Crux of Indian Economy for IAS Prelims 2021 Book (July 2021 Edition)

Economic Survey 2020-21 (29-01-2021)

Economic Survey **

Issued by	Economic Division of Department of Economic Affairs, Ministry of Finance
Prepared by	K.V. Subramanian, Chief Economic Adviser in the Ministry of finance
About ES	It highlights the economic trends in the country and facilitates a better appreciation of the mobilization of resources and their allocation in the Budget. It reviews the developments in the Indian economy **over the previous 12 months**, summarizes the performance on major development programmes, and highlights the policy initiatives of the government and the prospects of the economy in the short to medium term.
Where presented	The Economic Survey is presented to both houses of Parliament by Finance Minister in advance of the Union Budget.
Theme of the Economic Survey 2020-21	#SavingLives&Livelihoods #VshapedRecovery

Highlights of Economic Survey 2020-21 (January 29, 2021)

Economic Survey 2020-21 is **an ardent tribute to** the immortal human spirit of grit and compassion encapsulated by the tireless battle against the pandemic by our **frontline COVID-19 warriors**.

In the midst of the most unfathomable global health emergency experienced in modern history, the resolve of each Indian helped find its way from the **darkness of 'lives vs livelihoods' to the glow of '#SavingLives&Livelihoods'**. The foresight of our collective vision to battle this pandemic became evident when policy insights and implementation at the Centre, State and local level converged to initiate a **V-shaped economic recovery**. This spirit resonated in the recent **Team India's victory in Australia** where their resilience to rebound from 36 all out to winning the Test series **was a V-shaped performance indeed**! Similarly, after experiencing a sharp contraction of 23.9% in first quarter of 2020-21, India is expected to be the fastest growing economy in the next two years. Projections by various national and international agencies including the IMF project this resilience of the Indian economy.

Team@Eco Survey, 2020-21 recognises the integral role of effective policymaking in charting the path to economic growth and social development. **The upturn in the economy while avoiding a second wave of infections makes India a sui generis case in strategic policymaking**, of being fearless to choose the road less travelled by; for in the end, that makes all the difference. India's human-centric policy response to the pandemic, tailored to India's unique vulnerabilities, demonstrated the power of upholding self-belief under immense uncertainty. **India transformed the short-term trade-off between lives and livelihoods into a win-win in the medium to long-term that saves both lives and livelihoods**. Empowered by vision and foresight, **India turned this crisis into an opportunity** by ramping up its health and testing infrastructure and implementing a slew of seminal reforms to strengthen the long-term growth potential of the economy.

Clarity of objectives is imperative in policymaking as the various macro-economic policy choices always present inherent trade-offs. The **Survey makes the case for continued focus on economic growth as the most important objective** for India at its stage of development. Survey, then, delineates the constituents that would strengthen effectiveness of policymaking – continued reforms, innovation, timely regulatory support and withdrawal of forbearance. **Continuing the endeavours of previous Surveys to relate economics to a common person, this year the Survey constructs an index of 'the bare necessities' across States in India.**

Digital Technology has been the 'sprint runner' of this year that enabled us to tide over the disruptive effects of the pandemic. As a recognition of its role, the **Survey this year has gone digital**. To enhance the e-readability, for the first time, the aligning of the text in the Survey is in a single column.

We chose to continue with the popular tradition of presenting the Survey in **two volumes.** Volume I, attempts to provide evidence based economic analyses of the challenges of policymaking and tools to make it more effective. Volume II reviews recent developments in the major sectors of the economy with a focus on the challenges faced due to the pandemic this year. This would serve as the ready reckoner for the existing status and outlook for the sectors.

Volume-1

Chapter 1 - Saving Lives and Livelihoods Amidst a Once-in-a-Century Crisis

Novel COVID-19 virus -SARS-CoV-2 – was **first identified in Wuhan city of China** in December 2019. The Covid-19 pandemic engendered a once-in-a-century global crisis in 2020 – a unique recession where 90 per cent of countries are expected to experience a contraction in GDP per capita. Faced with unprecedented uncertainty at the onset of the pandemic, **India focused on saving lives and livelihoods** by its willingness to take short-term pain for longterm gain.

India's response stemmed from the humane principle advocated eloquently in the Mahabharata that "Saving a life that is in jeopardy is the origin of dharma." Therefore, **India recognised that while GDP growth will recover from the temporary shock caused by the pandemic, human lives that are lost cannot be brought back.** The response drew on epidemiological and economic research, especially those pertaining to the Spanish Flu (1918-19), which highlighted that an early, intense lockdown provided a win-win strategy to save lives, and preserve livelihoods via economic recovery in the medium to long-term. The strategy was also motivated by the Nobel-Prize winning research in Hansen & Sargent (2001) that recommends a policy focused on minimising losses in a worst case scenario when uncertainty is very high.

Lockdown in India

India imposed the most stringent lockdown at the very onset of the pandemic. This enabled flattening of the pandemic curve and, thereby, provided the necessary time to ramp up the health and testing infrastructure.

India has transformed the short-term trade-off between lives and livelihoods into a win-win in the medium to long-term that saves both lives and livelihoods. By estimating the natural number of cases and deaths expected across countries based on their population, population density, demographics, tests conducted, and the health infrastructure, we compare these estimates with actual numbers to show that India restricted the COVID-19 spread by 37 lakh cases and saved more than 1 lakh lives. **Uttar Pradesh, Gujarat and Bihar have restricted the case spread the best**; Kerala, Telangana and Andhra Pradesh have saved the most lives; Maharashtra has under-performed the most in restricting the spread of cases and in saving lives. The analysis clearly shows that early and more stringent lockdowns have been effective in controlling the spread of the pandemic – both across countries and across States in India.

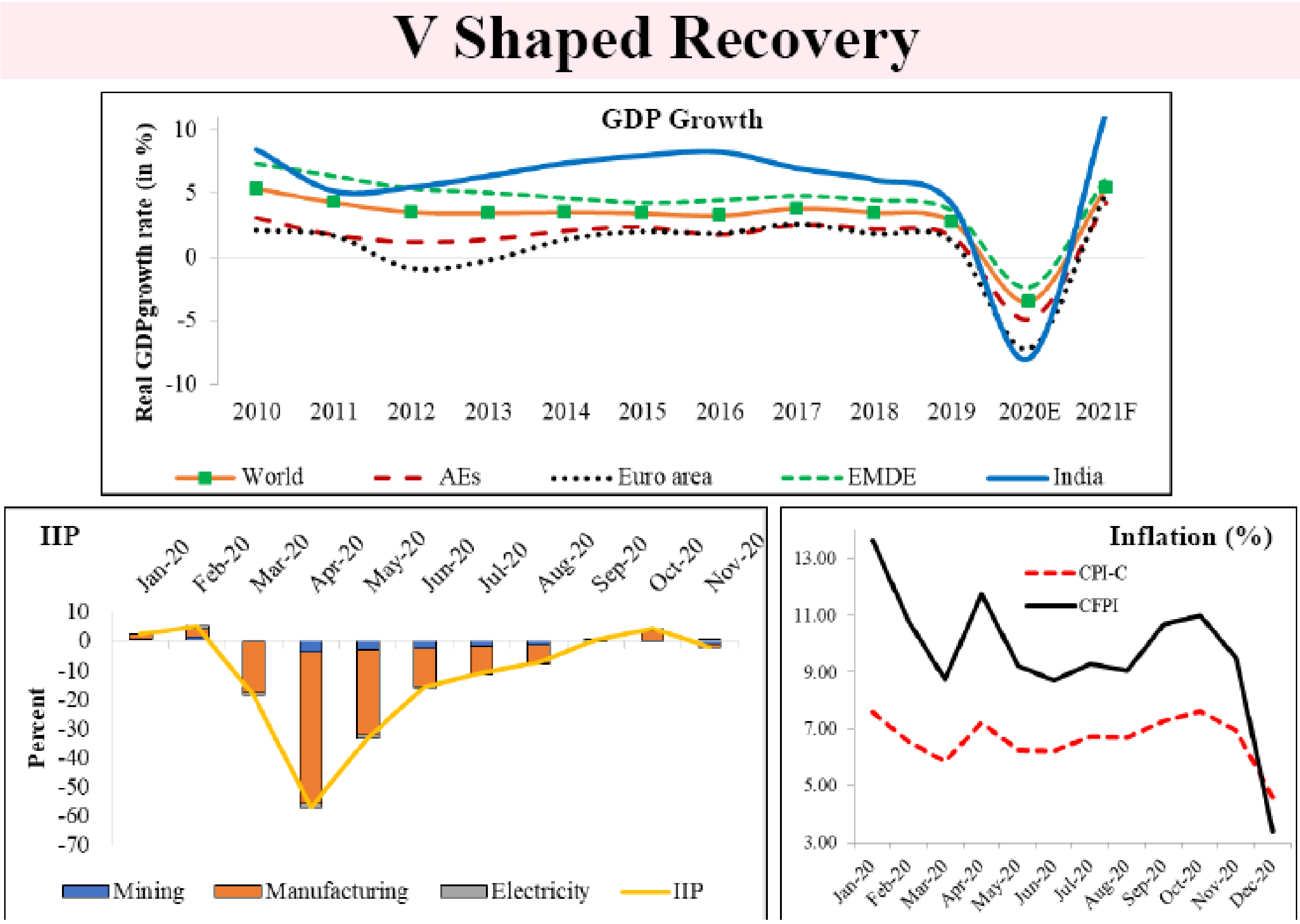
By constructing a **stringency index** at the State level Survey show that the under-or-over performance in cases and deaths (compared to the expected) correlates strongly with the stringency of the lockdown. Similarly, the V- shaped economic recovery also strongly correlates with the stringency of the lockdown. This alleviates concerns that the inference about the impact of the lockdown is due to any cofounding factors peculiar to India such as higher level of immunity, BCG vaccination, etc. As such India-specific factors are common to all states, they cannot be accounting for this correlation. Thus, Survey infer that the **lockdown had a causal impact** on saving lives and the economic recovery.

India thus benefited from successfully pushing the peak of the pandemic curve to September, 2020 through the lockdown. After this peak, India has been unique in experiencing declining daily cases despite increasing mobility.

V-shaped recovery

While there was a 23.9 per cent contraction in GDP in Q1, the **recovery has been a V-shaped** one as seen in the 7.5 per cent decline in Q2 and the recovery across all key economic indicators. India is witnessing a V-shaped recovery with a stable macroeconomic situation aided by a stable currency, comfortable current account, burgeoning forex reserves, and encouraging signs in the manufacturing sector output.

In line with learning from economic research, economic activity in States with higher intial stringency has rebounded faster during the year.



Covid pandemic affects both demand and supply

On the economic policy front, India recognized that, unlike previous crises, the **Covid pandemic affects both demand and supply**. Furthermore, given disruptions in the labour markets that can affect disposable income and firms suffering financial distress, the loss of productive capacity due to hysteresis could not be ruled out. Therefore, a slew of structural reforms were announced as a Part of **Atmanirbhar Bharat Package**; together, these would help to expand supply significantly in the medium to long term. **India is the only country** to have undertaken structural reforms on the supply-side at the initial stages of the pandemic.

On the demand side, at the onset of the pandemic, India's policies focused purely on necessities. This was optimal given the uncertainty and the resultant precautionary motives to save as well as the economic restrictions during the lockdown. After all, pushing down on the accelerator while the brakes are clamped only wastes fuel. During the unlock phase, demand-side measures have been announced in a calibrated manner. A public investment programme centred around the National Infrastructure Pipeline is likely to accelerate this demand push and further the recovery.

The upturn in the economy while avoiding a second wave of infections makes India a sui generis case in strategic policymaking amidst a once in-a-century pandemic.

Chapter 2 - Does Growth Lead to Debt Sustainability? Yes, But Not Vice-Versa!

Does growth lead to debt sustainability? Or, does fiscal austerity foster growth? Given the need for fiscal spending amidst the COVID-19 crisis, these questions assume significance. **This Chapter establishes clearly that growth leads to debt sustainability in the Indian context but not necessarily vice-versa. This is because the interest rate on debt paid by the Indian government has been less than India's growth rate by norm, not by exception**.

IRGD

As Blanchard (2019) explains in his 2019 Presidential Address to the American Economic Association: "If the interest rate paid by the government is less than the growth rate, then the intertemporal budget constraint facing the government no longer binds." This phenomenon highlights that **debt sustainability depends on the "interest rate growth rate differential" (IRGD),** i.e. the difference between the interest rate and the growth rate in an economy.

In advanced economies, the extremely low interest rates, which have led to negative IRGD, on the one hand, and have placed limitations on monetary policy, on the other hand, have caused a rethink of the role of fiscal policy. The same phenomenon of a negative IRGD in India – not due to lower interest rates but much higher growth rates –must prompt a debate on the saliency of fiscal policy, especially during growth slowdowns and economic crises.

The confusion about causality – from growth to debt sustainability or vice-versa –is typical of several macro-economic phenomena, where natural experiments to identify causality are uncommon. In the specific context of growth and debt sustainability, this confusion also stems from the fact that the academic and policy literature focuses primarily on advanced economies, where causality is entangled by lower potential growth when compared to India. Indeed, the chapter studies the evidence across several countries to show that **growth causes debt to become sustainable in countries with higher growth rates;** such clarity about the causal direction is not witnessed in countries with lower growth rates. By integrating ideas from Corporate Finance into the macro-economics of Government debt a la Bolton (2016), the Survey lays the conceptual foundations to understand why these differences can manifest between high-growth emerging economies and low-growth advanced economies.

Counter-cyclical Fiscal Policy

Fiscal multipliers capture the aggregate return derived by the economy from an additional Rupee of fiscal spending. As the COVID-19 pandemic has created a significant negative shock to demand, active fiscal policy – one that recognises that fiscal multipliers are disproportionately higher during economic crises than during economic booms –can ensure that the full benefit of seminal economic reforms is reaped by limiting potential damage to productive capacity. As the **IRGD is expected to be negative in the foreseeable future, a fiscal policy that provides an impetus to growth will lead to lower, not higher, debt-to-GDP ratios.**

In fact, simulations undertaken till 2030 highlight that given India's growth potential, debt sustainability is unlikely to be a problem even in the worst scenarios. The chapter thus demonstrates the desirability of using counter-cyclical fiscal policy to enable growth during economic downturns.

While acknowledging the counterargument from critics that governments may have a natural proclivity to spend, the Survey endeavours to provide the intellectual anchor for the government to be more relaxed about debt and fiscal spending during a growth slowdown or an economic crisis. The Survey's call for more active, counter-cyclical fiscal policy is not a call for fiscal irresponsibility. **It is a call to break the intellectual anchoring that has created an asymmetric bias against fiscal policy.**

Relevance of Counter-cyclical Fiscal Policy

Indian Kings used to build palaces during famines and droughts to provide employment and improve the economic fortunes of the private sector. Economic theory, in effect, makes the same recommendation: in a recessionary year, Government must spend more than during expansionary times. Such counter-cyclical fiscal policy stabilizes the business cycle by being contractionary (reduce spending/increase taxes) in good times and expansionary (increase spending/reduce taxes) in bad times. On the other hand, a pro-cyclical fiscal policy is the one wherein fiscal policy reinforces the business cycle by being expansionary during good times and contractionary during recessions.

Crowding out of private investment

Studies find no evidence of crowding out of private investment due to public investment for developing economies. The phenomenon of crowding out of private investment is based on the notion that supply of savings in the economy is fixed. Therefore, higher fiscal spending may increase the demand for loanable funds and hence exert an upward pressure on interest rates, thereby discouraging private investment.

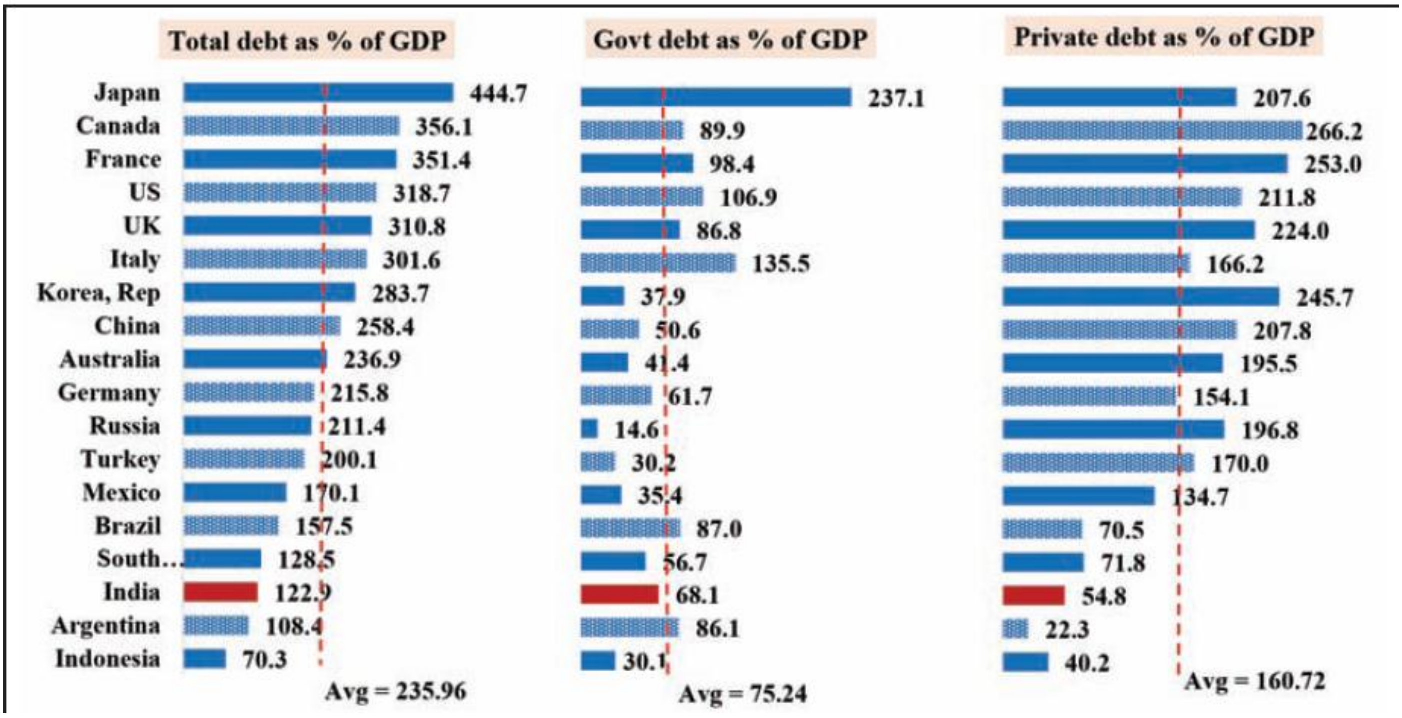
In an economy that has unemployed resources, an increase in government spending increases the aggregate demand in the economy, which may induce the private sector to increase their investment in new machinery to cater to the increased demand, and hence put the unused resources to productive uses. This may have multiplier effects on aggregate demand, resulting in higher growth rates. Further, supply of savings is not fixed but expands with income growth.

Structure of India's Debt

After analyzing the key parameters of debt dynamics and their implications, it is imperative to understand the structure and characteristics of India's public debt. India's public debt-to- GDP has been significantly low compared to high global debt levels (Figure 17). A cross-country comparison of debt levels points out that for India, the government debt level as a proportion of GDP is equal to the median in the group of G-20 OECD countries and in the group of BRICS nations.

India's overall debt levels as a per cent of GDP are the lowest amongst the group of G-20 OECD countries and also among the group of BRICS nations. Moreover, public debt and overall debt level for India has declined since 2003 and has been stable since 2011.

Figure 17: Debt-to-GDP ratio for India amongst the Rest of the world (2018)



The Government's debt portfolio is characterized by very low foreign exchange risk as the external debt is only 2.7% of GDP (5.9% of total Central Government Debts). Of the total General Government public debt, 70% is held by the Centre and 30% by states.

As the central government is entrusted with the responsibility of macro-economic management, this distribution of debt between the centre and states is desirable because of the incentive compatibility that it generates. The long maturity profile of India's public debt (issuance of longer tenure bonds) along with a small share of floating rate debt (floating rate debt of Central Government is less than 5% of public debt) tends to limit rollover risks, and insulates the debt portfolio from interest rate volatility.

Chapter 3 - Does India's Sovereign Credit Rating reflect its fundamentals No!

Never in the history of sovereign credit ratings has the fifth largest economy in the world been rated as the lowest rung of the investment grade (BBB-/Baa3). Reflecting the economic size and thereby the ability to repay debt, the **fifth largest economy has been predominantly rated AAA. China and India are the only exceptions to this rule** –China was rated A-/A2 in 2005 and now **India is rated BBB-/Baa3 (lowest Investment grade).** Do the fundamentals that supposedly drive sovereign credit ratings rationalise this historical anomaly? In this chapter, the Survey asks this important question and answers a resounding No!

Sovereign credit ratings

Sovereign credit ratings seek to quantify issuers' ability to meet debt obligations. When favourable, these can facilitate countries access to global capital markets and foreign investment.

Sovereign credit ratings broadly rate countries as either investment grade or speculative grade, with the latter projected to have a higher likelihood of default on borrowings. The **threshold of Investment grade is considered to be BBB- for S&P and Fitch and Baa3 for Moody's.**

Credit Rating Scale Comparison between some major CRAs

Interpretation	Fitch and S&P	Moody's
Highest quality	AAA	Aaa
High quality	AA+	Aa1
	AA	Aa2
	AA–	Aa3
Strong payment capacity	A+	A1
	A	A2
	A–	A3
Adequate payment capacity	BBB+	Baa1
	BBB	Baa2
	BBB–	Baa3
Likely to fulfill obligations, on going uncertainty	BB+	Ba1
	BB	Ba2
	BB–	Ba3
High-risk obligations	B+	B1
	B	B2
	B–	B3
Vulnerable to default	CCC+	Caa1
	CCC	Caa2
	CCC–	Caa3
Near or in bankruptcy or default	CC	Ca
	C	C
	D	D

India witnessed one instance of credit rating downgrade from the investment grade to speculative grade during the period 1998-2018. This coincided with the period of international sanctions following the Pokhran nuclear tests in 1998. India witnessed three instances of credit ratings upgrade from the speculative grade to the investment grade. These were in mid 2000s, as testament to India's higher economic growth prospects and strong fundamentals.

Table 1: India's Sovereign Credit Rating (1998-2020)

Date	S&P	Moody's	Fitch
June 1998		Ba2*	
October 1998	BB*		
March 2000			BB+*
November 2001			BB*
February 2003		Ba1*	
January 2004			BB+*
January 2004		Baa3	
February 2005	BB+*		
August 2006			BBB-
January 2007	BBB-		
November 2017		Baa2	
June 2020		Baa3	

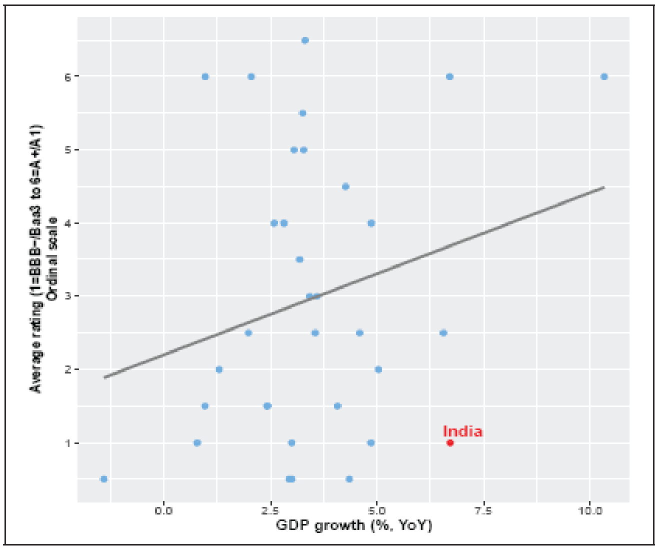
*Speculative Grade; Green highlights ratings upgrade; Red highlights ratings downgrade, Black indicates first rating
Source: Compiled from S&P Global, Fitch and Moody's

Have india's sovereign credit ratings reflected its fundamentals in the past? no!

India's sovereign credit ratings do not reflect its fundamentals. India has consistently been rated below expectation as compared to its performance on various parameters during the period 2000-20.

