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Impact of COVID-19 on Stock Markets: An Investigation and Way Forward

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ABSTRACT

This study analyzes the impact of the COVID-19 pandemic on stock markets in different regions of the world. Impact of COVID-19 on the stock market is like a black swan event. To analyze the impact of COVID-19 on the stock market, study includes different indices, ratios, strategies and past events to compare. Study is focused on the stock market of countries such as the United States and India to see effects on developed and developing countries. The trends were found similar worldwide. The United States, which has been a bull market for a long time, is also experiencing a plummeting stock market. In the Dow Jones Index's first quarter history, this year's first quarter has marked the worst performance ever. In the year 2020, Indian stock market from 1st January to 23rd March SENSEX has plunged 37.1% and from 1st January to 18th May SENSEX has plunged 27.2%. The study tries to touch upon the past crises and its impact on various stock markets.Sentiments of an investor play a major role in the stock market. A good strategy if used in this type of stock market can help generate profits and remain stable in the volatile situation as well.

Keywords:
Stock market, COVID-19, The Global Business Environment, Stock market of India & USA, Financial Crisis

INTRODUCTION

It all began in Wuhan, China. When a patient with pneumonia was found with an unknown cause. This first case was reported to WHO on 31st December, 2019. On 30th January, 2020 outbreak was declared. Finally, on 11th February, 2020 "COVID-19" name was given to the disease caused by novel coronavirus (WHO, 2020). There are different types of coronaviruses. Generally, human coronavirus is of alpha type or beta type. Humans have been infected by coronavirus in the past as well, namely Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (CDC, 2020).

Any changes in the world and in the business environment directly or indirectly affects the stock market. These changes can be a pandemic, a war, a boom in an economy, an election or anything

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JEL G0, G1, G4

else. To see the change in dynamics of the stock market, indices are used in this study. Indices reflect the situation of the stock market. It is very important to know and understand the dynamics of the stock market. If an individual is good at understanding and following the dynamics of the stock market then he/she can nail it or else he/she can even experience the worst days of life.

RESEARCH OBJECTIVES, IDEATION AND METHODOLOGY

Impact of COVID-19 on the stock market is like a black swan event. Hence, study of this is very important. Therefore, researchers have identified three broad objectives of the study. Firstly, it analyzes the impact of the COVID-19 pandemic on stock markets in different regions of the world. Secondly, it tries to touch upon the past crisis such as financial crisis and Spanish flu and how stock market has reacted in those crises. Lastly, it includes analysis of factors that an individual should take into consideration while investing or trading. After going through the study an individual can decide where to invest and for how long to hold investment.

In this study secondary data is used. Data used is till 20th May, 2020.This study uses data that was originally produced in the form of an interview, research paper, review article and news article from different and reliable journals and websites. Graphs are used for easy understanding and comparison of the trend of one or more stock markets. Moreover, graphs provide continuous data. Data is included to establish a relationship between trends of the major and active stock market such as that of the United States, India, China, London, Toronto, European Union and Tokyo. Major focus was given to the stock market of India and the United States to generalize the trends of the stock market in developing and developed countries. Also, the impact caused by COVID-19 pandemic on the stock market is compared with that caused by other crises in the past. Most of the graphs were generated using data from the website TradingView (TradingView, 2020). This method allows easy and better understanding of the effects of the current, COVID-19 pandemic on the stock market and how the stock market has reacted in the past during similar crises, which may help us predict the stock market.

EFFECS OF COVID-19 ON STOCK MARKETS

Many, developing as well as developed countries were showing a decline in GDP growth rate before the COVID-19 pandemic started. Even in this period when the global economy was declining but the COVID-19 pandemic was not started, stock markets performed pretty good, which was not so obvious. But, this pandemic has brought stock markets down, breaking the illusion (Mohammad, 2020).

Pandemic duration is classified into 3 periods. 3 periods are incubation, outbreak and fever. Incubation period is from 2nd January to 17th January, 2020. Outbreak period is from 20th January to 21st February, 2020. Fever period is from 24th February to at least 6th March, 2020. Initiation of outbreak and fever period has remarkably brought investors' attention (Ramelli & Wagner, 2020).

For investors to make profit from this down falling market, shorting stocks of specific industry is a good choice. These industries must be selected such that they are immediately affected by the pandemic. So that one can buy back those stocks once the price of those stocks has dropped and reached bell bottom. Few of these industries include travel and travel related, technology, entertainment and gold. These industries have been chosen for certain reasons. Transport of any

sort can easily spread the virus, especially international and intranational flights and cruise, thus travel was banned. This will affect the travel industry especially because in the vacation season most of the people will try to avoid travelling till the cure of COVID-19 is found. This would affect online travel agencies, hotel companies, and companies providing transportations such as airlines and cruise where there are no quick escape routes provided. Study classifies technology companies into hardware and software companies. In this pandemic, both hardware and software companies are affected but in different sense. Software companies got an opportunity to perform well. But hardware companies are expected to witness a drop and hence one should short hardware companies. With all the theme parks, malls, cinemas being closed down, the entertainment industry is also expected to hit hard. However, these industries will boom once flattening of the curve of the number of cases is attained and permissions are given to loosen up by the government. When the economy is hit hard, people tend to replace currency and stocks with gold to safeguard from fluctuating currency values and the stock market. Also, investors regard gold as a "safe-haven investment", especially at the time of outbreak. Similar trend was experienced, that is, price of gold and S&P was anti-correlated during SARS and the Great Recession (Yan, Stuart, Tu, & Zhang, 2020).

