A

Project Report

On

Effects of Covid-19 on Indian Economy

Submitted By

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Declaration

I Rutvik Bhosale __, of MBA-2: Seat No____________hereby declare that the Project work titled Impact of Covid-19 on Indian Economy which has been submitted to University of Pune, is an original work of the undersigned and has not been reproduced from any other source. I further declare that the material obtained from other sources has been duly acknowledged in the report.

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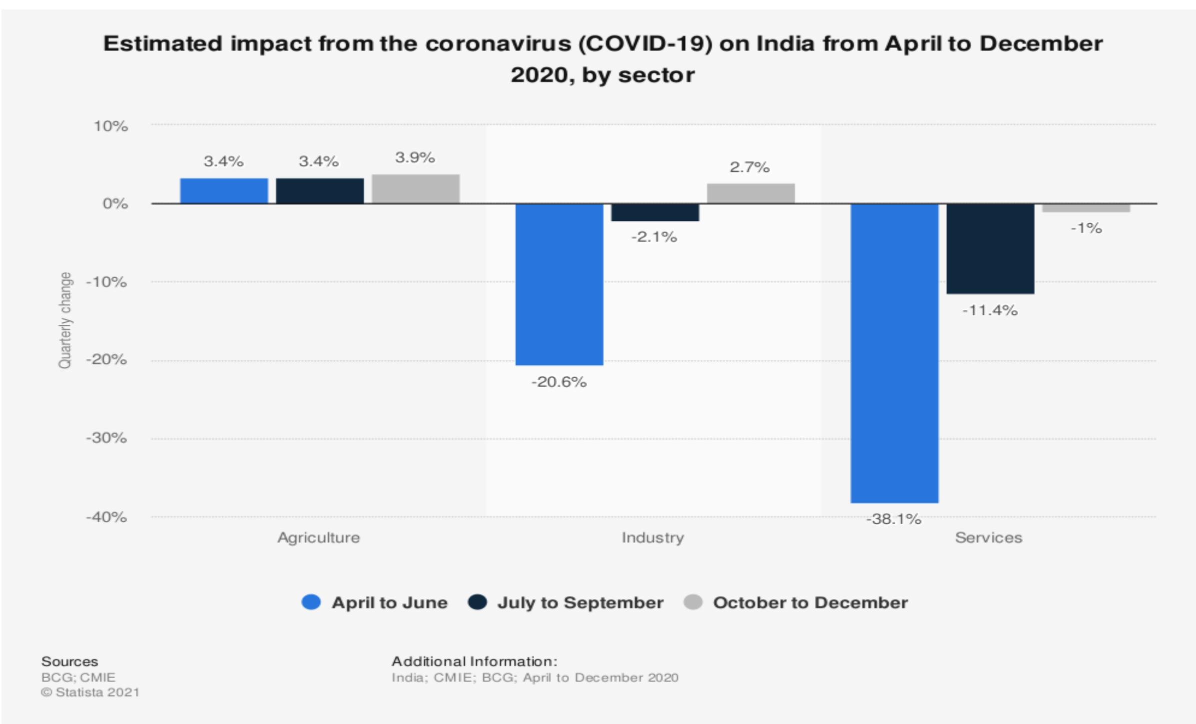
Abstract

The study aims to make an assessment of COVID-19 on Indian economy by analysing its impact on growth, manufacturing, trade and micro, small and medium enterprises (MSME) sector, and highlights key policy measures to control the possible fallout in the economy. The impact of the pandemic across sectors and in different scenarios of complete, extended and partial lockdown, and at different levels of capacity utilization is massive on the Indian economy. India's economy may barely manage to have a positive growth of 0.5 per cent in an optimistic scenario but also faces the possibility of a 3–7 per cent negative growth in worst case scenarios for the calendar year 2020. The impact is severe on trade, manufacturing and MSME sectors. The likely impact (deceleration) of COVID-19 from best case scenario to worst scenario are as follows: manufacturing sector may shrink from 5.5 to 20 per cent, exports from 13.7 to 20.8 per cent, imports from 17.3 to 25 per cent and MSME net value added (NVA) from 2.1 to 5.7 per cent in 2020 over previous year. The economy is heading towards a recession and the situation demands systematic, well targeted and aggressive fiscal-monetary stimulus measures.

Introduction

The impact of corona virus pandemic on India has been largely disruptive in terms of economic activity as well as a loss of human lives. Almost all the sectors have been adversely affected as domestic demand and exports sharply plummeted with some notable exceptions where high growth was observed. An attempt is made to analyze the impact and possible solutions for some key sectors. Coupled with the humanitarian crisis and silent treatment of the government, the covid-19 has exposed and worsened existing inequalities in the Indian economy. ... **India's GDP shrank 7.3% in 2020-**21. This was the worst performance of the Indian economy in any year since independence.



India is also amid a severe crisis. “This is the greatest emergency for the Indian economy since independence,” said Raghuram Rajan, former RBI Governor. This is worse than the financial crisis of 2008, which affected the demand side but workers/people could still go to work, the financial conditions of government of India was sound but it seems that everything is against the economy this year. Almost all the countries due to COVID-19 are affected similarly in terms of demand–supply shocks and disruptions but in India, there was already a downturn in the economy. In Pre-COVID era India was encountering with major macroeconomic issues such as nearly recession with the sluggish GDP growth rate of 4.7% in 2019 which is lowest since 2013 (as indicated by the official statistics), high unemployment rate, decline in industrial output of core sectors—the worst in 14 years, stagnancy in private sector investment, decline in consumption expenditure for the first time in several decades. Also, the informal sector of India which is the largest in the world employs nearly 90% of the total working population and contributes significantly in overall GDP (more than 45%) has been hit by two major shocks (or reforms) already due to demonetization in 2016 and GST in 2017.

Sectors affected by Covid-19 on Indian Economy

1) Agriculture: - To contain the spread of COVID-19, just like how other countries did, India imposed a complete lockdown in March which coincided with the peak of harvesting season of Rabi crops in India mainly in the north-west which posed significant losses to the farmers. Although there were relaxations to the agriculture sector during lockdown but transport constraints, mobility restrictions and lack of labor due to reverse-migration of labor to their native places were the major problems faced by the farmers. Farmers in Maharashtra called it a worse situation than that occurred during the demonetization in 2016 .

Before this pandemic, the rural economy of India was witnessing a decline in incomes of mainly casual workers along with declining rural wages (real). Some rays of hope were seen in January 2020 when food prices started rising but all hopes collapsed with this new crisis.

Agriculture and allied activities are not a homogenous group of activities, in fact, an umbrella of different activities having their different dynamics each. So, the impact of COVID-19 on this sector varies according to the set of activities, that is, on crops, livestock, fisheries, and so forth. Horticulture and Food-grains production is part of crops and is impacted differently. Horticulture is likely to face the brunt more because of the nature of perish-ability whereas food grains are non-perishable and apart from problems in harvesting and labor shortage, this is not impacted much. Rabi harvesting has gone well and MSP hike has also been announced for the Kharif crops which assures farmers a 50–83% return on their production cost.

With declining demand and reduction in exports of fruits and vegetables, horticulture is hit hard.

Similarly, floriculture has been affected because of less demands due to shut down of religious places, postponement of marriages, and so forth. In livestock (milk, meat, eggs), milk is the major contributor that has been impacted and fortunately, had stability during the lockdown.

Fishing and aquaculture are expected to have a high negative impact, food grains and livestock low, and horticulture medium, relatively. Agriculture seems to be a bright spot in India amid the COVID-19 crisis and CRISIL expects agriculture to grow at a rate of 2.5% in FY2021.

2) Manufacturing: -

The manufacturing sector is the major contributor of GDP and employment in the secondary sector and has been recognized as an engine for vibrant growth and creator of the nation's wealth. The manufacturing sector is important in the way that it has strong linkages with other sectors, both forward and backward linkages so any impact in this sector will affect other sectors as well. Overall, the manufacturing sector is going to be affected badly by demand–supply disruptions and global value supply chain.

The 50% contributor to the manufacturing sector, the automotive sector was suffering before COVID-19 too due to low consumer demand, inadequate credit facilities, and more problems due to the NBFC crisis. There is a lot of pressure due to demand–supply disruptions on the health of the auto sector in India due to COVID-19.

As per the latest assessment related to the impact of COVID-19 done by SIAM, the auto sector is expected to have a decline between 22% and 35% in various industry segments conditioned with GDP growth of 0–1% for FY21 said Rajan Wadhera, President, SIAM.

From decades, China has been the epicenter of manufacturing accounting for one-third of total manufacturing over the world. But after the outbreak of COVID-19, many countries are planning to shift focus from China and looking for countries like China where cheap labor is available. So, it is a golden opportunity for India to make “Made in India” global. There is huge potential in India, if proper measures will be taken to boost the manufacturing sector, India will emerge as a new manufacturing hub surpassing China.

The micro, small and medium enterprises (MSMEs) as a whole form a significant share of manufacturing in India and play a crucial role in providing employment opportunities and also in the country's exports. As indicated by recent reports MSMEs contribute 30% in India's GDP and 50% in the employment of industrial workers. But this sector has issues like the non-availability of adequate, timely, and affordable institutional credit. Although all the businesses and sectors are affected due to the pandemic, this sector is badly hit due to reduced cash flows, supply chain disruptions, shortage of migrant workers due to reverse migration, less demand, and so forth. Like China, India is also expected to have major destructions in this sector with more challenges to small firms as compared with upstream firms.

It is not easy to re-start MSMEs once they are shut down. India's Sherpa to the G20 also said that small industries are most vulnerable and it is difficult for them to survive without financial assistance because of their incapability to deal with such sudden disruptions.

3) Financial Markets and Institutions:-

The financial sector who has got the most important role to play in the crisis times has also been having huge problems in India like Twin Balance Sheet (TBS), high levels of non-performing assets (NPAs) and an inadequately capitalized banking system. In the private corporate sector too, firms are financially weak and over-leveraged. Some more problems like IL&FS crisis, decline in commercial credit of around 90% in FY2020-first half, and a near-demise of a well-known and reputed private bank—Yes Bank, and so forth.

