



## THE VOLATILITY AND EFFICIENCY OF STOCKS OF SMES IN THE INDIAN STOCK MARKET DURING COVID-19 PANDEMIC

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### ABSTRACT

Corona sickness is officially recognised as a global pandemic by the WHO. The epidemic brought to a number of grave problems for the country's population and economy. The stock market has been impacted by the epidemic, just like any other area of the economy. The stock indexes or stock market has its own significance as a significant actor in the economy. Due to this impact on the stock market, it also had a negative impact on the nation's development, growth, and citizen wealth generation. Hence, the movement of the price of shares and securities in the market during pandemic period has more significance in the current scenario. This study examines the volatility and market efficiency of stocks of SMEs in the Indian stock market in the light of global corona virus pandemic. The primary draw of the study is how unpredictable and volatile the stock market is. For finding this the study chosen three important SMEs stocks listed in the National Stock Market (NSE) under NIFTY SME Emerge stocks. The research is a quantitative empirical research and is completely depends on the secondary data source. Therefore, to ascertain the volatility and predictability of volatility, time series data on the daily price of the chosen stocks for two years from 2020 to 2022 are obtained from the official website of NSE and applied the GARCH model using the e-views analytic programme. The outcome of the study is useful to the shareholders and other stakeholders of SMEs companies and also help to the economic progress of the country.

### INTRODUCTION

The recently discovered illnesses Nearly all of the world's economies and public health were negatively impacted by the COVID-19 epidemic(Han, Chong and Li, 2020). The virus was initially only a problem in one country because it was originally discovered in China, but as it spread to other nations, it eventually became a global problem. Serious problems with human life, health, and survival were brought about by the epidemic(Hammad and Hammad, 2021). The abrupt rise in mortality rates and patience rates in each nation made people uneasy, which caused both physical and mental health issues for them(Zhu and Chou, 2020).Even though the world has experienced many serious diseases over the past year, including the Spanish flu, HIV, SARS, EBOLA, and others, reports indicate that the covid-19 epidemic disease's negative impact was significantly greater than the impact of these pandemics, particularly when death rates are taken into account. When comparing the spread of COVID-19 with the 2008 financial crisis, which started in the US and affected many nations, it is discovered that the present epidemic is spreading swiftly(Barman, Das and De, 2021). The spread of the virus not only caused major health problems but also confusion in how commerce and industry were run. The effect is also spread to the country India. Many covid-19 cases reported in the country and like the effect in any other sectors it also have and impact on the security market. The current study is deals with the pandemic effect on the SMEs stocks listed in the National Stock Market (NSE).A significant portion of the Indian economy is made up of micro, small, and medium-sized businesses (MSMEs)(Tudor, Tudor and Anghel, 2014).Almost 80 million people are employed by the 36 million units that make up the sector. According to the Ministry of Micro, Small and Medium Businesses, Government of India, on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE), these businesses account for 8% of the country's GDP, 45%



of the overall industrial output, and 40% of exports from the nation(Šestanović, 2016).The SEBI (Issue of Capital and Disclosure Requirements) Rules, 2009 were amended where needed to slacken the listing criteria for certain companies.Since then, separate SME platforms have been introduced by the BSE and NSE(Margaretha and Supartika, 2016). 100 initial public offerings (IPOs) have been listed on these alternative platforms since their launch in the year 2012 until March 31, 2015(Lardon and Deloof, 2014). This study intends to analyse the performance of SME during covid-19 period.