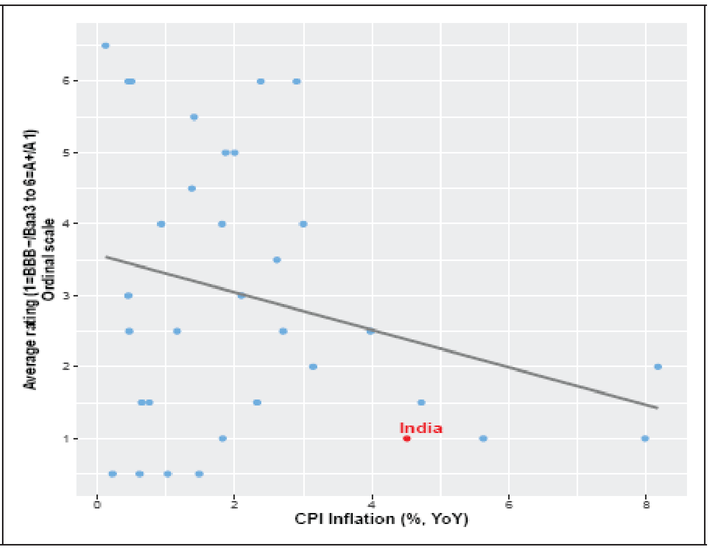
Within its sovereign credit ratings cohort – countries rated between A+/A1 and BBB-/Baa3 for S&P/ Moody's – India is a clear outlier on several parameters, i.e. a sovereign whose rating is significantly lower than mandated by the effect on the sovereign rating of the parameter. These include GDP growth rate, inflation, general government debt (as per cent of GDP), cyclically adjusted primary balance (as per cent of potential GDP), current account balance (as per cent of GDP), political stability, rule of law, control of corruption, investor protection, ease of doing business, short-term external debt (as per cent of reserves), reserve adequacy ratio and sovereign default history.

Figure 5: Sovereign Credit Ratings and GDP Growth Annual (Per cent)



Source: Bloomberg and IMF

Figure 6: Sovereign Credit Ratings and CPI Inflation (Per cent)



Source: Bloomberg and IMF

Figure 5 shows a positive correlation between sovereign credit ratings and GDP growth rate across India's cohort. India is clearly a negative outlier i.e. it is currently rated much below expectation for its level of GDP growth.

A negative correlation is observed between sovereign credit ratings and Consumer Price Index (CPI) inflation (Figure 6) across India's sovereign credit ratings cohort. It may be seen that India is a negative outlier, rated much below expectation for its level of CPI inflation.

India's negative outlier status w.r.t. its sovereign credit ratings vis-à-vis performance on several parameters remains true not only now but also during the last two decades.

Does India's sovereign credit rating reflect its willingness and ability to pay? no!

Credit ratings map the probability of default and therefore reflect the willingness and ability of borrower to meet its obligations. **India's willingness to pay is unquestionably demonstrated through its zero sovereign default history.** India's ability to pay can be gauged not only by the extremely low foreign currency denominated debt of the sovereign but also by the comfortable size of its foreign exchange reserves that can pay for the short term debt of the private sector as well as the entire stock of India's sovereign and non-sovereign external debt.

India's forex reserves stood at US$ 584.24 as of January 15, 2021, greater than India's total external debt (including that of the private sector) of US$ 556.2 bn as of September 2020. In corporate finance parlance, therefore, India resembles a firm that has negative debt, whose probability of default is zero by definition. Despite this compelling statistic, India is an inexplicable negative outlier in its ratings cohort. The Survey's findings are consistent with a large academic literature that highlights bias and subjectivity in sovereign credit ratings, especially against countries with lower ratings.

Effect of sovereign credit rating changes on select indicators

As ratings do not capture India's fundamentals, it comes as no surprise that past episodes of sovereign credit rating changes for India have not had major adverse impact on select indicators such as Sensex return, foreign exchange rate and yield on government securities. Past episodes of rating changes have no or weak correlation with macroeconomic indicators.

Policy implications

The Survey questioned whether India's sovereign credit ratings reflect its fundamentals, and found evidence of a systemic under-assessment of India's fundamentals as reflected in its low ratings over a period of at least two decades. **India's fiscal policy must, therefore, not remain beholden to such a noisy/biased measure of India's fundamentals and should instead reflect Gurudev Rabindranath Thakur's sentiment of a mind without fear**. In other words, India's fiscal policy should be guided by considerations of growth and development rather than be restrained by biased and subjective sovereign credit ratings.

While sovereign credit ratings do not reflect the Indian economy's fundamentals, noisy, opaque and **biased credit ratings damage FPI flows**. Sovereign credit ratings methodology must be amended to reflect economies' ability and willingness to pay their debt obligations by becoming more transparent and less subjective. Developing economies must come together to address this bias and subjectivity inherent in sovereign credit ratings methodology to prevent exacerbation of crises in future.

The pro-cyclical nature of credit ratings and its potential adverse impact on economies, especially low-rated developing economies must be expeditiously addressed. India has already raised the issue of pro-cyclicality of credit ratings in G20. In response, the Financial Stability Board (FSB) is now focusing on assessing the pro-cyclicality of credit rating downgrades.

Chapter 4 - Inequality and Growth: Conflict or Convergence?

The Economic Survey 2019-20 argued that ethical wealth creation – by combining the invisible hand of markets with the hand of trust – provides the way forward for India to develop economically. An often-repeated concern expressed with this economic model pertains to inequality. **Some commentary, especially in advanced economies post the Global Financial Crisis, argues that inequality is no accident but an essential feature of capitalism**. Such commentaries, thus, highlight a potential conflict between economic growth and inequality.

Could the fact that both the absolute levels of poverty and the rates of economic growth are low in advanced economies generate this conflict? If so, could it be that a developing economy such as India can avoid this conflict – at least in the near future – because of the potential for high economic growth, on the one hand, and the significant scope for lifting millions out of poverty, on the other hand? This question becomes pertinent especially because of the inevitable focus on inequality following the COVID-19 pandemic.

In this chapter, the Survey examines if inequality and growth conflict or converge in the Indian context. By examining the correlation of inequality and per-capita income with a range of socio-economic indicators, including health, education, life expectancy, infant mortality, birth and death rates, fertility rates, crime, drug usage and mental health, the **Survey highlights that both economic growth – as reflected in the income per capita at the state level –and inequality have similar relationships with socio-economic indicators.**

Conflict between inequality and economic growth that is observed in advanced economies does not seem to manifest in countries that have high growth rates and high levels of absolute poverty.

States with greater income or high per capita NSDP (Net State Domestic Product) experienced low rates of poverty and vice versa. However, such strong relationship is absent between inequality and poverty.

World Bank (2000) find that India could achieve sustained decline in poverty during 1970s-1990s only when the GDP growth picked up from 3.5 per cent in the initial years. Also, rise in the growth of mean consumption was responsible for approximately 87 per cent of the cumulative decline in poverty, while redistribution contributed to only 13 per cent.

Thus, unlike in advanced economies, in India economic growth and inequality converge in terms of their effects on socio-economic indicators. **Furthermore, this chapter finds that economic growth has a far greater impact on poverty alleviation than inequality.**

Is perfect equality optimal?
Perfect equalisation of outcomes ex-post, i.e., after the efforts have been exerted to obtain those outcomes, can reduce individuals' incentives for work, innovation and wealth creation.

For a developing country such as India, where the growth potential is high and the scope for poverty reduction is also significant, a policy that lifts the poor out of poverty by expanding the overall pie is preferable as redistribution is only feasible if the size of the economic pie grows rapidly.

Inequality needs to be distinguished from poverty. **Inequality refers to** the degree of dispersion in the distribution of assets, income or consumption. **Poverty refers to** the assets, income or consumption of those at the bottom of the distribution.

Chapter 5 - Healthcare takes centre stage, finally!

The health of a nation depends critically on its citizens having access to an equitable, affordable and accountable healthcare system. Health affects domestic economic growth directly through labour productivity and the economic burden of illnesses. Increasing life expectancy from 50 to 70 years (a 40 per cent increase) could raise the economic growth rate by 1.4% points per year (WHO 2004). Life expectancy in a country correlates positively with per-capita public health expenditure.

The recent COVID-19 pandemic has emphasised the importance of the healthcare sector and its inter-linkages with other key sector of the economy. The ongoing pandemic has showcased how a healthcare crisis can get transformed into an economic and social crisis.

Increased prioritization of healthcare in the central and state budgets is important as it crucially impacts how much protection citizens get against financial hardships due to out of-pocket payments made for healthcare. **Out-Of-Pocket Expenditures** for health increase the risk of vulnerable groups slipping into poverty because of catastrophic health expenditures. **An increase in public health expenditure from 1 per cent to 2.5-3 per cent of GDP** – as envisaged in the National Health Policy 2017 – can decrease the Out-Of-Pocket Expenditures from 65 per cent to 30 per cent of overall healthcare spend.

Given significant market failures, healthcare needs careful system design

Healthcare systems do not self-organise using the force of free markets because of three key inherent and unchanging characteristics (Arrow, 1963): (i) uncertainty/variability of demand; (ii) information asymmetry; and (iii) hyperbolic tendencies. Hence, any active system design of healthcare must be mindful of these inherent characteristics

Uncertainty/variability of demand

The need for health care is driven often by factors that cannot be controlled or predicted. This is also coupled with the nature of demand, which is inelastic especially for emergency care. Given this uncertainty and variability at the individual level, pooling of healthcare expenditures via **health insurance can help** to reduce healthcare risk at the macroeconomic level.

Information asymmetry

In healthcare markets, buyers of information (patients) rarely know the value of the information until after it is purchased and sometimes never at all. For example, when individuals avail of a healthcare service like dermatology (i.e., skin care), they may be able to readily evaluate the outcome. Therefore, for such services, low-quality providers will have to reduce their price to remain competitive. In contrast, patients who must undergo open-heart surgery may find it very difficult to evaluate its quality and have to therefore rely on the reputation of the hospital/doctor as a proxy for the quality. For some services such as preventive care and/or mental health, patients may never know for sure whether their provider did a good job.

When little information is available on the quality of a product prior to purchase, and the quality of the product is uncertain, quality deteriorates to the lowest level in an unregulated market. While reputation can partially mitigate this market failure, the design of healthcare systems must account for this market failure, which can otherwise lead to loss of consumer faith and resultant under-investment in healthcare.

Hyperbolic tendencies

People tend to indulge in risky behavior that may not be in their self-interest. Examples include **smoking, eating unhealthy food, delay in seeking care**, not wearing masks or keeping social distancing in the context of the pandemic. Such individual behavior may not only be suboptimal for the individual but also create negative externalities for the entire healthcare system through higher costs and poorer outcomes.
Individuals also under-estimate health risks and may, therefore, not purchase adequate health insurance.

Need for system design in healthcare

Given these market failures, a free market where individual consumers purchase services from providers on their own while paying at the point of service leads to severely sub-optimal outcomes including demand that can be influenced and induced by suppliers, over-seeking of hospitalization and under-seeking of primary care/public health when compared to economically optimal levels, and catastrophic out-of-pocket spending in part due to the low preference for health insurance. Therefore, most well-functioning health systems are structured as oligopolies purchasing from oligopsonys instead of individual consumers purchasing from individual providers. The structure of the market has substantial implications for long term trajectory of the health system.

Countries with more fragmented health systems tend to have lower performance as reflected in higher costs, lower efficiency, and poor quality. Therefore, in addition to providing healthcare services and financing healthcare, a key role for the government is to actively shape the structure of the healthcare market.

Covid-19 and India's healthcare policy

Following the Covid-19 pandemic, a key portfolio decision that healthcare policy must make is about the relative importance placed on communicable versus non-communicable diseases. The Covid-19 pandemic has spread worldwide because it is a communicable disease. The previous such pandemic occurred more than a century back when the Spanish Flu pandemic devastated the world in 1918. As pandemics represent rare events, healthcare policy can become a victim of "saliency bias", which involves over-weighting recent phenomena. 71 per cent of global deaths and about 65 per cent of deaths in India are caused by non-communicable diseases (NCDs). Further, preventing communicable diseases requires focus on better sanitation and drinking water, which the Swachh Bharat and the Har Ghar Jal Abhiyan campaigns are focusing on.

As the evidence illustrates, faced with such a devastating pandemic, even the infrastructure created by greater healthcare spending in the advanced economies could not deal with the disease burden created by the pandemic. We observe positive correlations between total number of cases and deaths with respect to health expenditure per capita implying better health infrastructure. So, **better health infrastructure is no guarantee** that a country would be able to deal better with devastating pandemics like Covid-19. As the next health crisis could possibly be drastically different from COVID-19, the **focus must be on building the healthcare system generally rather than a specific focus on communicable diseases.**

To enable India to effectively respond to future pandemics, the health infrastructure must be agile. For instance, every hospital may be equipped so that at least one ward in the hospital can be quickly modified to respond to a national health emergency while caring for the normal diseases in usual times.

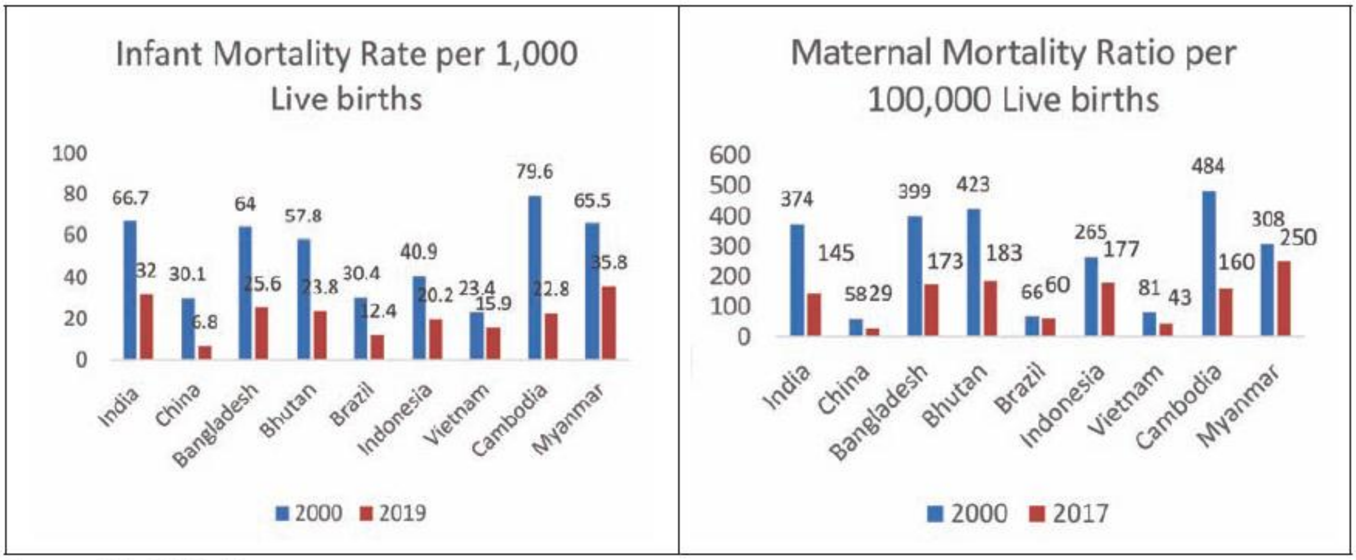
Indian Healthcare curently

Despite improvements in healthcare access and quality (healthcare access and quality scored at 41.2 in 2016, up from 24.7 in 1990), India continues to underperform in comparison to other Low and Lower Middle Income (LMIC) countries. On quality and access of healthcare, India was ranked 145th out of 180 countries (Global Burden of Disease Study 2016). Only few sub-Saharan countries, some pacific islands, Nepal and Pakistan were ranked below India.

Poor health outcomes

As seen in Figure 6, Despite improvements in MMR (Maternal Mortality Ratio) and IMR (Infant Mortality Ratio), India still needs to improve significantly on these metrics. Countries such as China, Bangladesh, Bhutan, Cambodia, etc. have improved much more on these metrics than India.

Figure 6: IMR and MMR in India and other countries



Source: World Bank

Low access and utilization

At 3-4 per cent, the hospitalisation rates in India are among the lowest in the world. The average for middle income countries is 8-9 per cent and 13-17 per cent for OECD countries.

Given the increasing burden of NCD, lower life expectancy, higher MMR and IMR, the low hospitalisation rates are unlikely to reflect a more healthy population as compared to middle income or OECD countries. Thus, the low hospitalisation rates reflect lower access and utilisation of healthcare in India.

High out-of-pocket health exp enditures

India has one of the highest levels of out-of-pocket health expenditures (OOPE) in the world.

Though decreasing in recent years, inequity persists in availability of healthcare

This had resulted in poor households being disproportionately impacted by OOPE and pushed below the poverty line. However, recent data show that the distribution of the public subsidy has improved in favour of the poor, more clearly in maternity and child healthcare.

The **National Health mission (**NHM) has played a critical role in mitigating inequity as the access of the poorest to pre-natal and post-natal care as well as institutional deliveries has increased significantly.

In recent times, the percentage of the poorest utilising prenatal care through public facilities has increased from 19.9 per cent to 24.7 per cent from 2004 to 2018, and there is a similar increase in the percentage of the poor accessing institutional delivery as well as post-natal care.

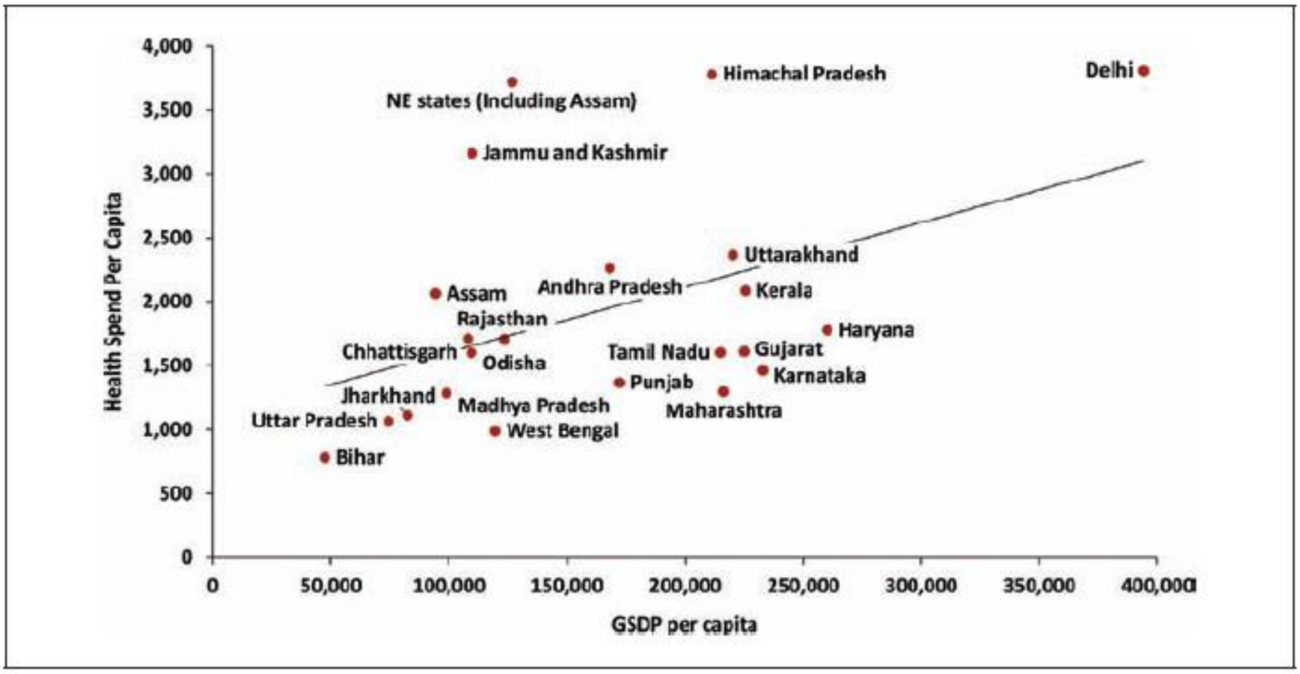
Therefore, in conjunction with Ayushman Bharat, the emphasis on NHM should continue.

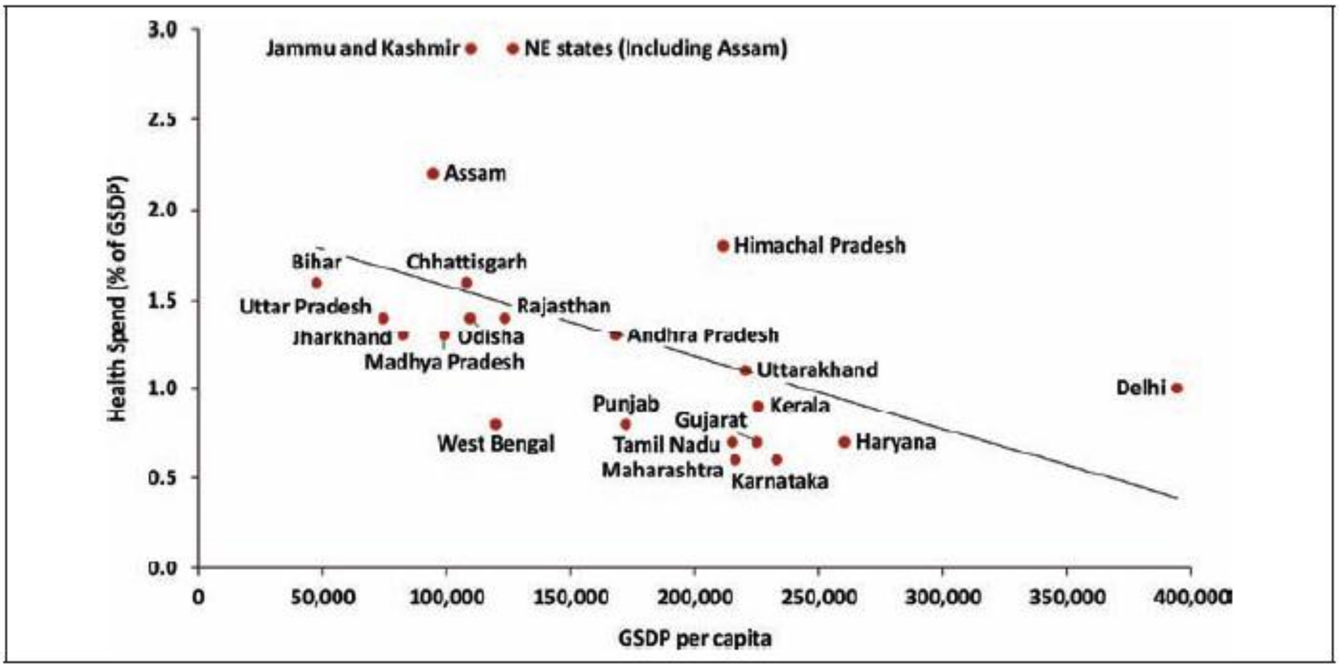
Low budget allocations for healthcare

As health is a state subject in India, spending on healthcare by states matters the most when examining government healthcare spending. According to National Health Accounts, 2017, 66 per cent of spending on healthcare is done by the states. India ranks 179th out of 189 countries in prioritization accorded to health in its government budgets (consolidated union & state government). This prioritisation of health in India is similar to donordependent countries such as Haiti and Sudan, and well short of its peers in development.

The state expenditure on healthcare is highly variable across states and is not fully explained by the income level of the state. Figure 11 illustrates the same: while healthcare spending per capita increases with the GSDP per capita, healthcare spending as a per cent of GSDP decreases with the GSDP per capita. Thus, the richer states are spending a lower proportion of their GSDP on healthcare.

Figure 11: Healthcare spending across different Indian States





Source: National Health Systems Resource Centre 2017

The states that have higher per capita spending have lower out-of-pocket expenditure, which also holds true at global level. Hence, there is need for higher public spending on healthcare to reduce OOP.

Low human resources for health

Health status of any country crucially depends on the available health infrastructure in general and human resources for health.

World Health Organization (WHO) identified an aggregate density of health workers to be 44.5 per 10,000 population and an adequate skill-mix of health workers to achieve composite SDG tracer indicators index by 2030 (WHO 2019). The WHO also specified a lower range of 23 health workers per 10,000 population to achieve 80 per cent of births attended by skilled health professionals.

Although aggregate human resources for health density in India is close to the lower threshold of 23, the distribution of health workforce across states is lop-sided. Also, the skill mix (doctor/nurse-midwives ratio) is far from adequate. State-level variations in the density of health workers and the skill mix reflects that while Kerala and Jammu and Kashmir have a high density of doctors, states like Punjab, Himachal Pradesh and Chhattisgarh have a larger number of nurses and midwives but a very low density of doctors. Andhra Pradesh, Delhi and Tamil Nadu reflect a better balance of doctors and nurses and midwives.

Unregulated private enterprise in an industry marked by high level of market failure

As a bulk of the healthcare in India is provided by the private sector, it is critical for policymakers to design policies that mitigate information asymmetry in healthcare, which creates market failures and thereby renders unregulated private healthcare sub-optimal. Therefore, information utilities that help mitigate the information asymmetry can be very useful in enhancing overall welfare.

Credit rating agencies mitigate the information asymmetry faced by investors when investing in the debt of a firm. Specifically, credit rating agencies assess the likelihood of the firm repaying the debt that is takes from the investors, thereby the quality of the firm borrowing the money.

Similarly, healthcare policymakers should consider creating agencies to assess the quality of the healthcare providers – both doctors and hospitals. The Quality and Outcomes Framework (QOF) introduced by the National Health Service (NHS) in the United Kingdom 2004 as well as other quality assessment practices introduced by NHS provide a good example.

