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ABSTRACT

The outbreak of the COVID-19 pandemic has greatly impacted the Indian Economy. The economy was already in a parlous state before COVID-19 struck. The prolonged lockdown in India will have a sizeable impact on the economy mainly on consumption which is the biggest component of GDP. The magnitude of the economic impact will depend upon the duration and severity of the health crisis, the duration of the lockdown and the manner in which the situation unfolds once the lockdown is lifted. In this paper we will discuss the impact of COVID-19 on various sector economy such as Tourism, Micro, Small and Medium Enterprises: Education and analyze the situation by using some indicators like the GDP growth rate, unemployment rate, Industrial Production, household income etc. This work mainly focuses on the situation in India pre-crises and during the crises to help understand the downturns and challenges faced by Indian Economy.

Keywords: COVID-19, Indian Economy, Unemployment.

1 Introduction

The Coronavirus has become a major humanitarian challenge and requires a lot of sacrifices to combat the disease. It has been declared a global pandemic by the World Health Organization (WHO) and the virus continues to spread rapidly around the world through myriad active centers of transmission. The disease is highly transmissible and disproportionately affects those with underlying conditions. It has led to a global breakdown and affected almost all major countries of the world bringing a slowdown and recession in the economy due to consistent lockdowns by the nations. COVID-19 has been a largely disruptive factor when it comes to the economics of India. This crisis comes at a time when India's GDP growth was slowing down, and unemployment was on the rise owing to poor economic performance over the last several years. The precarious situation that the economy was in before getting hit by this shock will potentially worsen the effect of the shock. This is especially because the financial sector which is the brain of the economy has not been functioning properly and the macroeconomic policy space to respond to such a crisis is severely limited.

Between the months of March and April, unemployment in the nation rose from 6.7% to 26%, by a factor of almost four times larger than pre-pandemic numbers. An estimated 140 million citizens have lost their employment status during the heavy lockdown that India was (and still may be) under. All across the country, more than 45% of the households have reported raw income drops in comparison to...
last year’s numbers. The employed ones are not well-off either, as there have been numerous reports of salary cuts all across various organizations in India. The most risked group of people in the economy are informal sector and daily wage workers, as they have always been. Farmers that had invested in perishable foods prior to the unforeseen circumstances being faced today are also facing uncertainty all across India. It may take a long time for the economy to recover from this shock even if the lock-down is fully lifted by August or September, 2020. To a large extent the recovery will depend on the policy responses of the government and the Reserve Bank of India (RBI) during the crisis period. The policymakers have already announced an initial round of actions. Much more needs to be done to minimize the impact of the shock on the economy. Through this paper, we aim to analyze the impact of COVID-19 on Indian economy as a whole and also the GDP and Unemployment rate in India. Also, we would be taking up this research further by performing a sector wise analysis and the problems faced by them in times of this global pandemic.

2 Objective of Study

The objective of the study is to focus on the impact of Coronavirus (COVID - 19) on various sectors of the economy. The sectorial analysis has also helped to compare the past results with the present scenario and also analyze the situation prevailing in the country in terms of losses and opportunity costs. The main objective of this work is to study the spillover effects of COVID-19 on the economy among various markets and sectors mentioned as Pharmaceutical Sector, Tourism Sector, Micro, Small and Medium Enterprises, Education sector, Chemical Industry, Auto Industry, Electronics Industry etc. This work also highlights the impact on GDP, unemployment levels and growth in the present as well future in response to each sector.

3 Sector-Wise Impact

3.1 Tourism Industry

COVID 19 has resulted in one of the severest downturns for the travel and tourism sector in India. Coming on back of a sluggish economy and subdued growth over the past few years, the COVID 19 blow is widely expected to push the sector to the brink. The aviation and tourism sectors are directly impacted leading to a near collapse of the sector, majorly owing to the cancellation of inbound Visas and stringent restrictions on domestic or international travel. With revenue streams drying up, companies will be forced to restructure their workforce. Reduced working hours, work without pay, salary cuts and downsizing the workforce are expected to be the norm over the next three months. It is believed that around 70 percent out of a total 5.5 crores workforce could get unemployed, which is around 3.8 crores people. This effect of job losses and layoffs has already begun throughout the country.

