INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

IJRCM

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories
Indexed & Listed at:
Ulrich's Periodicals Directory ©, ProQuest, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A., Google Scholar,
Indian Citation Index (ICI), J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)],
Index Copernicus Publishers Panel, Poland with IC Value of 5.09 (2012) & number of libraries all around the world.
Circulated all over the world & Google has verified that scholars of more than **7144 Cities** in **197 countries/territories** are visiting our journal on regular basis.
Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA
http://ijrcm.org.in/

CONTENTS

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography: Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work/manuscript** ***anytime*** in ***M.S. Word format*** after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. infoijrcm@gmail.com or online by clicking the link **online submission** as given on our website (***FOR ONLINE SUBMISSION, CLICK HERE***).

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____________

THE EDITOR

IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF _______________________________________.**

(e.g. Finance/Mkt./HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript titled '____' for likely publication in one of your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published anywhere in any language fully or partly, nor it is under review for publication elsewhere.

I affirm that all the co-authors of this manuscript have seen the submitted version of the manuscript and have agreed to inclusion of their names as co-authors.

Also, if my/our manuscript is accepted, I agree to comply with the formalities as given on the website of the journal. The Journal has discretion to publish our contribution in any of its journals.

NAME OF CORRESPONDING AUTHOR	:
Designation/Post*	:
Institution/College/University with full address & Pin Code	:
Residential address with Pin Code	:
Mobile Number (s) with country ISD code	:
Is WhatsApp or Viber active on your above noted Mobile Number (Yes/No)	:
Landline Number (s) with country ISD code	:
E-mail Address	:
Alternate E-mail Address	:
Nationality	:

* i.e. Alumnus (Male Alumni), Alumna (Female Alumni), Student, Research Scholar (M. Phil), Research Scholar (Ph. D.), JRF, Research Assistant, Assistant Lecturer, Lecturer, Senior Lecturer, Junior Assistant Professor, Assistant Professor, Senior Assistant Professor, Co-ordinator, Reader, Associate Professor, Professor, Head, Vice-Principal, Dy. Director, Principal, Director, Dean, President, Vice Chancellor, Industry Designation **etc**. ***The qualification of author is not acceptable for the purpose***.

NOTES:

a) The whole manuscript has to be in ***ONE MS WORD FILE*** only, which will start from the covering letter, inside the manuscript. ***pdf. version is liable to be rejected without any consideration***.

b) The sender is required to mention the following in the **SUBJECT COLUMN of the mail**:

New Manuscript for Review in the area of (e.g. Finance/Marketing/HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

c) There is no need to give any text in the body of the mail, except the cases where the author wishes to give any **specific message** w.r.t. to the manuscript.

d) The total size of the file containing the manuscript is expected to be below **1000 KB**.

e) Only the **Abstract will not be considered for review** and the author is required to submit the **complete manuscript** in the first instance.

f) ***The journal gives acknowledgement w.r.t. the receipt of every email within twenty-four hours*** and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of the manuscript, within two days of its submission, the corresponding author is required to demand for the same by sending a separate mail to the journal.

g) The author (s) name or details should not appear anywhere on the body of the manuscript, except on the covering letter and the cover page of the manuscript, in the manner as mentioned in the guidelines.

2. **MANUSCRIPT TITLE**: The title of the paper should be typed in **bold letters**, **centered** and **fully capitalised**.
3. **AUTHOR NAME (S) & AFFILIATIONS**: Author (s) **name**, **designation**, **affiliation** (s), **address**, **mobile/landline number** (s), and **email/alternate email address** should be given underneath the title.
4. **ACKNOWLEDGMENTS**: Acknowledgements can be given to reviewers, guides, funding institutions, etc., if any.
5. **ABSTRACT**: Abstract should be in **fully Italic printing**, ranging between **150** to **300 words**. The abstract must be informative and elucidating the background, aims, methods, results & conclusion in a **SINGLE PARA**. ***Abbreviations must be mentioned in full***.
6. **KEYWORDS**: Abstract must be followed by a list of keywords, subject to the maximum of **five**. These should be arranged in alphabetic order separated by commas and full stop at the end. All words of the keywords, including the first one should be in small letters, except special words e.g. name of the Countries, abbreviations etc.
7. **JEL CODE**: Provide the appropriate Journal of Economic Literature Classification System code (s). JEL codes are available at www.aeaweb.org/econlit/jelCodes.php. However, mentioning of JEL Code is not mandatory.
8. **MANUSCRIPT**: Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. *It should be free from any errors i.e.* ***grammatical, spelling*** *or* ***punctuation.*** *It must be thoroughly edited at your end*.
9. **HEADINGS**: All the headings must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
10. **SUB-HEADINGS**: All the sub-headings must be bold-faced, aligned left and fully capitalised.
11. **MAIN TEXT**:

THE MAIN TEXT SHOULD FOLLOW THE FOLLOWING SEQUENCE:

INTRODUCTION
REVIEW OF LITERATURE
NEED/IMPORTANCE OF THE STUDY
STATEMENT OF THE PROBLEM
OBJECTIVES
HYPOTHESIS (ES)
RESEARCH METHODOLOGY
RESULTS & DISCUSSION
FINDINGS
RECOMMENDATIONS/SUGGESTIONS
CONCLUSIONS
LIMITATIONS
SCOPE FOR FURTHER RESEARCH
REFERENCES
APPENDIX/ANNEXURE

The manuscript should preferably be in ***2000 to 5000 WORDS***, But the limits can vary depending on the nature of the manuscript.