The NHS quality assessment practices included national standards for the major chronic diseases, annual appraisal of all doctors working in the NHS, and widespread use of clinical audits to compare practices, sometimes with public release of data. These should be evaluated carefully and considered for implementation.

Credit bureaus assess the quality of individual borrowers by assigning them credit scores, thereby mitigating the information asymmetry faced by a bank or financial institution in lending to the individual borrower. In the healthcare context, insurers as well as healthcare providers suffer from similar information asymmetry about the patient.

Data from The National Digital health mission can be utilised even within the framework of data privacy. By utilising such data with the aid of artificial intelligence and machine learning algorithms, the predictive aspects can be used to mitigate information asymmetry with respect to the patients.

A standardized system for quality reporting on healthcare for hospitals, physicians and insurance companies can start with basic input indicators to be reported mandatorily by every healthcare stakeholder. Over time, this can evolve to cover output and outcome indicators such as infection rates and re-admission rates. A start has been made in this direction by the Niti Aayog through the Health Index at the state level.

Finally, given the information asymmetries that make unregulated private enterprise suboptimal in healthcare, a **sectoral regulator** that undertakes regulation and supervision of the healthcare sector must be seriously considered. This is especially pertinent as regulation has grown in importance as a key lever for governments to affect the quantity, quality, safety and distribution of services in health systems. WHO also highlights the growing importance of the same.

Information Asymmetry in India’s Private Insurance Markets

With limited visibility into patients’ medical records and no standardised treatment protocols, insurance companies have a risk of adverse selection at the time of policy issuance and a risk of moral hazard at the time of claims. To safeguard against this risks, **insurance companies resort to high premiums** and restriction of services covered in the insurance policy. Addressing this information asymmetry can help lower premiums, enable the offering of better products and help increase the insurance penetration in the country.

Telemedicine

Impressive growth has been seen in the adoption of telemedicine in India since the outbreak of the COVID-19 pandemic. This coincided with the imposition of lockdown in India and the issuance of the Telemedicine Practice Guidelines 2020 by the Ministry of Health and Family Welfare (MoHFW) on March 25, 2020. eSanjeevani OPD (a patient-to-doctor tele-consultation system) has recorded almost a million consultations since its launch in April 2020.

Given its potential to provide healthcare access in remote areas, **telemedicine needs to be harnessed** to the fullest by especially investing in internet connectivity and health infrastructure, which in turn can greatly help reduce geographic disparities in healthcare access and utilization.

Chapter 6 - Process Reforms: Enabling decision-making under uncertainty

The evidence shows that **India over-regulates the economy**. This results in regulations being ineffective even with relatively good compliance with process. The root cause of the problem of over-regulation is an approach that attempts to account for every possible outcome.

Both economic theory and evidence shows that in an uncertain and complex world, it is not possible to write regulations that account for all possible outcomes. This makes discretion unavoidable in decision-making. The attempt to reduce discretion by having ever more complex regulations, however, results in even more non-transparent discretion.

The solution is to simplify regulations and invest in greater supervision which, by definition, implies willingness to allow some discretion. Discretion, however, needs to be balanced with transparency, systems of ex-ante accountability and ex-post resolution mechanisms.

The problem of regulatory effectiveness

It is often believed that India's regulatory problems are due to the lack of regulatory standards and poor compliance to process. International comparisons, however, show that **India ranks better than its peers on having regulatory standards** in place and compliance to process. The **real issue seems to be effectiveness of regulations** caused by undue delays, rent seeking, complex regulations and quality of regulation.

World Bank's Ease of Doing Business (EoDB) report (2020) shows that despite making huge strides in the overall EoDB rank, India still lags behind in the sub-categories 'Starting a business' and 'Registering Property' where the country's rank is 136 and 154 respectively. The report points out that this is due to the high number of procedures required to legally start and formally operate a company as well as the time and cost consumed to complete each procedure.

As an illustration of **unnecessary regulation** in India, take the case of **voluntary closure of a company**. A study by Quality Council of India (done for Economic Survey) shows that the **time taken** from point of decision of closure to actually the company getting struck off from the Registrar of Companies **is 1570 days** (i.e. 4.3 years), even if all paperwork is in place and the company is not involved in any litigation or dispute.

This is the best possible case of a routine activity. Interestingly, out of the total time taken, about 1035 days are taken for clearances by Income Tax, Provident Fund, GST departments and in taking back security refunds from various departments. In contrast, voluntary liquidation takes about 12 months in Singapore, 12-24 months in Germany and 15 months in UK. In Germany, for very large and active companies, it takes 2-4 years. Given the likelihood of disputes and litigation, for the comparable large cases it may take upto a decade in India.

The Inevitability of Incomplete Regulations

The **problem of over-regulation stems from not recognizing the inevitability of incomplete contracts** and regulations in a world of uncertainty. Real world contracts are inherently incomplete because of three key reasons that reinforce one another's influence.

First, as Herbert Simon has highlighted in his the Nobel-prize winning work, humans are boundedly rational because the **future comprises of "unknown unknowns**.

Second, as another Noble-prize winning work on incomplete contracts by Oliver Hart highlights, **complexity in framing contracts arises from the difficulties involved in anticipating and specifying all obligations for all parties** in full across all possible contingencies. In fact, with radical uncertainty, it is impossible to know the possible characteristics of all the future states of the world. Therefore, writing complete contracts that will efficiently fit every future situation is inherently impossible in the real world.

Finally, because of these two features, a **third party may be able to observe outcomes ex-post but cannot verify ex-ante decisions unambiguously.**

Incomplete regulations become inevitable when the reality of incomplete contracts is acknowledged. In theory, regulators and policymakers can choose to invest entirely in the drafting process by identifying every possible state of the world that might materialize and by specifying an appropriate solution to each state. But, in reality, they confront a vexing problem:the future is unknown and unknowable. As a result, when faced with uncertainty, it simply costs too much to foresee and then describe appropriately the contractual outcomes for all (or even most) of the conceivable states of the world. Thus, the **reality of incomplete contracts leads to inevitability of incomplete regulation. This makes some discretion unavoidable.**

In a complex and uncertain world, moreover, the actual outcomes or situations do not fit in the neat boxes assumed in the regulation; hence the supervisor has to exercise some judgment. **There is a widespread belief, however, that ever more detailed regulations reduce discretion**. **On the contrary, complex rules and regulations create more discretion because of the multiple ways in which they can be interpreted**. This is made worse by the opacity of increasingly complex rules which makes it difficult for a third party to monitor how the discretion was exercised.

Black (2001) argues that “discretion and rules are not in a zero-sum relationship such that the more rules there are the less the discretion there is and visa-versa.”

In short, a complex, uncertain world makes discretion inevitable where **over-regulation, not simpler regulation, leads to excessive and opaque discretion.**

Therefore, the question then arises is **how can we allow for discretion such that is not misused** and leads to effective supervision.

The problem of regulatory default

From the discussion in the previous sections, it is clear that there is a need to create simple regulation and complement the same by providing flexibility and discretion to the supervisor.

However, if the legal and institutional frameworks do not explicitly limit mushrooming of regulations, policymakers may naturally drift towards more regulation, even if it is sub-optimal for the economy.

As regulation can be easily measured while supervision cannot be measured easily, **regulators and decision-makers would prefer to substitute supervision with more and more regulation.** After all, regulations provide criteria or checklists, making it easier for regulators to follow and reduce their accountability later on. On the other hand, it is difficult to quantify the amount and quality of supervision. Naturally, policymakers by default tend to favour prescriptive regulation.This creates a perverse incentive to keep adding more top-down regulations regardless of their effectiveness.

(a) More regulation is added over time regardless of its effectiveness

Since regulation is a more mechanical, top-down approach, it often becomes the default response of policymakers. This has promoted the culture of ‘regulate first, ask question later.’

Example is the unintended consequences of everincreasing bank regulations which has led to shifting of market activity to “shadow banks” (also called “non-bank financial intermediaries”) where the scope for regulatory arbitrage is higher, especially as banks become more averse to lend to high-risk borrowers and/ or small borrowers.

(b) Discretion is not provided or exercised even when there is a case to do so

Since regulations are defined, they are easy to measure ex-ante. Bureaucracies will naturally tend to substitute supervision with mechanical regulations and will not exercise discretion even when it is available.

For example, take the case of public procurement. As per the General Financial Rules (GFRs) guidelines, the Lowest Cost Method, or commonly known as **‘L1’ principle is the most prevalent bidding method** used for Goods/Works and Non-Consultancy services.

There is a general agreement that solely relying on L1 does not work well and various organisations have advocated the need for reforming the current procurement system over the last few years.

Central Vigilance Commission in its concept note 'Alternative Procurement Strategy for Award of Works and Goods Contract' noted that although **L1 may still hold good for procurement of routine works, goods and non-consulting services; but not for high impact and technologically complex procurements**.

Quality Council of India conducted a study on highway development sector and found that the vendors who were all awarded contracts on the basis of competitive bidding vary widely in terms of quality of work and performance which was not covered under existing bid evaluation system. The report suggested **incorporating Performance Rating in Competitive Bidding to provide a quality premium to superior bidder** rather than simply awarding the contract to L1 bidder and gave a formula to calculate total score as the summation of financial score and performance rating score.

NITI Aayog in the concept paper 'Indian Public Procurement: Alternative Strategies and Way Forward' argue that L1 is not suitable in all the scenarios and came up with a variety of alternatives to use in the procurement process. In fact, the report also mentions that new procurement frameworks of multilaterals like World Bank, Asian Development Bank, Japan International Cooperation Agency have suitable alternative strategies for selecting bidders pointing towards needs for change and reforms in current times. They have moved from 'one size fits all' to 'fit to purpose' approach and incorporated various alternatives such as Value for Money, Rated Criteria to consider non-price attributes etc in the procurement methods.

Despite so many organizations recommending a need for allowing more discretion in the bidding process on account of technical and quality based parameters, **we still mostly use L1.** The L1 system persists because of the regulatory default problem. **No decision maker wants to exercise discretion for the fear of future questioning.** This criteria may appear simple and quantifiable, however, in a complex world where it may not be possible to define everything in the pre-procurement process, it is advisable to leave some discretion in the hands of administrators along with maintaining enough transparency and active supervision.

(c) Discretion is questioned with the benefit of hindsight

Discretion exercised ex-ante in the Initial Public Offering (IPO) of publicly listed companies often gets questioned with the benefit of hindsight when the IPO is oversubscribed and/or the first day gain is large. However, the **market value of an unlisted entity is unknown. Even after employing the best of valuation techniques, effort, and resources, the actual value of an entity is uncertain until it is traded in the market**. It is not uncommon to see stocks being over-subscribed (or under-subscribed) and their prices move up (or down).

In cases when government entities go public and the prices go up after the stocks are listed on the market, it is realised that the assets were worth a lot more. Commentators then with 'Hindsight Bias' remark that the assets were sold too cheap. However, it is only after the prices are listed and stocks are traded in secondary market, the actual valuation is known. It is important to note that this is not unique to the public sector undertakings but happens in the private sector as well.

(d) Government departments follow default precedent

Government departments take actions either to tick off boxes in checklist of regulation or follow the default precedent. Thus we see routine appeals made by the government departments against unfavourable judgements in higher courts or tribunals in order to reduce any questioning later on.

Table 5: Petition rate and Success rate of the direct taxes (in per cent)

Court/ Tribunal	Petition rate	Success Rate
Supreme Court	87	27
High Court	83	13
ITAT	88*	27

Source: Economic Survey 2017-18 calculations
Note: *Provisonal Estimates

Even though the success rate of litigation that the government enters in is very low, there is a tendency among the policymakers to appeal to the higher authority in order to reduce any questioning later on.

Solving for discretion

From the above discussion, it should be clear that there is no substitute for active supervision and discretion. Specifically, ex-ante regulation cannot substitute for ex-post supervision; in fact, more ex-ante regulation only serves to dilute the quality of ex-post supervision by fostering opaque discretion. So, how can supervisors be kept accountable while giving them discretion? We explore three possible ways:

(a) Strengthen ex-ante accountability

The property rights literature based on incomplete contracts argues for the strengthening of governance in institutions by vesting more power in boards and then holding them accountable ex-ante. Instead of relying too much on ex-post audits, which anyway suffer from hindsight bias, **ex-ante accountability needs to be entrusted with the boards of institutions.**

In most common law countries, there is a case law derived doctrine of Buisness Judgment Rule. The rule states that **boards are presumed to act in good faith and protects companies from frivolous lawsuits by assuming that, unless proved otherwise, management is acting in the interests of shareholders.**

It exists in India as well, however not exactly codified in the same language. But there is a great deal of apprehension that it is not taken into account in audits and post-facto investigations.

(b) Bring transparency in the decision-making process

The second way towards effective supervision is to incorporate transparency into the decision-making process. Transparency, apart from having intrinsic value, is appreciated because it promotes trust in public institutions and makes market efficient. The discretion in the system needs to be balanced with the transparency in decision making.

The Government in 2016 had set up a dedicated e-market known as **Government e Marketplace (GeM)** for different goods & services procured or sold by Government/PSUs.

Anecdotal evidence suggests that prior to GeM, government procurement prices were much higher than the prices prevailing in the market and there were constant complaints about inefficiency and rent seeking. As the GeM website mentions, **use of this e-marketplace has resulted in a substantial reduction in prices in comparison to the tender**, rate contract and direct purchase rates that were used previously.

Being an open platform alert citizens can continue to monitor it real time.

(c) Build resilient ex-post resolution mechanism

When outcomes are uncertain, it is important to have a resilient ex-post resolution mechanism. Despite having all regulations in place and best efforts to deal with effective supervision ex-ante, devising a robust ex-post resolution mechanism is imperative.

Grossman and Hart’s (1986) work on “incomplete contracts” demonstrates that the contracts are contingent on future states and it is not possible to write complete contracts, and by extension regulations, for every future state. Thus, adding ex-ante complexity to contracts and regulations, or risk analysis cannot resolve this issue.
Hence, there is a **need for efficient legal systems** (i.e., courts and institutions) such as Insolvency and Bankruptcy Code (IBC), Debt Recovery Tribunals etc. However, the court system remains the single most important way for ex-post resolution. The **performance in the area of dispute resolution and contract enforcement in India remains a concern and needs to be focused on**.

As per the World Bank’ Ease of Doing Buisness report (2020), **it takes 1445 days to resolve a commercial contract** in India as compared to 589.6 days in OECD high income countries and 120 days in Singapore. The report also shows that the cost of litigation in India is around 31 per cent of the claim value. This is significantly higher than in OECD countries (21 per cent) and Bhutan (0.1 per cent).

The legal system is required not to fix ex-ante issues in the system but to be used as an ex-post dispute resolution mechanism. This is just as true for government decision makers who may find their decisions questioned later. An effective enforcement system should be able to distinguish the negative outcomes arising due to uncertainties from outright frauds. There is a need for reforms in the legal system in the country as as been argued by various Economic Surveys in the past.

Direction of administrative process reforms

A. The above approach has several implications that are already informing recent reforms.

Here are two recent examples:

1. Labour falls under the Concurrent List of the Constitution, therefore both Parliament and state legislatures can make laws regulating labour. There were over 100 state and 40 central laws regulating various aspects of labour such as the resolution of industrial disputes, working conditions, social security and wages, making the landscape of labour regulation very complex.

To rectify this, Government merged the existing 29 central labour laws into 4 labour codes. The Code on wages was passed in July 2019. In Setember 2020, three bills (i) Industrial Relations Code, 2020, (ii) Code on Occupational Safety, Health & Working Conditions Bill, 2020 (iii) Social Security Code, 2020 were passed in the parliament.

2. The regulatory framework for Other Service Providers (OSP) was till recently, outdated and complex. For instance, the Business Process Outsourcing (BPO) industry increasingly runs on global cloud-based systems but Indian regulations restricted its use and insisted on a local EPABX. Further, there were restrictions on Work from Home and onerous registration requirements.

Hence, to reduce the compliance burden of the BPO industry, government announced new guidelines on OSPs on 5th November 2020. Under the new regulations, the registration requirement for OSPs has been done away with altogether and the BPO industry engaged in data-related work has been taken out of the ambit of OSP regulations.

Similarly, several other requirements, which prevented companies from adopting ‘Work from Home’ and ‘Work from Anywhere’ policies have also been removed. This has significantly liberalized the regulation for the BPO sector

B. The need for process simplicity extends to the institutional architecture as well. The ultimate source of supervision is public scrutinty and public leadership. Since it is not possible for the public to scrutinize everything, the focus should be on a strong but limited state, rather than weak and all pervasive state. This is in line with government’s idea of ‘Minimum Government and Maximum Governnance’. Since Independence, a plethora of **autonomous bodies** had proliferated. There is a need to prune them consistently not just from a cost perspective but in order to maintain transparency, accountability and efficient supervision. In this spirit, in the last year several organizations including All India Handloom Board, All India Handicrafts Board, Cotton Advisory Board and Jute Advisory Board have been closed. Similarly, the government approved merger of four of its film media units, namely Films Division, Directorate of Film Festivals, National Film Archives of India, and Children’s Film Society, India into the National Film Development Corporation (NFDC) Ltd.

C. Finally, there is a case for enacting **Transparency of Rules Act** to end any asymmetry of information regarding rules and regulations faced by a citizen.

Rules frequently change and often the citizen has to follow a long paper trail of circulars and notifications to know the current requirements. Under this act, all departments will need to mandatorily place all citizen-facing rules on their website. Officials will not be able to impose any rule not explicitly mentioned on the website clearly. Further, all laws, rules and regulations will have to be presented as an updated, unified whole at all times. This will bring transparency and simplify the understanding of regulations.

Chapter 7 - Regulatory Forbearance: An Emergency Medicine, Not Staple Diet!

To address the economic challenges posed by the Covid-19 pandemic, financial regulators across the world have adopted regulatory forbearance. India is no exception. Emergency measures such as **forbearance prevent spillover of the failures in the financial sector to the real sector, thereby avoiding a deepening of the crisis**. Therefore, as emergency medicine, forbearance occupies a legitimate place in a policy maker's toolkit. However, caution must be exercised so that emergency medicine does not become a staple diet because borrowers and banks can easily get addicted to such palliatives. When emergency medicine becomes a staple diet, the negative side effects may not only be large but may also last for a while. Therefore, carefully examining and understanding the implications of previous forbearance episodes is relevant to guide future policy.

In 2008, anticipating the global financial crisis, RBI introduced the policy of regulatory forbearance. It relaxed the norms for restructuring stressed assets - downgrading the asset to non-performing status was no longer mandatory and required no additional provisioning.

This chapter studies the impact of the 2008 forbearance policy on banks, firms, and the economy in general to glean important lessons for the current times. As Spanish philosopher George Santayana cautioned, "Those who do not learn from history are condemned to repeat it."

The Original Sin: The Seven-Year Forbearance!

The forbearance policies had desired short-term economic effects. GDP growth recovered from a low of 3.1% in FY2009 to 8.5% within two years. There was a marked improvement in other economic indicators ranging from exports to the Index of Industrial Production (IIP). Growth in total revenue of listed firms also recovered from a low of 4.88% during the crisis to a high of over 20% in 2011. Growth in bank credit, which had fallen from 22.3% in FY2008 to 16.9% in FY2010, recovered quickly to 21.5% in FY2011.

The time was therefore ripe to withdraw the forbearance; after all the emergency medicine had worked in restoring the health of the economy. However, the central bank decided to continue with the same. **The forbearance continued for five more years till 2015, even when its withdrawal was recommended** – a clear case of emergency medicine that was chosen to be made into a staple diet.

Evidently, once the banks got a signal about the continuation of forbearance despite the economic recovery, several types of distortions crept in. As pointed out earlier, emergency medicine indeed became a staple diet. For instance, proportions of loans restructured increased significantly during this period. The share of restructured loans increased from 0.74% in FY2008 to 6.94% in FY2015. The increase in the share of restructured loans among public sector banks was much higher, from 0.82% to 8.49%. However, the private sector banks also saw their share of restructured loans increase from 0.64% to 2.87%.

On the contrary, the reported gross NPAs of banks increased only modestly from 2.2% in FY2008 to 4.3% in FY2015. It appears that the banks used the option of restructuring loans that were on the verge of defaulting without regard to the viability of such loans. During the forbearance window, the proportion of firms in default increased by 51% after their loan(s) got restructured. In the pre-forbearance era, there was only a marginal 6% increase in the likelihood of defaults after restructuring. **Forbearance thus helped banks to hide a lot of bad loans.**

The P. J. Nayak Committee (2014), constituted by RBI, highlighted in its report submitted in May 2014 the twin concerns stemming from the forbearance regime: ever-greening of loans by classifying NPAs as restructured assets and the resultant undercapitalization of banks.

Thus, in essence, many banks were undercapitalized during the forbearance period. The report had estimated that if regulatory forbearance were withdrawn immediately in May 2014 and a prudent 70% provision cover were provided for restructured assets, tier-1 capital of the public sector banks would be written down by INR 2.78 lakh crores.

Once the forbearance policy was discontinued in 2015, RBI conducted an Asset Quality Review to know the exact amount of bad loans present in the banking system. As a result, banks' disclosed NPAs increased significantly from 2014-15 to 2015-16. In the absence of forbearance, banks preferred disclosing NPAs to the restructuring of loans. **Thus, the roots of the present banking crisis go back to the prolonged forbearance policies followed between 2008 and 2015.**

Adverse Impact of Forbearance on Bank Performance and Lending

Undercapitalization of Banks

Banks are in the business of converting illiquid loans into liquid liabilities (Diamond and Dibvyg, 1983). In other words, while banks issue deposits repayable on demand or after a specific period, they lend to projects with long gestation periods. Therefore, they face risks both from (i) the mismatch in timing of their inflows and unexpected outflows (referred to as **liquidity mismatch**) and (ii) also due to unexpected surge in borrower default. Normal defaults and regular outflows are usually priced in and provided for within the regular asset-liability management (ALM) framework. Capital provides a cushion that helps banks navigate through times of abnormal depositor withdrawals and increased losses on the lending portfolio.

A policy of prolonged forbearance has the effect of overstating the actual capital and creating a false sense of security.

Banks in India are required to maintain a capital adequacy of 9%. Consider a bank with a capital adequacy ratio of 9% before forbearance. Assume that during the crisis, the bank restructures 10% of its books. Absent forbearance, the bank would make provisions for such restructurings, and the capital would be reduced to the extent of such provisioning. To operate further, the bank will have to meet the regulatory threshold by raising fresh capital. However, with forbearance, the bank can restructure troubled loans and still report the capital adequacy ratio at 9%. Viewed differently, forbearance lets undercapitalized banks operate without raising capital.

Since equity capital is privately expensive to the owners of banks, the banks may use the forbearance window to withdraw their capital. For instance, in the illustration above, the bank can keep reporting healthy capital figures while the true numbers, without forbearance, might actually be lower than the regulatory threshold. If forbearance is continued for an extended period, the bank may consider the capital above the regulatory minimum as “excess” and start repaying capital to the incumbent owners as dividends. Thus, the usual pecking order of finance where debt is repaid before equity, gets reversed. Eventually, when forbearance gets withdrawn, either depositors or the taxpayers are called upon to foot the bill.

The phenomenon described above transpired in the Indian banking sector during forbearance. **Banks that benefited more from forbearance increased their dividend payments to incumbent management,** including the government.

Further, banks with a high share of restructured loans raised less fresh capital than banks with a low share of restructured loans. The former raised only 1.67% of their average assets as fresh capital during the forbearance period compared to 2.04% by the latter. More dividend payments and less capital infusion exacerbated the undercapitalization of banks with higher restructuring.

The combined effect of higher dividends and lower fresh capital led to a stark difference in the Capital Adequacy Ratio (CAR) between the two types of banks. CAR was lower by close to 2.5 percentage points for banks with a higher share of restructured loans when compared to banks with fewer restructured assets in 2014-15. **Thus, forbearance left several banks undercapitalized.**

Lending to Zombie Firms

Inadequate capital is similar to owners not having adequate skin in the game. It distorts the incentives of the bank owners and incumbent management. With less of their own money at stake, banks become increasingly risk-seeking. **Undercapitalized banks find risky lending and shady lending practices**, such as those based on high upfront fees, attractive.

Chari, Jain, and Kulkarni (2019) document that regulatory forbearance led to an increase in lending to low-solvency and low-liquidity firms. Precisely, the **forbearance period witnessed an increase in lending to unproductive firms, popularly referred to as “zombies”**. Zombies are typically identified using the interest coverage ratio, the ratio of a firm’s profit after tax to its total interest expense. **Firms with an interest coverage ratio lower than one are unable to meet their interest obligations from their income and are categorized as zombies.**

The share of new loans to such firms increased from 5% in 2007-08 to a whopping 27% in 2014-15. This increased lending to zombies could merely be a reflection of the poor financial performance of firms during the forbearance regime.

