

Surviving Coronavirus Scare. A Journey of Stock Market Amid a Slowdown in Indian Economy

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Abstract

The present study analyzes the journey of the Indian stock market during the period of 2019 to 2020. With the help of this study, we try to solve the puzzle that why the stock market is rising amid the slowdown in the Indian economy. Further, we also examine why only the Large-cap stocks were rising, whereas Small-cap and Mid-cap stocks declined.

The study also examines the impact of Coronavirus pandemic on the Indian stock market with the help of event study from the period 22nd January 2020 to 8th June 2020. We have analyzed the impact of this Pandemic on the constituents of the BSE Sensex 30 index. We have also examined the performance of stock markets of top ten countries severely affected by COVID-19. We find the reasons behind this anomaly that why the Sensex and Nifty were rising is that investors are forward-looking and want to invest only in the large corporations amid the slowdown in the economy. The reason for this optimism is the number of measures the government has announced to revive the economy. As a result, these securities become very expensive and hence, Sensex and Nifty have gone up. Hence, the stock markets were rising purely on the sentiments of the investors and the expectation of a better future.

The extent of the spread of COVID-19, combined with a high death rate, has resulted in an extraordinary situation of lockdowns being enforced across the world. Therefore, there is a lot of anxiety and fear among them that has resulted in sell-offs as everybody demands safer assets such as gold and the government 10 year treasury bills. The stock markets of ten countries which we analyzed in this study, are also negatively affected by COVID-19, especially till the last week of March. With the help of event study, we concluded that the Indian stock market is negatively affected by COVID-19.

Keywords: stock market; slowdown; Indian economy; COVID-19; event study.

JEL Classification: G1; G12.

Introduction

The BSE Sensex is India's most prevalent stock market index, which was taking the new reality into account. For the first time, on 27th November 2019, both BSE Sensex and National Stock Exchange Nifty reached to a lifetime high of 41,020.61 and 12,100.70 respectively. The Indian economy was in the state of the slowdown as in the second quarter of 2019-20, GDP growth was 4.55 % which was reached to a six-year low. This makes everything look excellent when it is not in actuality. The market experts say that one should invest when the GDP growth rate is low as this is the best time of investment. Therefore, even with the depressed economic numbers, the stock markets are at wozy highs.

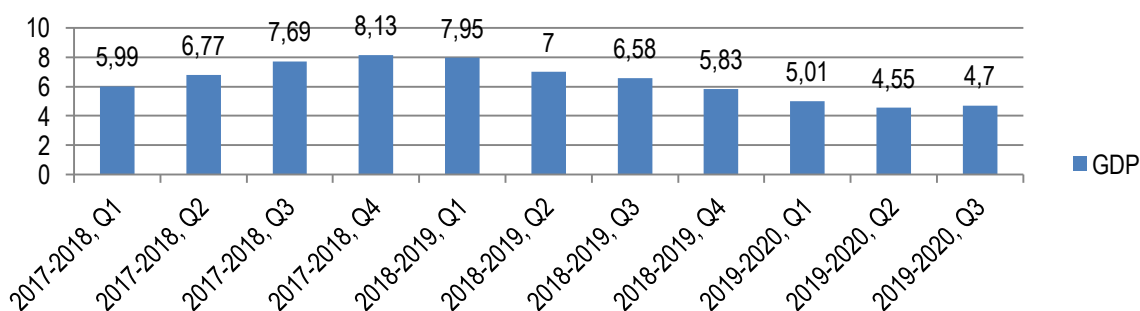
In 2019 Indian stock markets established new records driven by a robust rally in the large-cap stocks. In 2019, most of the rally in Sensex and Nifty were led by a handful of stocks while the majority of them, especially in the Mid-cap and Small-cap Indices, saw value erosion. Though, the poor performance of the Small-cap and Mid-cap stocks declined the total market performance that leaves the Indian market capitalization growth at the lowest in the topmost 10 markets worldwide. Shares of both BSE Small-cap and Mid-cap indices in overall market capitalization fell, whereas Sensex grew throughout the year. In 2019, the BSE Small-cap and Mid-cap indices lost 6.85% and 3.05% respectively. Eight out of 30 corporations of Sensex have gained above 20% and also a handful

of corporations in Sensex do well in terms of earnings and that clearly depicted on the index. Hence, we can say that Sensex is not reflecting the true picture of the economy.

1. The Reasons for the Slowdown in the Economy

It is clear from the above discussion that in the recent months, the economic numbers dipping to low and the stock market are achieving to newer heights, this is creating a dilemma about the real state of the economy. The GDP growth rate of the Indian economy has fallen down to 4.5% to its six-year lows, in the second quarter of the financial year 2019-20. This dipping in GDP rate is a sign of threatening times in the future. Figure 1 is showing the GDP growth rate from the 1st quarter of 2017-18 to 3rd quarter of 2019-20. Growth has decreased since the fourth quarter of FY18 (8.13%). It was 4.55% in the 2nd quarter of 2019-20 which was reached to a six-year low. In the next quarter, it was expanded to 4.7% matching market hope.

Figure 1. India's gross domestic product growth (GDP)



The most important reasons for this sharp weakening in the GDP growth rate can be understood as follows:

- (1) The prime economic indicators expose that economy is not in good shape:
 - Unemployment rates can be used as a measure for economic performance. In August 2019 the unemployment rate of India increased to 8.2% from 7.3% in the previous month and in October 2019, unemployment was recorded at 8.1%. A big number of labour forces were without jobs which reflect the slowdown in the economy.
 - The Purchasing Manager's Index (PMI) of India is the gauge of the manufacturing sector's health. PMI is constructed on the basis of the five key indicators these are inventory levels, production, new orders, supplier deliveries and the environment of employment. If the index value is above 50%, this shows positive growth in the industrial sector, while the index value lower than 50% shows a negative situation or contraction. In July 2019 the index value was 52.5 that was decreased to 50.6 in October; this is showing that the health of the manufacturing sector is not good as the number of October is very low.
 - Eight Core Industries Index is a monthly production index, which is also reflected as a prime indicator of the monthly industrial performance. Eight Core sectors are Electricity, steel, coal, refinery products, natural gas, crude oil, cement and fertilizers. The growth rate in this index reported -1.9 and -5 in August and September, respectively. The Index of Industrial Production (IIP) in India was observed 131.8 in July 2019, after that we can see the contraction in IIP as it decreased to 126.2 in August 2019 and reached to 123.2 in September.
- (2) There were some structural factors which are responsible for this current slowdown in the economy, *i.e.* low household income, comprising slowdown in investment and demonetization, this all leads to lethargic consumer demand.
- (3) Tax revenue of India in September 2019 was very low, *i.e.* Rs. 91,916 crore. The GST revenue collection was also very low.
- (4) The last year slowdown in the Indian economy observed across the sectors. The overall fall in the consumption seen in sectors such as FMCG, Auto, manufacturing sector and Consumer Durables have pulled the economic growth lower.
- (5) This can be mainly credited to the stressed rural economy because of low growth in Minimum Support Prices (MSP), increasing unemployment and liquidity stress among NBFCs that made financing hard. The low consumption has led to corporations turning alert and leading to a slowdown in sectors such as Capital Goods and Cement.
- (6) Increasing number of non-performing assets (NPAs).
- (7) Low government spending, liquidity pressure among NBFCs and sluggish transmission of interest rates from banks led to a slowdown in the real estate, power and infrastructure.
- (8) The trade war of US-China and global economic slowdown had badly affected the export of India.

