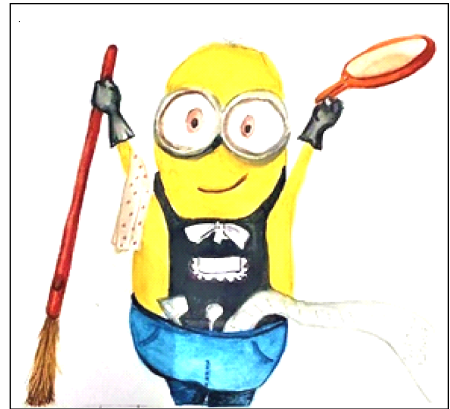


Cascading Effects of COVID-19 Pandemic Across Economic and Social Sectors of India

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1. Introduction

Edward Lorenz, meteorology professor at MIT, had posed a question during the 139th meeting of the American Association for the Advancement of Science (1972): “Does the flap of a butterfly’s wings in Brazil set off a tornado in Texas?” He intended to mean that some complex dynamical systems exhibit unpredictable behaviors. These small variances in the initial conditions could have profound and widely divergent effects on the system’s outcomes (Americanscientist.org). Subsequently this came in popular culture as Chaos Theory or Butterfly effect which meant that ‘the cause and effect relationship of any occurrence cannot be precise and can have far-reaching variable impact.’ Here an attempt is made to understand the socio-economic repercussions of COVID-19 pandemic keeping in mind the framework of Chaos Theory.



The first occurrence of the COVID-19 case in Wuhan (China) and its global impact worldwide has made humanity think about the unforeseen chain of events

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known as the cascade effect. As the World Health Organization (WHO) aptly cautions it, the world post-COVID-19 outbreak would not remain the same, and humankind has to live with it for long. What started as a local disease limited to a city has engulfed almost the entire world, and all sectors of human endeavors are trying to adapt to the ‘new normal’. Can the entirety of its impact and the exact repercussions on the humanity be precisely fathomed?

While the initial response to the disease outbreak was anger and economic retaliation on China, what remains to be seen is the cascading effects on all sectors of industry when it unfolds fully. While severing or reducing business and economic relations with China is a policy decision, the long-term impact on each nation’s socioeconomic fabric would vary. Prolonged lockdown across countries has left a long-term ramification on economic, social, psychological, religious, educational, and cultural activities. The activities, in turn, are also impacting one another, and thus the impact seems to be intensifying. This paper reflects on and summarises the impacts of COVID-19 pandemic across various primary sectors, such as industries and raw product generators, and secondary areas such as production and tertiary and service sector. As projected, the total loss incurred economically across the globe is around \$5.8 trillion and \$8.8 trillion this year, and gross domestic product (GDP) will be down to 6.4 to 9.7 per cent (Mukhopadhyay et al., 2020).

2. The Impact of COVID-19 on Various Sectors

2.1 Primary Sector

2.1.1 Labour Driven Industries: In India, the unorganised sector mainly comprising of microeconomic activities, and the migrant labourers have taken the maximum toll. Thousands of people have lost their earning opportunities as well as the source of income and have painfully migrated back to their villages through whatever source of transportation available; even by foot. While many could make back to their home alive, the problem of providing them livelihood is a challenge for local administration. The industry experiences another difficulty in metros, which were dependent on the labour. While unlocking phases have allowed enterprises to re-open their services, many migrant workers are reluctant to come back, and the businesses have resumed at a snail’s pace. It has also resulted in an imbalance in the existing population across states, and migrant workers have come back to their homes, health and hygiene facilities are inadequate. Announcements by the Union government have given some hope, but how well these policies are implemented remains. Inadequate facilities to return to their homes have also resulted in interstate bitterness and the political parties, instead of bridging the gap, are busy scratching the wounds.

2.1.2 Agriculture: The agriculture sector has faced a significant loss due to COVID-19 as the primary consumers, and bulk buyers, demands from hotels and restaurants have reduced drastically due to lockdown. India lives in villages and the primary source of industry is still agriculture. Lockdown and the resulting restrictions on transportation have led to irreparable loss to farmers as they could not sell easily perishable crops and had to throw the produce. It has also led to hike of prices of various essential food products. Initial rumors regarding the spread of the disease created suspicions on poultry operations and led to a loss. 'Being vocal about local' looks good on paper, but for the industry, the disruption of supply chain can be deadly. Civic bodies classified many vegetable and fruit vendors as super spreaders, and this led to doubts in the minds of people with respect to safety regarding the consumption of vegetables and fruits. Before and after the announcements of lockdown, people rushed to markets only to hoard supplies, and spread public health vulnerability.

All these scenarios have brought economic misery and loss to farmers, transporters and delivery workers. More than 40 per cent of farmers have experienced the yield loss (Kapil, n.d.) across the India.

