Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/12065
DOI URL: http://dx.doi.org/10.21474/IJAR01/12065

RESEARCH ARTICLE

AN ANALYTICAL STUDY ON THE EARLY IMPACT OF COVID-19 ON GLOBAL STOCK INDICES – A COMPARATIVE APPROACH OF INDIAV/S SPAIN, FRANCE, UK, USA, GERMANY AND ITALY

Dr. Rajsee Joshi and Tapesh Sharma

Manuscript Info

Manuscript History
Received: 15 September 2020
Final Accepted: 18 October 2020
Published: November 2020

Key words:-
Impact of COVID-19, Global Indices, India-NSE, US-NASDAQ, UK-FTSE 100, Italy-FTSEMIB, Spain-IBEX 35, Germany-DAX Indices

Abstract

The spread of the corona virus disease COVID-19 has severely impacted the global financial markets. These are incredibly uncertain times, with countries around the world suffering the destabilizing effects of the pandemic. This research paper evaluates the early impact of the coronavirus outbreak on nine leading stock market indices in majorly affected countries including India, Spain, France, the USA, Germany, Italy, and the UK. The consequences of infectious disease are considerable and have been directly affecting stock markets worldwide. The scope of this paperis confined to the analysis of nine global indices including NASDAQ, Dow Jones, FTSE 100, IBEX 35, FTSEMIB, CAC 40, BSE, NSE and DAX 30 composite. The COVID-19 impact has beenanalysed on the above-mentioned indices for the period of 30st Jan 2020 (announced as a pandemic by WHO) to 30th April 2020. i.e. a period of 90 days (63 trading days) are considered for a paired sample t-test. Using an event study methodology, the results indicate that the indices of these majorly affected countries fell sharply after the virus outbreak. Countries in Asia experienced higher negative abnormal returns as compared to other countries. Further, Regression results also support the adverse effect of COVID-19 confirmed cases on stock indices, abnormal returns through an effective channel by adding up investors' pessimistic sentiment on future returns and fears of uncertainties.

Introduction:-

Economic turmoil associated with the 2019–20 coronavirus pandemic has wide-ranging and severe impact upon financial markets, including stock, bond, and commodity (including crude oil and gold) markets. Major events included a described Russia–Saudi Arabia oil price war after failing to reach an OPEC+ agreement that resulted in a collapse of crude oil prices and a stock market crash in March 2020. The effects upon markets are a part of the coronavirus recession and amongst the many socio-economic impacts of the pandemic. As COVID-19 put Europe and the United States in virtual lockdown, financial economists, credit rating agencies and country risk experts have scrambled to rearrange their assessments in light of the unprecedented geo-economic challenges posed by the crisis. M. Nicolas Firzli, Director of the World Pensions Council (WPC) and advisory board member at the World Bank Global Infrastructure Facility, refers to it as "the Greater Financial Crisis" and says it is bringing to the surface many pent-up financial and geopolitical dysfunctions:

On 24 February 2020, the Dow Jones Industrial Average and FTSE 100 dropped more than 3% as the coronavirus outbreak spread worsened substantially outside China over the weekend. This was followed by

Corresponding Author:- Dr. Rajsee Joshi & Tapesh Sharma

benchmark indices falling sharply in continental Europe after steep declines across Asia.The DAX, CAC 40 and IBEX 35 each fell by about 4% and the FTSE MIB fell over 5%. There was a large fall in the price of oil and a large increase in the price of gold, to a 7-year high. On 27 February, due to mounting worries about the coronavirus outbreak, various U.S. stock market indices including the NASDAQ-100, the S&P 500 Index, and the Dow Jones Industrial Average posted their sharpest falls since 2008, with the Dow falling 1,191 points, its largest one-day drop since the 2008 financial crisis. On 28 February 2020, stock markets worldwide reported their largest single-week declines since the 2008 financial crisis. Hence this study attempts to analyze the impact of Covid-19 on major global indices during the period early period of the COVID-19 outbreak.

Literature Review:-

James K. Jackson (2020) in his study, 'Global Economic Effects of COVID-19' has observed that the since COVID-19 outbreak was first diagnosed, it has spread to over 190 countries and all U.S. states. The pandemic is having a noticeable impact on global economic growth. Estimates so far indicate the virus could trim global economic growth by at least 0.5% to 1.5%, but could rise to 2.0% per month if current conditions persist. Global trade could fall by 13% to 32%, depending on the depth and extent of the global economic downturn. It has studied global trade, global growth, economic policy changes, economic development, and policy responses in various countries such as the United States, Europe, The United Kingdom, Japan and China. The author also studied the multilateral responses including IMF, World Bank and International Economic Corporation.

