

IMPACT OF SELECTED SECTORAL INDICES ON NATIONAL STOCK EXCHANGE DURING COVID-19

Mrs. LEKHASHREE.S
DR.K.KANNIAMMAL

Avinashilingam Institute for Home Science and Higher Education for Women, Department of Commerce

ABSTRACT: The paper critically evaluates the impact in sectoral indices of National Stock Exchange. The Variables selected for the study are Sectoral Indices from National Stock Exchange as Dependent Variable and CNX Nifty as Independent variable. Statistical tool which are going to be used for the study are Descriptive Statistics to check the normality, Pair Wise Granger Causality is used to check effect of closing prices between the CNX Nifty and Sectoral indices and to find the impact of shares turnover of sectoral indices of National Stock Exchange multiple regression is used. The period of the study is for 1 year 8 months i.e. from 01.01.2019 to 31.08.2020, the reason for selecting this particular period is to know the impact during the Covid-19.

Key words: Sectoral Indices, CNX Nifty, National stock exchange and Covid-19

I. INTRODUCTION AND LITERATURE REVIEW

A stock market place is a public market where people can purchase and promote shares on the stock alternate. The stocks, also known as equities, constitute ownership within the company. Stock market has existed for centuries. The oldest stock exchange was started out in Belgium lower back in 1531. The agents and money lenders used to fulfil, there to address the business. However, they never used actual stocks but traded in promissory notes and bonds. Later, the Amsterdam Stock Exchange was installed in 1602 by way of the Dutch East India Company and regarded as the first legal stock exchange. Since its inception, stock markets have served many purposes, the most crucial being to provide agencies with a source to raise capital for funding and expansion.

Covid-1, an infectious disease caused by the new type of virus SARC Cov-2, is causing havoc around the world. WHO World Health organization declared it as a pandemic on March 11 as of April 17, 2020, the number of confirmed patients has exceed 2 million with around 139,000 already dead globally (WHO,2020). Countries like China, Italy, Iran, Spain, France, the United Kingdom and the United States have been hit hard so far with severe Covid-19 out breaks. It is behaving like the once in a century pathogen.

I. Problem of the Study:

The endurance of the study focuses for the proportion market section by the researchers and it does no longer consist of the share rate behaviour of the respective shares within the by-product segment. Since the research is restricted to the impact and effects patterns of the Sectoral Indices like NSE Automobile Sector, NSE Banking Sector, NSE FMCG Sector, NSE Financial Service Sector, NSE Energy Sector, NSE IT Sector, NSE Media Sector, NSE Metal Sector, NSE Pharmaceutical Sector, NSE Public Sector Undertakings and NSE Realty sector as Independent variables and CNX NIFTY as Dependent variable of National Stock Exchange, the price behaviour of the constituent shares of the diverse sectoral indices by researchers considered and does not include the price behaviour of the shares apart from the constituent stocks of the respective sectoral indices. The major findings of the study can be

used to know the impact of shares turnover of the Sectoral Indices of National Stock Exchange, it cannot be generalised and used to apprehend the behaviour of other rising and developed equity markets.

II. Literature Reviews of the Study:

Review of Literature related to the study of “An Analytical Study on Impact of selected Sectoral Indices on National Stock Exchange during COVID-19” have been collected from various studies undertaken by academic journals, magazines and publications, working paper, books and the like.

. **Dhiraj Jains and Nakul Dashora (2012)** studied the Impact of Market Movements on Investment Decision with respect to Investors in Udaipur and Rajasthan. The objectives of this study was to identify the decisive factors which influenced the market movements and to examine the perceptions, preferences and various investment strategies adopted by investors in the Indian stock market, findings of the study reveals that investors prefer investing in both primary and secondary market instruments. Most of the decisions are rational and influenced by the various information available in the market. It was also found that investors preferred the ‘wait and watch’ policy for taking their decision and are very cautious; their decisions are influenced by various psychological factors and behavioural dimensions. **Gunathilaka (2014)** conducted a study to examine the factors influencing the equity selection decision and also examine the influence of emotions, cognitive and demographics differences on the decision making process of the Sri Lankan individual investors. The finding of the study was that the investors do not aim abnormal returns by investing in equity market. Social status of the investors was not associated with stock selection decision. The main influencing factors do not show demographic differences: Gender, Age, Education, and Employment. **Feyyaz Zeren and Mustafa Koc (2016)** carried out a research with the objective to find the relationship between exchange rates and stock market indices in Turkey, Japan and England and analysed by using the time varying causality test. The study considers monthly data spanning the period of January 1990 to April 2013. The study reveals that a local and global crisis strengthens the causality relationship between the exchange rate and the stock market index as two-way causality. **Pradeep Chougala and Srivatsa H.S. (2017)**, in their study on Analytical study of Correlation between Indian and International Stock Market have found many global issues that affect the indices of different stock market. Understanding the importance of correlation between Indian Stock Market and International stock market will help the investors to analyse the position of the Indian Stock Market. The main objective of the study is to analyse correlation between Bombay Stock Exchange indices with other selected International Stock Market indices. Secondary data is used in this study from January 2011 to February 2016. Monthly wise closing price of selected indices has been collected from the studied stock exchange. Correlation, rate of change, relative strength index. Moving average MACD (Moving average Convergence and Divergence) are used to know the relationship and linkage of BSE with other selected stock exchange. There is a high positive correlation between BSE Sensex and S&P500 of New York, NASDAQ composite, FTSE of London Stock Exchange, Nikkei of Japan Stock Exchange and SSE composite of China. **Rohan Taneja, Vaibhav (2018)** explains that stock market prediction is the model of determining future value of a company’s stock prices and it helps people who have great extent in investing their money in stocks and to achieve higher profits. It has been a great mystery for peoples to predict the stock prices as it depends on many factors of a company profile and stock market keeps varying day by day. In this study a regression model is developed to predict the stock values of a company using regression, the researcher adopts the application of machine learning using python to predict stock prices and it could be used

to guide an investors decisions. The algorithm can be used for trading set of market data collected by web scraping for period of any days. **Chenyu Han, Yiming Wang and Yingying Xu(2019)**, Efficiency and Multifractality Analysis of the Chinese Stock Market: Evidence from Stock Indices before and after the 2015 Stock Market Crash. This paper aims to compare the Multifractality degrees of the four indices in three sub-samples divided by the 2015 stock market in each sub sample. Meanwhile, the study of effect of the 2015 stock market crash on market efficiency from the statistical and fractal perspectives, which has theoretical and practical significance in the application of Effective Market Hypothesis in China stock market, and it thereby affects the healthy and sustainability of the market. The results also provide important implications for further study on the dynamic mechanism and efficiency in stock market, the sustainable development of China's Capital market and economy. **Badar Nadeem Ashraf (2020)**in this study researcher examines the stock markets response to covid-19 Pandemic. Using daily Covid-19 confirmed cases and deaths and stock market return data from 64 countries over the period January 22,2020 to April 17,2020, here researcher found that stock market responded negatively to the growth in Covid-19 confirmed cases. Researcher further finds that stock markets reacted more prospectively to the growth in number of deaths. This analysis suggests that negative market reaction was strong during early days of a confirmed cases and then between 40 and 60 days after the initial confirmed cases. Overall, the result suggests that stock market quickly respond to Covid-19 pandemic and this response varies over time depending on the stage of outbreak. **Goodell(2020)** presents a comprehensive literature survey regarding the economic impact of natural disasters, such as nuclear wars, climate changes or localized disasters and highlights that Covid-19 pandemic is inflicting unprecedented global destructive economic damage. The researcher points out the pandemic may have wide ranging impact of financial sector including stock market, banking and insurance is a promising area for future research. **Wagner (2020)** examines his study, as the reaction of stock market investors is also mixed with unprecedented volatility stock market are moving up and down with the news of Covid-19 and related control measures or stimulus packages such as direct fiscal support or decrease in interest rates, among others. For instance, US Stock Market observed three of the 15 worst days ever during March 9-16, while one of the top 10 surges ever in the market also took place in this time period. **Animesh Bhattacharjee, Joy Das(2020)** investigates COVID-19 and the Indian Stock Market, and found that the impact of stock market is measured by analysing the trend of the eight Indian Stock market Indices,behaviour of FII's & DII's, development in Indian IPO market response of the market regulators to control the crisis. The study indicated that Indian Stock Market is moving towards the bear market territory and the month of March witnessed a massive FII's Sell off. Whereas **Avantika Jaiswal, Ruchi Arora (2020)** describes the Impact of COVID-19 in Indian Stock Market with focus on banking sector, the study examines the performance in India resulting that market is going down and COVID-19 affected the banking sectors. **Mohammad Noor Alam, Md. Shabbir Alam and Kavita Chavali(2020)** describes the stock market response during COVID-19 lock down period in India: An Event study investigates the impact of the lock down period caused by COVID-19 to the Stock Market India. The study completely reveals pre and post lock down period caused by COVID-19. Hence the Study identifies that the market reacted positively with average abnormal in pre lock down period, panicked and reflected in Negative during the post lock down period and confirms that lock down has a positive impact on the stock market performance of stocks till the situation improve in Indian Context.

Research Gap:

Most of the studies concentrated towards the relationship between volume and price, factors and dimensional behaviour, factors influencing equity selection aiming abnormal returns in equity markets, relationship between exchange rate and stock market indices which strengthens the causality and an economic impact of natural disasters in stock market investment. The impact of Indian Stock Market preferably NSE helps the policy makers and investors to make better decisions. Few studies conducted to analyse the Impact of Covid-19 in Indian Stock Market and the study period ranging from 35 days to three to six months only. Hence the study “An Analytical Study on Impact of Selected Sectoral Indices in National Stock Exchange during COVID-19” is undertaken with the main objective to analyse the Impact of Shares turnover of CNX Nifty and Sectoral Indices of NSE for the period of one year and eight months.

III. Objectives of the Study:

The main objective of the study is to analyse the Impact of the stock value within the Indian Stock market. The objectives of the study are as follows.

- A) To examine the normality of closing prices of CNX Nifty and Sectoral Indices in National Stock Exchange.
- B) To study the effects of closing prices between CNX Nifty and the sectoral indices in National Stock Exchange.
- C) To analyse the impact of shares turnover of the CNX Nifty and Sectoral Indices of National Stock Exchange.

IV. Hypotheses of the Study

- A) **H₀₁**: There is no normality in closing prices of CNX Nifty and Sectoral Indices of National Stock Exchange.
- B) **H₀₂**: There is no effect of closing prices between CNX Nifty and Sectoral Indices of National Stock Exchange.
- C) **H₀₃**: There is no impact of Shares turnover in CNX Nifty and Sectoral Indices of National Stock Exchange.

V. Scope of the Study:

The current study explores normality of stock prices, effects between CNX Nifty and Sectoral Indices of National Stock Exchange, impact of Shares turnover. So it helps the investors to make innovative investment opportunities by managing their portfolio in a business environment.

VI. RESEARCH METHODOLOGY:

A) Selection of Sample:

The National Stock exchange consists of four major categories namely Broad Indices, Sectoral Indices, Thematic Indices and Strategy Indices. From this, the researcher selected the samples of Sectoral Indices of National stock exchange based on the purposive sampling technique. The sectoral Indices of National Stock Exchange of India are as follows Nifty Auto, Nifty Bank, Nifty FMCG, Nifty Financial Services, Nifty Information Technology, Nifty Media, Nifty Metal, Nifty Private Bank, Nifty Public Sector Undertakings, Nifty Pharmaceutical sector and Nifty Realty Sector.

B) Period of the Study:

The study period is one year and eight months, i.e. from 01.01.2019 to 31.08.2020. The researcher specifically selected this data because it is mainly focused with COVID-19.

C) Tools used for the Study:

The tools used for the current study are

- * To inspect the closing prices of CNX Nifty and Sectoral Indices Descriptive statistics is used to find the normality.
- * Augmented Dickey fuller test used to determine the Stationarity of the Variables.
- * To study the effect between CNX Nifty and Sectoral Indices Pair Wise Granger Causality is used.
- * To find the impact of Sectoral Indices on shares turnover multiple regression analysis is used. The calculations used for the study is E-Views and SPSS software.

Analysis of the Study:

A) To inspect the closing prices of CNX Nifty and Sectoral Indices in National Stock Exchange.

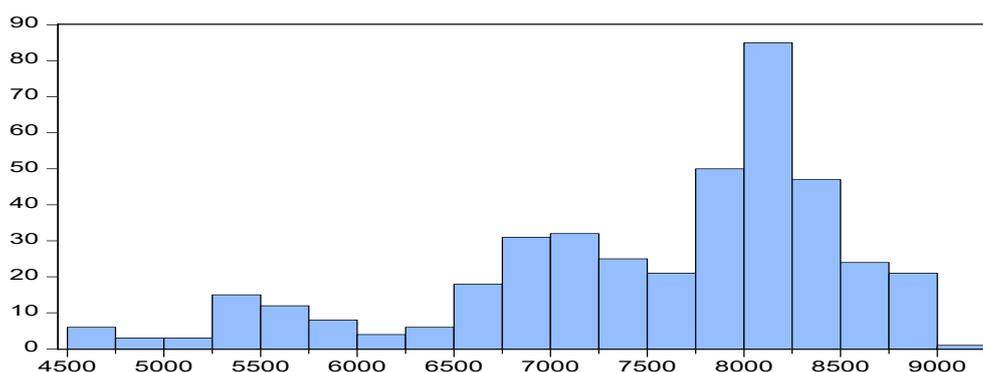
H_{01} : There is no normality in closing prices of CNX Nifty and Sectoral Indices of National Stock Exchange.

Descriptive Statistics and histogram of NIFTY AUTO from 1st January 2019 to 31st August 2020

Table I

Summary of Statistics	NIFTY Auto
Mean (Rupees in lakhs)	7536.5
Median(Rupees in lakhs)	7887.7
Standard Deviation(Rupees in lakhs)	999.9
Skewness	-1.016
Kurtosis	3.371
Jarque-Bera	73.313
Probability	0.000
Observations	412

Source: Compiled & Calculated



Source: Calculated

Figure 1

Histogram of NIFTY AUTO from 1st January 2019 to 31st August 2020

Table I represents the descriptive statistics of NIFTY Auto of NSE from January 2019 to August 2020. The table examines the NIFTY Auto mean value is 7536.5 lakhs, Median value is 7887.7 lakhs and standard deviation is 999.9 lakhs. The standard deviation implied

that there is a lower degree of variability due to less deviation it shows that closing prices are calm, so investments in NSE Automobile sector has low risk. It means that Mean value is normally distributed. Kurtosis value is 3.371 it is platykurtic because the kurtosis value is equal to three so the closing prices of NSE Automobile sector is normally distributed. The mean value of skewness is negatively skewed -1.016 that indicates the distribution of closing prices is moderately skewed. Jarque-Bera test results the probability as 0.000 for the significant level of 5% and it shows that the data are normally distributed in NIFTY Auto. There is no normality in closing prices and the null hypothesis (H_0) is rejected. Therefore investors, policymakers and brokers can decide whether to earn profit or safety of their investments.

Descriptive Statistics and Histogram for NIFTY Bank from 1st January 2019 to 31st August 2020

Table II

Summary of Statistics	Nifty Bank
Mean (rupees in lakhs)	27092.9
Median (rupees in lakhs)	28423.0
Standard Deviation (rupees in lakhs)	4302.2
Skewness	-0.7603
Kurtosis	2.2129
Jarque-Bera	50.335
Probability	0.0000
Observations	412

Source: compiled & calculated

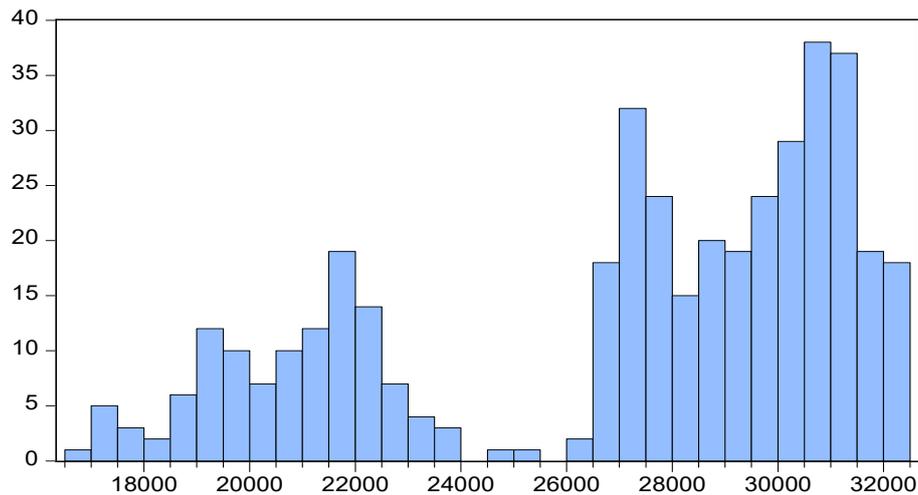


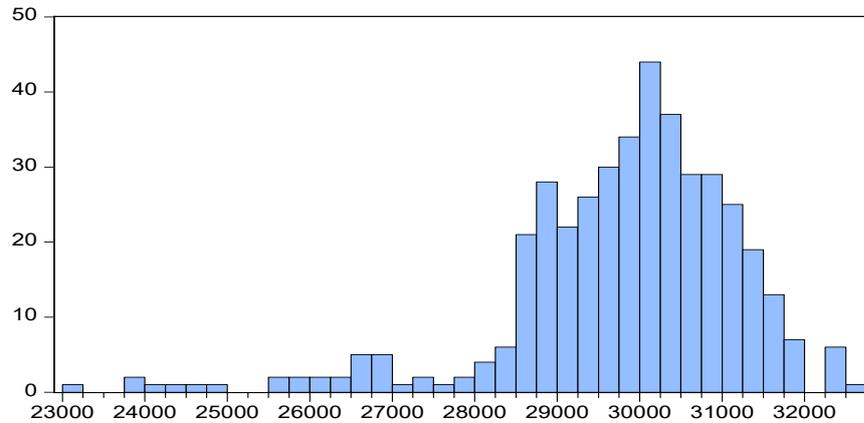
Figure 2
Histogram for Nifty Bank from 1st January 2019 to 31st August 2020

Table II interprets the descriptive statistics for NIFTY Bank from 1st January 2019 to 31st August 2020. The mean value for the study period of Nifty Bank is 27092.9 lakhs. The standard Deviation for the Nifty Bank is 4302.2 lakhs. It implies high degree of variability due to high deviation it implies that closing prices of NSE banking sector is highly fluctuate and the risk factor is high. The Skewness value is -0.7603 and distributions tailed towards right side it is fairly skewed. The kurtosis value is 2.21294 and it is platykurtic because it is less than 3 so that the closing prices are normally distributed. The Jarque-Bera test probability results as 0.000 as significant levels of 5% and there is no normality in closing prices, hence hypothesis is rejected and the stakeholders can decide whether to invest in NSE Banking Sector.

Descriptive Statistics and Histogram of NIFTY FMCG from 1st January 2019 to 31st August 2020

Table III

Summary of Statistics	NIFTY FMCG
Mean (rupees in lakhs)	29803.6
Median (rupees in lakhs)	30024.1
Standard Deviation (rupees in lakhs)	1423.3
Skewness	-1.4527
Kurtosis	6.5256
Jarque-Bera	358.318
Probability	0.000
Observations	412



Source: *Compiled & Calculated*

Figure 3
Histogram of NIFTY FMCG from 1st January 2019 to 31st August 2020

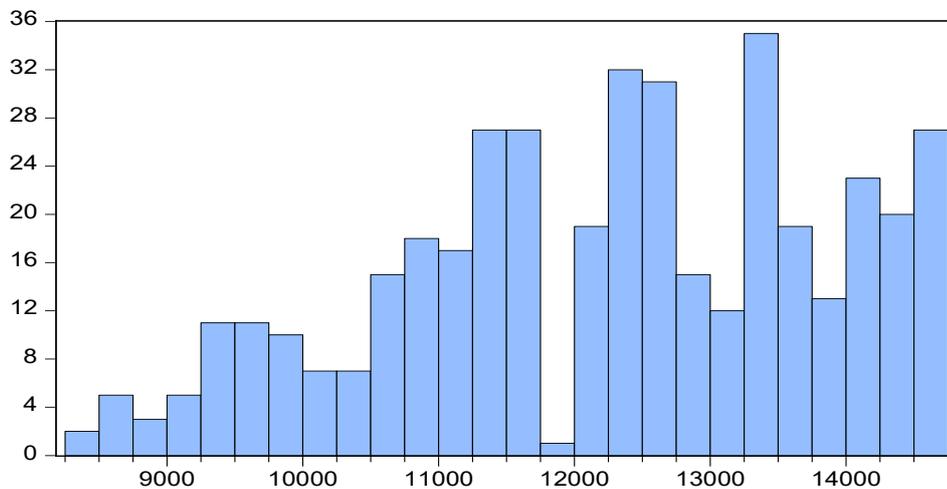
Table III interprets the mean value as 29803.6 lakhs, median as 30024.1 lakhs and standard deviation as 1423.3 lakhs which have high degree of variability due to high deviation it implies high risk in investing. The skewness value is -1.4527 which is distributed towards left tailed, moderately skewed. The kurtosis value is 6.525 is leptokurtic which is greater than three so the closing prices are not normally distributed. The result of Jarque-Bera test result probability as 0.000 at the significant level of 5%. Hence there is no normality in closing prices the null hypothesis is rejected for Nifty FMCG from 1st January 2019 to 31st August 2020. Therefore the investors can refer and earn more profit in this sector during COVID-19 period.

Descriptive Statistics and Histogram for NIFTY Financial Service from 1st January 2019 to 31st August 2020

Table-IV

Summary of Statistics	Nifty FS
Mean(rupees in lakhs)	12237.0
Median(rupees in lakhs)	12420.2
Standard Deviation(rupees in lakhs)	1587.8
Skewness	-0.3544
Kurtosis	2.2529
Jarque-Bera	18.209
Probability	0.0000
Observations	412

Source: Calculated



Source: Calculated.

Figure 4
Histogram of NIFTY Financial Service from 1st January 2019 to 31st August 2020

Table IV represents the descriptive statistics of NIFTY Financial Service of NSE from January 2019 to August 2020. The table examines the NIFTY FS mean value is 12237.0 lakhs, Median value is 12420.2 lakhs and standard deviation is 1587.8 lakhs. The standard deviation is implied that there is greater degree of variability due to high deviation it indicates

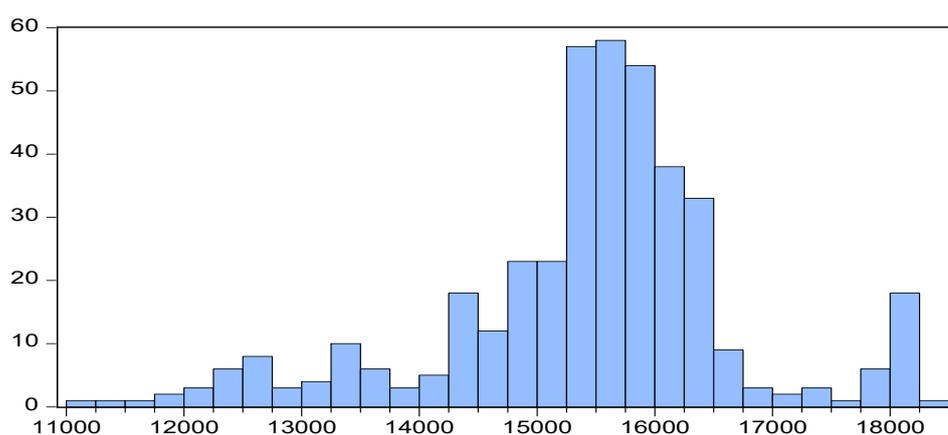
high risk factor. Kurtosis value is 2.2529 it is Platykurtic because the kurtosis value is lesser than three it implies that the closing prices are distributed normally. The mean value of skewness is negatively skewed -0.3544 that indicates the distribution towards the left tailed shows that it is fairly skewed. Jarque-Bera test result the probability as 0.000 for the significant level of 5% and it shows that there is no normality in closing prices hence the null hypothesis (H_0) is rejected. So that investors should decide whether to invest in NSE FS Sector.

Descriptive Statistics for NIFTY IT from 1st January 2019 to 31st August 2020.

Table V

Summary of statistics	NIFTY IT
Mean(rupees in lakhs)	15441.7
Median(rupees in lakhs)	15581.2
Standard Deviation(rupees in lakhs)	1262.4
Skewness	-0.5834
Kurtosis	4.2549
Jarque-Bera	50.414
Probability	0.0000
Observation	412

Source: Compiled & Calculated



Source: Calculated

Figure 5
Histogram of NIFTY IT from 1st January 2019 to 31st August 2020

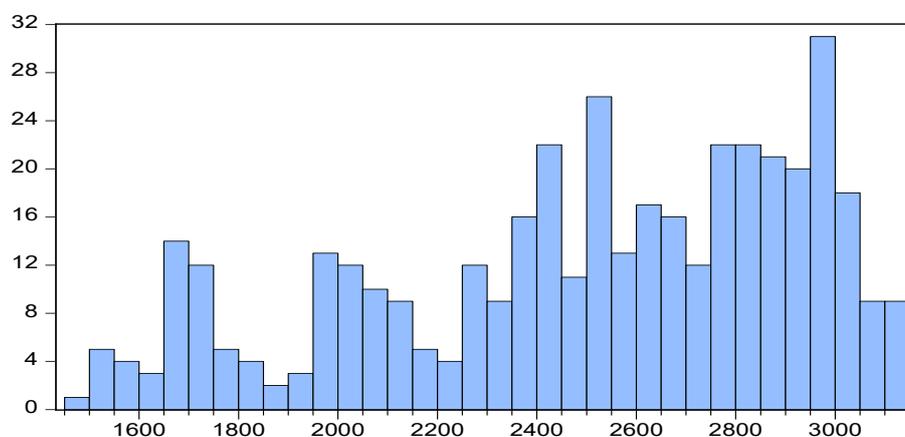
Table V represents the descriptive statistics of NIFTY IT of NSE from January 2019 to August 2020. The table examines the NIFTY IT mean value is 15441.7 lakhs, Median value is 15581.2 lakhs and standard deviation is 1262.4 lakhs. The standard deviation is implied that there is low degree of variability due to low deviation so it has low risk. It means that Mean value is normally distributed. Kurtosis value is 4.254 it is leptokurtic because the kurtosis value is greater than three it is not normally distributed. The mean value of skewness is negatively skewed -0.5834 that indicates the distribution towards the left tailed and it is fairly skewed. Jarque-Bera test result the probability as 0.000 for the significant level of 5% and it shows that the data are normally distributed. Therefore there is no normality in closing prices in NIFTY IT Hence the null hypothesis (H_0) is rejected. So the investors can invest safely in this sector during this pandemic period.

Descriptive Statistics for NIFTY Metal from 1st January 2019 to 31st August 2020

Table VI

Summary of Statistics	NIFTY Metal
Mean	2500.1
Median	2562.9
Standard Deviation	431.57
Skewness	-0.5899
Kurtosis	2.3242
Jarque-Bera	31.736
Probability	0.0000
Observations	412

Source: Compiled & Calculated



Source: Calculated

Figure 6**Histogram of NIFTY Metal from 1st January 2019 to 31st December 2020**

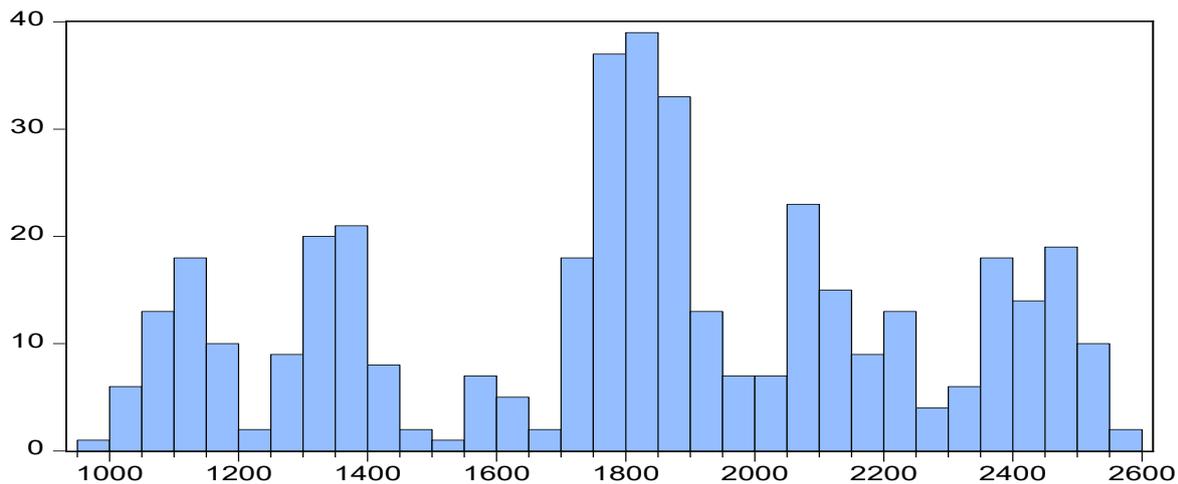
Table VI represents the descriptive statistics of NIFTY Metal of NSE from January 2019 to August 2020. The table examines the NIFTY Metal mean value is 2500.1, Median value is 2562.9 and standard deviation is 431.57. The standard deviation is implied that there is low degree of variability due to low deviation so it has low deviation. It has low risk factor. Kurtosis value is 2.324 it is Platykurtic because the kurtosis value is lesser than three so the closing prices are normally distributed. The mean value of skewness is negatively skewed - 0.5899 that indicates the distribution towards the left tailed and fairly skewed. Jarque-Bera test result the probability as 0.000 for the significant level of 5% and it shows that the data are normally distributed in NIFTY Metal. There is no normality in closing prices. Hence the null hypothesis (H_0) is rejected. The stakeholders can invest securely in this sector.

Descriptive Statistics of NIFTY Media from 1st January 2019 to 31st August 2020**Table-7**

Summary of Statistics	NIFTY Media
Mean(rupees in lakhs)	1817.8
Median(rupees in lakhs)	1833.8
Standard Deviation(rupees in lakhs)	423.41
Skewness	-0.1521
Kurtosis	2.1061
Jarque-Bera	15.303
Probability	0.0000
Observations	412

Source: Compiled & Calculated

Histogram for NIFTY Media from 1st January 2019 to 31st August 2020



Source: Calculated

Table-7 represents the descriptive statistics of NIFTY Media of NSE from January 2019 to August 2020. The table examines the NIFTY Media mean value is 1817.8 lakhs, Median value is 1833.8 lakhs and standard deviation is 423.41lakhs. The standard deviation is implied that there is low degree of variability due to low deviation. Kurtosis value is 2.1061 it is Platykurtic because the kurtosis value is lesser than three, closing prices are normally distributed. The mean value of skewness is negatively skewed -0.1521 that indicates the distribution towards the left tailed and it is fairly skewed. Jarque-Bera test result the probability as 0.000 for the significant level of 5% and it shows that the data are normally distributed in NIFTY Media. There is no normality in closing prices of NSE Media hence the null hypothesis (H_0) is rejected. Therefore the investors and policy makers can earn more profit in this sector.

Descriptive Statistics for NIFTY Pharmaceutical from 1st January 2019 to 31st August 2020

Table-8

Summary of Statistics	NIFTY Pharma
Mean(rupees in lakhs)	8705.1
Median(rupees in lakhs)	8414.5
Standard deviation(rupees in lakhs)	1050.4
Skewness	0.8909
Kurtosis	3.7066
Jarque-Bera	63.075
Probability	0.0000
Observations	412

Source: Compiled & Calculated

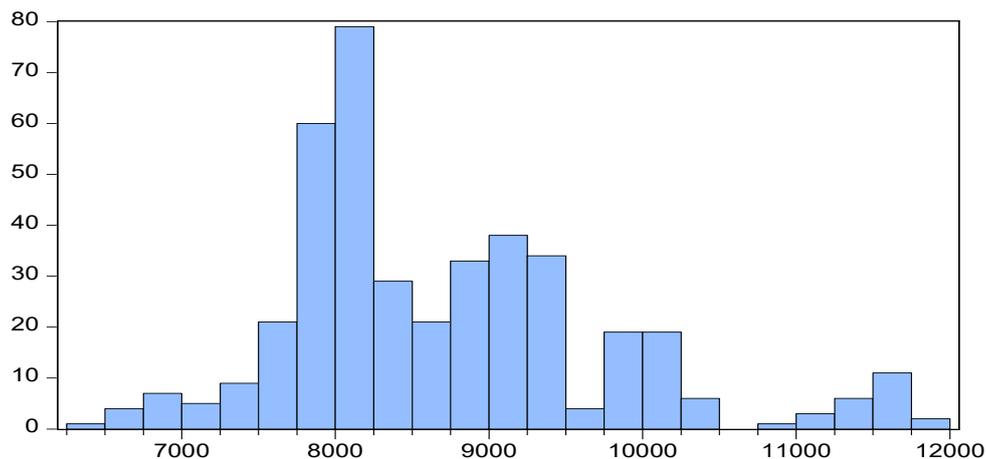
Histogram of NIFTY Pharmaceutical from 1st January 2019 to 31st August 2020

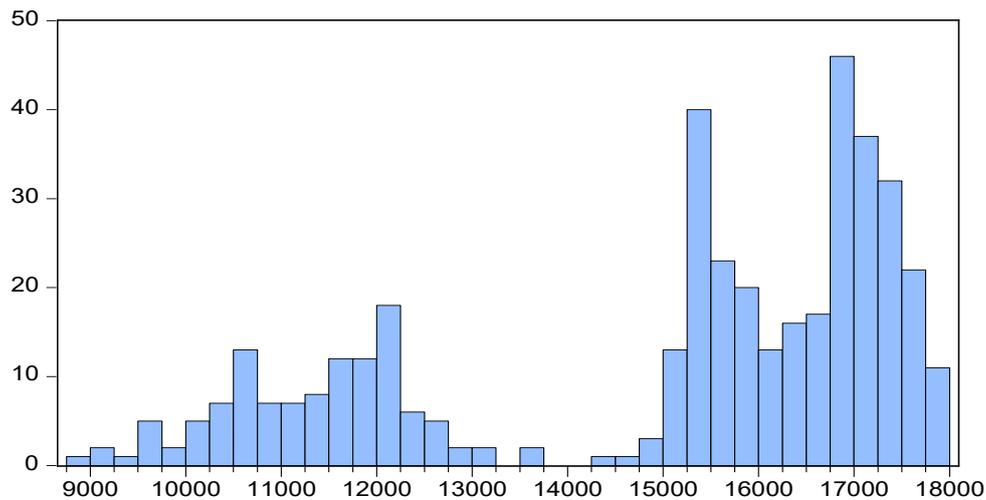
Table-8 represents the descriptive statistics of NIFTY Pharmaceutical of NSE from January 2019 to August 2020. The table examines the NIFTY Pharmaceutical mean value is 8705.1, Median value is 8414.5 and standard deviation is 1050.4. The standard deviation is implied that there is greater degree of variability due to high deviation it implies high risk.. Kurtosis value is 3.7066 it is Leptokurtic because the kurtosis value is greater than three not normally distributed. The mean value of skewness is negatively skewed 0.8909 that indicates the distribution towards the left tailed and it is moderately skewed. Jarque-Bera test result the probability as 0.000 for the significant level of 5% and it shows that there is no normality in closing prices of NIFTY Pharmaceutical Sector Hence the null hypothesis (H_0) is rejected. Therefore the investors should decide whether they should invest in this sector or not.

Descriptive Statistics of NIFTY Private Bank from 1st January 2019 to 31st August 2020
Table-9

Summary of Statistics	NIFTY Private Bank
Mean(rupees in lakhs)	15037.4
Median(rupees in lakhs)	15852.8
Standard Deviation(rupees in lakhs)	2485.9
Skewness	-0.8442
Kurtosis	2.2724
Jarque-Bera	58.032
Probability	0.0000
Observations	412

Source: Compiled & Calculated.

Histogram of NIFTY Private Bank from 1st January 2019 to 31st August 2020



Source: Calculated

Table-9 represents the descriptive statistics of NIFTY Private Bank of NSE from January 2019 to August 2020. The table examines the NIFTY Private Bank mean value is 15037.4, Median value is 15852.8 and standard deviation is 2485.9. The standard deviation is implied that there is greater degree of variability due to high deviation it has high risk factor. Kurtosis value is 2.2724 it is Platykurtic because the kurtosis value is lesser than three. The mean value of skewness is negatively skewed -0.8442 that indicates the distribution towards the left tailed and it is fairly skewed. Jarque-Bera test result the probability as 0.000 for the significant level of 5% and it shows that the data are normally distributed and there is no normality in closing prices of NIFTY Private Bank Sector Hence the null hypothesis (H_0) is rejected. So it advisable that the stakeholders to refer and invest in private banks to earn more profit in this COVID-19 period.

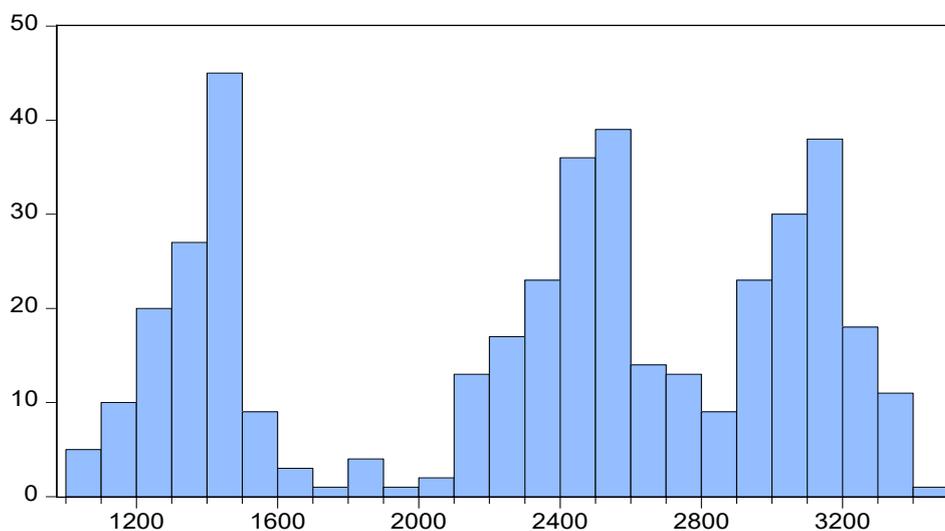
Descriptive Statistics for NIFTY Public Sector Undertakings from 1st January 2019 to 31st August 2020

Table-10

Summary of Statistics	NIFTY PSU
Mean(rupees in lakhs)	2335.1
Median(rupees in lakhs)	2464.5
Standard Deviation(rupees in lakhs)	699.02
Skewness	-0.3440
Kurtosis	1.7516
Jarque-Bera	14.717
Probability	0.0000
Observations	412

Source: Compiled & Calculated

Histogram for NIFTY Public Sector Undertakings from 1st January 2019 to 31st August 2020



Source: Calculated

Table-10 represents the descriptive statistics of NIFTY PSU of NSE from January 2019 to August 2020. The table examines the NIFTY PSU mean value is 2335.1, Median value is 2464.5 and standard deviation is 699.02. The standard deviation is implied that there is greater degree of variability due to high deviation it has high risk factor. It means that Mean value is normally distributed. Kurtosis value is 1.7516 it is Platykurtic because the kurtosis value is lesser than three so that closing prices are normally distributed. The mean value of skewness is negatively skewed -0.3410 that indicates the distribution towards the left tailed and fairly distributed. Jarque-Bera test result the probability as 0.000 for the significant level of 5% and it shows that the data are normally distributed and there is no normality in

closing prices in NIFTY Public Sector Undertaking. Hence the null hypothesis (H_0) is rejected. The investors and policy holders can refer and invest so that they can be safe from facing the loss.

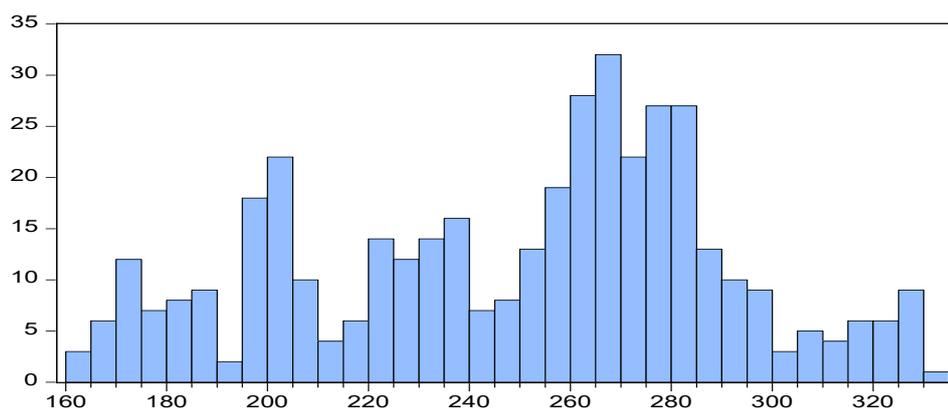
Descriptive Statistics for NIFTY Realty from 1st January 2019 to 31st August 2020

Table-11

Summary of Statistics	NIFTY Realty
Mean(rupees in lakhs)	248.64
Median(rupees in lakhs)	258.72
Standard Deviation(rupees in lakhs)	41.089
Skewness	-0.2690
Kurtosis	2.2464
Jarque-Bera	14.717
Probability	0.0000
Observations	412

Source: Compiled & Calculated.

Histogram of NIFTY Realty from 1st January 2019 to 31st August 2020



Source: Calculated

Table-11 represents the descriptive statistics of NIFTY Realty of NSE from January 2019 to August 2020. The table examines the NIFTY Realty mean value is 248.64, Median value is 258.72 and standard deviation is 41.089. The standard deviation is implied that there is low degree of variability due to low deviation so it has low risk. Kurtosis value is 2.246 it is Platykurtic because the kurtosis value is lesser than three is normally distributed. The mean

value of skewness is negatively skewed -0.2690 that indicates the distribution towards the left tailed and it is fairly skewed. Jarque-Bera test result the probability as 0.000 the significant level of 5% and it shows that the data are normally distributed in NIFTY Realty there is no normality in closing prices. Hence the null hypothesis (H_0) is rejected. Therefore the investors and policyholders can invest in realty sector to earn more profit.

2. To study the effects of closing prices between CNX Nifty and the sectoral indices in National Stock Exchange.

H₀₂: There is no effect of closing prices between CNX Nifty and Sectoral Indices of National Stock Exchange

Augmented Dickey fuller test for CNX Nifty and Sectoral Indices of National Stock Exchange from January 2019 to August 2020

Table-12

Variables	Level		1st Difference	
	T-Stat	Prob*	T-Stat	Prob*
CNX Nifty	-1.6403	0.4610	-7.555	0.0000
NSE Auto	-1.8450	0.3584	-19.931	0.0000
NSE Bank	-1.0635	0.7311	-19.931	0.0000
NSE FMCG	-3.819	0.0030	-20.874	0.0000
NSE FS	-1.669	0.7629	-18.984	0.0000
NSE IT	-1.4726	0.5467	-13.251	0.0000
NSE MEDIA	-1.7213	0.4197	-20.585	0.0000
NSE Metal	-1.6149	0.4740	-20.583	0.0000
NSE Pharma	-0.3022	0.9217	-19.140	0.0000
NSE Private	-1.2049	0.7471	-19.140	0.0000
NSE PSU	-1.8044	0.7011	-20.593	0.0000
NSE Realty	-1.1427	0.6999	-19.217	0.0000

Source: Compiled& Calculated

Table 12 represents the Augmented Dickey Fuller unit root test to test the stationarity of Sectoral Indices with CNX Nifty of National Stock Exchange (NSE) during the period of January 2019 to August 2020. It describes the results of the Unit Root test applied to determine the order of integration among level 1st difference, 2nd difference under assumption of constant, intercept and trend. The consequence fails to reject the null hypothesis of unit root in their level form. It implies that there is no possibility of the series to be stationary around a constant Mean of around deterministic trend. Therefore the first difference of all series is tested for stationary of the series. The results revealed that the Sectoral Indices with CNX NIFTY of National Stock Exchange are not stationary at the level of Integration $I(0)$. But it becomes Stationary when its first difference was taken. That is, the degree of integration of this series is $I(1)$. It indicates that the null hypothesis is rejected at 1 % level of significance.

Pair wise granger Causality test for CNX Nifty and Sectoral Indices from January 2019 to August 2020

Table-13

Variables	Pairwise Hypothesis	OBS	F-STAT	Probability	Decision	Types of causality
NSE Auto	Auto does not Granger Cause CNX Nifty	412	2.126	0.120	Reject H ₀	No Causality
	CNX Nifty does not Granger Cause Auto		0.762	0.467	Reject H ₀	
NSE Bank	Bank does not Granger Cause CNX Nifty	412	3.115	0.045*	Reject H ₀	BI-directional causality
	CNX Nifty does not Granger Cause Bank		3.559	0.029*	Reject H ₀	
NSE FMCG	FMCG does not Granger Cause CNX Nifty	412	4.433	0.012*	Reject H ₀	Uni-directional causality
	CNX Nifty does not Granger Cause FMCG		1.534	0.216	DNR H ₀	
NSE FS	FS does not Granger Cause CNX Nifty	412	6.641	0.001	Reject H ₀	Bi Directional Causality
	CNX Nifty does not Granger Cause FS		6.044	0.002	Reject H ₀	
NSE IT	NSE IT does not Granger Cause CNX Nifty	412	1.580	0.207	DNR H ₀	No Causality
	NSE CNX does not Granger Cause IT		0.747	0.474	DNR H ₀	
NSE MEDIA	NSE Media does not Granger Cause CNX Nifty	412	2.640	0.0725	Reject H ₀	Uni directional causality
	CNX Nifty does not Granger Cause Media		0.030	0.9696	DNR H ₀	
NSE Metal	Metal does not Granger Cause CNX Nifty	412	0.801	0.4493	DNR H ₀	No Causality
	NSE CNX does not Granger Cause Metal		1.310	0.2709	DNR H ₀	
NSE Pharma	Pharma does not Granger Cause CNX Nifty	412	1.417	0.2436	DNR H ₀	Uni directional Causality
	CNX Nifty does not Granger Cause Pharma		7.517	0.0006	Reject H ₀	
NSE Private Bank	NSE Private bank does not granger cause CNX Nifty	412	2.705	0.0681	Reject H ₀	Bi Directional Causality
	CNX Nifty does not granger cause Private Bank		3.040	0.048	Reject H ₀	
NSE PSU	PSU does not granger cause CNX Nifty	412	0.102	0.902	DNR H ₀	No causality
	CNX Nifty does not granger		0.164	0.845	DNR H ₀	

	cause PSU					
NSE Realty	Realty does not granger cause CNX Nifty	412	3.421	0.0681	Reject H ₀	Bi directional Causality
	CNX Nifty does not granger cause Realty		5.175	0.006	Reject H ₀	

Source: Compiled & Calculated.

