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# COVID-19 Pandemic and Macroeconomic Uncertainty: Indian Economic Outlook

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## Abstract

The nature of recession today because of the outbreak of COVID-19 is completely different from that of Great recession of the 1930s and macroeconomic risks brought on by the pandemic could be severe. There is a trade-off between the severity of the recession and the health consequences of the pandemic. The containment policies undertaken by the State in most of the countries including India in the form of economic lockdown primarily to maintain social distance exacerbate recession but raise welfare by reducing the probability of new infection and death toll caused by the pandemic. Different sectors of the economy will be affected adversely depending upon its intensity, spread and duration of the pandemic. Till now, as the cost of externality is very high because of absence of vaccination and treatment of this disease, the State has to impose more aggressive policy in the form of near complete lockdown or in some cases complete lockdown of the economy to reduce the probability of being infected. Total number of infected people and number of death due to this disease is significantly less in India till now despite the country has the highest population density and more populous than USA and Italy. But, daily growth rate of infected people is significantly higher (above 10 per cent) than the rate even in USA (3.5 per cent) as on April 19, 2020. In India, although absolute number of death is the least compared to other countries, the death rate is larger than the rate in USA, the country showing the highest death toll in the pandemic.

JEL Code: E12, E6, H0, I1

Key words: Recession, Macroeconomic Policy, Public Policy, Pandemic

## 1. The great shock

The outbreak of the COVID-19<sup>1</sup> is a great shock to the world economy. It has a strong negative impact on the overall economy in the short run, and potentially on some sectors even in the

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<sup>1</sup> The COVID-19 is declared as a pandemic by WHO not because it is more deadly, but because of its global spread at unusual faster rate. A pandemic is a type of epidemic that relates to geographic spread and describes a disease that affects the whole world. The novel coronavirus has infected more than half a million people worldwide and is present in more than 175 countries. It has killed more than 22,000 people and has a global fatality rate of 4.4%.

medium term and long term. The recessionary effects of this shock started from both demand and supply sides and in this sense the impact of COVID-19 will be several times more severe than the Great depression of 1929 and, perhaps, will be long lasting. The World economy during the 1930s guided primarily by the market based competitive price system was survived by following Keynes's prescription. As the recession at that time was generated primarily by the lack of effective demand, the crisis was tackled by raising demand and the State played a crucial role in this regard. During the 1930s there was no problem on the supply side and Keynes's multiplier theory was very much effective in raising GDP and its growth either by raising government expenditure or by tax cut or by using the so called policy mix.

The nature of recession today because of the outbreak of COVID-19, however, is completely different from that of Great recession of the 1930s. Every economy today has to face demand shock as well as supply shock simultaneously because of the pandemic. To control the pandemic most of the countries locked down their economic activities completely or in some cases partially. The negative supply shock caused by factory closures is transmitted via supply chains to downstream sectors around the world, including in countries not currently experiencing a major COVID-19 outbreak. In addition, the pandemic is causing income and demand to contract, which affects the upstream sectors everywhere. The resulting decline in income because of the sudden shut down of production in almost every sector (excepting for essential services including defence services) of the economy can cause a downward spiral in demand for products and services. The market itself could not solve this problem by its demand-supply mechanism. The role of State once again becomes highly significant as prescribed by Keynes in 9 decades ago in controlling the crisis originated from COVID-19, but, perhaps in a modified way.

Macroeconomic risks brought on by the pandemic could be severe. By using the modified SIR model of Kermack and McKendrick (1927), Eichenbaum et al. (2020) had studied the interaction between economic decisions and epidemics due to COVID-19 in USA and argued that competitive equilibrium is not socially optimal. To control this downward spiral, the State has to implement quickly and effectively emergency programs like direct transfer of funds to those who lost their jobs at least temporarily in addition to provide effective health services to control the pandemic. To boost up demand, the State also has to take some measures that may include the temporary suspension of tax and interest payments. The State's initiatives to raise demand ignoring the supply side would create a mismatch that results in another crisis in the form of hyperinflation. Thus, the real challenge is to take some measures that can enhance

production in matching with rising demand particularly in a situation where lockdown is essential to save the human life from the pandemic.