All the above reasons have a hand in this slowing down of growth rate.

2. The Stock Market is Rising Amid the Slowdown in the Economy

This seems to be contrary to intuitions *prima facie* as the security market is supposed to be a measure of the state of the economy. Many people rely upon that there is a positive association between the security market and the GDP growth rate. But this is not completely true. Many studies have documented that Sensex may have little correlation with GDP growth. Many researchers have studied the association between stock market indices and GDP growth for a different time period and in different countries. Some of them have observed no correlation between the stock market and GDP growth (Gan *et al.* 2006). Some established the positive association between the stock market and GDP (Levine, Zervos 1999, Singh, Mehta, Varsha 2011, Reddy 2012), while others found a negative relationship between the two (Osamwonyi, Evbayiro-Osagie 2012). Therefore, we may say that Sensex has little to do with the GDP growth of the country.

The economy and markets can move in different directions as there are different factors which affect them. Government policies, economic conditions, growth momentum, sectoral outlook, easy availability of cheap credit and customer demand often affect both the stock market and economic growth. But the financial markets, and the investors, are also often influenced by global developments such as expansion of central bank balance sheet, easy money availability, falling rates and global fund flows. The markets and investor are often forward-looking. Whenever there is bad news, investors get their stocks, discounted quickly and also their focus shift to the remedial actions taken by companies and governments. This leads to an increase in securities prices, as it did those days, but it is always a puzzle to the people outside the market and economists.

The answer to this puzzle would be that Sensex and Nifty exemplify only a very small number of corporations that have a large market capitalization. The contribution of Sensex 30 securities total market capitalization of India has increased from 44.77% in January to 48.81% at the end of December.

The nature of investment and information asymmetry plays a big role. When an index or security falls 15-20% or more and sometimes even 40-50%, this is always believed that all the bad news is completely priced in. Investors then start to look at it as a buying opportunity which depends upon the nature of the company, management and industry and expect for the good news that will boost the stock and begin the subsequent leg of the rally. Let us understand this with some examples:

GDP growth fell to its six-year low and crossed 5% in first (April to June) and second (July to September) quarters of the year 2019-20. Investors were scared and after two days of GDP report, Sensex went down by 1.84%. But when the second-quarter GDP report was out on 29th November, the investors' response was not so staid. After the two days of the report, there was a small fall in Sensex that was 0.29%.

Indian economy grew at 7.8% in 2015-16 which was the fastest growth in the recent year or we can say that in the last decade. But market health was very bad in that year. By February 2016, Sensex and Nifty both fell by 22.92% and 21.99% respectively. In 2013-14, economic growth was low (6.8) and at the same time, foreign investors pumped in Rs 79,897 crore in India. The current account deficit of India was 3.39% and inflation was close to 10% at the same time. Next year, there was no much improvement in economic numbers, but still, investors had poured in more than Rs 1 lakh crore into equities. There were a number of causes behind this deviation and it occurs quite often. Nothing is unusual or doubtful. As per the above discussion, we cannot conclude that economic growth turns into high stock returns or, on the contrary, growing stock markets will perfectly predict higher economic growth in the future.

It is a narrow market rally, driven only by a few of the stocks. The small-cap and mid-cap indices are not performing well as they are still in the bear market zone. Only a few corporations or sectors are leading the rally. The BSE small-cap index was down by a massive 33.44%, while the BSE mid-cap index is down 19.22% from its January 2018 high.

The biggest gainers have an approximate 35% weightage in both Sensex and Nifty. Hence, the index will go in the same direction as of the biggest gainers. In whatever direction the biggest gainer will go, the index would go in the same direction. A skewed rally it is and is very clear from the above discussion that despite the struggling economy, only a few corporations and sectors are doing well. So far, India has received over Rs 1 lakh crore this year in the foreign fund. FDI is also very high this year, *i.e.* about 7.5% as compared with the last year. So not only the domestic investors but also the foreign investors are also bullish about the Indian economy growth picks up next year. We can say that both stock and foreign investors have understood that this is the only explanation for what is going on the market.

Global reasons for rising the stock market

Global investors' sentiment is high. In July 2019, the FDI equity inflow was Rs. 30,774 crore, which decreases to Rs. 18,164 crore in August 2019. This was further increased and reached to Rs. 33,166 crore in December 2019. Let us dwell on the global reasons behind the rising of the stock market:

- US and China trade agreement- worldwide equity market got an enhancement after 18 months of economic war, as the United States and China agreed to take a step toward peace on 15th January 2020 by signing a trade agreement that will increase the exports from US manufacturers and farmers, protect American trade secrets and lower tensions in the long run;
- UK election. After the victory of Boris Johnson government in the UK, the UK formally left the EU (European Union) approximately four years after the Brexit vote on 31 January 2020. The triumph now clears the cloud over what the majority of the UK people want. Now, UK based Indian corporations can take relief. This victory gave confidence to the investors, and their sentiment should also improve. Shares of Tata Motors company earn around 16% income from the UK and subsidiary Jaguar Land Rover, gained about 3% in the afternoon trade on Friday, 31 January 2020. This comes on top of the 7% gain a day prior. Motherson Sumi gained 3% on the same day and Bharat Forge company was up by 4%;
- Global Markets. This is the best year of global stock markets since the aftermath of the financial crisis of 2008. The MSCI World Index, that tracks the performance of the equity market across the global emerging market, increased by almost 24% during the year 2019. The FTSE 100 blue-chip stock index of Britain increased by 12%, which was its best performance in three years, this is because of the general election in December. Benchmark index of Australia increased by 0.2%.

The government measures to revive the economy

In Indian equity markets, investors are forward-looking in spite of the gloomy news about the economy. The stock markets are rising purely on the expectation of a better future. The reason for this optimism is the number of measures the government has announced to revive the economy. In the middle of the release of these two GDP reports, the government has taken a number of measures to improve the economic growth and the sentiments of investors.

Nirmala Sitharaman our Finance Minister has announced on 3rd August 2019 in a press conference, many measures to revive the Indian economy growth which is at a six-year low:

- (1) The Corporate social responsibility violation will be treated as a civil matter and not a criminal matter. This will provide much-needed relief to the corporations;
- (2) The provision for Angel tax will be withdrawn for the startup and their investors. That will help in opening of more startups and investments;
- (3) A centralized, computer-based system will be used to issue all tax notices;
- (4) Enhanced surcharge on equity capital gain for FPIs and domestic investors was withdrawn;
- (5) The loan documents shall be reverted to the customers within the 15 days. That helps in faster processing of a loan;
- (6) Upfront release of Rs. 70,000 crore for the recapitalization of public sector banks. This will provide the benefits to retails, corporates, borrowers, small traders, MSMEs etc;
- (7) To benefit all borrowers, banks have decided to transmit rate cuts through MCLR (marginal cost of funds-based lending rate) reduction;
- (8) Reduced EMI for the housing loans, retail loans and vehicle loan by directly connecting the Repo rate to interest rates. Working capital loans will also become cheaper for the industry;
- (9) All the pending GST refunds till of now will be paid within 30 days. And every future refund for GST matters will also be resolved within 60 days;
- (10) Rs. 100 lakh crore for infra projects- inter-ministerial task force is being formed to finalize channel through which several infra projects will get funded;
- (11) Several measures have been taken to revive the auto industry:
 - BS-IV vehicles purchased until 31.3.2020 will operational for the entire registration period;
 - For replacing all old departmental vehicles, the government will lift a ban on the purchase of new vehicles and also consider the scrappage policy.

