Impact of Covid-19 on Stock Exchange Indices: A Study on BRICS Nations

Aditya Prasad Sahoo*

Abstract

Finance is the basic need for every economy. Without finance it may be impossible to run any economy. Finance stock exchanges have been playing a significant role in every economy. In general, stock exchanges are considered as a physical and virtual place where securities are traded in systematic manner. The year 2020 is evidence of the impact of the epidemic Covid-19 on world’s nations. Due to Covid-19 there is worldwide shutdown means all the economic activities were closed for certain time period and it also affected stock exchange indices for particular time period. In the present study an attempt is made for identification of impact of Covid-19 on BRICS countries stock exchanges indices. Time period considered for this study is two months before the pandemic started and two months after it started and after WHO announced Covid-19 as worldwide Health Emergency. For identification of impact five countries and their stock exchange indices are selected. Findings of the study indicated that there is significant negative impact of Covid-19 on stock exchange indices of BRICS nations.

Key Words: Covid-19, BRICS, Stock indices, Epidemic, WHO

Introduction

Finance is the basic need for every economy. Without finance it may be impossible to run economy (Bruno Gurtner, 2010). Finance stock exchanges have been playing a significant role in every economy. In general, stock exchanges are considered as a physical and virtual place where securities are traded in systematic manner (Cepoi C O, 2020). The stock exchange is a place where securities are traded for consideration with particular time duration. It also facilitates the stockbrokers and traders to buy and sell securities such as share of companies, debentures, bonds and other financial instruments. Stock exchanges provide facilities like raising capital for businesses, venture capital, corporate partners, mobilizing saving for investment, facilitating acquisitions, profit sharing in the form of dividend and many more activities are carried out by such type of stock exchanges.

In the world approximately 6,30,000 companies are trading publicly and key reason for this is considered as growth of global stock markets. The sudden propagation of the unforeseen COVID-19 outbreak has put the nations on risk and suddenly altered the global perspective.

Initially, in December 2019, in Wuhan City, Hubei Province of China, the SARS-CoV-2 virus, which caused the COVID-19 epidemic, triggered it to spread globally over time. Not only this, pandemic is a public health crisis and also a major cause of global economic slowdown. This has induced a psychological fear in consumers, because of which they avoid normal purchasing behaviour.

*PhD Research Scholar, KIIT School of Management (KSOM), Kalinga Institute of Industrial Technology (KIIT), Deemed to be University, Bhubaneswar, Odisha. adityasahoo007@gmail.com
This pandemic has put major economic impact by inculcating instability and risk around the world thus affecting both the developed and developing economies, like the US, Spain, Italy, Brazil and India. Owing to fear and confusion, investors incur major losses. For instance, the world share market plunged around US$ 6 trillion in one week from 24 to 28 February, owing to the effects of this outbreak (Ozili and Arun, 2020). After the Covid-19 crisis, the share valuation of Standard & Poor (S&P 500 indices has decreased to 30 per cent. Increased volatility, as per Azimili (2020), influences the cost of capital and hence the existing market valuation of stocks. Even though available literature on the effect of COVID-19 on the stock market is minimal, current analytical study is likely to produce a promising finding which may further contribute to the existing pool of literature.

**Literature Review**

Abdullah M. Al-Awadhi (2020), has analysed death and contagious infectious diseases: impact of the covid-19 virus on stock market returns. In this study, researcher identified all the stock of both China named Hang Seng Index and Shanghai stock exchange composite during Covid-19 contagious infectious disease. Researchers find that negative returns in stock market were recorded because of Covid-19 pandemic and the also explored that stock returns are significantly negative in concern with daily growth in total confirmed cases and daily growth in total cases of death affected by Covid-19. Baret et al., (2020), found that from the advert effect coming from COVID-19 pandemic bond, equity and oil prices fell heavily all over the world. Jim, (2020), claimed of deterioration in the productivity of companies because of the strict observances of social distancing norms and it ultimately affected the profitability, increased the functional cost and put advert effect on the cash flows. Stefano Ramelli (2020), analysed feverish stock price reactions to Covid-19. In this article researcher mentioned that market reaction to covid-19 is of significant importance to international trade and financial policies for any firm. Due to the spread of the virus to Europe and US, markets of the countries moved feverishly and corporate debt and cash holdings emerged. The major finding of the study indicated that to what extent health crises leads to economic crisis through financial channels. Sansa (2020), has studied the impact of the Covid-19 on the financial markets: evidence from China and USA. In this study, researcher identified Covid-19 shock as severe compared to great financial crisis in 2007-08. For this study, China stock market index Shanghai and USA stock market index New York Dow Jones were considered for the time period of 1st March to 25th March 2020. The major finding of the study was positive significant relationship between covid-19 cases and selected finical market from 1st march to 2020 to 25th march 2020 in China and USA which indicated that there is significant impact on the selected financial markets in China and USA.