Figure-1 shows the share of foreign tourists visiting India every year in different states of the country. Due to the global pandemic, the people visiting India would reduce in large numbers hitting the revenues of all the states showing a large downfall. Figure-2 shows the domestic travel visits by people every year on an average. The purpose of people is to visit their family members, visits for business purposes, student’s intra travel within the country, people serving their religious beliefs in different religious places, exploring new heritage sites etc. Due to the Coronavirus, there will be deep downfall in such visits even after lockdown and the great loss bearers would be Railways and Aviation Sector. The tourism business would show a creeping bowl leading to unemployment and fall in revenues of the service providing Industries. Also, the metro cities like Gurgaon, Mumbai, Hyderabad, Bengaluru and Pune etc. had a lot of labor and working professionals which travel a lot to carry out the official arrangements. The period of
lockdown had completely barred them to do so and led to reduction in a lot of revenue through these working professionals and would further also restrict their operations in the upcoming year.

Figure-1: Share of foreign tourist

Figure-2: Share of domestic tourist
(Source: Ministry of Tourism)
3.2 Micro, Small and Medium Enterprises

The micro, small and medium enterprises as a whole form a major chunk of manufacturing in India and play an important role in providing large scale employment. Recent annual reports on MSMEs indicate that the sector contributes around 30\% of India’s GDP, and based on conservative estimates, employs around 50\% of industrial workers and contributes half of the overall exports\(^5\). Over 98\% of MSMEs can be classified as micro firms, and 94\% remain unregistered with the government. Many of the micro enterprises are small, household-run businesses.

Although all businesses have been affected by the pandemic, the MSME sector would be particularly worse hit by reduced cash flows caused by the nationwide lockdown. Their supply chain has been disrupted, and they have been adversely affected by the exodus of migrant workers, restrictions in the availability of raw materials, by the disruption to exports and imports and also by the widespread travel bans, closure of malls, hotels, theatres and educational institutions etc. This, in turn, have massively hampered the MSME businesses. A recent survey in MSMEs by the All India Manufacturers Organisation (AIMO, June 2020) shows that 35\% of MSMEs and 43\% of the self-employed said that they see no chance of recovery in their businesses and have begun shutting down their operations. As a consequence, hundreds of thousands of people who work for these small businesses may end up with job and salary losses. “With cancellation of over 50\% of orders and gloomy forecast for the future, we expect 15 million job losses in exports and rising NPAs (non-performing assets) amongst exporting units, hitting the economy very badly,” said Sharad Kumar Saraf, president, Federation of Indian Export Organisations (FIEO).

<table>
<thead>
<tr>
<th>Sector</th>
<th>Agriculture, mining and quarrying</th>
<th>Business, trades, personal and public Services</th>
<th>Light/heavy manufacturing, utilities, and construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Best case</strong></td>
<td>GDP</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td><strong>Moderate case</strong></td>
<td>GDP</td>
<td>-0.02</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td><strong>Worse case</strong></td>
<td>GDP</td>
<td>-0.04</td>
<td>-0.03</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>-0.02</td>
<td>-0.03</td>
</tr>
<tr>
<td><strong>Hypothetical worst case</strong></td>
<td>Employment</td>
<td>-1.62</td>
<td>-1.11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sector</th>
<th>Hotels, restaurants and other personal services</th>
<th>Transport Services</th>
<th>Total (Economy-wide)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Best case</strong></td>
<td>GDP</td>
<td>-0.1</td>
<td>-0.03</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>-0.09</td>
<td>-0.01</td>
</tr>
<tr>
<td><strong>Moderate case</strong></td>
<td>GDP</td>
<td>-0.18</td>
<td>-0.04</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>-0.17</td>
<td>-0.02</td>
</tr>
<tr>
<td><strong>Worse case</strong></td>
<td>GDP</td>
<td>-0.31</td>
<td>-0.07</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>-0.29</td>
<td>-0.04</td>
</tr>
<tr>
<td><strong>Hypothetical worst case</strong></td>
<td>GDP</td>
<td>-1.64</td>
<td>-1.25</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>-1.64</td>
<td>-1.24</td>
</tr>
</tbody>
</table>
Figure 3 presents the above four scenarios of COVID-19’s impact on Indian economy and employment. (Source: The Asian Development Bank (ADB), Deloitte analysis)