To provide credit enhancement for infrastructure projects and long term finance to housing projects, particularly in the Indian context, the government proposes to set up an organization, *i.e.* Development Financial Institute (DFI). As banks do not have the funds to finance long term projects.

Finance Minister Nirmala Sitharaman on 30.8.2019 announced a big consolidation of public sector banks. Ten public sectors banks to be merged into four. The benefits of the merger are:

- Economies of scale;
- Building next-generation banks;
- Enhanced capacity;
- Operational efficiency gains will reduce their cost of lending;
- Global reach;
- Strong national presence.

Finance Minister Nirmala Sitharaman on 14.9.2019 announced the third measure to revive the economy that especially focuses on export and the housing sector. New measures to increase the export are:

- From 1.1.2020, MEIS (Merchandise Export from India Scheme) will replace by the Remission of Duties or Taxes on Export Product (RODTEP) scheme;
- Sectors that currently enjoy incentives up to 2% over MEIS like Textile and other sectors will transfer into RODTEP from 1.1.2020;
- By the end of September 2019, Fully automated refund route will be implemented for input tax credits (ITC) in GST;
- The exporter credit guarantee corporation will offer higher insurance coverage to banks;
- The government will release Rs. 36000 crore to Rs. 68000 crore as export credit under the priority sector;
- The government will further leverage technology to lessen the time it takes to export and the turnaround time taken at ports;
- The special FTA utilization mission will be set up.

The steps are taken for the housing sector:

- An additional deduction is allowed up to Rs. 1.5 lakh for the interest paid on loans borrowed up to 31st March 2020, for purchase of house valued up to Rs. 45 lakh;
- EMI will be reduced for housing loans by linking Repo rate directly to the interest rate;
- Further liquidity support to HFCs Rs. 20,000 crore by the National Housing Board (NHB) thereby increases it to Rs. 30,000 crore;
- The guidelines regarding external commercial borrowing will be relaxed to enable the finance of homebuyers;
- For housing projects which are non NPA projects, the government makes available least mile funding for them. The purpose is to focus on the construction of incomplete units. Government of India will contribute Rs.10,000 crores and the same amount will be provided by outsiders investors. All over the country about 3-3.5 lakh projects, will be benefiting from this fund.

3. Consequence of Coronavirus on the Indian Stock Market

The new coronavirus pandemic, which was originated in China in December 2019, has been spreading across the globe, almost in over 180 countries. On 11th June 2020 Coronavirus infected cases are 75,97,304, and 4,23,844 have died. Over 90% of the total deaths have happened in five countries: China, Italy, Spain, France and Iran. Due to the COVID-19, the steep instability and volatility have been observed in the global stock markets over the past few weeks.

In the first phase the whole country is lockdown till the 14th of April, 2020; this has a severe influence on the Indian economy. Many industries like travel and tourism, transport, hospitality, manufacturing and leisure are seriously affected. Many low wage earners are affected because of the coronavirus. Most at risk are aged people who do not have a livelihood, rickshaw pullers, casual workers, daily wagers, footpath shopkeepers, beggars, informal sector workers, etc. Income level of millions of people has been affected due to unemployment and also the demand for goods and services. Hence the economic growth rate suffers very badly.

Moody has slashes India GDP growth in year 2020 to 2.5% from 5.3%. Goldman Sachs has cut India's FY 2021 real GDP to 1.6% from 3.3%. These figures might even deteriorate further if Modi's Government is forced to extent lockdown.

Will India be able to overcome the current crisis the way it did back in 2008? According to former RBI Governor Raghuram Rajan, 'India faced today with perhaps greatest emergency since independence'. The reason behind this is that the global financial crisis in 2008-09 was a massive demand shock, but our worker could still go to work. Because businesses are kept running. The chief economist of IMF, Geeta Gopinath wrote in a blog post that the reluctance part of consumer and businesses to spend has resulted in subdued demand. Further, the businesses in India dealing with supply shock; this will cause production slowdown. As producing raw material for the manufacturing of even essential goods and transportation, faces serious obstacles.

3.1. Review of Literature

Nippani & Washer (2004) examined the effect of SARS on the stock markets of China, Indonesia, Canada, Hong Kong, Special Administrative Region of China, the Philippines, Thailand, Singapore and Vietnam. They found that SARS had no negative effect on the affected countries' stock markets with the exception of China and Vietnam. Siu & Wong (2004) documented the negative effects of SARS on the demand side in Hong Kong. They described that in the short run, local consumption and the export of services like tourism and air travel seriously affected. But the goods continued to be exported as usual and hence, the economy did not face any supply shock. Chen, Shawn & Gon (2007) analyzed the impact of the SARS outbreak on stock price of Taiwanese hotel with the help of an event study. Stock of Taiwanese hotels showed significant negative cumulative abnormal returns on and after the day of the SARS epidemic.

Wang, Yang and Chen (2013) documented that an outbreak of infectious diseases has significant effect on the biotechnology stock performance in Taiwan. In China the epidemics for instance SARS and H7N9 have badly affected the population health and the economy. Both H7N9 virus and SARS presented the global epidemic risk, but the economic and social effects of H7N9 were not as severe as in the case of SARS (Qiu *et al.* 2018). Ichev & Marinč (2018) find that Ebola outbreak affected the stock of the corporations those are geographically nearer to both the origin of Ebola outbreak and the financial markets. The outbreak affected the small and volatile securities. Chen *et al.* (2018) examined the impact of the SARS outbreak on the long-run relationship between China and four Asian stock markets. They documented that time varying cointegration exist in the stock price indices and SARS outbreak did weak the China's long-run relationship with the four markets.

Liu *et al.* (2020) evaluated the effect of coronavirus pandemic on 21 stock market indices in harshly affected countries, including Korea, Singapore, Japan, USA Italy, UK and Germany etc. with the help of event study they found that stock markets in these countries fell very quickly after the COVID-19 outbreak. Asian countries had more negative abnormal returns than the other countries.

Now we will move to the next objective of the study where we shed light on the influence of Coronavirus pandemic on the Indian stock market with the help of event study from the period 22nd January 2020 to 8th June 2020. We have analyzed the impact of this Pandemic on the constituents of the BSE Sensex 30 index. The S&P BSE SENSEX is a free-float and market-weighted stock market index of 30 financially sound corporations listed and well-established on the Bombay Stock Exchange. These 30 corporations are most actively traded and the largest securities, which are the representative of many key industries of the Indian economy. We have also examined the performance of stock markets of top ten countries severely affected by COVID-19. We have taken the benchmark index of each country that represents the stock market of a particular country. These countries and their respective indices are as follows:

Table 1. Top ten countries severely affected by COVID-19 and their benchmark index

Countries	Index
USA	Dow Jones
Italy	FTSE MIB
Spain	IBEX 35
Germany	DAX 30
China	Shanghai
France	CAC 40
Iran	TEPIX
United Kingdom	FTSE 100
Switzerland	Swiss Market Index
Turkey	BIST 100

The outbreak was declared a Public Health Emergency of International Concern on 30th January 2020. In India the first confirmed case of the coronavirus pandemic was also found on 30th January 2020. Here we determine

the abnormal returns for the constituents of the BSE Sensex 30 index, using the market model and taking S&P BSE 500 as the market proxy. The daily adjusted closing prices of stock are converted into log return, as well as the closing value of the index into market log return. The estimation and observation period for this event study are as follows:

- Event Period or the observation period: 22nd January 2020 to 8th June 2020;
- Estimation Period: 21st January 2019 to 21 January 2020;
- Abnormal Return = Actual Return– Expected Return;
- Expected Return on security (R_{it}) = $\alpha_i + \beta_i(RM_t) + \varepsilon_{it}$;
- R_{it} is the expected return on security i and at time t ;
- RM_t is the market portfolio return at time t ;
- α_i and β_i are the intercept and slope of security i respectively ε_{it} is the error term of the regression model.