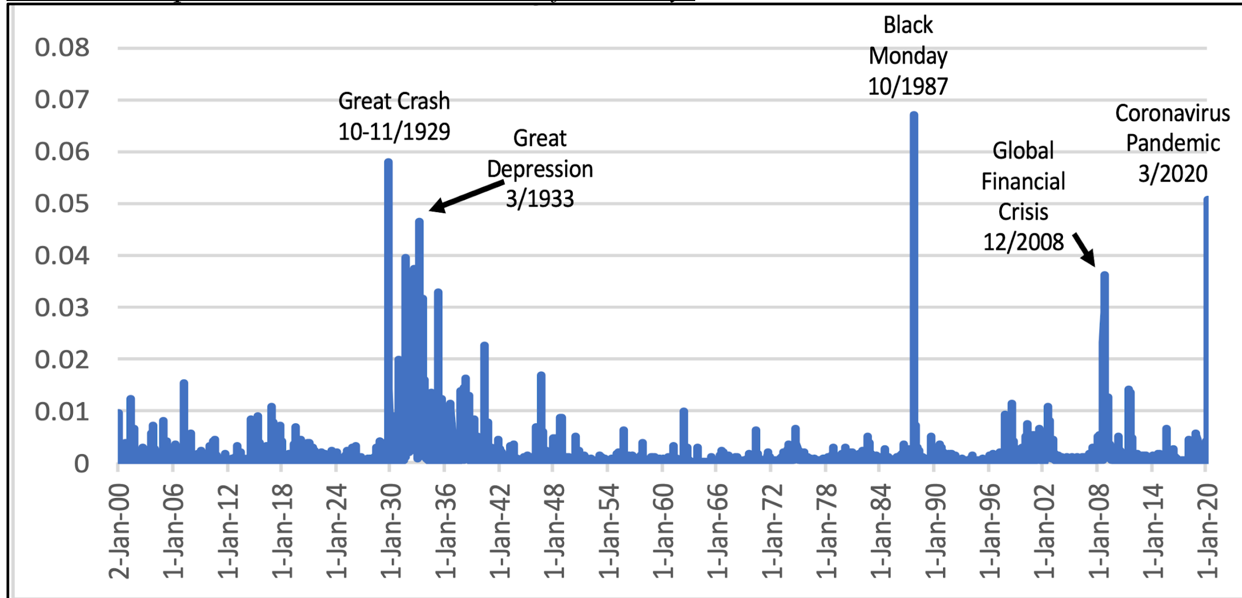
It is difficult to assess how fast the stock markets will recover. But, it depends on the investor's sentiment and how fast all the businesses start functioning by adapting to the new normal. Since, some visionaries say that COVID-19 has come to stay here for a long time, it is best for companies to adapt to the new normal and make the maximum profits possible, considering there is no going back to normal but just adapting to the new normal.

STOCK MARKET OF THE UNITED STATES

This pandemic has brought down the United States' long-lasting bull market. Moreover, in the Dow Jones Index's first quarter history, this year's first quarter has marked the worst performance ever. 170 of the total 195 countries are expected to observe a decline in their per capita income growth in 2020, as per the International Monetary Fund (IMF) (Oberoi, 2020).

During this pandemic in the United States' stock market, volatility is high and equities are plunging. Trend of VIX (Volatility Index) of the stock market of the United States is similar to that of the INDIA VIX (Graph 6 shows INDIA VIX). On comparing the recent (COVID-19) volatility to the volatility of past events (Graph 1), it is clear that recent volatility is higher than that of the Global financial crisis and Great depression (Baker, et al., 2020).

Graph 1: Volatility graph of U.S. Stock market (*Baker, et al., 2020*). *X-axis represents timeline and Y-axis represents standard deviation of volatility.*



Market-wide circuit-breakers are used to prevent panic trading by taking a pause of 15 minutes in trading. Its creation was mandated by the U.S. Security and Exchange Commission to prevent the scenario of the 19th October, 1987 market crash (commonly known as Black Monday), when the Dow Jones Industrial Average plunged by 22.6%. After its creation, it was triggered once in 1997. Surprisingly, market-wide circuit-breakers are triggered four times in March only, on 9th, 12th, 16thand 18th March, 2020. Trading halts on both the Dow and the Nasdaq when a circuit-breaker is triggered on the S&P 500. There are 3 levels of trading halts. In the level-1, trading halts for 15 minutes if market experiences a drop of 7%, similarly in level-2, trading halts for 15 minutes if market experiences a drop of 13% and finally in level-3, trading halts until next day if the market experiences drop of 20% (Funakoshi & Hartman, 2020).