The market failure due to lock down is, of course, not a reflection of irrational behaviour of the economic agents which is normally used to explain the existence of non-competitive non-Pareto optimal equilibrium in a neo classical framework. The deviation from equilibrium in today's economy is an outcome of external shocks and whether this disequilibrium would be transitory or persistent for the longer period depends largely on the stochastic behaviour of the major macroeconomic indicators. It is well documented that most of the macroeconomic indicators exhibit stochastic trend which is basically not predictable and create the effects of external shocks long lasting. In this sense we can expect that the recessionary effects because of the outbreak of COVID-19 may be long lasting globally.

## **2. The growth effect**

Global supply chains, trade, transport, tourism, and the hotel industry have been affected severely because of the pandemic. The WTO (World Trade Organisation) indicated a declining trend in world trade volume in the early 2020, and is expected to be debilitated further by the adverse shock of the health crisis. The OECD (Organisation for Economic Cooperation and Development) estimates suggest that if the shutdown continues for three months with no offsetting measures, annual growth of global GDP could be between 4-6 percentage points lower than it otherwise might have been. In that case, the growth rate of real GDP would be negative for many countries during the post-pandemic regime. The IMF's latest assessment is also roughly similar: global growth could be lower by 3 percentage points or more in 2020 relative to 2019 because of the outbreak of COVID-19 (IMF, 2020). The global economy is expected to collapse into greater recession in 2020.

Indian economy, as for the economy of other countries, has experienced a significant structural break at the beginning of the last quarter of 2019-20 directly because of lockdown of the domestic economy and indirectly by the global recession because of the outbreak of the COVID-19 pandemic. Spill overs are also being transmitted through domestic and global financial markets. These effects would accentuate the growth slowdown which started since the first quarter of 2018-19 in India (Table 1).

**Table 1 Quarterly growth rates of real GDP at market price**

Components of GDP	2018-19				2019-20			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4*
Private final consumption expenditure	6.7	8.8	7	6.2	5	5.6	5.9	4.9
Government final consumption expenditure	8.5	10.8	7	14.4	8.8	13.2	11.8	4.9
Gross fixed capital formation	12.9	11.5	11.4	4.4	4.3	-4.1	-5.2	2.5
Exports	9.5	12.5	15.8	11.6	3.2	-2.1	-5.5	-2.8
Imports	5.9	18.7	10	0.8	2.1	-9.3	-11.2	-3
GDP at market prices	7.1	6.2	5.6	5.7	5.6	5.1	4.7	4.7

Note: Projected growth

Source: National Statistics Office

A sequential slowdown started in the Indian economy from first quarter of 2018-19 and the growth rate reached below 5 per cent in third quarter of 2019-20 (Table 1). The widening incidence of COVID-19 will produce the downward pull further. Private investment measured by gross fixed capital formation (GFCF) showed actual fall in the second quarter of 2019-20 and the rate of fall increased in the next quarter. Negative growth was observed in foreign trade (both exports and imports) during this period as well. The decline in merchandise exports started in second quarter of 2019-2020 because of the fall in shipment of engineering goods, gems and jewellery, cotton and handloom products.

Positive growth in aggregate demand is sustained by consumption demand driven mainly by the upward movement in government expenditure (GFCE). The slower growth of consumption expenditure on final goods by the households (PFCE) in 2019-20 as compared to previous financial year was caused by the deceleration in real wages and downturn in labour-intensive exports. Demand for consumer durables like small passenger vehicles continued to decline in February 2020. The rise in revenue expenditure partly due to pay hike by the 7<sup>th</sup> Pay Commission and decline in gross revenue under corporation tax deteriorated fiscal deficit of the central government during 2019-2020.

On the supply side, the slowdown in growth of gross value added (GVA) was caused by the deceleration in industrial and services activities (Table 2). Agriculture and allied activities, on the other hand, accelerated in the second half of 2019-2020. Industrial deceleration led by the manufacturing sector deepened the slowdown because of low domestic and external demand. Services sector activities contributed the most to (GVA) although its growth rate declined in 2019-20. Agriculture and allied activities also provided momentum to some extent to GVA in

second and third quarter of the past financial year. The industrial sector remained declining because of low demand conditions.