JenniferRudden (2020) in his research, 'Impact of COVID-19 on the global financial market' has observed the spread of the novel coronavirus disease COVID-19 has severely impacted the global financial markets. COVID-19 has struck fear into the heart of the economy in the United States. The Dow Jones Industrial Average index has reported some of the biggest single-day gains and losses of its history, reflecting the highly volatile nature of the financial markets. The S&P 500 index and the Nasdaq Composite index have also battled to stay afloat in such rough waters. These unprecedented times have led to the U.S. Senate passing a two trillion U.S. dollar coronavirus aid bill to support the American economy.In Europe, the Financial Times Stock Exchange 100 index suffered its steepest one-day fall since 1987, and stock exchange indexes in Latin America also dropped dramatically as the coronavirus started to spread across the region. It was concluded in the study that, this is no ordinary downturn in the financial markets; the repercussions of the coronavirus are expected to be felt for many more months, possibly years.

Juan Carlos (2020) in the article, 'Impact of COVID-19 on the world's major stock indices', studied various stock indexes in his article such as NASDAQ, S&P 500, Dow Jones, NSYE, FTSE, DAX, SOXX, IBEX 35, Shanghai Stock Exchange, Hang Sang Index, KOSPI, and NiKKEI etc. It was found that, stock markets around the world are seeing substantial declines year-to-date. Most indices are down by over -20%. U.S. and European markets were relatively late to appreciate the severity of the coronavirus. U.S. stocks actually increased in value throughout early February even as the virus was spreading throughout the country. Asian markets were the earliest to react to the coronavirus, declining throughout late January as the Chinese government prolonged the Lunar New Year. Stocks are down throughout Asia, including only -8.55% for the Shanghai Stock Exchange.

Stefano Ramelli (2020) in his article 'What the stock market tells us about the consequences of COVID-19' has showed that the novel coronavirus represents a fearsome risk which is stirring feverish behavior by investors worldwide. The author shows that initially, economic expectations about international trade underlay movements in the stock prices of individual firms; later, concerns about corporate debt began to play a role. The study illustrates how markets are adjusting to the rapid emergence of a previously neglected risk. These results suggest that the market fairly quickly began to respond to concerns about the possible economic consequences of the novel coronavirus. In particular, the cross-section of stocks reveals that investors started to become concerned about potential amplifications of the COVID-19 shock through financial channels.

Tobias Adrian and Fabio Natalucci (2020) in their article 'COVID-19 Crisis Poses Threat to Financial Stability' discuss that there is now 5% likelihood (an event that happens once every 20 years) that global growth will fall below -7.4 percent. For comparison, this threshold was above 2.6 percent in October 2019. As so often happens at times of financial distress, emerging markets risk bearing the heaviest burden. Since early March, high-yield spreads have skyrocketed notwithstanding recent declines, particularly in the sectors most affected by the pandemic like air travel and energy. Similarly, leveraged loan prices have fallen sharply—about half the drop seen during the global

financial crisis at one point. As a result, ratings agencies have revised upward their speculative-grade default forecasts to recessionary levels, and market-implied defaults have also risen sharply.

Prasad Koparkar and Hetal Gandhi, CRISIL Research (2020) in their research on 'The COVID-19 falloutquantifying first cut Impact of the Pandemic' it was observed that in the event of COVID-19 the sharp fall in equity indices and deterioration in bond yield of some key markets indicate the virus outbreak may have prolonged impact on the world economy and recover will not be as swift as envisaged before. In the research the analytics observed many indices and analysed that in the event of the COVID- 19 all the indices fall down such as NIFTY 50 which come through 12.13% growth in between Jan 2019 to Jan 2020 has dropped to 25 % in the event of COVID 19 as same the US indices DOW JONES has dropped up to 30 % and UK FTSE 100 and Singapore FTSE sit have also dropped up to 32 % and 23% in the event of COVID 19 from Jan 2020 to March 2020.

Objectives:-

1. To study the volatility of Global Indices during the initial outbreak of COVID-19
2. To make a comparative analysis of impact of COVID-19 between Indian Indices and Global Indices

Research Methodology:-

Event-study methodology:

Event study methodology has been adopted to empirically analyse the impact of a significant catalyst occurrence or contingent event on the value of that security. 30 January, 2020, when the Director-General of the World Health Organization (WHO) declared the outbreak of COVID-19 to be a Public Health Emergency of International Concern is selected as the event day.

Cumulative Abnormal returns:

The expected returns are derived using the market model.

