

COVID-19 AND INDIAN ECONOMY: Impact on Growth, Manufacturing, Trade and MSME sector

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**COVID-19 AND INDIAN ECONOMY:
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We make a preliminary assessment of Covid-19 on Indian economy by analyzing its impact on growth, manufacturing, trade and MSME sector. The impact of the Pandemic across sectors and in different scenarios of complete, extended and partial lockdown and at different levels of capacity utilisation is massive on the Indian economy. India's economy may barely manage to have a positive growth of half a percent in an optimistic scenario but also faces the possibility of a 3 to 7 percent 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 follows - manufacturing sector may shrink from 5.5 to 20 percent, exports from 13.7 to 20.8 percent; imports from 17.3 to 25 percent and MSME NVA from 2.1 to 5.7 percent 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.

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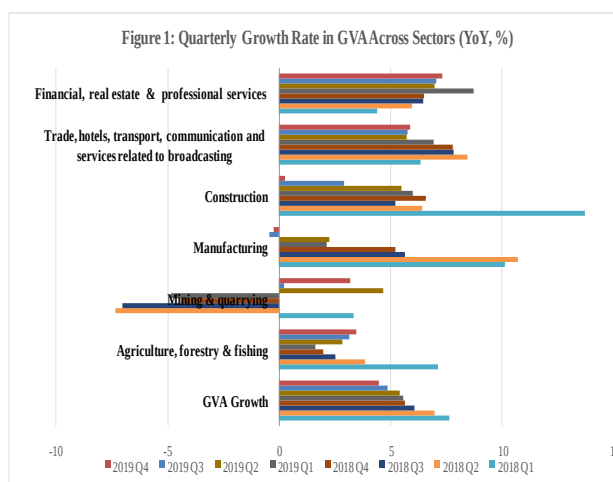
1. Introduction

The Corona Pandemic has probably given the biggest blow to the World economy after the great depression of 1930's. Around sixty percent of the world population is either under severe or partial lock down without having medical solution to the Corona virus and economic activity across countries has either stalled or significantly decelerated taking away millions of livelihoods. As a result of the pandemic, the global economy is projected to contract sharply by –3 percent in 2020, much worse than during the 2008–09 financial crisis (IMF, 2020). India being densely populated country with inadequate medical facilities was left with no option but followed the policy of lockdown. World economy is heading for a recession and India is no exception. The current pandemic is working its way through a highly globalized world with interconnected production networks and financial markets. The fall out of the Covid-19 on Indian economy is going to be huge because of its own lockdown, which was necessary to contain the Corona spread, and also because of India's integration with the rest of the world. Here is a preliminary assessment of the likely fall out of the lockdown and restrictive policy measures owing to Pandemic on India's Gross Value Added (GVA), manufacturing, trade and MSME sector.

2. Impact on Growth

Corona Pandemic has hit the Indian economy when it is at its lowest point of growth trajectory over last six 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 Corona 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 Gross Value Added (GVA) has been consistently declining (Fig-1) since first quarter of 2018 (around 8% in Q1 in Calendar Year (CY) 2018 to 4.5 in Q4 CY 2019³). Mining and quarrying witnessed the highest fall in recent quarters followed by manufacturing and construction sector.

Source: Authors' Computations from NAS Data



Our assessment of impact of Corona pandemic on India's GVA, manufacturing sector, international trade and MSME sector are carried out under two broad outlines. First, the situation where there is a quick turnaround after the lockdown period and the economy experiences a

³We consider calendar year for the impact assessment on GVA and trade.

vertical recovery (V-shape). Second, the economy experiences a U-shape recovery where the effects of the lockdown prolong for a longer period of time till September 2020. In the case of V-shape recovery we make two hypothetical scenarios - Scenario A and Scenario B. In Scenario A, we assume the resumption of normal level of economic activities post 40 days lockdown i.e. after 3rd May 2020⁴. In scenario B, we consider the complete lockdown up to 3rd May and 50% capacity utilization of the economy till 31st May 2020. Similarly we have two hypothetical scenarios – C and D – in case of U-shape recovery. In case of scenario C, we assume 70 % of capacity utilization by 30th of June in addition to 50% capacity utilization from 3rd May to 31st May. Scenario D where normalcy level is assumed in three phases- 50% by end of May, 70 % by June and 90% by September 2020.⁵ Further, keeping in view the substantial channelization of resources for public administration and health services, we make two assumptions one with the over capacity utilization of 50 % in the public administration services, hereafter PAD and, second the normal functioning of PAD services.

Figure 2: GVA Growth in Normal Condition

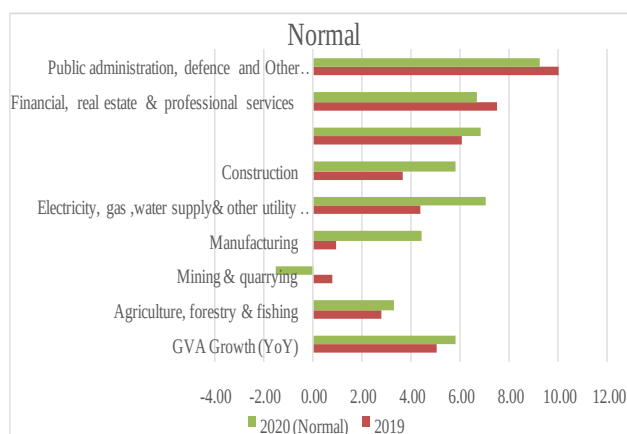


Fig 2 presents the expected percentage increase in GVA in 2020 over 2019 across sectors in normal times i.e. without Covid-19. The GVA would have increased by 5.82 % in 2020 mainly led by PAD services (9.27 %), electricity, gas, & utilities (7.1%); trade, hotels & restaurants and financial services (around 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 GVA⁶ at aggregate as well as broad sectors for the calendar year 2020 over previous year is reported in Fig-3 (see Appendix for detailed calculation). In case of vertical recovery under scenario A & B, the GVA is estimated to grow at 2.95% and 0.43% respectively⁷ (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 17th May with some relaxation. The fall in GVA is estimated at -1.37 % and -2.96% for 2020 compared to 2019 under scenario 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

⁴ During the first two phases of lockdown period i.e. 40 days from March 24th to 3rd May, 2020, we presume no economic activity except agriculture, utilities and public sector.