**Table 2 Quarterly growth rates of real GVA at basic prices**

Components of GVA	2018-19				2019-20			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4*
Agriculture, forestry and fishing	3.8	2.5	2	1.6	2.8	3.1	3.5	5
Industry	7.8	4.7	4.4	1.4	3.2	0.1	0.1	2.3
Mining and quarrying	-7.3	-7	-4.4	-4.8	4.7	0.2	3.2	2.6
Manufacturing	10.7	5.6	5.2	2.1	2.2	-0.4	-0.2	1.8
Electricity, gas, water supply and	7.9	9.9	9.5	5.5	8.8	3.9	-0.7	6.5
Services	7.3	7.2	7.3	8.3	6.7	6.8	6.4	6.1
Construction	6.4	5.2	6.6	6	5.5	2.9	0.3	3.2
Trade, hotels, transport, communication	8.5	7.8	7.8	6.9	5.7	5.8	5.9	5.1
Financial, real estate and professional services	6	6.5	6.5	8.7	6.9	7.1	7.3	8
Public administration, defence and other services	8.8	8.9	8.1	11.6	8.7	10.1	9.7	6.7
GVA at basic Prices	6.9	6.1	5.6	5.6	5.4	4.8	4.5	5

Note: Projected growth

Source: As for Table 1

The lockdown of the domestic economy in the wake of the outbreak of COVID-19 has disrupted manufacturing activities which experienced negative growth just before the outbreak (Table 2). In the manufacturing sector, dislocations of labour adversely impacted automobiles, electronic goods and appliances, and apparel. Services such as trade, tourism, airlines, the hospitality sector and construction have been affected badly in a greater extent.

The conventional signals for forecasting are heavily conditioned by the depth, spread and duration of COVID-19 and other characteristics of the pandemic, and forecasting at this moment is really a challenging task (Ferguson et al. 2020). However, it could be easily understandable that the slowdown could be more long-drawn-out in the awful situation as the duration of COVID-19 extends longer. Different sectors of the economy will be affected adversely depending upon its intensity, spread and duration of the pandemic. According to World Bank's estimate, the expected growth rate of India's economy would be around 2 per cent during 2020-21 fiscal year. Asian Development Bank has estimated that growth rate of India's economy reduced to 4 percent during this period.

### **3. Economic lockdown**

The spread of COVID-19 is caused primarily by close contact between individuals. Susceptible people can become infected when they meet infected people while purchasing consumption goods, or in working place, or in ways not directly related to consuming or working (for example meeting a neighbour or touching a contaminated surface). India is a country with low per capita public health care. A large share of population is poor and many of them do not have access to clean water and soap even for washing their hands. In absence of vaccination of coronavirus, social distancing is necessary and to ensure it economic lockdown is the feasible solution in a country like India.

In India, as in other developing countries, the healthcare system is not adequate and updated, and would be overwhelmed when the number of infected people started to increase exponentially. Only the discovery of vaccinations and proper treatments of COVID-19 will reduce the magnitude of the externality. Till now, as the cost of externality is very high because of absence of vaccination and treatment of this disease, the State has to impose more aggressive policy in the form of near complete lockdown or in some cases complete lockdown of the economy to reduce the probability of being infected. As per the estimates of Acuite Ratings and Research, the expected economic loss is more than USD 4.64 billion every day during the lockdown period.