$Ri,t = \alpha + \beta Rmt + \sum i,t$

Ri,t is the return of index i and Rmt is the market return on day t (as the event day is day 0) within the estimated window, with "∑i,t as the statistic disturbance. After obtaining the estimated coefficients, the following formulas are applied to calculate the expected return and abnormal return (AR):

$$E(Ri,t) = \alpha + \beta Rmt$$

$$ARi,t = Ri,t - E(Ri,t)$$

E(Ri,t), Ri,t and ARi,t are the expected return, real return and abnormal return of index i on day within the event window. The average abnormal return of sample indices on day t is calculated

$$AAR=1/N*\sum AR$$

Abnormal return and average abnormal return can be accumulated over time. Cumulative abnormal return (CAR) of index iover a while from t0 to t1 and cumulative average abnormal return (CAAR) are calculated based on below mentioned Equations

$$CAR\ (t0,t1)=\sum ARit(t=t0)$$

T-Test: To study the impact of COVID-19 during different time-frames, ten different event windows consisting of 63 trading days after the event day are considered namely, (1, 6), (7, 12), (13, 18), (19, 24), (25, 30), (31,36), (37,42), (43,48), (49,54),(54,68).T-test is adopted to test the significance of the results.

Analysis of Data

Volatility of Different Global Indices

To assess the impact on different global indices, daily data of the selected indices are collected for the same period and the volatility is measured. The following table shows the volatility of the different global indices during the selected time period of COVID- 19.

Table 1:- Volatility of Different Global Indices.

Sr. No	Country	Global Indices	Average Return	63 Days return	1 day Volatility	63 days volatility
1	USA	NASDAQ	-0.043%	-2.62%	3.86%	30.45%
2	USA	Dow Jones	-0.225%	-13.72%	4.17%	32.85%
3	Spain	IBEX 35	-0.46%	-28.35%	3.40%	26.81%

4	The UK	FTSE 100	-0.28%	-20.11%	3.08%	23.79%
5	Germany	Dax 30	-0.25%	-15.59%	3.30%	26.28%
6	France	Cac 40	-0.35%	-21.76%	3.31%	26.92%
7	Italy	FTSE-MIB	-0.41%	-25.16%	3.80%	29.92%
8	India	BSE	-0.38%	-21.88%	3.67%	28.89%
9	India	NSE	-0.39%	-22.49%	3.59%	28.24%

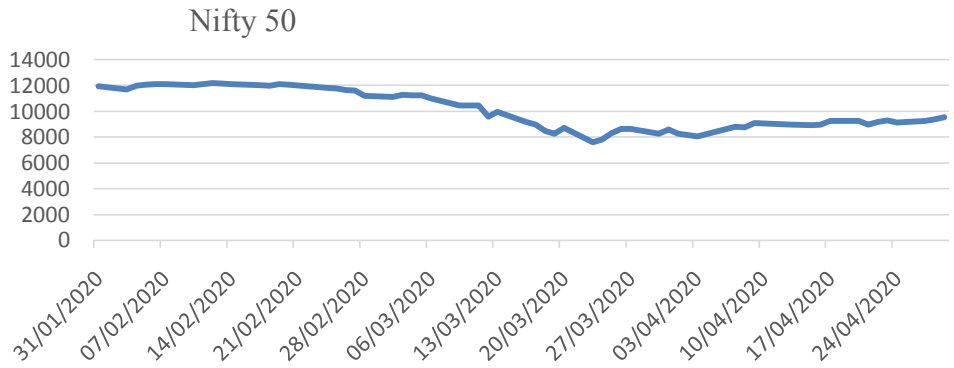
Impact of COVID-19 on Different Global Indices

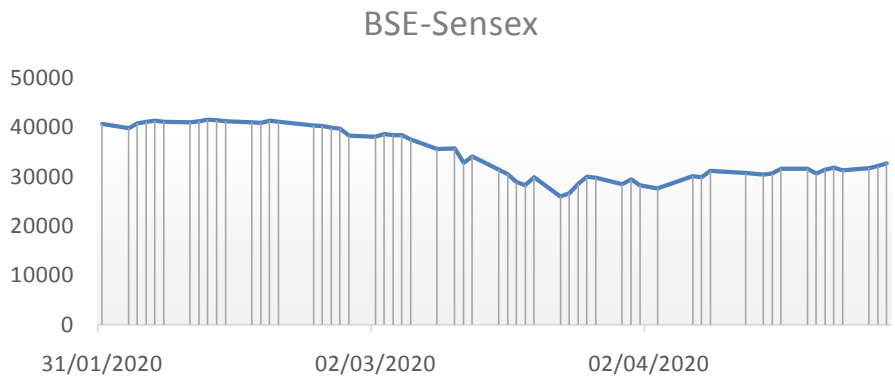
The sentiment in the stock markets across the world is gloomy. This is reflected in the frequent crashes in the share markets in all parts of the world. Financial markets in India are witnessing sharp volatility currently as a result of the fallout in global markets. The fall is in line with the global benchmark indices as the domestic market usually tracks the major global indices and the high volatility is likely to continue in the near future.

