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AN EMPIRICAL STUDY OF IMPACT OF COVID 19 ON SELECTED INDICES (NYSE US 500 and BSE 500)

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ABSTRACT

1. **Purpose** – The study aims to identify the impact of covid19 on selected indices of NYSE US 500 and BSE 500, pre and post COVID periods.
2. **Research Questions**:
   Q 1.What impact has been casted by the COVID pandemic on the selected indices?

   Q 2.What could quantitative differences be noted during the pre and post-COVID times?
3. **Design/methodology/approach** – The paper is based on the secondary data collection mode. The indices selected were NYSE US 100 (U.S.) and BSE 500 (India); the period of study taken was from 01-Aug-18 to 31-May-21 (34 Months). The data for the same was collected from authentic websites. Paired t-test was used to analyse the data.
4. **Findings** – The results revealed that there has been no significant impact of the pandemic on selected indices.
5. **Research Limitations**– The research limits itself only to two indices; if it were extended to multiple indices, the results could have been more acceptable and comparable.
6. **Practical Implications**– COVID 19 has continued to monopolise all the headlines in all the news, with reference to people or also to various sectors in the past two years. COVID-19influenceisbeingontheglobalstockmarket,anddueto the COVID 19pandemicglobalstockmarkethaswitnessedalotofchaos.
7. **Originality/Value**– This paper interestingly portrays the differences in the indices of the stock market during the pre and post COVID period. The paper is purely original and consists of useful information in this regard.

Keywords: *NYSE US 500, BSE 500, Stock Market, COVID 19.*

1. INTRODUCTION

COVID-19 was identified in Wuhan, China, in December 2019, triggering a mood of a collective panic in global financial markets, implying that COVID-19 is a financial market "black swan" occurrence. Due to a lack of aggressive and coordinated reactions from politicians and monetary authorities, global anxiety escalated to a global financial dimension, with global markets starting free decline by the end of January 2020. Since January 2020, the stock market of all nations has been in difficulty due to the unique COVID-19 outbreak catastrophe. Due to the new COVID-19, the unprecedented COVID-19 catastrophe comes with a bleak economic future. During this outbreak, global stock market indexes have plummeted.

The global market was essentially extremely seriously affected once the COVID-19 pandemic was declared. We can say that the entire country's economy has come to a halt. When the economy stops, the country's stock market must be affected. The stock market is critical to any country's economic success. In the recent decade, the stock market has been crushed by the COVID-19 pandemic. Both economic progress and the

stock market are intertwined. When a country's economy is slowing, its stock market falls along with it. Because of COVID-19, the stock market has been extremely turbulent recently.

India's economic growth is predicted to reach 1% by the end of the second quarter, with the GDP annual growth rate reaching 1.90 by 2020. In the first quarter of 2020, the United States' gross domestic product (GDP) is predicted to grow by 2.3 percent. If the rate of growth slows, the stock market will follow suit. Both are linked to the concept of positive correlation. GDP is a measure of a country's progress. Furthermore, the stock market has an impact on GDP. The GDP rates of the Indian and American economies have recently fallen as a result of COVID. Through the present research paper, we attempt to analyse the impact of COVID on the two indices selected for the study.

1.3 REVIEW OF LITERATURE

a) (Fernandez-Perez, Gilbert, Indriawan, & Nguyen, 2021) This is the first study to look at the impact of country culture on stock market reactions to a global health emergency. During the first three weeks after a country's initial COVID-19 case notification, we observe bigger stock market losses and greater volatility in nations with lower individualism and higher uncertainty avoidance.

b) (Huang, Yang, & Zhu, 2021) The researchers investigated that during the Covid-19 fall how brand equity affects stock performance. Consumer loyalty and demand benefits offered by brand ownership help companies to maintain steady cash flows. The paper's key findings were that firms with top brands have greater stock returns and lower systematic risk in the Covid-19

c) (Liu, Huynh, & Dai, 2021) The research study investigates the influence of the COVID-19 pandemic on the probability of a stock market crash in China. According to the data, conditional skewness in total, confirmed cases correlates negatively to daily growth, implying that the pandemic raises the probability of a stock market meltdown. In other words, when anxiety levels are high, the likelihood of a stock market fall is increased.