Economic lockdown as announced by the union government has stopped as much as 70 per cent of economic activities including production, consumption, trade and investment. Only essential goods and services like agriculture, utility services, some financial and IT services and public services are allowed to operate. While agricultural activities contributing roughly 15 per cent of GVA have not been affected, the allied activities like livestock and fisheries are badly affected due to low demand during the lockdown period. The services like transport, hotel and restaurant and real estate activities that account for over 20 per cent of the GVA have been affected drastically. These sectors together are expected to contribute nearly 50 per cent to the total loss of GVA during first quarter of this financial year. Retail trade, another large sector in terms of labour absorption, in India is reduced to half of its total business value because of the lockdown since the second half of March 2020. The informal sector is the worst affected because of shutting down the economy. The largest employment generating sector has been collapsed nearly completely since more than a month. Although manufacturing was not affected initially, this sector has experienced a widespread closure and huge job losses because

of decline in demand in prolonged lockdown. Only the services like communication, broadcasting, and healthcare experienced growing trend during this crisis, but they have contributed only 3.5 per cent to overall GVA.

#### 4. Incidence of infection

To discuss how economic lockdown is effective in India to combat the pandemic one may be curious about the relative position of India in terms of spread and trend of COVID-19 infection and the death rate associated with it. Now, the span of the pandemic is 3 months or more, the time span is sufficient to analyse the behaviour of spread of this viral diseases. The outbreak of the pandemic was started in China after the Wuhan incident in the form of pneumonia outbreak as China reported for the first time to the World Health Organization (WHO) in early January, 2020. Later on, 201 countries including India have been affected by the coronavirus, among them Italy, Spain, USA and many other countries are affected severely. The online database <https://www.worldometers.info/coronavirus/> provides number of infected people and other parameters on daily basis. In this study, the relevant data are taken for China, USA and Italy from this database, and for India, data have been used from [www.covid19india.org](http://www.covid19india.org).

Figure 1 shows the cumulative total of persons infected on daily basis for China, Italy, USA and India. The incidence of infection by COVID-19 in India started later as compared to China, but roughly at the same time when the infection started in Italy and USA. Total number of infected people and number of death due to this disease is significantly less in India till now despite the country has the highest population density and more populous than USA and Italy (Figures 1 and 2, and Table 3). Social distancing through lockdown may be one of the reasons for smaller number of people infected by this disease. However, the incidence of infection due to COVID-19 is expected to be low among the people with “herd” immunity, the immunity through becoming infected and getting recovery from any other viral disease. In India, a large fraction of people have this type of immunity because they already have infected by different types of virus in the past time and recovered. This could also be reason why total number of infected people is still low in India as compared to the European countries and USA.

But, the daily rate of growth measured by the simple formula,  $g_t = \frac{y_t - y_{t-1}}{y_{t-1}} \times 100$ , where  $y_t$  denotes today's number of total people infected, is really a cause of concern. Figure 3 shows daily growth rates of India, China, USA and Italy since the beginning till April 19, 2020. India



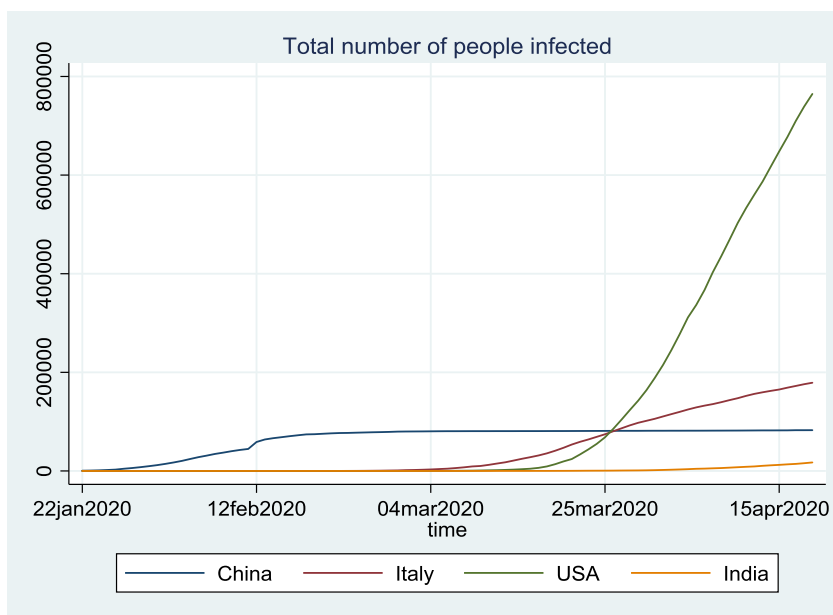
exhibited daily growth rate of infected people is significantly higher (above 10 per cent) than the rate even in USA (3.5 per cent) as on April 19, 2020. Italy and China experienced infection at the rate of below 2 per cent and 0.02 per cent respectively on the same day. If this growth rate sustains for longer period, the total number of infected people will be significantly high in near future despite incurring a huge cost due to lockdown in India.

