

Economic impact of the Covid-19 pandemic in India: Roadmap for different sectors

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ABSTRACT

The coronavirus outbreak has had a disastrous effect on the Global economy, let alone India. Prior to the pandemic, the Indian economy was already in a slowdown, primarily due to a decline in consumer demand. This paper studies the growth trajectory of Indian economy over the past decade and looks at the trends in the key economic indicators such as Inflation, Interest rates and Exchange rates. This paper examines the policy changes announced by the Government following the pandemic including the impact of COVID 19 pandemic on various sectors along with the strategies that these sectors could adopt to cope up with the situation. Additionally, data has been collected from various public websites for the purpose of analysis and capturing the trends over time. This study also proposes a Multivariable Regression model to predict the GDP growth rates of Indian economy post the pandemic.

Keywords

coronavirus, pandemic, Indian Economy, Economic Indicators. GDP growth rate

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Introduction

The outbreak of the Coronavirus has disrupted the global economy. The first case of coronavirus was reported in Wuhan, China in December of 2019. The virus is currently spreading at a rapid pace infecting over 12million people across more than 188 countries worldwide. This virus outbreak was declared as a pandemic and a Health emergency by the World Health Organization (WHO) on 11th March 2020. This pandemic has brought the world to a standstill with millions of people losing their jobs. Majority of the nations are under lockdown affecting the livelihoods of millions of people. India has announced a nationwide lockdown on 24th March 2020 which has been going on in different phases across the nation. The metropolitan cities such as Delhi, Mumbai, Kolkata, and Chennai have seen a steep rise in the number of cases reported per day.

The Indian economy is the fifth largest economy in the world with a GDP of around \$2.9 Trillion in 2019. India was among the fastest growing economies in the world in 2018 with a growth rate of around 8.1%. in the fourth quarter of FY 2018. However, the growth rate has declined to around 4.5% in the second quarter of FY2020

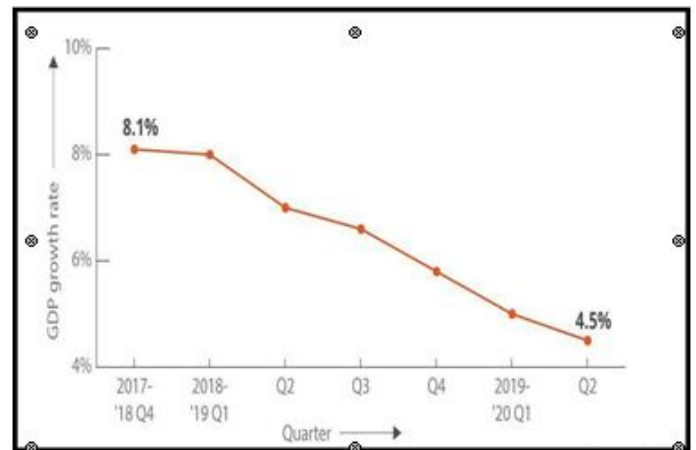


Figure 1: GDP Growth rate trajectory of Indian economy. (Source-<http://www.mospi.gov.in/>)

Several economists have stated that India could become a \$5 Trillion economy by the end of 2025. However, the growth rate of India had slowed from mid-2018 due to various factors such as the slump in domestic consumption, US-China Trade war, among others. It was believed that India could emerge as a winner with the trade tensions between US and China prompting several US companies to shift their operations away from China. Despite these predictions, it was Vietnam that emerged as a preferred destination for several global companies to set up their operating plants. With stringent policies and guidelines set in place by the Indian Government for Foreign investments in various sectors, Indian economy could not quite catch up with Vietnam and similar countries in terms of growth.

However, just when the Government had relaxed a few of these guidelines and lifted the limits on FDI Investments in various sectors so that India could get back on its growth trajectory cycle, the coronavirus had taken the world by shock. India was emerging as a top country in terms of services exports and the “Make in India” initiative

introduced by the Government was about to reflect in the economic numbers, the virus absolutely disrupted the Indian economy. The nature and the scale of impact of the coronavirus was extremely pernicious for various sectors of the economy and the unemployment rate has skyrocketed in the months of April and May 2020. The GDP Growth in India fell sharply to around 3% in the Q4 of FY2020. The pre-pandemic slowdown itself was becoming a growing concern for Indian economy and the World Bank and other rating agencies had cut down the growth rate forecasts for India for the next few years. The unemployment rate rose to around 25% in April 2020 with several migrant workers left stranded in metropolitan cities without any job and income. More than 145 million jobs were reportedly lost during the lockdown phases and with several businesses being shut down, the economy was under severe pressure.

Until 2019-20, the Government has triggered supply-side policy changes to boost the economy. Later in September, it announced corporate tax cuts to attract investors and uplift the economy. On the same grounds, RBI also had announced rate cuts in different phases to reduce the cost of capital for companies investing in the economy. The Indian stock market also took a hit during the slowdown which drove away the potential investments away from India. The MSME sector is a very vulnerable sector which heavily relies on monthly revenues and profits for their day to day operations. These companies have little or no cash reserves and the uncertainty prevailing in the economy has taken a heavy toll on these businesses.

Literature Review

I. The Economic Cost of COVID-19: A Potential Pandemic Impact on Indian Economy- Kishore Parth:

This paper studies the impact of the pandemic on the present and future of Indian economy. It analyzes the reaction level of various sectors of Indian industry and the strategies that they have adapted to survive in this critical situation. This paper has examined the impact of COVID-19 on the global production front by considering the demand-supply mismatches and supply chain disruptions. It also studied the impact of the virus outbreak on the financial markets and firms globally. This paper studied the impact of the pandemic on major Indian sectors such as Textiles, Agriculture, and automobiles in terms of the loss of revenues and the loss of jobs in these sectors. It has also identified the states which were most affected in India such as Rajasthan, Maharashtra

, Gujarat etc. which had a high share of informal workers in India. Additionally, the authors have also prepared an employment forecast for Indian economy post the Covid pandemic in different sectors. They have also examined the performance of the banks during the pandemic and its impact on their profitability due to further increase in NPAs following the pandemic and increased uncertainties among people which in turn reduced the demand for loans throughout the country. The authors have also emphatically stated that this situation is in many ways different than a recession and even worse in certain aspects.

Impact of Covid-19 on Sectors of Indian Economy and Business Survival Strategies

Dr Debdas Rakshit and Ananya Paul

The Paper published in International Journal of Engineering and Management Research Volume 10-Issue-3(June 2020) – examines the repercussions of the Corona virus on different sectors of Indian economy and highlights the reason for which India can benefit post Pandemic by adopting business survival strategies to overcome the tough times.

The Paper examined the impact of Coronavirus on different sectors of the economy namely:

- (i) **Primary Sector** : Agriculture & Mining Industry
- (ii) **Secondary Sector** : Manufacturing, Automobile, Textile & Apparel, Pharmaceutical & Chemical Industry, Electronic Industry, Solar Power industry, Construction & Engineering industries
- (iii) **Services Sector** : Tourism & hospitality industries, Transportation segment, Health care segment, IT segment, BFSI segment, Media & Entertainment industry, & Retail segment

From their study the authors have concluded that all these sectors have curtailed their business operations: there is a substantial fall in the revenue earned on sale of raw materials produced by the farmers in the agricultural sector; the manufacturing sector is bundled with huge inventory and idle machinery; the automobile industry has been shut down with steep decline in production and sales forcing them to announce pay cuts for their employees; large scale layoffs have been reported in textile industry, and there have been large scale disruptions in supply chain in electronics industry,

II. Covid-19 : Impact on the Indian Economy- S. Mahendra Dev and Rajeswari Sengupta

This paper examines the impact of the lockdown and various Covid guidelines introduced by the Central and State Governments to contain the coronavirus pandemic. The authors have also studied the various schemes introduced by the Government in the Pre-covid era and the outcome of these initiatives. They have also examined the Covid fund released by the Government to deal with the damage that the pandemic has caused in India. Firstly, they have studied the rise in pandemic cases in various states of the country and the way the states have been affected by the spread of the virus. They have also looked at the trends in household income and expenditures during the lockdown period. The paper also studied the financial positions of the major banks in India and their lending behavior to various sectors. The paper also examines the fall in demand of Oil, Petrol, Diesel and Electricity and the impact of the demand drops on the companies and various stakeholders.