12. **FIGURES & TABLES:** These should be simple, crystal **CLEAR**, **centered**, **separately numbered** & self-explained, and the **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. *It should be ensured that the tables/figures are referred to from the main text*.

13. **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.

14. **ACRONYMS**: These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.

15. **REFERENCES**: The list of all references should be alphabetically arranged. ***The author (s) should mention only the actually utilised references in the preparation of manuscript*** and they may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc., in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italic printing. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parenthesis.
- ***Headers, footers, endnotes** and **footnotes** should **not be used** in the document.* However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

IMPACT OF COVID-19 ON RETURNS OF LARGE, MID AND SMALL CAP STOCK INDICES OF NATIONAL STOCK EXCHANGE

THANGUDU VARUN RAJ
MBA STUDENT
CHRIST (DEEMED TO BE UNIVERSITY)
BANGALORE

ABSTRACT

The world had noticed that pandemic and the coexisting economy is very practically identical to the distinguish among wellbeing and abundance at large. India had witnessed the lockdown since 25 March 2020 due to which stock market was badly affected because of Covid-19. This paper has analysed the movement of Indian stock market with large, mid and small cap stocks during Covid-19 pandemic. This study has come across time series analysis using multiple regression analysis and E-garch using data from Jan 30, 2020 to Nov 27, 2020.This study uses the data of Covid-19 related daily confirmed cases, death cases and closing prices of nifty 50 for large cap, midcap 150 for mid cap stocks and small cap 250 for small cap, used lockdown dummy variable and 20 lakh crore also used as other dummy variable for better analysis of the study. The results of the research suggested that Covid-19 confirmed cases are manipulating index performance of the stock. We can witness that the increasing pace of the confirmed cases, the economy caused significant damage, reflected by the Indian economy being decreased due to which the stock exchange experienced fall in nature.

KEYWORDS

E-Garch, Covid 19, lockdown dummy variable, confirmed covid cases.

JEL CODE

I15

INTRODUCTION

The contagious of Novel Coronavirus (2019-nCOV) or COVID-19 initially arose in December 2019 in Wuhan City, Hubei Province of China (WHO, 2020). It immediately stood out enough to be noticed of the world because of its huge spread in January 2020 because of its speedy spread contrasted with different sorts of Covids. The reaction of Chinese government towards the new infection was the finished lockdown of the focal point of the sicknesses, the Wuhan city which later demonstrated as a compelling proportion of controlling the pandemic everywhere in different nations of the world.

Many countries like U.S, London, Russia and India were badly affected by the spread of coronavirus and affected their stock market. Globally lockdown was implemented in the countries so that people should not be affected and spread of virus should be decreased which resulted in decrease in number of sales and affected the stock market. Only essential commodities were allowed and people should maintain physical distance. As of now 84.1 Million cases were registered globally due to which most of the countries were affected during the coronavirus spread and more than 170 countries were affected as a result of this disease declared by WHO.

This pandemic not only affected the stock market but also to the other industries in the country. This impacted to the stocks which were high during the pre covid-19 era, came down to lower prices due of pandemic attack to the stock market.

Sustainability factor lies in every research analysis for the study. In this sustainability factor plays a major role with the covid-19 as well as stock market. Sustainability is related to the stock market and Covid-19. Here this factor was coming in to light because market was down due to sales and operations of the company and Covid-19 affected the people all over the world which affected the stock market. It was an unexpected slowdown to the market which was affected by the coronavirus. Due to which interest rates came down and most of the government gave stimulus packages to the people, In India the central government gave 20 lakh crore packages for the benefit of MSME's and to the people and made tax lay off during the period. FDI inflows were decreased due to fall of market in which company shares went down except few companies like Reliance Industries, Pharma sector and other sectors like IT and FMCG because these were not affected due to Covid. Inflation increased and interest rates went down which created panic for the investors that created not to invest in the market which result in downfall of the large, mid and small cap stocks in the National stock exchange. With above mentioned factors sustainability was going down during the lockdown period. Within few weeks when, stock market was showed uptrend market and other economic factors were recovered with in the pre-covid era then sustainability was showed some good performance in the stock market where investors did their investor activities through online platforms during the pandemic period and increased the sales and revenue in the industry.

For this study I had considered the Nifty 50 for large cap index as it consists of diversified 50 stock index for 13 sectors of the economy. Nifty Next 50 had been considered for 50 companies from nifty 100. For midcap I had consider midcap 150 companies for the performance of mid cap stocks similarly small cap I had considered 250 for the performance of small cap stocks. Daily confirmed cases, daily death cases are considered for the study. The objective of the study is to determine the response of National stock exchange against the Covid-19 pandemic in which the performance of the market was affected. It has been studied that the daily confirmed cases hypothesized the performance of the stock market.

STATEMENT OF THE PROBLEM

As we were aware that the pandemic situation created huge loss to the stock market and living conditions of the people living in this country. This created the negative impact on the stock market during the covid-19 pandemic. The stock market went down during the covid-19. This pandemic not only affected the stock market but also to the other industry in the country. This impacted to the stocks which were high during the pre covid-19 era, due to which came down to lower prices because of pandemic attack to the stock market.