Another thing that influences investors and traders to cause such large movements in the stock market of the United States are newspapers. A strategy is used to determine the number of jumps. Here, for everyday when the stock market of the United States moves by more than 2.5%, this fluctuation can be both upwards or downwards, study analyzes next day's newspaper to find the explanation of that fluctuation. From 1900 to 24th February 2020 approximately 1110 jumps were recorded but of which none of them were attributed to infectious disease outbreak. This duration of 120 years includes the era of Spanish flu, which killed approximately 2% of the world's population. Strangely, 18 jumps were recorded from 24th February 2020 to 24th March 2020. This duration includes 22 trading days only. In explanation of these 18 jumps, that of 15 to 16 jumps was attributed to COVID-19 (Baker, et al., 2020).

The Edge has selected a few firms, stocks of these are expected to soar by at least 50% once the pandemic is over. They are likely to outperform the S&P 500 Index after this crisis overcomes. These firms have good management, less debt, and strong cash flow but their stock prices are affected for no good reason (Osman, Jim, 2020). Few leading investment banks felt that market has bottomed itself, however; few equity strategists were not convinced (Oberoi, 2020). It can be

concluded that the stock market of the United States was badly affected and investors reacted to the situation quickly, hence, resulting in high volatility and large dips.

STOCK MARKET OF INDIA

It can be said that the characteristics of the impact of COVID-19 on the stock market is very much similar to that of a black swan event. Investors in India have a low and short termed sentiment (Sharma, 2020). Indian stock market is one of the most affected stock markets by the COVID-19 pandemic. Although, India has relatively fewer registered cases of COVID-19 as compared to other countries during initial times. On the contrary, China, origin of COVID-19, has been least affected. Other active and large stock markets such as that of the United States, Tokyo, London, European Union and Toronto are in between India and China (Graph 2).

In the graph 2, SSE composite (000001) is an index used for China. TSX is an index (TSX composite) used for Toronto. NI225 is an index (Nikkei 225) used for Tokyo. DJI is an index (Dow Jones Industrial Average) used for the United States. UKX is an index (FTSE 100) used for London. N100 is an index (EURONEXT 100) used by the European Union. SENSEX is an index (S&P BSE SENSEX) used for India. On 1st January, 2020, SSE composite was at 3085, TSX composite was at 17099, Nikkei 225 was at 23204, Dow Jones Industrial Average was at 28868, FTSE 100 was at 7604, EURONEXT 100 was at 1158, S&P BSE SENSEX was at 41306. Graph shows the percentage change (y-axis) in the value of indices with respect to that on 1st January, 2020 and not the absolute value itself. Absolute value of index on 20th May, 2020 and percentage change in value of index from 1st January, 2020 to 20th May, 2020 is also mentioned in the graph.

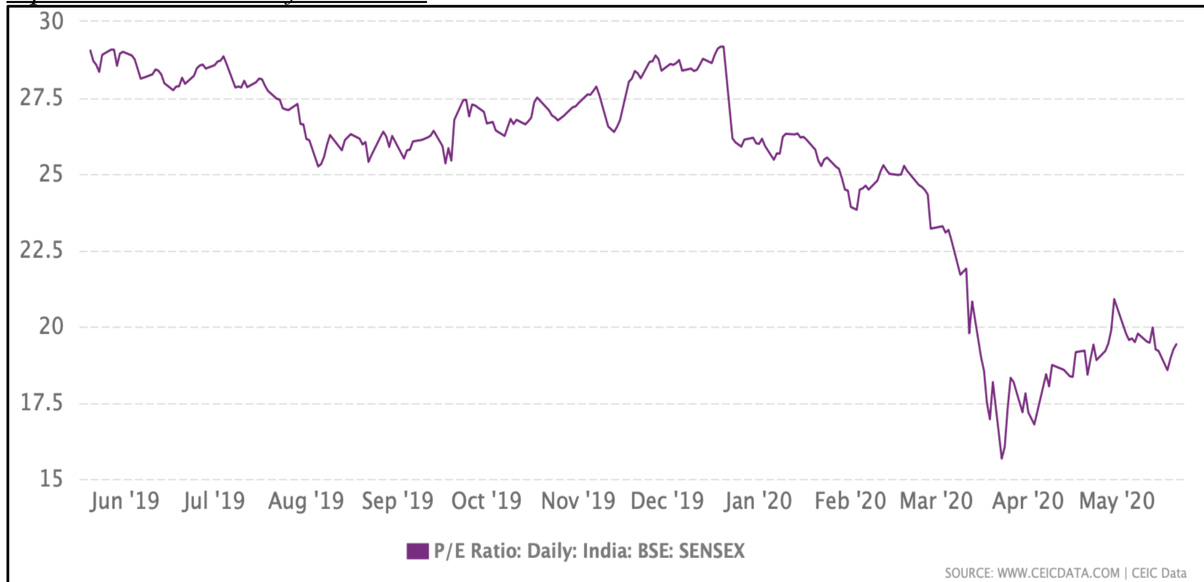
Graph 2: Percentage change of different indices on 20th May,2020 with respect to their prices on 1st January, 2020. X-axis represents timeline and Y-axis represents percentage change.

