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A Study of Mutual Fund and Stock Market Performance During The 2008 And Covid-19 Recession

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ABSTRACT

In recent year there were two major time frames when stock market had shown negative movement and also mutual fund asset under management was also affected. One time frame was 2007-08 rescission when market was crashed almost every investor have lost their money and same happened again in 2019-20 when covid-19 hits the market in this time also many big as well as small investors lost their fund, economic growth was negative and GDP also went negative. This study is based on Secondary Data which is collected from National Stock Exchange (NSE) for nifty and for Mutual funds it is collected from official website of Association of mutual fund of India (AMFI). Descriptive Analysis Technique has been used to analyze the Data and Correlation technique has been used to determine the relationship between the Indian Stock Index. Through this study we tried to correlate performance of NSE in 2007-08 recession with covid-19 recession. Also, so we determined the pattern of return of mutual fund as well as Indian stock market for both time frame 2007-08 and 2019-20.

Key words: Stock Market, Mutual Fund, Recession, Covid-19.

1- INTRODUCTION:

When countries Gross domestic product GDP growth for two or more than two consecutive quarters of a year declines then it is said to be recession. Recession is a macroeconomic term that refers to a significant decline in general economic activity in a designated region. The National Bureau of Economic Research defines a recession as a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production and wholesale-retail sales

1.1 RECESSION OF 2008

It has begun before 2008 and named as the Great Recession. Falling in prices of housing has become the first sign that arises in 2006 and by August 2007, Federal Reserve responded to the subprime mortgage crisis by adding $24 billion in liquidity to the banking system. Congress approved a $700 billion bank bailout by September 2008, now known as Troubled Asset Relief Program. By February 2009, Obama proposed the

$787 billion economic stimulus package, which helped avert a global depression.

1.2 COVID 19 RECESSION

The COVID 19 recession is a major ongoing global economic crisis that has caused both a recession in some nations and other a depression. It is considered as the worst global economic crisis in the current scenario. The collapse of markets during the 2020 stock market crash was the first major sign of the recession. As per the modelling by the World Bank said that there will be no full recoveries that would be achieved until 2025 or beyond. The spread of the pandemic and re-run of the lockdowns are playing havoc with the rate of demand revival in the second quarter of the year. If we talk about the recession during COVID-19, then it has shaken up the investment scenario in the country, investors are largely focusing on fixed income categories. Investors were advised by the experts to remain calm and not to be panic and stay focused and try to invest in the long run.

2- REVIEW OF LITERATURE:

A lot of thinking and depth studies have been done on the Indian stock market and performance of the mutual fund industry during recession period.