REVIEW OF LITERATURE

Cristian and Stefan (2020) investigated the Effect of COVID-19 On the Stock Market and Potential Investing Strategies has dismembered the effect of Covid 19 on monetary trade by researching different industry, for instance, development, travel related industry, gold. The examination has been exact in nature and assumed that the pandemic had affected in short run anyway. Liu and Manzoor (2020) examined the COVID-19 Flare-up and Affected Countries Stock Markets Response has had focus on impact of crown erupt in 21 impacted assistants. They have contemplated that the scene has immense negative impact on monetary trade of affected country and can cause fast fall in stock expenses and return. The examination has used event study procedure and future board fixed effect backslide system and both of these methodologies supports the end. Sansa (2020) had examined that "The Impact of the COVID - 19 on the Financial Markets: Evidence from China and USA" have applied basic regression model to discover the impact. Scott.et.al. (2020) in their paper depicted that the Phenomenal Stock Market Impact of COVID-19 has utilized the content based strategy to portray the extraordinary impact of crown episode on the US financial exchange. The exploration proposes that administration limitations on business movement and purposive social removing, working with incredible impacts in an administration arranged economy, are the principle reasons that the U.S. stock market is confronting extraordinary impacts than the past pandemics in 1930, 1958 and 1968. Ding and Xie (2020) stated in their investigation that corporate insusceptibility during the COVID-19 pandemic. During the principal quarter of 2020, they utilize the information of more than 6, 000 firms from 56 nations. The discoveries of the investigation propose that the organizations with more grounded pre-2020 accounts, less openness to the pandemic, less settled in chiefs and higher social obligation exercises confronted a mellow pandemic instigated drop in the stock cost. Alfaro and Schott (2020) presented constant investigation of firm-level stock and total returns during the COVID-19 pandemic. They endeavour to clarify the unforeseen changes that are happening in the COVID-19 direction contaminations are anticipating the profits of the US financial exchange. In view of an example of 4, 070 firms recorded in the United States and taking information from Yahoo Finance and Bloomberg. Daniele and Quarato (2020) in their examination dissect the family proprietorship during the COVID-19 pandemic. They test how the consideration of families in administration and proprietorship influences the monetary execution of the organizations. Corbet and Lucey (2020) they looked at the infection impact of the COVID-19. They suggest that the Chinese monetary business sectors since the start of the COVID-19 pandemic served the job of the focal point of both monetary and actual disease. During the time of the colossal monetary emergency, the connection among Bitcoin and Chinese securities exchanges have in the long run evolved. Schoenfeld (2020) examined that to evaluate the factor of danger with regards to monetary business sectors and pandemics. The examination utilizes COVID-19 pandemic as a characteristic trial to decide how monetary business sectors react to the enormous scope pandemics. Estrada and Lee (2020) stated that the money related and monetary impact of the COVID-19 pandemic. A wise model has been figured in this assessment which helps with understanding the instances of spatiotemporal of occasion of COVID-19 kind of disorder and its recommendations and significance towards the financial business areas. Ashraf.et.al (2020) they examined that the impact of Islamic Equity Investments (IEIs) affected during the COVID-19 pandemic. This also analyzed by using the S&P Down Jones which is used as case on IEI's. The disclosures give evidence that supporting preferences are given by IEIs during the market rout and the examination suggest that supporting focal points come at an additional cost. Maijamaa and Daniel (2020) they examined that the outcomes were reflected as unlucky and high uncertainty in stock returns during the COVID-19 period in Nigeria. They used Quadratic GARCH (QGARCH) and Exponential GARCH (EGARCH)models by taking dummy variable as the case, and applied to the stock returns which showed that the COVID-19 impacted the stock returns in Nigeria negatively. Noor Alam and Chavali (2020) they expressed that India has a hearty securities exchange that responds a lot well to the worldwide circumstance. current market costs not just reflect data about chronicled costs of stocks, yet in addition reflect data, which is openly accessible. Al-Awadhi.et.al (2020) they used the board information examination to test the impact of the COVID-19 infection, which is an infectious irresistible illness, on the Chinese securities exchange. The discoveries show that both the day by day development altogether affirmed cases and in absolute instances of death brought about by COVID-19 which impacted stock returns negatively. Alsaifi and Salama (2020), they stated that the corporate meeting rooms the world over, environmental change has immediately ascended to turn into a significant issue, coordinating public concern. Corporate administration has experienced partner strain to uncover more data about their carbon profile and their arrangements to improve it. Ozili.et.al (2020) they stated that the spread of the infection empowered social separating which prompted the closure of monetary business sectors, corporate workplaces, organizations and occasions. Second, the outstanding rate at which the infection was spreading We center around the period from the beginning of 2020 through March when the Covid started spreading into different nations and markets.

OBJECTIVES

1. To analyse the impact of Covid-19 on returns of large, mid and small cap stock indices of National stock exchange.
2. To access the effect of volatility on large, mid and small cap stock indices during Covid-19 period.

RESEARCH HYPOTHESIS

H_1: There is significant impact of covid-19 pandemic on performance of large, mid and small cap indices of NSE.
H_2: There is effective volatility due to covid-19 pandemic on performance of large, mid and small cap indices of NSE.