**Table 3 Population total and population density**

Country	Total population (in crore)	Population density (number per km <sup>2</sup> )
China	143.90	153
India	138.00	464
United States	33.10	36
Italy	6.02	206

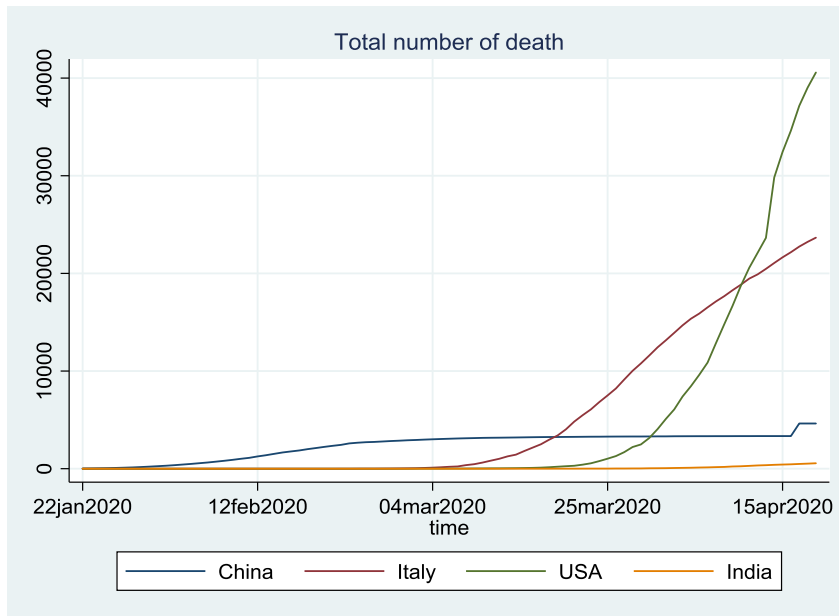
Source: <https://www.worldometers.info/world-population/population-by-country/>

**Figure 1 Time path of total people infected (cumulative sum)**



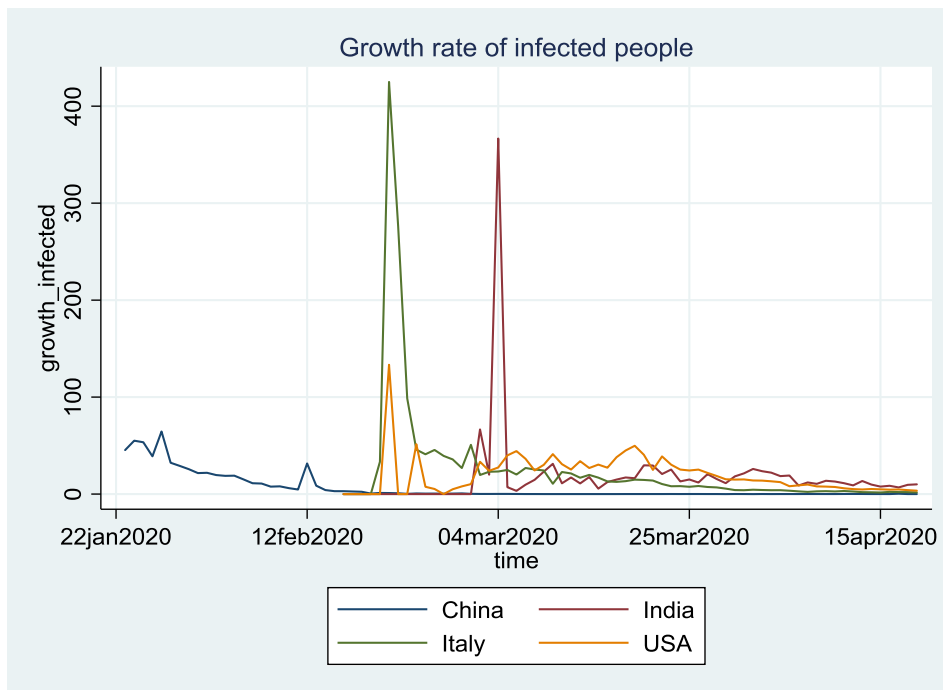
Source: <https://www.worldometers.info/coronavirus/#countries>