Ever-greening of Loans

There is another motive for undercapitalized banks to engage in lending to poor quality firms: to protect their already depleted capital. **One way of ever-greening loans is lending a new loan to a borrower on the verge of default, near the repayment date of an existing loan, to facilitate its repayment**. Such transactions go undetected as banks are not required to disclose them, unlike restructurings that warrant disclosures.

To further disguise their lending to distressed borrowers, banks may direct credit to other healthy firms in the business group to which those borrowers belong. Therefore, it is important to consider a business group as a whole, instead of individual firms, for a more robust estimate of zombie lending. A business group is classified as a zombie if the interest coverage ratio of the entire group is less than one.

Banks possibly used the above indirect mechanism of lending to firms related to zombie firms with the hope of their existing loans getting repaid.

Thus, forbearance resulted in increased lending to firms with poor fundamentals and higher lending to inefficient projects. Consequently, the industrial sector's increased credit growth from 2008-09 to 2014-15 failed to translate into a higher investment rate. India's Gross Fixed Capital Formation as a share of GDP reduced from 34.7% in 2008 to 28.7% in 2015.

In other words, a lesser proportion of new loans were used for capital asset creation such as buildings, plants, machinery, etc. A larger part of the credit seems to have been used to keep dead loans alive by ever-greening.

Weakening of Corporate Governance in Borrowers benefitting from forbearance

As highlighted in the previous section, the forbearance regime witnessed a significant increase in credit supply to corporates with poor operating metrics and a simultaneous decrease in their investment-to-debt ratio. This suggests that the increased credit supply was not used productively by firms.

Chopra, Nishesh, and Tantri (2020) show that this credit was instead diverted for the private benefit of the incumbent management. They argue that the incumbent managers' ability to get loans restructured under the forbearance policy strengthened their influence within the firm. Getting a loan restructured involved negotiations with the bankers who had discretion in selecting cases for restructuring.

In an era of relaxed provisioning norms, firm managers formally or informally connected with bankers could persuade them to restructure loans, plausibly even unviable ones. This ability made the incumbent management's influence stronger. It became difficult for the firm's board to overthrow such managers even if they were otherwise inefficient. The increased influence of the incumbent management resulted in the weakening of the firms' governance which, in turn, had detrimental consequences in the longer run.

Deterioration in the Quality of the Board

The institution of independent directors on the board is a robust mechanism to maintain checks and balances at the board level. Given that promoters are the controlling shareholders in most Indian firms, the non-promoter directors are specifically required to uphold the interests of minority shareholders. They are supposed to act as watchdogs against the likelihood of firms' management indulging in unhealthy practices such as expropriation of resources or investments in value-destroying projects that may personally benefit the promoters. Therefore, a decline in the proportion of non-promoter directors implies a weakening of governance among firms.

During the forbearance regime, The percentage of non-promoters on the board decreased significantly after restructuring, while it slightly increased upon restructuring before forbearance. Hence, boards became increasingly dominated by firms' promoters during forbearance.

Forbearance led to an increase in incumbent management's influence as: (i) the presence of independent directors on boards declined, (ii) the propensity of a CEO becoming the chairman increased, (iii) having a connected director on board became more likely, and (iv) the bank monitoring declined as a lower number of bank-nominated directors occupied board seats.

Inefficient allocation of capital by borrowers that benefited from forbearance

Aided by poor governance, beneficiary firms under the forbearance regime also seem to have misallocated capital in unviable projects.

Total capex projects increased only modestly for firms restructured both during the forbearance regime and before. However, there was a much higher rise in the number, proportion, and rupee value of stalled projects for restructured firms in the forbearance window.

In other words, in the pre-forbearance period, firms likely re-initiated stalled projects when injected credit through restructuring, whereas firms in the forbearance window witnessed additional stalling, indicating a possible misuse of increased credit supply.

Mis-appropriation of resources in borrowers that benefited from forbearance

Another likely consequence of strong management influence and declining governance is the increase in private benefits being redirected to the firms' management. In the Indian context, related party transactions (RPTs) are often utilized to camouflage the expropriation of firm resources. Incumbent management can force the firm to engage in related party transactions with entities connected to key managerial personnel.

Related party transactions to key personnel increased by around 34% among firms whose loans were restructured during the forbearance regime.

There was a jump in overall management compensation and directors' sitting fees during the forbearance regime. Hence, the increased, lax restructuring seems to have resulted in the misappropriation of firm resources at the cost of minority shareholders.

Deterioration in performance of borrowers benefiting from forbearance

Firms benefitting from restructuring during the forbearance regime, on average, turned loss-making, whereas profitability improved by around 15% for restructured firms in the pre-forbearance period. Overall, while firm fundamentals usually improved upon restructuring in the preforbearance era, they significantly declined under forbearance.

Increased defaults by borrowers benefitting from forbearance

Subsequent to the deterioration in their fundamentals, restructured firms in the forbearance window also witnessed a decrease in their credit ratings.

The forbearance regime also accompanied an increase in defaults by restructured firms when compared to a decrease in the same in the pre-forbearance era.

The proportion of restructured firms that became defaulters increased by 51% in the forbearance period, while the pre-period increase was comparatively marginal (by 6%).

In terms of the amount under default, the figure more than doubled (an increase of 114%) in the post-forbearance period compared to an 18% decrease in the value before forbearance.

In conclusion, the prolonged forbearance policy meant to address grievances of crisis hit borrowers led to unintended negative consequences for the firms in the long run. The internal governance of the firms weakened, misappropriation of resources increased, and their fundamentals deteriorated.

On a macroeconomic front, under the forbearance window, a higher share of restructured firms within an industry was also associated with a decrease in the entry of new firms in the industry.

Bank Clean-Up Without Adequate Capitalization

Finally, after continuing forbearance for seven years, the RBI decided to bite the bullet and **withdrew regulatory forbearance starting from April 2015**. By the time forbearance ended in 2015, restructuring had increased seven times while NPAs almost doubled when compared to the pre-forbearance levels. Concerned that the actual situation might be worse than reflected on the banks' books, RBI initiated an Asset Quality Review to clean up bank balance sheets. While gross NPAs increased from 4.3% in 2014-15 to 7.5% in 2015-16 and peaked at 11.2% in 2017-18, the AQR could not bring out all the hidden bad assets in the bank books and led to an under-estimation of the capital requirements. This led to a second round of lending distortions, thereby exacerbating an already grave situation.

AQR exacerbated the problem as it neither mandated capital raising by banks nor provided a capital backstop even though it was certain that banks' capital would be adversely impacted following the AQR.

As a result, under-capitalized banks may again resort to risk-shifting and zombie lending, thereby severely exacerbating the problem. The adverse impact could then spill over to the real economy through good borrowers and projects being denied credit. The resultant drop in the investment rate of the economy could then lead to the slowdown of economic growth.

The crucial difference vis-à-vis bank clean-ups in the rest of the world
In this context, it is crucial to understand that India's AQR differed from the typical bank clean-ups carried out in other major economies such as Japan, the European Union, and the U.S. in two key aspects. First, the clean-up was undertaken when the country was not undergoing an economic crisis. Given the economic stability, RBI assumed that markets would supply the required capital to banks once their books are cleaner.

Second, there was neither a forced recapitalization of the banks nor was an explicit capital backstop provided for. RBI initiated the AQR under the presumption that the extent of additional loan provisioning required due to the clean-up would not generate needs for a severe recapitalization of the banks.

The inadequate clean-up of bank balance sheets
In reality, the AQR exercise significantly under-estimated the full extent of NPAs as well as the resultant capital infusion that was required to ensure that the bank balance sheets indeed become healthy.

To be sure, the AQR did lead to some clean-up of the toxicity in the bank balance sheets. In most cases, the identified NPAs were smaller in comparison to the loans restructured by the bank. **AQR was mostly restricted to targeting bad lending through restructuring, rather than identifying subtle ever-greening activities thus may have been unable to curb distortionary lending.** Loan restructuring warrants a disclosure whereas fresh lending does not.

Therefore, rather than restructuring, banks could have easily lent a new loan to an existing borrower on the verge of default. To further camouflage their incentives, they could have disguised the payment in the form of fresh lending to a network of related parties of the actual firm in distress.

The recent events at Yes Bank and Lakshmi Vilas Bank corroborate that the AQR did not capture ever-greening carried out in ways other than formal restructuring. Had the AQR exercise detected evergreening, the increase in their reported NPAs should have been in the initial years of the AQR. Most of the non-performing loans were lent and restructured during the forbearance phase. Hence, the RBI audit missed some severe cases of ever-greening by these banks. The fact that both these banks had to be rescued by the regulator also goes against RBI's assumption that the private banks should have been able to raise the required capital after the clean-up.

Under-estimation of required bank capital
The actual capital required by public sector banks significantly exceeded the amount that the RBI seems to have estimated before the AQR. In the first year of the AQR, the total capital infused into public sector banks was INR 25,000 crores with an intended plan of infusing INR 45,000 crore in the next three years under Mission Indradhanush. However, by the end of FY2019, i.e. four years after the inception of the AQR, the government had infused INR 2.5 lakh crores in the public sector banks.

Banks, both private and public, did not recapitalize themselves adequately after the clean-up. Consequently, the banks were left significantly undercapitalized.

Adverse impact on lending

As the banks were unable to raise adequate fresh capital after the clean-up, their lending reduced.

The affected banks, however, increased their exposure to risky borrowers. Thus, in an already stressed banking sector, the second wave of under-capitalization caused by the AQR created perverse incentives to lend even more to the unproductive zombie borrowers.

Decline in Firm's Capital Investment

Banks' tightening of credit supply negatively impacts healthy borrowers as it forces firms to cut down on their investments and capital expenditures. Thus, the likelihood of stalling of ongoing projects increases.

There was a significant increase in the value of stalled projects following the AQR for firms exposed to banks affected by the AQR when compared to firms that engaged with unaffected banks.

Chopra, Subramanian, and Tantri (2020) find that the firms more exposed to the AQR- affected banks could not entirely replace their credit supply from other financial institutions. Thus, these firms became financially constrained and reduced their capital expenditures, leading to ongoing projects being stalled.

In sum, the clean-up of bank balance sheets undertaken under the AQR exacerbated the problems created by the prolonged period of forbearance. In terms of lending, being undercapitalized, banks reduced lending to good borrowers while increasing lending to zombie borrowers. For firms, the reduction in the supply of bank credit reduced their ability to invest.

Chopra, Subramanian, and Tantri (2020) compare the AQR with other clean-up programs and point towards the necessity of having an explicit recapitalization program, forced or otherwise, before entering such clean-ups.

Implications for the Current Forbearance Regime

The extensive, careful analysis of the regulatory forbearance and the resulting banking crisis offers key learnings for the current regime of regulatory forbearance following the Covid crisis. Finally:

(a) Remember that **forbearance represents emergency medicine that should be discontinued at the first opportunity when the economy exhibits recovery**, not a staple diet that gets continued for years. Therefore, policymakers should lay out thresholds of economic recovery at which such measures will be withdrawn. These thresholds should be communicated to the banks in advance so that they can prepare for the same. **Prolonged forbearance is likely to sow the seeds of a much deeper crisis.** As well, forbearance should be accompanied by restrictions on zombie lending to ensure a healthy borrowing culture.

(b) A clean-up of bank balance sheets is necessary when the forbearance is discontinued. Note that while the 2016 AQR exacerbated the problems in the banking sector, the lesson from the same is not that an AQR should not be conducted. Given the problem of asymmetric information between the regulator and the banks, which gets accentuated during the forbearance regime, an **AQR exercise must be conducted immediately after the forbearance is withdrawn**.

(c) The asset quality review must account for all the creative ways in which banks can evergreen their loans. In this context, it must be emphasized that advance warning signals that do not serve their purpose of flagging concerns may create a false sense of security. The banking regulator needs to be more equipped in the early detection of fault lines and must expand the toolkit of ex-ante remedial measures.

(d) A clean-up unaccompanied by mandatory capital infusion exacerbates bad lending practices. Expecting banks to get recapitalized on their own on account of economic recovery may not be prudent. Therefore, a clean-up exercise should be accompanied by mandatory recapitalization based on a thorough evaluation of the capital requirements post an asset quality review.

(e) Apart from re-capitalizing banks, it is important to enhance the quality of their governance. Ever-greening of loans by banks as well as zombie lending is symptomatic of poor governance, suggesting that bank boards are "asleep at the wheel" and auditors are not performing their required role as the first line of defence. Therefore, to avoid evergreening and zombie lending following the current round of forbearance banks should have fully empowered, capable boards. Sound governance is a key metric to ensure that banks do not engage in distortionary lending post capital infusion. The regulator may consider penalties on bank auditors if ever-greening is discovered as part of the toolkit of ex-ante measures. This would thereby create incentives for the auditor to conduct the financial oversight more diligently.

(f) While the learnings from the previous episode must be employed to avoid a recurrence, ex-post analysis of complex phenomena must be disciplined by the insights highlighted in Chapter 7 of the Survey. Specifically, to enable policymaking that involves exercise of judgement amidst uncertainty, ex-post inquests must recognise the role of hindsight bias and not make the mistake of equating unfavourable outcomes to either bad judgement, or worse, malafide intent.

(g) Finally, the legal infrastructure for the recovery of loans needs to be strengthened defacto. The Insolvency and Bankruptcy Code (IBC) has provided the de jure powers to creditors to impose penalties on defaulters. However, the judicial infrastructure for the implementation of IBC – comprised of Debt recovery tribunals, National Company Law Tribunals, and the appellate tribunals must be strengthened substantially.

Chapter 8 - Innovation: Trending Up but needs thrust, especially from the Private Sector

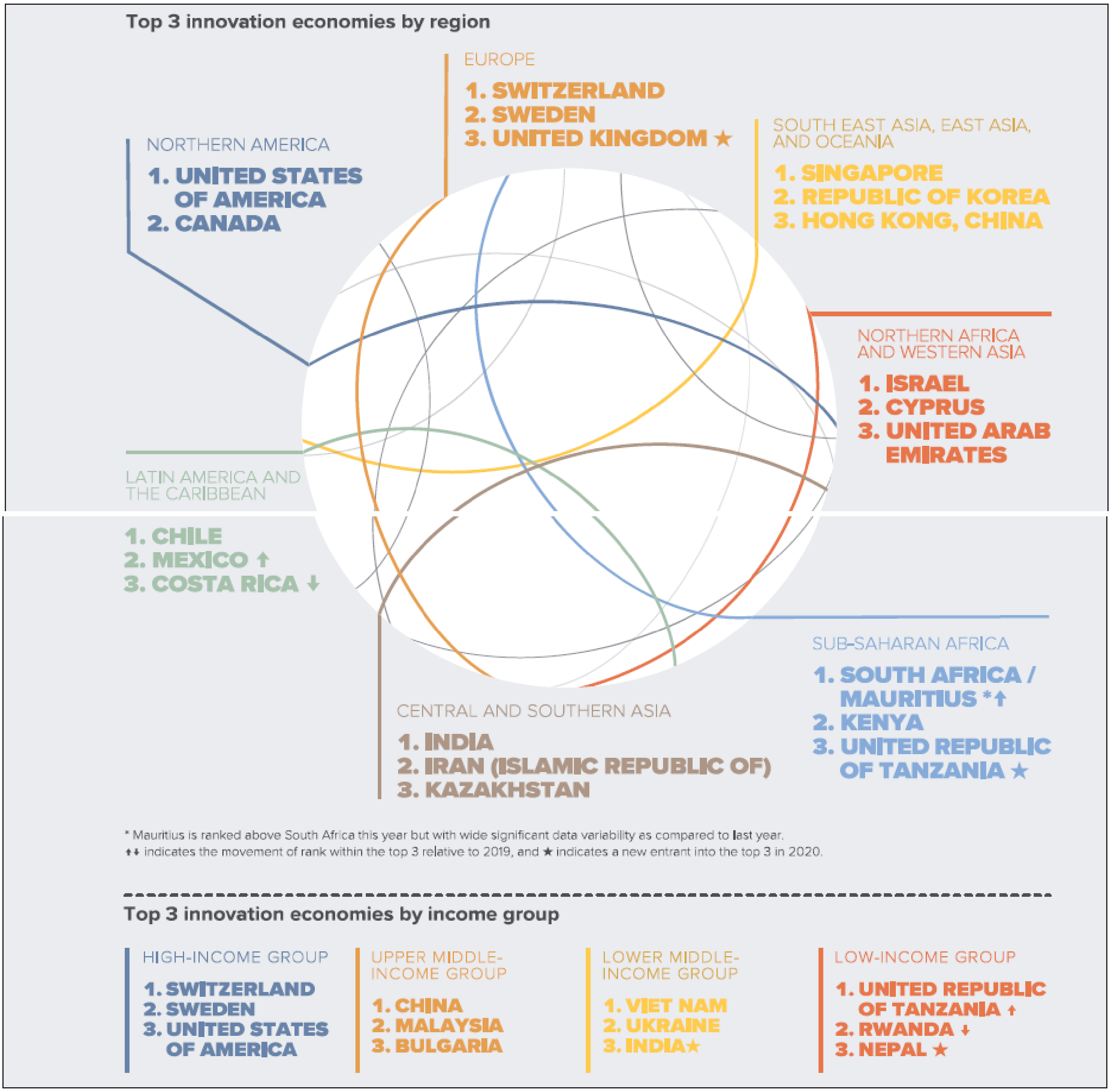
Why Innovation Matters

A vast body of literature in economics extols the role of innovation and technological progress in growth and development.

How Does India Perform on Innovation?

India performed particularly well regionally and in its income category, **ranking first in the GII rankings in Central and South Asia**, and third amongst lower middle-income group economies (see Figure 2).

Figure 2: Global Leaders in Innovation in 2020



Source: GII 2020 Report

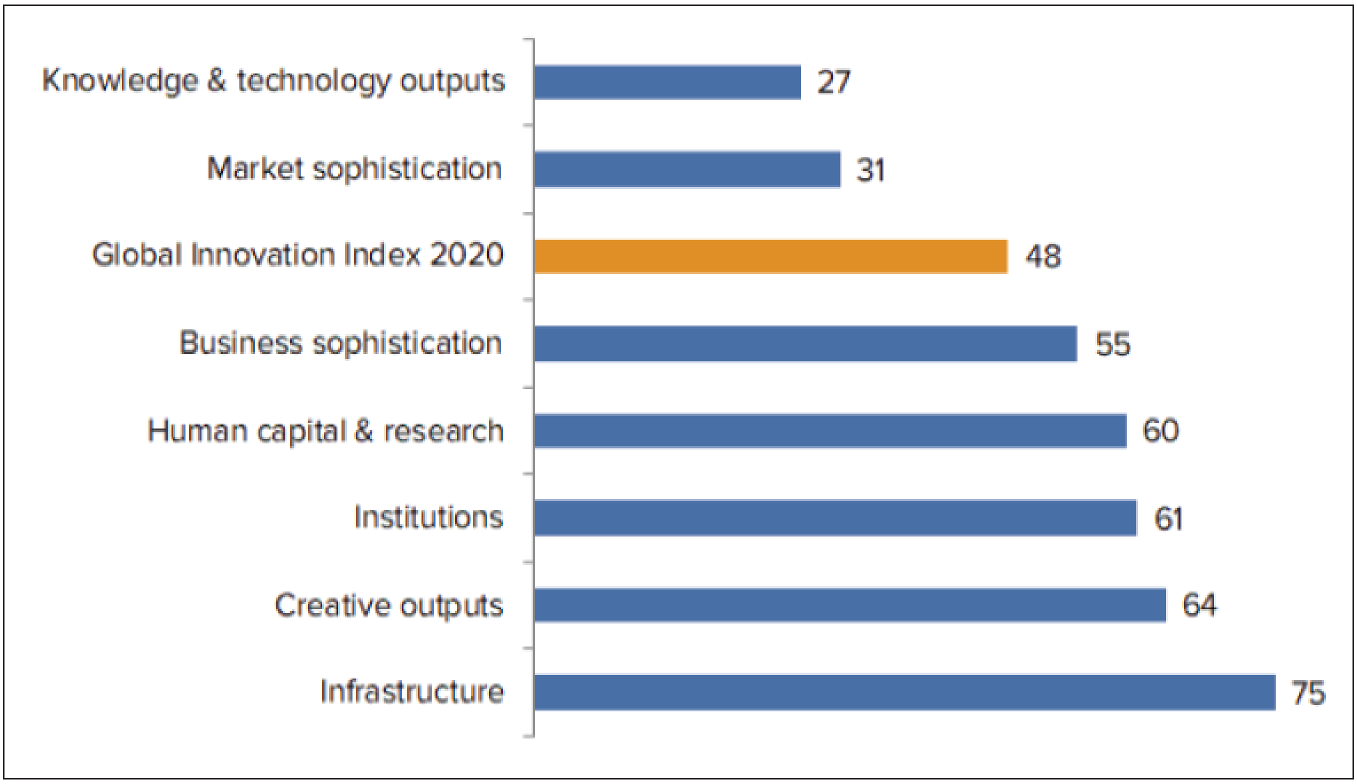
India ranks 48th amongst 131 countries in terms of its innovation performance as measured using the Global Innovation Index (GII) 2020. India ranks 45th and 57th on the output and input sub-indices respectively. India entered the top 50 innovating countries for the first time since the inception of the index in 2007. Along with three other economies – Vietnam, Republic of Moldova and Kenya, India has the rare distinction of being an innovation achiever for ten consecutive years.

The Global Innovation Index (GII)

The GII is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. It seeks to assist economies in evaluating their innovation performance.
GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index.

The Innovation Input sub-index and the Innovation Output Sub-Index have equal weight in calculating the overall GII. The Innovation Input sub-index has five pillars: (i) Institutions; (ii) Human Capital and Research; (iii) Infrastructure; (iv) Market Sophistication; and (v) Business Sophistication. The Innovation Output Sub-Index has two pillars (i) Knowledge and Technological outputs and (ii) Creative outputs.

Figure 4: India's performance on pillars of the Global Innovation Index 2020 (rank)



Source: GII 2020 Report

Figure 4 shows India's performance on the GII 2020 (rank) across the seven pillars. India performed best on the knowledge & technology outputs (KTO) pillar (rank 27) followed by Market Sophistication pillar (rank 31). India performed lowest on the Infrastructure pillar (rank 75).

India's performance in innovation outputs is driven by its competencies. India ranks tenth in the Knowledge Diffusion sub-pillar of the KTO pillar. India's first rank in the Information and Communications Technology (ICT) services exports as per cent of total trade shows its leadership in the global ICT services industry. India ranks ninth in terms of productivity growth (growth rate of GDP PPP per worker). It is ranked 21st for citable documents as well as cultural and creative services exports. India has the distinction of ranking 31st in global brand value by producing many more valuable brands than expected for its income level.

India has performed impressively in innovation inputs such as domestic market scale (rank three) facilitating its overall rank of 15 in the Trade, Competition and Market Scale sub-pillar. Other leading innovation inputs for India include government's online service (rank nine), graduates in science and engineering (rank 12), ease of protecting minority investors (rank 13), e-participation (rank 15), average exports of top three global R&D companies (rank 16) and average score of top 3 universities in the QS university rankings (rank 22).

India's Innovation Performance vis-à-vis Top Ten Economies (USA, China, Japan, Germany, INDIA, UK, France, Italy, Brazil and Canada)

India is currently the fifth largest economy in terms of GDP current US$ while it is the **third largest in terms of GDP PPP** current international $. Although India has performed above expectation on innovation w.r.t. its level of development, India lags behind most other large economies (top ten in terms of GDP current US$) on most indicators of innovation.

Although India performs in line with its level of development, India ranks second lowest, after Brazil, on the overall GII. Countries such as China and the UK rank much higher than expected for their level of development.

Trends in India's Innovation Performance

India has consistently improved on GII from rank 81 in 2015 to rank 48 in 2020. While India has performed impressively, there is scope for much more improvement. To put things into perspective, China has improved its rank from 29 to 14 during the same period. China embarked on an ambitious R&D roadmap to become an innovation-oriented economy

R&D Expenditure in India

Research & Development (R&D) investment is a key input in innovation. India's gross domestic expenditure on R&D (GERD) is lowest amongst other largest economies.

The business sector in India contributes much less to gross expenditure on R&D (about 37 per cent) when compared to businesses in each of the top ten economies (68 per cent on average). This is despite the fact the tax incentives for R&D were more liberal in India when compared to those in the top ten economies.

The Government does a disproportionate amount of heavy-lifting on R&D by contributing 56 per cent of the gross expenditure on R&D, which is three times the average contributed by governments in the top ten economies.

Yet, **India's gross expenditure on R&D at 0.65 per cent of GDP** is much lower than that of the top 10 economies (1.5-3 per cent of GDP) primarily because of the disproportionately lower contribution from the business sector.

Indian government sector contributes the highest share of total R&D personnel (36 per cent) and researchers (23 per cent) amongst the top ten economies (nine per cent on average). Indian business sector's contribution to the total R&D personnel (30 per cent) and researchers (34 per cent) in the country is the second lowest, after Brazil, amongst the top ten economies (over 50 per cent on average).