Indian Stock Market

Further, with overseas investors (FPIs) flying to the safety of dollar-backed assets from emerging markets has led to a sharp downfall in the Indian Stock Market. S&P BSE Sensex which was 41565 points on 13 Feb, 2020 was fall down to 25981.24 points on 23 March, 2020. The Sensex cashed down by around 47 %.

For the same period we can see the sharp downfall in the NSE also. NSE nifty which was 12174.65 points on 13 Feb, 2020 fell to 7610.25 points on 23 March, 2020 which was also around 47%.

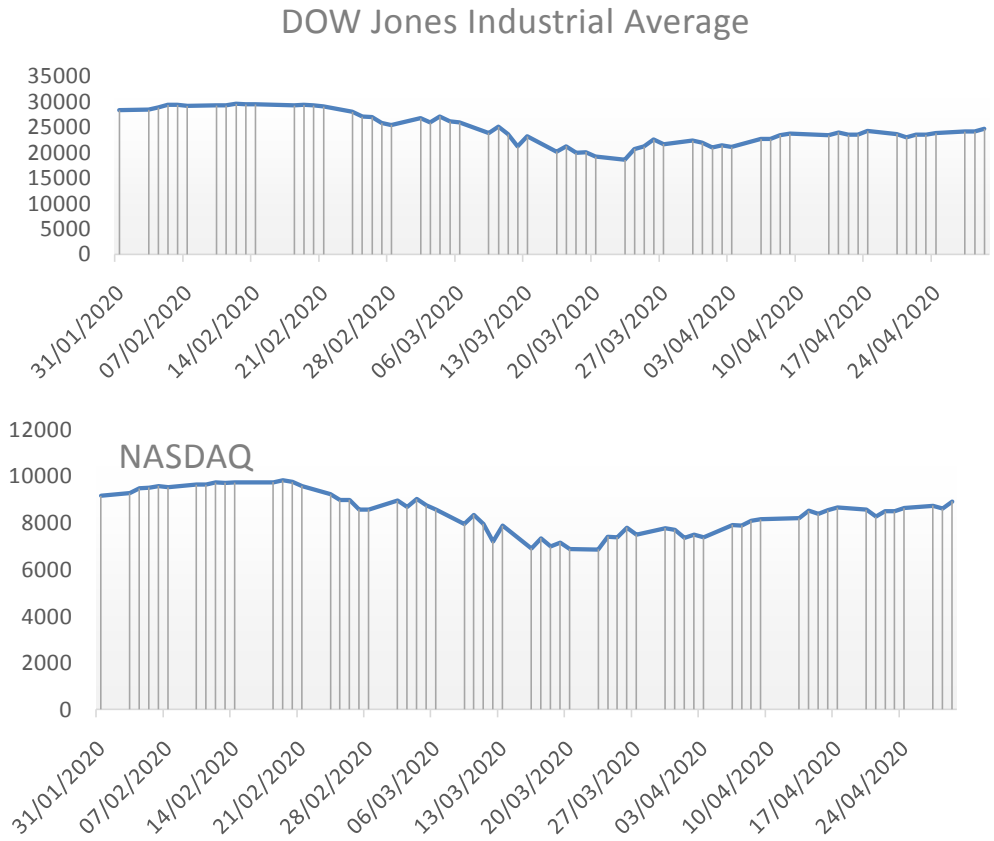




USA Stock Market Indices

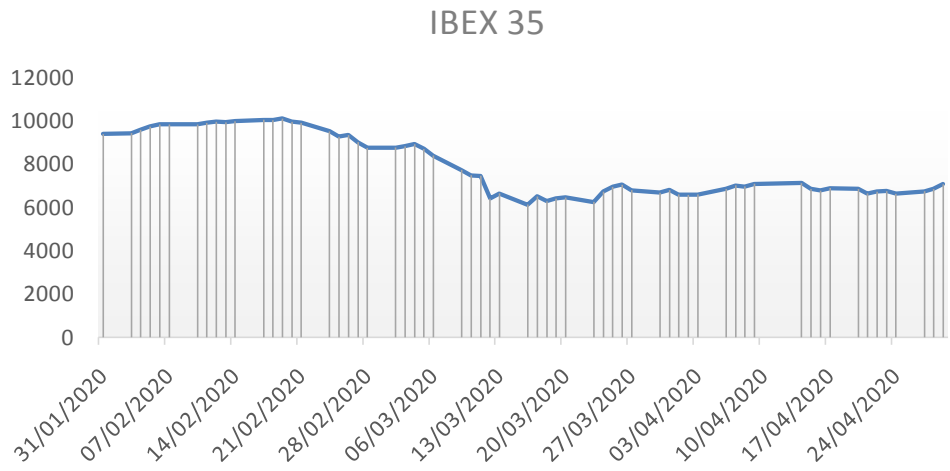
In the period of Covid-19 which was considered after 31st Jan 2020, USA which was the most affected country by the Covid-19 also showed the impact on emerging stock market. NASDAQ composite which was 9817 points on 19 Feb 2020 fell down to 6860.70 on 23 March 2020 which was around 36% crashed.