Source: Data collected and graph generated using www.tradingview.com (TradingView, 2020) by researchers

The Government of India and Reserve Bank of India (RBI) have come up with a few reforms to increase liquidity in the cycle. But, the impact of pandemic is dominating (Ravi, 2020). Yet, there are a few stocks in the NIFTY 50 index which are traded with single digit valuation (Sarkar, 2020). Foreign Portfolio Investors (FPI) have also contributed a bit towards the dip experienced by the Indian stock market. Because, FPIs are escaping emerging markets and are settling for safer dollar backed assets (Raja, 2020).

To understand whether the market or a particular stock is undervalued or overvalued, price to earnings ratio (P/E) ratio is used. P/E is important and the most widely used ratio for analysis. The P/E ratio is the ratio of market price to earnings. Low P/E ratio implies that a company or index is undervalued and therefore, it is preferred to buy. High P/E ratio implies investor's confidence in the company or index due to its strength or good future prospects, holding these stocks is not a bad idea. Too high P/E ratio implies that a company or index is overvalued and is not able to perform as per the expectation of investors, buying these stocks is not preferred.

Graph 3: Price to earnings (P/E) ratio of SENSEX. X-axis represents timeline and Y-axis represents P/E ratio of SENSEX.

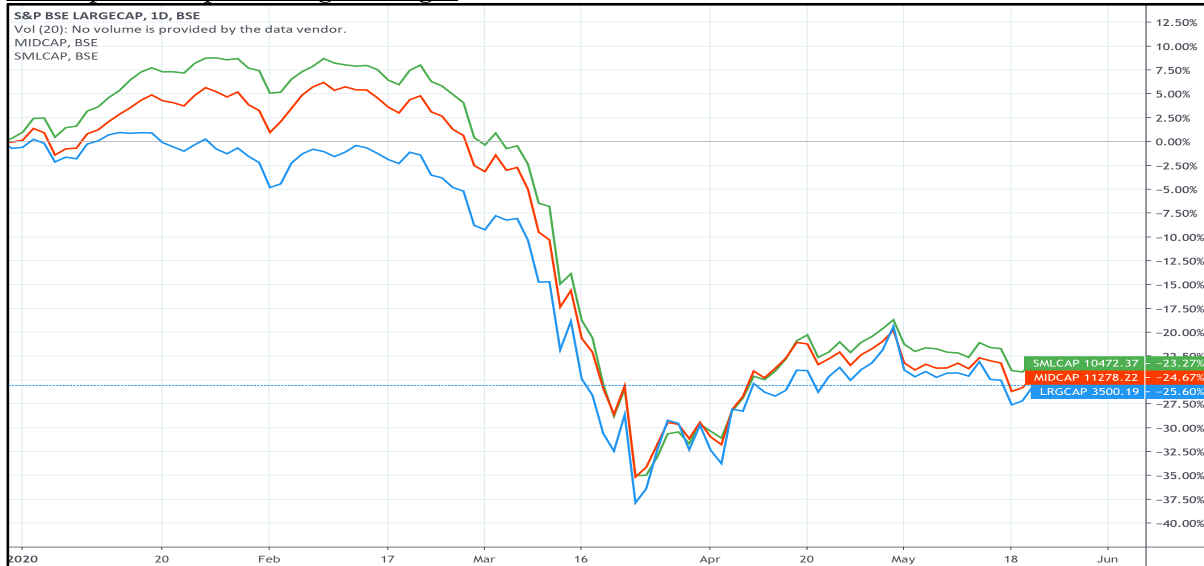


Source: Data collected and graph generated using www.ceicdata.com

P/E of SENSEX was 18.57 on 18th May 2020, which is relatively low when compared to the P/E of the last 1 year (Graph 3). Hence, investing in companies with strong finance can be a good option in the long run.

It is important to understand whether the impact of COVID-19 on the stock market is biased towards companies or indices of different capitals. When comparing large capital, medium capital and small capital companies, graph 4 uses the SENSEX large cap index, SENSEX medium cap index and SENSEX small cap index. From 1st January to 20th May, a similar trend is seen in all the three indices, which is a large dip in late February and early March, which then starts to rise again till end of April. In the beginning of May, the curve experiences a small decline. No assurance can be given that the rise was just a rebound and the index will fall again or it has started to recover and no large drops are expected. It can be seen that the drop in large cap is more than that in mid cap and small cap, with respect to their prices on 1st January, 2020 (Graph 4). This is quite strange because large capital companies are expected to have stronger finances and hence more stable than medium and small capital companies.

Graph 4: Compares small, medium and large capital indices. X-axis represents timeline and Y-axis represents percentage change.



Source: Data collected and graph generated using www.tradingview.com (TradingView, 2020)

In graph 4, SMCAP is an index for small capital companies. MIDCAP is an index for medium capital companies. LRGCAP is an index for large capital companies. On 1st January, 2020 small capital index was valued at 13786, medium capital index was valued at 14998 and large capital index was valued at 4677. Absolute value of index on 20th May, 2020 and percentage change from 1st January, 2020 to 20th May, 2020 is also mentioned in the graph.