d) (Mazur, Dang, & Vega, 2021) This article examines the behaviour of the U.S. stock market during the COVID-19 crash of March 2020. In the oil, real estate, entertainment and hospitality industries, a strong positive returns on natural gas, food, healthcare and software inventories, but the equity value drops significantly. In addition, there is high asymmetric volatility in losing stocks which connect negatively with stock yields.

e) (Adenomon & Maijamaa, 2020). The research proposed policies such as a stable political environment, incentives for indigenous businesses, economic diversification, and a flexible exchange rate regime to strengthen the financial sector and attract more and new investors to the Nigerian Stock Exchange.

f) (Ahmed, 2020) The goal of this research is to see how COVID-19 affects the performance of the Pakistani stock market. The data for this study comes from COVID-19-related positive cases, deaths, recoveries, and the first-half closing prices of the PSX 100 index. The study's findings show that only COVID-19 recoveries impact the index's performance. In contrast, daily positive cases and deaths have no bearing on the index's performance.

g) (Waheed, Sarwar, Sarwar, & Khan, 2020) The purpose of this research is to see how COVID-19 affects the performance of the Pakistani stock market. This study uses COVID-19-related positive cases, deaths, recoveries, and PSX 100 index closing prices during the first half of 2020. The study's findings show that only COVID-19 recoveries impact the index's performance and that daily positive cases and deaths have no bearing on the index's performance.

1.4 OBJECTIVES

The key objective of the study is To identify COVID 19's impact on chosen indices quantitatively.

1.5 RESEARCH METHODOLOGY

The research methodology is as follows:

1. Data collection:

The researcher selects secondary data collection technique for the purpose of data collection; the selected sample for the study is NYSE US 100 (U.S.) and BSE 500 (India), and the data was collected from authentic sources as mentioned below

- https://in.investing.com/indices/nyse-us-100-historical-data?end_date=1622399400&st_date=1533061800
- https://www.bseindia.com/Indices/IndexArchiveData.html

2. Period of Study:

The period of study taken for statistical purposes is from 01-Aug-18 to 31-May-21 (34 Months), which has been equally divided into two, the Pre COVID Period 01-Aug-18 to 31-Dec-19 (17 Months) and the Post COVID Period 01-Jan-20 to 31-May-21 (17 Months)

3. Tools Used:

Paired T-test was used to statistically test the sample. The relevance of using this test is that we aimed to work out the statistical significances for the two periods (Pre and Post Covid), the necessary condition for the application of paired T-test is that we are studying one variable in two distinct periods. Therefore the test seems applicable and just.

1.1 ANALYSIS OF DATA

- Daily returns were calculated and were averaged so as to represent monthly returns.
- The statistical analysis of data was done to test the following hypothesis.

H_0: There is no significant impact of Covid 19 on Selected Indices.

The hypothesis stated above was further divided into two sub-hypotheses to better understand the facts associated, which have been explained below:

H_{0a}: There is no significant impact of Covid 19 on NYSE US 100.

H_{0b}: There is no significant impact of Covid 19 on BSE-500.

The table below mentions the percentage beta values of the two selected indices, NYSE US 100 and BSE 500, pre and post-Covid 19. Duration of the study was taken as 34 months and data relevant to this period was taken from the authentic websites, as mentioned below:

1. Data for NYSE reterived from https://in.investing.com/indices/nyse-us-100-historical-data?end_date=162 2399400&st_date= 1533061800
2. Data for BSE 500 retrieved from https://www.bseindia.com/Indices/IndexArchiveData.html

Table 1 Comparison of Returns for Pre and Post Covid 19

Pre Covid 19			**Post Covid 19**		
Month	**NYSE US 100**	**BSE-500**	**Month**	**NYSE US 100**	**BSE-500**
Aug-18	0.07%	0.17%	Jan-20	-0.08%	-0.002%
Sep-18	0.07%	-0.51%	Feb-20	-0.52%	-0.33%