This points towards the need for India's business sector to significantly ramp up investments in R&D.

India's Performance on Patents and Trademarks

The total number of patents filed in India has risen steeply since 1999, mainly on account of increase in patent applications filed by non-residents.

While patent applications filed by residents have increased steadily since 1999, they have risen at a much lower rate than patent applications by non-residents.

Improving resident share in patents should be a matter of priority to make advancements in innovation.

Unlike patents, the total number of trademark applications filed in India has risen steeply since 1999 mainly on account of increase in trademark applications filed by residents.

India's trend of larger resident-share in total trademark applications is similar to that observed across other top ten economies (GDP current US$) except Canada. Larger share of residents in total trademark applications filed in India is a positive sign for advancement in innovation.

Is Indian Innovation Affected by Access to Finance?

Indian firms also perform below expectation on innovation for their level of access to equity finance, which is the most crucial for innovation. India's innovation ranking is much lower than expected for its level of access to equity capital.
Equity market development facilitates greater high-technology innovation, this potentially indicates that innovation in India needs to become more high-tech intensive.

Is India Effectively Translating Innovation Inputs into Innovation Outputs?

India is able to effectively translate investments in innovation inputs to produce a higher level of innovation outputs. This implies that India stands to gain more from its investments into innovation than many other countries. With higher investments, it may be possible that this relationship between innovation inputs and innovation outputs becomes even more favourable for India, and there is greater "bang for the buck" as regards India's investments in innovation.

Policy Implications

India **needs greater thrust on innovation** to catapult itself to a higher growth trajectory and become the third largest economy in GDP current US$ in the near future. This requires boosting gross expenditure on R&D from 0.7 per cent of GDP currently, to at least the average level of GERD in other top ten economies (GDP current US$) of over two per cent. It also involves significantly scaling up R&D personnel and researchers in the country, especially in the private sector.

Despite heavy lifting by the government sector in GERD of almost three times the average of other top ten economies, India's GERD remains low. Moreover, India's performance on innovation has been lower than expected for its level of access to equity finance. India's business sector needs to rise to the occasion and significantly ramp up its gross expenditure on R&D to a level commensurate to India's status as the fifth largest economy in GDP current US$. This requires boosting business sector contribution to total GERD from 37 per cent currently, to close to 68 per cent – the average business contribution in GERD of other top ten economies. Indian business sector's contribution to total R&D personnel and researchers also needs to be scaled up from 30 per cent and 34 per cent per cent respectively to the average level in other top ten economies (58 per cent and 53 per cent respectively).

India has had a generous tax incentive structure to boost R&D in the country as compared to several other top ten economies. However, this did not generate a corresponding level of private participation in GERD in India. Given the low level of contribution to GERD by the business sector despite the generous incentive regime prevailing earlier, businesses in India must focus on innovation to remain competitive in the new economy.

For India to become an innovation leader, its residents' share in total patent applications filed in the country must rise from the current level of 36 per cent.

India should focus on improving its performance on institutions and business sophistication since higher performance on these dimensions seem to consistently suggest higher innovation outputs performance.

As Economic Survey 2019-20 discussed in the chapter "Entrepreneurship and Wealth Creation at the Grassroots", the Startup India campaign of the Government of India recognises entrepreneurship as an increasingly important strategy to fuel productivity growth and wealth creation in India. This assumes greater importance in the context of enhancing private participation in innovation in India - in terms of contribution to gross expenditure on R&D, R&D personnel and researchers, and share in patents filed in the country. The lessons drawn therein on the crucial role of literacy, education, physical infrastructure and policies enabling ease of doing business, as drivers of new firm creation and entrepreneurship, remain relevant in this analysis.

Chapter 9 - JAY Ho: Ayushman Bharat's Jan Arogya Yojana (JAY) and Health Outcomes

This chapter shows strong positive effects of PM-JAY on healthcare outcomes despite the short time since introduction of the programme.

In 2018, Government of India approved the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PM-JAY) as a historic step to provide healthcare access to the most vulnerable sections in the country. Beneficiaries included approximately 50 crore individuals across 10.74 crores poor and vulnerable families, which form the bottom 40 per cent of the Indian population.

The households were included based on the deprivation and occupational criteria from the Socio-Economic Caste Census 2011 (SECC 2011) for rural and urban areas respectively. The scheme provides for healthcare of up to INR 5 lakh per family per year on a family floater basis, which means that it can be used by one or all members of the family.

The scheme provides for secondary and tertiary hospitalization through a network of public and empanelled private healthcare providers. It also provides for three days of pre-hospitalization and 15 days of posthospitalization expenses, places no cap on age and gender, or size of a family and is portable across the country.

It covers 1573 procedures including 23 specialties.

AB-PM-JAY also aims to set up 150,000 health and wellness centres to provide comprehensive primary health care service to the entire population.

PM-JAY during Covid-19

PM-JAY is being used significantly for high frequency, low cost care such as dialysis and continued to be utilised without disruption even during the Covid pandemic and the lockdown.

General medicine – the overwhelmingly major clinical specialty accounting for over half the claims - exhibited a V-shaped recovery after falling during the lockdown and reached pre-Covid-19 levels in December 2020.

Impact of PM-JAY on health outcomes

As PMJAY was implemented in 2018, health indicators measured by National Family Health Surveys 4 (in 2015-16) and 5 (in 2019-20) provide before-after data to assess this impact.

We undertake this analysis in two parts. First, we use West Bengal as the state that did not implement PMJAY and compare its neighbouring states that implemented PM-JAY – Bihar, Sikkim and Assam. Second, we repeat the same analysis for all states that did not implement PM-JAY vis-à-vis all states that did.

PM-JAY enhanced health insurance coverage. The proportion of households that had health insurance increased in Bihar, Assam and Sikkim from 2015-16 to 2019-20 by 89 per cent while it decreased by 12 per cent over the same period in West Bengal.

Across all the states, the proportion of households with health insurance increased by 54 per cent for the states that implemented PM-JAY while falling by 10 per cent in states that did not.

From 2015-16 to 2019-20, infant mortality rates declined by 12 per cent for states that did not adopt PM-JAY and by 20 per cent for the states that adopted it.

Similarly, while states that did not adopt PM-JAY saw a fall of 14 per cent in its Under-5 mortality rate, the states that adopted it witnessed a 19 per cent reduction.

While states that did not adopt PM-JAY witness 15 per cent decline in unmet need for spacing between consecutive kids, the states that adopted it recorded a 31 per cent fall.

Various metrics for mother and child care improved more in the states that adopted PM-JAY as compared to those who did not.

Each of these health effects manifested similarly when we compare Bihar, Assam and Sikkim that implemented PM-JAY versus West Bengal that did not.

While some of these effects stemmed directly from enhanced care enabled by insurance coverage, others represent spillover effects due to the same.

Overall, the comparison reflects significant improvements in several health outcomes in states that implemented PM-JAY versus those that did not.

Survey infers that PM-JAY has a positive impact on health outcomes.

Chapter 10 - The Bare Necessities

Access to "the bare necessities" such as housing, water, sanitation, electricity and clean cooking fuel are a sine qua non to live a decent life.

Government Schemes for Bare Necessities

Swachh Bharat Mission-Rural and Urban

Objective of SBM-Rural was to attain Open Defecation Free (ODF) India by 2nd October, 2019 by providing access to toilet facilities to all rural households in the country.

Objective of SBM-Uuban is to achieve 100 per cent Open Defecation Free (ODF) status and 100 per cent scientific processing of the Municipal Solid Waste (MSW) being generated in the country.

Pradhan Mantri Awaas Yojana (PMAY)

PMAY intends to provide housing for all in urban and rural areas by 2022.

NRDWP,now Jal Jeevan Mission (JJM)

The objectives of the NRDWP was to provide safe and adequate water for drinking, cooking and other domestic needs to every rural person on a sustainable basis. Goal of JJM is to provide functional tap water connection (FTWC) every rural household by 2024 and get assured supply of potable piped water at a service level of 55 litres per capita per day (lpcd) regularly on long-term basis by ensuring functionality of the tap water connections

Sahaj Bijli Har Ghar Yojana –Saubhagya

Government launched Saubhagya Yojana in October, 2017 with the objective to achieve universal household electrification by providing electricity connections to all willing un-electrified households in rural areas and all willing poor households in urban areas in the country, by March, 2019.

Pradhan Mantri Ujjwala Yojana (PMUY)

PMUY launched in May, 2016 in order to provide clean cooking fuel to poor households with a target to provide 8 crore deposit free LPG connection. This connection is provided in the name of an adult woman member of a poor family and the beneficiary has an option to avail connection with 14.2 kg or 5 kg cylinder. The existing beneficiary with 14.2 kg LPG cylinder has an option to swap with 5 kg cylinder also.

Bare Necessities Index (BNI)

This chapter examines the progress made in providing access to "the bare necessities" by constructing a Bare Necessities Index (BNI) at the rural, urban and all India level. The BNI summarises 26 indicators on five dimensions viz., water, sanitation, housing, micro-environment, and other facilities.

The BNI has been created for all states for 2012 and 2018 using data from two NSO rounds viz., 69th and 76th on Drinking Water, Sanitation, Hygiene and Housing Condition in India.

Compared to 2012, access to "the bare necessities" has improved across all States in the country in 2018. Access to bare necessities is the highest in the States such as Kerala, Punjab, Haryana and Gujarat while it is the lowest in Odisha, Jharkhand, West Bengal and Tripura.

Inter-State disparities in the access to "the bare necessities" have declined in 2018 when compared to 2012 across rural and urban areas. This is because the States where the level of access to "the bare necessities" was low in 2012 have gained relatively more between 2012 and 2018.

Access to "the bare necessities" has improved disproportionately more for the poorest households when compared to the richest households across rural and urban areas. The improvement in equity is particularly noteworthy because while the rich can seek private alternatives, lobby for better services, or if need be, move to areas where public goods are better provided for, the poor rarely have such choices.

Using data from the National Family Health Surveys, we correlate the BNI in 2012 and 2018 with infant mortality rate and under-5 mortality rate in 2015-16 and 2019-20 respectively and find that the improved access to "the bare necessities" has led to improvements in health indicators.

Similarly, improved access to "the bare necessities" correlates with future improvements in education indicators.

However, while improvements in access to bare necessities are evident, the disparities in access to bare necessities continues to exist between rural-urban, among income groups and also across States. Thrust should be given to reduce these variations. Government schemes, such as the Jal Jeevan Mission, SBM-G, PMAY-G, may design appropriate strategy to address these gaps to enable India achieve the SDG goals of reducing poverty, improving access to drinking water, sanitation and housing by 2030.

There should be effective targeting of the needier population be they in urban or rural areas or across states. As civic amenities in urban areas are also provided by the local self-governments, there must be effective convergence in scheme implementation at the Centre-State and local levels.

For this purpose, a BNI based on large annual household survey data can be constructed using suitable indicators and methodology at district level for all/targeted districts to assess the progress on access to bare necessities.

Volume-2

Chapter 1 - State of the Economy 2020-21:A Macro View

The year 2020 witnessed unrivalled turmoil with the novel COVID-19 virus and the resultant pandemic emerging as the biggest threat to economic growth in a century. The World Health Organization (WHO) declared COVID-19 a 'Public Health Emergency of International Concern' (PHEIC) on 30th January, 2020.

The exponential rise in the number of daily cases compelled the WHO to title this outbreak a pandemic on 11th March, 2020 - within a period of three months of its emergence. The contagion is still spreading with over 10 crore confirmed cases around the globe and over 20 lakh deaths.

Global Spread of Pandemic

Since its first outbreak in Wuhan, China, COVID-19 has infected all continents, including Antarctica (in December, 2020), and more than 220 countries.

In the initial stages of the pandemic, the Advanced Economies (AE) of North American and West European region were disproportionately impacted with more than 70 per cent of the total cases and total deaths. The pandemic quickly intensified in number of Emerging Market and Developing Economies (EMDEs) such as Brazil, India, Mexico, Russia and Turkey– that now constitute around 50 per cent of total cases and total deaths.

AEs have been affected harder by the pandemic. AEs were experiencing their third waves, both in terms of cases and deaths, at the end of the year while EMDEs (excluding China and India) were facing their second waves. China experienced the first wave of cases in February, 2020 after which it has been able to control the spread. **India experienced its first wave till September, 2020 after which it has been able to effectively manage the spread – avoiding the second wave as on date.**

AEs witnessed higher confirmed cases and deaths on per capita basis too as compared to EMDEs.

Spread of Pandemic in India

India imposed a stringent nation-wide lockdown during the initial phase of the pandemic in March-April, 2020 when India had only a 100 confirmed cases, followed by gradual unlocking and phasing out of the containment measures. India crossed its peak in mid-September with 11.12 lakh active cases on 17th September, 2020 and 97,860 daily new cases on 16th September, 2020.

Subsequently, new cases have moved down to less than 16,000 cases per day in January, 2021 despite the festive season and onset of the winter season. The confirmed cases in India have touched more than 1.06 crore, representing around 11 per cent of the world's total case load. India's share in new cases load globally has drastically come down from 31 per cent in September, 2020 to 4 per cent in December, 2020.

The total death toll in India, as on 31st December, 2020, was 1.48 lakh with more than 50 per cent of the fatalities occurring in western and southern zones of the country. Throughout the pandemic, Maharashtra has been the worst affected state having highest incidence of deaths in India.

Ramping up Testing

As the first step towards timely identification, prompt isolation & treatment, testing was identified as an effective strategy to limit the spread of infection.

India rapidly ramped up its capacity to rapidly scale-up tests. **In January 2020, India had only one laboratory testing** for COVID-19, at the National Institute of Virology, Pune. Today there are more than 2300 laboratories across the country, performing molecular tests for its diagnosis - an unparalleled achievement in the history of the Indian health system.

Keeping the focus on “Test, Track and Treat”, India has tested nearly 18.5 crore cumulative COVID-19 samples with cumulative test positivity rate at 5.6 per cent, as on 31st December, 2020.

Policy dilemmas underlying covid-19

‘Lives Vs Livelihoods’

Given the fast spread of the pandemic, the immediate public health policy priority was, ‘flattening the epidemiological curve’ to mitigate the impact of the spread. The steps to “flatten the curve” were intended to slow the transmission of the virus, push the peak of the curve and spread the distribution of cases over time. Countries, accordingly, across the globe adopted various **non-pharmaceutical interventions (NPIs)** like social distancing measures via work & school closures, travel bans, cancellations of public events and restrictions of internal movement and, by social isolation measures via quarantining infected people from the population, tracing infected persons contacts and enhanced testing. The containment measures allowed ramping up of the health and testing infrastructure, arresting the spread of the virus and saving ‘lives’.

Even if no containment measures were implemented, a recession would have been fuelled by the precautionary and/or panic behaviour of households and firms faced with the uncertainty of dealing with a pandemic that had no cure. This is because **households voluntarily took precautions which affected demand, especially for non-essential items**. The lockdown reinforced this response to the pandemic. The public health measures, adopted to contain the spread, engendered sizeable immediate economic costs as they led to almost full suspension of economic activity, curbed consumption and investment, as well as restricted labor supply and production. COVID-19, therefore led the world to the predicament of saving ‘lives’ or ‘livelihoods’ as the steps taken to flatten the infection curve, steepened the macroeconomic recession curve.

Demand-side and Supply-side Shocks

The pandemic has been a unique economic shock that has **triggered both supply and demand side shocks** simultaneously across economies around the world.

Increased uncertainty, lower confidence, loss of incomes, weaker growth prospects, fear of contagion, curtailment of spending options due to closure of all contact-sensitive activities, the triggering of precautionary savings, risk aversion among businesses and resultant fall in consumption and investment – leading to the first order demand shock.

The supply chain disruptions caused by closure of economic activity and restricted movement of labour lead to the first order supply shocks.

The first order supply side disruptions potentially created second round effects on both demand and supply. The initial supply shock, resulting in wage and income loss, could impact aggregate demand and impair productive capacity leading to supply shocks. These effects were further amplified through international trade and financial linkages, dampening global activity and pushing commodity prices down. The feedback loops of demand and supply generated potential hysteresis effects - when households demand less, firms get reduced revenues, which feeds into reduced activity by firms, and thus reduced household income.

The policies to ‘flatten the epidemiological curve’, therefore, needed to be accompanied by economic policies designed and targeted to mitigate the resulting shock to the economic system and ‘flatten the recession curve’. There was, however, unprecedented uncertainty about the potential spread of the pandemic. The pandemic, therefore, posed unprecedented dilemmas before policymakers – lives vs livelihoods and flattening the twin curves of pandemic and the resultant economic recession.

Disruption of global economy by the pandemic

As was evident from the earlier section, the pandemic raised unprecedented health challenges on a global scale and posed unique policy dilemmas. Since 2018, the growth momentum in global output was on a weakened footing owing to various factors like trade tensions, political instability, slowed demand and reduction in industrial activity. COVID-19 pandemic accentuated the deceleration by causing severe demand and supply disruptions. Economic activity has been belaboured by reduced mobility, owing both to official restrictions and private decisions; uncertainty regarding the post-pandemic economic prospects and policies has impacted investment; disruptions in education have decelerated human capital accumulation; concerns about the viability of global value chains; and the adverse impact on international trade and tourism.

The month of **April 2020 became the month of "Global Lockdown**" with world economic activity coming to a standstill – leading to a steep fall in output during second quarter of 2020.

Global output is expected to witness the sharpest contraction in a century, contracting in the range of 3.5 - 4.3 per cent in 2020 as per the estimates provided by IMF and World Bank. The cumulative loss to global GDP over 2020 and 2021 is estimated at around USD 9 trillion – greater than the economies of Japan and Germany combined. Loss of output is anticipated to be more severe in AEs at 5.4 per cent compared to EMDEs, excluding China, which stood at 5.0 per cent for the year 2020.

The pandemic induced border closures and supply disruptions interrupted the international provision of goods and services. Global trade is projected to contract by 9.2 per cent in 2020—comparable to the decline during the 2009 global recession but affecting a markedly larger share of economies.

Gold emerged as a safe-haven investment in the backdrop of the pandemic prices with prices increasing by 26.2 per cent in November, 2020 as compared to December, 2019. **Food prices also surged during the year reflecting supply chain disruptions**. As a result of weak demand and subdued energy prices, inflation moderated in most part of the world, deflationary pressure emerged in major AEs. Fall in inflation in EMDEs was less broad based than in AEs, reflecting the effects of sharp currency depreciations as well as rising domestic food prices in some countries.

Global financial conditions have remained accommodative on the back of continued policy support via unprecedented swift interventions by Central banks.

Some sectors (such as airlines, hotels, energy and financials) have been more affected by the lockdown and social distancing, whereas those that are less contact-intensive (information technology, communications) have fared better.

Sizeable discretionary support, along with a sharp contraction in output and an ensuing fall in revenues has led to a surge in government debt and deficits. Debt burdens have increased as corporates faced a period of sharply reduced sales and sovereigns have financed large stimulus packages. Debt levels have reached historic highs, making the global economy particularly vulnerable to financial market stress.

Going forward, an effective vaccination campaign, restoration of consumer and business confidence as well as continued monetary and fiscal support are expected to lift the global output by 4.5 – 5.5 per cent in 2021. Downside risks to this forecast include the possibility of mutant strains, delays in vaccine procurement and distribution, disruptive effects on potential output from the pandemic, and financial stress triggered by high debt levels and weak growth.

Indian economy on the path of a resilient V-shaped trajectory

The Indian economy, after subdued growth in 2019, had begun to regain momentum January 2020 onwards, only to be stalled by the once-in-a-century black swan COVID-19 outbreak. The economy witnessed a sharp contraction of 23.9 per cent in Q1: FY 2020-21 and 7.5 per cent in Q2: FY 2020-21 due to the stringent lockdown imposed during March-April, 2020. Since then, several high frequency indicators have demonstrated a V-shaped recovery. The fundamentals of the economy remain strong as gradual scaling back of lockdowns along with the astute support of Atmanirbhar Bharat Mission have placed the economy firmly on the path of revival.

There has been rapid recovery in India's economic activity from the COVID-19 pandemic induced unprecedented lows of the first quarter of FY 2020-21 on the back of extraordinary fiscal and monetary support provided by the Government and RBI. As India's mobility and pandemic trends aligned and improved concomitantly, indicators like E-way bills, rail freight, GST collections and power consumption not only reached pre-pandemic levels but also surpassed previous year levels.

Sectoral Trends

The year also saw manufacturing sector's resilience, rural demand cushioning overall economic activity and structural consumption shifts in booming digital transactions. The full impact of the pandemic on the Indian economy is still unravelling and the future growth prospects would critically depend on sustenance of momentum of this recovery.

Agriculture is set to cushion the shock of the COVID-19 pandemic on the Indian economy in 2020-21 with a growth of 3.4 per cent in both Q1 and Q2. **It is the only sector** that has contributed positively to the overall Gross Value Added (GVA) in both Q1 and Q2 2020-21. This indicates that agricultural activities for rabi harvesting and kharif sowing were largely **unaffected by the covid 19-induced lockdown**.

Rural demand has remained resilient empowered by the government's thrust on the rural economy and infrastructure in previous years, through a bouquet of reforms for both farm and non-farm sectors. There has been re-energised focus in the last six years on rural roads by extension to smaller villages, rural housing and sanitation, provision of basic amenities under various Government Schemes and creation of durable assets through MGNREGS.

These measures have been reinforced by rural digitalisation and financial inclusion drives which also aided in smooth implementation of demand push measures during COVID-19.

Initiatives to spur skill development, entrepreneurship, Self Help Groups and livelihoods have further empowered the rural economy to combat the COVID-19 induced vagaries. Critical steps such as PM-KISAN, adoption of cost plus 50 per cent formula for MSP, focus on irrigation via PM Krishi Sinchai Yojana, micro-irrigation scheme, promoting economies of scale through FPOs, and institutionalizing e-NAM (Electronic national agricultural market), and promotion of agricultural mechanization through subsidies and custom hiring centres, have contributed to nourishing a vibrant agricultural sector, which remains a silver lining to India's growth story of FY 2020-21.

A palpable V-shaped recovery in **industrial production** was observed over the year. Manufacturing rebounded and industrial value started to normalize. Headwinds, however, lingered on. The index of eight core industries, which make up around 40 per cent of the index, registered a growth of (-) 2.6 per cent in November, 2020 as compared to a growth of 0.7 per cent in November, 2019 and (-) 0.9 per cent in October, 2020. Consequently, IIP, after registering positive growth in October 2020 slipped back into contractionary zone in November, 2020. PMI Manufacturing, however, continued to remain in expansionary zone in December 2020. Resuscitating steel consumption reinforced acceleration in construction sector, propping up employment as economy unlocked. The housing market, a key forward linkage sector for steel consumption, saw gradual resurgence from its Q1: 2020-21 trough. Electricity sector retained its momentum with power consumption registering positive YoY growth since September, 2020.

Revitalized inter and intra-state movement along with a sustained spurt in industrial and commercial activity heralded the economy's returning to normalcy. **E-way bills,** electronic toll collection, rail freight and port cargo traffic not just recovered but surpassed previous year levels in Q3: 2020-21, while rail passenger earnings and domestic aviation witnessed a steady recovery.

Indian services sector sustained its recovery from the pandemic driven declines with PMI Services output and new business rising for the third straight month in December.

High food prices remained a major driver of inflation in 2020. However, inflation in December, 2020 fell back into the RBI's target range of 4 +/- 2 per cent to reach 4.6 per cent year-on-year as compared to 6.9 per cent in November. This was driven by a steep fall in food prices, particularly of vegetables, cereals, and protein products and favourable base effects.

Bank credit remained subdued in FY 2020-21 amid risk aversion and muted credit appetite. The profile of wholesale bank credit during April-November 2020 reflected this trend across both public sector and private sector banks. While overall bank credit growth and credit to commercial sector gradually picked up from its April lows to reach 6.7 per cent and 6.2 per cent YoY respectively as on 1st January, it remained sluggish compared to previous year levels.

Credit growth to agriculture and allied activities accelerated to 7.4 per cent in October 2020 from 7.1% in October 2019. October 2020 saw resilient credit flows to sectors such as construction, trade and hospitality, while bank credit remained muted to the manufacturing sector. Credit growth to the services sector accelerated to 9.5 per cent in October 2020 from 6.5 per cent in October 2019.

While personal loans registered a decelerated growth of 9.3 per cent in October 2020 as compared with 17.2 per cent growth a year ago, vehicle loans continued to perform well, registering accelerated growth of 8.4 per cent in October 2020 vis-a-vis a growth of 5.0 per cent in October 2019.

On the non-bank financing side, assets under management (AUM) of mutual funds grew at 17.73 per cent during April to November 2020. These funds faced aggressive redemption pressures during the first quarter of the year amid liquidity crunch in debt markets. However, RBI's special liquidity window for mutual funds helped them to tide over this difficult period.