METHODOLOGY

This research is an analytical research which aims to prove the impact of Covid-19 on returns of large, mid and small cap indices of National Stock Exchange of India.

SELECTION OF VARIABLES

TABLE 1: CLASSIFICATION OF VARIABLES

Name	Type	Measurement
Nifty 50	Dependent Variable	Daily closing price of the index
Nifty Next 50	Dependent Variable	Daily closing price of the index
Mid Cap 150	Dependent Variable	Daily closing price of the index
Small Cap 250	Dependent Variable	Daily closing price of the index
Daily Confirmed Cases (DCC)	Independent Variable	Frequency of daily positive cases
Daily Confirmed Death Cases (DCDC)	Independent Variable	Frequency of daily death cases.
Lock Down	Dummy Variable	1=25th Mar- 27th Nov 2020 (Post lockdown period) 0= 30th Jan – 24th March 2020 (Pre lockdown Period)
20 lakh cr package	Dummy Variable	1= Announced date for the package on 12th May 2020. 0 = Assigned for other dates.

For this research study, Nifty 50 daily returns are considered as Large cap
Mid Cap 150 daily returns are considered as Mid Cap
Small Cap 250 daily returns are considered as Small Cap.

DATA COLLECTION METHODS

Nature of Data- The Data for the purpose of this Research is considered to be Time Series.
Data Period-Data were collected on a monthly frequency from 30th January2020 to 27th November 2020.
Source of Data- Data was collected from these sources. Daily closing prices of these indices which are Large, Mid and Small Cap stock indices are collected from NSE site. Nifty next 50 data also collected from NSE. Daily Covid-19 confirmed and death cases were collected from worldometers.info.

CONCEPTUAL FRAMEWORK OF THE STUDY

Multiple Regression Analysis:

The objective of the study is to determine the impact of Covid-19 on the performance of large, mid and small cap. The research model of this study has been presented as follows.

$\text{Nifty}_r = \beta_1 + \beta_2$ Lockdown dummy + β_3 20 lakh cr package + β_4 daily confirmed cases + β_5 daily death cases + ϵ_r
$\text{Nifty-Next 50}_r = \beta_1 + \beta_2$ Lockdown dummy + β_3 20 lakh cr package + β_4 daily confirmed cases + β_5 daily death cases + ϵ_r
$\text{Midcap 150}_r = \beta_1 + \beta_2$ Lockdown dummy + β_3 20 lakh cr package + β_4 daily confirmed cases + β_5 daily death cases + ϵ_r
$\text{Small cap 250}_r = \beta_1 + \beta_2$ Lockdown dummy + β_3 20 lakh cr package + β_4 daily confirmed cases + β_5 daily death cases + ϵ_r

In the above presented research model, Price return indicates that the daily closing prices of the stock exchange. For this model where

E-Garch: This models are appropriate when positive and negative shocks of equal magnitude but it might not contribute equally to volatility. EGARCH models provide an explanation for the so called leverage effect. It refers unexpected price drop increases volatility more than a Comparable unexpected price increase.

E-Garch- $\ln(\sigma^2_t) = \alpha_0 + \beta \ln(\sigma^2_{t-1}) + \gamma \frac{u_{t-1}}{\sqrt{\sigma^2_{t-1}}} + \alpha \left[\frac{|u_{t-1}|}{\sigma^2_{t-1}} - \sqrt{\frac{2}{\pi}} \right]$

Explanation of the variables used in the EGarch Model:

α_0 is the intercept for the variance and β is the coefficient for the logged GARCH term. Ln ($\sigma^2 t$) is the logged GARCH term, γ is the scale of the asymmetric volatility, $\gamma \frac{u_{t-1}}{\sqrt{\sigma^2{}_{t-1}}}$ is the
is the last period's shock which is standardized?
$\left[\frac{|u_{t-1}|}{\sigma^2{}_{t-1}} - \sqrt{\frac{2}{\pi}}\right]$ is the parameter that takes into account the absolute value of last period's volatility shock. It replaces the regular ARCH term.
The EGarch Model captures the asymmetric volatility through the variable gamma (γ). The sign of the gamma determines the size of the asymmetric volatility and if the asymmetric volatility is positive or negative $\gamma = 0$, i.e. no asymmetric volatility and $\gamma < 0$ negative shocks will increase the volatility more than positive shocks. $\gamma > 0$ positive shocks increase the volatility more than negative shocks.

DATA ANALYSIS AND RESULTS

The research is empirical in nature and the samples were collected on daily basis. The corona virus new cases and daily death cases were collected on daily basis. The daily prices observations of the samples viz. Nifty 50, Nifty Next 50, Midcap 150, Small Cap 250 were collected. The study period is fixed based which has major impact on stock. The above mentioned closing prices on prescribed date from were obtained from NSE India. The daily new cases and daily death cases were collected from worldometers.info
Initially, the log returns of the sampled data was computed in Microsoft excel by using the following formula.
R= Ln (P1/P0) *100
In the above equation R denotes return, P1 denotes current day's price and P0 denotes previous day closing price of the stock. Ln represents the returns are log normally distributed. In order to test the data, we use measures like Multiple Regression and E-Garch are used for collected data sample.
Descriptive Statistics:
Table below exhibits the descriptive statistics regarding the time series data of daily confirmed cases, daily death cases, nifty return, nifty next 50 return, Mid cap return and small cap return during covid period on its daily returns, standard deviation, skewness, Kurtosis, Jarque- Bera test results with its significance.