After this, we have calculated the cumulative abnormal return (CAR) which defines the value of an investment.

3.2. Analysis and Findings

In this part of the study, we examine how the market responds to the pandemic like Coronavirus in India. We have conducted the Event study to measure whether shareholders earn any abnormal return around the event period. Each firm has a different abnormal return as it depends on the type of company and its industry, the company's background and its financial position.

As novel coronavirus pandemic spreads beyond China, global markets have been thrashed by a significant sell-off. Since last week the BSE Sensex and NSE Nifty had performed their worst run in years. On 18th March 2020, Sensex ended at 28,896 points after falling 1,709 points while Nifty ranked below 8,500 points a three-year low (Figure 2 and Figure 3). On 23rd March 2020 Sensex closed at 25,981 and 29915.96 on the previous day. That was a big fall of 3934.72 points. On the same day NSE nifty down at 7610.25 which was lower by 1135.2 points from the last day. After 23rd March 2020 both Sensex and Nifty started to increase and on 2nd June 2020 they reached to 33,825.53 and 9,979.10 respectively. India's volatility index or VIX reached to the highest point *i.e.* 83.61 on 24th March 2020 and after that it starts to decreased and reached to 29.66 on 11th June 2020. Most of the global stock markets have been hit daily low record. It is clear from the Graph that the stock markets of all the countries are moving in the same direction. Due to the Coronavirus pandemic, all the stock markets are severely affected and showing the downward movement from January to last week of March. After this we can observe the recovery in the stock markets as all the indices start rising and showing upward movements. Hence all the stock markets are negatively affected by COVID-19, especially till the last week of March. One of the important reasons for this decline in these indices could be a move towards safer assets (such as gold) because of the uncertainty regarding the near future.

Figure 2. Performance of BSE Sensex 30, a benchmark index of India during 02.06.2020 to 02.01.2020

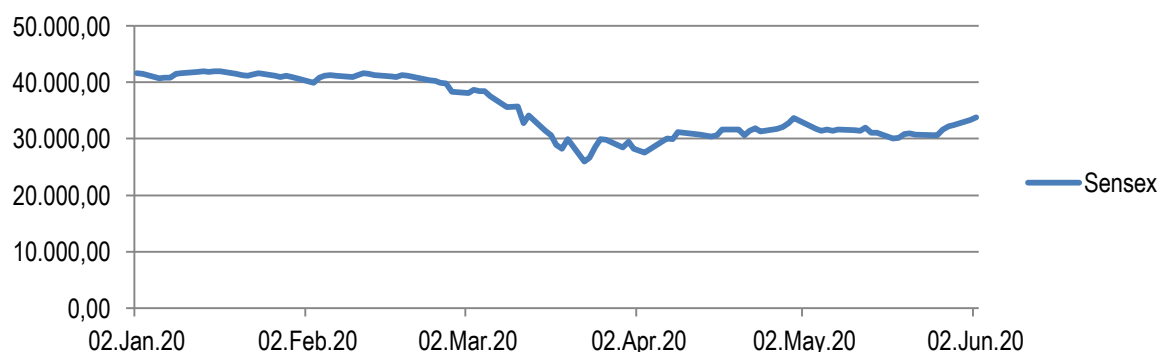


Figure 3. Performance of NSE Nifty 50, a benchmark index of India from 02.06.2020 to 02.01.2020

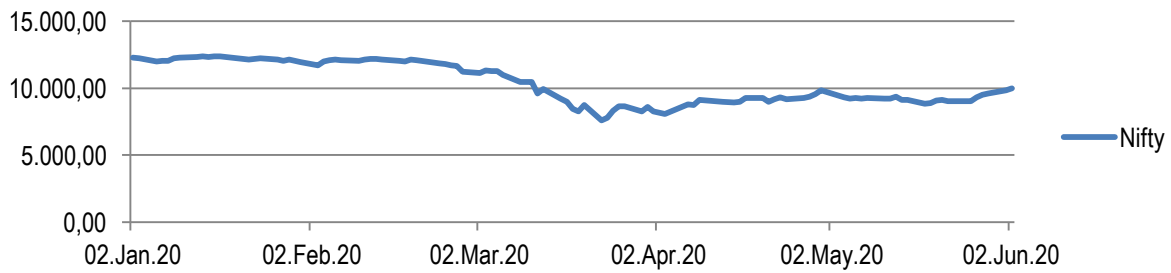


Figure 4. Performance of Dow Jones Industrial Average, a benchmark index of USA from 02.01.2020 to 02.06.2020

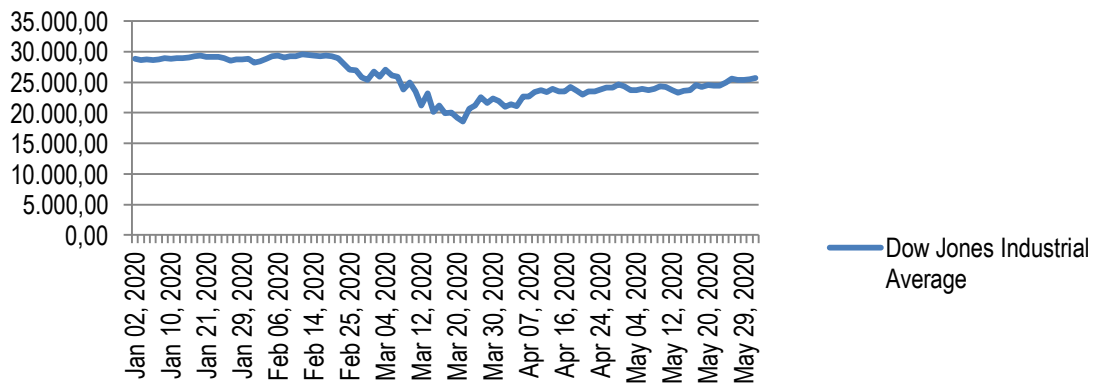


Figure 5. Performance of FTSE MIB, a benchmark index of Italy from 02.01.2020 to 02.06.2020