The fiscal arithmetic was impacted by the adverse impact on government revenues and elevated expenditures, as the Government enhanced spending during the unlock phase. During April-December 2020 (Flash estimates), total non-debt receipts of Central Government fell by 4.7 per cent YoY. However, gross GST collections (Centre plus states) gained buoyancy October onwards, crossing the Rs. 1 lakh crore mark consecutively for 3 months, thereby providing much needed succour to the Government's revenue position. However, on the states' front, total receipts of state governments during April-October 2020, contracted by 13.7 per cent.

Total expenditure of the Central Government recorded a growth of 11 per cent during April-December 2020 (Flash estimates), with capital expenditure growing by 24.1 per cent and revenue expenditure by 9.2 per cent year-on-year. States, however, witnessed a contraction in total expenditure by 4.1 per cent year-on-year during April-October 2020.

While revenue expenditure of states did not see any significant uptick during this period, growth in capital expenditure of state governments emerged out of eight months of consecutive decline to record positive growth in October 2020.

The pandemic led receipts-expenditure wedge witnessed in this year has been bridged mainly through additional market borrowing, as demonstrated in the revised borrowing calendar announced by the Centre and higher market borrowing limits given to states.

As on 8th January 2021, the Central Government gross market borrowing for FY2020-21 reached Rs. 10.72 lakh crore, while State Governments have raised Rs. 5.71 lakh crore. While Centre's borrowings are 65 per cent higher than the amount raised in the corresponding period of the previous year, state governments have seen a step up of 41 per cent. Since the COVID-19 outbreak depressed growth and revenues, a significant scale up of borrowings amply demonstrates the government's commitment to provide sustained fiscal stimulus by maintaining high public expenditure levels in the economy.

The external sector provided an effective cushion to India during these uncertain times. Amid domestic and global demand and supply disruptions, India's merchandise exports fell by 21.1 per cent in the first half of 2020-21 with the contraction being more severe for imports at 38.8 per cent. Exports, however, revived gradually as the rate of contraction eased to 5.0 per cent in Q3:2020-21, with non-oil exports increasing by 2.3 per cent during the quarter. With the gradual unlocking of the economy, the decline in imports has also moderated to 8.3 per cent during Q3: 2020-21. While trade deficit narrowed to US$ 26.2 billion in April-September 2020-21 from US$ 88.9 billion a year ago, it stood at US$ 31.2 billion during the third quarter of the year, lower than US$ 37.0 billion in the same quarter last year. **India recorded a current account surplus of 3.1 per cent of GDP in the first half of the year largely supported by strong services exports.**

India remained a preferred investment destination in FY 2020-21. FDI poured in amidst global asset shifts towards equities and prospects of quicker recovery in emerging economies.

Subsequent to an unrivalled global portfolio investor selloff in March 2020, surges of FPI flows were witnessed June onwards marking a renewed appetite for risky assets and yield, and weakening of US dollar amid global monetary easing and fiscal stimulus packages. Net FPI inflows recorded an all-time monthly high of US$ 9.8 billion in November 2020. During April- December 2020, equities witnessed inflow of at USD 30.0 billion, five times its previous year value - India was the only country among emerging markets to receive equity FII inflows in 2020. As a result of these inflows, buoyant Sensex and NIFTY resulted in India's market-capitalisation to Gross Domestic Product (GDP) ratio crossing 100 per cent for the first time since October 2010. While stock markets value the potential future growth, these elevated levels still raise concerns on the disconnect between the financial markets and real sector.

Robust capital inflows along with a weak dollar lent an appreciating bias to the Indian rupee since end June 2020. However, RBI's prudent interventions in the foreign exchange market limited the appreciation. Combined with a rise in gold reserves and foreign currency assets, **India's foreign exchange reserves climbed to a new high of US$ 586.08 billion as on 8th January, 2021, covering more than 18 months of imports.** As at end-September 2020, India is the **fifth largest foreign exchange reserves holder** among all countries of the world after China, Japan, Switzerland and Russia.

Overall, India is well on its path to a V-shaped recovery to pre-pandemic levels and beyond. The economy was well supported by strategically paced macro-economic policies and resilient fundamentals. The coordinated policy response on both health and economic fronts helped India to endure the pandemic-induced shocks this year.

Policy response to Covid-19

Global

To help mitigate the spread of the virus, many countries implemented necessary measures. These have included school closures, restrictions on nonessential business activities, prohibitions of public gatherings, suspension of public transport, restrictions on movement, border closures, and travel bans. These social distancing measures with public information campaigns, broadbased testing, and contact tracing of individuals who were potentially exposed to known cases.

Lockdowns and travel restrictions imposed significant supply-side constraints on national economies, drastically reducing output and employment in sectors that are usually resistant to business cycle fluctuations, particularly non-traded services.

The unrivalled impact of the pandemic on almost every sector of the global economy and every aspect of society invoked a similar unparalleled policy response. Governments and Central Banks, the world over, have deployed various measures to stimulate the economy through liquidity support and regulatory changes. An unprecedented fiscal response at $11.7 trillion globally, or close to 12 per cent of global GDP (as of September 11, 2020), has provided lifelines to vulnerable households and firms. These measures include additional spending or forgone revenue, temporary tax cuts, cash and in-kind transfers, unemployment benefits, wage subsidies, and liquidity support, including loans, guarantees, and equity injections by the public sector.

Monetary authorities across the world have eased monetary conditions with broad-based cuts in short-term policy rates and reserve requirements to support activity and provided emergency liquidity support to stabilize financial markets. Several central banks around the world engaged in **unconventional monetary policy interventions** in the form of long-term asset purchase programs (for the first time in many EMDEs), relending facilities, relaxation in asset provisioning requirements and supporting credit provision to a wide range of borrowers. The corresponding injections of reserve money into the banking system have been effective in stabilizing bond markets, reducing bond yields, boost equity prices without putting pressure on exchange rates.

The deep economic contractions across many countries and heightened uncertainties about the post pandemic global economic landscape, however, may set back long-term growth prospects.

India's Strategic Multi-Pronged Policy Response

India recognised the disruptive impact of the pandemic and charted its own unique path amidst dismal projections of the spread in the country given its huge population. It was estimated that India would have 30 crore cases and several thousand deaths by the end of May, 2020 (Klein et al., 2020). At a time of rapid change and mounting uncertainty, the clear objective of 'Jaan Hai to Jahan hai' and to 'break the chain of spread' helped the government face the dilemma of 'lives vs livelihood', pace the sequence of policy interventions and adapt its response as per the evolving situation.

India adopted a graded four-pronged pre-emptive, and pro-active strategy consisting of (i) containment measures, (ii) calibrated fiscal support focussed on essentials during lockdown and demand push during the unlock phase, (iii) financial measures and (iv) structural reforms to combat COVID-19. The policy response was tailored to different phases of the epidemic, adapting to evolving requirements to provide succour to people, support demand, facilitate the recovery to pre-pandemic levels and ensure fiscal and debt sustainability. A gradual, smooth transition was paved from 'Jaan Hai to Jahan hai' to 'Jaan bhi aur Jahan bhi'.

A nationwide '**stringent' lockdown** for 21 days was declared on March 24, 2020 and subsequently extended till May 31, 2020. As per the Oxford Government Response Tracker, India was among the first ones to impose a stringent lockdown (with index at 100) despite having a few cases at the time of imposing a lockdown. The lockdown provided the much-needed time to strengthen the health system response, ramp up testing and ensure public engagement/awareness towards practice of social distancing.

At the beginning of the pandemic, India was almost totally dependent on imported Ventilators, PPE Kits and N-95 Masks. The Central Government recognised the challenges posed by the pandemic in the very initial stages and successfully ensured more than adequate availability and supplies of essential medical items across the country. A three-tier arrangement of health facilities was created for appropriate management of COVID-19 cases, (i) COVID Care Center with isolation beds for mild or pre-symptomatic cases; (ii) Dedicated COVID Health Centre (DCHC) with oxygen supported isolation beds for moderate cases and (iii) Dedicated COVID Hospital (DCH) with ICU beds for severe cases has been implemented. As on 29th December 2020 a total of 2,70,710 oxygen supported isolation beds, 81,113 ICU beds (including 40,627 ventilator beds) and 12,669 quarantine centres with 5,91,496 beds had been created. The textile industry rose to the challenge of the pandemic by up-scaling the production of PPE kits and N95 masks from scratch to emerge as the second largest producer of PPE kits and reach a daily production of 32 lakh pieces of N95 masks.

Government of India and the RBI have undertaken multidimensional efforts to maintain financial stability and provide necessary regulatory support to ease both demand and supply constraints posed by the pandemic. The policy support provided helped in cushioning the expected fall in demand due to the lockdown-induced distress on both individuals and firms.

The fiscal policy response of the Government of India to the pandemic was distinct from other countries in that the demand stimulus was introduced in a phased manner with prior focus on measures to provide a cushion for the poor and vulnerable sections of society and to the business sector (especially the MSMEs). This included one of the **world's largest foodgrains distribution programme**, direct cash transfers to 42 crore individuals, more than 20 crore Women Jan Dhan accounts, cash support to building and construction workers, Rs. 30,000 crore additional emergency working capital funding for farmers through NABARD, additional pension payments, provision for free gas cylinders, additional allocation under MGNREGS, as well as government guarantees for credit, postponement of financial deadlines etc. The pace at which India could intervene on technology related transfers of financial assistance to the poor and vulnerable during the pandemic derives its success from the meticulously built social institution of J-A-M (JanDhan, Aadhar and Mobile).

Through the **Direct Benefit Transfer system**, the country could transfer money in crores of accounts through a click of button during the pandemic time. Further, Garib Kalyan Rojgar Abhiyaan (GKRA) was launched on 20th June, 2020 for a period of 125 days in 116 districts of 6 States to boost employment and livelihood opportunities for migrant workers who had returned to their villages and similarly affected citizens in rural areas due to COVID-19 pandemic. Government of India also launched Emergency Credit Line Guarantee Scheme (ECLGS 1.0) to provide much needed relief to stressed sectors by helping entities sustain employment and meet liabilities. A second version of the Scheme (ECLGS 2.0) was also launched to offer necessary credit guarantee for loans by banks and NBFCs to identified stressed sectors.

RBI undertook several conventional and unconventional liquidity enhancing measures to manage liquidity situation in the economy. These measures, inter alia, included injection of durable liquidity of more than Rs.2.7 lakh crore through Open Market Operation (OMO) purchases between February 6-December 4, 2020, Rs.20,000 crore through two purchase auction OMOs in State Development Loans (SDLs), Rs.1 lakh crore via Targeted Long Term Repo Operations (TLTROs) of up to three years' tenor, Rs.1.25 lakh crore through Long Term Repo Operations (LTROs) conducted in February-March 2020, **reduction in the Cash Reserve Ratio (CRR) requirement** of banks from 4 per cent of net demand and time liabilities (NDTL) to 3 per cent with effect from March 28, 2020 augmenting primary liquidity in the banking system by about Rs.1.37 lakh crore, raising banks' limit for borrowing overnight under the Marginal Standing Facility (MSF), Rs.50,000 crore Special Liquidity Facility for mutual funds and refinance facility worth Rs.75,000 crore for all India financial institutions i.e., NABARD, NHB, SIDBI and EXIM Bank.

A key measure taken by RBI and Government of India during H1:2020-21 to ameliorate the liquidity constraints faced by NBFCs, was to set up a Special Purpose Vehicle (SPV) to purchase short-term papers from eligible NBFCs/HFCs, which could then utilise the proceeds to extinguish their existing liabilities.

To ameliorate corporate stress, **Government suspended the initiation of fresh insolvency proceedings** under Section 7, 9 and 10 of Insolvency & Bankruptcy Code 2016 for defaults arising on or after 25th March 2020 till 25th March 2021. RBI, too, announced **loan moratorium** from 1st March 2020 to 31st August 2020 along with an asset classification dispensation and special resolution framework for COVID-19 related stressed assets. Under the resolution plans that could be invoked under the above window, lenders were permitted to grant additional moratorium of up to two years. Also, MSME accounts classified as Standard where the aggregate exposure of banks and NBFCs was Rs. 25 crore or below as on March 1, 2020, were permitted to be restructured without a downgrade in the asset classification, subject to certain conditions.

India's response has been unique in recognising that the pandemic would have long-term disruptive effects on the productive capacity. The **Atmanirbhar Bharat Mission** was, accordingly, a composite package announced with welfare measures to address the short-term distress of individuals and firms; and structural reforms to alleviate the long-term distress on the economy.

With gradual unlocking of the economy, the focus of the stimulus measures shifted towards investment boosting and consumption revival measures like Production Linked Incentives, enhancing capital expenditure and investments in infrastructure sector. The nuanced adaptations in policy as per the requirements of the pandemic was based on continuous dialogue and coordination between the Centre, States and Local Governments. The overall policy response, therefore, is aimed at making the Indian economy more resilient and flexible to deal with the opportunities and problems of the post-COVID world.

V-Shaped Economic Recovery

India's GDP contraction of 23.9 per cent in Q1: FY 2020-21 and 7.5 per cent in Q2: FY 2020-21 quarter reflect the unparalleled effect of the Covid-19 pandemic and the containment measures that were taken to control the pandemic. The contraction was consistent with the India's enforcement of one of the most stringent lockdowns as reflected in the **Government Response Stringency Index measured by Oxford University**. The fundamentals of the economy remained strong as gradual scaling back of lockdowns, along with the astute support of Atmanirbhar Bharat Mission has placed the economy firmly on the path of recovery.

NSO has estimated a contraction of real GDP by 7.7 per cent in 2020-21 as compared to a growth of 4.2 per cent in 2019-20. This is the fourth contraction in India's GDP since 1960-61. The contraction in 1965-66 and 1971-72 coincided with wars and droughts while the year 1979-80 was associated with a severe drought and political instability. A common factor in all these years was a steep fall in agricultural output. The year 2020-21, on the contrary, has been bestowed with abundant monsoons leading to the agricultural sector emerging as the silver lining of the economy. The contraction this year reflects the 'once in a century crisis' unleashed by the pandemic and associated public health measures.

Faster normalisation of business activities amid gradual lifting of restrictions, higher festive and pent-up demand and policy support is expected to translate into a faster-than-anticipated economic recovery over the second half. This is supported by a strong rebound seen in several high frequency indicators in Q3: FY 2020-21.

On the demand side, the recovery is expected to be broad-based in the second half. The biggest growth driver is likely to be **government consumption** that is expected to grow at a strong 17 per cent YoY in second half as against a 3.9 per cent contraction the first half. Private consumption is also expected to improve significantly with a mild contraction of 0.6 per cent as against a contraction of 18.9 per cent in the first half. Investment, as measured by Gross Fixed Capital Formation (GFCF), is also expected to recover significantly with a mild contraction of 0.8 per cent in the second half against a sharp 29 per cent drop in H1FY21. Net Exports (Exports – Imports) turned positive in the first half of the year with a larger contraction in imports of 29.1 per cent as compared to contraction in exports of 10.7 per cent. With gradual recovery of economic activity, both imports and exports have picked up and net exports is expected to re-enter the negative territory in the second half. Exports are expected to decline by 5.8 per cent and imports by 11.3 per cent in the second half of the year.

On the supply side, Gross Value Added (GVA) growth is pegged at -7.2 per cent in 2020-21 as against 3.9 per cent in 2019-20. **Only Agriculture contributed to positive growth while Service and Industry contributed to the contraction in GDP**. Agriculture is set to cushion the shock of the Covid-19 pandemic on the Indian economy in 2020-21 with a growth of 3.4 per cent – resulting in an increase in its share in GDP to 19.9 per cent in 2020-21 from 17.8 per cent in 2019-20. This indicates that agricultural activities for rabi harvesting and kharif sowing were largely unaffected by the COVID induced lockdown. Industry and Services are estimated to contract by 9.6 per cent and 8.8 per cent during the year. Within Industry, Mining is estimated to contract by 12.4 per cent, Manufacturing by 9.4 per cent and construction by 12.6 per cent. The utilities sector has shown a sharp recovery and is set to register a positive growth of 2.7 per cent in 2020-21. Within Services Sector, trade, hotels, transport & communication are estimated to contract by 21.4 per cent.

It is evident from the above analysis that the economy was, as expected, adversely impacted by the unprecedented crisis caused by the pandemic in the first quarter of FY 2020-21. With gradual unlocking and able support of macro-economic policies, the economy has steadily rebounded to pre-pandemic levels. Data on high-frequency indicators suggest growing convergence with previous year's activity levels. The sharp contraction of the economy in first half of the year is expected to be covered by broad-based resurgent growth in second half of the year.

Lockdowns and other restrictions needed to address the public health crisis, together with spontaneous reductions in economic activity by many consumers and producers, have constituted an unprecedented combination of adverse shocks to global economic activity. Beyond its shortterm impact, deep recessions triggered by the pandemic have a risk of leading to hysteresis.

While the several seminal reforms will help in reducing the possibility of hysteresis, the recovery would be regarded as having avoided hysteresis when the economy regains the pre-COVID output path and is back on its trajectory of potential growth (assuming no COVID).

The global economy, including India, has been set back in time by the pandemic induced crisis. In the five years before 2020-21, Indian economy grew at an average growth of 6.7 per cent. In the year 2021-22, a sharp recovery of real GDP growth of 10-12 per cent is expected based on a low base effect and inherent strengths of the economy. It is assumed that the economy grows at its trend growth rate of 6.5 per cent in 2022-23 and 7.0 per cent in 2023-24 aided by the structural reforms. If two scenarios of 12 per cent growth and 10 per cent growth in 2021-22 are envisaged, India would be 91.5 per cent and 90 per cent below the trend level of output respectively by 2023-24.

Government recognised this potential 'hysteresis' effect of the pandemic on Indian economy and has, therefore, undertaken a comprehensive reform programme. The structural reforms and the policy push under the Atmanirbhar Bharat Mission are aimed at strengthening the fundamentals of the economy - which should put the economy on a strong growth path once the economy recovers from the pandemic shock. These need to be sustained to bolster the Indian economy to reach its potential growth. The policy emphasis has also been on expansion of public investment which would crowd in private investment. Attempts on deregulation and liberalisation of sectors are aimed at improving the business environment to unlock entrepreneurial energies and increase the risk appetite of private investors. The private sector needs to partner the Government in minimising the disruptive impact of the pandemic on the Indian economy.

Outlook

After an estimated 7.7 per cent pandemic-driven contraction in 2020-21, India's real GDP is projected to record a growth of 11.0 percent in 2021-22 and nominal GDP by 15.4 per cent.

These conservative estimates reflect upside potential that can manifest due to the continued normalisation in economic activities as the rollout of Covid-19 vaccines gathers traction. This will further be supported by supply-side push from reforms and easing of regulations, push to infrastructural investments, boost to manufacturing sector through the Productivity Linked Incentive Schemes, recovery of pent-up demand for services sector, increase in discretionary consumption subsequent to roll-out of the vaccine and pick up in credit given adequate liquidity and low interest rates. This path would entail a growth in real GDP by 2.4 percent over the absolute level of 2019-20 – implying that the economy would take two years to reach and go past the pre-pandemic level. These projections are in line with IMF estimate of real GDP growth of 11.5 per cent in 2021-22 for India and 6.8 per cent in 2022-23. India is expected to emerge as the fastest growing economy in the next two years as per IMF.

The new year has dawned with the approval of long-awaited Covid-19 vaccine and initiation of vaccination drives in various countries. With the approval of two indigenously manufactured vaccines for emergency use, India initiated the mega vaccination drive on 16th January, 2020.

The COVID Vaccine Intelligence Network (Co-WIN) system – a digitalised platform – provides real-time information of vaccine stocks, their storage temperature and individualised tracking of beneficiaries of the vaccine on a real-time basis.

India became the fastest country to roll-out 10 lakh vaccines in a matter of six days. India has also emerged as a leading supplier of the vaccine to various countries with initiation of exports to Brazil and Morocco on 22nd January, 2021. The swift roll-out of the vaccine gives strength to the optimism on both health and economic fronts – igniting hopes of a robust recovery in services sector, private consumption and investment.

Chapter 2 - Fiscal Developments

The global economy experienced an unprecedented crisis in the year 2020. The COVID-19 pandemic forced countries to resort to lockdown that had a sudden and intense impact on the economic activity, financial markets and survival of the vulnerable sections of the society.

Amidst this phase of shock and uncertainty massive fiscal measures, amounting to 12 percent of global GDP, were taken globally to mitigate the adverse impact of the pandemic. **Fiscal policy, in combination with monetary policy measures, emerged as an effective policy tool in times of crisis.**

The fiscal policy response of the Government of India to the pandemic was distinct from other countries.
India adopted a calibrated approach best suited for the evolving situation of the economy in contrast to front-loaded large stimulus packages adopted by many countries. India's fiscal policy reflected the understanding that aggregate demand, especially that for non-essential items, reflects precautionary motives to save, which inevitably remains high when overall uncertainty is high. Therefore, during the initial months of the pandemic when uncertainty was high and lockdown imposed economic restrictions, India did not waste precious fiscal resources in trying to pump up discretionary consumption. Instead, the policy focused on ensuring that all essentials were taken care of, which included direct benefit transfers to the vulnerable sections, emergency credit to the small businesses, and the world's largest food subsidy programme targeting 80.96 crore beneficiaries.

During the unlock phase, when uncertainty declined and the precautionary motive to save subsided, on the one hand, and economic mobility increased, on the other hand, India ramped up its fiscal spending focusing on overall demand revival. India's demand-side policy, thus, underscores the idea that pressing on the accelerator while the brakes are clamped only wastes scarce fuel.

Fiscal situation and response to covid-19 pandemic

The pandemic year 2020-21 has so far **entailed fiscal challenges for the Indian economy,** which were characterized by additional expenditure requirements directed towards ensuring basic means of sustenance and livelihoods for the vulnerable people, relief measures for MSME sector, accommodating additional health infrastructure and services to fight COVID-19 and measures to boost the demand. Throughout this period, the Government followed a carefully calibrated strategy in the management of expenditure.

During the first two quarters of financial year 2020-21, **Ministries were classified into three categories**. Ministries in category 'A' were providing relief or welfare to the public. No expenditure restrictions were placed on these Ministries and in fact enhanced allocations were made available to them. Other Ministries which were not directly involved in the pandemic were placed in the category 'B' and allowed to spend 20% of their budget per quarter. Ministries with low priority in the pandemic situation were placed in category 'C' and allowed to spend 15% of their budget in each of the first two quarters. However, even in Category B and C Ministries, spending on domestic capital expenditure was permitted beyond these ceilings. This categorization enabled the Government to ensure that funds for essential activities were made available in full despite a sharp contraction in revenue receipts, and that scarce resources were conserved for re-prioritisation.

With effect from the third quarter, the spending ceilings were relaxed on the basis of revised full year allocations. The revised allocations reflected a substantial re-prioritisation of expenditure to those sectors with the most positive effect on the economy, either in terms of re-kindling growth or meeting welfare needs. Ministries were allowed to decide the timing of expenditure within the revised allocation. Despite the absence of curbs on capital expenditure, the pace of capital expenditure was restrained in the first two quarters on account of movement restrictions in containment zones, and unwillingness or inability of contractors and workers to carry out works.

With the easing of movement and health-related restrictions in the third quarter, the pace of government expenditure has picked up sharply. Second to pandemic relief, the Government has placed maximum priority on productive domestic capital expenditure which has a high multiplier effect on the economy. The capital expenditure for April to December 2020 stood at Rs. 3.17 lakh crore, 24 per cent higher than the capital expenditure during the corresponding period in the previous year. The total expenditure also recorded a YoY growth of 11 per cent, increasing from Rs. 21.1 lakh crore during April to December 2019 to Rs. 23.4 lakh crore during April to December 2020.

In the backdrop of an unprecedented crisis, the year 2020-21 has been a challenging one on the fiscal front. The shortfall in revenue collection owing to the interruption in economic activity and the additional expenditure requirements to mitigate the fallout of the pandemic on vulnerable people, small businesses, and the economy in general, created immense pressure on the available limited fiscal resources. In order to cater to the increased demand for resources required by the Government, the **target for gross market borrowings of the Central Government for the financial year 2020-21 was revised from the Budget estimate of Rs. 7.8 lakh crore to Rs. 12 lakh crore.**

Central government debt is characterised by low currency and interest rate risks. This is owing to low share of external debt in the debt portfolio and almost entire external borrowings being from official sources. Further, most of the public debt has been contracted at fixed interest rate making India’s debt stock virtually insulated from interest rate volatility. This lends certainty and stability to budget in terms of interest payments.

The other salient feature is the gradual elongation of the maturity profile of the Central government’s debt leading to reduced rollover risks. The proportion of dated securities maturing in less than five years has seen consistent decline in recent years. The weighted average maturity of outstanding stock of dated securities of the GOI has increased from 9.7 years at end March 2010 to 10.7 years at end March 2020.