## LITERATURE REVIEW

After the Asian financial crisis of 1997, some research supported the idea of global stock market spillover(Irshad, 2017). The worst financial crisis to hit the world since the Great Depression occurred in 2008. No study has been conducted to determine how the crisis has impacted stock markets as a result. The EGARCH approach was employed in a number of studies to examine stock market volatility(Zoungrana, Toé and Toé, 2021). To deal with volatility clustering, the EGARCH model employs time series analysis and interprets variance error as autocorrelated. Six Gulf countries' capital markets had contractions during the 2008 financial crisis, but they quickly rebounded once the crisis was ended. Inter-market correlation, in the opinion ofUwubanmwun and Omorokunwa, (2015), is a simple method for harmonising the world economic system.Finding out whether occurrences in one market have an impact on those in another is the goal of intermarket correlation, which is the study of the interaction between several markets. The 1997 Asian Financial Crisis allegedly made volatility worse, according to Kilic et al. In 1999, Kaminsky and Schmukler put forth evidence of cross-country capital industry volatility. The initial findings were agreed upon by Ha et al (2001). De Lint (2002) observed that cross-country volatility increased in interconnectedness following the recession of 1987. According to some reports, the instability of the developed world was a result of the 1997 economic crisis in the wealthy countries. Chang indicates that following the 1997 crisis, market volatility increased (2002).Significant connections between the volatility of the Indian stock exchange and international markets were found by(Lingaraja et al., 2020). Chen and associates (2021) Following a financial crisis, there is an increase in global capital economic uncertainty, which has an impact on the economy. The effects of one economic event on another are referred to as "economic spillovers". Yang et al., (2021)discovered an increase in the inter-correlation of nation volatility following the Asian economic downturn. Nonetheless, there is a great deal of co-integration during a crisis(Khalid, 2021). There wasn't a lot of proof that these factors were connected causally prior to the Asian Crisis of 1997.The results on COVID-19's effect on share price are noteworthy. First off, the Chinese stock market has not been impacted despite Wuhan being the site of the first corona incident(Zhu and Chou, 2020). The stocks market's erratic behaviour made Taiwan's stock market vulnerable to the pandemic. Second, both developed and developing economies must have been impacted by COVID-19. Yet, the COVID-19 outbreak was more severe in underdeveloped areas than to industrialised areas(Vidya and Prabheesh, 2020).While analysing the previous literatures related to the covi-19 Pandemic and stock market reaction it is found that there is no study conducted among the SMEs stocks listed in the National Stock Market (NSE).

## AIM OF THE STUDY

The primary goal of the current study is to examine the level of market volatility in SMEs stocks listed in the National Stock Market (NSE) during the Covid-19 pandemic.

## OBJECTIVES OF THE STUDY

- To describe the time-varying characteristics of the SMEs stocks listed in the National Stock Market (NSE) volatility.

- To examine the asymmetry in the SMEs stocks listed in the National Stock Market (NSE)' sensitivity to both positive and negative shocks.

## METHODOLOGY

This study, which describes the nature of volatility and its predictability on the European stock market throughout the pandemic period, is analytical and empirical in nature. The study is entirely dependent on secondary data analysis, and the daily time series data from the chosen SMEs stocks listed in the National Stock Market (NSE). Integrated personal service Ltd, Quadpro ites ltd and Skp bearing industry ltd are the three SMEs stocks selected for the study. Thus, the closing price of each of these stock is gathered for the period of January 30, 2020, to the year May 31, 2022, from the Bloomberg database in order to determine the volatility of these securities during the pandemic period. The ARCH model was used to analyse the data and determine its volatility. Also, a unit root test is utilised to check the stationary of the study's data. The study's findings will be analysed and interpreted to find a solution to the research project's challenges. In order to do the analysis, the study also uses a variety of analysis tools, including Microsoft Excel and E-views.

## Result of analysis

**Figure 1 Fluctuation in the closing price of integrated personal service Ltdduring the Covid-19 pandemic period.**



The integrated personal service Ltd's time series closing price data are presented periodically in Figure 1. The graph displays the Index's closing price from 2020 to 2022. The chart clearly shows that there was a decline in the price movement at the start of 2020, and that trend started to change into a slight uptrend after the first quarter. The ongoing decreasing trend at the start of 2020 indicates that the Covid-19 pandemic's spread has a significant impact on price volatility.