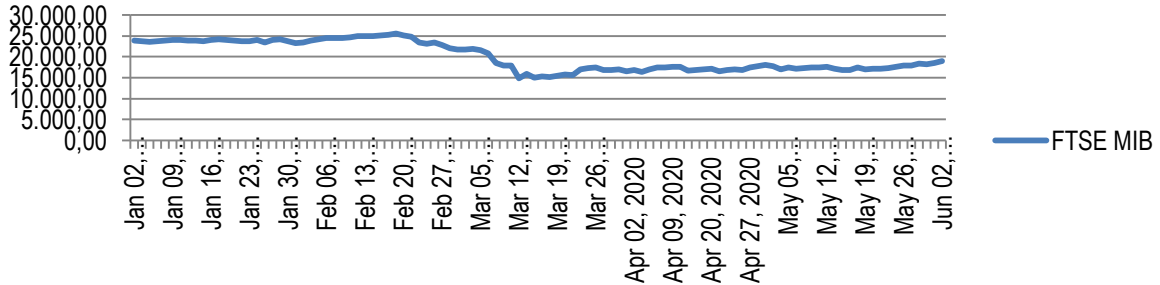


Figure 6. Performance of IBEX 35, a benchmark index of Spain from 02.01.2020 to 02.06.2020

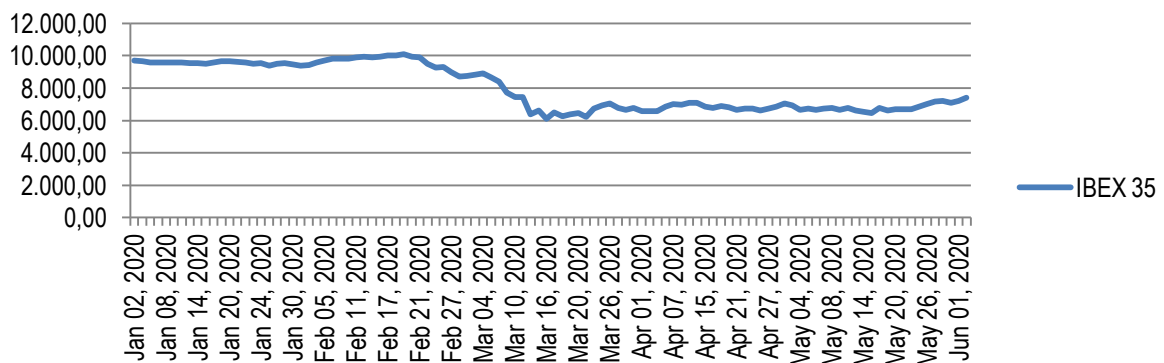


Figure 7. Performance of DAX Performance index, a benchmark index of Germany from 02.06.2020 to 02.01.2020

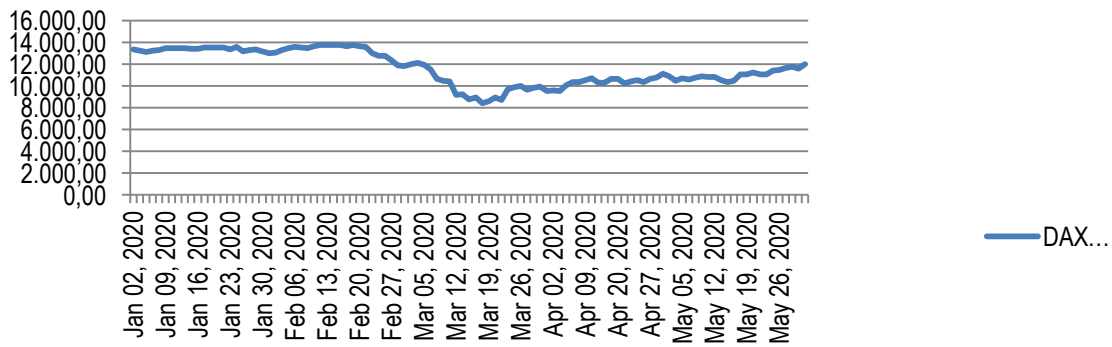


Figure 8. Performance of SSE Composite, a benchmark index of China from 02.01.2020 to 02.06.2020

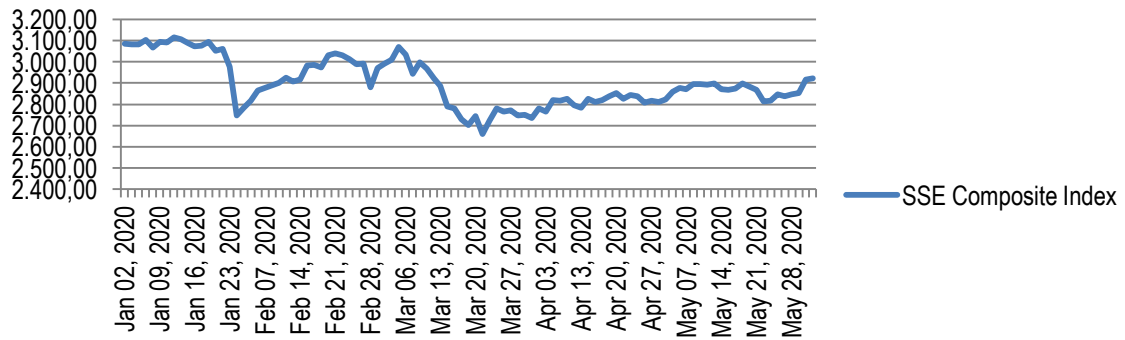


Figure 9. Performance of CAC 40, a benchmark index of France from 02.01.2020 to 02.06.2020

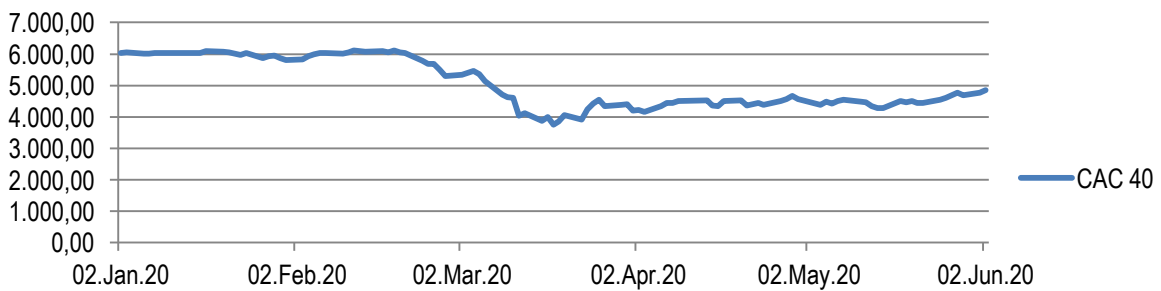


Figure 10. Performance of TEPIX, a benchmark index of Iran from 02.01.2020 to 02.06.2020

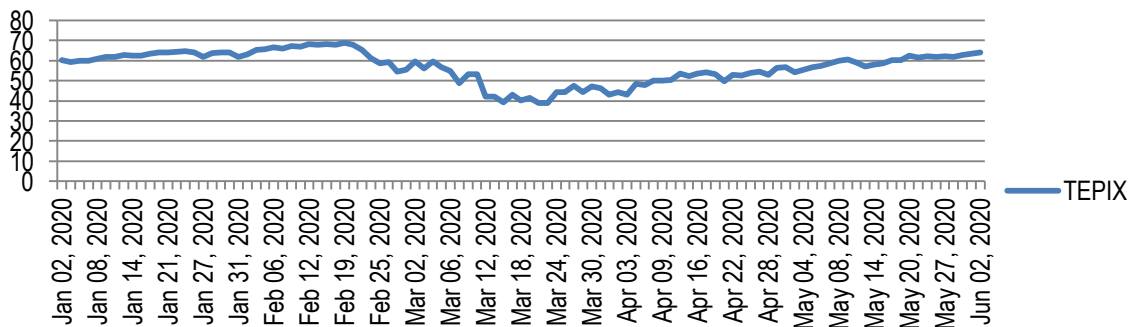


Figure 11. Performance of FTSE, a benchmark index of UK from 02.01.2020 to 02.06.2020