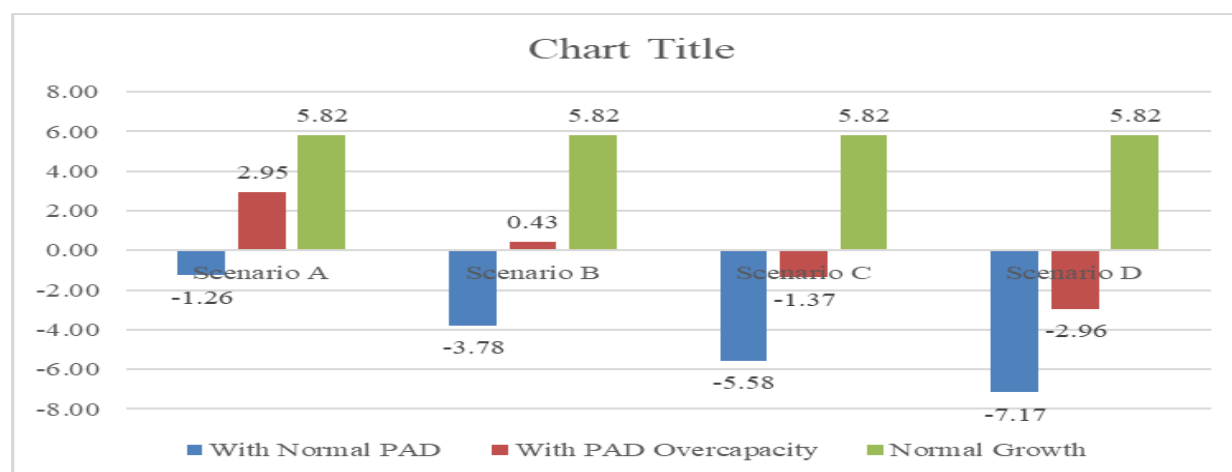
⁵ It is apprehended that 10% of firms would remain severely affected with the epidemic and require much higher time for resuming the normalcy level.

⁶ GVA based on constant prices of 2011-12

⁷ These numbers are based on assumption that public administration and defense services are working with over-capacity of 50 percent.

and services sector (PAD), the deceleration would be in the range of 1.3 % in Scenario A to 7.2 % under scenario D. In most likely scenario B, the deceleration can be 3.8 % in year 2020. (Fig 3)

Fig 3: Covid Impact: GVA 2020 over 2019 (%)



Overall our assessment throws a picture where the growth may vary from near zero to negative seven percent in best and worst case scenario. We believe India's GDP may shrink in the range of 3 to 5 percent 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 lower side(see, Garg and Sahoo, 2020). The unemployment due to Corona 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 realistic. The banking sector – the major financier 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 (Y-o-Y) of real GVA with normal and 50% overutilization of PAD services is reported in Fig 4A and Fig 4B. Indian economy had 5% growth rate for the calendar year 2019 but the growth is expected to decelerate in second quarter of 2020 to the tune of 13 percentages under Scenario A and around 30 % under scenario D (Fig 4A). With the assumption of normal functioning of public administration sector, the numbers can further go down to 17.5 % and 34.7 % in the second quarter under scenario A and D (Fig 4B)

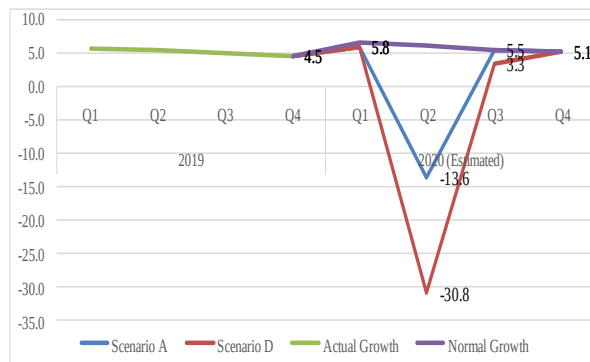
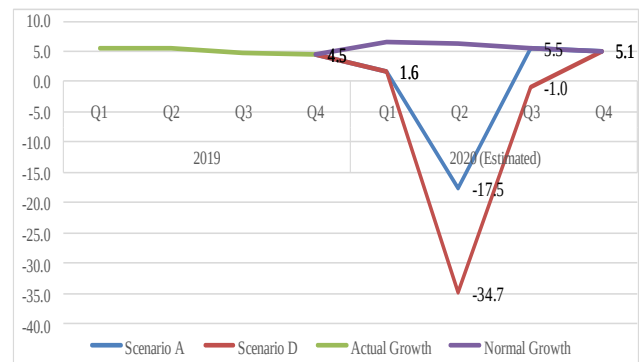
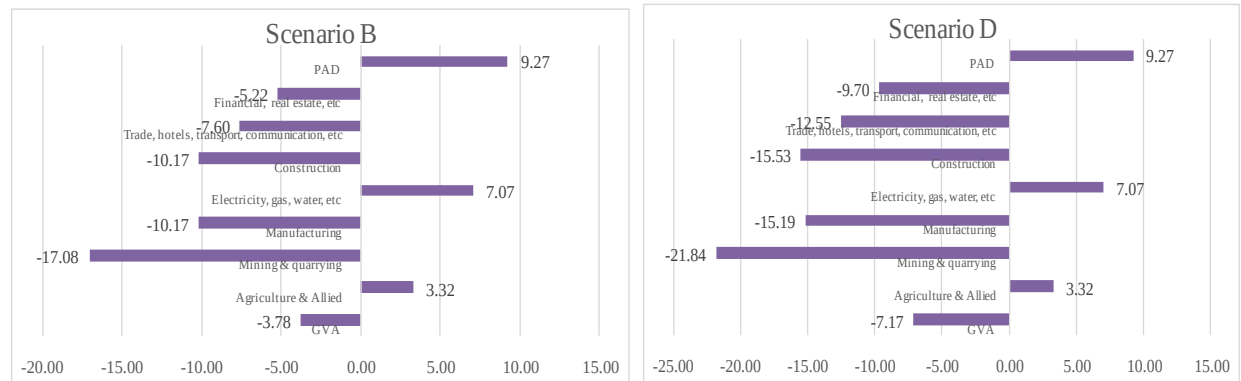
Fig 4A: Quarterly Growth with 50% more of PAD**Fig 4B: Quarterly Growth in GVA with Normal PAD**

Figure 5 presents the deceleration across sectors in the year 2020 as compared to 2019 under scenario 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 %, 7.1 % and 9.3 % in the year 2020⁸. But now with the Covid, the growth is expected to decelerate (Scenario B) by 10.2% for manufacturing and construction each, and 7.6 % and 5.2 % for trade. hotels & restaurant services and financial & real estate services, respectively. The deceleration is much more under scenario D where major sectors like manufacturing (-15.19%), financial & real estate services (9.7%) and trade. hotels & restaurant services (12.55%) are expected to slow down significantly.