Pre Covid 19			**Post Covid 19**		
Month	**NYSE US 100**	**BSE-500**	**Month**	**NYSE US 100**	**BSE-500**
Oct-18	-0.24%	-0.18%	Mar-20	-0.50%	-1.19%
Nov-18	0.15%	0.20%	Apr-20	0.51%	0.79%
Dec-18	-0.49%	0.04%	May-20	0.19%	-0.11%
Jan-19	0.31%	-0.08%	Jun-20	-0.04%	0.37%
Feb-19	0.15%	-0.03%	Jul-20	0.18%	0.29%
Mar-19	0.02%	0.40%	Aug-20	0.27%	0.18%
Apr-19	0.13%	0.00%	Sep-20	-0.10%	0.00%
May-19	-0.27%	0.07%	Oct-20	-0.17%	0.12%
Jun-19	0.31%	-0.07%	Nov-20	0.55%	0.56%
Jul-19	0.04%	-0.28%	Dec-20	0.12%	0.34%
Aug-19	-0.08%	-0.03%	Jan-21	-0.13%	-0.08%
Sep-19	0.10%	0.22%	Feb-21	0.20%	0.39%
Oct-19	0.08%	0.19%	Mar-21	0.23%	0.06%
Nov-19	0.16%	0.06%	Apr-21	0.20%	0.03%
Dec-19	0.11%	0.03%	May-21	0.08%	0.34%

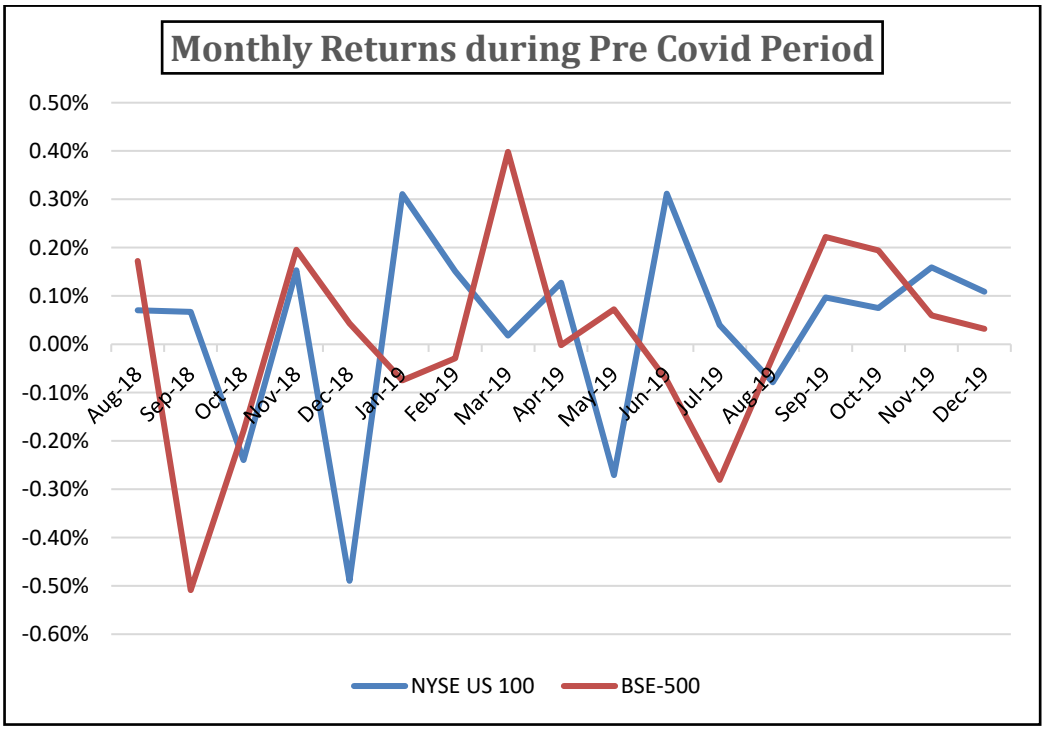

Figure 1 Monthly Returns during Pre Covid-Period

As depicted from the above Table 1 &Figure 1, Monthly returns during Pre covid period (17 months) were negative returns between August 18- January-19 in both the selected indices due to general stock market fluctuations. Later, from February -19 to December -19, the market revived with little downward volatility.