The result of Granger causality test indicates that there exists a relationship between CNX NIFTY and Sectoral Indices, however it is observed from the table that the p value for Financial services, Information technology, pharmaceutical and public banks is greater than 5 percent (>0.05) significant level. Hence the null hypotheses are accepted indicating that no causality exists between CNX NIFTY and Sectoral Indices. Therefore, the null hypothesis is rejected for these variables because the significant level is less than 5 percent (<0.05) indicating that Auto, FMCG, Bank, Media, Metal, Realty are having Uni-directional relationship. Therefore the causality exists between CNX NIFTY and Sectoral Indices. So investors can decide to invest in the sectors that are having Uni-directional relationship, it helps the stakeholders to see more profit during COVID-19.

1. To analyse the Impact of shares turnover of CNX Nifty and Sectoral Indices of National Stock Exchange

H₀₃: There is no Impact of shares turnover of CNX Nifty and Sectoral Indices of National Stock Exchange.

Impact of CNX Nifty and Sectoral Indices of National Stock Exchange from 1st January 2019 to 31st August 2020

Table-14

Regression with CNX Nifty & Sectoral Indices	T.Value & Significant	R	R ²	F-value	P-Value
NSE Auto	158.3(0.00)	0.208	0.043	18.50	0.000
NSE Bank	40.34(0.00)	0.886	0.785	1493.4	0.000
NSE FMCG	-6.49(0.00)	0.757	0.574	551.8	0.000
NSE FS	27.83(0.00)	0.908	0.824	1924.6	0.000
NSE IT	5.868(0.00)	0.744	0.553	507.43	0.000
NSE Media	51.15(0.00)	0.603	0.363	233.7	0.000
NSE Metal	38.54(0.00)	0.786	0.618	662.08	0.000
NSE Pharma	29.99(0.00)	0.100	0.010	4.130	0.043

NSE Pri bank	42.57(0.00)	0.878	0.772	1385.07	0.000
NSE PSU	70.59(0.00)	0.641	0.740	285.33	0.000
NSE Realty	223.06(0.00)	0.076	0.706	2.382	0.000

Source: Compiled & calculated.

Table-14 shows the impact of shares turnover of CNX Nifty and Sectoral Indices of the National Stock Exchange. R-square explains the estimated variations to total variables. In other words, it explains the independent variables as a result of a change in the independent variable. The value of R² for all independent sectoral indices NSE Automobiles, NSE Bank, NSE FMCG, NSE FS, NSE IT, NSE Media, NSE Metal, NSE Pharma, NSE Private banks, NSE PSU and NSE Realty 0.043, 0.785, 0.574, 0.824, 0.553, 0.363, 0.618, 0.010, 0.772, 0.740 and 0.706 respectively. It explains that 43%, 78.5%, 57.4%, 82.4%, 55.3%, 36.3%, 61.8%, 1%, 77.2%, 74% and 70% variation in the selected sectoral indices respectively are explained by the independent variables used for this study. Thus the null hypothesis at the 0.05% level of significance is rejected and shows no impact of shares turnover of CNX Nifty and Sectoral Indices of National Stock Exchange. So the stakeholders can think and invest in the shares that are showing low impact, avoid the risk, and earn more profit in this COVID-19 period.

FINDINGS AND SUGESSTIONS:

The major findings of normality in closing prices of CNX Nifty and Sectoral Indices in NSE during COVID-19 examines that the Jarque-Bera test results probability as 0.000 for all the sectoral indices at a significant level of 5% and shows that hypothesis is rejected for all the selected sectors in NSE. The Sectoral Indices like NSE Banking Sector, NSE Financial Service sector, NSE Media Sector, NSE Metal Sector, NSE Private Bank Sector, NSE PSU Sector, and NSE Realty sector have kurtosis value of less than three, so it is platykurtic and the closing prices not normally distributed. Stakeholders have to decide whether to earn a profit or the safety of their investments. Whereas all other sectors are having leptokurtic, investors can profit while investing in Shares like the NSE Automobile Sector, NSE FMCG Sector, NSE Information technology Sector, and NSE Pharmaceutical Sectors during the COVID-19 period.

The investors, policymakers, and brokers can refer and invest in NSE Automobile, NSE FMCG, NSE Media, NSE IT, NSE Metal because these sectors have low effects. Whereas NSE banks, NSE Financial Service Sector, NSE Private Banks, and NSE Realty sector have high outputs. The stakeholders can invest in the shares that have a low impact on avoiding the loss and can safely earn more profit during this pandemic period.

Stakeholders can get a clear picture that in the banking sector, the financial service sector, private bank sector, and NSE PSU Sector, NSE Realty Sector have a high impact, so they have to decide whether to earn profit safety of their investments. And sectors like the NSE Automobile sector, NSE FMCG Sector, NSE Information Technology Sector, NSE Media Sector, NSE Metal Sector are having a low impact during the COVID-19 period. Investors, policymakers, and brokers can decide to invest and buy these sectors during this pandemic period.

The study's implications are based on CNX Nifty and Selected Sectoral Indices of the National Stock Exchange. They are having a greater effect, which indirectly implies that the NSE Banking sector, NSE Financial Services, NSE Private Banks, NSE Public Sector Undertakings, and NSE Realty sectors facing the risks during the COVID-19 period. It provides an opportunity for the investors to decide their trading strategy for earning profits

during this pandemic period. The study indicates strong evidence that the investment in sectoral indices will give a positive result. The stakeholders can benefit from analyzing the Indian stock market using fundamental and technical analysis.

Conclusions:

The present study provides an analytical survey on Impact of Selected Sectoral Indices of national Stock Exchange during COVID-19 for the period of one year and eight months by taking daily observations. The impact of shares turnover of CNX Nifty and Sectoral Indices as **stakeholders** can decide whether to earn profit or safety from their investments in the banking sector, financial service sector, private bank sector, and NSE PSU Sector, NSE Realty Sector because these sectors have high impact. The other sectors, namely the NSE Automobile sector, NSE FMCG Sector, NSE Information Technology Sector, NSE Media Sector, NSE Metal Sector, have a low impact during the COVID-19 period the stake holders can invest in these sectors. So the stakeholders can earn profit in maximization by investing in these sectors during this pandemic period. Therefore, it provides investors, policymakers, and brokers an opportunity to predict future prices and turnovers for earning more profit on these sectoral indices. They can also decide their trading techniques based on the sectoral index to change the business environment during the COVID-19 period.

Scope for Further Research:

Based on the study, the obvious follow-up to this analysis identifies areas of possible research in the future.

1. The present study can be extended by collecting the primary data from retail investors and institutional investors during this Covid-19 period.
2. The analysis can also be extended to understand the causal impact of all other categories like broad indices, thematic indices, and strategic indices on the National Stock Exchange.
3. The study can also be concentrated on the relationship between volume and price, factors and dimensional behaviour, factors influencing equity selection aiming abnormal returns in equity markets, the relationship between exchange rate and stock market indices which, strengthens the causality and an economic impact of natural disasters in stock market investment.