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 Fig 6A and 6B respectively. In case of V-shape recovery (Scenario A and B), the total estimated GVA loss by these sectors are 6.5% and 8.8% respectively while under U-shaped recovery (scenario C and D) the loss would be around 10.44% and 11.88% respectively for the year 2020 (Fig 4A). Across the scenarios (A to D), the share of decline of sectors in total GVA varies in the range of 1.9% to 3.4% for trade, hotels and restaurant, 1.7% to 3.1% for manufacturing, 1.7% to 3.2% for financial real estate and professional services and, 0.8% to 1.5%

⁸ See fig-2 for sector wise GVA growth in normal scenario (without Covid)

for construction and 0.3% to 0.5% for mining and quarrying. In terms of expected fall in respective sectors' GVA, following are ranges starting from scenario A to D viz., 11.8% to 20.7 %⁹ for mining and quarrying sector; 11% to 20% for construction 10% to 18.8% for manufacturing; 10% to 18% for trade and hotels services and 8% to 15% for finance, real estate and professional services (Fig 6B).

Fig 6A –Decline in Total GVA by Sectors (%)

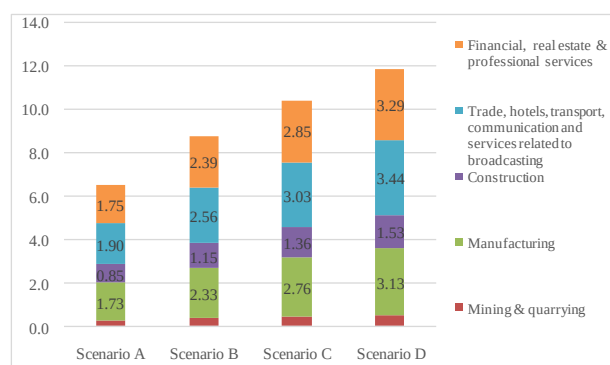
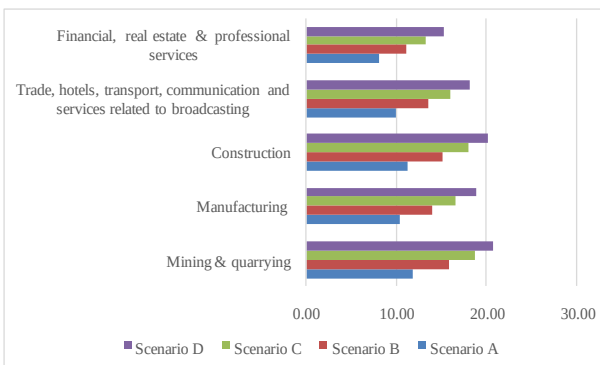


Fig 6B –Decline in Respective Sectors GVA (%)



Source: Authors' Computations based NAS Data

With the normal behavior of PAD services, the loss in GVA is estimated in the range of 6.8 % to 13 % under scenario A to D. In the most likely scenario B., the aggregate loss would be 9.7 percentage composed of mining (0.4 %); manufacturing (2.4%); construction (1.2 %), trade hotels and restaurant (2.7 %) and financial & real estate services (2.5 %) (Fig 7A). The fall in respective shares as % of corresponding sectors GVA of estimated 2020 would be 16 %, 14 %, 15.2 %, 13.5 % and 11.1 % under scenario B (Fig 7B)

Fig 7A –Decline in Total GVA by Sectors (%)

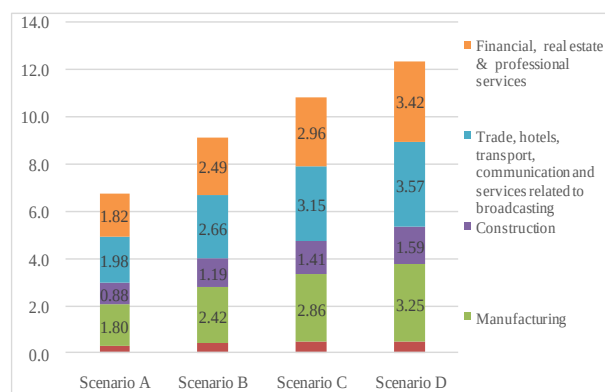
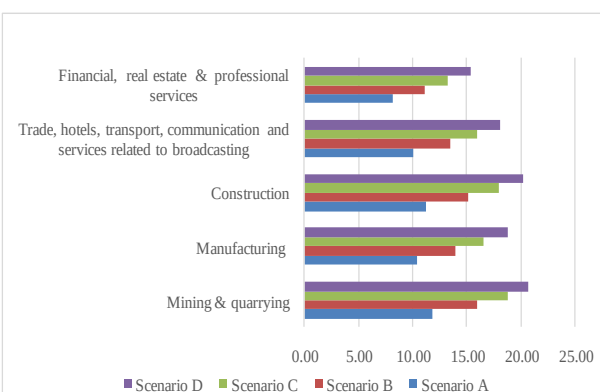


Fig 7B –Decline in Respective Sectors GVA (%) (With Normal PAD)



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,

⁹ This fall is with respect to the corresponding sector's GVA of 2020.

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 with the possibility of growing NPA and thereby phenomenon of liquidity crunch, eventually leading to slower growth of the sector and problem of supply side issues in the economic activities.

Construction sector has been on the downturn since 2012 and more so in last couple of years¹⁰ 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 CY 2020 due to Corona Pandemic. Now with the lockdown, the uncertainty has increased wherein people prefer to postpone the big ticket purchases thereby dissuading the demand further. The pressure on construction sector is also mounting with global trade situations where imports are becoming difficult and also expensive due to weaker rupee.¹¹ In this environment of sluggish demand, the pass through effect of increased input cost is not feasible. Besides, more than 30% construction workers are staying away from work sites due to fear over Corona virus infection, thereby adding to the problem of the sector to resume under a 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.