It is not necessary that all sectors are performing in same manner. But rather, in most cases, if one sector is performing well then there would be another sector which is experiencing a decline. Therefore, it is important to decide that in which sector an individual should invest in based on how a particular sector will react in future. Focusing on different sectors, graph 5 uses different sector indices of SENSEX to compare. Health care, Fast Moving Consumer Goods (FMCG), IT, energy, industrial and financial sectors are compared from 1st January, 2020 to 20th May, 2020. Financial sector has witnessed a large dip followed by the industrial sector but experienced small fluctuations close to their bottom. Whereas, IT and FMCG sectors have dropped, but relatively less than financial and industrial sectors. In fact, IT and FMCG sectors have recovered and reached close to values that were seen on 1st January, 2020. This is due to easy access to IT even during nationwide lockdowns. Even with difficulty to maintain a proper supply chain, FMCG being essential, was permitted by the government early on, thus able to recover fast. FMCG is a sector which is never much affected by recession, as it includes essential products. Hence, in most of the cases it is safe to invest in the FMCG sector when compared to other sectors. Health care sector is the only sector which has seen a large boom after a small dip due to its high demand. COVID-19 spreads easily and due to this more people are getting infected, hence, healthcare is increasing. Moreover, the Research and development of the healthcare sector is working a lot more to find a vaccine of COVID-19(Graph 5). Investing in the healthcare sector for the long term, till the vaccine for COVID-19 is out in the market, is not a bad option. Introduction of vaccines will further push the healthcare sector upwards due to increase in demands.

Graph 5: Compares different sectors of the Indian stock market. X-axis represents timeline and Y-axis represents percentage change.

Source: Data collected and graph generated using www.tradingview.com (TradingView, 2020)

In graph 5, HC is the health care sector. FMCG is the fast-moving consumer goods sector. IT is the information technology sector. ENERGY is the energy sector. INDSTR is the industrial sector. FIN is the financial sector.

Most important deciding factor whether an individual can make profitable trade or investment is time – both entry time and exit time. Right time will have right prices of stocks. With increase in volatility on stock market, to trade or invest at right time and price becomes difficult. Volatility index (VIX) commonly known as fear index as well. It forecasts the volatility of the stock market. It does not represent actual volatility. Higher VIX i.e. more than 20, implies higher risk. VIX lower than 20 implies that the stock market is safe, hence low risk (Williams, 2013). As per the graph 6, until the end of February,2020, Indian stock market was safe (VIX below 20). From February end, 2020 to 24th March, 2020 VIX kept on increasing. India VIX was at 84 on 24th March, 2020 and then it started to decline. 84 is tremendously large number for VIX. (Graph 6). With reference to graph 6 and graph 7, it appears that on 23rd and 24th March, 2020, when the dip was large, the volatility index was also high. Although, in high volatility it looks easy to make money but, it is easier to lose money if an individual is not skilled enough.

Graph 6: Shows volatility of Indian stock market. X-axis represents timeline and Y-axis represents value of India VIX.

Source: Data collected and graph generated using www.tradingview.com (TradingView, 2020)

Graph 7: S&P BSE SENSEX. X-axis represents timeline and Y-axis represents the value of S&P BSE SENSEX.

Source: Data collected and graph generated using www.tradingview.com (TradingView, 2020)

JEL G0, G1, G4

Stock market has an interesting history. It has faced terrific crashes and has recovered as well. Let us see the history of SENSEX. In 2020 (COVID-19), From 1st January to 23rd March SENSEX has plunged 37.1% and from 1st January to 18th May SENSEX has plunged 27.2% (Graph 7). In 2008(Financial crisis), SENSEX plunged 61% in 1 year but recovered 157% in 1.5 years. In 2000 (Tech Bubble), SENSEX plunged 56% in 1.5 years but recovered 138% in 2.5 years. In 1996 (Asian Crisis), SENSEX plunged 40% in 4 years but recovered 115% in 1 year. In 1992 (Harshad Mehta Scam), SENSEX plunged 53% in 1 year but recovered 127% in 1.5 years (Raja, 2020). Hence, recovery from this COVID-19 pandemic crash can be expected.

The crash and recovery cycle keeps on going. It is difficult to be sure whether SENSEX has reached bottom and started to recover or is it just a rebound and SENSEX is yet to fall again. But it is not healthy to enter the market to catch the falling knife, at least when an individual does not have enough experience or knowledge.