To what extent the financial market will be affected depends on the severity and longevity of the crisis, effectiveness of the implementation of fiscal and monetary policies and central bank's reactions

There is no such impact on the banking sector, but because banks are at the forefront of public attention the indirect impact of several other sectors that are hit by the pandemic is likely to be on the banks and other financial institutions. Banks are the major source of help in times of crisis, therefore when all other sectors are hit badly; banks will also face the brunt. The already existing problems in the financial sector are expected to multiply due to this draconian crisis. The stock market has also seen the worst in March, 2020 due to the lockdown and collapse of various business activities. Subramanian and Felman suggested that around one-third of industrial and service firms have applied for moratoria on their bank loans. The stock of non-performing assets (NPAs) may increase by Rs. 5 lakh crore even if only a quarter of these deferred loans go bad, eventually. And this is a conservative estimate. Senior bank officials have been quoted as estimating that the stock of NPAs could increase by as much as Rs 9 lakh crore.

In this case, we would be looking at NPAs of Rs 18 lakh crore, equivalent to around 18% of current loans outstanding. For planning purposes, it is worth considering who will pay for such losses, if they do materialize.

Other important dimensions of service sector like aviation, transport, travel, and tourism are worst hit not only in India, but globally. The loss to this sector too will be based on the severity and longevity of the crisis. A report by KPMG indicates that around 38 million job losses are expected in India's travel, tourism and hospitality industry.

4) Telecom:-

There has been a significant amount of changes in the telecom sector of India even before the COVID 19 due to brief price wars between the service providers. Most essential services and sectors have continued to run during the pandemic thanks to the implementation of the ‘work from home’ due to restrictions. With over 1 billion connections as of 2019, the telecom sector contributes about 6.5 per cent of GDP and employs almost 4 million people. Increased broadband usage had a direct impact and resulted in pressure on the network. Demand has been increased by about 10%. However, the Telco’s are bracing for a sharp drop in adding new subscribers. As a policy recommendation, the government can aid the sector by relaxing the regulatory compliances and provide moratorium for spectrum dues, which can be used for network expansions by the companies.

5) PHARMACEUTICALS:-

The pharmaceutical industry has been on the rise since the start of the Covid-19 pandemic, especially in India, the largest producer of generic drugs globally. With a market size of $55 billion during the beginning of 2020, it has been surging in India, exporting Hydroxychloroquine to the world, esp. to the US, UK, Canada, and the Middle-East.

There has been a recent rise in the prices of raw materials imported from China due to the pandemic. Generic drugs are the most impacted due to heavy reliance on imports, disrupted supply-chain, and labour unavailability in the industry, caused by social distancing. Simultaneously, the pharmaceutical industry is struggling because of the government-imposed bans on the export of critical drugs, equipment, and PPE kits to ensure sufficient quantities for the country. The increasing demand for these drugs, coupled with hindered accessibility is making things harder. Easing the financial stress on the pharmaceutical companies, tax-relaxations, and addressing the labor force shortage could be the differentiating factors in such a desperate time.

6) Oil & Gas :-

The Indian Oil & Gas industry is quite significant in the global context – it is the third-largest energy consumer only behind USA and Chine and contributes to 5.2% of the global oil demand. The complete lockdown across the country slowed down the demand of transport fuels (accounting for 2/3rd demand in oil & gas sector) as auto & industrial manufacturing declined and goods & passenger movement (both bulk & personal) fell.

Though the crude prices dipped in this period, the government increased the excise and special excise duty to make up for the revenue loss, additionally, road cess was raised too. As a policy recommendation, the government may think of passing on the benefits of decreased crude prices to end consumers at retail outlets to stimulate demand.

7) Tourism :-

The contribution of the Aviation Sector and Tourism to our GDP stands at about 2.4% and 9.2% respectively. The Tourism sector served approximately 43 million people in FY 18-19. Aviation and Tourism were the first industries that were hit significantly by the pandemic. The common consensus seems to be that COVID will hit these industries harder than 9/11 and the Financial Crisis of 2008. These two industries have been dealing with severe cash flow issues since the start of the pandemic and are staring at a potential 38 million lay-offs, which translates to 70 per cent of the total workforce. The impact is going to fall on both, White and blue collar jobs. According to IATO estimates, these industries may incur losses of about 85 billion Rupees due to travel restrictions. The Pandemic has also brought about a wave of innovation in the fields of contactless boarding and travel technologies.

8) Film industry:-

Big releases postponed, film, TV and web series shootings halted, theatres unable to screen movies, daily wage employees struggling for their next meal… the Rs 183 billion Indian film industry is going through its worst phase because of the lockdown necessitated by the corona virus pandemic. While the impact of the lockdown on the industry at large is still being evaluated, we take a look at how slim production and related fields have suffered in India over the past month.Covid-19’s first impact came when Reliance Entertainment on March 12 indefinitely postponed Rohit Shetty’s film Sooryavanshi.

The film starring Akshay Kumar and Katrina Kaif was scheduled to release on March 24. This was quickly followed by Sir, Sandeep Aur Pinky Faraar, Haathi Mere Sathi and 83 getting postponed too. Baaghi 3 saw fewer takers in its second week, and Irrfan Khan's Angrezi Medium had to be pulled out of theatres. It eventually released on OTT platform Disney+Hotstar. Similarly a lot of big ticket releases in regional languages have also been delayed.

Covid-19's ripple effect was felt when film bodies including Federation of Western Indian Cine Employees (FWICE) and Indian Film & Television Directors' Association (IFTDA) decided to halt shooting of movies, TV shows and web series. Major production houses like Balaji Motion Pictures, Dharma Productions and Yash Raj Films also promptly called off all production activity. Amid this, various state governments ordered the closing down of cinema halls. Prime Minister Narendra Modi's announcement on March 24 of a 21-day national lockdown sealed the fate for several projects

Ranbir Kapoor and Alia Bhatt's much-awaited Brahmastra too halted production. The film which, after several delays, was finally scheduled to release December 4, 2020, now seems to be looking at an uncertain future. Shahid Kapoor's Jersey, a remake of the Telugu hit of the same name, also suspended shooting to ensure the safety of its crew. Among the movies hit is Sanjay Leela Bhansali's Gangubai Kathiawadi. "I don't understand how they will manage Gangubai's production now. Its set has been created in Film City and it will start raining in June," said veteran actor Seema Pahwa who plays a role in the film.

"I am sitting at home when I was supposed to shoot for another film and a web series. The stuff that we have committed to till December will also get pushed. The entire schedule goes for a toss, and we cannot sign new work."

9) International Trade :-

Aggregate trade:

We compute the loss of trade in two formats: first, we describe the exposure of India's exports and imports with the severe corona virus-affected countries. Second, we compute while following the similar practice as of GVA loss computation. We are given the values of exports and imports till the first quarter of 2020. Here we estimate the exports and imports from Q2 to Q4 for year 2020 by applying the quarterly growth (YoY) of past year 2019. Then we compute the loss for Q2 and Q3 under scenarios A–D. We do not compute the loss for Q1 of 2020 as the data are already released wherein significant decline is observed due to COVID-19. In case of scenario A, we would be having the loss in exports and imports for only second quarter. With this loss of Q2 we compute the percentage of overall exports/imports of year 2020. Similarly, we calculate the loss of exports for the remaining scenarios. We follow this approach for all the scenarios except scenario E. In fact, all the scenarios A–D are relevant from India's trade perspective. However, it is equally important to see the impact on trade when world trade is also experiencing a massive decline. In order to account for the issue, we take the hypothetical scenario E wherein the percentage decline in quarters during the global financial crisis is taken as reference point assuming that the corresponding decline was tuned to the fall in global trade. Exports saw the highest decline of 31.9 per cent in 2009– 2010

Q1 and imports of 31.7 in the next quarter. We consider the lowest decline as weight factor for Q1 of 2020 and then give highest decline as weight to the Q2 and then apply the weights in declining order to the subsequent quarters (Q3 and Q4) of 2020. Then the loss in exports is computed with the weighted average of exports of Q1–Q4 of 2020. Similar exercise is performed for imports while taking the percentage decline in imports of corresponding period of GFC. The presentation of exports/imports losses are presented three-folds.

1. Percentage decline in exports/imports in CY 20 as compared to the level of CY19 .
2. The export/import loss as percentage of estimated exports/imports of 2020 .
3. The quarterly growth rate (YoY) for 2020 and compare them with the growth of corresponding quarter of previous year 2019.

Sectoral trade:

As similar to manufacturing sector wherein we identify the highest loss bearing industries, we calculate the potential loss across principal commodities to know the most sensitive sectors of international trade amid COVID-19 pandemic. Here we take the average values of exports/imports of 2018–2019 and 2019–2020 (both from April to January) as base values for loss computation. While applying the lockdown of 40 days on the base year values across principal commodities, we compute the nominal loss for each commodity and finally to the all commodities. After computing the loss, we follow three approach for presentation of impact assessment:

1. Percentage decline in exports/imports of base value (average of FY 2019 and FY 2020) as compared to the exports/imports of

previous benchmark period (average of FY 2017 and FY 2018) .
2. We compute the aggregate loss in exports/imports as per cent of total exports/imports of 2020 and call it as national level loss in exports/imports. Then we compute the loss in exports/imports as percentage of the exports/imports of respective sector. The commodities bearing the loss higher than the national average are most sensitive from trade perspective amid the COVID-19 pandemic

10) Micro, Small and Medium Enterprises Sector:-

We compute the estimated loss in MSME sector using the latest data of MSMEs' real GVA for the year 2016–2017. The real GVA is obtained by applying the GVA deflator of base year 2011–2012. The impact assessment for MSME sector is based on two step process. First we compute the GVA for manufacturing and services sector by applying the weights of shares in the number of total establishments under the two segments (manufacturing and services). After computing the GVA of these two sectors we find the percentage share of each in the national manufacturing and services GVA. Then using the estimated values of percentage decline of these two sectors computed using the quarterly data for 2020 in the first section, we compute the corresponding decline for MSME. The aggregate impact on MSME is computed through weighted average of MSMEs' manufacturing and services sectors' losses. Presentation is made as (a) percentage decline in GVA of MSME sector using the reference loss of aggregate GVA of India carried out in first section (Figure 18) and (b) fall in growth rate in real GVA of MSME. We compute it by excluding the GVA loss (%) from the average growth of FY 2016 and FY 2017.

Impact Assessment

Impact on Growth:-

COVID-19 pandemic has it the Indian economy when it is at its lowest point of growth trajectory over last 6 years due to lack of aggregate demand—consumption, private investment and exports witnessing deceleration over the last few years. When all were expecting a turnaround in the economy, the COVID19 pandemic has almost given a knocking punch affecting economic activity across the sectors and added a supply shock to the economy. The quarterly growth (YoY) of GVA has been consistently declining (Figure 1) since first quarter of 2018 (from approximately 8% in Q1 in calendar year (CY) 2018 to 4.5% in Q4 CY 20194). Mining and quarrying witnessed the highest fall in recent quarters followed by manufacturing and construction sector.

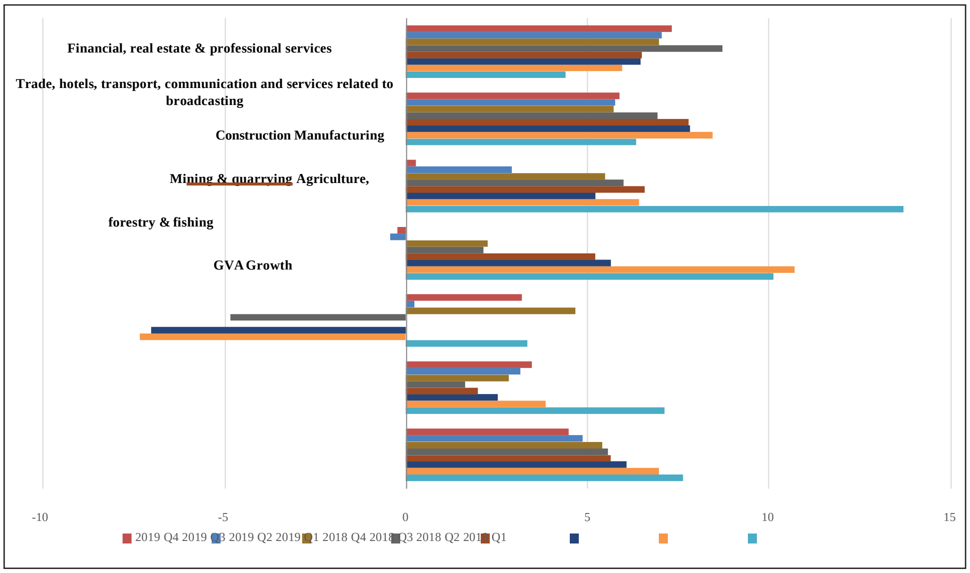


Figure 1. Quarterly Growth Rate in GVA Across Sectors (YoY, %)

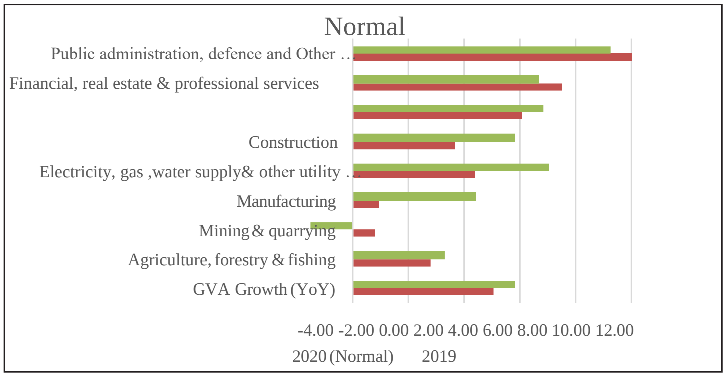


Figure 2. GVA Growth in Normal Condition

Figure 2 presents the expected percentage increase in GVA in 2020 over 2019 across sectors in normal times i.e. without COVID-19. The GVA would have increased by 5.82 per cent in 2020 mainly led by PAD services (9.27%), electricity, gas and utilities (7.1%); trade, hotels and restaurants and financial services (around 6.7%, each); construction (5.8%); manufacturing (4.4%), agriculture (3.3%) and mining and quarrying to register a fall (1.5%).

The impact of Corona outbreak and subsequent lockdown on GVA[5] at aggregate as well as broad sectors for the calendar year 2020 over previous year is reported in Figure 3. In case of vertical recovery under scenarios A and B, the GVA is estimated to grow at 2.95 per cent and 0.43 per cent, respectively[6] (with 50% over utilization of PAD).

We believe that scenario B (0.43% growth for 2020) is the most likely scenario as the lockdown has been extended till 17 May with some relaxation. The fall in GVA is estimated at −1.37 per cent and −2.96 per cent for 2020 compared to 2019 under scenarios C and D if we experience a U-shaped recovery. However, in case of more pessimistic environment where there is no over utilization of public administration and services sector (PAD), the deceleration would be in the range of 1.3 per cent in scenario A to 7.2 per cent under scenario D. In most likely scenario B, the deceleration can be 3.8 per cent in year

2020 (Figure 3).

Overall, our assessment throws a picture where the growth may vary from near 0 to −7 per cent in best- and worst-case scenario. We believe India's GDP may shrink in the range of 3–5 per cent in CY 2020. The fallout in economic growth is grounded on the weak response of economic fundamentals. Most importantly the sluggish demand in the country and globe amid shutdown will be a pull factor for slowdown. With rising uncertainties, the deferment of investment is most likely which in turn reduces the employment opportunities and further lowers the disposable income thereby pressing the demand on

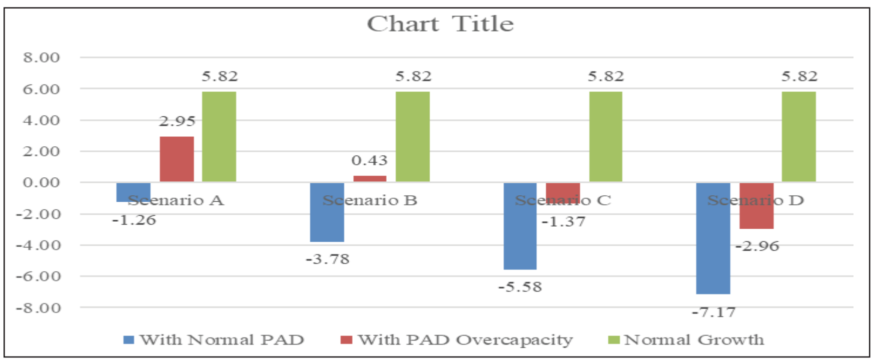


Figure 3. COVID-19 Impact: GVA 2020 over 2019 (%)

lower side (see, Garg & Sahoo, 2020). The unemployment due to COVID-19 pandemic runs into millions across countries. Further, there is mounting pressure from supply side as the lock-down in India and across the countries has given a severe shock to supply chain (Ozili & Arun, 2020). The domestic production networks are experiencing the shortage of raw materials, components and forced to bear the higher cost. The manual labour supply chain has been badly disrupted and the close down of industries may also lead to loss of skills who are tuned to industrial processes. Therefore, the negative growth for the CY 2020 looks feasible. The banking sector—the major financer to economic activities and backbone of India's financial sector—may witness rising NPAs with falling revenues of the corporate sector, MSMEs and falling income of households. The bad balance sheet with rising NPAs will limit the credit flow thereby undermining the effect of liquidity measures taken by RBI in terms of selling bonds to the banks and reducing the repo rate.

The estimated quarterly growth rate (YoY) of real GVA with normal and 50 per cent overutilization of PAD services is reported in Figures 4A and 4B. Indian economy had 5 per cent growth rate for the calendar year 2019 but the growth is expected to decelerate in second quarter of 2020 to the tune of 13 per cent under scenario A and around 30 per cent under scenario D. With the assumption of normal functioning of public administration sector, the numbers can further go down to 17.5 per cent and 34.7 per cent in the second quarter under scenarios A and D.

Figure 5 presents the deceleration across sectors in the year 2020 as compared to 2019 under scenarios B and D. Here we assume sectors such as agriculture; electricity, gas and utility services and PAD services behave in normal condition and the corresponding growth can be 3.3 per cent, 7.1 per cent and 9.3 per cent in the year 2020.7 But now with the COVID-19 pandemic, the growth is expected to decelerate (scenario B) by 10.2 per cent for manufacturing and construction each, and 7.6 per cent and 5.2 per cent for trade. There are two broad sectors one is trade, hotels and restaurant and second is the financial and real estate services. So please take the trade, hotels and restaurant sector in collective form. The deceleration is much more under scenario D where major sectors like manufacturing (−15.19%), financial and real estate services (9.7%) and trade, hotels and restaurant services (12.55%) are expected to slow down significantly.

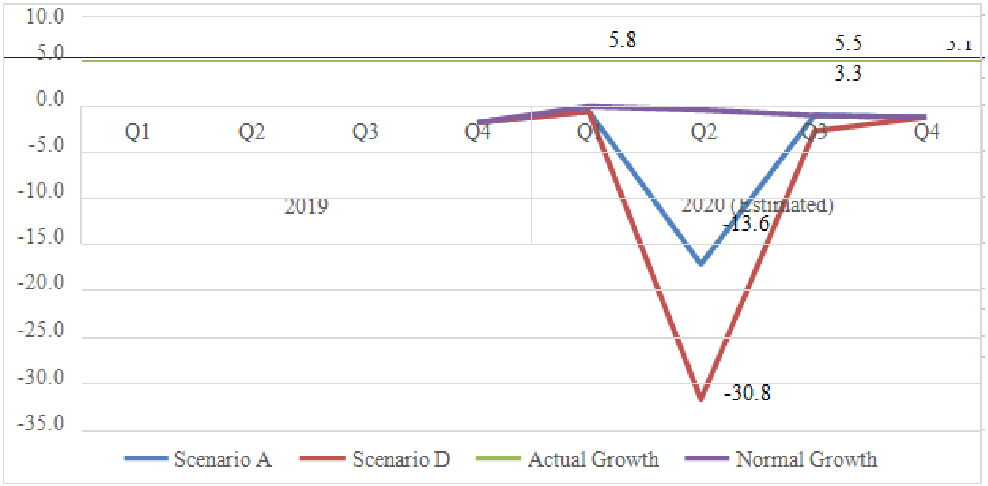


Figure 4A. Quarterly Growth with 50 per cent More of PAD

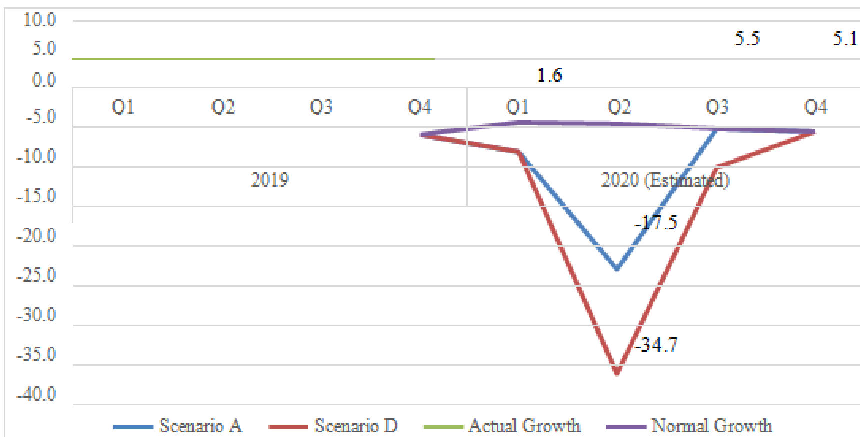


Figure 4B. Quarterly Growth in GVA with Normal PAD

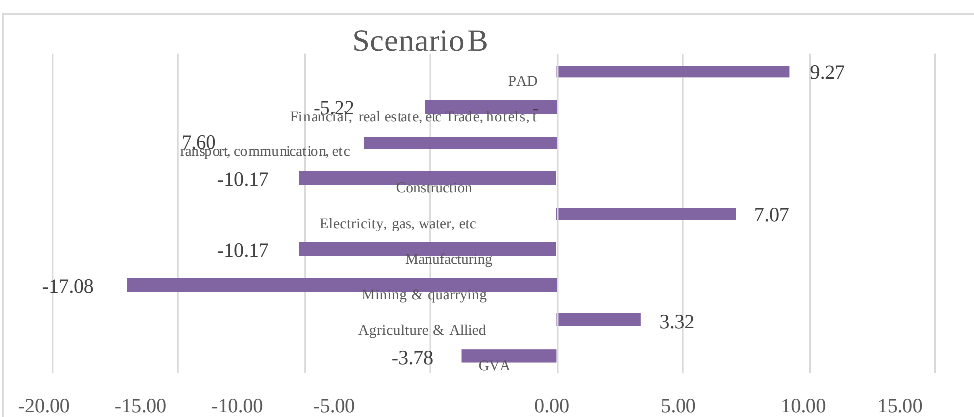
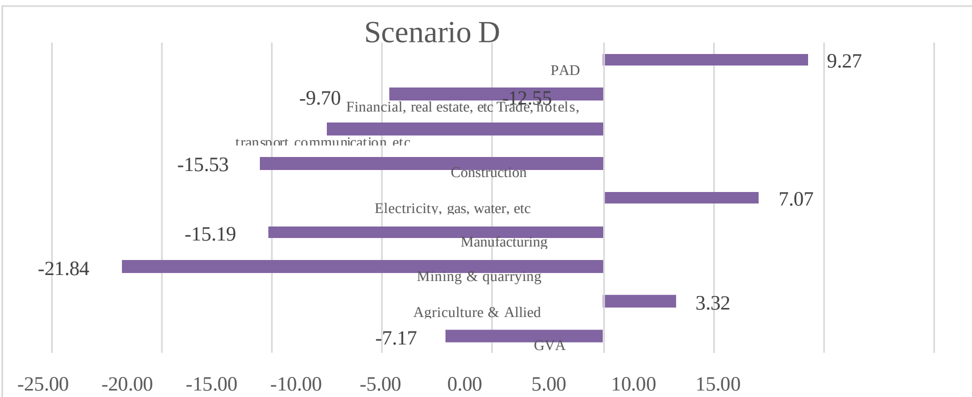
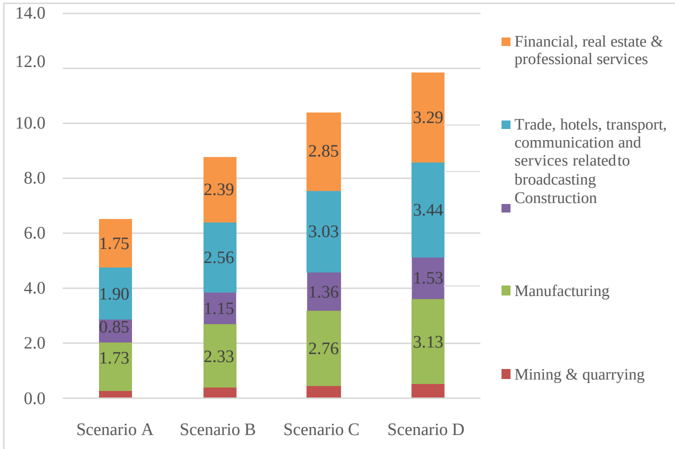


Figure 5. Sectoral Deceleration (%) in GVA (2020 over 2019)

The percentage fall in the shares of different sectors in total GVA and percentage fall in the respective sectors' GVA for 2020 under different scenarios assuming the over capacity of PAD services is



reported in Figures 6 and 7, respectively. In case of V-shaped recovery (scenarios A and B), the total estimated GVA loss by these sectors are 6.5 per cent and 8.8 per cent respectively while under U-shaped recovery (scenarios C and D) the loss would be around 10.44 per cent and 11.88 per cent, respectively, for the year 2020 (Figure 6). Across the scenarios (A–D), the share of decline of sectors in total GVA varies in the range of 1.9 per cent to 3.4 per cent for trade, hotels and restaurant, 1.7 per cent to 3.1 per cent for manufacturing, 1.7 per cent to 3.2 per cent for financial real estate and professional services and, 0.8 per cent to 1.5 per cent for construction and 0.3 per cent to 0.5 per cent for mining and quarrying. In terms of expected fall in respective sectors' GVA, following are ranges starting from scenarios A–D, viz. 11.8–20.7 per cent [8] for mining and quarrying sector; 11–20 per cent for construction 10–18.8 per cent for manufacturing; 10–18 per cent for trade and hotels services; and 8–15 per cent for finance, real estate and professional services (Figure 7).



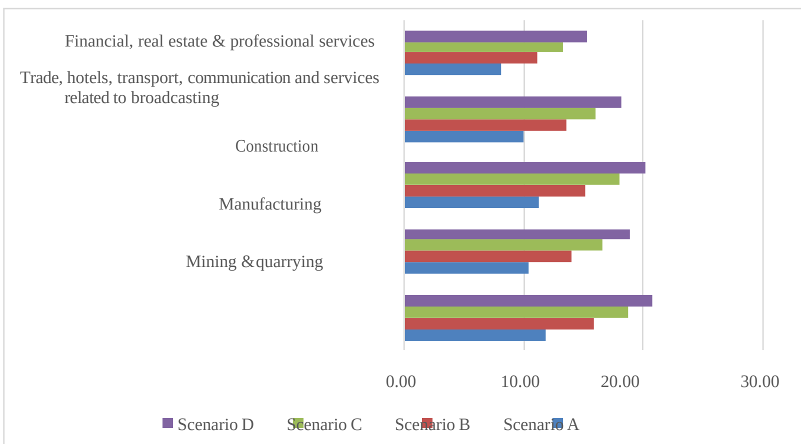


Figure 7. Decline in Respective Sectpors GVA (%)

Our assessment reveals a pessimistic picture for aggregate GVA and across broad sectors. The impact on trade, hotels and restaurant are inevitable amid overall slowdown of economic activities, massive plummet of global trade and the social distancing. The estimated fall in financial services, real estate and professional services looks realistic given the overall expected slowdown, as the performance of these sectors depends on economic activities across other sectors. Moreover, with poor balance sheet of corporate and household sectors, financial services would remain vulnerable in the possibility of growing NPAs, and thereby fueling the problem of liquidity crunch, eventually impeding the supply side issues in the economic activities.

Construction sector has been on the downturn since 2012 and more so in last couple of years[9] due to slowing demand, twin balance sheets problems in both corporate sector and banking sectors, delayed projects and new regulation (RERA act 2016). The fall in construction sector affects core sectors like steel, power and coal. Therefore, the backward linked sector like mining and quarrying has been affected and will continue to get affected in FY 20,21 due to COVID-19 pandemic. Now with the lockdown, the uncertainty has increased wherein people prefer to postpone the big ticked purchases thereby dissuading the demand further. The pressure on construction sector is also mounting with global trade situations where imports are getting difficult and also expensive due to weaker rupee.[10] In this environment of sluggish demand, the pass-through effect of increased input cost is not feasible. Besides, more than 30 per cent construction workers are staying away from work sites due to fear over Coronavirus infection, thereby adding the problem of the sector to resume the new normalcy. The expected fall in manufacturing is obvious due to shut down of firms during lockdown, slowdown of demand, shock to both local and global supply chain, displacement of manual labour force, etc.

Impact on Manufacturing

In this section we explore the economic loss to the industries due to the epidemic across industries using ASI data for registered manufacturing sector. The economic loss is calculated by adding the wages cost and fixed cost—interest and rent expenses—to the NVA of respective industry. The analysis section first covers the normal behaviour of industry without COVID-19 (Figure 8). Then we discuss the impact on two fronts—percentage decline in base NVA at aggregate level (Figure 9) as well as across industries (Figure 11) as compared to previous comparable period. Second we present the loss as per cent of NVA of the base year—both at aggregate level and across industries (Figures 9 and 10).

The manufacturing industries would have reported the growth rate of around 4.7 per cent in terms of NVA over the benchmark period (average NVA of 2014–2017) without COVID-19. Across these industries, it is expected that the basic metal industries would have grown with a rate of 19 per cent, followed by non-metallic mineral products (13%); machinery and equipment (9%); and textiles (5.2%), among others (Figure 8).

The deceleration[11] in terms of economic cost to the NVA for all industries, the estimated values are 5.5 per cent and 19.8 per cent for base case and worst case scenario, respectively (Figure 9). The expected deceleration in the NVA is 10.2 per cent under scenario B. The loss in industrial NVA (all industries) as percentage of the base NVA is estimated at 13.5 per cent to 27.8 per cent for base case scenario (scenario A) and worst case scenario (scenario D). Interestingly the top 10 industries which contribute around two- thirds of the total industrial NVA, bear the loss in NVA in the range of 11.1–19.6 per cent of the total NVA of base year. Top 10 industries contribute 65 per cent of total industrial sector NVA, absorb 55 per cent of all industrial workers (55%) and bear significant fixed cost, around 70 per cent of total interest and rent cost of all industries.

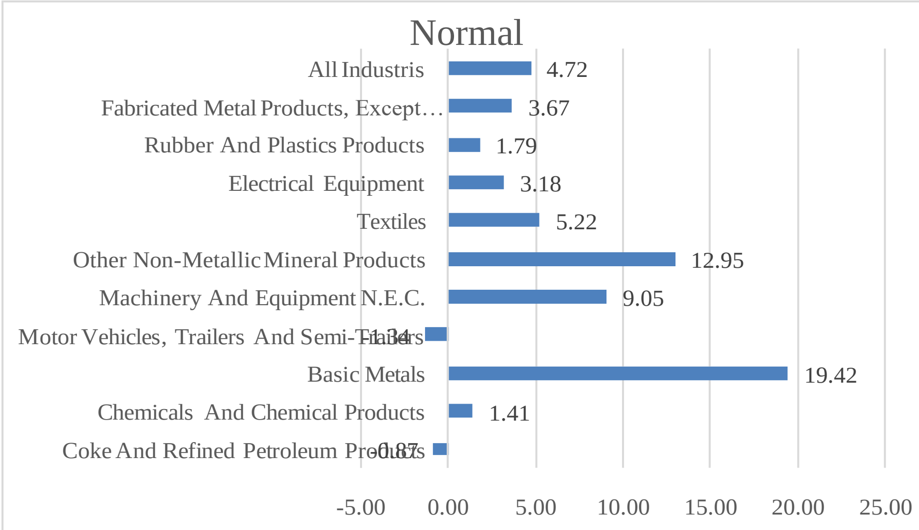


Figure 8. Growth in NVA Across Industries (%)

The composition of loss across top 10 industries under scenario B is reported in Figure 10 where we find that highest loss is estimated for coke and refined petroleum products (2.4% of the base year NVA), followed by basic metals and chemical products (2.1% each), motor vehicles (1.5%) and machinery and equipment (1.3%), and textile (1.2%), among others. Therefore, these industries require immediate attention.

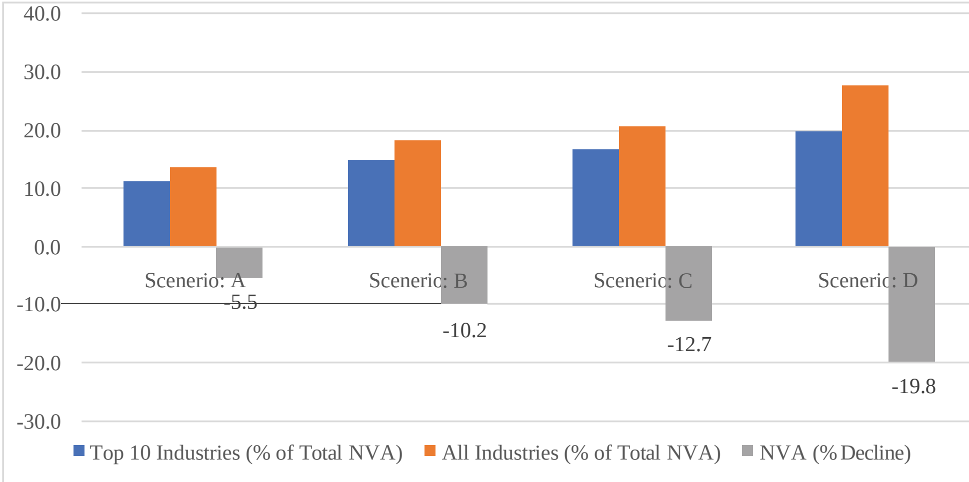


Figure 9. Decline (%) in Manufacturing Sector NVA

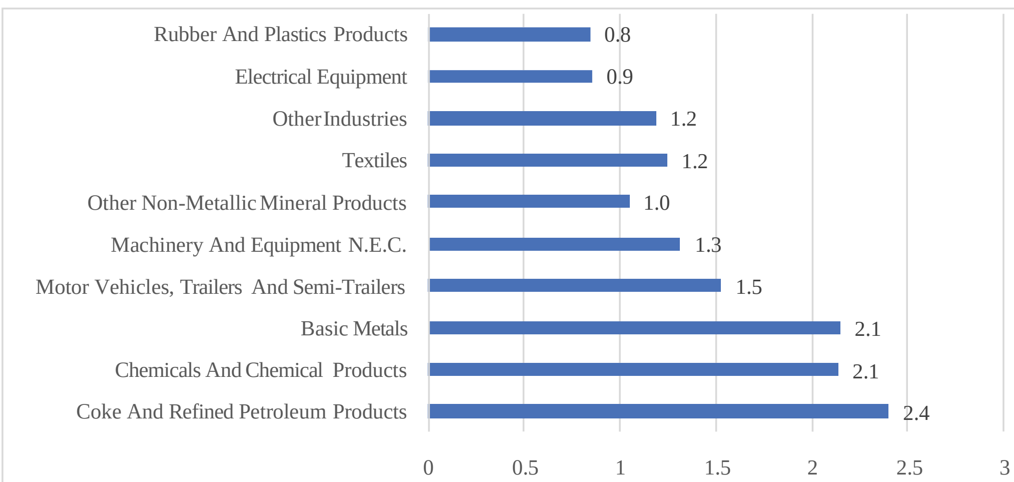


Figure 10. NVA (%) Loss for Top 10 Industries (scenario B)

With COVID-19, the largest decline (% as compared to previous benchmark period—average NVA of 2014–2017) is expected for basic metals and electric equipment (approximately 21% for each), followed by textiles (18%); coke and refined petroleum products and motor vehicles (approximately 15%, each); and rubber and plastic products and other non-metallic products (approximately 11% each), among others (Figure 11).

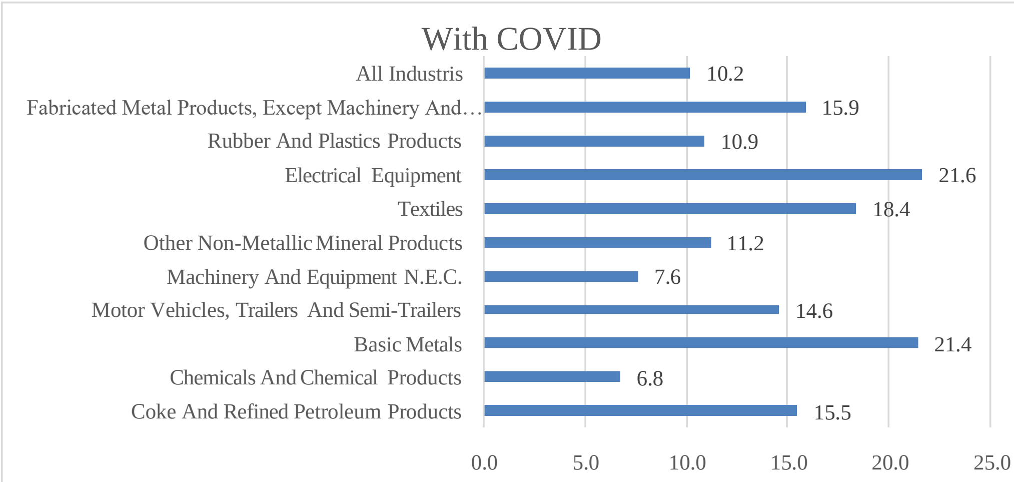


Figure 11. Decline (%) in Base NVA (scenario B)

Overall negative performance in manufacturing, the top value added sectors such as base metals, electronics, machinery, coke and refined petroleum products, motor vehicles, etc., have much dependence on the imports. As an instance electronics industry imports about 67 per cent of electronic components from China. With lockdown in China, there are reports of price rise by Chinese vendors on certain components owing to factory shutdown and short supply. Manufacturing sector will also slowdown due to exports slowdown owing to lockdown across countries and slowdown of global economy. Manufacturing constitutes more than 60 per cent of India's total exports, and the import contents in India's exports is very high. Some of sectors that feature in India's top exports are also in India's top imports. Therefore, lockdown affecting imports used for manufacturing will severely affect India's exports.[14]

Take the example of automobile sector which is one of the success stories of Indian manufacturing in last decade. The sector was struggling to adjust to the new regulations of Bharat

Stage (BS) VI regulations, effective 1 April 2020, before COVID-19 and now facing challenges because of the dependency of the sector on China for the Original Equipment Manufacturers (OEMs). All in all, prices of the raw material as well as finished goods are expected to inflate, but with lower demand, realization of increased input cost through end prices of finished goods is difficult. There are many problems and disruptions to the whole chain of domestic production network and manufacturing will take few weeks or months to come back to normalcy. One such problem is reverse migration of workers. The possible impact on labour intensive industries can come from fall in industrial productivity due to skill shortage as many of the migrant workers who possess specific skills acquired over the years remained inoperative during the crisis and are moving towards their homes even during the lockdown and may not come back quickly.

Impact on Trade

COVID-19 pandemic has given a big blow to the already slowing India's trade, especially exports. India is mainly reliant on European Union (EU), USA, China and South East Asian countries, collectively contributing around two third of India's exports and imports respectively (Table 2). India's trade has much exposure to severely coronavirus-affected countries (the USA, EU and China) with two-fifths of exports and one third of import shares. Most notable, the USA and China both accounted for one-fifths of India's exports and imports. It is worth noting that India' exports and imports exposure to EU, USA and China together are two-fifths and one-thirds, respectively. Hence, there is less possibility of rise in exports amid falling rupee as these countries may face recession and experience significant fall in aggregate demand. Also, India has higher imports exposure as compared to exports with rest of Asian countries especially ASEAN, there the expected gain is less due to currency depreciation.

Table 2. India's Trade with Top Partners

Country	Average (2018–2019 to 2019–2020 (April–January)		Shares in India's Total (%)	
	Exports	Imports	Exports	Imports
European Union (EU)	57.8	50.38	19.46	10.93
USA	48.56	33.03	16.35	7.2
China	15.59	64.13	5.25	13.98
Rest Asia[15]	81.55	147.99	27.45	32.27
Total	203.5	295.53	68.51	64.38
India's total	297.03	458.61		

Similar to GVA analysis, we try to assess expected loss of India's exports and imports under two situations. First, we assume a normal behaviour of world trade and carry out impact under hypothetical four scenarios (A–D). Second, we try to account for the expected fall in world trade due to the epidemic and then calculate loss to trade (scenario E). To account for the expected fall in world trade, we take the global financial crisis as the reference point and the percentage decline in exports and imports are taken as basis to evaluate the possible fall in India's trade.[16]

In the normal scenario, India's exports might have increased to the tune of 0.43 per cent in CY 2020 and imports declined by 5.3 per cent as India's imports demand has been falling due to slowdown of domestic demand and rising protectionist measures.[17] However, with COVID-19, the estimated fall in India's exports is going to decline by 13.7 per cent–20.8 per cent in 2020 over 2019 under scenarios A–D. The estimated fall in imports ranges from 17.3 per cent to 25 per cent (Figure 12A). In the scenario E, considering the U-shaped recovery similar to GFC, the potential fall in exports and imports in 2020 compared to 2019 are 19.8 per cent and 31 per cent, respectively.

In terms of loss as percentage of absolute value for 2020, exports are going to lose by 9.4 per cent–
16.8 per cent and imports in the range of 10.6–18.9 per cent (Figure 12B). In the scenario E, the potential fall in exports and imports (as % of 2020) estimated at 15 per cent and 23.6 per cent, respectively.[18] The loss in exports and imports can be linked to the possibility of low competitiveness amid slower global demand and depreciating rupee. Also, the top exporting commodities of India fall in the top importing commodities as well, thereby suggesting strong intra-industry trade. COVID-19 impact would have a spillover effect across sectors due to setback to the intra-industry trade.

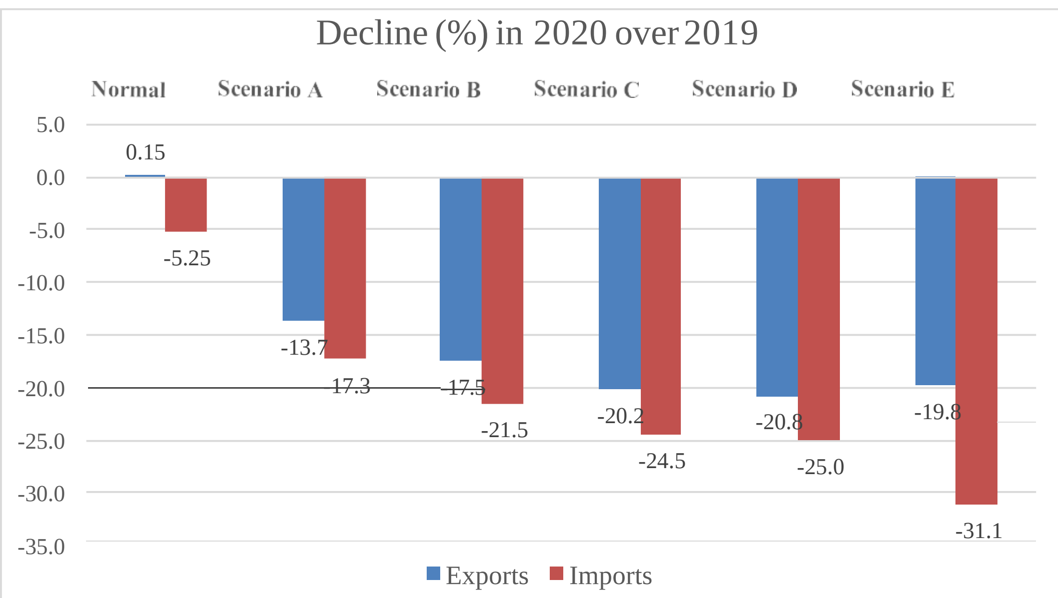


Figure 12A. Change (%) in India's Exports and Imports

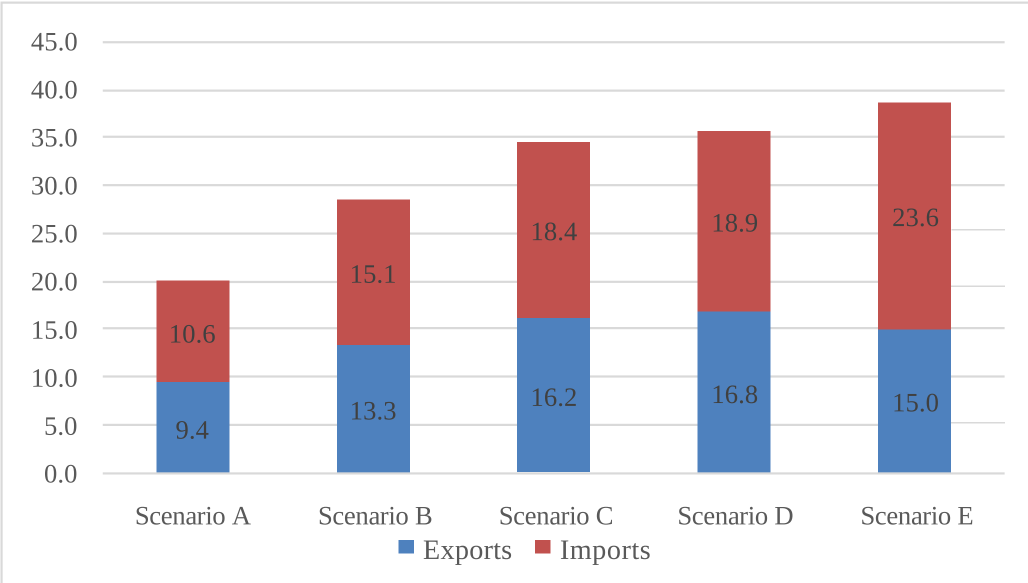


Figure 12B. Loss (%) of Exports and Imports of 2020

The quarterly growth rate of India's exports and imports became negative in 2019 from positive growth of 10 per cent and 15 per cent, respectively, in year 2018 as India has initiated trade restrictive measures. Exports would have noticed an increase of 6.4 per cent in 2020 Q1 and imports by 0.2 per cent without COVID-19. But after the COVID-19, the first quarter of 2020 witnessed a significant fall in India's trade—exports falling by 11 per cent and imports by 9 per cent—due to the coronavirus outbreak. In case of normal behaviour, the figures for Q2 would have turned to −1.4 per cent for exports and 1.3 per cent for imports. We estimate the potential impact on trade for remaining quarters of 2020 (see Appendix for details). Under scenario A, the exports and imports are expected to decline by 37 per cent and 35 per cent respectably in second quarter of 2020, the period in which there is very restrictive or no movements of goods and services due to complete lockdown. This fall may extend to around 60 per cent for both exports and imports if the economy experiences partial lockdown till the mid of 2020 and assuming 90 per cent capacity utilization till September 2020. In case of U-shaped recovery, the imports growth (YoY) may go to the minimum level of 30 per cent in Q2 and can continue the decline by nearly 20 per cent till the end of calendar year 2020. However, exports can be hit harder as they are estimated to fall by 30 per cent in Q2 and around 40 per cent in the subsequent quarters (Figure 13).

Figure 14 presents the percentage decline in India's total exports and imports under given hypothetical scenarios. The fall is measured while considering the actual values of average exports and imports of India during FY 2019 and 2020 (April–January Values). The magnitude of the impact on exports and imports is similar to what has been derived using the estimated values for FY 2021 in the previous section.

Figure 13. Quarterly Growth in India's Exports and Imports (YoY, %).

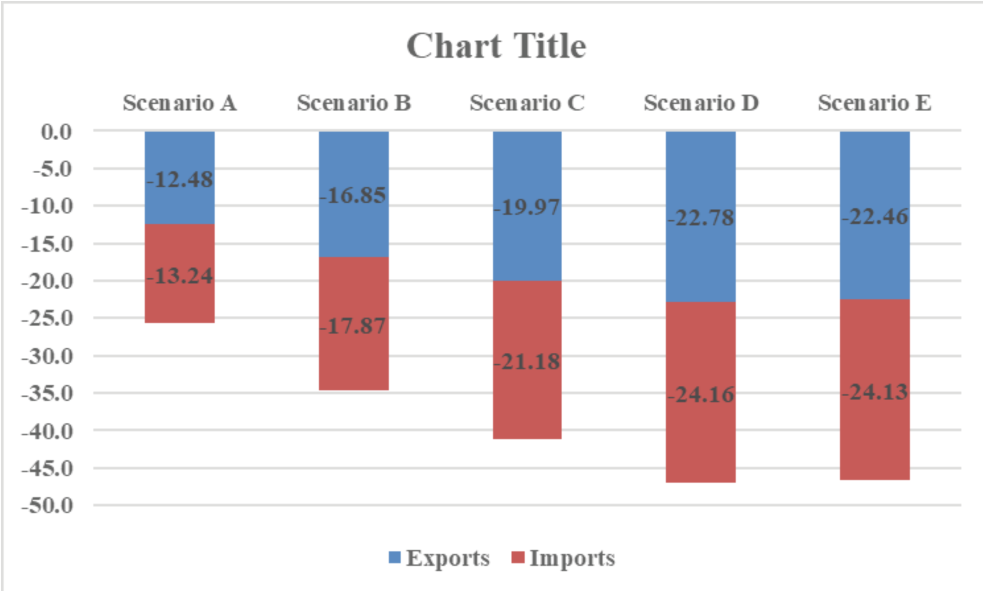


Figure 14. Decline in Exports and Imports (%, using Realized Values*)

In case of normal scenario, exports would have decelerated by 2.1 per cent and imports by 6.7 per cent in FY 2021 over FY 2020 (April–January). Across top export sectors—chemicals and related products might have grown by 6.5 per cent and plastic and electronics items by rate of 40 per cent. However, most of the other top exports would have experienced negative growth ranging from 4 to 10 percentage points. Top exports such as gems and jewellery, and textile and related products, would have decelerated by around 6 per cent where petroleum, crude and products and plastic and rubber products might have observed a decline of around 10 per cent each. The falling growth can be attributed to the growing uncertainty on trade front amid rise in protectionism across countries. On the front of imports, the top sectors would have decelerated with the rate such as petroleum crude and products (8.5%), gems and jewellery (12.5%), electronics items (2.9%), chemicals (4.8%), basic metals (10%), ores and mineral (18%)

and plastic and rubber products (6%). However, the machinery and agriculture and allied products would have noticed an increase in imports by rate 0.7 per cent and 2.2 per cent, respectively (Figure 15).

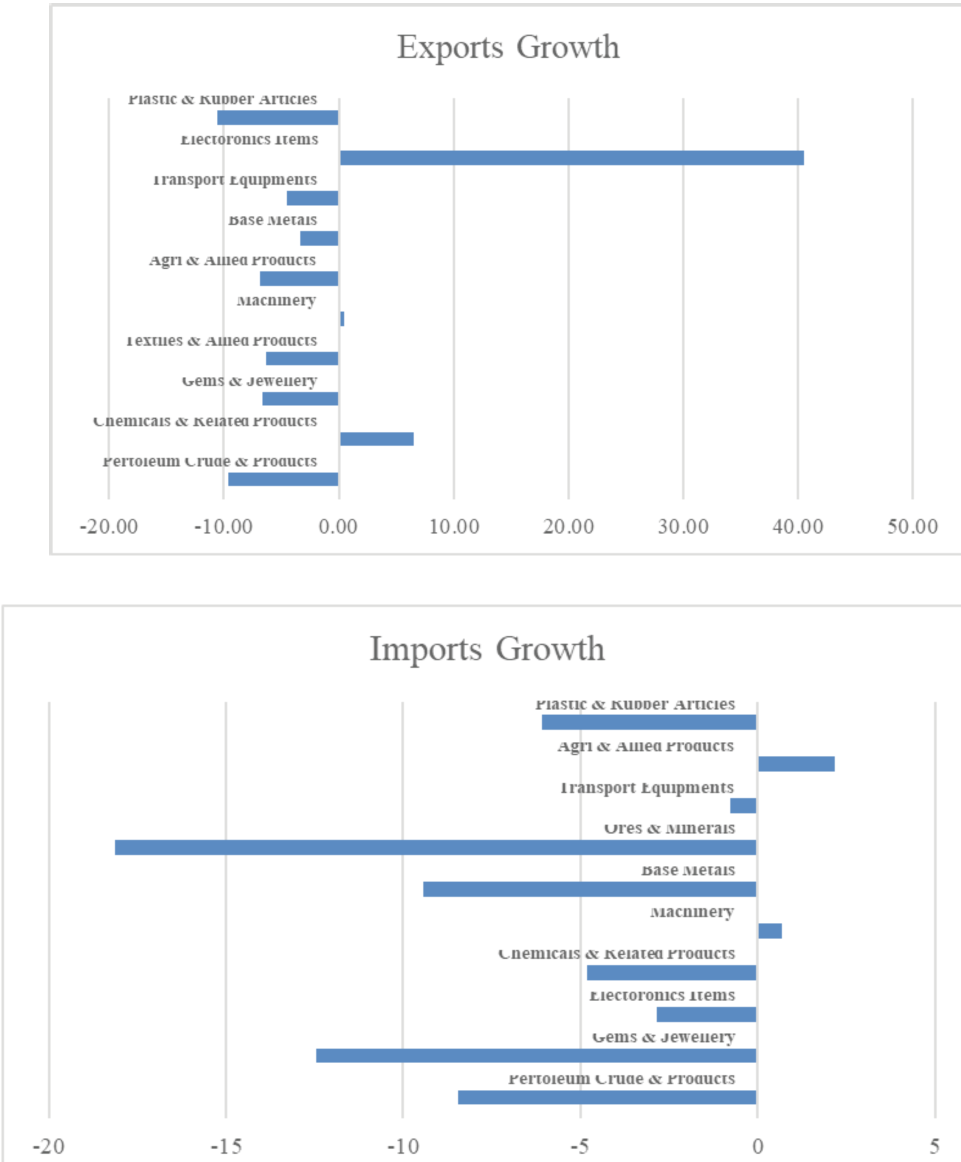
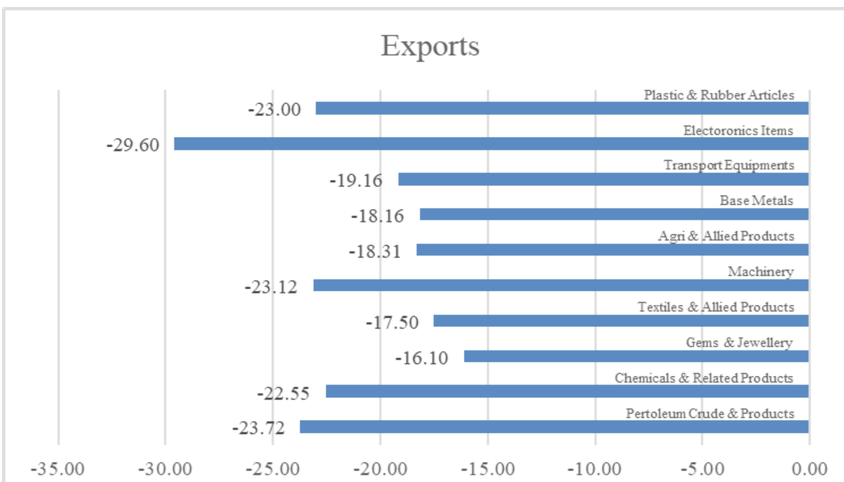


Figure 15. Sectoral Percentage Change in Exports and Imports Under Normal Behavior.

With regard to percentage decline in exports and imports across commodities due to COVID-19, it is estimated that products such as petroleum products, chemical products, machinery, electronics and plastic and rubber would suffer a loss of more than the national average of 20 per cent (see Figure 16). The top 10 principal commodities comprise around 90 per cent of the India's exports and imports, respectively. The biggest fall in imports will be experienced by petroleum products, chemical products, machinery, base metals, ores and minerals (Figure 16). India has strong intermediate input usage demand and accordingly the forward linkage sectors such as automobiles, electronics, pharmaceuticals, machines and equipment, computer appliances, aircraft, etc. would bear the significant loss due to the epidemic.



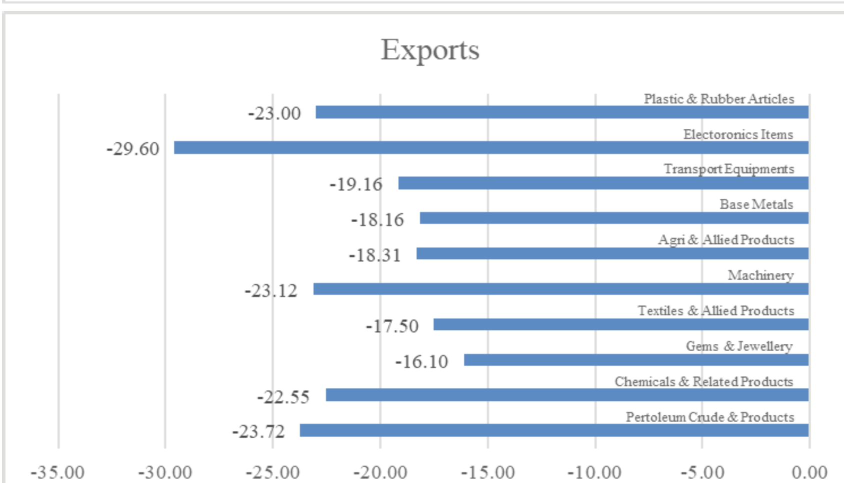


Figure 16. Fall in Exports and Imports Across Sectors Scenario C (% of total base value).

The estimated fall in India’s trade is realistic. The COVID-19 pandemic which led to complete and partial lockdown across the countries creating severe disruption to trading of goods, services and movement of persons is affecting India’s trade which already witnessed negative growth in 2019. The worst COVID-19-affected economies—the USA, China, Italy, Spain, Germany, South Korea, France and the UK—are the epicentres of GVC and global trade. India’s top exports including labour intensive products starting from Gems and jewellery to garments/apparel or sea food are mainly exported to these countries. Moreover, the lockdown in these economies has brought about a standstill in the supply-chains and production network across sectors which will affect India’s manufacturing, trade, employment and growth. In fact, the fall out of COVID-19 on India’s trade is visible as both exports and imports (YoY) fell by round by 30 per cent in March 2010 compared to 2019. Medium and small enterprises in India, which absorbs the second largest labour force after agriculture, are not only strongly linked to exports sector but heavily depend on imports for their supply chain and production. In fact, some of the industries depending on imports such as automobiles, pharmaceuticals, electronics, telecom equipment, computer hardware, industrial machines and equipment’s, etc., will have to operate much below their capacity due to lack of inputs and intermediates. Further, the domestic lockdown affected these small firms from both domestic demand and supply side.

Impact on MSME

We compute the estimated loss in MSME sector using the available latest data of MSME GVA[20] for the year 2016–2017. The impact on MSME sector is based on two step process. First we compute the GVA for manufacturing and services sectors by applying the weights of shares in the number of total establishments under the two segments (manufacturing and services). After computing the GVA of these two sectors we find the percentage share of each in the national manufacturing and services GVA. Then we compute the loss by apportioning the percentage decline in these two sector obtained in the first section. The aggregate impact on MSME is computed through weighted average of MSMEs' manufacturing and services sectors' losses. It is evident from the figure that the GVA of MSME sector has grown with more than 7 per cent during 2015–2017 and taking the triennium average ending in FY 17, the MSME sector would have grown with the rate 6.74 per cent in the normal case scenario. However, with the COVID-19, the growth can come down to the level of 3.14 under most likely scenario B, and can go further lower to 1.7 per cent in case of pessimistic scenario (Figure 17).As per estimation, India's MSME sector can expect a decline of 2.1 per cent under scenario A and this loss can increase to 5.7 per cent in case of scenario D. The loss is more skewed in manufacturing sector to the tune of 3.5 per cent in scenario A and 8.3 per cent in the scenario D. MSMEs dealing in trade and other services activities can bear the decline in GVA in the range of 1.4–4.5 per cent (Figure 18).

The lockdown affected these small firms from both domestic demand and supply side. The sudden collapse of trade also affects MSME sector. India's top exports including labour intensive products starting from Gems and jewellery to garments/apparel or sea food are mainly supplied by MSME sector. Similarly, the lockdown affected the imports of raw materials and intermediates which affect the supply chain of MSME sector. Therefore, the COVID-19 is going to affect MSME sector and millions employed in this sector. In fact, if the situation gets worse and prolongs for a few months, many small and tiny firms may cease to exist as it would be difficult for them to survive and hold onto their men and machines.

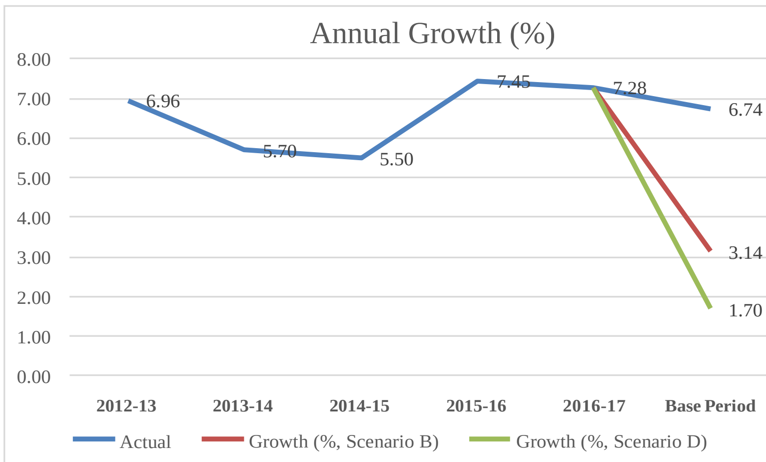


Figure 17. Growth Rate of MSME GVA (%).

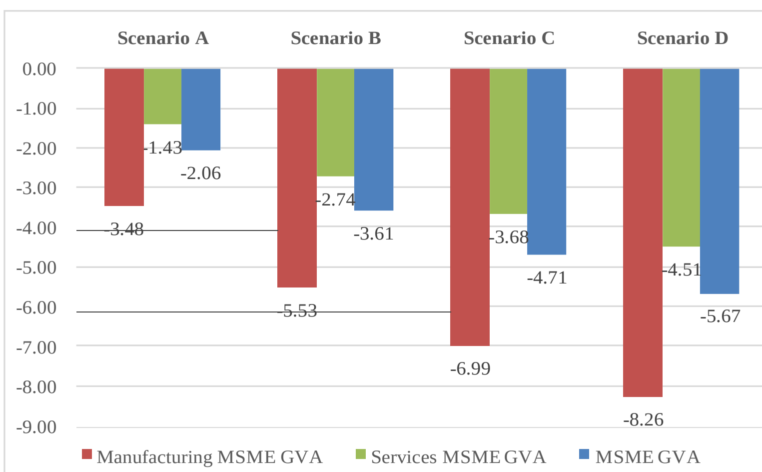


Figure 18. Decline (%) in GVA of MSME Sector.

Conclusion

My assessment is that Indian economy may have 0.4 per cent growth this calendar year 2020 in most realistic scenario and a negative growth of around 3 per cent in worst case scenario with 50 per cent over utilization of public sector and defense services (PAD). However, in case of more pessimistic environment where there are normal PAD services (no over utilization of PAD), the deceleration would be in the range of 1.3 per cent in best case scenario to 7.2 per cent under worst case scenario. The most affected sector is going to be mining sector followed by manufacturing, construction, trade, hotels and transport services and financial services. The manufacturing sector may shrink in the range of 5.5–20 per cent from best case to worst case scenario, respectively. In manufacturing, some of the most affected industries are likely to be metals and chemical products, motor vehicles, machinery and equipment, textiles, etc. The loss in industrial NVA (all industries) as percentage of the base NVA is estimated at 13.5–27.8 per cent for base case scenario and worst case scenario, respectively. Interestingly the top 10 industries which contribute around two-thirds of the total industrial NVA, bear the loss in NVA in the range of 11.1–19.6 per cent of the total NVA of base year. Top 10 industries contribute 65 per cent of total industrial sector NVA, absorb 55 per cent of all industrial workers (55%) and bear significant fixed cost, around 70 per cent of total interest and rent cost of all industries. The largest decline is expected for basic metals and electric equipment (around 21% for each), followed by textiles (18%); coke and refined petroleum products and motor vehicles (around 15%, each); rubber and plastic products and other non-metallic products (around 11% each).

The impact of COVID-19 on India's trade is going to be huge. The estimated fall in India's exports is going to be 13.7–20.8 per cent in 2020 over 2019 under scenarios A–D. The estimated fall in imports ranges from 17.3 to 25 per cent. Under scenario A, the exports and imports are expected to decline by 37 per cent and 35 per cent, respectively, in second quarter of 2020, the period in which there is very restrictive or no movements of goods and services due to complete lockdown. This fall may extend to around 60 per cent for both exports and imports if the economy experiences partial lockdown till the mid of 2020 and assuming 90 per cent capacity utilization till September 2020. With regard to percentage decline in exports and imports across commodities due to COVID-19, it is estimated that products such as petroleum products, chemical products, machinery, electronics and plastic and rubber would suffer a loss of more than the national average of 20 per cent. As per estimation, India's MSME sector can expect a decline of 2.1 per cent under base scenario and this loss can increase to 5.7 per cent in case of worst case scenario. The loss is more skewed in manufacturing sector to the tune of 3.5 per cent in scenario A and 8.3 per cent in the scenario D. The MSMEs dealing in trade and other services activities can bear the decline in GVA in the range of 1.4–4.5 per cent. It is evident from the analysis that the impact of the pandemic across sectors and in different scenarios of complete, extended and partial lockdown and at different levels of capacity utilization is massive on the Indian economy. The impact is particularly severe on trade, manufacturing and the MSME sector which contribute substantially to India's employment and growth.

Given the extent of economic fallout, the government of India has announced series of economic packages to give stimulus to the economy. The first economic package was of ₹1.7 lakh crore (0.8% of GDP) announced immediately after lockdown to address the immediate basic needs of the majority. Then the central bank announced series of measures in reducing policy rates and to enhance liquidity in the market to the tune of 3.2 per cent of the GDP (₹6.5 lakhs crores). Finally, the big economic package of around ₹12 lakh crores (6% of GDP) was announced on 12 May 2020, which was elaborated in detail subsequently. The focus of the package has been on labourers, farmers, taxpayers, MSME, cottage industries, etc. The economic package also includes the sectors such as agriculture, taxation, infrastructure, human resource and the financial system which would attract investment and revive demand in the economy. Moreover, the package focused on labour, liquidity and laws along with wide ranging reforms to give a boost to the economy.

The stimulus measures so far are around 10 per cent of GDP which is a welcome step when the economy has come to a standstill. Given the estimated fall out of COVID-19 on Indian economy, the government should not worry about the fiscal rule and go all out in adopting counter cyclical fiscal measures to stop things from going bad to worse. It is time for big initiatives to help firms which not only depend on the domestic economy but also on international trade. Government also needs to ensure that the stimulus measures are well directed at some of the worst affected sectors like manufacturing, construction, travel, transportation, tourism, hotel, etc. Firms in worst affected sectors are suffering due to shut down of factories, collapse of global demand, cancellations of orders, delays in shipments, etc. Therefore, these firms need support in the form of interest free working capital to cover their wage cost and fixed cost (rent and interest) to survive during these tough times. The economic package has given credit guarantee but its time now to boost demand so that there is credit uptake. MSME sector is labour intensive and life line of

India’s manufacturing and trade, and the sector is badly affected by the disruptions to both supply and demand mainly due to domestic and international lockdowns. Apart from credit and other financial incentives, the need of the hour is to help firms, business and economic activity to get back on operational mode. The economic impact of COVID-19 pandemic is huge and it would need a humongous effort on the part of the government, industry, civil society and all key stakeholders to ensure that the Indian economy recovers sufficiently and soon. The study has further scope to carry out the impact assessment of Indian economy at more disaggregate level

References & Links

- Google
- Wikipedia
- www.moneycontrol.com

- https://timesofindia.indiatimes.com/readersblog/mymusiclife/impact-of-covid-19-on-indian-economy-4-35585/#:~:text=The%20impact%20of%20coronavirus%20pandemic,where%20high%20growth%20was%20observed.

- https://www.businessperspectives.org/index.php/journals/investment-management-and-financial-innovations/issue-387/the-impact-of-the-covid-19-outbreak-on-the-indian-stock-market-a-sectoral-analysis.

- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7646007/ .