3. Impact on Manufacturing

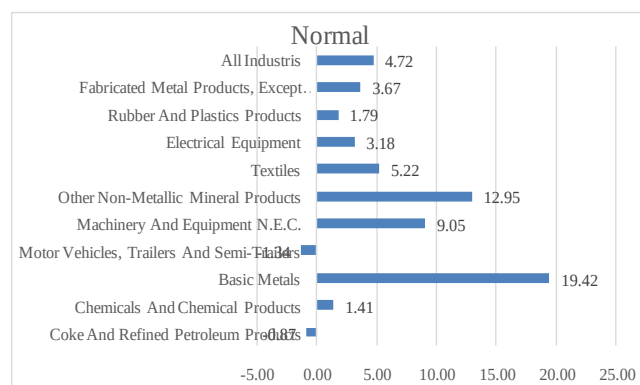
In this section we explore the economic loss to the industries due to the epidemic across industries using Annual Survey of Industries (ASI) data for registered manufacturing sector. The economic loss is calculated (see appendix for details) by adding the wages cost and fixed cost - interest and rent expenses - to the Net Value Added (NVA) of respective industry. The analysis section first covers the normal behavior of industry without Covid-19 (Fig 8). Then we discuss the impact on two fronts- percentage decline in base NVA at aggregate level (Fig 9) as well as across industries (Fig 11) as compared to previous comparable period. Second we present the loss as % of NVA of the base year- both at aggregate level and across industries (Fig. 9 & 10).

Fig 8: Growth in NVA across Industries (%)

¹⁰ The residential sales across the top six cities in India fell 4 per cent (YoY) in FY 20 (April-December) compared to FY19

¹¹ India is a big importer of steel and iron products, technical construction equipment as well as plastic and fibre elements from China

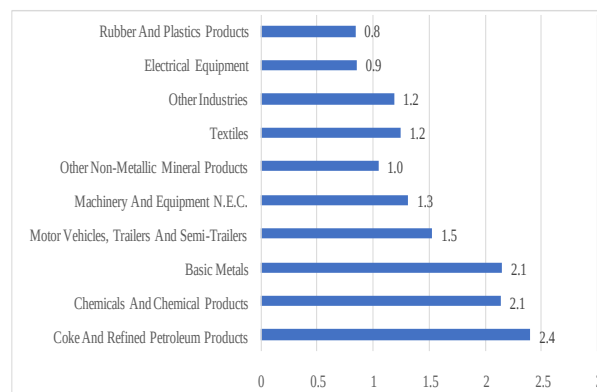
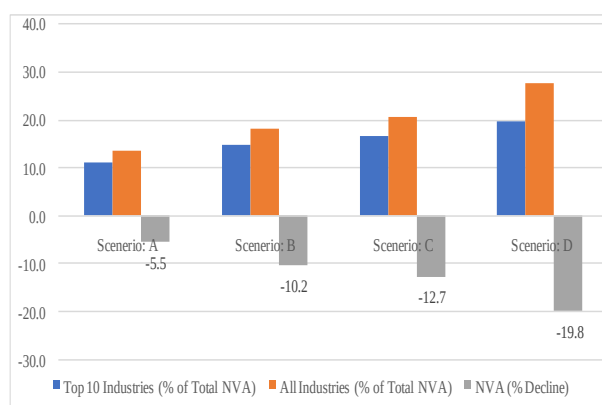
The manufacturing industries would have reported the growth rate of around 4.7 percent in terms of NVA over the benchmark period (average NVA of 2014-17) without Covid. Across these industries, it is expected that the basic metal industries would have grown with a rate of 19 percent, followed by non-metallic mineral products (13 %); machinery and equipment (9%); textiles (5.2 %); among others. (Fig. 8).



The deceleration¹² in terms of economic cost to the NVA for all industries, the estimated values are 5.5 % and 19.8% for base case and worst case scenario respectively (Fig 9). The expected deceleration in the NVA is 10.2 % under scenario B. The loss in industrial NVA (all industries) as percentage of the base NVA is estimated at 13.5 % to 27.8% for base case scenario (Scenario A) and worst case scenario (Scenario D). Interestingly the top 10 industries which contribute around two-third of the total industrial NVA, bear the loss in NVA in the range of 11.1 % to 19.6 % of the total NVA of base year. Top ten industries contribute 65% of total Industrial sector NVA, absorb 55% of all industrial workers (55%) and bear significant fixed cost, around 70 % of total interest and rent cost of all industries.

The composition of loss across top 10 industries under scenario B is reported in Fig 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%), machinery and equipment (1.3%), textile (1.2%), among others. Therefore, these industries require immediate attention.

Fig 9: Decline (%) in Manufacturing Sector NVA **Fig 10: NVA (%) Loss for Top 10 Industries (Scenario B)**

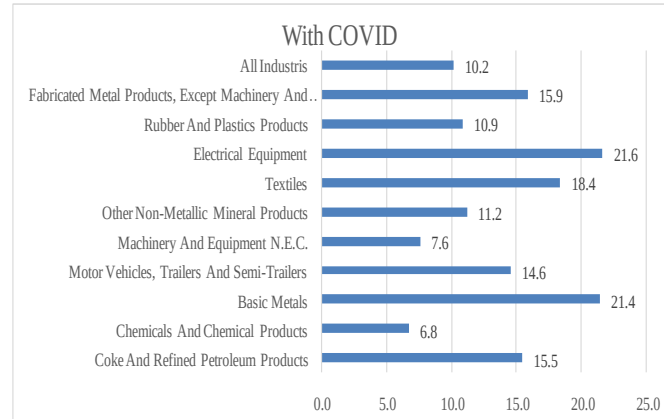


Source: Authors' Computations based on ASI Data

¹² As compared to the previous benchmark period of average NVA of 2014-17.

Fig. 11: Decline (%) in Base NVA (Scenario B)

With Covid, the largest decline (% as compared to previous benchmark period - average NVA of 2014-17) is expected for basic metals and electric equipment (around 21 % for each), followed by textiles (18%); coke & refined petroleum products and motor vehicles (around 15 %, each); rubber & plastic products and other non-metallic products (around 11 % each); among others (Fig 11)



Overall negative performance in manufacturing, the top value added sectors such as base metals, electronics, machinery, coke & refined petroleum products, motor vehicles etc have much dependence on the imports. As an instance electronics industry imports about 67% 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 percent of India's total exports and the import content of India's exports is very high. Some of sectors that feature in India's top exports are also in India's top imports. Therefore, lock down affecting imports used for manufacturing will severely affect India's exports¹³.

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 BS-VI regulations, effective 1 April 2020, before Covid 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.