**Figure 2 Fluctuation in the closing price of QUADPRO ITES ltd during the Covid-19 pandemic period.**

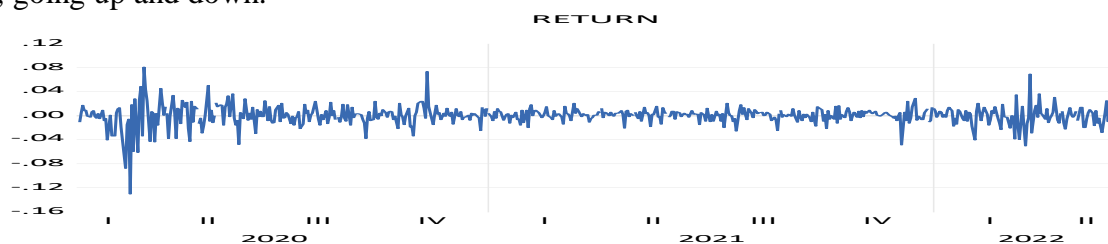


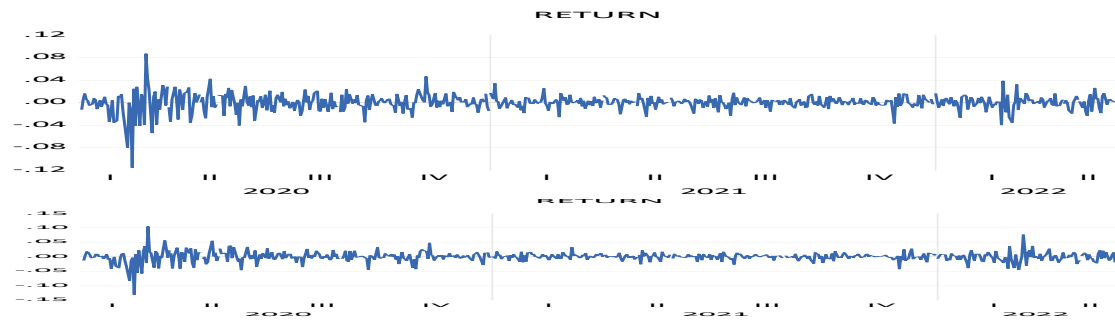
The QUADPRO ITES's cyclical price movement on the European stock market is depicted in Figure 4.2. The chart displays the closing price's volatility trend from 2020 to 2022. The price climbed into a slight uptrend at the start of the year 2020, but subsequently it moved into a lengthy, continuous downtrend, as can be seen in the chart. The price drops sharply, dropping from 13,000 to about 9,000. This indicates that the Covid-19 pandemic's spread during the end of 2019 and the start of 2020 had a significant impact on stock price volatility.

**Figure 3 Fluctuation in the closing price of Skp bearing industry ltd during the Covid-19 pandemic period.**



Figure 4.3 displays the price change in the Skp bearing industry ltd from 2020 to 2022. The table shows that the price fluctuates in up-and-down patterns throughout time. The price movement indicates a downturn at the start of 2020, and the price has been moving lower ever since. The price declines from 7500 to 5000, demonstrating the severe impact of the COVID-19 epidemic on the Skp bearing industry ltd stock market. During the years COVID-19 and 2020, the stock price is extremely erratic, going up and down.





From the above graphs it is found that the cluster repeats itself after a little pause. By looking at the volatility cluster or the trend that tracks changes in price, one can determine how predictable the volatility is. This indicates that because there are volatility clusters in the return and price movement, the volatility of the return of the SMEs stocks listed in the National Stock Market (NSE) can be predicted.

## CONCLUSION

Based on the closing prices of three significant SMEs stocks in the market, the current study investigated the impact of the Covid-19 epidemic on the volatility and predictability of volatility of SMEs stocks listed in the National Stock Exchange (NSE). According to the results of the volatility analysis using the ARCH model, SMEs stocks fluctuated during the Covid-19 pandemic era. During the start of the pandemic, the majority of the equities displayed a downward tendency; this pattern changes over time. The price movement of the three chosen stocks exhibits upward and downward patterns. This indicates that the stock market's volatility is time-varying in nature and that the price reached its typical level in the aftermath of the epidemic.

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