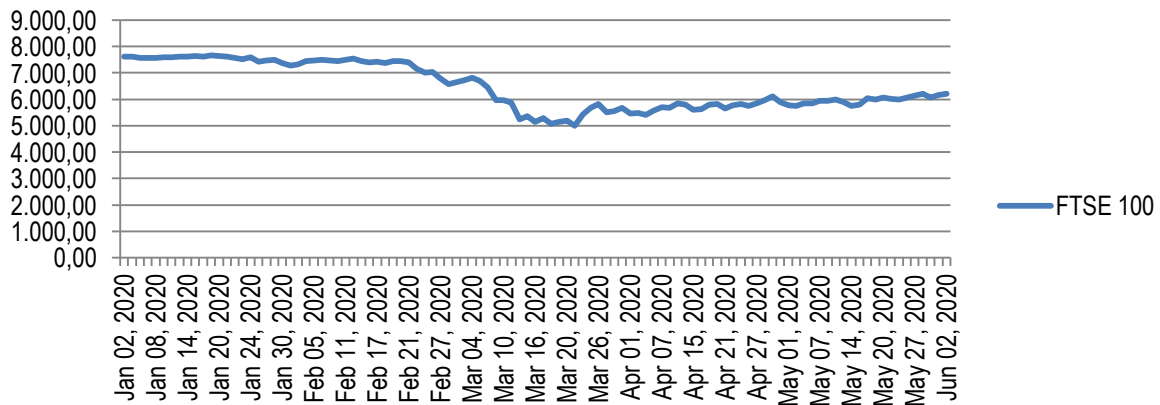


Figure 12. Performance of SMI PR, a benchmark index of Switzerland from 02.01.2020 to 02.06.2020

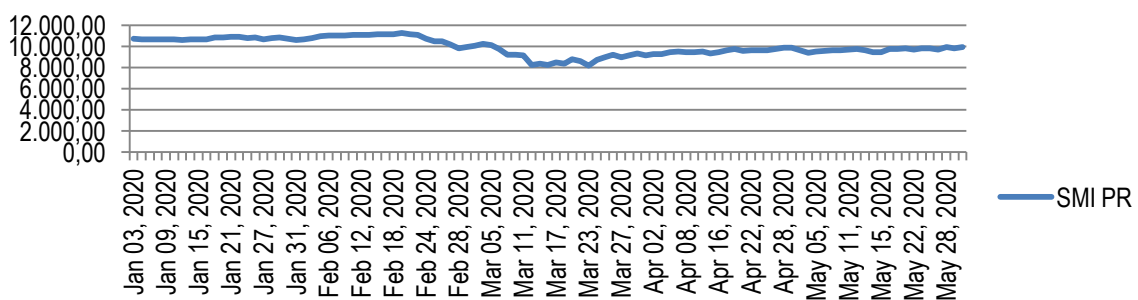
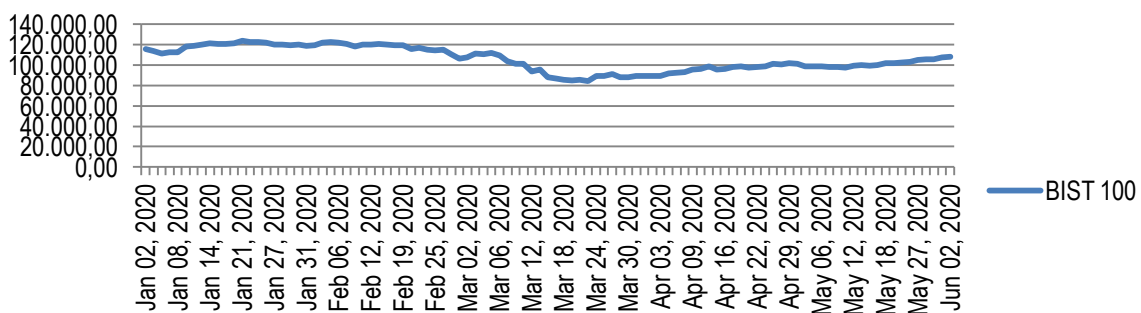


Figure 13. Performance of BIST 100, a benchmark index of Turkey from 02.01.2020 to 02.06.2020



The present decline in the stock market is significantly faster and deeper compared to the 2008-09 crash or the dot-com bubble. The current decline has happened over two months as the world recognized the scale of economic disturbance caused by the COVID-19 pandemic, which is markedly different from the 2008-09 collapse. Figure 14 and Figure 15 are showing the actual returns of the year 2019 and 2020 respectively. Most of the companies are depicting the positive actual returns in 2019. All the companies except two are performing worse in the year 2020 as they are showing negative actual returns. The fact that the global economy is in recession, coupled with the uncertainty regarding lockdowns, has raised concerns regarding the prospects of recovery in the months ahead.

Figure 14. Actual Returns of the constituents of BSE Sensex from the period 22.01.2019 to 31.12.2019