¹³ See <https://www.tpci.in/blogs/covid-19-crisis-is-a-great-opportunity-to-revive-multilateral-trade-framework/>

4. Impact on Trade

Corona Pandemic has given a big blow to the already slowing India's trade especially exports. India is mainly reliant on EU, USA, China and South East Asian countries, collectively contributing around two third of India's exports and imports respectively (Table 1). India's trade has much exposure to severely COVID affected countries (USA, EU and China) with two-fifth of exports and one third of import shares. Most notable, USA and China both accounted for one fifth of India's exports and imports. It is worth noting that India's exports and imports exposure to EU, USA and China together are two-fifths and one third 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 1: India's Trade with Top Partners

Country	Average (2018-2019 to 2019-2020(Apr-Jan))		Shares in India's Total (%)	
	Exports	Imports	Exports	Imports
EU	57.8	50.38	19.46	10.93
U S A	48.56	33.03	16.35	7.2
China	15.59	64.13	5.25	13.98
Rest of Asia ¹⁴	81.55	147.99	27.45	32.27
Total	203.5	295.53	68.51	64.38
India's Total	297.03	458.61		

Source: Authors Compilation from Export-Import Database,

Similar to GVA analysis, we try to assess expected loss of India's exports and imports under two situations. First, we assume a normal behavior of world trade and carry out impact under hypothetical four scenarios (A to 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). As per the estimation, global trade is expected to plunge in the range of 13-32 % under optimistic and pessimistic scenarios, respectively (WTO, 2020; CRS, 2020). 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.¹⁵ (Please see appendix for the detailed calculation).

In the normal scenario, India's exports might have increased to the tune of 0.43% in CY 2020 and imports declined by 5.3 % as India's imports demand has been falling due to slowdown of domestic demand and rising protectionist measures.¹⁶ However, with Covid, the estimated fall in India's exports is going to decline by 13.7 % to 20.8% in 2020 over 2019 under Scenarios A-D. The estimated fall in imports ranges from 17.3 % to 25 % (Fig 12A). In the scenario E, considering the

¹⁴ Rest of Asia includes, UAE, Saudi Arabia, Japan, and leading ASEAN

¹⁵ During global financial crisis, quarterly growth plummeted to lowest level of around 30 % during 2009-10q1 with average fall of exports and imports around 20 percent during 2008-9q3 to 2009-10q2. The detailed graph is not presented for brevity.

¹⁶ According to a WTO report, trade-restrictive measures implemented during mid-Oct 2018 to mid-Oct 2019 affected about US\$746.9 billion or 3.84% of world merchandise imports. Protectionist tariff barriers raised by India, alone accounted for 22% of the total impact.

U-shape recovery similar to GFC, the potential fall in exports and imports in 2020 compared to 2019 are 19.8% and 31% respectively.

In terms of loss as percentage of absolute value for 2020, exports are going to lose by 9.4 % to 16.8 % and imports in the range of 10.6 % to 23.6 % (Fig 12B). In the scenario E, the potential fall in exports and imports (as % of 2020) estimated at 15 % and 23.6 %, respectively.¹⁷ 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 impact would have a spillover effect across sectors due to setback to the intra-industry trade.

Fig 12A: Change (%) in India's Exports and Imports

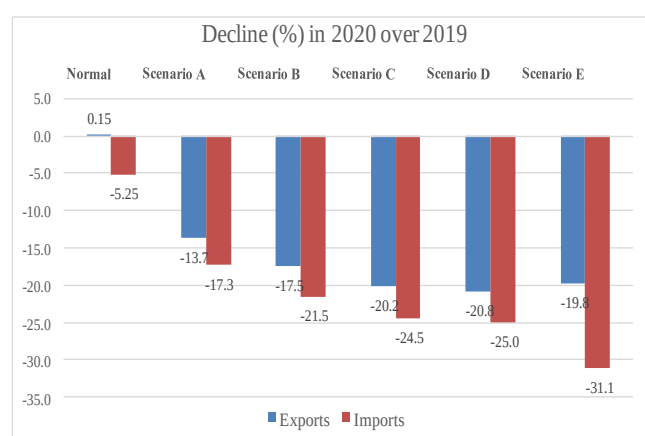
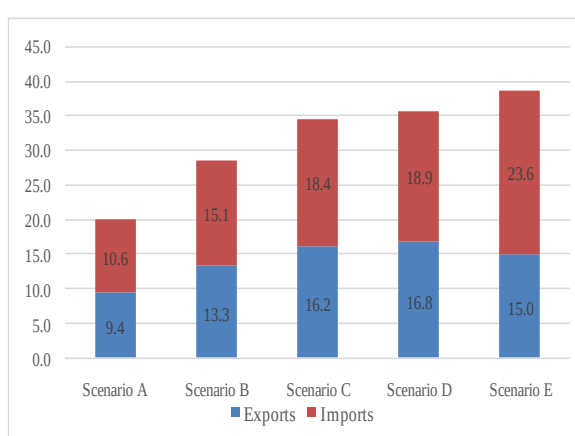


Fig 12B: Loss (%) of Exports and Imports of 2020



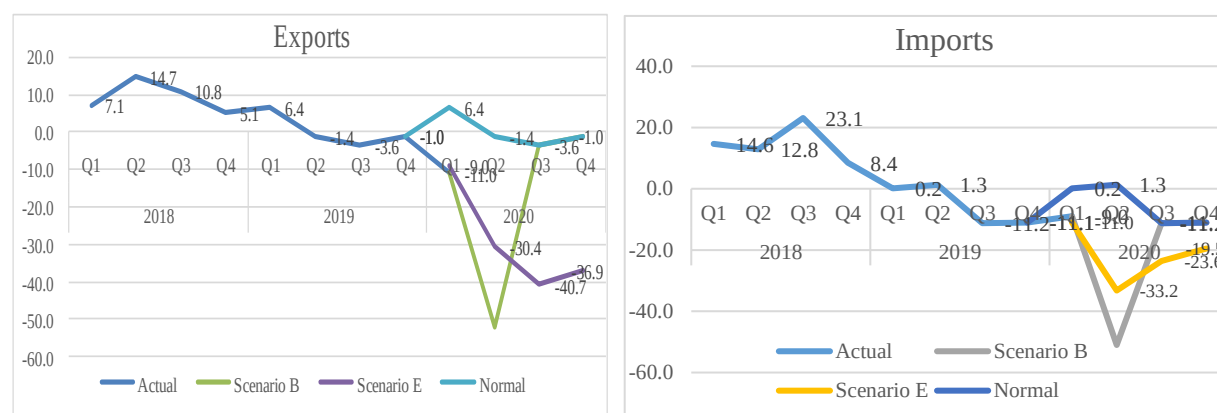
Source: Authors' Computations based on RBI Data