For the same period DOW JONES industrial average which was 29551 points on 12 Feb 2020 fell down to 18592 on 23 March 2020 which was around 46%.



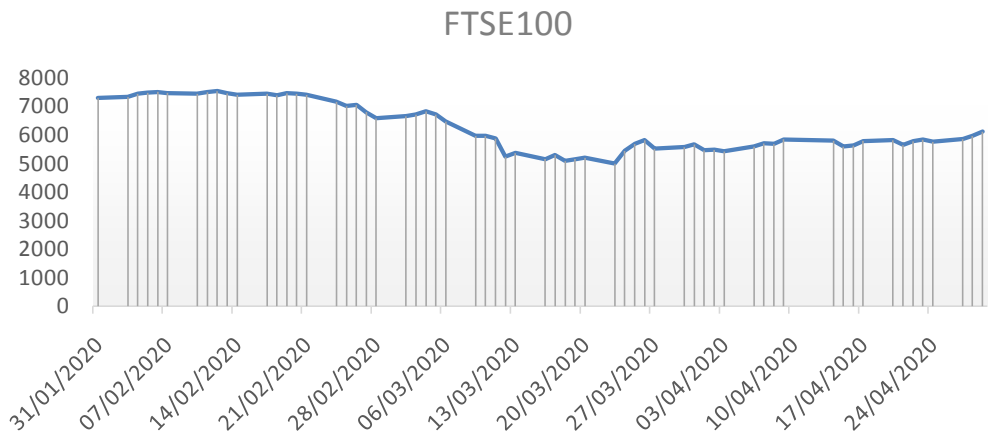
Spain Market Index

Spain which was third most affected country by the Covid-19 has highest downfall in the emerging stock market IBEX 35 which was 10083 on 19 Feb 2020 fell to 6107 point which was fall down around 50%.



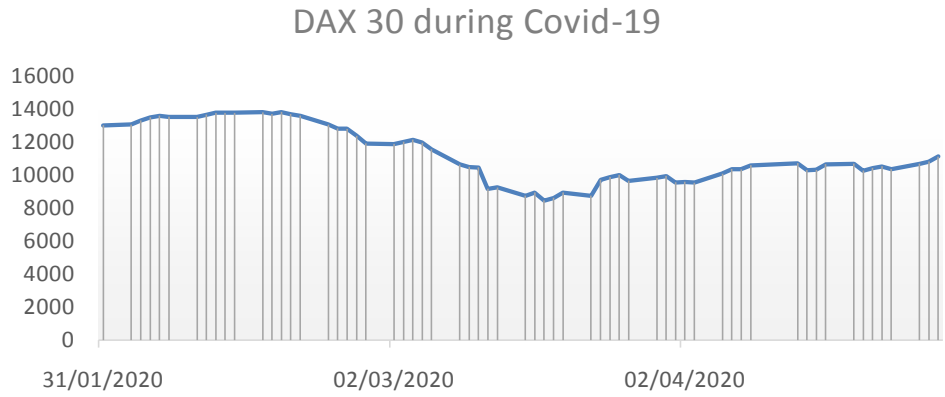
United Kingdom Market Index

FTSE-100 of UK was 7534 market point on 12 Feb 2020 which fell down by 41% to 4994 on 23 March 2020.



German Market Index

Similarly, DAX 30 of Germany, witnesses a downfall to 8441 on 18 March 2020 from 13789 on 13 Feb. 2020 around 39 %.



Results:-

The mean and standard deviation of the composite index return before and after the event are given in Table 2. As the basic statistic description, where Panel-A shows the data from 31 Jan 2019 to 29 January, 2020 and Panel-B shows the data from 31 January, 2020 to 04 April, 2020. Comparing the mean returns prior to declaration of COVID-19 as a pandemic as of January 30, 2020 and post the declaration, the indices for France, Germany, Italy, the UK, the USA, India display a decrease in the mean returns. Similarly the volatility of all the affected countries have increased post the period of January 30, 2020.

Table 2:- Differences in mean returns of sample indices.