TABLE 2: DESCRIPTIVE STATISTICS

Descriptive Statistics	DCC	DCDC	NIFTY_R	NIFTY_NEXT_R	MIDCAP_R	SMALLCAP__R
Mean	32365.9602	477.9055	0.0006	0.0005	0.0007	0.0006
Median	25571	479	0.0020	0.0024	0.0034	0.0025
Maximum	97859	2006	0.1131	0.0744	0.0942	0.1115
Minimum	1	0	-0.1298	-0.1164	-0.1303	-0.1241
Std. Dev.	31175.8198	417.7577	0.0229	0.0192	0.0199	0.0207
Skewness	0.4723	0.4509	-0.5314	-1.3285	-1.5066	-1.0467
Kurtosis	1.8642	2.3954	12.4292	12.6882	15.1273	14.4041
Jarque-Bera	18.2767	9.8723	750.3302	841.0093	1301.2634	1120.3084
Probability	0.0001	0.0072	1.17E-163	2.38E-183	2.72E-283	5.35E-244
Sum	6505558	96059	0.1274	0.0987	0.1484	0.1175
Sum Sq. Dev.	1.94386E+11	34904297.2	0.1044	0.0736	0.0786	0.0854
Observations	200	200	200	200	200	200

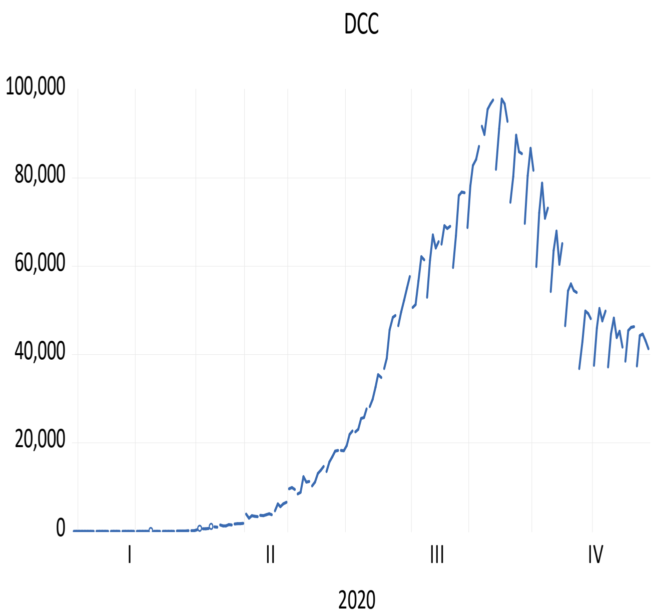
In this table DCC means daily confirmed cases and DCDC means daily confirmed death cases.
The results obtained with the help of data analysis are explained in the following section by using descriptive statistics, multiple regression and E-garch analysis. Table 2 shows that the mean value of the variables are 32365.9602, 477.9055, 0.0006, 0.0005, 0.0007, 0.0006 respectively. Jarque bera test reveals that all the variables are not normally distributed. Further daily confirmed cases has higher standard deviation compared to other variables followed by daily confirmed death cases, Nifty_R, Small cap _R, Midcap_R, Nifty_Next_R.

TABLE 3: ADF STATIONARITY CHECK

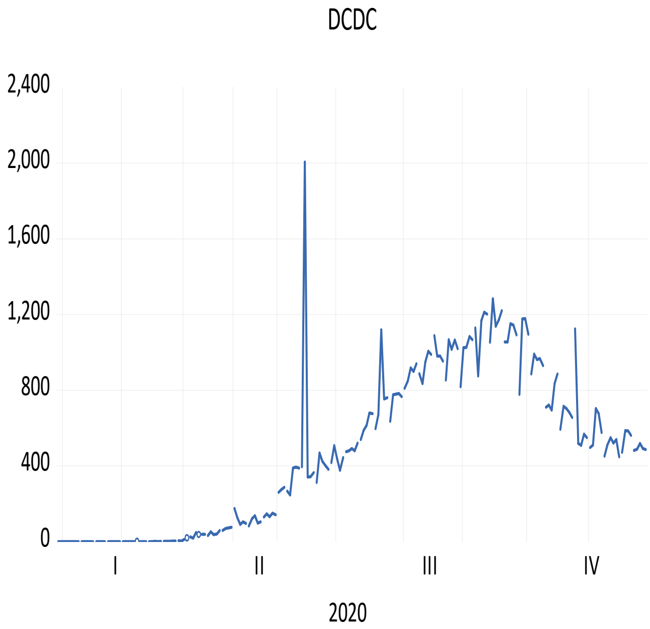
Variables	T-Statistic	Probability Value
Nifty_R	-16.45022	0.000
Nifty_Next_R	-14.86866	0.000
Midcap_R	-8.513444	0.000
Smallcap_R	-5.576766	0.000
Daily Confirmed Cases	-3.710743	0.000
Daily Death Cases	-19.96114	0.000

Table 3 shows that the unit root test results of the individual variable. The study used ADF test to analyses the stationarity of given time series table. The results clearly depict that all the variables are stationary at zero order difference. we see that ADF test produced t-values and probability value and it points that the time series data is stationary and shows that probability values are also less than 0.05