The quarterly growth rate of India's exports and imports became negative in 2019 from positive growth of 10 % and 15%, respectively, in year 2018 as India has initiated trade restrictive measures. Exports would have noticed an increase of 6.4 % in 2020Q1 and imports by 0.2 % without Covid. But after the Covid, the first quarter of 2020 witnessed a significant fall in India's trade - exports falling by 11 % and imports by 9 % - due to the Corona outbreak. In case of normal behavior, the figures for Q2 would have turned to -1.4 % for exports and 1.3 % 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% and 35% 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% for both exports and imports if the economy experiences partial lockdown till the mid of 2020 and assuming 90 % capacity utilization till September 2020. In case of U-shape recovery, the imports growth (YoY) may go to the minimum level of 30% in Q2 and can continue the decline by nearly 20% till the

¹⁷ For the year 2009, world trade declined in real or volume terms by 12.2 per cent. Because of significant price declines, especially for primary commodities such as petroleum and minerals, the decline in dollar terms was 23 per cent

end of calendar year 2020. However, exports can be hit harder as they are estimated to fall by 30 % in Q2 and around 40 % in the subsequent quarters (Fig. 13).

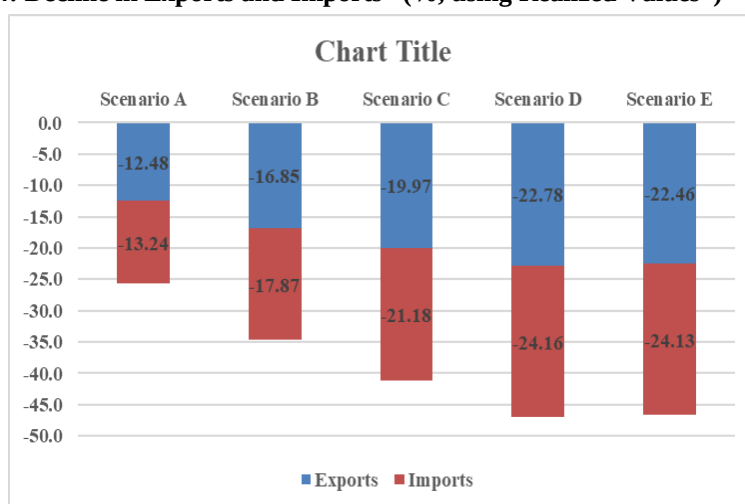
Figure 13: Quarterly Growth in India's Exports and Imports (YoY, %)



Source: Authors' Computations based on RBI Data

Fig 14: Decline in Exports and Imports* (% , using Realized Values*)

Fig 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 to January Values). The magnitude of the impact on exports and imports is similar to what has been derived using the estimated values for calendar year 2020 in the previous section



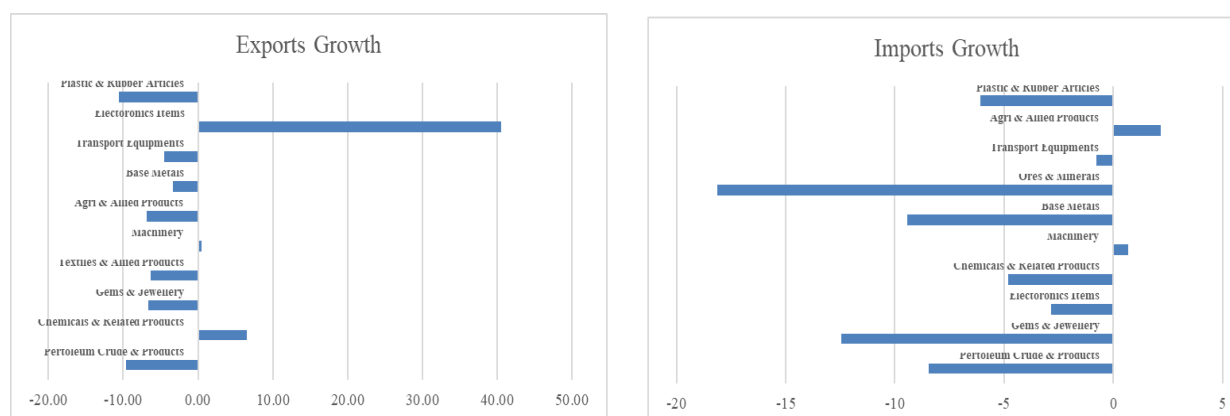
Source: Authors' Computations based on Export-Import Database.

Note: * Using the average values of FY 2019 and FY 2020 as base

In case of normal scenario, exports would have decelerated by 2.1 % and imports by 6.7 % in FY 21 over FY20 (April-Jan). Across top export sectors- chemicals and related products might have grown by 6.5 % and plastic and electronics items by rate of 40%. 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 & related products, would have decelerated by around 6% where petroleum, crude & products and plastic & rubber products might have observed a decline of around 10% 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 & products (8.5%), gems and jewellery (12.5%), electronics items (2.9%), chemicals (4.8%); basic metals (10 %); ores & mineral (18%) and plastic & rubber products (6 %). However, the machinery and agriculture &

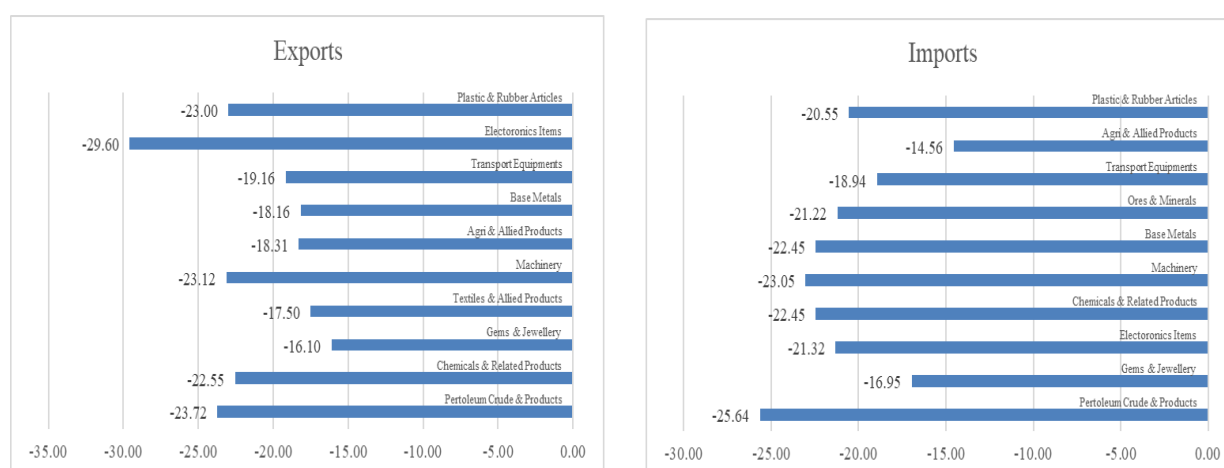
allied products would have noticed an increase in imports by rate 0.7 % and 2.2 %, respectively (Fig. 15).