Sudha G., Sornaganesh V. (March 2020) has been analyzed that due to coronavirus crisis and pandemic there is a downfall in stock market index Such as nifty and Sensex also so their watch increases in investors and many new Demate account it was opened through Zerodha. They also mentioned in their paper the oil war between Russia and Saudi Arabia and due to this war also the stock market has shown a negative face. **Roy S. Ghosh S.** has been examined the comparative study of mutual fund performance where they studied the open-ended scheme of the public sector, Indian private, sector, and foreign private sector company. During the financial recession 2008-2009. Data has been collected from the association of mutual funds in India AMFI. And it was found in the study that the performance of the open-ended gilt scheme of all three types of the company was not satisfactory during the time of the recession 2008-2009. **Thomas TC., Sankararaman G., (June 2020)** Investigated the covid-19 relation with nifty index stocks and in their study, it was found that because of covid-19 recession nifty was declined by 31% in January 2020 and more than 90% of companies hit 50 weeks low in March. Also, foreign institutional investors, FIIs sold out more than 60000 crores from the cash segment. **Zafar SM., Maqbool A., (June 2012)** studied mutual fund performance and investment avenue of mutual fund where various statical tools were taken for study Such as Mean, variance, standard deviation, and beta for historical data and Nifty, S&P for the time period of 2007-2008 during the recession. After examination, it was concluded in their Study that proper diversification and portfolio management have not been maintained by fund managers. Due to which the majority of mutual funds have very high volatility During the time of recession. **Sakthivel G., (March 2012):** Has been analyzed the global recession and its impact on the Indian stock market. And it was found in a study that this global recession fit not the only country with bad economic fundamentals but also, so this recession impacted consider those who had AAA rating. Also, countries that have high per capita income experienced mostly output losses. The job market was weakening, and production was also declining during the recession period. **Pareek S., Singh K., (April 2020):** Has studied and analyzed the relation of Indian stock market with covid-19 pandemic during the initial stage of covid-19 in India number of Corona virus-positive cases were taken and it was correlated with Sensex as the stock market data. Correlation techniques were applied and finally, the study shows a strong negative correlation between this variable. **Dwivedi R., Patel A. (November 2019):** Has studied the Growth of the Mutual fund industry and analyzed the Asset Management Company growth and it was found that the Mutual fund industry was growing positively except during the time of recession 2008-2009 and the effect of that recession were continued till 2012 and again it started a positive way after 2012. **Basistha D., (July 2020):** Have conducted an imperial study on the covid-19 pandemic and how it impacted on the stock market in this study closing prices of indices such as nifty and Sensex were taken for examination. Period of the study was from 3rd September 2019 to 10th July 2020. The study was focused on comparative analysis of stock market return before the covid-19 situation and during the covid-19 situation. It was found in the study that the return of the stock market at the time of pre-covid-19 was higher than during Covid-19. **Draganov N., (July 2017):** In this study both conditional and unconditional evaluation approach of mutual fund performance states whether active fund managers can beat the unconditional market or not and what was the strategy by the fund manager in the 2008 financial crisis. The study was based on financial intermediaries of the US And a negative Outlook was found during the financial crisis and the ability of fund manager for better performance during recession and the distressed market was negative. **Roy S. (June 2013):** Has examined volatility in the stock market due to economic recession and it was found that Gross domestic product GDP was declined for two consecutive quarters in In 2008 also in the US economy there was a decline in agriculture export real estate even increase in the unemployment rate this study analyzed the volatility of the Indian stock market from a period of 2005 to 2012. Secondary data was used in this video search which was collected from BSE Bombay stock exchange and NSE national stock exchange. Parkinson's Model, German and klass model and intra & inter-day volatility tools were used in this study. And study concludes that there was mostly a negative return in both markets during the recession period. **Rastogi S., (Jan 2014):** Has studied stock market volatility during the financial crisis of 2008 and analyzed the impact of the Recession on the economic pre- and post-crisis. GARCH, TGARCH, and EGARCH Models were used to analyze and compare the volatility before and after 2008 recession. And the study concludes that the impact of the recession on thevolatility was significant on the stock market of the different country, but the direction was almost the same. **Erpate V., (November 2014):** Has Analyzed in his study, Global Recession according to Indian viewpoint it was found that there was a decline in Indian stock exchange when foreign institutional investors those who were from The US Pullback their money due to Global Recession, as a result, there were many projects were pending because of a lack of funds. **Sharma A., Seth N.:** Analyzed market efficiency by studying the impact of the financial crisis on the stock market in India. Secondary data were collected from the Bombay stock exchange

and National stock exchange for study. Data were categorized into two-period pre rescission and post rescission. Pre-Recession data study concludes that BSE is a more volatile market as compared to NSE and it gives the same result it is more volatile than period two. also, volatility in both situations increased before the financial crisis was less volatile, and after recession volatility was increased. **Rizvi S., Mirza N., (June 2020):** Has studied the covid-19 recession and Asset Management of the European Union and how Covid-19 Impacted Mutual Fund Industry. The study period was from January 2020 to May 2020. And it was found that fund managers switching from high risk to low-risk sectors. **Bose S., (May 2012):** Has thrown light on the development of the Indian mutual fund industry after the 2007 financial crisis and recession. A statistical test has been done to find out the relationship between mutual funds and foreign institutional investor in the Indian equity market and it was found that foreign institutional investors have withdrawn their money from the market due to which mutual fund industry in India and equity market declined. **Alam M., Alam S. (June 2020):** Investigated the lockdown period impact on the stock market in India caused by covid-19. It is analyzed in the study whether pre lockdown and post lockdown has impacted on Indian stock market or not. 30 random company from the Bombay Stock Exchange BSE were taken for the study and the study period was taken 35 days from 24 February 2020 to 17 April 2020. The study concludes that investors reacted to the lockdown positively in starting when the situation was under control in India. **Mandal A., Bhattacharjee P. (May 2016)** has analyzed the impact of the recession of 2007 on Indian stock market behavior. The Sensex of Bombay Stock Exchange BSE has been taken as an index for both pre-Recession and post-Recession. And it was observed in the study there was an increase in Sensex return volatility during post- recession. **Farmer EA. (January 2012):** Has thrown light on the stock market crash of 2008 which cost a great recession in the world. This study was categorized into three parts in the first part. In the first part, it concludes that there is a high correlation between the value of the stock market and the unemployment rate in the US since 1929. In the second part of the study, the author concludes by comparing the new model of an economy with a classical model of the Keynesian approach. And in the third part of the study author discuss fiscal and permanent unemployment during Financial crises and Global Recession. **Thanou (2008):** Throw light on mutual fund performance who is a period of 8 years from 1997 to 2005. For this study author divided the market into the category market up and market down condition. Monthly return data was taken for study.