Fiscal Stimulus by Government of India

In order to facilitate a resilient recovery of the economy from the impact of COVID-19 pandemic and the following lockdown, Government of India and RBI together announced a total stimulus worth Rs. 29.87 lakh crore, which is 15% of national GDP. Out of this, stimulus worth 9% of GDP has been provided by the Government under Atma Nirbhar Bharat Package.

It may be emphasized that in contrast with the fiscal policy approach adopted by some of the other countries, whereby a one-time large demand stimulus package was announced, the fiscal stimulus by the Government of India was introduced in a phased manner. The special economic and comprehensive package announced in the initial phase of lockdown focused on measures to primarily provide a cushion to the vulnerable sections of the society and the small businesses. This included direct food transfers to the poor and vulnerable, livelihood programmes, guarantees and liquidity enhancing measures. Subsequently, along with the steady unwinding of the lockdown and restrictions, the demand side impetus was given to re-inflate consumption demand. When the economic recovery began after the lifting up of the lockdown, the focus of the stimulus measures shifted towards on investment boosting measures like Production Linked Incentives, enhancing capital expenditure and steps to encourage investment in infrastructure sector. This change in mix of the stimulus measures reflects that the fiscal policy had the flexibility of adapting to an evolving situation in order to enable a resilient recovery.

Reforms in Tax Administration

The Government has consistently adopted reform measures aimed at the long term benefits of a more transparent, efficient and tax-payer friendly tax administration. A major step in this direction is the introduction of ‘Honoring the Honest’ platform. The platform for ‘Transparent taxation- Honoring the Honest’ was launched in August 2020 with an objective to impart greater efficiency, transparency and accountability, and to eliminate physical interface between taxpayers and tax officers.

The key features of the platform are (i) Usage of technology, data analytics and Artificial Intelligence and (ii) Recognizing taxpayers as partners in nation-building. The Platform stands on 3 pillars of tax administration reforms namely, Faceless assessment, Faceless appeal, and Taxpayers’ charter.

The platform is designed to ensure fairness by adopting measures like random selection through system using data analytics and Artificial Intelligence, dynamic jurisdiction, automated random allocation of cases, team based assessment/ review, provision of draft assessment order/review and finalization of the order in different cities each and no requirement of physical interface between taxpayers and the Income Tax department.

Faceless Assessment Scheme 2020

The Faceless Assessment Scheme, 2019 (earlier called the e-assessment Scheme and renamed in August 2020) was based on the idea that automated random allocation of cases across Income Tax teams with dynamic jurisdiction and elimination of face-to-face contact between the income-tax authorities and the taxpayer can lead to an efficient, non-discretionary, unbiased single window system of assessment. In 2020, the scope of Faceless Assessment Scheme 2019 was broadened by bringing all the pending assessment cases across the country within the purview of the Scheme and declaring that any order passed outside the scheme shall be invalid.

The scheme **establishes a National Faceless Assessment Centre (NFAC) in Delhi,** headed by Principal Chief Commissioner of Income Tax, as the sole point of contact between the Department and the taxpayer. All notices or communications to and from the taxpayer, and internal communications related to assessment process within the Department are routed through the NFAC. To further facilitate and streamline the process of assessment there are various Regional Faceless Assessment Centers which are vested with the power to make assessments.

Faceless Appeals Scheme 2020

Under Faceless Appeals Scheme, 2020, all Income Tax appeals will be finalised in a faceless manner under the faceless ecosystem with the exception of appeals relating to serious frauds, major tax evasion, sensitive & search matters, International tax and Black Money Act.

The Scheme **establishes a National Faceless Appeal Centre (NFApC) as the apex body** for conduct of e-appeal proceedings in a centralized manner. Under the NFApC are Regional Faceless Appeal Centers (RFAC) to facilitate the e-appeal proceedings. All internal and external communication takes place electronically and the assessee or the Assessing Officer are not required to attend the proceedings personally or through an authorised representative.

Taxpayers' Charter

The third pillar of Honoring the Honest platform is the introduction of taxpayers' charter. The taxpayer's charter for India comprises of commitments by the Income Tax Deparment and obligations of the taxpayers.

Measures taken by the Centre to support the States in times of COVID-19

1. Enhanced limit of borrowing for FY2020-21 under Atma Nirbhar Bharat package

Under the Atma Nirbhar Bharat package, additional borrowing limit of up to 2 percent of Gross State Domestic Product (GSDP) was allowed to the States, which was equivalent to Rs. 4.27 lakh crore. Of the additional 2 per cent borrowing allowed to the States, the first instalment of 0.5 per cent borrowing was untied for all the states. The second part amounting to 1 per cent of GSDP was subject to implementation of following four specific State level reforms, where weightage of each reform is 0.25 per cent of GSDP:-

a) Implementation of One Nation One Ration Card System;
b) Ease of doing business reform;
c) Urban Local body/ utility reforms; and
d) Power Sector reforms

The final 0.5 per cent borrowing was conditional on undertaking at least 3 out of the above mentioned reforms.

2. Compensation to the States for loss in GST revenue

In order to compensate the states for the loss of GST revenue during FY 2020-21, Central Government had given the states an option to either borrow the shortfall arising out of GST implementation through issue of debt under a Special Window coordinated by the Ministry of Finance which was passed on to the States and UTs (Option 1), or raise the entire shortfall through the issue of market debt (Option 2).

3. Scheme for Special Assistance to States for Capital Expenditure

During the year 2020-21, considering the fiscal environment faced by the State Governments due to the shortfall in tax revenues arising from the COVID-19 pandemic, 'Scheme for Special Assistance to States for Capital Expenditure', has been approved wherein special assistance is being provided to the State Governments in the form of 50-year interest free loan up to an overall sum not exceeding Rs. 12,000 crore.

4. SDRF

The Central Government by way of a special one-time dispensation had decided to treat COVID-19 as a notified disaster for the purpose of providing assistance under SDRF. To strengthen the States to deal with the pandemic, the Centre had released the 1st instalment of SDRF amounting to Rs. 11,092 crore to State Governments in April 2020. In September 2020, the states' limit for spending the SDRF during FY 2020-21 was raised to 50%, in order to support them in containment measures of COVID-19 including measures for quarantine, sample collection and screening; and procurement of essential equipment/ labs for response to COVID-19.

OUTLOOK

The year 2020-21 has been a difficult year from the fiscal perspective. In the wake of the global pandemic outbreak, the General Government (Centre plus States) is expected to register a fiscal slippage in FY 2020-21, on account of the shortfall in revenue and higher expenditure requirements. However, longer term sustainability depends crucially on reviving growth relative to the interest cost of Government debt.

Chapter 3 - External Sector

COVID-19 has affected nearly all spheres of the global economy with the spread catalyzed by the increasing interconnectedness of global value chains. The resulting crisis has constituted an intense shock, with a sharp decline in global trade, lower commodity prices, tighter external financing conditions and with varying implications for current account balances and currencies of different countries.

The global volume of goods trade in the first five months of 2020 was about 20 per cent lower than in 2019—a more abrupt contraction than in the first five months of the global financial crisis.

GLOBAL ECONOMIC ENVIRONMENT

The spread of the pandemic led to associated suspension of economic activities, supply-chain disruptions, travel restrictions and volatility in international commodity prices. As a result, there was a wave of downward revisions to global output growth and trade volume.The contraction in GDP has been much stronger in the current recession when compared to the fall in trade which has been more moderate.

World Trade Organization (WTO), in April 2020, predicted a fall in world merchandise trade by 13-32 per cent in 2020. However, with easing of lockdowns and acceleration in economic activity, a surge in trade was recorded in the months of June and July. WTO, accordingly, revised its forecast in October 2020 to a decline of 9.2 per cent in the volume of world merchandise trade in 2020, followed by a 7.2 per cent rise in 2021.

In the October 2020 edition of the **World Economic Outlook, the IMF** expected a sharper fall in world output of 4.4 per cent in 2020, but lower contraction in world trade volume of 10.4 per cent in 2020 as against 3.0 per cent and 11.0 per cent respectively predicted in April 2020. In advanced economies (AEs), the contraction for GDP as well as trade volume is projected to be more severe than for the emerging markets and developing economies (EMDEs).

Global merchandise trade, as per data available from WTO, recorded its sharpest ever oneperiod decline in Q2-2020. The **WTO's goods trade barometer index** for the said quarter was at 84.5 – the lowest on record since 2007 – i.e., 15.5 points below the baseline value of 100 for the index and 18.6 points down from the same period last year. However, it improved to 100.7 in September, 2020, indicating a strong rebound in trade in the third quarter as lockdowns were eased, broadly consistent with the WTO's October trade forecast.

The impact on trade differed significantly across regions. In 2020 (upto Q3), AEs suffered the steepest decline in exports by 12.9 per cent and imports by 10.8 per cent, while EMDEs witnessed lower contraction in exports by 7.6 per cent and in imports by 10.1 per cent. Among the EMDEs, South East Asian export-oriented countries witnessed still lower shrinkage of exports by 2.4 per cent and imports by 9.6 per cent.This can be attributed to the impressive export performance of few countries such as Vietnam, Taiwan, and Malaysia, and their continuous narrowing contraction in imports in subsequent quarters.

In India, calibrated easing of lockdown restrictions narrowed contraction in both exports and imports with imports posting faster recovery leading to progressive expansion of merchandise trade deficit over the quarters of the current year. Improving trends in India's merchandise trade have been supplemented by equity capital inflows, robust FDI inflows and sustained build-up of foreign exchange reserves. The comfortable foreign exchange reserves give the much-needed space for enhanced domestic investments. The disruption of global manufacturing value chains due to the COVID-19 pandemic presents a tremendous opportunity for India to become one of the key nodes in the chain. Various export initiatives, including those aimed at promoting ease of exporting – have been undertaken by the government and RBI and implementation of these initiatives would pave the way for the sustainable export performance in India going forward.

INDIA'S ENGAGEMENT WITH WTO

India is one of the **founding members** of WTO, which has played an important part in the effective formulation of major trade policies. Increasing protectionism, inadequate members in the Appellate Tribunal for dispute resolution, increasing number of Regional Trade Agreements (RTAs) and Free Trade Agreements (FTAs) etc. have resulted in member countries questioning the efficacy of WTO as an institution meant to ensure free trade and promote multilateralism.

In the ongoing discussions on WTO reforms, India's proposal seeks to re-affirm the importance of development and promote inclusive growth. The broad elements of India's proposal include: (i) Preserving the core values of the Multilateral Trading System; (ii) Resolving the impasse in the Dispute Settlement System; (iii) Safeguarding development concerns; and (iv) Transparency and Notifications.

During the WTO TRIPS Council meeting, held on 15-16 October, 2020, **India and South Africa jointly proposed "Waiver from Certain Provisions of the TRIPS Agreement** for the Prevention, Containment and Treatment of COVID-19" for a limited time period, with a view to ensure that the intellectual property rights do not become a barrier in the timely and affordable access to medical products, including vaccines and therapeutics, and enable nations to deal effectively with the public health emergency arising out of COVID-19 pandemic. The proposal has received broad-based support from many WTO members, civil society and international organizations.

The **WTO's Appellate Body** (AB) is a permanent body intended by the Dispute Settlement Understanding (DSU) to resolve appeals on issues of law. It is ordinarily composed of seven members having a four-year term, with the possibility of one reappointment. Since July 2017, the **United States has been stalling AB appointments** on the pretext that it has not been functioning in accordance with the DSU norms – precipitating the 'Appellate Body crisis'. With fewer than three members to hear any appeal since 10th December, 2019, the AB is not able to function as mandated under the DSU. In the wake of this crisis, around 23 WTO members have created a **Multiparty Interim Arbitration** (MPIA) mechanism that closely replicates the substantive and procedural aspects of appellate review under the AB. EU, China, Brazil, Australia, New Zealand are some of the key members of MPIA. **India has not joined MPIA yet**. India supports the restoration and preservation of the normal functioning of the two-stage binding WTO dispute settlement mechanism.

In agriculture, India along with many other developing countries, have been demanding a permanent solution on the issue of public stockholding for food security purposes. This has become even more relevant in the wake of the ongoing pandemic, as the government had to step up disbursement of food grains under the public distribution programmes for ensuring food security of the masses. India has also been raising the issue of imbalances and asymmetries in the existing Agreement on Agriculture (AoA) and their implications for developing countries. As per the Buenos Aires Ministerial Decision (MC11) of December, 2017, WTO Members agreed to continue to engage constructively to frame disciplines on fisheries subsidies by the next Ministerial Conference (MC- 12) in 2020. The negotiations are ongoing and are being conducted in the form of monthly cluster meetings under Negotiating Group on Rules (NGR) in the WTO.

WTO members agreed not to impose customs duties on electronic transmissions in 1998 and since then, the moratorium has been extended periodically at the ministerial meetings. India and South Africa made a joint submission under the Work Program on E-Commerce titled, 'The E-Commerce Moratorium: Scope and its Impact' in March, 2020, which, inter alia, argues that reconsideration of the moratorium is important for developing countries to preserve policy space for their digital advancement. In response to the failure to obtain a multilateral mandate for rule-making in e-commerce, in January, 2019, a Joint Statement on e-commerce was issued on behalf of seventy-six WTO members supporting rule-making on e-commerce. **India has not joined the said plurilateral initiative**. India believes that developing countries need to focus on improving domestic physical and digital infrastructure, creating supportive policy and regulatory frameworks and developing digital capabilities to bridge the digital divide and enable shared benefits of digitalization.

Logistics Performance Index

According to World Bank's Logistics Performance Index, India ranks 44th in 2018 globally, up from 54th rank in 2014. Logistics Performance Index issued every two years. LPI 2018 allows for comparisons across 160 countries. Germany ranks 1st.

Logistics relates to how efficiently countries can move physical goods across and within borders. A country's performance in this area can determine how it participates in international markets.

Chapter 4 - Monetary Management and Financial Intermediation

Given the unprecedented shock of COVID-19 pandemic, monetary policy was significantly eased from March 2020 onwards. The **repo rate has been cut by 115 bps** since March 2020, with 75 bps cut in first Monetary Policy Committee (MPC) meeting in March 2020 and 40 bps cut in second meeting in May 2020. Policy rates were kept unchanged in further meetings but the liquidity support was significantly enhanced. Monetary policy remained accommodative in 2020.

Systemic **liquidity in 2020-21 remained in surplus** so far. RBI undertook various conventional and unconventional measures like Open Market Operations, Long Term Repo Operations, Targeted Long Term Repo Operations etc. to manage liquidity situation in the economy.

The financial flows to the real economy however remained constrained on account of **subdued credit growth** by both banks and Non-Banking Financial Corporations. The higher reserve money growth did not fully translate into commensurate money supply growth due to the lower (adjusted) money multiplier reflecting large deposits by banks with RBI under reverse repo.

Credit growth of banks slowed down to 6.7 per cent as on January 1,2021. The credit offtake from banking sector witnessed a broad based slowdown in 2020-21. Gross Non Performing Assets ratio of Scheduled Commercial Banks decreased from 8.21 per cent at the end of March 2020 to 7.49 per cent at the end of September 2020. However, this has to be seen in conjunction with the asset classification relief provided to borrowers on account of the pandemic.

Capital to risk-weighted asset ratio of Scheduled Commercial Banks increased from 14.7 per cent to 15.8 per cent between March 2020 and September 2020 with improvement in both Public and Private sector banks. This year saw **improvement in transmission of policy repo rates** to deposit and lending rates, as reflected in the decline of 94 bps and 67 bps in Weighted Average Lending Rate on fresh rupee loans and outstanding rupee loans respectively from March 2020 to November 2020. Similarly, the Weighted Average Domestic Term Deposit Rate declined by 81 bps during the same period.

Nifty50 and S&P BSE Sensex reached record high closing of 14,644.7 and 49,792.12 on January 20,2021 respectively during 2020-21.

The recovery rate for the Scheduled Commercial Banks through IBC (since its inception) has been over 45 per cent. In view of COVID-19 pandemic, initiation of Corporate Insolvency Resolution Process (CIRP) was suspended for any default arising on or after March 25, 2020 for a period of 6 months. This was further extended twice for 3 months on September 24, 2020 and December 22, 2020. The suspension along with continued clearance has allowed a small decline in accumulated cases.

Digital Payments Index (DPI)
Reserve Bank of India has constructed a composite Digital Payments Index (DPI) to capture the extent of digitisation of payments across the country. The RBI-DPI comprises of 5 broad parameters that enable measurement of deepening and penetration of digital payments in the country over different time periods. These parameters are: (i) Payment Enablers (weight 25%), (ii) Payment Infrastructure – Demand-side factors (10%), (iii) Payment Infrastructure – Supply-side factors (15%), (iv) Payment Performance (45%) and (v) Consumer Centricity (5%).

The DPI has been constructed with March 2018 as the base period, i.e. DPI score for March 2018 is set at 100. The DPI for March 2019 and March 2020 work out to 153.47 and 207.84 respectively, indicating high growth over the years.

INSURANCE SECTOR
The performance and potential of insurance sector is assessed using two indicators-Insurance penetration and Insurance Density. Insurance penetration is calculated as percentage of insurance premium to GDP and insurance density is calculated as ratio of insurance premium to population.

In India, **Insurance penetration** which was 2.71 per cent in 2001 has steadily increased to 3.76 per cent in 2019. In contrast, insurance penetration in Asia, i.e., Malaysia, Thailand and China was 4.72, 4.99 and 4.30 per cent respectively in 2019. As of 2019, the penetration for Life insurance in India is 2.82 per cent, the penetration for Non-Life insurance is much at 0.94 per cent. Globally insurance penetration was 3.35 per cent for the life segment and 3.88 per cent for the non-life segment in 2019. Although the penetration is lower in India for both, it is particularly low for Non-life insurance as compared to other countries

The **insurance density** in India which was US$ 11.5 in 2001 reached to approximately US$ 78 in 2019. The comparative figures for Malaysia, Thailand and China in 2019 were much higher at US$ 536, US$ 389 and US$ 430 respectively. Density for Life insurance is US$ 58 and Non-Life insurance is much lower at US$ 19 in 2019 in India. Globally insurance density was US$ 379 for the life segment and US$ 439 for the non-life segment respectively in 2019. United States has particularly high insurance density in the Non-life category. India has extremely low insurance penetration as compared to global average and other comparable countries.

Chapter 5 - Prices and Inflation

Year 2020 was unprecedented with the global pandemic of COVID-19 induced social distancing disrupting economic activity globally. At the domestic level, two opposing forces were at play. On the one hand, there was a dampening of demand owing to lower economic activity. On the other hand, **supply chain disruptions especially in the case of perishable vegetables have caused spikes in food inflation** that have continued to persist during the unlocking of the economy, though the effect has softened in the recent months. Overall, headline CPI inflation remained high during the lockdown period and subsequently as well, due to the persistence of supply side disruptions. At the global level, inflation remained benign on the back of subdued economic activity as a result of COVID-19 outbreak and sharp fall in international crude oil prices in advanced economies.

CURRENT TRENDS IN INFLATION

CPI-Combined (C) inflation has moderated since 2013-14. However, inflation dynamics have changed considerably in 2020. The average CPI-C inflation, which was 5.9 per cent in 2014-15, fell continuously to 3.4 per cent in 2018-19 and recorded 4.8 per cent in 2019-20. It however increased to 6.6 per cent in 2020-21 (Apr-Dec) before easing to a 15-month low of 4.6 per cent in December 2020. Overall, headline CPI inflation remained high during the COVID-19 induced lockdown period and subsequently, due to the persistence of supply side disruptions. The **rise in inflation was mostly driven by food inflation**, which increased to 9.1 per cent during 2020-21 (Apr-Dec) owing to build up in vegetable prices. However, the swift steps taken by the Government eased food inflation significantly to 3.4 per cent in December 2020 from a high of 11 per cent in October 2020.

WPI inflation declined from 4.3 per cent in 2018-19 to 1.7 per cent in 2019-20 and further to (-) 0.1 per cent in 2020-21 (Apr-Dec). It remained negative from April to July 2020 and stood at 1.2 per cent in December 2020. The decline in WPI inflation in the current year is mainly on account of fuel & power. Persistent volatility in the global crude oil prices during the year led to fall in inflation of major fuel products.

The variations in the prices of essential food commodities are experienced by the common man through its impact on the households' food budget. An attempt was made in this regard to assess the cost of a plate of food in Vol-I, Economic Survey, 2019-20 in the form of "**Thalinomics": The Economics of a Plate of Food in India**. Thali prices for both vegetarian and nonvegetarian Thalis declined significantly in January-March 2020 before rising sharply during April to November in both rural and urban areas before easing in December 2020. The easing in CPI-C is expected to ease Thali prices going forward.

NSO has compiled the Thali index using the data collected by NSO for CPI-C. Thali cost represents the cost of a meal cooked within household but excludes PDS consumption and may therefore differ from the actual cost for a real household.

Drivers of Inflation : The Prodigious impact of food inflation

During 2019-20 (Apr-Dec) as well as 2020-21 (Apr-Dec), the major driver of CPI-C inflation was the food and beverages group, though its contribution has increased to 59.0 per cent in 2020-21 (Apr-Dec) compared to 53.7 per cent in 2019-20 (Apr-Dec). Miscellaneous group was the second largest contributor to inflation, contributing to 26.8 per cent of overall inflation. Among the sub-groups in miscellaneous group, transport and communication contributed the most followed by personal care and effects.

High food inflation since March, 2020 is indicative of supply chain bottlenecks owing to COVID-19 induced disruptions.'Vegetables', 'meat & fish', 'oils & fats' and 'pulses &products' were the major contributors to food inflation in the current year.

The rise in vegetables inflation was mainly on account of rise in prices of potatoes and onions during the lean season.

Inflation in meat & fish has remained in double digits in most part of the current year mainly on account of rise in prices of chicken and mutton.

Pulses inflation was due to the disruptions caused by COVID-19 related restrictions and stocking of pulses by households during the lockdown.

CPI inflation in oils and fats has been increasing since August 2019 and has reached 20 per cent in December 2020. While inflation in mustard oil, groundnut oil and refined oil (sunflower, soyabean etc.) is above 20 per cent, coconut oil is above 10 per cent in December 2020.

India is the largest importer of edible oils. Demand for edible oils is rising in India, while domestic production is almost stagnant, due to which dependence on imports has increased over the years. This is risky as problems in the world market may have serious repercussions on the domestic market. Effective measures to increase domestic production are necessary to reduce import dependency. Imports in 2020 were affected as Malaysia and Indonesia imposed export tariffs on crude palm oil. This affected domestic prices of palm oil from Jan-Jun 2020.

Escalation in wholesale prices was also witnessed after the COVID-19 induced restrictions possibly because of labour shortages on account of reverse migration, social distancing in factories, and other transaction costs in the production and distribution network.

REGULATION OF DRUG PRICES
Drug prices in India are regulated to ensure continued availability and affordability of essential lifesaving drugs with improved access to consumers. **National Pharmaceutical Pricing Authority (NPPA),** which is an independent regulator for pricing of drugs and to ensure availability and accessibility of medicines at affordable prices, has played an active role in addressing the exigencies arising out of COVID-19 pandemic and undertook necessary measures to ensure continued availability of life saving essential medicines throughout the country.

NPPA fine-tuned its interventions during the COVID-19 pandemic to strike at profiteering tendencies by manufacturers/marketers in public interest. At the same time it also ensured enabling ecosystem for the industry to augment production of quality benchmarked medical devices for domestic use and exports

Findings
The Survey finds that sole focus on CPI-C inflation may not be appropriate for four reasons. First, food inflation, which contributes significantly to CPI-C is driven primarily by supply-side factors. Second, given its role as the headline target for monetary policy, changes in CPI-C anchor inflation expectations. This occurs despite inflation in CPI-C being driven by supplyside factors that drive food inflation. Third, several components of food inflation are transitory with wide variations within the food and beverages group. Finally, food inflation has been driving overall CPI-C inflation due to the relatively higher weight of food items in the index.

While food habits have undergone revisions over the decade since 2011-12, which is base year of CPI, the same is not reflected in the index yet. The base year of CPI therefore needs to be revised to overcome the measurement error that may be arising from the change in food habits. For all these reasons, a greater focus on core inflation is warranted.

Further,given the significant increases in e-commerce transactions, new sources of price data capturing e-commerce transactions must get incorporated in the construction of price indices.

During the year, the government took several measures to make crucial drugs for COVID-19 treatment available at affordable prices, to stabilise prices of sensitive food items like banning of export of onions, imposition of stock limit on onions, easing of restriction on imports of pulses etc.

However, consistency in import policy of sensitive food items warrants attention as frequent changes in import policy of pulses and edible oils adds to confusion among farmers/producers and delay in imports. To rein in the vegetable inflation, review of relevant buffer stock policies is essential. To avoid supplyside disruptions that cause inflation seasonality in vegetables, food, CPI-C and in inflation expectations, a system needs to be developed to reduce wastages and ensure timely release of stock.

Gold prices saw sharp spike as investors turned to gold as a safe haven investment amid COVID-19 induced economic uncertainties. Compared to other assets, gold had returns during the year that were considerably higher.