Fig. 15: Sectoral Percentage Change in Exports and Imports Under Normal Behavior¹⁸



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 percentage (see Fig 16). The top 10 principal commodities comprise around 90% 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 (Fig 16). India has strong intermediate input usage demand and accordingly the forward linkage sectors such as automobiles, electronics, pharmaceuticals, machines and equipments, computer appliances, aircraft, etc. would bear the significant loss due to the epidemic.

Fig. 16: Fall in Exports and Imports across Sectors Scenario C (% of Total Base Value)



Source: Authors' Computations based on RBI Data

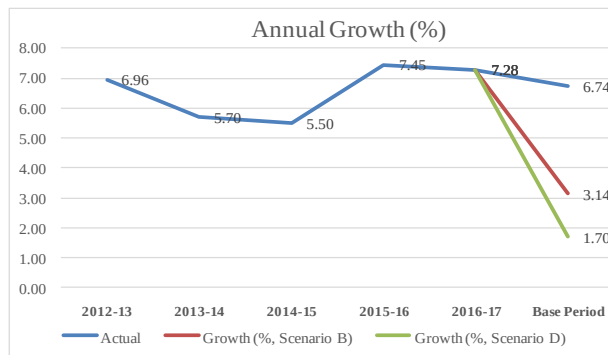
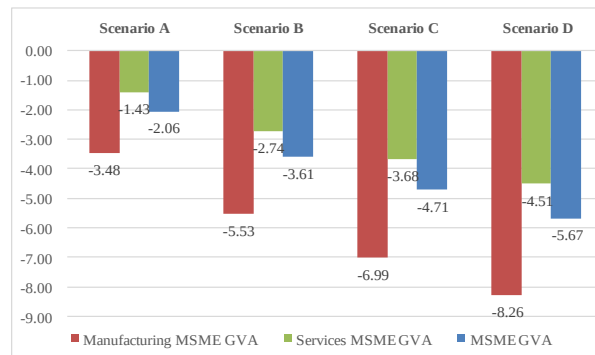
¹⁸ FY 2020 (April to January, a period before the COVID) as Compared to FY 2019 (April to January)

The estimated fall in India's trade is realistic. The Corona Pandemic which led to complete and partial lock down 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 US, China, Italy, Spain, Germany, S. Korea, France, the U.K. - 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. Infact the fall out of Covid-19 on India's trade is visible as both exports and imports (Year on year) fell by round by 30% in March 2020 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. Infact some of the industries depending on imports such as automobiles, pharmaceuticals, electronics, telecom equipments, computer hardware, industrial machines and equipments 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 (Sahoo, 2020).

5. Impact on MSME

We compute the estimated loss in MSME sector using the available latest data of MSME GVA¹⁹ for the year 2016-17. 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 (mfg and svs). 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 percent during 2015-17 and taking the triennium average ending in FY 17, the MSME sector would have grown with the rate 6.74 percent 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 % in case of pessimistic scenario (Fig. 17). As per estimation, India's MSME sector can expect a decline of 2.1 % under scenario A and this loss can increase to 5.7 % in case of scenario D. The loss is more skewed in manufacturing sector to the tune of 3.5 % in scenario A and 8.3 % in the scenario D. MSMEs dealing in trade and other services activities can bear the decline in GVA in the range of 1.4 % to 4.5 % (Fig. 18).

¹⁹ We convert the nominal GVA into real terms by using the GVA deflator based on price level of 2011-12.

Fig. 17: Growth rate of MSME GVA (%)**Fig. 18: Decline (%) in GVA of MSME Sector**

Source: Authors' Computations based on MSME Annual Report 2018-19, Ministry of MSME

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. Infact, 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.

6. Conclusion and Policy Implications

Our assessment is that Indian economy may have 0.4% growth this calendar year 2020 in most realistic scenario and a negative growth of around 3 % in worst case scenario with 50% over utilization of Public Sector and Defense services (PAD). However, in case of more pessimistic environment where there is normal PAD services (No over utilization of PAD), the deceleration would be in the range of 1.3 % in best case Scenario to 7.2 % 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 to 20 percent from best case to worst case scenario respectively. In manufacturing, some of the most affected industries are likely to be metals & 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 % to 27.8% for base case scenario and worst case scenario respectively. Interestingly the top 10 industries which contribute around two-third of the total industrial NVA, bear the loss in NVA in the range of 11.1 % to 19.6 % of the total NVA of base year. Top ten industries contribute 65% of total Industrial sector NVA, absorb 55% of all industrial workers (55%) and bear significant fixed cost, around 70 % 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 & refined petroleum products and motor vehicles (around 15 %, each); rubber & 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 % to 20.8% in 2020 over 2019 under Scenarios A to D. The estimated fall in imports ranges from 17.3 % to 25 %. Under scenario A, the exports and imports are expected to decline by 37% and 35% respectively in second quarter of 2020, the period in which there is restrictive or no movements of goods and services due to complete lockdown. This fall may extend to around 60% for both exports and imports if the economy experiences partial lockdown till the mid of 2020 and assuming 90 % 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 percentage. As per estimation, India's MSME sector can expect a decline of 2.1 % under base scenario and this loss can increase to 5.7 % in case of worst case scenario. The loss is more skewed in manufacturing sector to the tune of 3.5 % in scenario A and 8.3 % in the scenario D. MSMEs dealing in trade and other services activities can bear the decline in GVA in the range of 1.4 % to 4.5 %. 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 utilisation 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 Rs 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% of the GDP (Rs. 6.5 lakhs crores). Finally the big economic package of around Rs 20 lakh crores (10 % of GDP) was announced on 12th of May which has been elaborated in detail subsequently in five announcements by the Finance Minister covering almost sectors of the economy including space and atomic energy. The focus of the package has largely been on labourers, farmers, tax payers, 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, ease of doing business, health and online education measures along with wide ranging reforms to give a boost to the economy.

The stimulus measures are a welcome step when the economy has come to a standstill. Given the estimated fall out of Covid 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's 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 Corona pandemic is huge and 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.