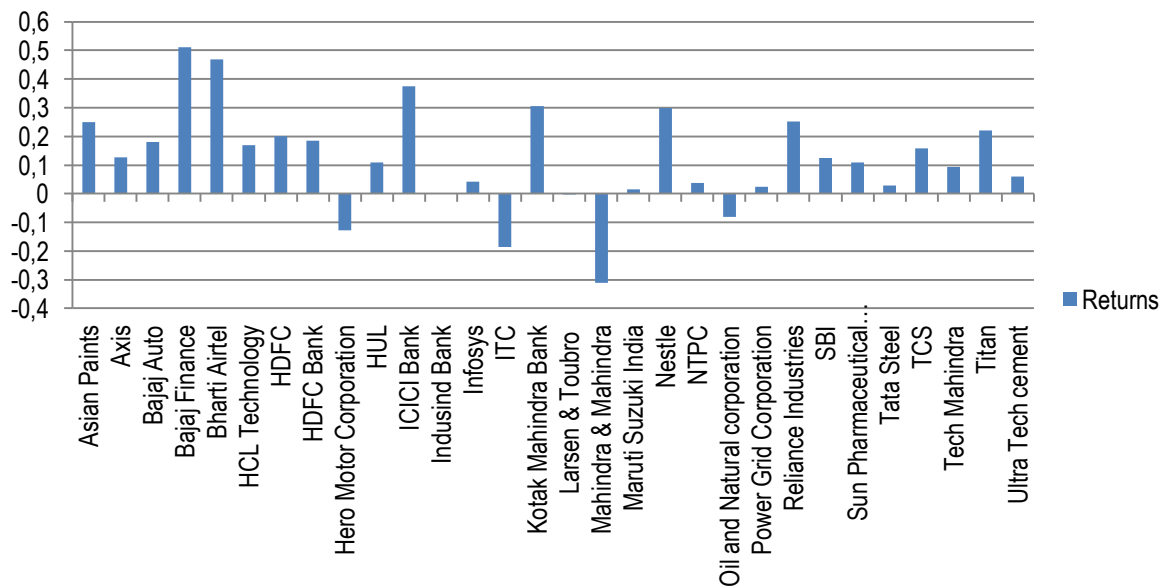
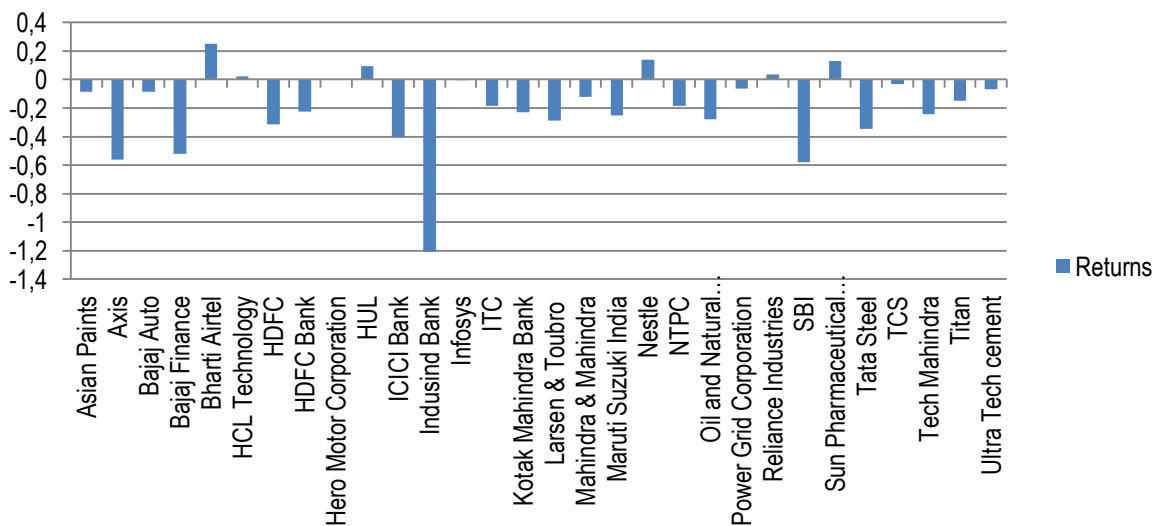
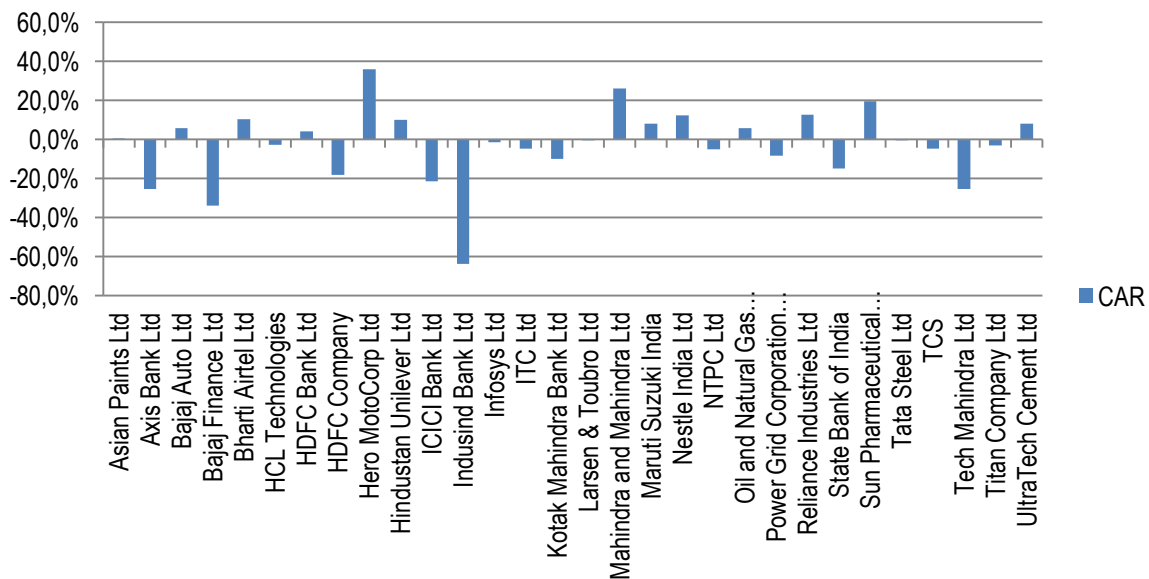


Figure 15. Actual Returns of the constituents of BSE Sensex from the period 01.01.2020 to 01.06.2020



Moody's cautioned that scarcity of resources to support businesses would amplify the Corona-induced shock in the emerging economies such as India. The impact of Covid-19 on the stock markets and Cumulative Abnormal Returns (CARs) is observed in Figure 16.

Figure 16. Cumulative Abnormal Return (CAR) of the constituents of BSE Sensex from 22.01.2020 to 08.06.2020



In the banking sector except for HDFC bank, all other banks have negative CAR. Indusind bank has the largest CAR of -63.6%. Axis bank has also a high negative CAR of -25.5%. Banking sector may suffer consequences of bad loans. According to Moody's RBI's three months moratorium scheme will soften the negative credit impact that Corona crisis has had on their borrowers in the near term.

This pandemic has badly impacted IT software sector as all four companies: Tech Mahindra (-25.3%), Tata Consultancy Services (-4.7%), HCL Technologies (-2.7%) and Infosys (-1.6%) have negative CAR. The Power generation sector also negatively affected by Coronavirus as NTPC (-5.1%) and Power Grid Corporation (-8.4%) both have negative CAR. FMCG sector has been positively affected during COVID-19 as two out of three companies *i.e.* Nestle and Hindustan Unilever Ltd. have a positive CAR of 12.4% and 9.9% respectively, while ITC has a negative CAR of -4.8%. Housing finance sector also negatively affected by COVID-19 as HDFC and Bajaj Finance both have negative CAR of -18.3% and -34% respectively. While Cars and utility vehicle sector does not affected by COVID-19 as both Maruti Suzuki and Mahindra & Mahindra have positive CAR.

Other sectors that are getting severely affected due to the pandemic are agriculture and real estate. Agriculture sector that contributes nearly \$265 billion to GDP and employs 60% of the country's workforce is to get severely impacted. The outbreak has happened at the critical time when the crop is ready to be harvested and then sold. The absence of labour to cut the crop and transportation problem will have serious implications on the rural economy in India for months to come. Lockdown has worsened the struggle of the real estate sector which was on the very spiral link due to the funding crunch.

CII (Confederation of Indian Industry) conducted a snap poll on 200 CEOs across India. In which most of them voiced their concerned that their revenue will fall by at least 10%. 52% of participating CEOs anticipate job losses in their respective sectors. The unemployment rates were already at a 45- year high before the outbreak and since the outbreak, the rate of unemployment in India further increased.

We do not observe any significant abnormal return before the day 30th January 2020. Most of the companies reacted more and earn significant abnormal returns in March, especially the last two weeks of March. Most of the corporations, were also earning significant returns in April and May. Many companies did not earn the significant abnormal returns in the month of June. All over the world, the change in total death rate from Coronavirus was 47% on 23rd January 2020 and it was 64% on the next day (Figure 17). From February, it started to decrease and reached to 1% on 26th February 2020. Suddenly it was increased to 15% on 24th March 2020. After this, again it fell down to 1% on 3rd May 2020. In the month of May and June the change in total death rate was 1% or 2%. 8,435 people were dead on 17th April 2020, which was the highest number of deaths from coronavirus. After this number of deaths each day is decreasing as it is depicting in Figure 18.