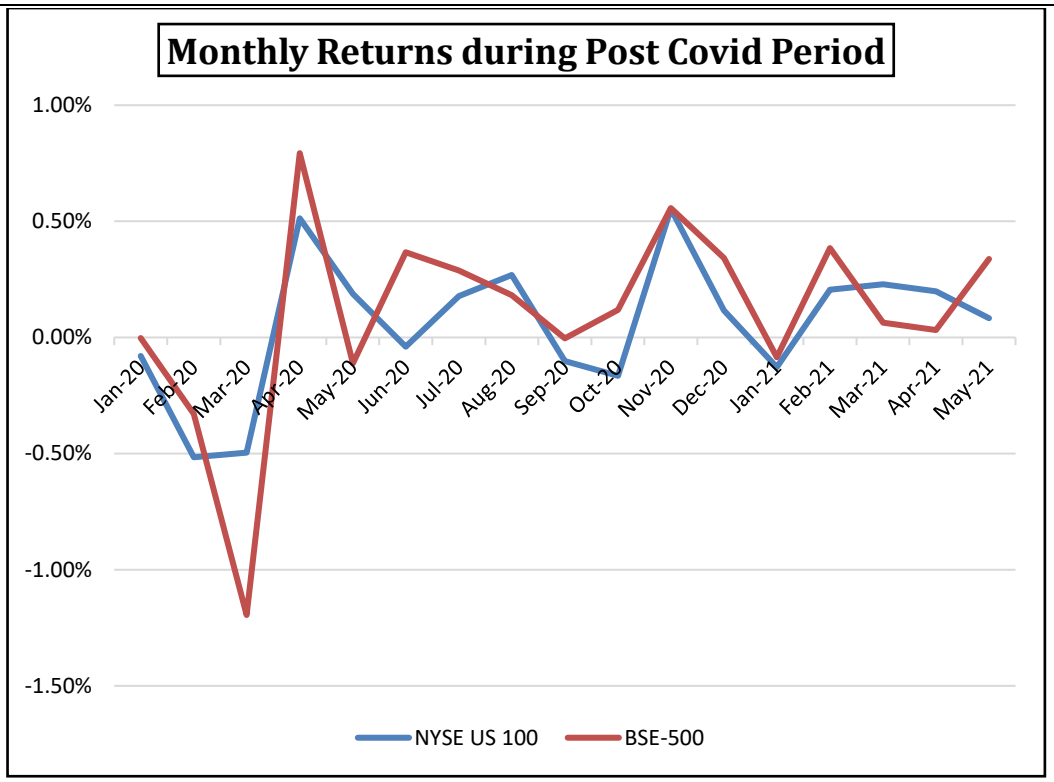

Figure 2 Monthly Returns during Post Covid-Period

As depicted from the above Table 1 & Figure 2, the trend of returns for both the indices during the covid post-period (17 Months) was found spectacular during the initial three months. After that, the market dipped significantly but started reviving from April 20-May-21.

Taking the data above as preliminary, paired t-test was applied on the selected sample indices. Finally, pre and post 17 months were compared on the two sets of pairs to draw valuable conclusions.

Table2
Paired Samples Statistics

	Pair 1		**Pair 2**	
	Pre_NYSE	**Post_NYSE**	**Pre_BSE**	**Post_BSE**
N	**17**	**17**	**17**	**17**
Mean	**0.036%**	**0.058%**	**0.012%**	**0.104%**
Std. Deviation	**0.205%**	**0.294%**	**0.210%**	**0.430%**
T	**-0.306**		**-0.940**	
Df	**16**		**16**	
Sig. (2-tailed)	**0.763**		**0.361**	

H_{0a}: There is no significant impact of Covid 19 on NYSE US 100.

As depicted from the above table, t (16) = -0.306, p = 0.763, Pre NYSE-Returns for the period from 01-Aug-18 to 31-Dec-19 (Mean = 0.036%, St.Dev = 0.205%) and Post NYSE-Returns for the period from 01-Jan-20 to 31-May-21 (Mean = 0.058%, St.Dev = 0.294%). The researcher accepts the null hypothesis since the p-value was found to be more than 0.05 and conclude that there is no significant impact of COVID pandemic on Pre NYSE-Returns and Post NYSE-Returns.

H_{0b}: There is no significant impact of Covid 19 on BSE-500.

As depicted from the above table, t (16) = -0.940, p = 0.361, Pre BSE Returns for the period from 01-Aug-18 to 31-Dec-19 (Mean = 0.012%, St.Dev = 0.210%) and Post BSE Returns from 01-Jan-20 to 31-May-21 (Mean = 0.104%, St.Dev = 0.430%). The researcher accepts the null hypothesis since the p-value was found to be more than 0.05 and conclude that there is no significant impact of COVID pandemic on Pre BSE-Returnsand Post BSE Returns.