3- OBJECTIVES OF STUDY

The study is based on 2007-08 Recession and Covid-19, and the objective is:

- To determine the correlation between the Indian stock Exchange.
- To determine the pattern of return of Mutual Fund as well as the Indian Stock Market. To explore the relationship between average Mutual Fund, return with Indian Stock Market Return.

4- RESEARCH METHODOLOGY

4.1 Data Collection

Whole Data in this research are taken from Secondary Source, Secondary data Method has been used in this study, Data which have been collected from various official website of NSE, BSE, and AMFI. For NSE index nifty 50 data has been collected from the official site of National Stock exchange. For BSE index Sensex data has been collected from the official website of Bombay Stock exchange. For Mutual Fund Asset under Management, Data has been collected from 'AMFI' which is known as the Association of Mutual Fund in India. Monthly data has been taken for all the three cases in study NSE, BSE, and AMFI for the both 2007-08 Recession and 2019-20 Recession.

4.2 Technique Used

Descriptive Analysis Technique has been used to analyze the Data. Correlation The technique has been used to determine the relationship between the Indian Stock Index, that is BSE and NSE during 2008 Recession and Covid-19 Recession.

4.3 Time Frame Used for Study

Time a period which has been taken for research are divided into Two Part. First, 2007-08 recession which includes data from Oct 2007 to Oct 2008. Second, Covid-19 recession which includes data from Oct 2019 to Oct 2020.

5- INTERPRETATION & ANALYSIS

The number of Data we have taken in the dataset is been recorded under the column labeled N which is 12. The average asset under management (AUM) and NIFTY of the year 2008-2009 and 2019-2020 is contained in the mean column. Variability can be assessed by examining the value in the standard Deviation column. The more that the individual data points differ the mean, the larger the standard deviation will be. Conversely, if there is a great deal of similarity between data points, the standard deviation will be quite small.

2008-2009

Descriptive Statistics

	Mean	Std. Deviation	N
AUM0809	5.5375E5	21756.95586	12
Nifty0809	4.9657E3	726.00239	12

5.1 Correlations

		AUM0809	Nifty0809
Pearson Correlation	AUM0809	1.000	.079
	Nifty0809	.079	1.000
Sig. (1-tailed)	AUM0809	.	.403
	Nifty0809	.403	.
N	AUM0809	12	12
	Nifty0809	12	12

(TABLE 5.1.1: Correlation 2008-2009)

2019-2020

Descriptive Statistics

	Mean	Std. Deviation	N
AUM1920	2.6059E6	1.68549E5	12
Nifty1920	1.0943E4	1126.84904	12

5.2 Correlations

		AUM1920	Nifty1920
Pearson Correlation	AUM1920	1.000	.896
	Nifty1920	.896	1.000
Sig. (1-tailed)	AUM1920	.	.000
	Nifty1920	.000	.
N	AUM1920	12	12
	Nifty1920	12	12

(TABLE 5.2.1: Correlation 2019-2020)

RESULT

The correlation is 1 between NIFTY and AMU in both 2008-2009 recession and 2019-2020.

ANALYSIS

Correlation is one of the most common forms of data analysis because it underlies many other analyses. Correlation measures the linear relationship between two variables. A correlation coefficient has a value ranging from -1 to 1.

In the above fig (Table 5.2.1) values are too closer to the absolute value of 1 close to 0 indicates that there is little or no linear relationship. The correlation is 1 which means that the two variables are perfectly positively linear related and is strongly related to each other.

5.3 REGRESSION

Regression is a technique that can be used to investigate the effect of one or more predictor variables on an outcome variable. Regression allows you to make statements about how well one or more independent variables will predict the value of a dependent variable.

Model Summary (A)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.079[a]	.006	-.093	22746.95715

a. Predictors: (Constant), Nifty0809

b. Dependent Variable: AUM0809

(TABLE: 5.3.1: Regression 2008-2009)

RESULT

The above fig (Table 5.3.2) shows information about the quantity of variance that is explained by predictor variables. The first statistic, R, is the multiple correlation coefficient between all of the predictor variables and dependent variables. In this model, the value is .079 in 2008-2009.

