



“IMPACT OF COVID -19 ON INDIAN STOCK EXCHANGES – A CASE STUDY ON BSE INDICES AND NSE FIFTY 50 INDICES OF PRE COVID-19 AND DURING COVID -19 PERIODS”

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Abstract: Since forever, there have been profoundly unexpected and apparently inauthentic events that grab attention of everyone by surprise and it can huge impact on the existing state of affairs by disturbing human activities and created widespread destruction are called black swans. Even pandemic of COVID-19 is characterized by blackswan because it impacts on the stock market is one such even. In other hand, it also disturbed other core sectors like manufacturing, logistic network. Subsequently, the stock market not possible to measure accurately to which firm might be at risk, due to this, it could perhaps some stock market participants have taken funding in this situation that are non-profitable, additionally it reduces to believe in money market stocks and market. Hence, this study conducted with the help of secondary data and it mainly focuses on impact of COVID-19 on stock market, study conducted to know during Pre Covid-19 and During Covid -19.

Index Terms - COVID-19, BSE, NSE, Stock Market

I. INTRODUCTION

COVID-19 is a disease caused by specific virus (SARS-CoV-2) and labeled in the press “Corona virus” or “novel corona virus”. It impacts on Global economy as well as Indian economy in various aspects. Specifically identified the core aspects are manufacturing, logistic network and stock markets. Short term disturbance of manufacture could be pressure on few enterprises specifically those with deficient liquidity, dealer in stock market not possible to measure accurately to which firm might be at risk, due to this, it could perhaps some stock market participants have taken funding in this situation that are non-profitable, additionally it reduces to believe in money market stocks and market. Hence the present study is impact of COVID-19 on Indian Stock Market with special reference to BSE and NSE. Later in the month, Slight positive development could see in FMCG goods; it is found sharp growth in June month. In both rural and urban areas with the support of traditional method like kirana and neighborhood stores.

Economic slowdown, risk in business, job layoffs and paycuts have pinched the common man's wallet and many have taken to plunging their savings into the business of investing, in search of an alternate source of income.

Review of literature and research gap

Abhishek Raja Ram, (21 April 2020), "the author focuses on COVID-19 and stock market crash, COVID-19 is a black swan event, the stock market has history of crash and recovery, recovery in the current stock market. In the, Economic times mentioned, COVID-19 impacted stock exchanges globally. To protect the effective functioning of these stock exchanges there is need to take necessary actions like, shortens to trading hours or shut down for a time being. In other hand, the New York stock exchange would temporarily close its trading floors and move fully to electronic trading from march 13, 2020.

Daniel Benchman & Gopi Billa identified three ways affected by CORONA-19 on global economy, (a) it has directly affecting production, (b) It has creating supply chain and market disruptions and (c) it has influenced by its financial impact on firms and financial markets.

Aravind M, Manojkrishnan C G (2020), examined how Covid 19 outbreak has affected leading pharmaceutical stocks listed with the National Stock Exchange of. The study conducted by evaluation performance of ten leading pharmaceutical companies listed with NSE, and the selection was purely based on the market capitalization of the companies. They identified that, researchers' results reported that momentum effect is persisting with pharmaceutical stocks because it moving in accordance with the general benchmarking index.

HaiYue Liu Aqsa Manzoor , CangYu Wang, Lei Zhang, and Zaira Manzoor(2020). Conducted a study to examine the short-term impact of the coronavirus outbreak on 21 leading stock market indices in major affected countries including Japan, Korea, Singapore, the USA, Germany, Italy, and the UK etc. They identified the stock markets in major affected countries and areas fell quickly after the virus outbreak. And even in Asian Countries experienced more negative abnormal returns as compared to other countries.

Badar Nadeem Ashraf (2020), examine the stock markets' response to the COVID-19 pandemic. Using daily COVID-19 confirmed cases and deaths and stock market returns data from 64 countries over the period January 22, 2020 to April 17, 2020, they found that stock markets responded negatively to the growth in COVID-19 confirmed cases. That is, stock market returns declined as the number of confirmed cases increased. We further find that stock markets reacted more proactively to the growth in number of confirmed cases as compared to the growth in number of deaths.

Stephanos Papadamou, Athanasios P. Fassas, Dimitris Kenourgios and Dimitris Dimitriou,(2020) the effects of a Google trend synthetic index concerning corona virus, as a composite indicator of searching term and theme, on the implied volatility of thirteen major stock markets, covering Europe, Asia, USA and Australia regions , they identified that, these direct and indirect effects are stronger in Europe relative to the rest of the world. Our findings suggest that google based anxiety about COVID-19 contagion effects leads to elevated risk-aversion in stock markets.

In order to evaluate the effect of COVID 19 outbreak on the performance of the Nigeria Stock Exchange, the author Monday Osagie , Adenomom; Bilkisu Maijamaa & Daniel Owoicholofu, John,(2020) conducted a study by using secondary data for the period covering from 2nd March 2015 to 16th April, 2020. They identified, as against the regular period, revealed a loss in stock returns and high volatility in stock returns in Nigeria during the pandemic of Covid-19.

Anya Khanthavit(2020), conducted a study to analyses stock market reactions to COVID-19. He identified, there is negative reactions to the disease. Because extensive media coverage on pandemic of COVID 19 and pandemic declaration, consequently, they are not to the evolving events and situations when they actually occur. Hence, the markets reacted to old news rather than to new news.

ZEREN, F. and HIZARCI, A. E. (2020), conducted a study to know the possible effects of Covid-19 on stock markets. They identified, pandemic of COVID 19 make optimal option for investors to avoid investments in stock markets, these investor shifted to investment in gold markets because it considered as the safe investment at any crisis period in long run.

From the very less review, it clearly indicates that, so far very few research work as undertaken to know the Impact of COVID-19 on Indian Stock Market. Hence the present study is focused on Impact of COVID-19 on Indian stock market with special reference to BSE and NSE from Pre Covid 19 and During Covid 19 Period.

Objectives

1. To study the impact of COVID-19 on BSE Indices during Pre Covid-19 and During Covid -19 periods
2. To study the impact of COVID-19 on Nifty 50 Indices during Pre Covid-19 and During Covid -19 periods

Hypotheses

H₁“There is a significant difference between BSE Indices from pre COVID-19 and during COVID-19 Period”

H₂“There is a significant difference between NSE Nifty 50 indices from pre COVID-19 and during COVID-19 Period”

Research Methodology

In this study secondary data were collected from BSE AND NSE Nifty 50 indices and also article from various journals, books. The study mainly concentrates on BSE and NSE NIFTY 50 index daily data from 1st January 2020 to 30th April 2020. This data has been tested by usage of paired sample t test in SPSS. The below table indicates (Table no:1) data for NSE during COVID 19.

Table No: 1-BSE INDEXES FROM 01 JANUARY 2020 TO 30 JUNE 2020

Date	Close	Date	Close	Date	Close	Date	Close	Date	Close	Date	Close
01-Jan-20	41306.02	01-Feb-20	39735.53	02-Mar-20	38144.02	01-Apr-20	28265.31	04-May-20	31715.35	01-Jun-20	33303.52
02-Jan-20	41626.64	03-Feb-20	39872.31	03-Mar-20	38623.7	03-Apr-20	27590.95	05-May-20	31453.51	02-Jun-20	33825.53
03-Jan-20	41464.61	04-Feb-20	40789.38	04-Mar-20	38409.48	07-Apr-20	30067.21	06-May-20	31685.75	03-Jun-20	34109.54
06-Jan-20	40676.63	05-Feb-20	41142.66	05-Mar-20	38470.61	08-Apr-20	29893.96	07-May-20	31443.38	04-Jun-20	33980.7
07-Jan-20	40869.47	06-Feb-20	41306.03	06-Mar-20	37576.62	09-Apr-20	31159.62	08-May-20	31642.7	05-Jun-20	34287.24
08-Jan-20	40817.74	07-Feb-20	41141.85	09-Mar-20	35634.95	13-Apr-20	30690.02	11-May-20	31561.22	08-Jun-20	34370.58
09-Jan-20	41452.35	10-Feb-20	40979.62	11-Mar-20	35697.4	15-Apr-20	30379.81	12-May-20	31371.12	09-Jun-20	33956.69
10-Jan-20	41599.72	11-Feb-20	41216.14	12-Mar-20	32778.14	16-Apr-20	30602.61	13-May-20	32008.61	10-Jun-20	34247.05
13-Jan-20	41859.69	12-Feb-20	41565.9	13-Mar-20	34103.48	17-Apr-20	31588.72	14-May-20	31122.89	11-Jun-20	33538.37
14-Jan-20	41952.63	13-Feb-20	41459.79	16-Mar-20	31390.07	20-Apr-20	31648	15-May-20	31097.73	12-Jun-20	33780.89
15-Jan-20	41872.73	14-Feb-20	41257.74	17-Mar-20	30579.09	21-Apr-20	30636.71	18-May-20	30028.98	15-Jun-20	33228.8
16-Jan-20	41932.56	17-Feb-20	41055.69	18-Mar-20	28869.51	22-Apr-20	31379.55	19-May-20	30196.17	16-Jun-20	33605.22
17-Jan-20	41945.37	18-Feb-20	40894.38	19-Mar-20	28288.23	23-Apr-20	31863.08	20-May-20	30818.61	17-Jun-20	33507.92
20-Jan-20	41528.91	19-Feb-20	41323	20-Mar-20	29915.96	24-Apr-20	31327.22	21-May-20	30932.9	18-Jun-20	34208.05
21-Jan-20	41323.81	20-Feb-20	41170.12	23-Mar-20	25981.24	27-Apr-20	31743.08	22-May-20	30672.59	19-Jun-20	34731.73
22-Jan-20	41115.38	24-Feb-20	40363.23	24-Mar-20	26674.03	28-Apr-20	32114.52	26-May-20	30609.3	22-Jun-20	34911.32
23-Jan-20	41386.4	25-Feb-20	40281.2	25-Mar-20	28535.78	29-Apr-20	32720.16	27-May-20	31605.22	23-Jun-20	35430.43
24-Jan-20	41613.19	26-Feb-20	39888.96	26-Mar-20	29946.77	30-Apr-20	33717.62	28-May-20	32200.59	24-Jun-20	34868.98
27-Jan-20	41155.12	27-Feb-20	39745.66	27-Mar-20	29815.59			29-May-20	32424.1	25-Jun-20	34842.1
28-Jan-20	40966.86	28-Feb-20	38297.29	30-Mar-20	28440.32					26-Jun-20	35171.27
29-Jan-20	41198.66			31-Mar-20	29468.49					29-Jun-20	34961.52
30-Jan-20	40913.82									30-Jun-20	34915.8
31-Jan-20	40723.49										

Source: www.bseindia.com

In the table 01: - it is observed that from beginning of the Jan 2020 National Stock exchange nifty 50 index was 41306 due to impact of COVID-19 it was fluctuating in between January beginning to June end, it was closed at 34915 on 30 June 2020. Due to impact of COVID -19 it was affected to various sectors such as production, service, supply chain, market disruption and financial impact of firms and financial markets.

Chart no : 1

SENSEX Index Chart



Table no:2- NSE Nifty50 indices Pre Covid 19 Period from 1st Jan 2020 to June 2020

Date	Close	Date	Close	Date	Close	Date	Close	Date	Close	Date	Close
01-Jan-20	12182.5	01-Feb-20	11661.85	02-Mar-20	11132.75	01-Apr-20	8253.8	04-May-20	9293.5	01-Jun-20	9826.15
02-Jan-20	12282.2	03-Feb-20	11707.9	03-Mar-20	11303.3	03-Apr-20	8083.8	05-May-20	9205.6	02-Jun-20	9979.1
03-Jan-20	12226.65	04-Feb-20	11979.65	04-Mar-20	11251	07-Apr-20	8792.2	06-May-20	9270.9	03-Jun-20	10061.55
06-Jan-20	11993.05	05-Feb-20	12089.15	05-Mar-20	11269	08-Apr-20	8748.75	07-May-20	9199.05	04-Jun-20	10029.1
07-Jan-20	12052.95	06-Feb-20	12137.95	06-Mar-20	10989.45	09-Apr-20	9111.9	08-May-20	9251.5	05-Jun-20	10142.15
08-Jan-20	12025.35	07-Feb-20	12098.35	09-Mar-20	10451.45	13-Apr-20	8993.85	11-May-20	9239.2	08-Jun-20	10167.45
09-Jan-20	12215.9	10-Feb-20	12031.5	11-Mar-20	10458.4	15-Apr-20	8925.3	12-May-20	9196.55	09-Jun-20	10046.65
10-Jan-20	12256.8	11-Feb-20	12107.9	12-Mar-20	9590.15	16-Apr-20	8992.8	13-May-20	9383.55	10-Jun-20	10116.15
13-Jan-20	12329.55	12-Feb-20	12201.2	13-Mar-20	9955.2	17-Apr-20	9266.75	14-May-20	9142.75	11-Jun-20	9902
14-Jan-20	12362.3	13-Feb-20	12174.65	16-Mar-20	9197.4	20-Apr-20	9261.85	15-May-20	9136.85	12-Jun-20	9972.9
15-Jan-20	12343.3	14-Feb-20	12113.45	17-Mar-20	8967.05	21-Apr-20	8981.45	18-May-20	8823.25	15-Jun-20	9813.7
16-Jan-20	12355.5	17-Feb-20	12045.8	18-Mar-20	8468.8	22-Apr-20	9187.3	19-May-20	8879.1	16-Jun-20	9914
17-Jan-20	12352.35	18-Feb-20	11992.5	19-Mar-20	8263.45	23-Apr-20	9313.9	20-May-20	9066.55	17-Jun-20	9881.15
20-Jan-20	12224.55	19-Feb-20	12125.9	20-Mar-20	8745.45	24-Apr-20	9154.4	21-May-20	9106.25	18-Jun-20	10091.65
21-Jan-20	12169.85	20-Feb-20	12080.85	23-Mar-20	7610.25	27-Apr-20	9282.3	22-May-20	9039.25	19-Jun-20	10244.4
22-Jan-20	12106.9	24-Feb-20	11829.4	24-Mar-20	7801.05	28-Apr-20	9380.9	26-May-20	9029.05	22-Jun-20	10311.2
23-Jan-20	12180.35	25-Feb-20	11797.9	25-Mar-20	8317.85	29-Apr-20	9553.35	27-May-20	9314.95	23-Jun-20	10471
24-Jan-20	12248.25	26-Feb-20	11678.5	26-Mar-20	8641.45	30-Apr-20	9859.9	28-May-20	9490.1	24-Jun-20	10305.3
27-Jan-20	12119	27-Feb-20	11633.3	27-Mar-20	8660.25			29-May-20	9580.3	25-Jun-20	10288.9
28-Jan-20	12055.8	28-Feb-20	11201.75	30-Mar-20	8281.1					26-Jun-20	10383
29-Jan-20	12129.5			31-Mar-20	8597.75					29-Jun-20	10312.4
30-Jan-20	12035.8									30-Jun-20	10302.1
31-Jan-20	11962.1										

Source: www.nseindia.com

In the table 02: - it is observed that from beginning of the Jan 2020 National Stock exchange nifty 50 index was 12182.5 due to impact of COVID-19 it was fluctuating in between January beginning to June end, it was closed at 10302.1 on 30 June 2020. Due to impact of COVID -19 it was affected to various sectors such as production, service, supply chain, market disruption and financial impact of firms and financial markets.

Chart no : 2



Hypothesis testing:

A. BSE Sensex Out put

H_0 "There is no significant difference between BSE Indices from pre COVID-19 and during COVID-19 Period"

H_1 "There is a significant difference between BSE Indices from pre COVID-19 and during COVID-19 Period"

Table No: 3- Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	BSE Sensex Pre Covid 19	38914.00	59	4232.176	550.982
	CloseBSE Sensex During Covid 19	32301.14	59	1799.682	234.299

Paired Samples Statistics

		N	Correlation	Sig.
Pair 1	BSE Sensex Pre Covid 19 & CloseBSE Sensex During Covid 19	59	-.720	.000

Paired Samples Test

		Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	BSE Sensex Pre Covid 19 - CloseBSE Sensex During Covid 19	6612.864	5667.823	737.888	8.962	58	.000

(Author computed)

Form the table no: 03 (Paired Samples Test) shows that mean value of BSE Sensex Pre Covid 19 index is 38914, standard deviation is 4232.176 mean value of Close BSE Sensex During Covid 19, 50 index is 32301.14 and standard deviation is 1799.682. It was calculated from paired sample t statistics. Correlation of BSE Sensex Pre Covid 19 and CloseBSE Sensex During Covid 19 is highly positive and it was observing that from paired sample t test mean value of both pre and during COVID 19 is 6612.864, standard deviation is 5667.823, t value is 8.962, df 58 and significance value is less than 0.05. Higher the mean value and greater the Standard deviation which indicates that there is a drastic variation in the selected data, and also if higher the t value and significance value less than 0.05 which indicates that statistically significant and if lesser the t value and significance value more than 0.05 which indicates that statistically insignificant. from this it was identified that t values positively associated and p value is <0.05 hence, null hypothesis is rejected and alternative hypothesis is accepted and it is inference that there is a significant impact of COVID-19 on BSE indices from pre Covid 19 and during Covid 19 period.

B. NSE OUT PUT

H₀“There is no significant difference between NSE Nifty 50 indices from pre COVID-19 and during COVID-19 Period”

H₂“There is a significant difference between NSE Nifty 50 indices from pre COVID-19 and during COVID-19 Period”

Table No: 4- Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean		
Pair 1	CloseNSE Nifty Indices Pre Covid 19	11429.68	59	1261.721	164.262		
	CloseNSE Nifty Indices During Covid 19	9497.54	59	557.027	72.519		
Paired Samples Correlations							
		N	Correlation	Sig.			
Pair 1	CloseNSE Nifty Indices Pre Covid 19 & CloseNSE Nifty Indices During Covid 19	59	-.736	.000			
Paired Samples Test							
		Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	CloseNSE Nifty Indices Pre Covid 19 - CloseNSE Nifty Indices During Covid 19	1932.136	1713.539	223.084	8.661	58	.000

(Authors Computed)

Form the table no 04 (Paired **Samples Test**) shows that mean value of Close NSE Nifty Indices Pre Covid 19 - CloseNSE Nifty Indices is 11429.68, standard deviation is 1261.721 mean value of Close NSE Sensex During Covid 19, 50 index is 9497.54 and standard deviation is 557.027. It was calculated from paired sample t statistics. Correlation of Close NSE Nifty Indices Pre Covid 19 – Close NSE Nifty Indices During Covid 19 is highly positive and it was observing that from paired sample t test mean value of both pre and during COVID 19 is 1932.136, standard deviation is 1713.539, t value is 8.661, df 58 and significance value is less than 0.05. Higher the mean value and greater the Standard deviation which indicates that there is a drastic variation in the selected data, and also if higher the t value and significance value less than 0.05 which indicates that statistically significant and if lesser the t value and significance value more than 0.05 which indicates that statistically insignificant. From this it was identified that t values positively associated and p value is <0.05 hence, null hypothesis is rejected and alternative hypothesis is accepted and it is inference that there is a significant impact of COVID-19 on NSE indices from pre Covid 19 and during Covid 19 period.

Conclusion

COVID-19 is a disease caused by specific virus (SARS-CoV-2) and labeled in the press “Corona virus” or “novel corona virus”. It impacts on Global economy as well as Indian economy in various aspects. Specifically identified the core aspects are manufacturing, logistic network and stock markets. Short term disturbance of manufacture could be pressure on few enterprises specifically those with deficient liquidity, dealer in stock market not possible to measure accurately to which firm might be at risk, due to this, it could perhaps some stock market participants have taken funding in this situation that are non-profitable, additionally it reduces to believe in money market stocks and market. In this study focuses on impact of COVID-19 on BSE, impact of COVID-19 on NSE. It was observing that t values positively associated and p value is <0.05 hence, it is concluded that there is a significant impact of Covid - 19 on BSE indices and NSE Nifty 50 indices from pre COVID-19 and during COVID-19 Period.

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