Index	No. of Trading Days	Event Group's Mean	Event Group's Std. Dev.
	Panel A: Pre-event period from 01-31-2019 to 1-29-2020		
NASDAQ	251	0.000968	0.00915
Dow Jones	251	0.000557	0.007314
IBEX 35	251	0.000208	0.007767
FTSE 100	252	0.000283	0.007224
Dax 30	250	0.000713	0.008716
Cac 40	254	0.000697	0.008241
FTSE-MIB	251	0.000811	0.009328
BSE	241	0.000535	0.00878
NSE	241	0.000472	0.008791

	Panel B: Post-event period from 1-31-2020 to 4-30-2020		
Nasdaq	62	-0.00068	0.038724
Dow Jones	62	-0.00255	0.041732
IBEX 35	62	-0.00476	0.033738
FTSE 100	62	-0.003036	0.029973
Dax 30	62	-0.00291	0.032985
Cac 40	62	-0.00369	0.032959
FTSE-MIB	62	-0.004432	0.037856
BSE	58	-0.00385	0.036491
NSE	58	-0.00398	0.03565

The results from event windows of different lengths reflect the various response speeds and changing trends of the stock market. Table 3 show the result of first window (1,6), the particular window is just after the date of health emergency which was 30st Jan 2020. It is observed that there is no impact immediately after the event date because all the CAR (cumulative abnormal return are positive. Further, t- test with the significance level of 5%, results show that there is no negative impact on particular event.

Table 3:- Cumulative abnormal return in the event window (1, 6).

Sr. No	Global Indices	CAR	t-test
1	Nasdaq	0.019461	0.923381
2	Dow Jones	0.005846	0.429544
3	IBEX 35	0.033761	2.469094
4	FTSE 100	0.009801	0.7926
5	DAX 30	0.022034	1.400235
6	CAC 40	0.022027	1.4731
7	FTSE-MIB	0.02442882	1.468448
8	BSE	0.002183	0.132434
9	NSE	0.002075	0.125744

Table 4 shows the second window (7,13) which is from the date 10th Feb 2020 to 18th Feb 2020.It is observed that most of the CAR are positive accept the UK indices and the Indian indices. Thus, apart from UK and India none of the countries are showing significant impact. Further if we observe the t-test results, none of the t-statistics show the negative significant impact. The UK and Indian indices t statistics have negative t value but it is not significant.

Table 4:- Cumulative abnormal return in the event window (7, 13).

Sr. No	Global Indices	CAR	t-test
1	Nasdaq	0.017959	1.043623
2	Dow Jones	0.001905	0.139972
3	IBEX 35	0.033761	2.469094
4	FTSE 100	-0.006090	-0.4925
5	DAX 30	0.015074	0.957899
6	CAC 40	0.004755	0.317974
7	FTSE-MIB	0.02143015	1.288194
8	BSE	-0.00547	-0.33185
9	NSE	-0.00746	-0.4523

Table 5 and 6 showsrespectively the third and fourth event window. It suggests that all the CAR are negative which means that from the date of third window, the returns of selected Indices have begun to decline. Similarly t-statistics is above -1.96 which means that there is negative significant impact in particular window.

If we compare the indices, Dow Jones is the most impacted followed by the Spanish index IBEX35. Comparing Indian indicesi.e BSE and NIFTY with global indices, it is observed that CAR of the Indian indices BSE and NSE are -.0322 and -03048 respectively which is less than other global indices.

Table 5:- Cumulative abnormal return in the event window (13, 18).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	-0.084497	-4.91022
2	Dow Jones	-0.08355	-6.1384
3	IBEX 35	-0.08087	-5.9146
4	FTSE 100	-0.059113	-4.7803
5	DAX 30	-0.079513	-5.05295
6	CAC 40	-0.07361	-4.92294
7	FTSE-MIB	-0.08873502	-5.33398
8	BSE	-0.0322	-1.97341
9	NSE	-0.03408	-2.06544

Table 6:- Cumulative abnormal return in the event window (19, 24).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	-0.030417	-1.76756
2	Dow Jones	-0.03406	-2.50216
3	IBEX 35	-0.03832	-2.80223
4	FTSE 100	-0.030857	-2.4953
5	DAX 30	-0.057925	-3.68107
6	CAC 40	-0.04307	-2.88069
7	FTSE-MIB	-0.05530028	-3.32417
8	BSE	-0.03958	-2.40076
9	NSE	-0.0388	-2.35199

Table 7 shows the 5th window and the most important window for the purpose of research. In this window we can observe that all the cumulative abnormal returns are negative that means in this window period which is the second week of March 2020, all the selected indices crashed. It is also observed that all the indices were at the lowest level during March 2020 and all the selected indices displayed a drastic downfall.