PAST CRISES

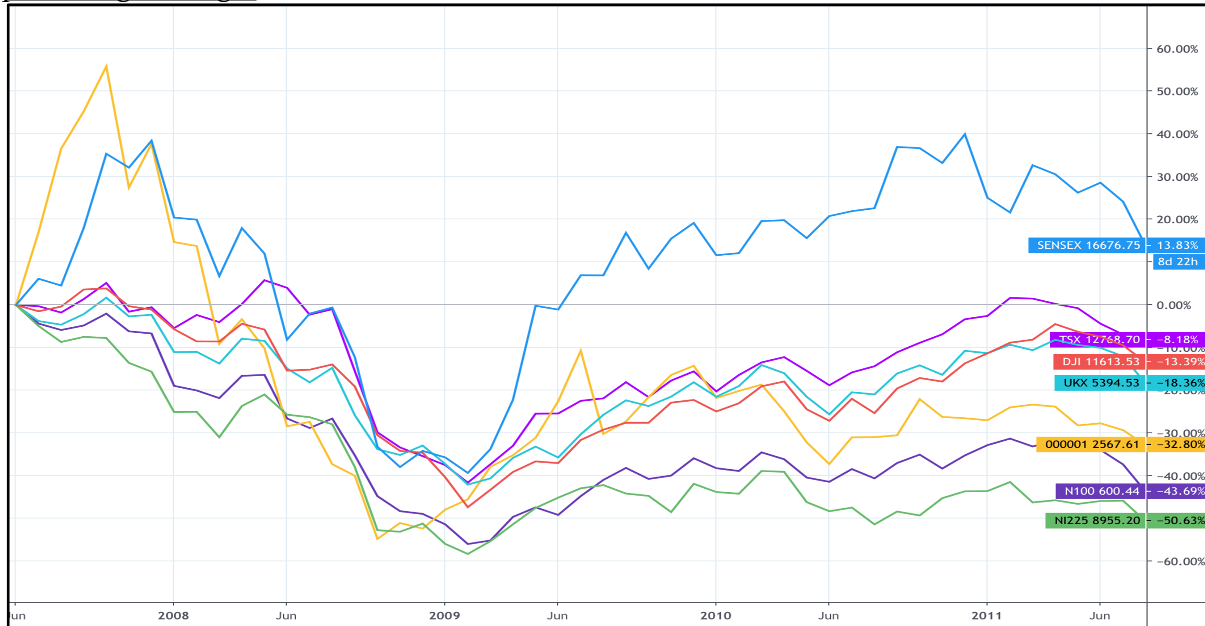
To compare current crisis with past crises. Study uses a recent crisis, i.e. financial crisis 2008, and a crisis of the same domain as that of the COVID-19 pandemic, i.e. Spanish Flu 1918. One of the major causes of the financial crisis was the subprime mortgage crisis. It boomed the housing market. Subprime mortgages were mortgages that were granted to low credit score (often below 600s) holders. Lower the credit score, higher the risk for the lender. This led to the formation of a bubble. Bubbles are supposed to burst someday. Subprime mortgage crisis had two major effects: it collapsed the housing market and it created the mistrust between banks (Sraders, 2019). It took long time to recover from the subprime crisis and before the global economy would have settled COVID-19 came with a bang. The stock market was at its peak in 2007. The financial crisis affected the United States' stock market badly. The Dow Jones Industrial Average started declining. But, the Dow Jones Industrial Average lost more than half of its value due to the untenable stock market costing a large number of investors. Decline of 57.8% in the S&P 500 was observed from 2007 to 2009. To save the dropping economy the government introduced the Economic Stimulus Act. (Sraders, 2019).

Along with the United States' stock market other large and active stock markets have experienced a dip in late 2008 and early 2009. But a good recovery was also witnessed (Graph 8). For some countries like India experienced a fast recovery and for other countries like Tokyo and European Union, recovery took more time but it eventually did take place. The stock market of China has seen the highest drop, approximately from +55% to -55% (from the graph 8). This tells that investors who invested in the stock market of China could have less reacted to the volatility of the stock market. China has learnt a lesson from the financial crisis of 2008. Therefore, in the COVID-19 pandemic the stock market of China is the one least affected. Even the stock market of India was also highly volatile. It dropped from +40% to -40% (approximately) and again reached +40% in the span of 3 years, quite volatile.

Major difference between the financial crisis and the COVID-19 pandemic is that, in the financial crisis, few great financial institutions declared themselves bankrupt. Only a few sectors and a selected population in a specific geographical region were directly affected. One sector got affected due to another, then the cycle continued. Whereas, in the case of the COVID-19, all the sectors are affected directly, because safety issues require social distancing, limiting the work

environment. To overcome that problem, alternatives are needed that require the use of technology. Therefore, the technology and healthcare sector are performing good while others face tough consequences.

Graph 8: Compares percentage change of different stock market with respect to their prices on 1st June, 2007, beginning of financial crisis. X-axis represents timeline and Y-axis represents percentage change.



Source: Data collected and graph generated using www.tradingview.com (TradingView, 2020)

In graph 8, SSE composite is an index (000001) used for China. TSX is an index (TSX composite) used for Toronto. NI225 is an index (Nikkei 225) used for Tokyo. DJI is an index (Dow Jones Industrial Average) used for the United States. UKX is an index (FTSE 100) used for London. N100 is an index (EURONEXT 100) used by the European Union. SENSEX is an index (S&P BSE SENSEX) used for India. As per the graph 8, on June 2007 SSE composite was valued at 3820, TSX composite was valued at 13906, Nikkei 225 was valued at 18138, Dow Jones Industrial Average was valued at 13408, FTSE 100 was valued at 6607, EURONEXT 100 was valued at 1066 and S&P BSE SENSEX was valued at 14650.

The 'Spanish Flu' is one of the pandemics experienced by the world from 1918 to 1919. It occurred in three waves. March 1918 is marked as the beginning of the first wave. The second wave (most lethal) started in October 1918. The third wave started in February 1919 (Baltussen & Vliet, 2020).