Note: The "Worst case" scenario is hypothetical, presenting the impact if a significant outbreak occurs in a country, and should NOT be interpreted as a judgment on the likelihood of an outbreak occurring there.

3.3 Pharmaceutical Industry

The Indian pharma sector is the third-largest in the world. It manufactures almost 60 per cent of the vaccines used globally, including important ones, such as those against diphtheria, tetanus, and pertussis required by the World Health Organisation (WHO). Furthermore, the country meets 90 per cent of the global demand for the vaccine against measles. Millions across the world use generic drugs produced by Indian drug manufacturers. More than 250 factories in the country have been approved by the US Food and Drug Administration (FDA) as well as the UK Medicine and Healthcare Products Regulatory Agency (MHRA). These manufacture drugs for overseas markets, including the US and the UK.

The Indian pharma sector is an important component of the global healthcare infrastructure and is instrumental in saving millions of lives every year. However, like all other sectors, it too has been affected by COVID–19 that has brought about various changes. The COVID–19 pandemic has disrupted supply chains across the world. Every sector, including pharma, is suffering from supply chains coming to a grinding halt. Prices of raw materials have shot up amid limited supply, production schedules have been interrupted, factories have been shut down and shipping costs are sky-high in most countries. The impact on the Indian pharma sector is typically evident, given that most raw materials are procured from China, the epicenter of the outbreak [6].

Indian drug manufacturers face other challenges as well. An Indian pharmaceutical facility can sell drugs in the US only after it has been inspected and approved by the US FDA. With the ban on international travel, inspection is naturally out of question, rendering it impossible for Indian drug companies to sell in the US and other overseas markets. The pandemic has also forced generic drug manufacturers, both...
contract and captive, to delay their plans for new product launches. Some Indian pharma facilities had to be shut as workers tested positive for COVID–19. Plants that are operational are producing less due to manpower crunch amid lockdown and social distancing measures. In short, production timelines have changed drastically [7].

3.4 Chemical Industry

India’s chemicals sector is the 6th largest in the world and has witnessed strong growth momentum over the last couple of years. Following global supply-chain disruptions and the government’s lockdown measures to restrict the spread of COVID-19, Indian capital markets experienced a significant decline in March 2020, and a subsequent rebound in April. Given the essential nature of the chemical sector, manufacturing operations resumed shortly after the initial lockdown, reflected by a moderate price impact for listed Indian chemical companies.

Even before COVID-19, global chemical manufacturing operations had already increasingly relocated to India from China, which will only continue after COVID-19 as more companies evaluate alternative supply chain solutions. Decline in crude oil prices since the beginning of this year will also have a significant impact on the raw material pricing from a short-term to medium-term perspective. The short-term impact related to COVID-19 will disrupt the current year financial performance of companies until virus-related economic disruption is mitigated. However, companies with strong balance sheets and low debt levels will be well-equipped to operate through the uncertainty, likely emerging stronger and more resilient operations. Sectors like Specialty Chemicals, Agrochemicals and Pharma Intermediates will have limited impact given their essential nature [8].