GRAPH 1: DAILY CONFIRMED CASES



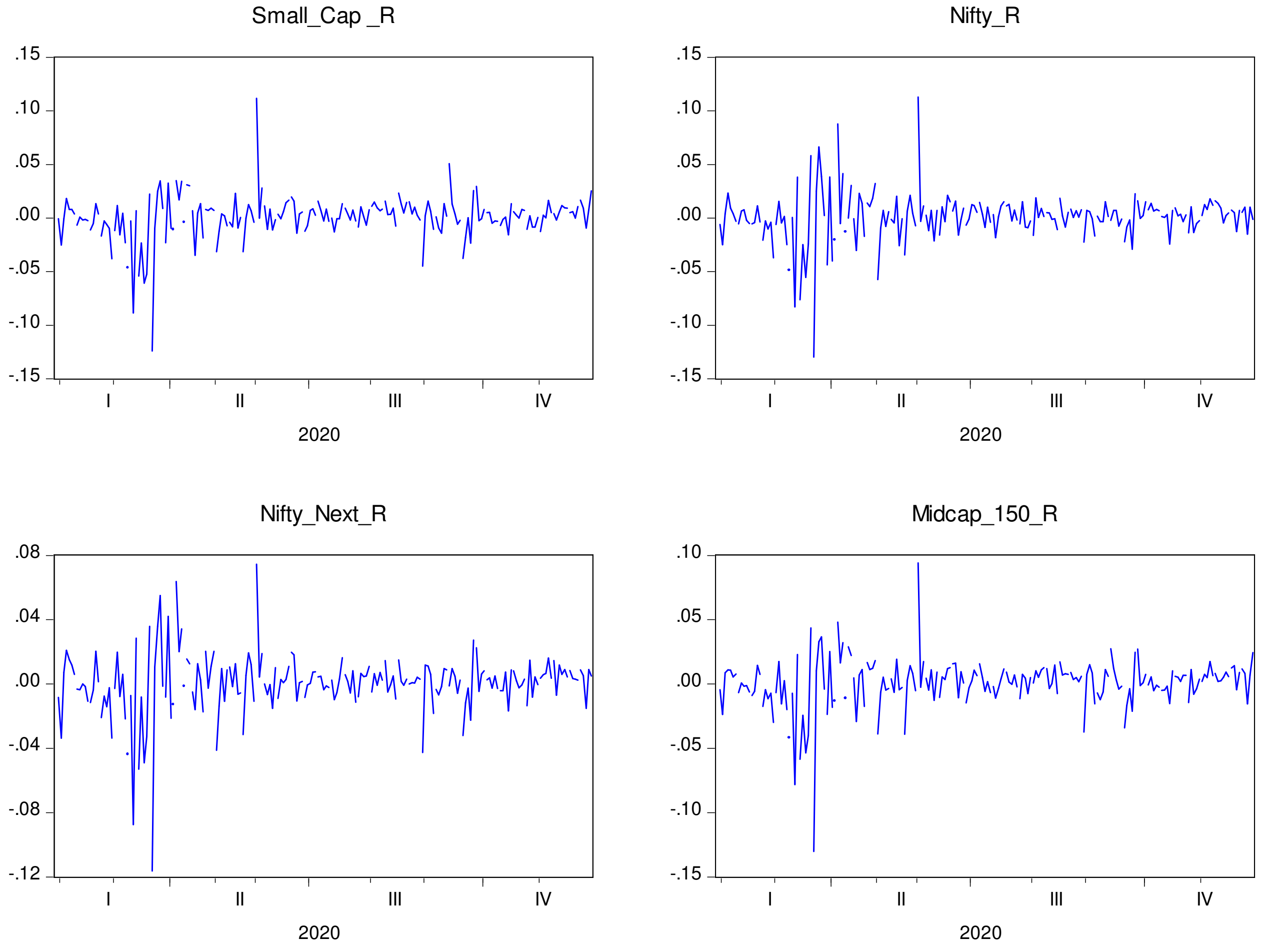
GRAPH 2: DAILY DEATH CASES



From the graph 1& 2 it is noticed that daily confirmed cases were increasing exponentially and daily death cases were showed up trend after few days but it is increasingly rapidly because of daily cases encountered more.

UNIT ROOT TEST

GRAPH 3: RETURNS OF STOCK INDICES



The graph 3 which were showed are returns of indexes which should be less than 0.05 probability which is significant in nature. These returns graphs are generated at zero level because the probability values are less than 0.05 which is significant. For further analysis, the shown graphs index returns should be stationary in nature i.e. less than 0.05.