In a study on the effect of World War I and the Spanish flu on the United States' stock market was done. It was found that the United States' stock market dropped by about 20%. This 20% includes the effect of both the Spanish flu and World War I. All the stocks followed a similar trend, it was all about which stocks did less worse, i.e. correlation was higher. The stocks which were less volatile and the stocks which were offered high dividends were safer. Small capital stocks were more volatile, hence, they showed relatively larger drop and better recovery. The stock market took time but recovered by the end of February 1919 (Baltussen & Vliet, 2020).

The COVID-19 pandemic is new for everyone. This makes it even more difficult to accurately predict the stock market based on past crisis. Various graphs, finding and analysis suggest that the effect of COVID-19 on the stock market is deeper and painful in comparison to the past crisis.

DISCUSSION AND MANGERIAL IMPLICATIONS

From the findings of the study it is clearly indicated that the COVID-19 pandemic has affected various stock markets globally. Surprisingly, China is relatively least affected, tough the origin of COVID-19 was from China. Recent volatility of the stock market is higher than that of the Global financial crisis and Great depression crisis. However, recovery is expected in due course of time due to the reopening of businesses and invention of vaccine. Few sectors such as FMCG, IT and Healthcare are protecting investors' interest and it is expected that these sectors will show positive results in coming days. Finding also suggest that the COVID-19 pandemic has worse impact than that by other past crises such as financial crisis (2008) and Spanish flu (1918-1919).

With the dip in the stock markets, it may appear to be safe to invest in most stocks right now, but it is not entirely true. Where to and how much to invest varies from investor to investor. Proper, in depth, analysis is required to dive into the stock market specially, at the time of crisis, when the stock market is highly volatile.

Investors or traders must choose the sector and stock with a high level of understanding, not only of the stocks but also of the reaction of stocks at the time of crisis. There are chances that many companies go bankrupt. So, investors and traders should be smart enough to filter the companies which are expected to boom in near future from the ones which are expected to go bankrupt. One of the most important factors that cannot be neglected is the investor's sentiment. One must take into consideration what other investors are thinking and how they are reacting to the changes in the stock market, which will ultimately determine the stock prices.

COVID-19 has affected the global business environment badly and recovery will take its own time. In any tough situation, the role of the government, regulatory body and financial institutions are significant. Across the globe, the government has cut down the taxes on various commodities and services to take care of the economy in the short run. Social expenditure by the government also increased and various policy rate cuts by the central bank indeed supplemented the efforts of the government in most of the economy. Such responsible efforts of the government, central bank and financial institutions has certainly improved the sentiments of investors and that could be a reason that stock market has started showing some meaningful recovery in the recent past though it is inconsistent.

The recovery of the stock market is bound to take place. But still a second dip is expected. No one can be so sure to say that when will recovery happen. To stay alive in the stock market, one has to take calculated risk. Nothing comes without a risk.

CONCLUSION

This study can conclude that the COVID-19 pandemic has affected stock market badly. It was not a coincidence. All the active stock markets across the world have experienced similar trend. Stock market of some countries like China are less affected while that of other countries like

India have been hit hard. Most of the other active stock markets lie in between that of India and China.

Understanding of similar events from past can help to overcome current crisis. Many stock market crises took place in past but the crisis due to the COVID-19 pandemic is totally different. Hence, predictions based on the analysis of the past crisis may not be accurate. This is the first ever infectious disease outbreak which has caused such a large dip in the stock market. Stock markets have seen a huge dip in mid-March, 2020 and followed by gradual gain in April, 2020. Stock markets can become stable for some time or rise a little bit but a second dip is expected in the near future. Recovery is assured but how long will it take is difficult to assess. It depends on the investor's sentiment. To narrow it down, now, investor's sentiment depends majorly on two factors - the speed at which all the businesses start functioning by adapting to the new normal and the invention of vaccine or some drug to cure the COVID-19 patient.

In highly volatile market it looks like money can be made quickly but, at the same time it can be lost at the same pace. To avoid loss of money an individual should have enough understanding, knowledge and experience of dynamics of the stock market. What matters most is the stock in which you invest. So, investor or trader should select a stock of a company which belongs to a sector which is performing well or will perform well in future. That company should have strong finance. Moreover, a company with continuous cash flow is preferred. Investors can also short stocks of the industries which are going to observe a decline in their prices. Investors should be very clear about what strategy they are following and in what way the repercussions can affect them.

ORIGINALITY

This study helps to answer the interesting questions which are unique in nature. How has the different country's stock market reacted to the COVID-19 pandemic? How closely does this event replicate previous crises such as the financial crisis, the Spanish flu? What all things an individual should take into consideration before investing or trading in such a highly volatile stock market? The attempts were made by researchers to provide logical explanations to all such interesting questions with unique analysis and approach is indeed the uniqueness of the paper.