3.5 Auto Industry

The auto sector had already undergone considerable slowdown over the last 12-18 months due to structural changes beginning with the Goods and Services Tax, shift to Shared Mobility, Axle-load reforms, the Bharat Stage-IV (BS-IV) to BS-VI transition, Liquidity Crunch and so on[9]. The COVID-19 lockdown has had a multiplier effect – the industry has almost been at a complete standstill since 24th March. A prolonged truncation of consumer demand due to the lockdown is seen significantly affecting auto manufacturers (OEMs) revenues and cash flows. COVID-19 will impact all stakeholders in the value chain who will experience both short- and medium-term impact (See figure-4). This could range from shortage of raw material, shifting of production to other countries, liquidity crunch to delays in availability of models, deferred launches and shrinkage in consumer demand[10].

3.6 Education Sector

The novel Coronavirus (COVID-19) spread across the globe and in India has rung the alarming bells for the education sector in India. It has brought up many upcoming challenges for both the knowledge seekers and teachers in the education industry. The situation has prompted most of the governments to shut down all educational institutions in the country to avoid mass gathering. The education sector of India is deeply uprooted with student-teacher learning by means and ways of classroom interaction but the global pandemic has forced both students and teachers to move to technology based virtual learning. The adaptation to this change in methodology of both teaching and learning has posed a great challenge for the education sector[11].

Educators and students had experienced a ripple effect of the Coronavirus as universities and colleges were closed in the country. Also, UNESCO has reported that COVID-19 has disturbed the education of about 290.5 million students across the globe and somehow has created a phase of unemployment for some teachers[12]. Many private schools have asked for a fee for 3 months in advance from students in
India and the ones unable to pay the same are rolled out from the school’s record file and are not allowed to attend the online classes conducted by the schools. This was a really difficult situation for the parents who are not so financially stable due to a complete lockdown in the country.

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>OEMS</th>
<th>Dealers/ Distributors</th>
<th>Mobile &amp; Online Players</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short Term</strong></td>
<td><strong>Short Term</strong></td>
<td><strong>Short Term</strong></td>
<td><strong>Short Term</strong></td>
</tr>
<tr>
<td>- Shortage in components parts-China’s production slowly coming up but supply chain disruptions remains</td>
<td>- Decline in production especially BS VI due to supply chain / labour disruptions because of extended lockdown</td>
<td>- Decline in customer foot fails</td>
<td>- Rise in online platforms &amp; increase in traffic (e.g. Cardekho, Carwale in India)</td>
</tr>
<tr>
<td>- Reallocation of production parts to Indian suppliers due to bottlenecks in global supply chain</td>
<td>- Delayed availability of BS VI models, post testing and certification</td>
<td>- Liquidity crunch due to blocked working capital in BS IV inventory and loan tightening</td>
<td>- Even as use of online platforms increases, actual sales could drops due to low consumer confidence</td>
</tr>
<tr>
<td>- Possible decrease in export orders due to shut down in Europe / USA</td>
<td>- Potential decline in planned BS VI sales as it was expected to pick up in March</td>
<td>- Drop in automotive demand due to price increase for BS VI transition, slowing economy, slow loan availability &amp; lower consumer confidence</td>
<td>- Decrease in Ola/Uber demand due to lockdown &amp; work from home</td>
</tr>
<tr>
<td>- Possible liquidity crunch for suppliers due to increased inventory (no production by OEMs)</td>
<td><strong>Medium Term</strong></td>
<td><strong>Medium Term</strong></td>
<td><strong>Medium Term</strong></td>
</tr>
<tr>
<td></td>
<td>- Potential extended waiting times for new models (incl. BS VI versions) due to disruptions in production</td>
<td>- Potential sustained drop in demand due to drop in consumer confidence shifting from a “supply” problem to a “demand” problem</td>
<td>- Potential for enduring shift to online purchasing channels due to this impetus</td>
</tr>
<tr>
<td></td>
<td>- Increase in demand for spares due to pent up demand during lockdown</td>
<td>- Possible spike in consumer demand due to social distancing (personal mobility, shared mobility &amp; public transport)</td>
<td>- Potential for reduced cab demand due to shift in employer’s behaviour for Work from Home policies etc.</td>
</tr>
<tr>
<td></td>
<td>- Possible shortage of temporary labour because of people moving to hometowns.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Delay in availability of ready-for-sale &amp; certified vehicles</td>
<td>- Surge in demand for spares and service due to pent up demand during lockdown</td>
<td></td>
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<tr>
<td></td>
<td><strong>Short Term</strong></td>
<td><strong>Medium Term</strong></td>
<td><strong>Short Term</strong></td>
</tr>
<tr>
<td><strong>Short Term</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Possible increase in Make in India as global &amp; Indian supply chains mitigate supply risks</td>
<td>- Possible decrease in export as global players diversity supply chain</td>
<td>- Potential for enduring shift to online purchasing channels due to this impetus</td>
<td></td>
</tr>
</tbody>
</table>

Figure-4: Impact on Auto sector (See Ref. [10])
3.7  Electronics Industry

Market experts have already stated that this global pandemic will impact the electronics sector of India, though there is a chance that the situation will be under control by the end of year. India imports components from various parts of the world for the top 20 products that it makes, in which China accounts for the most significant share. Of our country’s total electronic imports, 45 per cent are from China. Around one-third of machinery and almost two-fifths of organic chemicals that India imports, come from China.\[13\].

Sunil Patwari, CEO, Rashmi Rare Earth Limited, says, “As the coronavirus outbreak forced China to completely shut down its operations, electronics manufacturing companies in India are facing supply disruptions, sky-rocketing prices for imported goods, and production cuts. The domestic electronics manufacturing companies depend on China to source a large part of their raw materials, so the restrictions imposed by the government as a precautionary measure is a huge setback on the manufacturing front. Due to the prevailing situation, there has been a negative impact on production, thereby impacting prices for existing products, revenues and, further, the overall economy.”

Electronics manufacturing companies usually stock raw materials and components to ensure continuous production for two to three weeks, but the extended period during which the coronavirus-linked shutdown was enforced, is hampering the entire process.

4  Analysis of the Impact on Indian economy

Economists slashed GDP rates for the foreseeable future due to the obvious impact of the lockdown. However, it was also estimated that the country might bounce back quickly because its industry composition, with unorganized markets being largely dominant. Losses from organized sectors amounted to an estimated nine trillion rupees in late March, projected to increase with the prolonging of the lockdown. Unsurprisingly, the most affected industries included services and manufacturing, specifically travel & tourism, financial services, mining and construction, with declining rates of up to 23 percent between April and June 2020.

The pandemic came with uncertainty and implications on all aspects of business across the world. Despite India being ahead of most countries in being able to implement work-from-home measures, specifically in white collar work, job and earning deficits, along with instability in prices was expected. The months of the lockdown resulted in the free fall of employment, which slowly stabilized after the economy reopened in late May in most parts of the country. After zonal segmentation of districts, research showed that the worst affected areas included orange and red zones (districts with higher numbers of COVID-19 infections), and largely the urban economy. Maharahstra, Tamil Nadu and Gujarat were estimated to have the steepest decline in GSDP at an average of 15 percent for the following year.

Segments including consumer retail expected to see sharp falls ranging between three and 23 percent depending on the market. For the big players across segments, this meant operating at less than full capacity to keep afloat. For small businesses, however, it depended on how long they could ride out the storm. Overall, the pandemic changed daily lifestyles drastically.

From a socio-economic standpoint, the pandemic exposed class and caste brutalities in determining who had access to basic healthcare. Even in the face of increasing infections and an economy inching feebly towards its pre-COVID-19 state, the Indian government was optimistic in fighting and containing the virus with minimal affects to the country.\[14\].
4.1 COVID-19 impact on unemployment rate in India 2020

A damaging impact on an economy as large as India’s caused due a total lockdown was imminent. Unemployment went up to 24 percent on May 17, 2020. This was possibly a result of a decrease in demand as well as the disruption of workforce faced by companies. Furthermore, this caused a GVA loss of more than nine percent for the Indian economy that month\cite{15}.