**Objectives of the Study**

The main objective of this paper is to study the impact of Covid-19 on the stock markets of BRICS nations and also reflecting how the Covid-19 is affecting the stock market.
Research Methodology

This study is purely secondary in nature. All the data have been collected from respective country’s stock market websites as well as from dataset of trading economies. Monthly data of stock market of BRICS nations have been taken in to consideration. Time periods considered for this study are December 2019, January 2020 and February 2020 and March 2020. It is also considered as non-probability sampling technique in which judgement samples are bused. The study covers selected stock exchange indices for particular period which is considered as secondary data source that is collected from various stock exchanges websites. Geographical scope of the study is limited to the BRICS nations such as Brazil, Russia, India, China, Sri Lanka only.

Hypothesis

H0: There is a significant difference between the Pre and Post Covid-19 effect.

Data Analysis and Interpretation

Table 1 specifies the Covid-19 impact on BRICS nations and their performance of stock market during the period of study from December 2019 to March 2020. The period of study is divided in to two parts that is Pre Covid-19 period and Post Covid-19 period. For the Pre Covid-19 period two month that is December 2019 and January 2020 have been taken into deliberation. Subsequently, February 2020 and March 2020 have been taken as Post Covid-19 period for the study. The time span indicate that before and after selected months when World health organization declared Covid-19 as world health emergency. After December 2019 it is found that all the countries stock indices during the period in the study were on decreasing note except MOEX of Russia where the indices point was 3118.

Table 1. Performance before and after Covid-19 of Selected Nations

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>BOVESPA</td>
<td>115087</td>
<td>114385</td>
<td>114736</td>
<td>103859</td>
<td>72631</td>
<td>88245</td>
</tr>
<tr>
<td>Russia</td>
<td>MOEX</td>
<td>3058</td>
<td>3118</td>
<td>3088</td>
<td>3066</td>
<td>2509</td>
<td>2787.5</td>
</tr>
<tr>
<td>India</td>
<td>BSESENSEX</td>
<td>36842</td>
<td>34824</td>
<td>35833</td>
<td>34035</td>
<td>33771</td>
<td>33903</td>
</tr>
<tr>
<td>China</td>
<td>SHCOMP</td>
<td>3021</td>
<td>2974</td>
<td>2997.5</td>
<td>2894</td>
<td>2751</td>
<td>2822.5</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>CSEALL</td>
<td>6092</td>
<td>5954</td>
<td>6023</td>
<td>5654</td>
<td>4526</td>
<td>5090</td>
</tr>
</tbody>
</table>

Sources: https://tradingeconomics.com/forecast/stock-market

However, all the BRICS nations stock indices decreased in the Post Covid-19 period that is two months, February 2020 and March 2020. Considering the average of BRICS nations stock market in both periods, it is found that BOVESPA of Brazil was more affected where the indices decreased to 88245 points from 114736 points during the period of study.

In table 2 the author used the paired t-test to analyze the Covid-19 impact on stock market indices of BRICS.
nations during Pre and Post Covid-19 period at 5% level of significance. As the p-value is more than 0.05 that is 0.31, the null hypothesis there is a significant difference between the mean of Pre Covid-19 period and Post Covid-19 period is accepted. Therefore, it is clear that Covid-19 had negative impact on the performances of stock indices of BRICS nations during the period of the study as per statistical findings.

Table-2. Paired sample T-test

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Pre Covid-Period</th>
<th>Post Covid-Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>32535.5</td>
<td>26569.6</td>
</tr>
<tr>
<td>Variance</td>
<td>2302589265.75</td>
<td>1362129993.92</td>
</tr>
<tr>
<td>Observations</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.997345</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Df</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>t Stat</td>
<td>1.16053</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) one-tail</td>
<td>0.155188</td>
<td></td>
</tr>
<tr>
<td>t Critical one-tail</td>
<td>2.131847</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.310377</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.776445</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Author’s Calculation through MS-EXCEL

**Findings and Conclusion**

After declaration of Covid-19 as world health emergency on 30th January all the selected five indices have indicated negative trend during the study period. With respect to the number of cases, most affected nations is Brazil during the period of study. Because the average indices of after Covid-19 impact was falling more than the average indices of before Covid-19 which is comparatively higher than Russia, India, China and Sri Lanka as per the Table-1 in the study. It was also found that Covid-19 pandemic negatively affected the performance of stock market of BRICS countries. Here the findings are consistent with (Youssef, M., Mokni, K. & Ajmi, A.N, 2021), (Chowdhury, E. K., Khan, I. I., & Dhar, B. K., 2021) and (Takyi, P. O., & Bentum-Ennin, I.,2020). “The effects of a public health emergency can be transmitted to the economy because stock markets serve as a barometer of investors’ expectations and faith in economic prospects. The COVID-19 pandemic spread intensified uncertainties worldwide, increasing stock investors’ fear, and creating pessimistic sentiments regarding future returns (Bai 2014; Baker et al. 2020)”. “Finally, it is important to strengthen international cooperation among financial regulators worldwide. In the context of economic globalization, stock markets are a complex economic ecosystem, so it is necessary to reinforce international sharing of management information related to financial risk contagion (Zhang et al. 2020)”. However, the scope of this paper is limited to short-term only. Further
research can be implemented for long term impact of Covid-19 on BRICS nations. Similarly, Covid-19 pre and post impact on developed and developing countries can also be taken for future study.

References