1.6 FINDINGS

The study's core finding is that COVID 19 has not significantly affected the stock market for the selected indicesNYSE US 100 and BSE 500.However, reading the graphs and tables above confirms that Covid impacted the stock market for the two stated indices. Still, the effect was short-lived, and soon the market recovered and was back to its general volatility mode, more or less free from the impact of Covid. Therefore, it is concluded that Covid could not exert an effect so vulnerable on the stocks taken as a sample for the study.

Note: Above Abbreviation states the following

S No	Abbreviation Used	States as
1	IDX	Indonesia Stock Exchange
2	LQ45	is a stock market indexof Indonesia Stock Exchange.
3	NYSE	New York Stock Exchange
4	S&P 1500	is a stock market index of U.S. stocks
5	PSX	Pakistan Stock Exchange
6	BSE	Bombay Stock Exchange

REFERENCES

1. Data for NYSE retrieved from https://in.investing.com/indices/nyse-us-100-historical-data?end_date=162 2399400&st_date= 1533061800
2. Data for BSE 500 retrieved from https://www.bseindia.com/Indices/IndexArchiveData.html
3. Fernandez-Perez, A., Gilbert, A., Indriawan, I., & Nguyen, N. H. (2021). COVID-19 pandemic and stock market response: A culture effect. *Journal of Behavioral and Experimental Finance, 29*, 447-454.
4. GOH, T. S., HENRY, H., & ALBERT, A. (2021). Determinants and Prediction of the Stock Market during COVID-19: Evidence from Indonesia. *The Journal of Asian Finance, Economics, and Business, 8*(1), 1-6.
5. Herwany, A., Febrian, E., Anwar, M., & Gunardi, A. (2021). The influence of the COVID-19 pandemic on stock market returns in Indonesia stock exchange. *The Journal of Asian Finance, Economics and Business, 8*(3), 39-47.
6. Huang, Y., Yang, S., & Zhu, Q. (2021). Brand equity and the Covid-19 stock market crash: Evidence from U.S. listed firms. *Finance Research Letters*, 101941.
7. Liu, Z., Huynh, T. L. D., & Dai, P.-F. (2021). The impact of COVID-19 on the stock market crash risk in China. *Research in International Business and Finance, 57*, 101419.
8. Mazur, M., Dang, M., & Vega, M. (2021). COVID-19 and the march 2020 stock market crash. Evidence from S&P1500. *Finance Research Letters, 38*, 101690.
9. Mujib, B., & Candraningrat, I. R. (2021). Capital Market Reaction to Covid-19 Pandemic on LQ45 Shares at Indonesia Stock Exchange (IDX). *American Journal of Humanities and Social Sciences Research (AJHSSR), 5*(3), 74-80.

10. Adenomon, M. O., & Maijamaa, B. (2020). On the Effects of COVID-19 outbreak on the Nigerian Stock Exchange performance: Evidence from GARCH Models.
11. Ahmed, S. (2020). Impact of COVID-19 on Performance of Pakistan Stock Exchange. *Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3643316*.
12. Al-Awadhi, A. M., Alsaifi, K., Al-Awadhi, A., & Alhammadi, S. (2020). Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns. *Journal of Behavioral and Experimental Finance, 27*, 100326.
13. CAMBA, A. L., & CAMBA Jr, A. C. (2020). The Effect of COVID-19 Pandemic on the Philippine Stock Exchange, Peso-Dollar Rate and Retail Price of Diesel. *The Journal of Asian Finance, Economics and Business (JAFEB), 7*(10), 543-553.
14. Ngwakwe, C. C. (2020). Effect of COVID-19 pandemic on global stock market values: a differential analysis. *Acta Universitatis Danubius. Œconomica, 16*(2), 255-269.
15. Ruiz Estrada, M. A., Koutronas, E., & Lee, M. (2020). Stagpression: The economic and financial impact of Covid-19 Pandemic. *Contemporary Economics, 15*(1), 19-33.
16. Sansa, N. 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, 2*.
17. Ullah, M., Khan, A., & Usman, A. (2020). COVID-19 and Global Stock Market. *International Journal of Management, 12*(2), 374-380.
18. Waheed, R., Sarwar, S., Sarwar, S., & Khan, M. K. (2020). The impact of COVID-19 on Karachi stock exchange: Quantile-on-quantile approach using secondary and predicted data. *Journal of Public Affairs, 20*(4), e2290.