Model Summary (B)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.896[a]	.804	.784	78340.69078

a. Predictors: (Constant), Nifty1920

b. Dependent Variable: AUM1920

(TABLE:5.3.2 Regression 2019-2020)

RESULT

The above fig (Table: 5.3.2) show information about the quantity of variance that is explained by predictor variables. The first statistic, R, is the multiple correlation coefficient between all of the predictor variables and dependent variables. In this model, .896 in 2019-2020 which says that the correlation is strong, positive association between two variables it also indicates that there is a great deal of variance shared by the independent variables and the dependent variables.

ANALYSIS

In 2008-2009 there is no correlation and it is not significantly affecting. In 2019-2020, 80% of the variance is contributed by NIFTY in AUM.

The next value is R square which is simply the squared value of R. This is basically used to described the goodness of fit or the amount of variance explained by a given set of predictor Variables. The value is .006 and .81 which says that 81% of the variance in the dependent variable is explained by the independent variables in the model.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.278E7	1	3.278E7	.063	.806[a]
	Residual	5.174E9	10	5.174E8		
	Total	5.207E9	11			

a. Predictors: (Constant), Nifty0809

b. Dependent Variable: AUM0809

(TABLE 5.3.3: Anova 2008-2009)

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.511E11	1	2.511E11	40.918	.000[a]
	Residual	6.137E10	10	6.137E9		
	Total	3.125E11	11			

a. Predictors: (Constant), Nifty1920

b. Dependent Variable: AUM1920

(TABLE 5.3.4: Anova 2019-2020)

RESULT

The above table 5.3.3 and 5.3.4 is Anova table which says that the value of freedom (F) is .063 which is close to 1 in 2008-2009 recession and 40.918 in 2019-2020 recession.

ANALYSIS

The second fig (Table: 5.3.3 & 5.3.4) is the output is an ANOVA that describes the overall variance accounted for in the model. The F statistic represents a test of the null hypothesis that the expected values of the regression coefficients are equal to each other and they are equal to zero. The df 1 and F is 40 in the table which says that no matter what significance level we use for the test, we will conclude that the two variances are equal. The null hypothesis is true as it is 1. The significant value in 2008-2009 is greater than 0.05 so the relationship is not statistically significant and the value of 2019-2020 is below 0.05, the relation between the two is statistically significant.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	541947.004	47367.589		11.441	.000
	Nifty0809	2.378	9.447	.079	.252	.806

a. Dependent Variable: AUM0809

(TABLE 5.3.5: Coefficients 2008-2009)

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.139E6	230492.505		4.940	.001
	Nifty1920	134.085	20.962	.896	6.397	.000

a. Dependent Variable: AUM1920

(TABLE 5.3.6: Coefficients 2019-2020)

RESULT

The above table 5.3.5 and 5.3.6 is a coefficient table which says that the value of t is .252
6.397 in 2008-2009 and 2019-2020 respectively and significance level is 0 and 0.1 in 2008-2009 and 2019-2020 respectively.

ANALYSIS

The above fig (Table: 5.3.5 and 5.3.6) is standard regression output provides information about the effects of individuals predictor variables. Generally, there are two types of information in the coefficients in the coefficients table: coefficient and significance tests. The unstandardized coefficients indicate the increase in the value of dependent variable for each unit increase in the predictor variable. As the value of significance is less than .05 then we can say that NIFTY affects the AUM during 2019-2020 recession whereas in 2008-2009, AUM is not been affected up to that extent.

CONCLUSION

The Main objective of this research was to find the correlation between Indian Stock Exchanges i.e., BSE and NSE and also to determine the pattern of return of Mutual Funds as well as the Indian Stock Exchange and to explore the relationship between average mutual fund return with Indian stock market return during recession 2008-2009 and 2019-2020.

So, from the above research, it can be concluded that there is no correlation in 2008-2009 recession and NIFTY is not significantly affecting AUM. On the other hand, in 2019-2020 we can see that 80% of the variance is been contributed by NIFTY in AUM.

The values signify that in 2008-2009 recession NIFTY does not affect AUM up to that extent, as there is no correlation between them. And in 2019-2020 recession, it has been observed that AUM is getting affected by NIFTY as there is positive correlation between NIFTY and BSE and SENSEX affects AUM.

In the recession period of 2008-2009, the 0-significance level clearly states that the null hypothesis is rejected and the results are considered to be statistically non-significant so the observation we had is simply impossible under the null hypothesis. And in 2019-2020 recession the value of significance level (0.01) clearly states that we reject the null hypothesis and accept the alternative hypothesis so NIFTY has significant effect on AUM.

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