Between February and April 2020, the share of households that experienced a fall in income shot up to nearly 46 percent. Inflation rates on goods and services including food products and fuel were expected to rise later this year. Social distancing resulted in the job losses, specifically those Indian society’s lower economic strata. Figure-5 shows that the unemployment rate saw an immediate spike in both rural and urban area after India imposed lockdown in late of March but the condition was improved since early May\cite{16}.

![Rural and Urban Unemployment rate](image)

**Figure-5: Impact on unemployment rate (Source: Centre for Monitoring Indian Economy)**

4.2 COVID-19 impact on Industrial Production in India 2020

India’s industrial production dropped sharply in April when the country went into lockdown and most factories were not in operation. The index contracted by 55.5% compared with the same period a year earlier. That includes sectors such as mining, manufacturing and electricity. Manufacturing of consumer durables saw the sharpest decline for the month. The government said that the majority of industrial establishments reported no production for April. Figure-6 shows a sharp contraction in industrial output in April as most of the industrial sector remained shut due to lockdown\cite{16}.
4.3 COVID-19 impact on Manufacturing and Service sector in India 2020

The services industry collapsed in April as most businesses were shut due to the lockdown. A private survey by IHS Markit showed “extreme decline” in activity. The services business activity index compiled by the firm came in at a shocking 5.4, far below an industry forecast of around 40. Readings above 50 indicate expansion while those below that level represent contraction. Figure-7 shows the service sector recorded its largest month on month contraction ever in business activity and new orders in April due to lockdown[^14].
4.4 Estimated impact from COVID-19 on India's GDP 2020

GDP (gross domestic product) growth rate has been on a downward trajectory since 2015-16. According to the official statistics, GDP growth slowed down to 4.2% in 2019-20, the lowest level since 2002-03. Now the COVID-19 pandemic is set to impact the country's GDP. Figure-8 shows India's quarterly GDP was estimated to a decline of over nine percent between April and June 2020. This was a decrease from a five percent growth in the beginning of 2020. The country went into lockdown on March 25, 2020, the largest in the world, restricting 1.3 billion people. This was extended until May 3, 2020. India's government estimated its financial, real estate and professional services sector to be hardest hit during the period of the lockdown[17].

![Estimated quarterly impact from the COVID-19 on India's GDP growth in 2020](Image)

Figure-8: Impact on GDP (See Ref. [17])

4.5 COVID-19 impact on household income in India 2020

Household income in India was drastically impacted due to the coronavirus (COVID-19) lockdown as of April 12, 2020. Figure-9 shows there was a significant decrease in the level of income with households reporting a fall in income from about nine percent in late February to a whopping 45.7 percent in mid-April. Rise in income saw a contrasting trend indicating similar results; from 31 percent in late February to 10.6 percent on April 12, 2020. The country went into lockdown on March 25, 2020, the largest in the world, restricting 1.3 billion people, extended until May 3, 2020[17].
Conclusion

COVID-19 has posed an unprecedented challenge for India. Given the large size of the population, the precarious situation of the economy, especially of the financial sector in the pre-COVID-19 period, and the economy’s dependence on informal labour, lockdowns and other social distancing measures are turning out to be hugely disruptive. The eventual damage to the economy is likely to be significantly worse than the current estimates. The range one priority of the businesses right away is to work out a way to bridge over the present crisis and number two is to begin developing recovery plans to recuperate once things normalize. A lot will rely on the stabilization of the overall scenario arising from the COVID-19 pandemic. The situation remains dynamic and uncertain and it’s troublesome to gauge or quantify the impact at this point of time. At this stage, it is not easy and too early to truly get a decent sense of what the impact would be, because, and once more it depends on however long the crisis lasts for. The central and state governments have recognized the challenge and have responded but this response should be just the beginning. The situation is exceptionally unpredictable and is presumed to take close to a year to show any indication of growth.

Competing Interests

The author declares that there is no conflict of Interest.

References