MULTIPLE REGRESSION ANALYSIS

TABLE 4: MULTIPLE REGRESSION ANALYSIS

Variable	Nifty_R		Nifty Next 50_R	
	Coefficient	Probability	Coefficient	Probability
LDCC	-0.0250	0.0030	-0.023103	0.001
LDCD	0.0045	0.4451	0.002452	0.6203
LD_ Dummy	0.0074	0.0615	0.008741	0.0078
20 Lakh Cr	-0.0143	0.5327	-0.011819	0.5355
F-statistic	2.546	0.04	3.366	0.01
R- squarred	0.05		0.064	
Variable	Mid Cap 150_R		Small Cap_R	
	Coefficient	Probability	Coefficient	Probability
LDCC	-0.023	0.0016	-0.021735	0.0044
LDCD	0.00384	0.4558	0.003193	0.5538
LD_ Dummy	0.00685	0.0441	0.006636	0.0624
20 Lakh Cr	-0.0154	0.437	-0.016436	0.4293
F-statistic	4.95	0.00	6.634	0.00
R- squarred	0.092		0.12	

For Multiple regression analysis we used all stock indexes returns i.e. nifty, nifty next 50, midcap and small cap as dependent variable. Logged daily confirmed cases and logged daily death cases confirmed as independent variables. Lockdown dummy and 20 lakh crore package as dummy variables for better interpretation of the data. This analysis is used because to see the impact of dependent variable on independent variable during the lockdown period which effected the Indian stock market. From the table 4 it is noticed that logged daily confirmed cases has significant impact on nifty returns with negative coefficient and other variables does not have significant impact on nifty50. Similarly logged daily confirmed cases has significant impact on nifty next 50 return with negative coefficient on nifty next 50 return and other variables does not have significant impact on nifty next 50. In this nifty next 50 return lockdown dummy has significant impact with positive coefficient. In case of Midcap 150 return logged daily confirmed cases has significant impact on Midcap with negative coefficient and lockdown dummy has significant impact on midcap return with positive coefficient. In small cap returns the logged daily confirmed cases has significant impact on small cap with negative coefficient. It is noticed that 5% of variation in Nifty_R is due to logged daily confirmed cases and F- statistic is significant to prove that model is fit for the interpretation. it is noticed that 6% of variation in Nifty_Next_R is due to logged daily confirmed cases and F- statistic is significant to prove that model is fit for the interpretation. it is noticed that 9.2% of variation in Midcap_R is due to logged daily confirmed cases and F- statistic is significant to prove that model is fit for the interpretation. it is noticed that 12% of variation in Smallcap_R is due to logged daily confirmed cases and F- statistic is significant to prove that model is fit for the interpretation.

E-GARCH ANALYSIS

TABLE 5: E-GARCH

Variable	Nifty _R		Nifty Next_R	
	Coefficient	Probability	Coefficient	Probability
α_0	-0.1519	0.0000	-0.1450	0.0000
α_1	-0.1021	0.0004	-0.0769	0.0224
γ	-0.2560	0.0000	-0.1988	0.0000
β	0.9716	0.0000	0.9761	0.0000
Variable	Mid Cap 150_R		Small Cap_R	
	Coefficient	Probability	Coefficient	Probability
α_0	-0.5670	0.0012	-0.5931	0.0005
α_1	0.1473	0.0259	0.1310	0.0107
γ	-0.1512	0.0003	-0.1489	0.0001
β	0.9433	0.0000	0.9365	0.0000

From above table it is noticed that α_0 tells about the constant variable. α_1 tells about the Arch and β tells about the Garch and γ tells about the Assymetry effect in the variables taken. For E-Garch we used all stock indexes returns i.e. nifty, nifty next 50, midcap and small cap as dependent variable for data analysis. From table 5 it is evident that the coefficient γ Assymetry obtained for nifty is -.2560. These coefficients are negative and significant level i.e. .0000.

In the equation the obtained conditional variance (β) found to be within 1. Additionally it is observed that the obtained β is statistically significant at 5% level of significance as obtained probability values 0.000 which signals the towards the existence of Garch effect. The garch effect confirms that the daily confirmed cases had influence the nifty50 returns of the stock market. In this analysis leverage effect comes in to existence, which implies that the daily confirmed cases were increasingly rapidly. The strong negative interconnection among stock markets can also be observed in line with its leverage effect. So we may arrive at a conclusion that it has negative influence on return existing in the model. It is evident that the coefficient γ Assymetry obtained for nifty next 50 is -.1988. These coefficients are negative and significant level i.e. .0000. In the equation the obtained conditional variance (β) found to be within 1. Additionally it is observed that the obtained β is statistically significant at 5% level of significance as obtained probability values 0.000 which signals the towards the existence of Garch effect. The garch effect confirms that the daily confirmed cases had influence the nifty next 50 returns of the stock market. In this analysis leverage effect comes in to existence, which implies that the daily confirmed cases were increasingly rapidly. The strong negative interconnection among stock markets can also be observed in line with its leverage effect. So we may arrive at a conclusion that it has negative influence on return existing in the model. It is evident that the coefficient γ Assymetry obtained for Midcap is -.1512. These coefficients are negative and significant level i.e. .0003. In the equation the obtained conditional variance (β) found to be within 1. Additionally it is observed that the obtained β is statistically significant at 5% level of significance as obtained probability values 0.000 which signals the towards the existence of Garch effect. The garch effect confirms that the daily confirmed cases had influence the midcap150 returns of the stock market. In this analysis leverage effect comes in to existence, which implies that the daily confirmed cases were increasingly rapidly. The strong negative interconnection among stock markets can also be observed in line with its leverage effect. So we may arrive at a conclusion that it has negative influence on return existing in the model. It is evident that the coefficient γ Assymetry obtained for small cap is -. 9365.These coefficients are negative and significant level i.e. .0000. In the equation the obtained conditional variance (β) found to be within 1. Additionally it is observed that the obtained β is statistically significant at 5% level of significance as obtained probability values 0.000 which signals the towards the existence of Garch effect. The garch effect confirms that the daily confirmed cases had influence the small cap 250 returns of the stock market. In this analysis leverage effect comes in to existence, which implies that the daily confirmed cases were increasingly rapidly. The strong negative interconnection among stock markets can also be observed in line with its leverage effect. So we may arrive at a conclusion that it has negative influence on return existing in the model.