Further, t-statistics suggest that all the indices have negative t-statistics and all the values are greater than the significant level. Hence, it can be concluded that in this period all the indices were affected negatively. Further, it is observed that Ibex-35 and FTSE 100 are most affected whereas the USA indices NASDAQ and Dow Jones are the least affected indices compare to other indices.

Table 7:- Cumulative abnormal return in the event window (25, 30).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	-0.108159	-6.28526
2	Dow Jones	-0.12176	-8.94598
3	IBEX 35	-0.33308	-24.3596
4	FTSE 100	-0.264977	-21.4278
5	DAX 30	-0.285237	-18.1263
6	CAC 40	-0.30557	-20.4358
7	FTSE-MIB	-0.32407100	-19.4803
8	BSE	-0.20678	-12.5424

9	NSE	-0.20624	-12.5012

Table 8 shows window (31, 36) suggests that expect IBEX 35 and FTSE-MIB which were the most affected indices in previous windows have positive CAR indicating a recovery for these indices. Further, it is observed that the US indices are most affected indices in this window as compared to the previous one, which suggests that USA indices wereaffected in the late March.T-statistics suggest that except USA and Indian indices all the other indices have the value of t statistics less than -1.96 indicating that in this window on that particular indices there is no significant impact which means that that indices are beginning to recover.

Table 8:- Cumulative abnormal return in the event window (31, 36).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	-0.141961	-8.24953
2	Dow Jones	-0.22335	-16.4098
3	IBEX 35	0.007385	0.540123
4	FTSE 100	-0.010564	-0.8543
5	DAX 30	-0.030386	-1.93095
6	CAC 40	-0.0034	-0.22744
7	FTSE-MIB	0.05023147	3.019479
8	BSE	-0.16618	-10.0796
9	NSE	-0.16777	-10.1693

Table 9 shows the next window (37, 42). It suggests recovery of all the indices as there is a positive jump in all the indices. Similarly the CAR of all the indices is positive. Similarly, t- statistics of all the indices is greater than 1.96, indicating that there is a positive significant impact. Hence during this window time period, all the selected indices have shown a recovery from the crisis.

Table 9:- Cumulative abnormal return in the event window (37, 42).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	0.111340	6.470124
2	Dow Jones	0.162001	11.90269
3	IBEX 35	0.032283	2.36102
4	FTSE 100	0.067768	5.4802
5	DAX 30	0.089997	5.719157
6	CAC 40	0.073765	4.933269
7	FTSE-MIB	0.06552456	3.938767
8	BSE	0.05457	3.310038
9	NSE	0.053306	3.231097

In the table 10, 11 and 12 we can see the positivity in CAR in all the indices. As observed in the previous windows, the indices had indicated a recovery and the coming days, it is observed that all the indices are showing an upward curve.

Similarly, t-statistics also suggest thatthere in no negative significant impact in this window time period.

Table 10:- Cumulative abnormal return in the event window (43, 48).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	0.045419	2.639333
2	Dow Jones	0.064359	4.728616
3	IBEX 35	0.049311	3.606332

4	FTSE 100	0.023385	1.8910
5	DAX 30	0.048908	3.108035
6	CAC 40	0.009033	0.60414
7	FTSE-MIB	0.02699594	1.622761
8	BSE	0.068768	4.171245
9	NSE	0.075107	4.55524

Table 11:- Cumulative abnormal return in the event window (49, 54).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	0.062747	3.646336
2	Dow Jones	0.031396	2.306773
3	IBEX 35	-0.01897	-1.38723
4	FTSE 100	0.012751	1.0312
5	DAX 30	0.020935	1.330361
6	CAC 40	0.00907	0.606576
7	FTSE-MIB	-0.02514043	-1.51122
8	BSE	0.044295	2.686783
9	NSE	0.039509	2.3974

Table 12:- Cumulative abnormal return in the event window (54,62).

Sr. No	Global Indices	CAR	t-test
1	NASDAQ	0.024677	1.241867
2	Dow Jones	0.012627	0.803449
3	IBEX 35	0.024787	1.56994
4	FTSE 100	0.053037	3.7143
5	DAX 30	0.038073	2.095304
6	CAC 40	0.031509	1.824943
7	FTSE-MIB	0.05167500	2.690093
8	BSE	0.024294	1.804746
9	NSE	0.023311	1.73054

Findings:-

The analysis indicates that during the selected COVID-19 period all the indices are highly volatile and most of them indicated around 30% volatility.Further the analysis suggests that during the selected period the indices' average return is around -35% which is a clear indication that globally the markets have severely impacted.