**Figure 2 Time path of total death (cumulative sum)**



Source: As for Figure 1

**Figure 3 Daily growth rate of infected people**



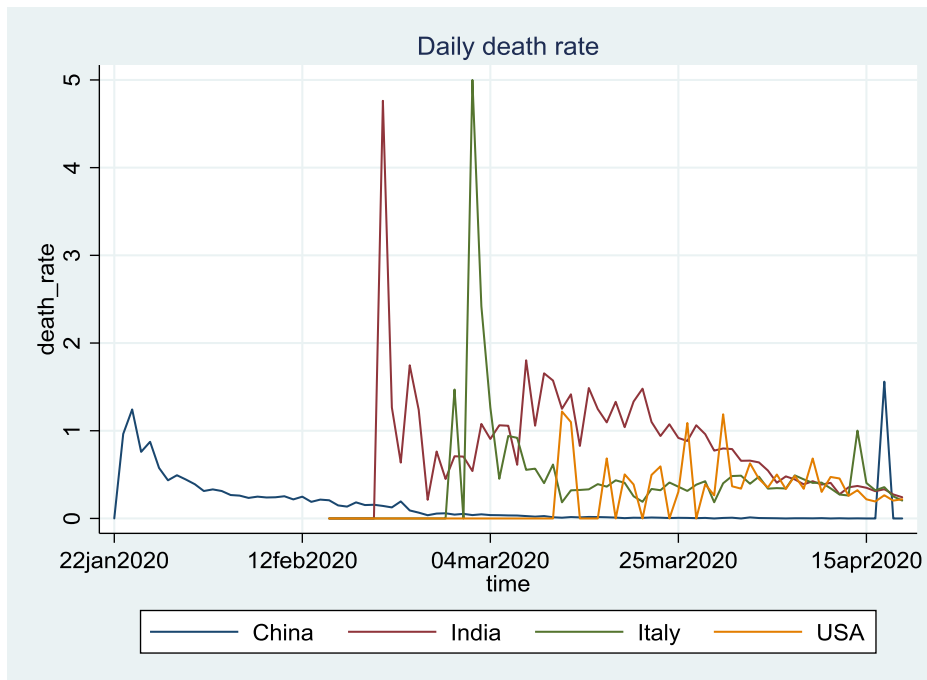
Source: Author's calculation with data from

<https://www.worldometers.info/coronavirus/#countries>

It is observed from China's experience that the mortality rate from Covid-19 infection is much higher among the old aged people (nearly 15 per cent for those with age 80 years and above) as compared to the young age people (less than 1 percent for individuals with age below 39 year). The demographic structure in India reveals a very low share of old aged people as compared to the developed world: below 1 per cent of Indian population is above 80 years age and nearly three-fourth of total population with age below 40 years. Given this demographic structure, one can expect lower death rate in India than the developed world. The tropical climate with the high temperatures reduce the spread of any kind of virus, and this type of climate in India works as resistance factor against the epidemic. The widespread BCG vaccination for tuberculosis under public health care system, and resistance to malaria have helped the country from the pandemic. However, the majority of the young age people in India have poor health, and the incidence of cardiovascular disease, diabetes, chronic respiratory disease, or hypertension is high compared to Italy or the USA. These factors are highly sensitive to increase the rate of infection.