LIMITATIONS AND FUTURE SCOPE

The COVID-19 pandemic is an ongoing scenario. Although the data available was fresh, it was limited. Moreover, in almost all of the past crises the volatility of the stock market was not as much as that observed in COVID-19 pandemic. So, it becomes difficult to make accurate predictions. Effect of COVID-19 on the stock market even after opening of businesses can be done, once no restrictions are there to run businesses. Researchers feel that a similar kind of study can be done having data of many more months/years to make it more meaningful.

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REFERENCES

Baker, S. R., Bloom, N., Davis, S. J., Kost, K. J., Sammon, M. C., & Viratyosin, T. (2020). *The Unprecedented Stock Market Impact of COVID-19.* USA: NBER Working Paper No. 26945, National Bureau of Economic Research. Retrieved May 16, 2020, from https://www.nber.org/papers/w26945. Retrieved July 2020, from https://www.nber.org/papers/w26945

Baltussen, G., & Vliet, P. v. (2020, April 27). *Equity Styles and the Spanish Flu*. Retrieved August 1, 2020, from Social Science Research Network (SSRN): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3564688

CDC. (2020, February 15). *Human Coronavirus Types*. Retrieved May 12, 2020, from Centers for Disease Control and Prevention: https://www.cdc.gov/coronavirus/types.html

Funakoshi, M., & Hartman, T. (2020, March 23). *Mad March: how the stock market is being hit by COVID-19*. Retrieved May 25, 2020, from World Economic Forum: https://www.weforum.org/agenda/2020/03/stock-market-volatility-coronavirus/

Mohammad, M. (2020, April 20). *COVID-19 impact: Bumpy road ahead for Indian economy, global financial markets*. Retrieved May 2020, from Money Control: https://www.moneycontrol.com/news/business/markets/covid-19-impact-bumpy-road-ahead-for-indian-economy-global-financial-markets-5165951.html

Oberoi, M. (2020, March). *COVID-19 Impacts US Stock Markets and Economy*. Retrieved May 20, 2020, from Market Realist: https://marketrealist.com/2020/04/covid19s-impact-on-us-stock-markets-economy/

Oberoi, M. (2020, March). *COVID-19: Have US Stock Markets Bottomed Out?* Retrieved May 25, 2020, from Market Realist: https://marketrealist.com/2020/04/covid-19-have-us-stock-markets-bottomed-out/

Osman, Jim. (2020, April 7). *Keep Your Cool And Think Like Warren Buffett In The COVID-19 Crisis*. Retrieved May 17, 2020, from Forbes: https://www.forbes.com/sites/jimosman/2020/04/06/think-warren-buffett-covid-19-crisis/#5c961ab63a31

Raja, A. (2020, April 21). *COVID-19 Impact On Stock Market*. Retrieved May 15, 2020, from Outlook Money: https://www.outlookindia.com/outlookmoney/equity/covid-19-impact-on-stock-market-4666

Ramelli, S., & Wagner, A. (2020, March 12). *What the stock market tells us about the consequences of COVID-19*. Retrieved May 2020, from VOXEU CEPR: https://voxeu.org/article/what-stock-market-tells-us-about-consequences-covid-19

Ravi, S. (2020, May 11). *Impact Of COVID 19 On The Indian Stock Markets*. Retrieved May 15, 2020, from Business World: http://www.businessworld.in/article/Impact-Of-COVID-19-On-The-Indian-Stock-Markets/11-05-2020-191755/

Sarkar, S. (2020, April 3). *Covid-19 Impact: Half Of Nifty 50 Stocks Are Trading At Single-Digit Valuations Read more at: https://www.bloombergquint.com/markets/covid-19-impact-half-of-nifty-50-stocks-are-trading-at-single-digit-valuations Copyright © BloombergQuint*. Retrieved May 15, 2020, from Bloomberg Quint: https://www.bloombergquint.com/markets/covid-19-impact-half-of-nifty-50-stocks-are-trading-at-single-digit-valuations

JEL G0, G1, G4

Sharma, A. (2020, April 13). *Coronavirus impact: India worst hit stock market; China least-affected*. Retrieved May 25, 2020, from Business Today: https://www.businesstoday.in/markets/stocks/coronavirus-impact-india-worst-hit-stock-market-china-least-affected/story/400890.html

Sraders, A. (2019, July 16). *What Was the Great Recession? History, Causes and Consequences*. Retrieved August 1, 2020, from The Street: https://www.thestreet.com/politics/what-was-the-great-recession-14664025

TradingView. (2020). *TradingView*. Retrieved May 19, 2020, from https://www.tradingview.com.//: https://www.tradingview.com.//

WHO. (2020, February 20). *Public Health Emergency of International Concern Declared.* Retrieved May 10, 2020, from World Health Organization: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen

Williams, M. (2013, February 28). *VIX: What Is It, What Does It Mean, And How To Use It*. Retrieved August 5, 2020, from Seeking alpha: https://seekingalpha.com/article/1233251-vix-what-is-it-what-does-it-mean-and-how-to-use-it

Yan, B., Stuart, L., Tu, A., & Zhang, T. (2020, May 11). *Analysis of the Effect of COVID-19 on the Stock Market and Investing Strategies*. Retrieved May 2020, from Social Science Research Network (SSRN): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3563380

JEL G0, G1, G4