III. Estimation, Analysis and Projection of India's GDP - Daga, Ugam Raj and Das, Rituparna and Maheshwari, Bhishma

This paper studies the trends in the GDP of Indian economy over the years and identifies the sectors that highly impact the growth rate of India. The authors have also studied the impact that various economic policies and reforms have had on the GDP Growth rate, Inflation, and the exchange rates. They have also come up with a model to forecast GDP based on the sector wise contribution and the trends in the key economic indicators over the past few years. The resulting model had a R-square value of 99.67% and Another model was created based on the Augmented Dickey-Fuller Test Equation and the Dicky-Fuller unit root test to forecast the GDP value. They have run a multiple regression model to forecast the GDP and this model was found to be successful and came close to the actual GDP numbers in line with the economic indicators.

Research Gaps

This pandemic has taken a heavy toll on the global economy and has had a significant impact on every business organization be it small or big. The post covid world is more uncertain than ever with the ever changing PESTEL (Political, Economic, Social, Technological, Environmental and Legal) factors. With hundreds of containment zones being identified daily, the business environment and the health and hygiene of the people in these regions are highly affected. Neither a single model nor a few suggestions can revive the economy as the situation is deteriorating at a rapid pace all over India. Therefore, the Government and the business organizations must be ready to tackle whatever issues they might face in the future. This is the “New normal” and India should be ready to deal with this fact. The sooner the Government and businesses acknowledge this fact, they will be better prepared to handle the situation thereon.

Problem Statement

With the uncertainties revolving around the impact of the pandemic on the Indian economy , several sectors are looking for ways and means to get back on track. This paper could give be a reference point to take off further in this regard.

Objectives Of The Study

With the coronavirus outbreak, the global economy has taken a downturn and it is expected that it is going to take more than a few years for the world to get back on track. The Governments and the companies should take all necessary steps to revive the economy. This process is the same for any nation’s economy. Firstly, it is imperative to understand the nature and the scale of impact that the pandemic has had on the Indian economy and thereby take the appropriate steps to tackle the issues. The objectives of the study are:

1. To study the growth trajectory of Indian economy in the Pre-covid and during the Covid pandemic phases.
2. To understand the nature and scale of impact that the pandemic has had on various sectors of Indian economy.

3. To specify suitable recommendations for the Government to take appropriate action on various sectors of the economy for economic revival.

Data Collection

For the purpose of the study, data on key economic indicators such as GDP, inflation, Growth rate, Rupee exchange rates, PMI etc. was extracted from various websites like IMF, World Bank, MOSPI, RBI, India stat etc., Certain graphs and infographics were taken from the Economic Survey of India document and the press releases issued by the Government on their respective official websites.

Research Methodology

The methodology adopted for this study is based on secondary data collected on economic indicators for the Indian economy from public websites such as IMF, World Bank, RBI and MOSPI. Data on economic indicators such as GDP, Inflation, Growth Rate, Fiscal Deficit, Exports and Imports, Exchange rates for the past 10 years are collected and analyzed to gain insights. A Regression model is run by examining the various economic indicators that impact the GDP Growth rate for India in the past decade. Additionally, the correlation of these economic indicators and the Growth Rate are calculated to determine the nature and the scale of impact that these indicators have on the GDP growth rate for India.

Further, this paper has examined the progress of Indian economy over the past decade during which the economy has witnessed an economic boom followed by a slowdown. Just when the economy was about to get back on its original growth trajectory supported by various Fiscal and Monetary policies introduced by the Government, the pandemic has set in and crippled the economy. This paper identifies the trends of the key economic indicators in each of these phases (Boom, Slowdown and Covid) and studies the relation between various economic indicators.

This paper has also examined the nature and scale of impact this pandemic has had on various sectors of the economy. Keeping the above in view, the paper suggests a roadmap for the revival of the industries within these sectors in the ambit of the Government guidelines and initiatives in this regard.

Data Analysis

India’s growth rate trajectory has witnessed a steep decline from 2017. India was on the verge of being the fastest growing economies in the world in the mid-2010s with a growth rate of 7-8% before a slump in the consumer demand hit the nation in the latter half of the decade. The Q2 (July-September) of FY 2019-20 saw a growth rate of 4.5% which was the lowest recorded growth rate for India over the past 6 years. Despite the government taking various measures on the fiscal and the monetary front, the economy could not quite gain a kickstart as before. Experts have cited various reasons such as Demonetization, decline in consumer demand and reduced investments in several sectors, among others. Just when the government was about to implement

ertain structural reforms to boost the economy, the COVID-19 pandemic entered the country and disrupted the entire economy. This pandemic has already had a disastrous effect on the economy by wiping out lakhs of jobs both in the organized and the unorganized sectors.

From 2014 to 2016, India witnessed a high growth rate of around 7-8% which was followed by a slowdown from 2018 onwards with the growth rate coming down to around 4.5% as illustrated below:

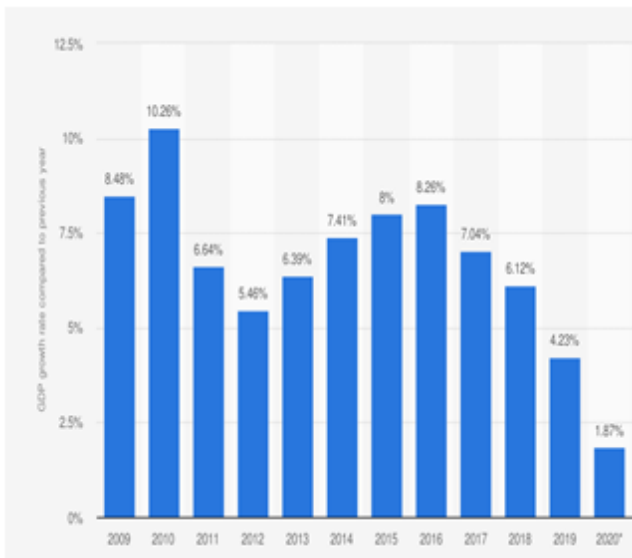


Figure 2: GDP Growth Rate of India since 2009. (Source- <https://imf.org/>)

Economic Slowdown 2019

The growth rate of Indian economy has seen a sharp decline from the second Quarter of 2018-19. During the second half of FY18, the Indian economy was right on track to reach the double-digit growth rate target and the \$5 Trillion economy goal set by the Government for 2025. But, the storyline has completely changed thereafter with the growth rate coming down to as low as 4.5% in the Q2 of FY20. In fact, the growth rate trajectory of Indian economy has shown a series of ups and downs in the past 10 years, but this story was different in a lot of ways. The growth rate of 4.5% in Q2 of FY20 was the lowest in over 25 quarters.

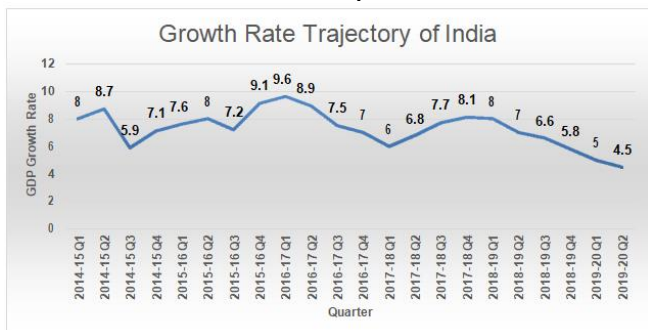


Figure 3: Quarterly Growth rate trajectory of India from 2012-13 to 2019-20

Source: <http://www.mospi.gov.in/> Moreover, the decline in growth rates in the earlier quarters(in 2012-13 and 2013-14) came at a time when the Inflation rate in the economy was very high and the banks maintained higher interest rates than

usual to tackle the high inflation rates. But the recent slowdown came under the backdrop of moderate inflation rates. This economic slowdown is a bigger concern than any of the previous slowdowns in the past 10 years.

The major reasons for the economic slowdown 2019 are described below:

I. Series of Reforms introduced by the Government

a. Demonetization- Demonetization happened in November 2016 which has disrupted the consumption part of the Economy. This initiative introduced by the Government led to a large-scale job loss in the economy. Rural India was heavily affected as the businesses in these regions mostly operate on cash on a daily basis. The income levels have also seen a drop which has in turn resulted in a drop in demand. This is a vicious cycle as this drop in demand further leads to lower revenues for businesses and the laying off of workers. This was evident with a drop in the GDP Growth rate in the following quarter. The flow of credit in the economy has seen a steep decline leading to reduced growth rates in various sectors.

Demonetization also resulted in an increased level of savings by the people. The indicator “M3” is the percentage of the money that is present in the hands of the public in the form of savings and bank deposits. The M3 indicator has shown a steep increase in 2017-18 reaching to 25.2%. This meant that people were saving more than usual, and the reduced spending thereby led to a decreased growth in the economic activity.



Figure 4: Share of total currency in Savings and Deposits Source: <https://www.bloomberg.com/>

This initiative also had a significant impact on the MSME Sector. Despite several MSMEs moving towards digitalization, it was the Micro enterprises that were severely affected. Several micro companies have laid off their workers who moved to their native villages. The growth rate in this sector dropped to as low as 1% in certain rural areas of India. More than 5.5 million people have lost their jobs due to the aftereffects of demonetization. The unemployment rate rose to 6% in 2018 from less than 5% in 2016.

b. GST- The Goods and Service Tax (GST) which was introduced in 2017 by the Central Government also had a severe impact on the economy. In the short run, GST has shown a negative impact on the exports of India. The refunds that were due to the exporters were not being cleared time to time which has affected their operations. This is quite

evident from a decline in the growth rates of exports in 2017-18. The introduction of GST will expand the tax base in India thereby leading to higher tax revenues for the Government. The GST model implemented by India is a dual GST which makes the structure and the distribution of taxes slightly complicated. Also, the share of GST revenues to the State and Central governments is unclear. The GST rate proposed by the Indian Government is 27% which is amongst the highest in the world. The pre-service tax rates have gone up from 15% to 17-20% after the GST implementation. This will increase the production costs and thereby make it difficult for the domestic products to compete with the foreign products.

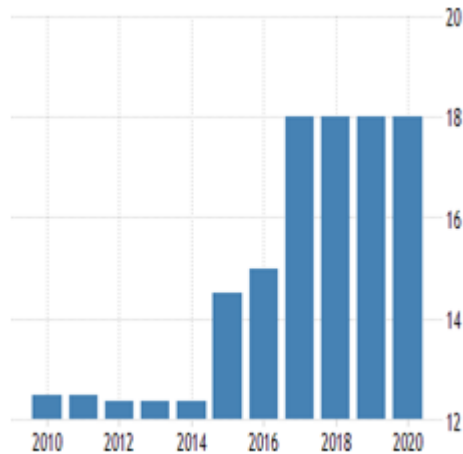


Figure 5: Sales Tax rates in India from 2010 to 2020. Source: <https://finmin.nic.in/>

The textiles, telecom and metals industries were highly affected with the new GST slabs. With India being the 5th largest textile exporter in the world, the Indian companies have lost their grip on exports with the rise in input costs.

I.V vulnerable Financial Sector:

With the NBFC sector facing several issues such as rising NPAs, reduced credit ratings and IL&FS crisis, the financial and banking sector of India was under heavy pressure. This has led to decline in the flow of credit to both households as well as businesses. The Government and RBI had introduced stringent guidelines for banks to tackle the rising defaults. The impact of this crisis was more visible in Rural India since NBFCs are the major source of credit in these parts. Almost every sector was impacted from this crisis from Agriculture to the MSMEs and Retail. This has led to increased unemployment rates and reduced income levels of the people, which in turn led to a decline in consumption levels. This vicious cycle has had severe effects on the economy leading to decline in growth rates.

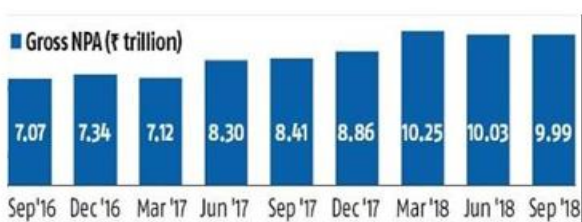


Figure 6: Rising NPAs in the Banking Sector. Source: www.capitaline.com/

The decline in income levels led to increasing defaults of bank loans and resulted in a drastic rise in the NPAs. This was quite evident in the performance of several banks and in their balance sheets. This has reduced the bank’s ability to extend credit and thereby led to a fall in economic activity.

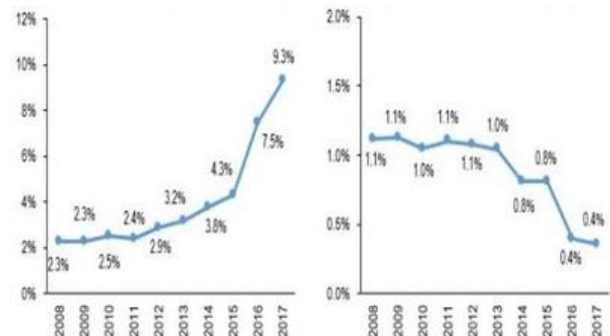


Figure 7: NPAs as % of Total Loans extended

II. Stagflation:

Stagflation refers to a situation wherein an economy experiences high inflation rates and lower growth rates. The Indian economy was under stagflation during 2013-14 which continued for the next few years despite the economy showing some signs of recovery. Just when the economy was about to get back on track, Demonetization happened followed by the introduction of GST. This has led to a fall in income levels which resulted in a decline in purchasing power for people. RBI has announced that it was not going to cut interest rates due to high inflation levels in the economy. This tightening monetary policy to combat inflation has taken a toll on the demand side of the economy. This has led to a fall in investments across various sectors which did not help the unemployment rates. However, just when the inflation rates were about to settle down within the 2-6% tolerance limits set by the RBI, demonetization and GST have taken over. The rising NPAs also did not help as RBI was skeptical about reducing Repo rates as it might result in further increase in NPAs.

On the other hand, the Government has been consistently missing the Fiscal deficit targets set during the same period. Also, the capital expenditure as a % of GDP was not rising in line with the revenue expenditure (as % of GDP).

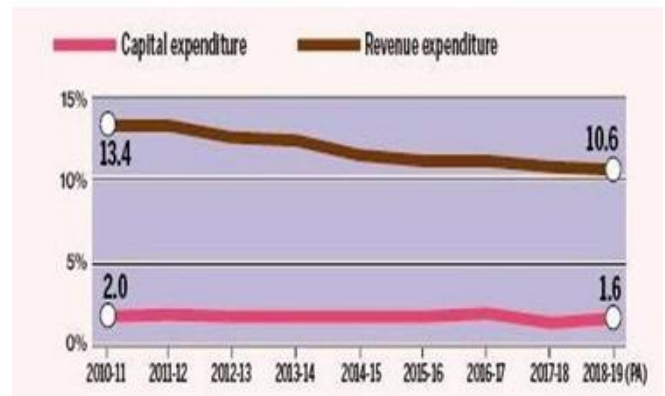


Figure 9: Capital and Revenue Expenditure as % of GDP from 2010-11 to 2018-19 Source: Economic Survey 2018-19

This was just one side of the story. The total expenditure of the Government as a % of GDP was on decline as well. The Government has revised its Fiscal Deficit target from 3.8% to 3.3%. For this reason, the Government was cutting back on Capital Expenditure (Capex) and this was not a good sign for the economy. The Capex has a multiplier effect i.e., it creates employment opportunities which increases the income levels of people. This in turn increases the aggregate demand which drives investments. But, the Government was not ready to cut back on Revenue expenditure as this was the need of the hour in Rural India. The agricultural sector in India runs on subsidies not to mention the people in rural areas who depend on the Food and LPG subsidies.

to a decline in exports for several countries. Trade barriers such as Tariffs and Quotas were picking up which had a drastic impact on International Trade. India was highly affected by these geopolitical factors as the imports were being held back by China which has had an immense effect on the domestic businesses.

b. Crude Prices: Just when crude prices remained stable and Indian economy was beginning to reap the benefits; the volatility has started again with the crude prices skyrocketing. This has created an additional pressure on Inflation and on the Rupee exchange rates. The external debt of the government also rose sharply due to the increase in fuel prices.

In the Jan-March Quarter (Q4) of FY 2019-20, the Indian economy grew at a rate of 3.1% which is the lowest in over 40 quarters. The GDP growth rate for the FY20 was 4.2% which is the slowest in 11 years. The manufacturing sector had witnessed a contraction of 1.4% in Q4 of FY20 while the construction sector contracted by 2.2%. The aggregate output of the 8 sectors have contracted by approximately 38% in April 2020 compared to a growth of 5.2% in April 2019. Moreover, agriculture was the only sector that has reported a higher growth rate YoY.



Figure 10: Total Expenditure as a % of GDP

The growth of tax collections has declined after 2016-17. Also, the gap between the actual and the budgeted tax revenue was seeing a sharp increase. Despite this, the Government has not cut back on the Revenue expenditure. In fact, the Revenue expenditure has been rising as a % of GDP despite the shortfalls in tax collections. Also, the Government has announced food, LPG and fertilizer subsidies which has made matters worse. These expenditures were not helping in boosting the demand in the economy. The unsustainable subsidies were increasing the Fiscal deficit and the external debt of the Government.

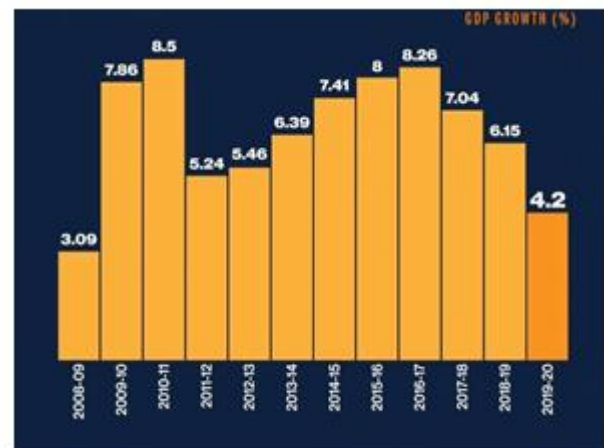


Figure 12: Annual GDP Growth rate of India from 2008

Source: <http://www.imf.org/>



Figure 11: Growth of Gross Tax collections over the years

Source: <http://www.cga.nic.in/>

III. Others

a. Geopolitical Factors: With the US-China Trade war and Brexit, the global outlook has taken a downturn. Investments have dried up in several emerging economies including India which had a significant impact on the growth rates. The international trade was highly affected which led

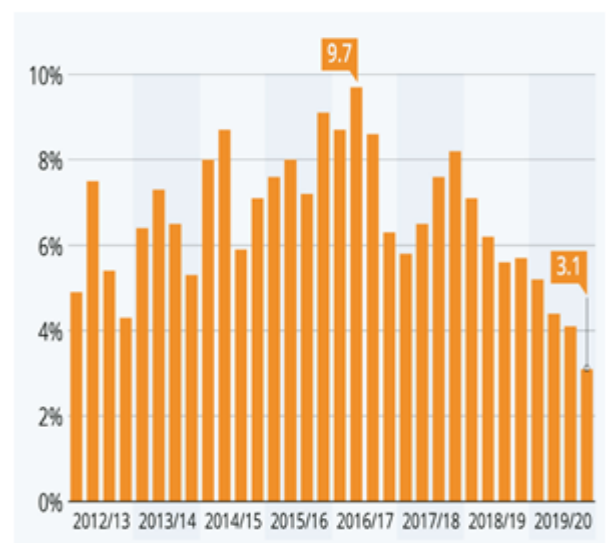


Figure 13: Quarterly GDP Growth rate of India since 2012.

Source: <http://www.mospi.gov.in/>

This 44-quarter low GDP growth rate of 3.1% recorded for Q4 FY20 was during the beginning phase of the lockdown announced by the Government. In fact, the lockdown was announced by the Government from March 25, 2020. Therefore, several experts have mentioned that this drop in growth rates was just the beginning of a series of drops. This was further supported by the 57.6% contraction in the Index of industrial Production (IIP) for India which was the highest contraction in more than 20 years.

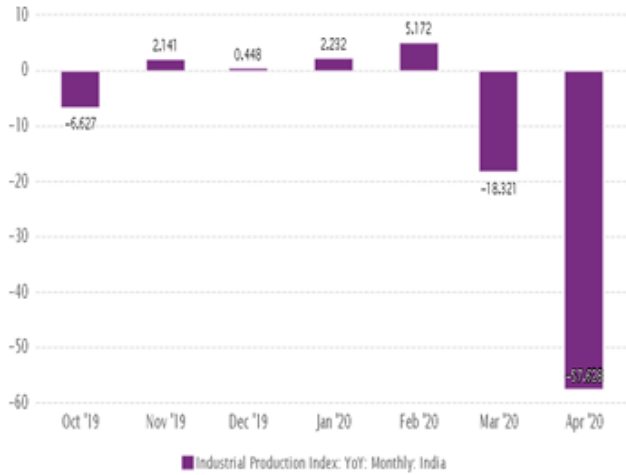


Figure 14: India: IIP Growth Rate

These trends show a negative outlook for Indian economy over the coming years. With several experts suggesting a drop in growth rates for Q1 of FY21, there are others who suggest a contraction in the GDP growth rate.

Among the key sectors of Indian economy, it can be said that the Manufacturing sector was the worst-hit considering the pandemic.

The sector wise output growth is shown in the following Table:

Sector	IIP in April 2020	IIP in March 2020
Manufacturing	-64.3%	-22.4%
Mining	-27.4%	-1.4%
Electricity	-22.6%	-8.2%
Primary goods	-26.6%	-4.1%
Capital goods	-92%	-38.3%
Intermediate goods	-66.4%	-18.5%
Infrastructure and Construction	-83.9%	-25.2%
Consumer durables	-95.7%	-36.5%
Consumer Non-durables	-36.1%	-20.3%

Table 1: Comparison of IIP in March and April 2020

Source: <https://www.bloomberg.com/>

The services sector which contributes to more than 60% of the GDP in India has also suffered a huge set back due to the lockdown. There have been large scale losses in jobs of this sector.

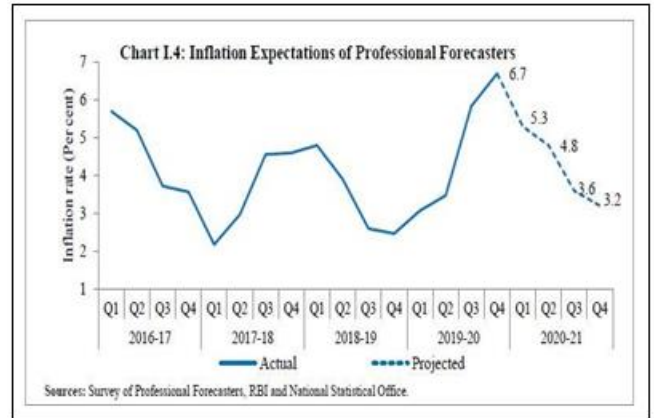


Figure 15: Inflation forecasts by RBI

With the economy staring at lower growth rates (even a contraction of GDP) and high inflation, it is not yet clear what would be the stance that RBI will take in its MPC meeting in August 2020. With the retail inflation rising to 6.09% in June 2020 from 5.85% in March 2020, above the RBI’s target range of 2-4%, RBI is facing a unique set of challenges to revive the growth in the economy by keeping the inflation in check.

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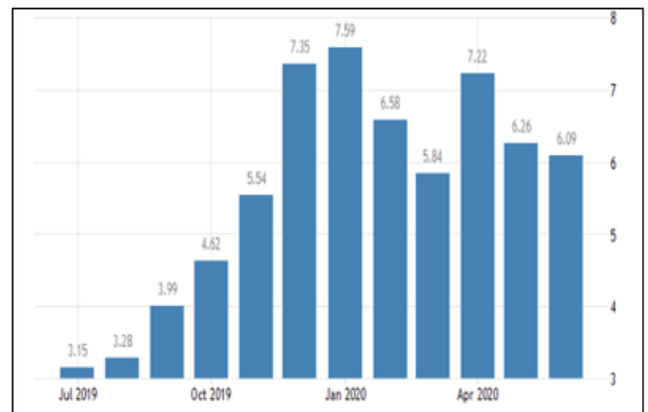


Figure 16: Monthly Inflation Rate of India in 2019-20

The repo rate stands at 4% after RBI has reduced rates by 115bps in 2020, not to mention the 135bps cut in 2019 to boost the demand in the economy. There is truly little room for RBI when it comes to monetary policy changes after the series of rate cuts in the last couple of years.

Despite the inflation projections made by RBI showing a drop in inflation in the coming quarters, there are economists who believe otherwise. Several economists have stated that the retail inflation is expected to remain high in the next few months due to the spike in prices of clothing, food, and other goods.

Investment Information and Credit Rating Agency of India Limited (ICRA) has announced a revision to the GDP Growth rate projection of Indian economy for 2020-21 from -5% to -9.5%. It has also mentioned that the revision was based on the rising number of infected cases all over India forcing the states and cities to declare lockdowns. This will have a huge impact on the economic activity of the country. ICRA has also stated the economy might see certain improvements in the coming quarters depending on the spread of the virus.

This pandemic has affected almost every sector in the country be it manufacturing, banking, tourism, or services. The precovid slowdown itself was starting to become a huge setback for the country and the pandemic has further worsened the situation. With the unemployment levels rising to almost 25% in the April and May of 2020, it is not yet clear whether this rate could further rise in the future.

Month	Unemployment Rate (%)		
	India	Urban	Rural
Jun 2020	10.99	12.02	10.52
May 2020	23.48	25.79	22.48
Apr 2020	23.52	24.95	22.89
Mar 2020	8.75	9.41	8.44
Feb 2020	7.76	8.65	7.34
Jan 2020	7.22	9.70	6.06
Dec 2019	7.60	9.02	6.93
Nov 2019	7.23	8.88	6.45
Oct 2019	8.10	8.27	8.02
Sep 2019	7.16	9.62	6.00
Aug 2019	8.19	9.71	7.48
Jul 2019	7.34	8.30	6.90

Figure 17: Unemployment rate data in Urban and Rural India over the last 12 months. (Source- <https://www.cmie.com/>)

The pandemic has had a devastating impact on the unorganized sector of the economy. With the government announcing complete lockdown in April and May 2020, the unemployment rate increased to almost 25% in the country. Almost all the sectors were disrupted by this pandemic resulting in the closing down of several businesses. This has led to large scale layoffs, both in the organized and unorganized sectors along with a fall in income levels, at the least. This has led to decline in demand which in turn affected the existing businesses also. This vicious cycle has disrupted the economy at large.

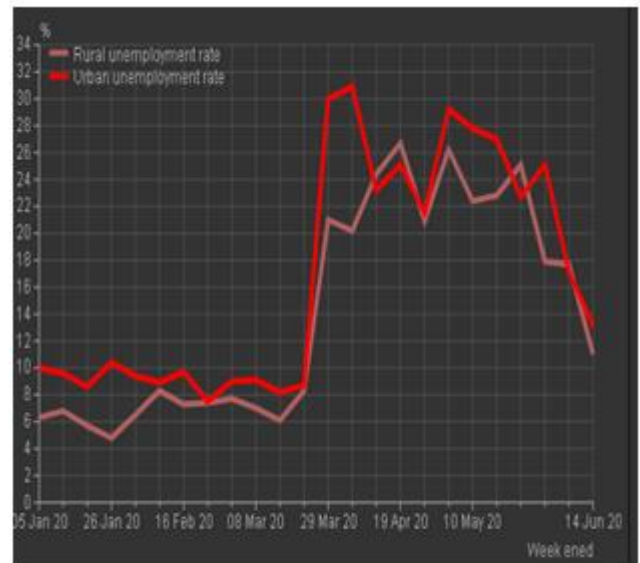


Figure 18: Rural and Urban Unemployment Rates from Jan to June 2020

Source: <https://www.cmie.com/>

According to a survey conducted by Statista, more than half of the households in India have seen a decline in their income levels. Also, with inflation rates likely to shoot up in the second half of 2020, this could take a heavy toll on the lower- and middle-income classes.

With the tourism sector perhaps being the most affected sector due to the pandemic, sectors such as transportation and hospitality sectors have come under tremendous pressure. According to the Bus and Car Operators Confederation of India (BOCI), which consists of more than 16 lakh buses and 12.5 lakh tourist cabs and provides direct employment to over 1 crore people, almost 25 lakh people have already lost their jobs. It also claims that at least 20 lakhs more jobs could be in jeopardy in the next few months.

With several SMEs having gone bankrupt, economists are expecting that these figures will only rise in the coming few months. However, the Labor participation rate has slowly picked up as more and more people are returning to their jobs after the lockdown norms were eased in June 2020.

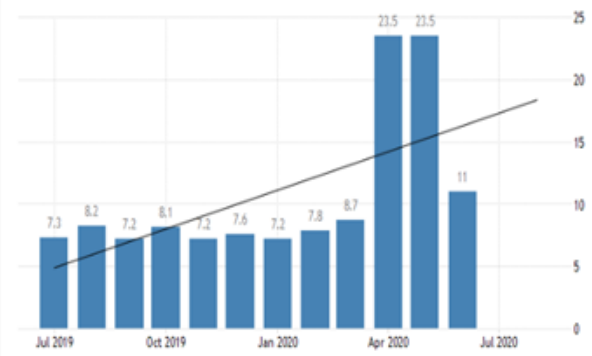


Figure 19: The rising Unemployment rate in India over the past 12 months (Source- <https://www.cmie.com/>)

According to a study conducted by Prof.Prasanna V Salian and Gopakumar. K, the GDP Growth rate, and inflation rate

for emerging economies like India are inversely related in the long run. However, recently, Indian economy grew at a rate of 7-8% which was one of the highest growth rates in the emerging economies despite maintaining a moderate inflation rate between 4.5-5.5%. RBI has set the benchmark inflation rate as 2-6% and anything below or above these levels calls for an intervention from RBI and the Government by implementing some policy changes like repo rates, SLR, CRR etc., to bring the inflation rate back within limits. Moreover, higher inflation rates also result in the depreciation of currency which in turn reduces the flow of investments into the country.

The line graph of GDP Growth Rate and the rate of Inflation contains the data collected from 2009 to 2019. The correlation between GDP Growth rate and Inflation = 0.396

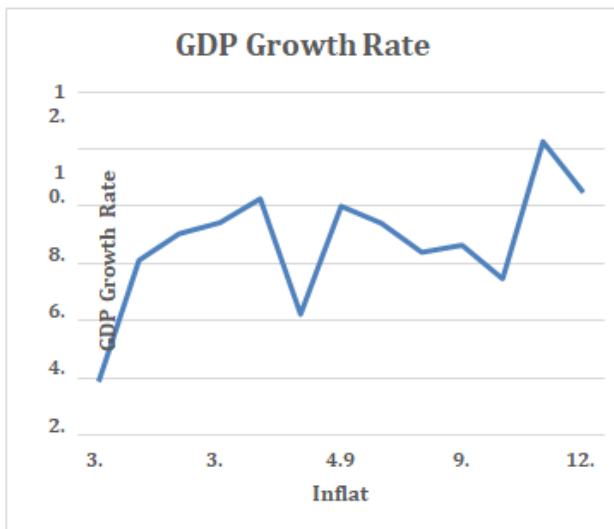


Figure 20: Line graph of GDP Growth and Inflation rate from 2009 to 2019

Considering the decline in consumer demand in 2018-2019, several sectors have taken a hit due to a dramatic drop in sales. This has resulted in job losses which in turn affected the public spending. Also, the IL&FS crisis and other NBFCs performance further created complications in the country. There was a rise in the NPAs for most of the operating banks throughout the country. This has resulted in stricter norms for banks towards lending thereby reducing the flow of credit throughout the country. The MSME sector was one of the worst affected sectors with banks turning their backs towards lending. In this period, the credit growth of India fell to a 24-month low which reduced the scope for creation of new jobs within the country.

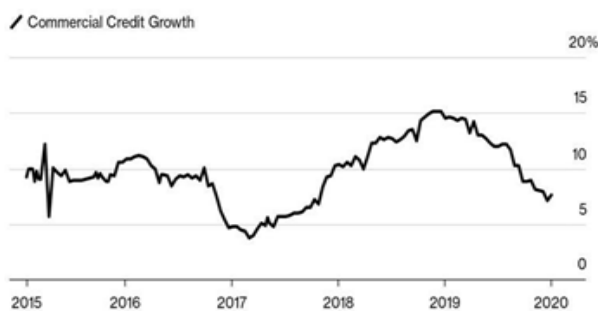


Figure 21: The trends in Credit growth of Indian economy from 2015 to 2020 (Source- <https://www.bloomberg.com/>)

The service sector is currently on the rise both in terms of workforce distribution and contribution to the GDP. Services are among the top in terms of contribution to exports as well. However, the agricultural sector is not developing in line with other sectors in India.

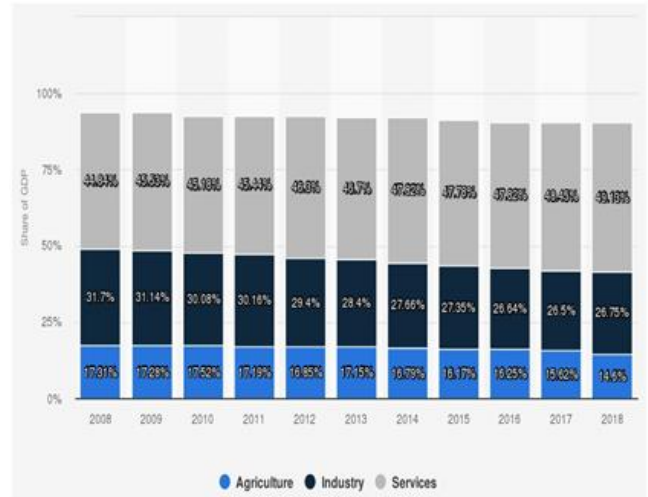


Figure 22: Distribution of GDP across economic sectors from 2008 to 2018 Source- <https://www.worldbank.org/>

The contribution of the agricultural sector to the GDP is declining despite leading the charts in terms of workforce employed. Agriculture which is claimed to be the backbone of Indian economy is however not growing proportionally with other sectors.

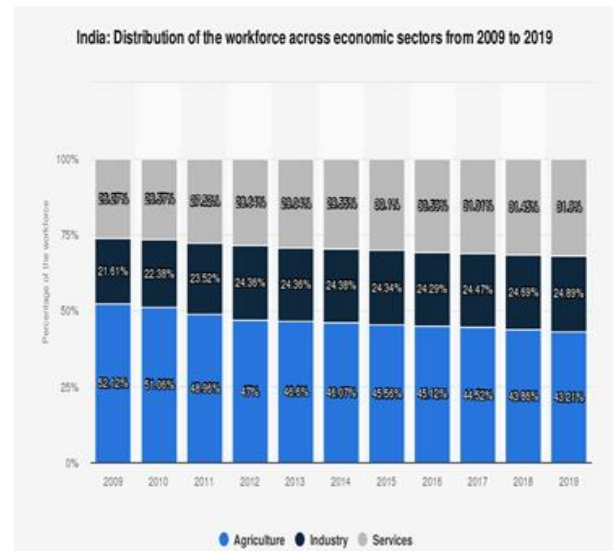


Figure 23: Distribution of Indian Workforce across economic sectors over the past decade Source- <https://www.worldbank.org/>

According to former RBI Governor Dr D.Subbarao, for a country like India, the interest rates account for around 10% of the costs of production. This means that a 1% rise in interest rates should reduce the production by 0.1%. But this is not the case. It can be said that interest rates and GDP Growth rate are inversely related but not inversely proportional. A decrease in interest rates leads to an increase in investments and consumption. This increase in demand

requires a proportionate increase in supply which creates more jobs in the economy. This again increases the spending power of people. There are other factors which affect this relationship such as Fiscal policies, economic uncertainties, geopolitical factors etc.

The data on the annual GDP growth rate and the real interest rates from 2010 to 2019 is plotted in the graph.

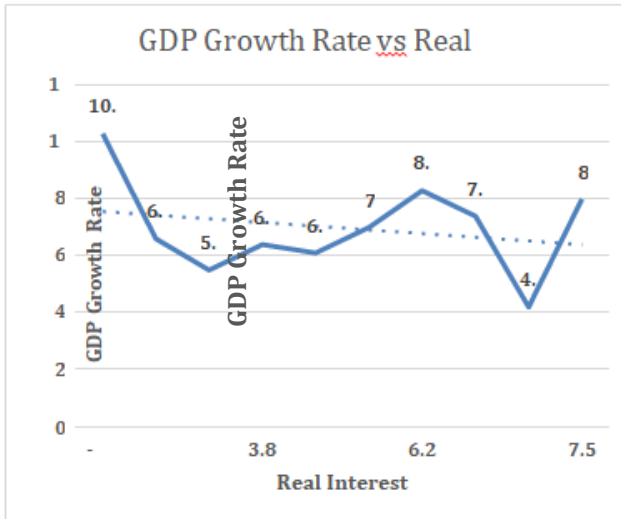


Figure 24: GDP Growth Rate and Real Interest Rates. (Year- 2010 to 2019)

The GDP Growth rate is inversely related to the interest rates in the short-term with a correlation coefficient of -0.39

Multiple variable Regression model for GDP Growth Rate

The key economic indicators which can have a significant impact on the Growth rate of India such as Inflation, Interest Rates, Crude oil prices, Rupee Exchange Rate, Purchasing Managers Index (PMI), Capital Expenditure and FDI inflows have been considered as the independent variables to predict the GDP Growth rate for India. Quarterly data of the above indicators from 2017 to 2020 (Q1) has been used in this model. These parameters do not have a high degree of correlation among themselves. This makes them good predictors of the GDP Growth rate in the model.

The Regression output of the model is shown below:

SUMMARY OUTPUT					
Regression Statistics					
Multiple R	0.857946474				
R Square	0.736072152				
Adjusted R Square	0.715848966				
Standard Error	0.933586264				
ANOVA					
	df	SS	MS	F	Significance F
Regression	7	22.8268	3.2610	14.106	0.030
Residual	6	5.2295	0.8716		
Total	13	28.0563			
Coefficients					
	Coefficients	Standard Error	t Stat	P-value	
Intercept	-8.410	8.332	-2.636	0.018	
Inflation	-0.262	1.186	2.299	0.044	
Interest Rates	-1.519	1.323	3.021	0.017	
Crude	-3.584	3.001	0.047	0.963	
Rupee	0.078	2.331	-0.955	0.354	
PMI	2.522	0.446	3.464	0.041	
FDI	1.534	0.150	2.791	0.024	

Figure 25: The Summary output of the Multivariable Regression model to predict the GDP Growth Rate for Indian Economy.

This model is statistically significant with a p-value of 0.03 and R-square value of 73.6%. The economic indicators such as Inflation, Interest rates, PMI and FDI are significant in predicting the GDP growth rates for India at 95% Confidence interval.

Impact Of The Covid-19 Pandemic On Major Sectors Of Indian

Economy

The pandemic has literally shaken the world at large by disrupting the economic and social fabric and has landed the world into a humanitarian crisis. It can be said that the pandemic has touched all the facets of business operations and has disrupted the economic activities of every single industry that drives growth and generates employment and contributes to the GDP of Indian economy. The setback faced by various sectors of the Indian economy are summarized as under:

➤ **Primary Sector:** This sector contributes around 16.2% to the GDP of India and provides employment to 43.2% of the Indian workforce. This industry is the lifeline for the secondary sector as it supplies the required raw materials to it and fulfills the necessities of humans.

Agriculture: There has been a huge shortage of agricultural workforce leading to a decline in agricultural output. Further, due to the shutting down of hotels and restaurants, the

demand for raw materials such as vegetables, fruits and other groceries has contracted leaving the farmer with excess agricultural produce that is perishable without market. This has led to a compounded loss due to the perishability nature of the products. Due to the ban on the export of Tea products, the revenue of this industry has registered a significant decrease. The poultry industry is also one of the worst hit industries in this sector. This was primarily attributed to the spread of fake news in the early part of the pandemic that the coronavirus infection was

related to the meat and poultry products consumption. This speculation has drastically reduced the demand for poultry products all over the world, not just India. According to sources, the poultry sector is facing daily losses at the tune of over 200 crores per day. Additionally, prices of several other agricultural products like wheat, rice, etc. have seen a big drop. This is creating severe financial problems for the farmers as they are unable to recover their costs of production.

Mining: Following the pandemic, there is a curtailment in the demand for metals and minerals. The price of these products in the market has also seen a huge decline. Further, the share prices of these companies have also registered a significant drop considering the prevailing situation.

Secondary sector: This sector is second in terms of providing employment - 25% of the Indian workforce and contributes to around a third of the GDP in the economy. It includes manufacturing and construction industries.

Manufacturing industries: These industries have borne the brunt of the impact of this pandemic, having terminated their production operations at short notice without any capacity planning. This resulted in huge inventory pileup with a reduced valuation and idle machinery. Also, these industries are plagued by a lack of capital to fund their day to day operations and their supply chains have been disrupted.

Auto mobiles: The automobile industry was already in a precarious position even before the pandemic had entered India. There was a huge decline in the sales of automobiles during the economic slowdown and the pandemic has further made matters worse. This pandemic had resulted in the shutting down of several plants with the imports of raw materials being called off. This had made the production and capacity planning for automobile manufacturers very much complex and had resulted in a wave of layoffs and pay cuts. With India set to transform from BS-IV to BS-VI norms in April 2020, the automakers have showed their concerns over this issue with the lack of raw materials and component parts to manufacture vehicles with the required standards. With uncertainty prevailing not just in India but the entire world, consumers have been postponing their purchase decisions of vehicles and it seems that even post this pandemic, auto sales are not expected to see a rise in the near future due to a fall in income levels. The production of automobiles in India had contracted in 2019 by an estimated 13% and this contraction is set to remain in 2020 as well. Therefore, the outlook for the automobile industry remains negative with a dip in production and sales.

The sales figures of cars have seen a rapid decline since Feb 2020. The automobile companies have witnessed a dismal year with the lack of demand in the economy. There were some plants that were shut down while others were operating at minimum capacity. This has resulted in large scale losses of jobs. The number of cars sold in April 2020 was 2753 which is the lowest in more than 12 years. This was due to the complete lockdown of the country in April which has affected the income levels and the consumer sentiment in the economy. These numbers have seen a slight increase in May 2020 with 27441 cars being sold as per CMIE.

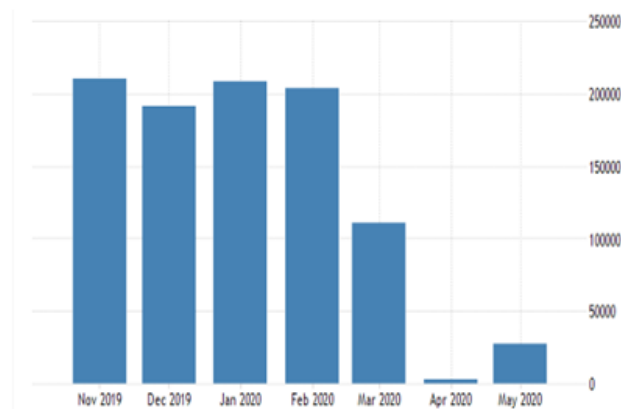


Figure 26: No. of cars sold in India from Nov 2019 to April 2020. Source <https://www.cmie.com/>

Aviation: The aviation industry is among the worst affected by the pandemic. Indian aviation companies were already in a bad phase in the Pre-Covid period with rising aviation fuel prices. During the pandemic, air bookings have seen a massive decline around 30% compared to the previous year. Also, more than 800 flights have been cancelled in February and March 2020 considering the virus outbreak. This has also created a pressure on the airfares as well as companies are being forced to drive down the ticket fares due to the drop in demand. Several airlines are on the verge of bankruptcy and large-scale layoffs. This industry is in urgent need of bailouts from the Government.

Textile: India is the fifth largest textile exporting country in the world. More than 46 million people work in this industry. India imports many of the raw materials required for apparels from China and with imports being shut down, the textile companies are left with no other alternatives than to stop production. It is not possible for India to locally source the materials such as needles, fabric, buttons on a large scale. This production stoppage has led to large scale layoffs in several textile companies throughout the country. Also, many of these companies are heavily reliant on exports for their revenues and with international trade coming to a closure, these companies are facing inventory pile up issues.

Pharmaceutical and Chemical industries: These industries are also highly dependent on imports of raw materials from China. Also, the pharma industry had recently seen an uplift with a rise in demand for several medicines in the lockdown period. However, companies are unable to cope up with the existing demand due to lack of raw materials required to manufacture the drugs.

E-commerce: With the new norms of social distancing and the risks of community spread across India, there has been an increase in demand for home delivery of products. However, with the government imposing stringent guidelines to contain the spread of the virus, E-commerce companies had to only deliver emergency products like sanitizers, tablets and so on. This had a huge effect on the companies as several products which gave them a high profit margin were banned from shipping during the lockdown. However, recently, the government had granted permission for operation of E-commerce companies in green zones and orange zone areas.

Tourism and hospitality industries: With the virus outbreak, the tourism industry was highly affected. Usually,

the months of March and April see a dramatic increase in both foreign and domestic travelers all over the world. But with the travel restrictions set in place by the Government, almost 90% of the advance bookings made were cancelled. Several industries are in fact dependent on the tourism industry for their revenues. Additionally, a number of official meetings of companies and world organizations also have been cancelled in view of this pandemic. Industries such as Travel, Hospitality and Cab rentals heavily rely on tourists. Moreover, even after the restrictions will be eased, the outlook for this industry remains negative as people may avoid taking risks by travelling to tourist destinations that usually attract large crowds.

IT Industries: After the virus outbreak, there have been large scale layoffs in many IT giants in addition to the pay cuts. Also, numerous deals were cancelled during the pandemic period which has resulted in huge losses for the companies. Many employees who were earlier benched were laid off during the pandemic. "Work from Home" has become the new normal for IT companies.

Suggestions For Government And Various Sectors For Revival

The pandemic surely did have a devastating impact on various sectors of the economy, and it is highly imperative for business organizations to adapt their business strategies in accordance with the future macro environment. The business organizations should first focus on survival post the crisis by optimizing their financial resources and adapt innovative management strategies and suitable skills to get the best out of this crisis. The uncertainty of the economy in the aftermath of this pandemic is obvious and therefore it will be wiser for the businesses to adapt to the new normal by playing according to the merit of the situation. However, there are certain sectors that have suffered irrevocable damage and are in dire need of bailouts either from the government or other third parties. On the other hand, there are other sectors which should adapt to the new normal by implementing flexible business survival strategies along with required help from the Government organizations and can sustain in the future.

Based on the nature and scale of impact on different sectors, suitable recommendations are mentioned below:

Agriculture: Firstly, the Government should focus on bringing the poultry industry back on track after the widespread fake news of the coronavirus being linked to poultry products on social media. It should increase awareness among people and counter these rumors by creating a mass campaign and advertisements that have a wide reach throughout the country. The Government should also provide financial assistance to farmers and make sure that the farmers are able to cover their costs of production at the minimum. Price floors must be set up for various agricultural products. Also, it is high time that the distribution network for food crops and agricultural products are optimized thereby making it convenient for the farmers to transport and sell their products. Government should also provide subsidies to farmers on the purchase of raw materials required for farming and compensating their losses incurred during the pandemic period. Rural banks with increased liquidity measures must be established in rural

junctions so that farmers can receive loans at reasonable interest rates soon.

Mining: Since there has been a great decline in the demand for metals and minerals due to several infrastructure activities being stopped, it would be of great help to these companies if the Government purchases the products from the domestic companies rather than import metals from other countries, upon the resumption of the infrastructural projects. Also, the Government should increase the capital expenditure and take on infrastructural projects post the pandemic as this would create employment on a large-scale basis in the future.

Automobiles: It would be difficult for the automobile manufacturers to manufacture BS-VI vehicles in the current scenario. So, the Government should extend the deadline for the BS-IV vehicles so that the companies can clear their inventory in the future. Also, taxes on purchase of new vehicles should be reduced to increase the demand for automobiles. Banks should provide required financial assistance to the manufacturers to help them resume their operations. Otherwise, the shutdown of these companies would result in the loss of thousands of jobs all over the country. The FDI limits in this sector should be eased so that foreign companies can start making sizeable investments in the domestic companies. India should also establish itself as a global manufacturing hub post this pandemic as several companies are looking to move out of China and set up their plants in countries like India, Vietnam etc.

Aviation: This sector is one of the worst hit sectors amid the pandemic. Airports were closed and airlines had to stop their operations for several months. Many airlines have laid off their employees and announced pay cuts. With several airlines being on the verge of bankruptcy, the Government should bailout these companies. If not, it should at least reduce the taxes on ATF (Aviation Turbine Fuel), the airport charges, operational charges, landing and parking fees to provide some financial relief to these airlines. Loans and financial support must be extended from Banks to help these airlines resume their operations. Relaxations on the taxes on air tickets also could provide some relief to these airlines.

Textiles: A major portion of the Indian workforce are employed in this sector. With international trade taking a hit amid the pandemic, there has been a huge pile up of inventory and significant losses for the textile companies. This has led to large scale layoffs in this sector. The Government should include the textile products under the IES Schemes which can help these companies to a certain extent. Soon, it would be highly beneficial for these companies if the imports of finished apparels and textile products are discouraged by increasing taxes. This could motivate the people to purchase domestic products. Also, the "Make in India" initiative can be emphasized in this sector by creating awareness throughout the country. The companies should also work on increasing their productivity levels so that maximum capacity can be reached in the coming few months which could help them in recovering the earlier losses incurred due to underutilization of their production capacity. The loan repayments to be made by these companies should be deferred by a few months until these businesses can get back on their feet. Required cuts in GST for textile products could also benefit these companies.

The government could also set up alternative arrangements for import of raw materials from China such as local sourcing options. This will increase the capital expenditure and create employment opportunities as well.

Pharmaceutical and Chemical industries: The pharma industry had seen an increase in demand for medicines in the lockdown period. However, the companies were unable to cope up with the rising demand due to the lack of availability of chemicals required. Since the factories that manufacture these chemicals are situated at remote areas all over India due to the risks associated with the chemical substances, it is becoming increasingly difficult to transport these chemicals in the lockdown period. Interstate movement of goods has become extremely complicated with the new guidelines set by the government. Financial assistance of any sort would be highly beneficial for the companies.

Companies are highly dependent on China for import of raw materials required for manufacturing the drugs and this issue must be taken up jointly by the government and the companies involved. Locally manufacturing these chemicals would have a multiplier effect on the economy in the sense that it will create large scale employment opportunities for the people and reduce the dependence of these companies on foreign countries for imports. This will also reduce the costs of manufacturing the drugs and thereby also reduce the prices of the drugs in the market. It is a win-win situation.

E-commerce: The government could provide certain tax related exemptions to the loss-making e-commerce companies giving them the time to recover from the crisis. Also, reduction in taxes and GST could help their cause so that they can drive down their prices which will in turn help in increasing the demand. This pandemic could prove out to be a great opportunity for the E-commerce companies provided they formulate the right strategies at the right time and adapt their strategies according to the changing macro environment. Since people are not yet ready to visit shopping malls to purchase products, and the demand for home delivery is rising throughout the country, the E-commerce players could benefit from this crisis in the future.

Tourism and hospitality industries: The outlook for Tourism and Hospitality industries is negative in next few years post this pandemic period. This is because people are very much skeptical about travel due to the fear of spread of the virus. So, the Government should provide some sort of financial aid to the companies. For the Hospitality sector, a reduction in obtaining licenses for operations could help the upcoming businesses in this sector. Also, a reduction of GST and taxes could also provide some relief to this sector. The transport sector must be simultaneously boosted along with the Tourism and Hospitality sector. A reduction in taxes on ticket fares and hotel bookings could be a starting point to solve the problem.

Limitations

With the coronavirus cases yet to reach its peak in India and the community spread also around the corner, the impact of the pandemic cannot be clearly identified yet. Also, majority of the workforce in India being in the unorganized sector, the data on the same is not readily available. Therefore, the entire economic and social impact of the virus on the

economy cannot be accurately determined. However, this study has examined the impact of the pandemic with the available data on the Organized and Unorganized sectors to the extent available.

Findings

The major factors that have contributed to the slowdown of Indian economy are:

- i. Economic reforms
- ii. Decline in domestic consumption
- iii. US-China Trade war, Brexit.
- iv. Disruption of the NBFC Sector

These factors have resulted in a reduced flow of capital and credit in the economy along with a decline in the inflows of investments.

$$\text{GDP} = \text{C} + \text{G} + \text{I} + (\text{X} - \text{M}).$$

C - Consumption

G - Government Expenditure I - Investments

X - Exports M - Imports

Consumption accounts for almost 60% of the GDP.

The impact of the pandemic on Indian economy has been unique. The following observations were recorded in the economy:

- i. The GDP Growth rate dropped to as low as 3.1% in the fourth quarter of FY20 which is the lowest in 10 years
- ii. The unemployment rate has risen to almost 25% in April and May 2020
- iii. The Inflation has shot up to 6.1% in June 2020
- iv. The consumer confidence is at an all-time low with people avoiding their purchases due to the prevailing uncertainty in the economy.

This situation has complicated things for RBI and the Government who need to find a balance between boosting the growth rates and keeping the inflation in check.

The coronavirus outbreak has disrupted every sector in the Indian economy from Agriculture to Aviation and Banking. With the virus still spreading at a rapid pace and the fears of community spread also rising, the outlook for these sectors remains negative.

- i. Sectors such as Aviation, Tourism, Hospitality and Automobiles were running under heavy losses even before the pandemic has entered India.
- ii. The agricultural sector has been adversely affected by the pandemic. The prices of various agricultural and livestock products have dropped resulting in heavy losses for the farmers.
- iii. Sectors such as Textiles, MSME and E-commerce can get back on their feet with certain extensions of tax benefits and interest payments.

Businesses of these sectors are on the verge of declaring bankruptcy. This could have a catastrophic effect on the economy as these sectors are major sources of employment opportunities.

On the other hand, the sales recorded in the pharmaceutical sector has seen a rise with increase in demand for drugs, sanitizers, and other medicines.

Government holds the key for revival of the economy by various measures such as extensions of interest payments, tax reliefs and financial support. Some of these are as under:

- i. Government should extend its support to the

falling sectors such as Aviation, Tourism, Automobiles and Hospitality. These businesses are in high need of bailouts from the Government.

ii. For the agricultural sector, Government could provide subsidies to farmers and set up Minimum Support Prices (MSP) for agricultural products so that farmers can recover from the losses. The supply chain for these products needs to be optimized allowing free movement of these products.

iii. For the other sectors such as E-commerce, Textiles and MSME, Government could provide certain relaxations in terms of extension of tax benefits and loan repayments. It could also allocate certain amounts of funds for these sectors so that they can raise capital and begin their operations in the near future.

These steps if implemented by the Government could benefit the economy as whole. This will help in the creation of employment opportunities, increase the domestic consumption, and attract potential investments.

Conclusion

With the entire world witnessing an unprecedented economic collapse due to the outbreak of the coronavirus pandemic, the business organizations are currently facing a threat of survival. The crisis is yet to reach its peak according to scientists and thus the Government and the businesses should be proactive and formulate different strategies depending on the state of the economy. This crisis is like no other that the world has witnessed in terms of the magnitude of the impact it has had on the world. This study has analyzed the impact of this pandemic on various sectors of the Indian economy along with the potential effects of the pandemic in the future. The study has also given certain suggestions to various sectors and the Government to tackle the repercussions of this pandemic and move ahead. With the future of the economy still being quite uncertain in the Post Covid era, the Government and businesses should be flexible in their strategies to build up and be ahead of the game to sustain. The Government holds the key to set the tone for revival of the economy by making appropriate policy changes and introducing new initiatives at the right time.

Further Studies

Since the impact of the pandemic on the Indian economy cannot be anticipated beforehand, it is imperative that the Government, business organizations and people remain proactive and deal with the uncertainties of the future. This paper could provide a base wherein researchers can determine the future scale of impact of this pandemic on various sectors and thereby provide suggestions to deal with issues. Further, the model for predicting the GDP Growth rate also could be used in future to forecast the Growth rates for Indian economy in the Post-covid era.

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