DISCUSSION AND CONCLUSION

Financial exchange returns decay as the quantity of affirmed cases increment in a nation. We further locate that securities exchange reaction to the growth in number of passing because of the COVID-19 is weak. Together our discoveries propose that stock markets cost in COVID-19 pandemic related chances in stock costs almost immediately when the quantity of affirmed cases increase and respond less when a portion of the affirmed cases die later on. In more definite investigation, we likewise see that securities exchanges respond unequivocally during beginning of affirmed cases and afterward between 40 to 60 days after the day of starting affirmed cases. Generally, our investigation recommends that financial exchanges rapidly respond to COVID-19 pandemic and this response varies over the long haul contingent upon the seriousness of flare-up. In particular, stock returns are fundamentally adversely identified with both the everyday development altogether affirmed cases and the day by day development in all out instances of death brought about by COVID-19. By and large, the outcomes indicated that the expanding number of lockdown days, financial strategy choices and global travel limitations forced at the pinnacle of the Covid emergency seriously influenced the degree of general monetary exercises and the opening, most minimal and most elevated stock costs of significant securities exchange lists. The ramifications of the discoveries are that financial arrangement spending seems, by all accounts, to be more powerful in moderating the impact of the Coronavirus pandemic than money related strategy choices especially in light of the fact that the reception of accommodative money related approaches by numerous national banks can exacerbate inflationary pressing factors that could deteriorate macroeconomic dependability temporarily. This implies that investigation is that financial investors can make preparatory strides prior to exchanging stocks during the time of a lockdown. Risk opposed financial specialists can try not to exchange around the lockdown to keep away from the danger connected with instability of stocks in the lockdown time frame. The consequence of this examination will profit speculators as it might help them better comprehend and assess the effect of the lockdown on securities exchanges brought about by COVID 19. Further studies can be performed by incorporating other variables such as economic growth, interest rate and inflation rate along with covid-19 variables at a cross country level. Thus, an away from of the pandemic related factors can be learned influencing the exhibition of a financial exchange in such manner.

REFERENCES

1. Fama E F, 'Efficient capital markets: A review of theory and empirical work', The Journal of Finance, Volume 25(2), Issue No.5 (May), pp.383-417.
2. HaiYeiLiu, A.M., 'The COVID-19 Outbreak and Affected Countries Stock Market Response', International Journal of Environmental Research and public health, Volume 17, Issue No.8(August), ISSN 1660-4601, pp.1-19.
3. Hong, H, 'Information Cascade and Share Market Volatility: A Chinese Perspective', Journal of Asian Finance, Economics and Business, Volume 3, Issue No.4, ISSN 2288-4637, pp.17-24.
4. Mohammad Noor Alam, K. C., 'Stock Market Response during COVID-19 Lockdown Period in India: An Event Study', Research gate, Volume 7, Issue No.7(July), ISSN 2288-4637, pp.131-137.
5. Raghav Nandakumar, Uttamraj K R, Vishal., 'Stock Price Prediction Using Long Short Term Memory', International journal of Engineering and Technology, Volume 5, Issue No.3 (March), ISSN 2395-0056, pp, 1-7.
6. Ruiz Estrada, M. A., 'Stagpression: The economic and financial impact of Covid-19 Pandemic', SSRN 3593144, Issue No.5 (May), ISSN 1556-5068, pp.1-16.
7. Sansa, N. A.,' The Impact of the COVID - 19 on the Financial Markets: Evidence from China and USA', Electronic research journal of Social Sciences and Humanities, Volume 2, Issue No. 2(February), ISSN 1556-5068, pp.1-11.
8. Schoenfeld, J., 'The invisible risk: Pandemics and the financial markets', SSRN 3567249, Issue No.6 (June), ISSN 1556-5068, pp.1-18.
9. Scott R. Baker, N. B.,' The Unprecedented Stock Market Impact of COVID-19', National Bureau of Economic Research, working paper No.26945, ISSN 0898-2937, Issue No 4 (April), pp.1-22.
10. Shaen Corbet, C. L., 'The contagion effects of the COVID-19 pandemic: Evidence from gold and cryptocurrencies', Finance research letters, Volume 35, ISSN 1923-4023, Issue No 7(July), pp.1-17.
11. Stefan Cristian, D.S,' Stock Market Reactions to COVID-19 Pandemic Outbreak', International Journal of Environmental Research and Public health, ijerph 17186729, Volume 17, ISSN 1660-4601, Issue 18, pp.1-35.
12. Xie, W. D, 'Corporate Immunity to the Covid-19 Pandemic', National Bureau of Economic Research, working paper No.27055, ISSN 0898-2937, Issue No 4(April), pp.1-49.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce & Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue, as well as on the journal as a whole, on our e-mail **infoijrcm@gmail.com** for further improvements in the interest of research.

If you have any queries, please feel free to contact us on our e-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-
Co-ordinator

DISCLAIMER

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals