

The COVID19 Pandemic's Emergence and Its Impact on Stock Market Volatility

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ABSTRACT

This study empirically examines the impact of COVID 19 on the volatility of the Indian stock market using a generalized autoregressive conditional heterogeneous variance model. From September 3, 2019 to July 10, 2020, the analysis was performed using the daily closing prices of the Nifty and Sense stock indexes. In addition, this study compared stock price returns before and after COVID 19. According to the data, the Indian stock market is characterized by pandemic volatility. Comparing the results with COVID, we found that the period prior to COVID 19 had higher index returns than the period prior to COVID19 periods.

The onset of the COVID-19 pandemic, as well as government lockdown announcements, has created uncertainty in global business operations. Surprisingly, The stock market has been impacted significantly by a health crisis. The value of India's key stock indices has fallen by about 40%, making it one of the world's most significant emerging markets. Next, we investigated the short-term impact of pandemics on the Indian Stock Market Primary Index (NIFTY50) and its sectors. In our research, we used three alternative event research methods: a constant return model, a market model, and a market adjustment model. our outcomes are heterogeneous and heavily influenced by the sectors. Every sector was temporarily impacted; However, the banking industry was hit the worst. The effects of Pharma, consumer goods, and information technology were all positive or minimal. We go over some of the theories that could explain this. These findings may aid investors in protecting Make smarter investment decisions to protect your equity portfolio from unexpected shocks and avoid huge unplanned losses.

Keywords: Covid19 Pandemic's, Stock Market Volatility, Emergence.

1. Introduction

The World Is In Danger Due To The Unprecedented

COVID19 Pandemic, Which Has Unexpectedly Changed The Global Outlook. The COVID19 Outbreak was caused by the SARSCov2 Virus, which first surfaced in December 2019 In Wuhan, Hubei Province, China, it spread rapidly all over the world. This pandemic is both a serious global recession and a global health emergency. Economic activity in many countries has ceased due to strict quarantine measures taken to prevent unknown viruses. The fact that cross-border passage is restricted, if not prohibited, has hampered global economic activity. Most importantly, consumers and businesses have avoided normal buying patterns as a result of subsequent panics, leading to market anomalies. This pandemic poses vulnerabilities and dangers around the world, hitting both developed and developing countries such as the United States, Spain, Italy, Brazil and India. Financial markets have responded dramatically to this situation and have been adversely affected. The financial turmoil associated with COVID19 is having a significant impact on financial markets, including both the stock and bond markets. As a result of the epidemic, oil prices plummeted, but gold prices rose dramatically. Firzli calls this pandemic a "major financial crisis" (2020). In many countries, businesses are in heavy debt, weaker companies are more volatile, and corporate bonds are at unprecedented levels. As a result of the pandemic, global financial market risk has increased dramatically (Zhang et al., 2020). Investors have already suffered sufficient losses from fear and uncertainty. For example, between February 24th and 28th, the global stock market lost nearly \$ 6 trillion as a result of the pandemic effect (Ozili and Arun, 2020). The market value of the Standard and Poor (S & P) 500 Index fell 30 years after the outbreak of COVID 19 According to Azimili, increased uncertainty will affect the required returns and thus the current market value of the stock (2020)

Despite the abundance of literature on COVID19's impact The stock market of the entire economy has not been fully investigated, especially in the case of new economies. In order to shed light on this topic, this article aims to evaluate the influence of COVID19 on India's two most prominent stock markets. To Increase The Study's Significance In Terms Of Due to the volatility pandemic of the stock index and the Indian government's blockade policy, the GlostenJagannathanRunkle (GJR) generalized autoregressive conditional heterogeneous variance (GJR GARCH) model is used. The core findings of the study show how volatile India's two major stock markets, the BSE Sensex and the NSE Nifty, are.

2. Literature Review

The impact of COVID19 on financial and equity markets has been extensively studied in both developed and emerging markets. The current literature shows a wide range of results in this regard. North America, Africa, Asia and Europe are the four continents on which the game is based. Ozili and Arun (2020) investigated the effectiveness of social distance policies aimed at preventing corona virus infection. Studies show that a 30-day social distance expansion or lockout strategy will hurt the economy by lowering stock prices. Azimili (2020) used quantile regression to investigate the impact of corona virus on the scale and structure of risk and reward dependence in the United States. The data show that after the occurrence of COVID19, the dependence between returns and market portfolios has increased in the upper quintiles and the diversification effect has diminished. The author also investigated the relationship between GSIC and stock returns and found that it showed a non-uniform pattern and that the lower tail was almost twice as harmful as the upper tail. Shehzad and his colleague (2020) used the asymmetric power GARCH model to study the non-linear behavior of financial markets in the United States, Italy, Japan and China. According to the survey, COVID19 adversely affected the stock

return of S & P500. Nevertheless, the Nasdaq Composite Index was unaffected. Cepoi (2020) conducted an empirical study on the relationship between COVID19-related news and stock market returns in the most affected countries. According to this study, conducted using panel quintile regression, the stock market shows an asymmetric reliance on COVID 19 related information. Osage et al. (2020) COVID19 was found to affect Nigeria's stock returns using a quadratic and exponential GARCH model with dummy variables. They recommended a stable political environment, domestic business incentives, economic diversification, and a flexible exchange rate system to improve financial markets. Bread Cook (2020) discovered that oil costs have plummeted by 70-80% based on his study. It's Worse Than the Financial Crisis of 2008/2009.

