the recovery rate from the market downtrend is higher in these three schemes, as the Sharpe ratio is higher in these three schemes as compared to other schemes in the selection.

The performance in terms of Treynor ratio of benchmark NIFTY50 is also negative which indicates that the market has generated negative returns over the risk free rate per unit of systematic risk measure by  $\beta$ . During Pre-COVID-19 time period, three schemes namely BNP Paribas Substantial Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund, DSP Equity & Bond Fund have higher Treynor ratio as compared to other schemes. Higher the Treynor ratio, higher is the excess returns generated by the schemes per unit of systematic risk. Table 1.3 indicates that these three schemes have outperformed during Pre-COVID-19 and given higher excess returns per unit of systematic risk. In these schemes, Canara Robeco Equity Hybrid Fund is the only winner as it has provided positive Treynor ratio and thus, it has corrected negative market outlook very sharply. Mirae Equity Hybrid fund has lower Treynor ratio than the benchmark, thus, it has generated negative returns during this time period.

In the Post-COVID-19 time period, the benchmark Treynor ratio indicates recovery in the market. Mirae Equity Hybrid fund which has negative outlook during Pre-COVID-19, has sharply corrected the negative trend in the market and has given superior returns over the benchmark and other schemes. This scheme has outperformed other schemes extraordinarily in this time period. Other schemes in the group which have better Treynor ratio as compared to the benchmark, are BNP Paribas Substantial Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund and IDBI Equity Hybrid Fund. These schemes have given better excess returns over the risk free rate per unit of systematic risk. Thus, these four schemes have climbed the "wall of worry" very fast over other schemes in the selection.

Jensen's measure indicates if a portfolio is earning proper returns for its level of risk. If the value of Jensen's alpha is positive, then the portfolio is earning excess returns. During the Pre-COVID-19, eight schemes have positive alpha as compared to market and have beaten the rest two schemes whose alpha is negative. Positive alpha of eight schemes indicates that these schemes have beaten up the negative market outlook and stood winner in the game. HDFC Equity Hybrid Fund and Mirae Equity Hybrid fund are clearly the looser as they have negative alpha which confirms negative excess returns of the schemes. In this Canara Robeco Equity Hybrid Fund has the highest alpha which indicates that this scheme has earned superior excess returns over all other schemes for the risk it has taken over during Pre-COVID-19 time period. Table 1.3 also indicates that the three schemes namely BNP Paribas Substantial Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund, and IDBI Equity Hybrid Fund have given superior returns over all other schemes in the group and also beaten up the benchmark. In this, Canara Robeco Equity Hybrid Fund has corrected very sharply and earned higher returns over the risk it has taken over during Post-COVID-19.

## VI. CONCLUSION

This study has tried to analyse 10 schemes during different time duration considering the impact of global pandemic. In this study, all the schemes have been analysed in terms of Pre-COVID-19 and Post-COVID-19 time duration. Results and findings have been compared and presented in different tables. Efforts have been made to analyse ups and downs after global pandemic and the recovery rate of the selected schemes. In the analysis, BNP Paribas Substantial Equity Hybrid Fund, Canara Robeco Equity Hybrid Fund and IDBI Equity Hybrid Fund have been found to have superior performance over all other schemes in the portfolio. These three schemes have also outperformed the benchmark in terms of all parameters and ratios. Thus, these three schemes are arised as the winner during this time period. Canara Robeco Equity Hybrid Fund has beaten all the schemes in terms of all the criteria and clearly stood as the winner. Thus, this scheme has climbed the "wall of worry" very fast, as it has beaten up all the negative downtrends in the market after the global COVID-19 pandemic.

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