APPENDIX

Impact on Gross Value Added (GVA): In order to see the impact on economic growth we take the real gross value added based on 2011-12 prices. This data is available till Q3 of FY 2019-20 at aggregate level as well as for broader categories viz. agriculture; mining and quarrying; manufacturing; electricity, gas, water supply and other utilities; construction; trade, hotels, transport, communication and services related to broadcasting; financial, real estate & professional services and public administration, defense & other services. First we take the data quarter-wise for calendar year 2019 (from January to December). We compute the quarterly growth rate (YoY) for each sector as well as aggregate GVA for calendar years 2018 and 2019. By taking the average of past two years' quarterly growth (YoY) for each sector, we estimate the quarter-wise GVA for each sector as well as aggregate GVA for the year 2020 with Q1 ending in march and Q4 ending in December 2020. From the estimated values of 2020, we spare three sectors completely from the computation of loss of Lockdown amid Covid. These sectors are agriculture; electricity, gas and water supply and public administration, defense and other services. Rather we assume 50 % overutilization of the health and membership organizations (part of other services) and public administration services. For mining and quarrying and construction sector we assume complete lockdown. As per NAS, manufacturing GVA is composed into two heads- from corporate and within household. In corporate manufacturing there are various sub-sectors including the manufacture of food products, beverages & tobacco and manufacture of pharmaceutical; medicinal chemicals and botanical products. Here we assume these two sectors of corporate manufacturing plus the household manufacturing operative amid lockdown.

We have quarterly GVA for trade, hotels, transport, communication and services related to broadcasting. Here the communication and services related to broadcasting which have around 9.3 % share (average of FY 2015-18) in overall GVA of the trade, hotels, transport, communication and services sector. Hence this sub-sector is excluded from loss computation.

Under broader sectors financial, real estate & professional services, with sub sector financial services we are assuming that banks and insurance services are working at 50% of their capacity level and rest inoperative. In real estate & professional services, we assume 50 % operation of ICT, Scientific, R&D and other administrative services.

After excluding the contribution of these above sub-sectors, we compute the loss for each sector under four hypothetical scenarios. Different scenarios are assumed as follows:

1. Scenario A considers the impact of lockdown for 40 days (7 days of Q1 and 33 days of Q2), and assuming the normal level of economic activities post 3rd May 2020.
2. In scenario B, we consider the complete lockdown up to 3rd May and 50% capacity utilization of the economy till 31st May.
3. In Scenario C, in addition to scenario B, we assume the capacity utilization level of 70 % till 30th June and normal level thereafter.
4. Under scenario D, where normalcy level is assumed in three phase- 50% by end of May 2020 (same as of scenario B), 70 % by June (same as of Scenario C) and 90% by September

2020 assuming that 10 % sectors which are adversely affected may take much time for their resumption.

After computing the loss for each quarter for every sector, we add-on the total loss of the corresponding sector and further add up across sectors to find the total estimated loss in gross value added. Here we utilize following criterions of presentation to find the impact assessment.

1. Percentage decline in GVA for aggregate level while comparing the GVA of 2020 (after loss) with the GVA of 2019 which is actually realized. This computation is done with normal behavior of PAD as well as overcapacity of PAD (Fig 3).
2. This process is done for sectoral level also to find the potential decline (%) in the GVA for the sectors. However, for simplicity, presentation is done for Scenario B with normal behavior of PAD (Fig. 5)
3. We compute the quarterly growth rate (YoY basis) in aggregate GVA (with normal behavior of PAD as well as overcapacity) under all scenarios, and present for Scenarios A and D. (Fig. 4A&B)
4. Then we find the loss of each sector out of the total estimated GVA of 2020. It helps us to find the potential loss in the share of each sector in the aggregate GVA of 2020 (Fig. 6A). We also present the loss in each sector (%) as compared to the respective sectors' GVA of 2020 (Fig. 6B). This process is also done in case of normal behavior of PAD (Fig. 7A&B).

Impact on Manufacturing Sector: In order to find the impact at industry level, we rely on Annual Survey of Industries data for registered manufacturing firms. Here we take the average values of net value added for FY 2016, FY 2017 and FY 2018²⁰ as base values for estimation. We have the wage expenses as well as fixed cost components viz. interest and rent expenses across industries. First we compute the loss for each scenario using the base NVA of each industry. Then we also compute the cost component (wages as well as fixed cost, assuming these costs to remain with the firm even if without operation amid lockdown) and calculate the cost for each scenario for each industry. Here we have excluded two industries- food products and the pharmaceutical products. We add on the loss of NVA to the cost during lockdown for a particular scenario, and thereby compute the total loss for each industry. Then we take the average NVA of FY 2014, 2015 and 2016 as the previous base of NVA. Presentation is made as follows:

1. Percentage decline in NVA of all industries as compared to previous benchmark period (FY14-17) (Fig. 9). Also, we take the NVA loss as % of total NVA of base value (FY15-18) (Fig. 9).
2. Then we find the composition of NVA loss as % of total NVA of base period across industries for scenario B only (Fig. 10).
3. Percentage decline in the NVA of each industry while comparing the base period NVA after loss with the NVA of benchmark period (Fig. 11).

²⁰ FY 2017-18 is the latest data available from ASI.

Impact on 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 COVID affected countries. Secondly we compute following the same exercise 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, B, C and D. We don't compute the loss for Q1 of 2020 as the data are already released wherein significant decline is observed due to COVID. 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 % in 2009-10Q1 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 (Fig. 12A)
2. The export/import loss as percentage of estimated exports/imports of 2020 (Fig. 12B).
1. 3.The quarterly growth rate (YoY) for 2020 and compare them with the growth of corresponding quarter of previous year 2019 (Fig. 13A&B).

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 Pandemic. Here we take the average values of exports/imports of 2018-19 and 2019-20 (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 19 & FY 20) as compared to the exports/imports of previous benchmark period (average of FY17 & FY18) (Fig. 14).

2. We compute the aggregate loss in exports/imports as % 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 Pandemic (Fig. 16).

Impact on MSME Sector: We compute the estimated loss in MSME sector using the latest data of MSMEs' real GVA for the year 2016-17. The real GVA is obtained by applying the GVA deflator of base year 2011-12. 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 follows:

1. Percentage decline in GVA of MSME sector using the reference loss of aggregate GVA of India carried out in first section (Fig. 18).
2. Fall in growth rate in real GVA of MSME. We compute it by excluding the GVA loss (%) from the average growth of FY16 & FY17 (Fig. 17)

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