Figure 17. Total deaths in the world from COVID-19 from 23.01.2020 to 10.06.2020

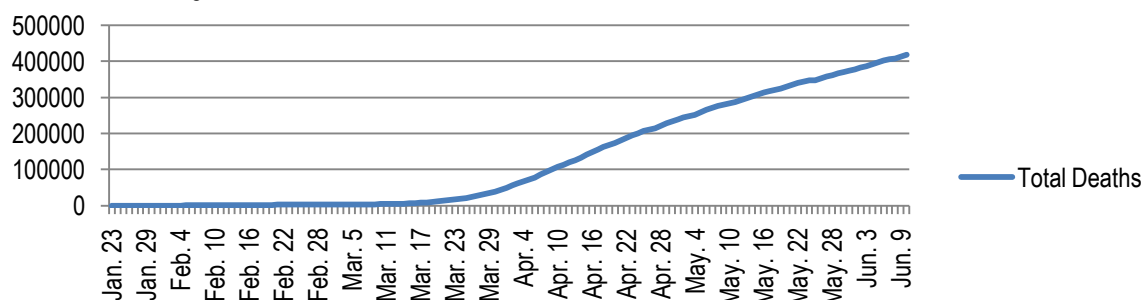
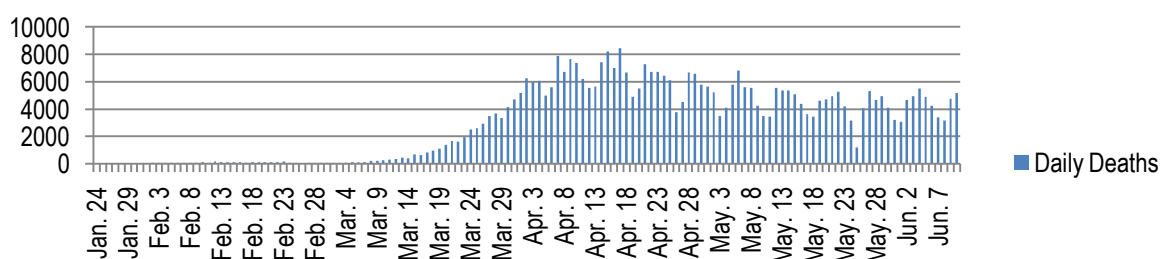


Figure 18. Daily deaths in the world from COVID-19 from 23.01.2020 to 10.06.2020



All the constituents of BSE Sensex 30 are reported a very large CAR for the whole event period of 91 days. Out of 30, only 13 companies on an average are generating positive Abnormal Returns (AR), and the rest of the companies are generating negative CAR. It means that the Indian stock market is negatively affected by COVID-19.

What measures can be taken to soften the blow.

IMF chief economist, Geeta Gopinath says 'central banks around the world should be ready to provide ample liquidity to banks and non-banking finance companies. She also highlighted that government could offer temporary and target credit guarantees for the near term liquidity needs of these firms. The former governor, Raghuram Rajan, suggested that targeted aid should be provided to weekend SMEs. Nobel Laureate Abhijit Banerjee suggested direct cash transfer to mitigate any risk to the most vulnerable and those living on the margins. Government has taken the following measure to minimize and control the economic damage:

- Relax dates of filing taxes;
- Immediately start releasing the refunds;
- Bailout packages for bankrupted sectors;
- Handhold industries;
- Rearrange supply chains;
- Our finance minister Nirmala Sitharaman made five announcements for the 20 lakh crore package of Aatmanirbhar Bharat Abhiyan in May 2020 for curing the economy from the hit taken by the Coronavirus crisis.

This is the worst crisis since the great depression. The most concerning part is that there will not be a single economy that can escape from the clutches of this slowdown. There is a possibility that the Indian economy could face better than other countries as India is less dependent on an export which means that India won't suffer if globalization is put on reverse gear and new trade barriers are imposed. India's biggest import is crude oil. Plummeted oil prices played a critical role in saving India from an external shock.

Meanwhile the rating agencies across the world expect the global economy to sink into recession. Extend of the slowdown on the Indian economy will depend on the economic response to the crisis in the coming days. A lot of economy pundits expect a v-shaped economic recovery where a sharp rise follows a sharp decline. The caveat here is that there could be a prolonged decline even after lifting the lockdown as the people will be reluctant to spend money with this uncertainty.

4. Investment Strategy

It is one of the suggestions to the investors that during the time of this uncertainty they should stay calm. As they become more panicked then this makes the situation worse. Individual investors who panic and sell during this time could end up and lose their all long term profits. Therefore, patience is very important in this tough time.

The Brokers often recommend their clients and investors to buy the stocks when markets go over a rough patch and later sell them when the bulls run started. But trading at a time when global markets have been hurt by coronavirus outbreak is a different action. It is very difficult to say this time that till when this pandemic will continue. The equity shareholders should adopt a barbell strategy which means that to own a combination of two extremes of high-quality growth stocks and buy beaten down or mean reversion plays, for instance, PSU companies, Corporate Banks, Utilities and Pharma.

The investors should use the market falls for the rebalancing of the portfolio, and it is best to avoid any excessive leveraging in such times. Whenever there is a very sharp fall in the market, it is an attractive opportunity to accumulate equities in their portfolios for the long term investors. The investors who want to invest in mutual funds, they should allocate their money to large-cap and multi-cap funds in this current market fall and later, when the volatility reduces, they can add mid-cap funds also. A practical strategy would also be to use a mixture of index funds or ETFs, balanced advantage funds and aggressive hybrid funds.

In fixed income, one can invest in long-dated government securities, and this also provides the scope for capital appreciation. This will serve as the safety plan to the investors.

Conclusion

In the first part of the study, we analyze the journey of the Indian stock market from 2019 to 2020 and why the stock market is rising amid the slowdown in the Indian economy. Sensex and Nifty are rising and the cause behind the anomaly is that investors are forward-looking and they want to invest only in the large corporations amid the slowdown in the economy. As a result, these securities become very expensive and hence, Sensex and Nifty have gone up.

The answer to this puzzle would be that Sensex and Nifty represent only a very small number of corporations that have a large market capitalization. In Indian equity markets, investors are forward-looking in spite of the gloomy news about the economy. The stock markets are rising purely on the expectation of a better future. The reason for this optimism is the number of measures the government has announced to revive the economy.

In the second part of the study, we examine the impact of Coronavirus pandemic on the Indian stock market. The extent of the spread of COVID-19, combined with a high death rate, has resulted in an extraordinary situation of lockdowns being enforced across the world. Such lockdowns on a worldwide scale, with no economic activity or value addition taking place across important economic sectors, are unique. This has led to equity investors facing a problem of recognizing which industries would be able to survive the lockdowns. Therefore, there is a lot of anxiety and fear among them that has resulted in sell-offs as everybody demands safer assets such as gold and the government 10 year treasury bills. The stock markets of ten countries which we analyzed in this study, are also negatively affected by COVID-19, especially till the last week of March. With the help of event study from the period 22nd January 2020 to 8th June 2020, we concluded that the Indian stock market is negatively affected by COVID-19.

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