2.1.3 Petroleum Industry: The petroleum industry has also seen the changes during the pandemic. The government has imposed high taxes on petroleum products to recover from other financial losses during the COVID-19 lockdown. The lockdown led to a drastic increase in fuel prices in last few months. In the month of May, the price of petrol and diesel increased by Rs. 9.13/- and Rs. 11.1/- respectively; which is an increase of 13 per cent and 16 per cent respectively (Daniyal, 2020).

2.2 Secondary Sector

2.2.1 Manufacturing sector: The manufacturing industry, which contributes 20 per cent of the GDP, is now reeling down due to the impact of COVID-19 pandemic. According to the United Nations, Industrial development organisation, manufacturing during the lockdown has stopped across all domains except the rice milling sector, and production has reportedly dropped by half. Due to the disruption of the international supply chain from the restriction on international transportation, many industries have also faced a shortage of raw material for manufacturing. The major contributor to the manufacturing industry is the auto industry. Due to COVID-19 the sales in the auto industry has decreased by 15 per cent, leading to a production cut of 5 to 10 per cent (Jayaraman, 2020).

2.3 Tertiary Sector

2.3.1 Tourism and Hospitality Sector: Tourism and hospitality industry have

been affected severely, and it is not wrong to say that it is the most hard-hit sector due to COVID-19 pandemic.

2.3.1.1 *Aviation Industry*: Air operations were closed, and they have opened with a lot of restrictions leading to lay off and salty cuts in these industries. Safety guidelines announced after the unlock phase are also tentative and viewed with suspicion. International travel may not open soon for all countries.

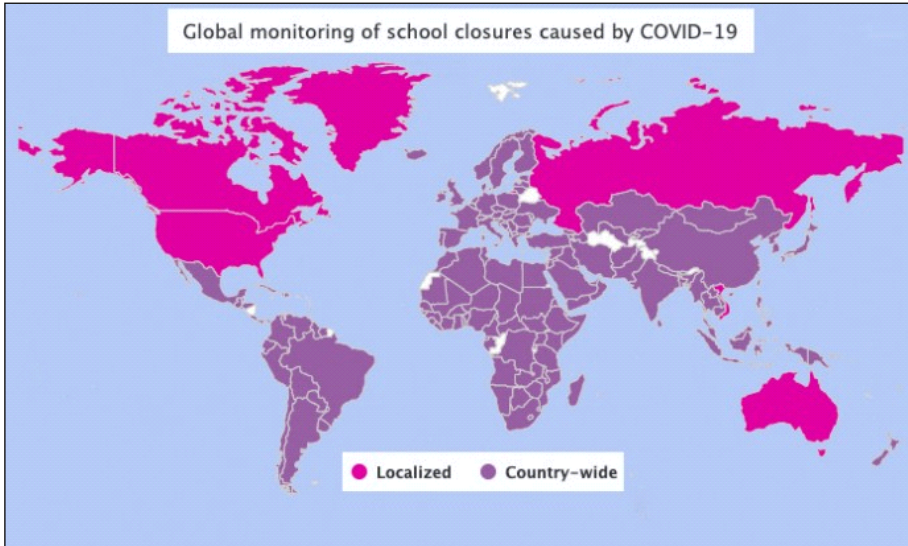
2.3.1.2 *Tourism Industry*: Lack of visits by tourists has led to income loss for local dependents also whose sole livelihood was dependent on the tourism industry. Prevailing uncertainties are baffling for these industries as the maintenance cost is soaring high, and there is no certainty for the normalcy. The World Travel and Tourism Council has warned that 50 million jobs in the global travel and tourism sector may be at risk (Faus, 2020). According to business standard, India is projected to loss of Rs. 1.25 trillion in calendar 2020 due to COVID-19 (Dash, 2020).

2.3.1.3 *Hospitality Industry*: Due to the pandemic, the hotels have received very few guests, which has resulted in revenue loss for many five star hotels. Due to the less amount of tourist mobility across the country, a large number of rooms remain vacant in hotels, leading to revenue loss per available room. Due to this loss of hotel industry, there are a significant number of people who have lost their jobs. Limits on numbers during social gatherings have created a colossal loss for many who depended on the hospitality industry.

2.3.2 *Education Sector*: During the phases of unlocking, the most challenging decisions made have been in the education sector. Although the government is hesitant to consider education as an essential service, the growth of the nation and future depends on skill enhancement of the youth. Ever since the announcement of the first lockdown, schools and colleges have shut down on-campus activities, and there is no hint as to when these can re-open. While various online engagements have provided an interim ray of hope, for a vast country like India with its socio-economic variables, online meetings look cosmetic.

Many universities across India have not been able to conduct final exams and many qualifying reviews are still to be undertaken, leading to uncertain academic schedules across the nation. The period of lockdown and online engagement of teaching-learning has led to a tussle between educational institutes and parents regarding fees payment. Either way, stakeholders would be at a loss. However, there is a silver lining; with all its challenges, stakeholders in education have quickly adapted to the new normal. At one sweeping stroke,

digital literacy has gone up, which would only serve well for the future. The online repository created by various bodies would help even when the educational activities commence on campus. The impact of school closure across the world can be seen in the figure (2).



Source: <https://uil.unesco.org/covid-19-educational-disruption-and-response>

Figure 2: COVID-19 Educational Disruption

2.3.3 Healthcare Sector: The most valuable player - the healthcare industry - has tried to respond valiantly, but many gaps in existing healthcare facilities have been exposed. The number of hospitals required and health care experts' presence is not adequate to an ever-increasing number of COVID-19 positive patients. The entire healthcare industry is busy experimenting with vaccines or panacea, and the world is waiting restlessly for such a solution to be made available. It remains to be seen how the distribution network would work even after the vaccine is invented. Psychologically, various medical theories floated by the pharmaceutical industry and universities have made people nervous as well as uneasy as each theory seems to contradict the other. Unproven messages spread like wildfire through social media, which has made majority of people try medical experiments at home or on their own without consulting medical experts. Sadly, many doctors and medical professionals are losing lives because of their close contact with COVID-19 positive patients. Eventually, the pandemic has led to various alternate treatments for immunity boost and people have turned to these also in hope.

2.3.4 Real Estate Sector: The spread of COVID-19 positive cases and ensuing lockdown led to no site visits by customers. The uncertainty of when the pandemic would end made people save money rather than investing in real estate. Virtual site visits and brochures have limited impact, and these all coincided with rumors that newspapers can spread corona virus and lack of platform to advertise property sales. Stringent social distancing rules enforced by the government and migration of workers have only compounded challenges for the real estate developers. In metros, many professionals have vacated their rented accommodations and are working from home, creating a dampened mood for the property market. With most universities resorting to online teaching, paying guest service providers are also at a mishit. There is no indication of when the situation would recover.

2.3.5 Sports Sector: Another industry that has been impacted is the sports industry. Restrictions on sports events, gym and swimming pool have led to uncertain schedules and search for alternate venues. IPL, which is as big as the World Cup for Indians, got delayed and led to a change of site in the United Arab Emirates (UAE). Games without spectators look to be the possibility. Allied with these are the challenges of sponsoring agencies. The anger of Indians on Chinese products has created clouds of suspicion over the title sponsor of IPL, a Chinese company. Majority of games are now re-establishing new guidelines that would keep players safe. Now, how these changes would alter the entertainment section for viewers yet remains to be seen.

3. Social Impact

3.1 Psychological Impact on People: Psychologically the prolonged home stay and uncertainties have created mental health issues. Many are complaining of depression and anxiety attacks. - Number of suicide cases has increased and there have been more reported cases of divorce and domestic violence. Need of mental health counselors has never been felt more than now. Extensive screen time has also lead to online addiction and cases of cybercrime have gone up. For women professionals this has been the most testing time as they are struggling with work from home (WFH) and domestic chores.

Places of religious worship were also impacted with sweeping restrictions initially and then gradual conditional re-opening. Many religious festivals in India have been impacted with the pandemic and the senior citizens who are likely to be visiting the places of worship have suddenly found themselves locked inside the home. Cultural and psychological impact of these restrictions can be intangible but serious.

4. Political Impact

Politically the spread of novel corona virus has made most of the countries question China's role, and many conspiracy theories have been floated. The pandemic has a critical impact on approaching the US presidential election, and as anticipated, President Trump has been extremely aggressive in diverting people's attention to China's role. In India, Prime Minister Modi's implicit message of 'self-reliance' is also seen as a diplomatic response to China's alleged mishandling of the disease and recent geopolitical misadventures. Ban on the number of mobile applications has led to a war of words between India and China. India may gain considerable business opportunities if transnational companies shift their operation base from China to India. From defense point of view, India would have to be wary of China's forays into India's backyard and its influence on India's small neighbours.

5. Ecological Impact

From ecological point of view, sudden breaks on travel in every part of the world has been a blessing for the Mother Nature resulting in reduced pollution and less encroachment on wild life. Both air and water quality have improved (Lokhandwala and Gautam, 2020). South Asian River Dolphins also known as Ganges Dolphins have again been visible in Ganga near Kolkata. Drop in crazy transport rush and human sacrilege on nature has resulted in reduced seismic noise. This may allow researchers to better study the Seismic changes or volcanic activities.

6. Conclusion

A crisis can create clarity and concentration (Swapneil Parikh, Maherra Desai, 2020). The experience on the cascading effects of the pandemic can help humanity deal with such crises better with a collaborative effort in future. David G. Chandler has cautioned humanity that "No one would deny that all wars and battles are regrettable acts of human folly, causing unjustifiable agony and distress to combatants and non-combatants alike-but these considerations should not preclude their serious study if only to avoid the mistakes of the past which make such tragedies inevitable." Let us all introspect and have a better response mechanism to such a crisis in the future. The resilient leadership and collaboration across various sectors can help to recover all areas steadily.

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