Daily death rate as a percentage of total people infected due to COVID-19 calculated by using the formula,  $d_t = \frac{D_t - D_{t-1}}{y_t} \times 100$ , where  $D_t$  denotes total death in period t and  $y_t$  denotes total infected people in period t is displayed in Figure 4. Although absolute number of death is the least in India compared to other countries shown in Figure 2, the death rate defined above is larger than the rate in USA, the country showing the highest death toll in the pandemic.

#### **Figure 4 Death rate due to COVID-19**



Source: As for Figure 3

## 5. Policy measures

Economic lockdown causes a long lasting recession. One relevant issue relating to social planning is how to determine an optimal policy a benevolent government can implement. The depth of the recession and the pace of recovery would depend on the speed of containment of the pandemic and the efficacy of monetary and fiscal policy taken to control it. To overcome the crisis, central banks worldwide have made aggressive measures to cut policy rate for infusing liquidity in the economy. Australia, USA, UK and Canada have reduced policy rates twice during a very short span of time. The Reserve Bank of India (RBI) take on some measures for improving liquidity, monetary transmission and credit flows to the economy, and provide some relaxation on debt services. The RBI reduced the policy repo rate by 75 basis points to 4.4 per cent. At the same time the RBI has introduced some regulatory measures to promote credit flows to the retail sector and the MSME (micro, small, and medium enterprises) sector. A foreign exchange swap has also been introduced to provide liquidity to the foreign exchange market through multiple price-based auction. The central bank brought down the cash reserve ratio from 4 percent to 3 percent and introduced long term repo operations to improve liquidity of the economy.

The Government of India announced a fiscal package of Rs 1.7 lakh crore (about 1 percent of GDP) in the form of food and cash transfer to the farmers and other vulnerable groups of people. It includes the cash transfer of 17.5 thousand crores under PM-KISAN Yojana which was announced by the Government much before the outbreak of COVID-19. Wages under the MGNREGA scheme have been increased and the welfare funds for construction workers are utilised to offset the adverse impact on rural demand. The direct transfer of money to savings account of women under Pradhan Mantri Jan Dhan Yojana (PMJDY), and also to poor widows, senior citizens and physically challenged persons is expected to provide some support to the vulnerable groups, although the sum of money per beneficiary is highly insufficient to meet their basic needs. The crisis is deep for self-employed and migrant labourers. The migrant workforce neither has a bank account at the place of their work, nor a ration card facility to take the benefit of free grains during this crisis.

In addition, the union Government provided Rs 15 thousand crore to generate health infrastructure to combat COVID-19. A transfer of Rs. 17,287 crore has been done by the union to the states of which Rs. 6,195 crore as revenue deficit grant on the basis of recommendations of the Fifteenth Finance Commission and the rest as the state disaster response mitigation fund. Several measures have been announced to ease tax compliance burden across different sectors. The central government has advised state governments for direct transfers to unorganised construction workers from existing Labour Welfare Board funds. State governments also have taken independently some measures to take care of the vulnerable people. For example, Kerala government announced a stimulus measure of Rs 200 billion (2.5 percent of state GDP), which includes some direct transfers to poor households.

## **6. Conclusions**

There is a trade-off between the severity of the recession and the health consequences of the pandemic. The severity in terms of number of people infected is reduced with the people's decisions to cut down economic and social activities and consumption. The same course of actions, at the same time, to control the pandemic aggravate economic recession. The courses of action in the form of locking down the economy to fight against the pandemic has created shocks both on aggregate demand and aggregate supply. The supply side shock appears because of the reduction of labour supply to reduce health risks due to exposure of COVID-19.

The demand side shock appears because people reduce their consumption basket to reduce the risk of pandemic.

The containment policies undertaken by the State in most of the countries including India in the form of economic lockdown primarily to maintain social distance exacerbate recession but raise welfare by reducing the probability of new infection and death toll caused by the pandemic. Net increase in welfare depends on economic hardships suffered by households and businesses. In a country like India over 90 per cent of the workforce are in informal employment and majority of them work as daily wage earners purely on temporary basis. The share of the marginal workers as defined in the Census of India is also significant. Thus, economic hardships due to lock down would be significantly higher in India than in the OECD countries.

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