With respect to Indian indices the volatility observed is around 30% and the average return is around -38%. This suggests that Indian markets have been badly hit during the said COVID-19 period as compared to other global indices. Comparing the average return and standard deviation of the selected indices, average return for before COVID-19 period is positive and the standard deviation is very low in comparison to the average return and standard deviation during the period of Covid-19, which reinstates the fact that there was a negative impact of COVID-19 on global indices.

From the event study and t-test we found that the highest negative impact across all the indices globally was observed in the month of March 2020 However, during the month of April the indices suggested recovery which was confirmed by t-statistics indicating positive significance difference as well as the Cumulative Abnormal Returns also indicating a positive value.

Conclusion:-

This research has aimed to analyze the immediate effect of COVID-19 on the stock markets of the majorly affected countries. This research adds to the literature as it explores the unexpected outbreak effects on financial markets of a feared disease. From the viewpoint of an investor, the findings of this analysis illustrate the importance of not only the company's business factors but also the investment risks brought on by such a sudden event. The results suggest that COVID-19 outbreak has a significant negative effect on stock market returns across all affected countries and areas. Two plunges in stock markets AAR and CAA on day 1 and day 24 match the outbreaks in and out of Asia.

Results also indicate that stock markets of Asian countries react more quickly to the outbreak with some of them recovering slightly in the later stage of the pandemic. Further, the results suggest that the confirmed cases of COVID-19 have significant adverse effects on major stock indices performances with those in India suffering a greater decrease in terms of abnormal returns.

As the COVID-19 epidemic now becomes a pandemic, we need to think of not only ways to avoid future public health problems but also financial issues as well. Fears of pandemic and policy measures to control disease transmission have contributed to a global supply shock, especially in the labor-intensive and manufacturing sector.

Stock prices represent the potential of future earnings, and investors see the pandemic as a dampening economic activity and are concerned about future revenue. Before the severity of the deterioration is evident, the normal investors' response would be to sell the stocks.

Limitations and Future scope for Research

In this research paper, the time period considered to identify the impact of COVID-19 on global indices is limited for the period of 31st Jan 2020 to 30th April 2020i.e. a period of 63 trading days. This paper is only confined to the analysis of 9 global indices including NASDAQ, Dow Jones, FTSE 100, IBEX 35, FTSE-MIB, CAC 40, DAX 30 composite, NSE and BSE. For further research, more global indices may be included and the time period of the study can be extended. As the global pandemic COVID-19 is still ongoing, an accurate impact is difficult to be predicted. However, the findings have significant implications for policymakers. A coalition of government officials, investment banks regulators, and the central bank would be required to tackle this challenge.

References:-

1. Carlos, J. (2020). howmuch.net. Retrieved from https://howmuch.net/articles/index-drops-amid-covid19-outbreak
2. Dayong Zhang, M. H. (2020). Financial markets under the global pandemic of COVID-19.
3. Duffin, E. (n.d.). statista.com. Retrieved from https://www.statista.com/topics/6139/covid-19-impact-on-the-global-economy/
4. Global economy could shrink by almost 1% in 2020 due to COVID-19 pandemic. (n.d.). Economictimes.
5. James K. Jackson, M. A. (2020). fas.org. Retrieved from https://fas.org/sgp/crs/row/R46270.pdf
6. Lee, Y. N. (n.d.). blogs.imf.org. Retrieved from https://blogs.imf.org/2020/04/14/covid-19-crisis-poses-threat-to-financial-stability
7. Lora Jones, D. P. (n.d.). www.bbc.com. Retrieved from https://www.bbc.com/news/business-51706225
8. Peterson Ozili, T. A. (n.d.). researchgate.net. Retrieved from https://www.researchgate.net/publication/340236487_Spillover_of_COVID19_impact_on_the_Global_Economy
9. Prasad koparkar, H. G. (2020). The COVID-19 fallout quantifying firstcut Impact of the Pandemic.
10. Ramelli, S. (2020). voxeu.org. Retrieved from https://voxeu.org/article/what-stock-market-tells-us-about-consequences-covid-19
11. Rudden, J. (n.d.). statista.com. Retrieved from https://www.statista.com/topics/6170/impact-of-covid-19-on-the-global-financial-markets/
12. Segal, S. (2020). casi.org. Retrieved from https://www.csis.org/analysis/global-economic-impacts-covid-19
13. Stephanie. (2020). voxeu.org. Retrieved from https://voxeu.org/article/covid-19-economic-policy-and-market-expectations
14. Tobias Adrian, F. N. (n.d.). blogs.imf.org. Retrieved from https://blogs.imf.org/2020/04/14/covid-19-crisis-poses-threat-to-financial-stability/ .