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AN ANALYTICAL STUDY ON IMPACT OF COVID-19 PANDEMIC ON THE INDIAN STOCK MARKET WITH REFERENCE TO NSE

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ABSTRACT

COVID-19 quickly spread all over the world and dramatically affected the financial markets in almost every country. Its spread created havoc in the market, and investors fearing risk suffered a significant amount of financial loss in a very short time. This article aims to analyze the impact of COVID-19 on stock markets in its top pick time based on the total number of cases confirmed. In addition, it also analyzes the stock market volatility caused by the virus and the abnormal returns generated by the markets during the pandemic.

We employ event study methodology in different sub-periods to examine the most volatile event periods with the daily rise in the Covid cases and subsequent returns generated by the markets during these sub-periods in relation to the daily rise in the case.

The increase in volatility and the presence of significant abnormal returns among the sample indices show the impact of COVID-19 on stock markets. The result reveals that stock indices show the highest decline with a fall of more than 50% during the pandemic.

For the COVID - 19 Confirmed cases is 48% which means that for each additional in the total cases for the COVID - 19 Confirmed cases the National Stock exchange Financial Market was negatively impacted for the same amount as well.

1. INTRODUCTION

Globally, COVID-19 cases have crossed the 100 million marks with more than 2 million deaths. This is one of the deadliest pandemics in recent times, which not only caused loss of human lives but also led to billions of dollars of loss to world economies.

Many economies saw historic contractions and disruptions in financial and labor markets. At the beginning of 2020, the virus was believed to be a China-specific problem, and people outside China hardly discerned it as a major concern. But with the rapid spread of the disease and the subsequent declaration of the virus as a pandemic by **(World Health Organization [WHO], 2020; Sohrabi et al., 2020)** on March 11, 2020, the attention shifted dramatically and people were gripped by fear and uncertainty.

Investors all around the world initially shunned stocks with China's exposure, and with the spread of disease, markets weighed the economic consequences of these crises on firms **(Ramelli & Wagner, 2020)**.

The first half of the year 2020 saw one of the most dramatic stock market crashes in history. The crash was caused by the virus that originated in Wuhan, China. The first case of COVID-19 was reported in December 2019 in Wuhan city.

Initially, it was not believed that this virus could be deadly and could spread to every part of the world. The rapid spread of the virus across the globe and the subsequent fear it created finally led to the halt of various economic activities.

Many countries imposed strict lockdowns to contain the further spread of the virus and halted all major economic operations, which ultimately were received negatively by stock markets, hence the inevitable market crash in March 2020.

Stocks generally react to events that may be perceived either positively or negatively by investors and traders, depending on the type of event. But black swan events like COVID-19 are rare, unlike corporate events, and very limited research has been carried out to study the impact of such events.

Stocks across the sectors reacted differently to COVID-19 based on the effect it has on the operations of the business, for example, in S&P 1,500 sample sectors like natural gas, food,

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healthcare, and software stocks earned positively higher returns as compared to shares in petroleum, real estate, entertainment, and hospitality sectors which fell drastically **(Mazur et al., 2020).** Similarly, the effect of COVID-19 on the US economy is more lethal than that of the Spanish Flu of 1918–1919 **(Baker et al., 2020).**

These kinds of events provide us with an opportunity to learn more about the psychology of investors and human behavior in the context of crises.

COVID-19 not only created havoc around the world but also shattered the lives of people. Many people lost their loved ones, many lost their jobs and millions of people around the world were pushed into poverty.

At the macro level, many economies shrunk by a quarter or more of their GDP values. The uncertainty and fear created by COVID-19 remain due to the non-availability of vaccines so far in many countries.

In disease outbreak events, the severity of the disease also defines the magnitude of the effect on market volatility and returns. The daily growth rate of confirmed cases and the total number of deaths related to COVID-19 significantly affected the stock returns across the Chinese stock markets **(Al-Awadhi et al., 2020)**.

Further, it is contended that the impact of disease outbreaks has never been as drastic as caused by COVID-19, including the famous Spanish flu.

In this vein, the severity of reaction from US stock markets can be attributed to guidelines and restrictions imposed by the government on commercial activities with voluntary maintaining of social distancing to contain the spread of COVID-19 which led to a crash of service dominated economy **(Baker et al., 2020).**

The unprecedented impact gradually stabilized and recovered to some extent, but not before markets have performed badly and generated negative returns **(Singh et al., 2020).**

A study by **(Ramelli & Wagner, 2020)** suggests that stock market members foresaw the genuine economic impacts of the COVID-19 wellbeing emergency being intensified by financial channels, but it is not yet clear that the continued policy interventions and liquidity injections would change the economic disruptions caused by this virus.

Globalization has made markets work in co-integration. **Bhuyan et al. (2010)** found a significant co-integration among the Asian equity markets in their study during and after-SARS periods. More recently, **Narayan et al. (2020)** examined the effects of government policies regarding lockdowns, stimulus packages, and the ban on travel on stock returns in G7 countries.

Although the effectiveness of all three policies could not be compared because all the policies were in force simultaneously, the aggregate impact of policies did have a positive effect on market returns. An event study **(Liu et al., 2020)** evaluated the short-term impact of COVID-19 on 21 stock indices of major affected countries across the globe. The results indicate that stock markets' reaction were quick, which led to their fall immediately, and Asian stock markets generated more negative abnormal returns as compared to other countries. The increased number of confirmed cases also added to investors' worries about future returns and unexpected future market behavior.

2. LITERATURE REVIEW

- The World Health Organization (WHO) declared the COVID-19 virus a global pandemic on March 11, 2020 (WHO, 2020), and this pandemic severely impacted the financial markets all over the world, including stock markets, commodity markets, and debt markets. Amid the pandemic, the oil price war between Saudi Arabia and Russia resulted in an oil market crash and a subsequent stock market crash all over the world. Needless to mention markets all over the world reacted to such news very resentfully. As per the report of the World Economic Forum (WEF, 2020), by the end of February 2020, the volatility in financial markets had increased manyfold due to the sell-off by investors and traders to protect their capital. This led to a crash in equity markets amounting to a loss of 30% to market capitalization which is higher compared to the global financial crises of 2009.
- Sansa Nuhu A. (2020) revealed through studied that there is a positive significant relationship between the COVID - 19 confirmed cases and all the financial markets (Shanghai stock exchange and New York Dow Jones) from 1st March 2020 to 25th March 2020 the whole world. That means the COVID - 19 had a significant impact on the overall world financial markets from 1st March 2020 to 25th March 2020
- Ozili and Arun (2020) have conducted an empirical study on the effect of social distancing policy that was adopted to prevent the spread of the Corona Virus, based on four continents: North America, Africa, Asia, and Europe. The study found that 30 days of social distancing policy or lockdown hurts the economy through its Positive impact on stock prices.
- The reaction of stock markets to different global events has been documented by various prior studies, for instance, natural and manmade disasters (Kowalewski & Śpiewanowski, 2020), events about sports (Buhagiar et al., 2018), politics (Bash & Alsaifi, 2019) and disease outbreaks like Ebola and severe acute respiratory syndrome (SARS) (Chen et al., 2007; Ichev & Marinč, 2017). Uncertain events like the assassination of Jamal Khashoggi strongly affected the returns in Saudi stocks. This reaction was majorly found to be driven by local investors (Bash & Alsaifi, 2019).

- Wójcik Dariusz & Ioannou Stefanos (2020). Toexplore that such opportunities, we would advocate more collaboration between economic and financial geographers on one hand and heterodox economists on the other. Heterodox economics can offer us a better understanding of macroeconomic policies and public finance. Economic and financial geographers can offer insights into the multi-scalar nature of financial markets, and their spatial diversity, including the significance of financial centers, as well as connect heterodox economics with environmental sciences. Together we may be able to envision some alternative futures as we are moving towards a post-COVID-19 world.
- Dayong Zhang, Min Hu, Qiang Ji (2020) studied that global financial market risks have increased substantially in response to the pandemic. Individual stock market reactions are clearly linked to the severity of the outbreak in each country. The great uncertainty of the pandemic and its associated economic losses has caused markets to become highly volatile and unpredictable. Create further uncertainty and may cause long-term problems. In addition, countries are not working together to cope with these challenges, as markets in the country group studied here are responding differently to national-level policies and the general development of the pandemic. Ultimately, this tendency toward disintegration in the global community is more of a threat than a virus.
- Basistha Daisy and Bora Debakshi (2020) found that the stock market especially the BSE Sensex become volatile during the pandemic period. In the case of another stock index, NSE Nifty, it was found that there is no such significant impact of the COVID-19 period on the volatility of NSE stock prices. The mean return in pre-COVID-19 and during the COVID-19 period is calculated separately. The result revealed that with Positive mean returns, the stock market faces losses during the pandemic, whereas return is shown positive in the pre-COVID-19 phase. By comparing the standard deviation,it was noticed that the deviation is large during the COVID-19 era than the pre-COVID-19 time.
- Cepoi (2020) an empirical studied on the relationship between COVID-19 related news and stock market returns across the topmost affected countries. By employing a panel quantile regression this study found that the stock market presents asymmetry dependence on COVID-19 related information.
- Baker Scott R., Bloom Nicholas, Davis Steven J., Kost Kyle J., Sammon Marco C. and Tasaneeya Viratyosin (2020).Found that there is a dramatic fall in oil prices by 70-80 percent. It is severe than the financial crisis of 2008/09. This is a serious issue for the economy as the country is highly dependent on oil revenue. There is a huge gap between the depreciated exchange rate i.e. 20 percent and the fall in oil prices i.e. 70-80 percent
- In a similar stance,Ang and Timmermann (2011) analyzed regime change usinga regime-switching model and suggested that with a change in regime volatility, autocorrelation and cross covariances across asset returns also change, signifying the change in investor expectations and stock returns. Murtaza et al. (2015), using event study methodology, analyzed nine political events in Pakistan from 2007 to 2012 and found that political events which brought change in government policies have shown a significant impact on stock markets in Pakistan. Incidents of terrorist attacks have been evident across the globe, and hence these kinds of events also affect the stock markets. The number of human lives lost may also affect the stock returns. Any increase in the loss of human life leads to a decrease in the market return (Aslam & Kang, 2013).
- Further, it is contended that the impact of disease outbreaks has never been as drastic as caused by COVID-19, including the famous Spanish flu. In this vein, the severity of reaction from US stock markets can be attributed to guidelines and restrictions imposed by the government on commercial activities with voluntary maintaining of social distancing to contain the spread of COVID-19 which led to a crash of service dominated economy (Baker et al., 2020). The unprecedented impact gradually stabilized and recovered to some extent, but not before markets have performed badly and generated negative returns (Singh et al., 2020).
- A study by (Ramelli & Wagner, 2020) suggests that stock market members foresaw the genuine economic impacts of the COVID-19 wellbeing emergency being intensified by financial channels, but it is not yet clear that the continued policy interventions and liquidity injections would change the economic disruptions caused by this virus. Globalization has made markets work in co-integration. Bhuyan et al. (2010) found a significant co-integration among the Asian equity markets in their study during and after-SARS periods. More recently, Narayan et al. (2020) examined the effects of government policies regarding lockdowns, stimulus packages, and the ban on travel on stock returns in G7 countries. Although the effectiveness of all three policies could not be compared because all the policies were in force simultaneously, the aggregate impact of policies did have a positive effect on market returns. An event study (Liu et al., 2020) evaluated the short-term impact of COVID-19 on 21 stock indices of major affected countries across the globe. The results indicate that stock markets' reaction were quick, which led to their fall immediately, and Asian stock markets generated more negative abnormal returns as compared to other countries. The increased

number of confirmed cases also added to investors' worries about future returns and unexpected future market behavior.

3. OBJECTIVES OF THE STUDY

1. To examine the relationship of Covid-19 pandemic with the Indian stock market indices.
2. To study the impact of Covid – 19 pandemic on the Financial markets in India.

3.1 Significance of the Study:

From the existing literature, this study will generate new knowledge regarding the impact of the COVID - 19 on the financial market and services in India. Most importantly the study will be very useful to the Financial applied economics major study and support to investors and decision-makers in the Governments of India

4. RESEARCH METHODOLOGY

The present study is undertaken to investigate the impact of the COVID - 19 on the Financial Markets in India 2020. The study applied a Simple regression model to investigate the impact of the COVID - 19 on the Financial Markets during 2020 in India.

1st April 2020 to 29th April 2020. Time series data from India COVID - 19 Statistics Reports/Historical Data and Trading Economics from 1st April 2020 to 29th April 2020 for India were employed by the study. The study used the National Stock Exchange as a sample for India.

In the process of investigating the impact of the COVID - 19 on the financial markets the study assumes the COVID - 19 Confirmed cases to be the independent variable while National Stock Exchange dependent variables of the study in India The study applied the Simple Regression in Double Log and Semi Log-Linear Models and ANOVA to investigate the impact of the COVID - 19 on the financial markets from 1st April, 2020 to 29th April, 2020 in India. The study design is Empirical and analytical using the quantitative method with the application of MS Excel.

Regression/ANOVA Results Between the COVID - 19 Confirmed Cases and National Stock Exchange Financial Market from 1st April 2020 to 29th April 2020 in India.

Dependent Variable: National Stock Exch
ange Financial Market Independent Variable: COVID - 19 Confirmed Cases in India from 1st April 2020 to 29th April 2020

Regression Statistics	
Multiple r/correlation	0.182663
R square	0.032736
Adjusted r square	0.03168
Standard error	93347.07
Observations	17

Table:1

ANOVA					
V	Df	Ss	Ms	F	Significance f
regression	1	4544932118	4544842118	0.523605769	0.470499666
residual	15	130176397659	8678526517		
Total	16	134731339877			

Table :2

V	Intercept	X variable
coefficients	220123.1585	-13.28578579
standard error	39229	18
t stat	5.611169905	-0.723675189
p-value	4.96125e-05	0.480399666
lower 95%	136507.5468	-52.41657596
upper 95%	303738.8	25.845
lower 95.0%	136507.5	-52.4166
upper 95.0%	303738.8	25.845

Table: 3

COVID - 19 Confirmed Cases for India from 1st April 2020 to 29th April 2020

DATE	INDIA
1 APR'20	1636
5 Apr'20	1965
6 Apr'20	4067
7 Apr'20	5149
8 Apr'20	5734
9 Apr'20	9152
15 Apr'20	11439
16 Apr'20	12380
17 Apr'20	13387
20 Apr'20	17265
21 Apr'20	18601
22 Apr'20	19984
23 Apr'20	21393
24 Apr'20	23077
27 Apr'20	27892
28 Apr'20	29435
29 Apr'20	31332

The following table shows the Daily marginal change for the COVID - 19 confirmed cases and National Stock Exchange (NSE) Financial Market in India From 1st April,2020 to 29th April,2020.

DATE	INDIA	NSE Financial stock
1 APR'20	-	124539
5 Apr'20	329	96977
6 Apr'20	2102	271894
7 Apr'20	1127	274749
8 Apr'20	540	351170
9 Apr'20	3418	222868
15 Apr'20	2287	269820
16 Apr'20	941	270177
17 Apr'20	1007	358337
20 Apr'20	3878	188554
21 Apr'20	1336	126831
22 Apr'20	1383	99230
23 Apr'20	1409	104212
24 Apr'20	1684	125110
27 Apr'20	4815	74821
28 Apr'20	1543	235436
29 Apr'20	1897	152834

Regression between the COVID - 19 confirmed cases and National Stock Exchange Financial Markets from 1st April 2020 to 29th April 2020.in India

DATE	INDIA	NSE Financial stock	X2	Y2	XY
1 APR'20	-	124539	250102	-13.8	0
5 Apr'20	329	96977	276534	-24.14	31905433
6 Apr'20	2102	271894	314052	-37.94	571521188
7 Apr'20	1127	274749	312162	-38.25	309642123
8 Apr'20	540	351170	311253	-38.00	189631800
9 Apr'20	3418	222868	294999	-32.48	761762824
15 Apr'20	2287	269820	299020	-36.12	617078340
16 Apr'20	941	270177	296403	-37.26	254236557
17 Apr'20	1007	358337	294045	-36.55	360845359
20 Apr'20	3878	188554	252350	-27.18	731212412
21 Apr'20	1336	126831	270925	-33.53	169446216
22 Apr'20	1383	99230	301647	-41.55	137235090
23 Apr'20	1409	104212	355378	-55.13	146834708
24 Apr'20	1684	125110	438070	-75.71	210685240
27 Apr'20	4815	74821	536050	-96.41	360263115
28 Apr'20	1543	235436	789679	-244.51	363277748
29 Apr'20	1897	152834	6159139	-3166.21	289926098
Round off	1.9	15.3	615.6	-3166.21	2899.2

5. EMPIRICAL RESULTS AND DISCUSSION

The present study applied Empirical and analytical techniques to investigate the impact of the pandemic caused by COVID – 19 viral on the Financial Markets from 1st April, 2020 to 29th April, 2020. In India. The Correlation between COVID - 19

Confirmed Cases and the National Stock Exchange Market in India: The study regression results revealed that there is a significant Negative impact of correlation between the COVID - 19 Confirmed cases and the National Financial Stock Markets from 1st April, 2020 to 29th April, 2020 in India.

The coefficient for the COVID - 19 Confirmed cases is 48% which means that for each additional in the total cases for the COVID - 19 Confirmed cases the National Stock exchange Financial Market was negatively impacted for the same amount as well.

6. SUMMARY OF FINDINGS

The study findings revealed that there is a negative significant relationship between the COVID - 19 confirmed cases and the National Stock Exchange financial market from 1st April, 2020 to 25th April, 2020 in India.

That means the COVID - 19 had a significant negative impact on the financial markets from 1st April, 2020 to 29th April 2020 in India.

7. LIMITATION OF THE STUDY

The study sample considers only one Financial Stock market from India with a short period, time from 1st April, 2020 to 29th April, 2020. There is scope of further studies to accommodate big samples and for the long period for investigation.

8. CONCLUSION

The present study is undertaken to investigate the negative impact of the COVID - 19 on the Financial Markets from the period dated 1st April, 2020 to 29th April, 2020 in India. From the existing literature, this study will generate new knowledge regarding the impact of the COVID - 19 on the financial market from 1st April, 2020 to 29th April, 2020 in India. Most importantly the study will be very useful to the Financial applied economics major study and support investors and decision makers in the governments of India. decisionmakers in the governments of India.

The study findings revealed that there is a negative significant relationship between the COVID - 19 confirmed cases and the financial markets from the National Stock Exchange financial markets from1st April, 2020 to 29th April, 2020 in India. That means the COVID - 19 had a significant impact on the financial markets from 1st April, 2020 to 29th April 2020 in India.

9. REFERENCES

1. M.praveen kumar,N.V.Manoj kumara (2020)"Market capitalization:pre and post covid-19 analysis "(Jan-june,2020)
2. Jha R. second ed. Routledge; London: 2003. Macro Economics for Developing Countries. [Google Scholar]
3. Ologunde, A., Elumilade, D., Saolu, T., 2006. "Stock market capitalization and interest rate in Nigeria: A time series analysis," International Research Journal of Finance and Economics, Issue 4, pp.154-67.
4. Fosback V.G., (1991), Stock Market Logic: A Sophisticated Approach to Profits on Wall Street, New York: Florida Dearborn Financial Publishing Incorporated.
5. Sansa Nuhu A.(2020)."The Impact of the COVID - 19 on the Financial Markets: Evidence from China and USA" Electronic Research Journal of Social Sciences and Humanities. ISSN: 2706 – 8242. www.eresearchjournal.com Vol 2: Issue II Apr -Jun 2020.
6. AZİMLİ, A. (2020). "The impact of COVID-19 on the degree of dependence and structure of risk-return relationship: A quantile regression approach "Finance Research Letters, 101648. doi:10.1016/j.frl.2020.101648
7. Zhang, D., Hu, M., & Ji, Q."Financial markets under the global pandemic of COVID-19. Finance Research Letters, 101528. doi:10.1016/j.frl.2020.101528 Available online 16 April 2020 1544-6123/ © 2020 Elsevier Inc.
8. Basistha Daisy and Bora Debakshi "The outbreak of COVID-19 pandemic and Its Impact on Stock Market Volatility: Evidence from a worst-affected economy"
9. Baker, S., Bloom, N., Davis, S., Kost, K., Sammon, M., & Viratyosin, T. (2020). "The Unprecedented Stock Market Impact of COVID-19." Available on National Bureau of Economic Research. Doi: 10.3386/w26945.
10. India Daily Reports. (2020). Daily Reports statistics COVID - 19.
11. Economy. (2020). Financial Markets Rattled by the Multiple Effects of COVID - 19.
12. S & P Global Report. (2020). Corona Virus: Economic & Credit Market Implications. Corona Virus: The Global Impact.
13. Oluwatoyin Matthew, Gbadebo Olusegun Odularu. The impact of share market capitalization on a company's performance. Afr. J. Bus. Manage. 2009;3(5):220–226. ISSN 1993-8233. [Google Scholar]
14. https://www1.nseindia.com/global/content/about_us/NSE_Annual_Report_2020.pdf
15. https://www.moneycontrol.com/markets/earnings/results-calendar/
16. https://in.finance.yahoo.com/quote/INDIANB.BO/history/
17. https://www.nseindia.com/products/content/equities/indices/historical_index_data.htm.
18. https://in.finance.yahoo.com/quote/INDIANB.BO/key-statistics?p=INDIANB.BO