3. Data And Methodology

3.1. Data

The purpose of this study is to clarify how the COVID 19 epidemic will affect the Indian stock market in March 2020. Share prices were calculated using the Yahoo Finance and CMIE Rowess databases with stock splits and dividend adjustments. The current securities price was included in the survey. NIFTY50 Index is a float adjustment market-Capitalization-Weighted Index Made Up Of 50 Blue-Chip Companies That Represent Approximately 65% Of The Total Market Capitalization NSE's Float-Adjusted Market Capitalization. The Proxy J. Risk Financial Manage was chosen as the NIFTY50 Index. 558 in 2021, 14 in 2021, 14 in 20 For Market Returns, 5 of 15I examined the components of the NIFTY50 index. Figure 1 shows the movement of the exponent during a pandemic. that is pandemic's onset in India in March, the stock market dropped 15-17 percent. The Market Tried To Recover From March's Lows By Showing An Upward Trend In April, Which Was Relatively Better.



Figure: 1. NIFTY50 price chart (source: NSE).

3.2. Methodology

The impact of the event is immediately reflected in the stock price, unlike other productivity-related measures that require months of research. Abnormal returns are used to determine the magnitude of the impact of an event. The Occasion Studies methodology helps determine if an unexpected event has resulted in anomalous returns. Anomalous returns are the difference between the actual post-safety returns and the expected normal returns in the event window (Mack Inlay 1997). Three models were used to calculate the associated anomalous returns: the constant mean return model, the market adjustment model, and the market model.

Longer event windows, compared to smaller event windows (up to 1 month ago and 1 month later), (I) reduce the effectiveness of the test statistic, (II) produce confounding effects, and (III). It leads to false conclusions (McWilliams and Siegel 1997). Event analysis reports are predictive and therefore become less accurate over time. The chances of other events affecting stock prices and causing noise are relatively high over the long term. Therefore, a short event window was chosen for the analysis. Figure 2 shows the timeline for the windows of the events included in the analysis. We used the 15-day event framework to get a more complete picture of the impact of the COVID 19 pandemic. This is because it was not a one-day event. Instead of this, when the COVID-19 numbers swelled, the event was spread out across several days.

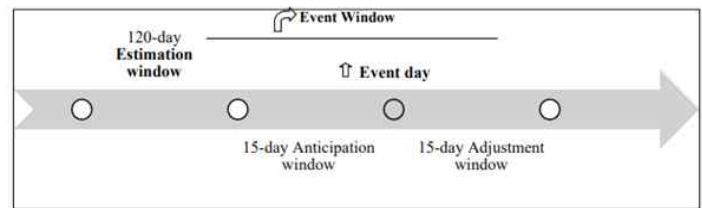


Figure:2. Event window timeline (Source: Author).

4. Conclusion

This paper examines the impact of COVID 19 on the performance of the two Indian Stock Exchanges BSE and NSE. The GJH GARCH model is used to measure stock market volatility by comparing two periods before and after the first 19 positive COVID cases in India. These two periods are dependent variables and the daily closing prices of the BSE and NSE indexes are independent variables. This study shows that the stock market, especially BSE Sense, has become unusually volatile during the pandemic. Another stock index, NSE Ifty, found that the COVID 19 period did not significantly affect the volatility of NSE stock prices. The average COVID19 return is calculated separately from the average preCOVID19 return. Studies show that if the average return is negative during a pandemic, the stock market loses money, but the average return for the period prior to COVID 19 is positive. Comparing SD, we can see that the deviation in the COVID19 era is significantly larger than before COVID19. The price of the stock index has also changed dramatically. Prices were high before COVID19, but during COVID19 they began to fall until the first blockade, which lasted until the end of March, and then gradually rose again. It's due to the Indian government's decision to ease the lockdown policy. As a result of the extraordinary pandemic, almost every country has already suffered difficulties. COVID19 has ramifications in all areas of the economy. In a nutshell, the data suggest that the Corona virus outbreak has influenced stock prices and increased volatility in Indian stock markets, as well as having a financial system impact. Similarly, this research seeks to present a very simple but innovative statistical analysis of the COVID19 pandemic by utilizing the example of the Indian stock market.

This study investigated The impact of COVID 19 on the Indian stock market by assessing whether there were any unusual returns when the pandemic occurred. The analysis uses three separate event research approaches: constant return model, market adjustment model, and market model. For Several Days Before And After The Event, Strange Returns Were Observed. All of the models continuously gave positive airs for the most of the days following the declaration of complete lockdown. We also did a separate oral study to see how the COVID-19 pandemic might affect various industries. We discovered that COVID-19 has increased stock market risk in general. Our findings, on the other hand, are mixed and strongly influenced by the sectors. The conclusions are similar to those of Master and Das (2021) and Shanker and Dubay (2021). Every industry was briefly damaged, but the financial sector was hit the most. The effects of Parma, consumer goods, and information technology were all positive or minimal. Bora and Basistha (2021) found the pharmaceutical industry intriguing during this period of health-related pandemic, and our findings are similar.

5. References

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