Chapter 6 - Sustainable Development and Climate Change

The 2030 agenda for Sustainable Development with 17 Sustainable Development Goals (SDGs) and 169 associated targets encompasses a comprehensive developmental agenda integrating social, economic and environmental dimensions.

As the official adoption of SDGs reached its 4th anniversary, World Health Organization declared the outbreak of the coronavirus disease 2019 (COVID-19), on 30th January 2020. The resultant public health emergency, which was later pronounced to be a pandemic, has led to considerable human and economic costs setting countries back on their developmental goals and creating serious impediments to the attainment of the SDGs.

The year 2020 was supposed to be the year by which developed country Parties were to fulfill the goal of jointly mobilizing US$ 100 billion a year for climate finance, an essential component of the commitments made by the developed countries, which has remained elusive. Due to COVID-19 pandemic, The postponement of COP 26 to 2021 also gives less time for negotiations and other evidence-based work to inform the post-2025 goal.

India is no exception to the unprecedented crisis unleashed by the pandemic. It is faced with remarkable challenges emerging from the need to provide substantive economic stimulus, address livelihood losses, introduce and implement wide ranging economic reforms. The need to develop sustainably, however, remains at the core of the country's development strategy.

INDIA AND THE SDGs

India has taken several proactive steps at both the national and the sub national level to mainstream the SDGs into the policies, schemes and programmes of the Government. In 2020, the highlight of India's SDG initiatives has been the Voluntary National Review (VNR) presented to the United Nations High-Level Political Forum (HLPF) on Sustainable Development which is the highest international platform for review and follow-up of the SDGs under the auspices of the United Nations Economic and Social Council. The reviews are voluntary and country -led and are aimed at facilitating the sharing of experiences, including successes, challenges and lessons learned.

NITI Aayog presented India's second VNR to the HLPF in July 2020, which highlighted the country's accomplishments and the way forward on its journey towards achieving the SDGs. In addition to the progress achieved in various sectors, the VNR Report also presented the Indian model of SDG localisation, perspectives from various stakeholder consultations, strategies of integrating businesses with the implementation of SDGs, and ways to strengthen the means of implementation.

Consultations with over 1000 Civil Society Organisations (CSOs) have been the cornerstone of the VNR Report preparation process. The focus of the consultations was the principle of "Leaving No One Behind", which lies at the heart of SDGs.

These stakeholder consultations provided a platform for engagement and feedback on India's progress towards the SDGs.

Localization of the SDGs

Localisation of SDGs is crucial to any strategy aimed at achieving the goals under the 2030 Agenda. Essentially, localising SDGs involves the process of adapting, planning, implementing and monitoring the SDGs from national to local levels by relevant institutions and stakeholders. In terms of engagement and collaboration of institutions, it is consequential how the Centre, State and Local Governments work together to achieve the SDGs at the national level; and how SDGs provide a framework for subnational and local policy, planning and action for realization of the SDG targets at local levels.

To accelerate SDG achievements, the country has adopted the approach of cooperative and competitive federalism which is based on Centre-State collaboration in nation building and healthy competition among the States in various development outcomes.

The SDG India Index and Dashboard, designed and developed by NITI Aayog, is the principal tool to measure and monitor SDG performance at the national and sub-national levels.

CLIMATE CHANGE

India has been taking several proactive climate actions to fulfill its obligations as per the principles of common but differentiated responsibilities and respective capabilities and equity.

As mandated in the UNFCCC and its Paris Agreement, the climate actions of the developing countries would have to be supported by finance flows from the developed to the developing countries.

The Nationally Determined Contribution (NDC) submitted by the country has been formulated keeping in mind the developmental imperatives of the country and is on a “best effort basis”.

In its NDC, India has sought to reduce the emissions intensity of its GDP by 33 to 35 per cent below 2005 levels by the year 2030; achieve 40 per cent of cumulative electric power installed capacity from non-fossil fuel sources by 2030; and enhance forest and tree cover to create additional carbon sink equivalent to 2.5 to 3 billion tons of carbon dioxide by 2030. The other goals pertain to adoption of sustainable lifestyles based on traditional values of conservation and moderation, adaptation to climate change, clean economic development and environment friendly technology, etc.

Prominent Government initiatives on mitigation & adaptation actions
India’s National Action Plan on Climate Change (NAPCC) was launched in 2008. It has through 8 National Missions focussed on advancing the country’s climate change related objectives of adaptation, mitigation and preparedness on climate risks.

1. National Solar Mission (NSM)- Achieve 100 GW of solar power in seven years starting from 2014-15.

2. National Mission for Enhanced Energy Efficiency (NMEEE)- Mandating reduction in energy consumption in large energy consuming industries

3. National Mission for a Green India (GIM)- Improved ecosystem services by Increasing forest/tree cover by 5 m ha and improving quality of forest cover on another 5 m ha (a total of 10 m ha).

4. National Mission on Sustainable Habitat (NMSH)- Development of sustainable habitat standards. Promoting energy efficiency as a core component of urban planning by extending the existing Energy Conservation Building Code.

5. National Water Mission (NWM)- Focuses on monitoring of ground water, aquifer mapping, capacity building, water quality monitoring and other baseline studies. Promoting citizen and state action for water conservation, augmentation, and preservation.

6. National Mission for Sustainable Agriculture- Enhancing food security by making agriculture more productive, sustainable, remunerative, and climate resilient.

7. National Mission for Sustaining Himalayan Ecosystems- To continuously assess the health status of the Himalayan Ecosystem.

8. National Mission on Strategic Knowledge for Climate Change (NMSKCC)- To gain a better understanding of climate science, formation of knowledge networks among the existing knowledge institutions engaged in research and development.

Climate Change Action Plan (CCAP) a Central Sector Scheme, was approved in January 2014 to build and support the scientific and analytical capacity for assessment of climate change in the country, establish appropriate institutional framework and implement climate actions at a total cost of Rs. 290 crores for a duration of five years.

In addition to the above, National Adaptation Fund on Climate Change (NAFCC) a Central Sector Scheme with National Bank for Agriculture and Rural Development (NABARD) as the National Implementing Entity was operationalized in 2015-16, with a budget allocation of Rs. 350 crores for the 12th Five Year Plan. This scheme has continued beyond the 12th Five Year Plan till 31st March 2020 with a financial implication of Rs. 364 crores. The aim of NAPCC is to support concrete adaptation activities which are not covered under on-going activities through the schemes of State/UT and National Governments.

The Government is implementing Faster Adoption and Manufacturing of (Hybrid&) Electric Vehicle in India (FAME India) scheme1 w.e.f 1st April, 2015 to encourage progressive induction of reliable, affordable and efficient electric and hybrid vehicles.

To ensure the use of cleaner automobile fuel, India has also leapfrogged from BS-IV to BS-VI emission norms on 1st April,2020, earlier than the initial date for adoption in 2024.

India’s NDC and its forthcoming challenges
India has recognized that its path of development must be one which places adequate emphasis on all the three pillars of sustainable development, namely, economic, social and environmental.

The national circumstances demand that the **first priority for India be adaptation, being a country highly vulnerable to extreme weather event**s. Climate change impacts are expected to worsen with the passage of time because of the momentum due to carbon stock continuing to increase the temperature. Hence, India’s adaptation efforts will have to be further intensified and with that the adaptation costs will increase.

The country is **relying on domestic resources** to implement adaptation and mitigation action on mission mode. The financing considerations will therefore remain critical especially as the country steps up the targets substantially. With the COVID-19 pandemic, the primary focus of the country is on ensuring protection of lives and livelihoods. Even so climate action remains a priority.

The implementation of NDC effectively commences on 01.01.2021. India's NDC clearly states that finance is a critical enabler of climate change action. The preliminary financial estimates in NDC document indicates that India would need around US$ 206 billion (at 2014-15 prices) between 2015 and 2030 for implementing adaptation actions in key areas like agriculture, forestry, fisheries, infrastructure, water resources and ecosystems. Apart from this, additional investments will be needed for strengthening resilience and disaster management.

Preliminary estimates provided by NDC indicates that India's climate change actions till 2030 will require financial resource of US$ 2.5 trillion (at 2014-15 prices).

Availability of adequate financial resources required to implement wide-ranging NDC goals presents a major challenge. India has proactively pursued actions on climate change and achieved a reduction in emission intensity of GDP by 21 per cent over the period 2005-2014 as per India's second Biennial Update Report (BUR). However, to fully implement our NDC in a timely manner, the country requires enhanced new and additional financial resources, technological support and capacity building. New and additional financial resources and technological support to the developing countries was committed to by the developed countries under the Paris Agreement and this needs to be implemented.

An integrated approach is required at the domestic and international front to get the necessary resources essential for apposite climate action. Further, it is important to note that the developed countries need to do much more than what they are currently committed to, achieve climate action at an appropriate level.

Climate finance is an obligation of the developed countries as a part of their historical responsibility as they are the major contributors to the stock of GHG in the atmosphere accumulated since the industrial revolution. By 2020, the developed country partners had to fulfill the promised support of US$ 100 billion per year in the form of climate finance to the developing nations. This has not happened. The lack of required momentum in the scope, scale and speed of climate finance from developed to developing countries needs to be addressed. The enhanced new and additional financial resources, technological support and support in capacity building should be mobilized and delivered to strengthen the on-going climate actions in developing nations like India.

MULTILATERAL NEGOTIATIONS ON CLIMATE CHANGE

Since the Rio Conference and the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, the multilateral regime on climate change has evolved and adopted a number of agreements and decisions to strengthen the global response to address the problem of climate change.

The latest treaty - the Paris Agreement was adopted under UNFCCC in December 2015 to enhance the implementation of the Convention. Its central aim is to strengthen the global response to the threat of climate change by **keeping the global temperature rise this century to well below 2 degrees celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees celsius** through enhanced support from developed countries to the developing countries.

INDIA'S INITIATIVES AT THE INTERNATIONAL STAGE

International Solar Alliance (ISA)

International Solar Alliance (ISA) has recently launched two new initiatives – a 'World Solar Bank' and 'One Sun One World One Grid Initiative' - of global import that are poised to be instrumental in bringing about solar energy revolution globally.

The proposed World Solar Bank would cater to the need for dedicated financing window for solar energy projects across the members of ISA. It is expected to provide low-cost financing at favorable terms for solar energy projects as well as engage in co-financing with other multilateral/bilateral development financial institutions.

The 'One Sun One World One Grid' vision was laid down by the Hon'ble Prime Minister of India at the first assembly of the ISA. The initiative aims to create an interconnected green grid that will enable solar energy generation in regions with high potential and facilitate its evacuation to demand centers.

ISA organized the First World Solar Technology Summit (WSTS) in September 2020 with an objective of showcasing to Member Countries the state of the art and next-generation solar technologies. The summit also provided a platform to deliberate on the way forward for increasing access to new technologies at an affordable cost.

Coalition for Disaster Resilient Infrastructure

Since the launch of the Coalition for Disaster Resilient Infrastructure (CDRI) in September 2019 at the UN Climate Action Summit, the need for disaster resilience in all aspects of human activity has been unambiguously highlighted by the COVID-19 pandemic. CDRI is another expression of India's commitment to work with all the partners to address global challenges.

The Coalition functions as an inclusive multi-stakeholder platform led and managed by national governments, where knowledge is generated and exchanged on different aspects of disaster resilience of infrastructure. As of December 2020, 19 countries and 4 multilateral organizations have become members of the Coalition. **The CDRI is co-chaired by India and the United Kingdom (UK).**

Chapter 7 - Agriculture & Food Management

COVID-19 pandemic has influenced the lives of people across the globe and India is no exception to that. The farming activities also experienced the impact of this pandemic as the COVID induced lockdowns influenced the movement of farm inputs including farm machinery from one location to other.

The national lockdown coincided with the commencement of the harvesting season for the Rabi crops creating further adversity for the sector. Migration of agricultural labourers to their native places during the lockdown created a shortage of farm labourers.

India's agricultural system demonstrated its resilience amid such adversities. The agriculture and allied sectors were the sole bright spot amid the slide in performance of other sectors, clocking a growth rate of 3.4 per cent at constant prices during 2020-21. Against all adversities due to COVID-19, continuous supply of agriculture commodities, especially staples like rice, wheat, pulses and vegetables, has been maintained thereby enabling food security.

In order to further strengthen and support the agricultural sector, several initiatives have been taken by the Government of India under the Atma Nirbhar Bharat Abhiyan.

Major Announcements for Agriculture and Food Management under the Atma Nirbhar Bharat Abhiyan

1. Rs. 1 lakh crores Agri Infrastructure Fund- Financing will be provided for funding agriculture infrastructure projects at farm-gate & at aggregation points and for financially viable post-harvest management infrastructure.

2. Rs. 10,000 crores scheme for Formalisation of Micro Food Enterprises (MFE)- Aiding 2 lakh MFEs who need technical upgradation to attain FSSAI food standards, build brands and support marketing.

3. Rs. 20,000 crores for fisherman through Pradhan Mantri Matsya Sampada Yojana (PMMSY)- It aims at integrated, sustainable and inclusive development of marine and inland fisheries by developing infrastructure such as fishing harbours, cold chain, markets, etc.

4. National Animal Disease Control Programme- It targets Foot and Mouth Disease (FMD) and Brucellosis by ensuring 100 per cent vaccination of cattle, buffalo, sheep, goat and pig population against FMD and all bovine female calves of 4-8 months of age against brucellosis.

5. Animal Husbandry Infrastructure Development Fund – Rs. 15,000 crores- It is to support private investment in dairy processing, enable value addition and improved cattle feed infrastructure.

6. From 'TOP' to TOTAL- "Operation Greens" run by Ministry of Food Processing Industries (MOFPI) to be extended from tomatoes, onion and potatoes to ALL fruit and vegetables.

7. Reforms in Essential Commodities Act, Agriculture Marketing and Agriculture Produce Pricing and Quality Assurance- These legislative reforms seek to remove agricultural commodities such as cereals, pulses, oilseeds etc. from the list of essential commodities and aim to reform agricultural marketing

8. PM Garib Kalyan Ann Yojana- The scheme aimed at ensuring food and nutritional security to around 80 crores ration card holders who were affected due to the COVID-19 induced national lockdown.

9. One Nation One Ration Card Scheme- This scheme will enable migrant workers and their family members to access PDS benefits from any fair price shop in the country.

OVERVIEW OF AGRICULTURE

Gross Value Added in Agriculture

About 54.6 per cent of the total workforce in the country is still engaged in agricultural and allied sector activities (Census 2011). As per the provisional estimates of national income released by CSO on 29th May, 2020, the share of agriculture and allied sectors in Gross Value Added (GVA) of the country at current prices is 17.8 per cent for the year 2019-20.

The share of agriculture and allied sectors in GVA of the country has declined from 18.2 per cent in 2014-15 to 17.8 per cent in 2019-20 (Table 1), an inevitable outcome of a development process in which the relative performance of non-agricultural sectors becomes more dominant. Within the agriculture sector, the share of crops has fallen from 11.2 per cent in 2014-15 to 9.4 per cent in 2018-19 and forestry from 1.5 per cent to 1.3 per cent. The decline in the share of crops has been made up by an increase in the share of livestock (4.4 per cent to 5.1 per cent) and fisheries sectors (1.0 per cent to 1.2 per cent).

During 2020-21, while the GVA for the entire economy contracted by 7.2 per cent, growth in GVA for agriculture maintained a positive growth of 3.4 per cent.

Gross Capital Formation
Gross Capital Formation (GCF) in the agriculture and allied sector as a proportion to GVA has been showing a fluctuating trend from 17.7 per cent in 2013-14 to 16.4 per cent in 2018-19,with a dip to 14.7 per cent in 2015-16.

Production of Crops
In the year 2019-20 (as per fourth advance estimates), total food grain production in the country is estimated at record 296.65 million tonnes which is higher by 11.44 million tonnes than the production of food grain of 285.21 million tonnes achieved during 2018-19.

Agricultural Credit
Given the large proportion of resource constrained small and marginal farmers in India, timely availability of adequate credit is fundamental for the success of farming activities.

The agricultural credit flow target for the year 2019-20 was fixed at Rs. 13,50,000 crores and against this target the achievement was Rs. 13,92,469.81 crores. The agriculture credit flow target for 2020-21 was fixed at Rs. 15,00,000 crores and till 30th November, 2020 a sum of Rs. 9,73,517.80 crores was disbursed. The Agriculture Infrastructure Fund announced as a part of Atma Nirbhar Bharat Abhiyan will further boost credit flow to the agriculture sector.

The regional distribution of the agricultural credit has, however, been skewed in favour of the Southern Region.

During the year 2020-21, in the total disbursement as on 30th November, 2020, the share of southern region in agricultural credit was more than 40 per cent while it was less than 2 per cent for the north-eastern region (NER). This low coverage of the agricultural credit in NER is because the total cultivable area in North Eastern States is only about 2.74 per cent of the total GCA of the country. Moreover, community ownership of land is prevalent in most of the NE States. These two factors affected the intake of Kisan Credit Card (KCC) loans in NER as these loans are given against land documents.

International Trade in Agricultural Commodities
In 2019-20, India's agricultural and allied exports amounted to approximately Rs. 252 thousand crores. The major export destinations were USA, Saudi Arabia, Iran, Nepal and Bangladesh. The top agriculture and related products exported from India were marine products, basmati rice, buffalo meat, spices, non-basmati rice, cotton raw, oil meals, sugar, castor oil and tea. While India occupies a leading position in global trade of aforementioned agri- products, its total agri-export basket accounts for a little over 2.5 per cent of world agri-trade.

Since economic reforms began in 1991, India has remained a net exporter of agri-products, with agri-exports touching Rs. 2.52 lakh crores and imports at Rs.1.47 lakh crores in FY 2019-20.

Minimum Support Price (MSP)
The Union Budget for 2018-19 had announced that MSPs would be kept at the level of 1.5 times of the cost of production. On the basis of the above-mentioned principle, Government recently increased the MSPs for all mandated kharif and rabi crops for 2020-21 season.

Crop Insurance
Pradhan Mantri Fasal Bima Yojana (PMFBY) is a milestone initiative to provide a comprehensive risk solution at the lowest uniform premium across the country for farmers.

As an end to end risk mitigation mechanism for farmers, the scheme extends coverage for the entire cropping cycle from pre-sowing to post-harvest including coverage for losses arising out of prevented sowing and mid-season adversities. Individual farm level losses arising out of localized calamities and post-harvest losses are also covered due to perils such as inundation, cloudburst and natural fire. The average sum insured per hectare has increased from Rs. 15,100 during the pre-PMFBY Schemes to Rs. 40,700 under PMFBY. The scheme completed five successful years of implementation on 13th January, 2021

As an endeavour to constantly improve, the scheme was made voluntary for all farmers, post its revamp in February 2020. Further the States have also been provided flexibility to rationalize the sum insured so that adequate benefits can be availed by farmers. The Scheme covers over 5.5 crore farmer applications year on year. As on 12th January, 2021, claims worth Rs. 90,000 crores have already been paid out under the Scheme. Aadhar seeding has helped in speedy claim settlement directly into the farmer accounts. Even during COVID lock down period nearly 70 lakh farmers benefitted and claims worth Rs. 8741.30 crores were transferred to the beneficiaries.

PM-KISAN
The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme was launched in 2019 to provide income support to all landholder farmer families across the country with cultivable land, subject to certain exclusions. Under the Scheme, an amount of Rs. 6000 per year is released in three instalments of Rs. 2000 each directly into the bank accounts of the beneficiaries. Ever since this scheme started, as on 25.12.2020, more than Rs. 1.10 lakh crore have reached the

account of farmers. An amount of Rs. 18000 crore have been deposited directly in the bank account of 9 crore farmer families of the country in December, 2020 in the 7th instalment of financial benefit under the scheme.

ALLIED SECTORS: ANIMAL HUSBANDRY, DAIRYING & FISHERIES

Livestock sector is an important sub-sector of agriculture in the Indian economy. It grew at CAGR of 8.24 per cent during 2014-15 to 2018-19. As per the estimates of National Accounts Statistics (NAS) 2020, the contribution of livestock in total agriculture and allied sector GVA (at constant prices) has increased from 24.32 per cent (2014-15) to 28.63 per cent (2018-19). Livestock sector contributed 4.2 per cent of total GVA in 2018-19.

Milk

India continues to be the **largest producer of milk** in the world. Milk production in the country has increased from 146.3 million tonnes in 2014-15 to 198.4 million tonnes in 2019-20. Annual Growth Rate of milk production was 6.27 per cent during 2014-15, thereafter, there was a steady increase. In 2019-20, milk production increased by 5.68 per cent as compared to the previous year.

Consequent upon budget announcement on inclusion of livestock sector in Kisan Credit Card in February 2020, 1.5 crores dairy farmers of milk cooperatives and milk producer companies' were targeted to provide Kisan Credit Cards (KCC) as part of Prime Minister's Atma Nirbhar Bharat Package.

Livestock Population and Production

According to FAOSTAT production data (2019), India ranks **3rd in egg production** in the world. The egg production in the country has increased from 78.48 billion in 2014-15 to 114.38 billion in 2019-20. Annual growth rate of egg production was 4.99 per cent during 2014-15, thereafter, there has been a significant improvement in the egg production with 10.19 per cent growth registered in 2019-20 over the previous year

According to FAOSTAT production data (2019), **India ranks 5th in meat production** in the world. Meat production in the country has increased from 6.7 million tonnes in 2014-15 to 8.6 million tonnes in 2019-20. The annual growth rate of meat production was 5.98 per cent in 2019-20.

FISHERIES

India is the **second largest fish producing country** in the world and accounts for 7.58 per cent of the global production. The fish production in India has reached an all-time high of 14.16 million metric tons during 2019-20. The fisheries sector contributes 1.24 per cent to the GVA and 7.28 per cent to the agricultural GVA. The export of marine products stood at 12.9 lakh metric tons with a value of Rs. 46,662 crores during 2019-20. The livelihood opportunities provided by this sector have been instrumental in sustaining incomes of over 28 million people in India, especially the marginalized and vulnerable communities, and has promoted meaningful socio-economic development.

The Government of India has taken several initiatives to harness the untapped potential of the sector. The centrally sponsored scheme – Blue Revolution (CSS-BR) which was launched in 2015-16 for a 5 year period with a central financial outlay of Rs. 3000 crores to catalyze the "Integrated, Responsible and Holistic Development and Management of the Fisheries Sector", ended in March 2020.

The Government of India in October 2018 approved the establishment of a dedicated Fisheries and Aquaculture Infrastructure Development Fund (FIDF) at Rs. 7522 crores.

Realizing the potential, scope and importance of the fisheries sector, new flagship scheme Pradhan Mantri Matsya Sampada Yojana (PMMSY) was launched in May, 2020 as a part of Atma Nirbhar Bharat Package by Government of India with an estimated investment of Rs. 20,050 crores comprising of central share of Rs. 9407 crores, state share of Rs. 4880 crores and beneficiaries contribution of Rs. 5763 crores for a period of five years from FY 2020-21 to FY 2024-25.

PMMSY aims to enhance fish production to 220 lakh metric tons by 2024-25 at an average annual growth rate of about 9 per cent. The ambitious scheme will result in doubling export earnings to Rs. 1,00,000 crores and generate direct and indirect employment opportunities of about 55 lakhs in the fisheries sector over a period of the next five years. PMMSY further intends to increase aquaculture productivity to 5 tonnes per hectare (up from national average of 3 tonnes per hectare), enhance domestic fish consumption and attract investments in fisheries sector from other sources. Insurance coverage for fishing vessels is being introduced for the first time under PMMSY.

AGRICULTURAL RESEARCH AND EDUCATION

Indian Council of Agricultural Research (ICAR), is a premier research organization for coordinating, guiding and managing agriculture research and education including in horticulture, fisheries and animal sciences in the entire country. A total of 172 new varieties/hybrids of field crops and 75 horticultural crops were notified/released till October, 2020 during the current year. Since, May 2014, National Agricultural Research System (NARS) under the leadership of ICAR has released and notified 1406 varieties of different field crops.

FOOD PROCESSING SECTOR

During the last 5 years ending 2018-19, food processing industries (FPI) has been growing at an average annual growth rate of around 9.99 per cent as compared to around 3.12 per cent in agriculture and 8.25 per cent in manufacturing at 2011-12 prices. Food processing sector has also emerged as an important segment of the Indian economy in terms of its contribution to GDP, employment and investment. The sector constitutes as much as 8.98 per cent of Gross Value Added (GVA) in manufacturing in 2018-19 at 2011-12 prices.

New Initiatives in Food Processing Sector

Formalization of Micro Food Processing Enterprises

Under the Atma Nirbhar Bharat Abhiyan, Ministry of Food Processing Industries (MoFPI) has launched a new Centrally Sponsored Scheme, Prime Minister-Formalisation of Micro Food Processing Enterprises (PM-FME) with a total outlay of Rs. 10,000 crores over the period 2020-2025. The scheme is expected to benefit 2 lakh micro food processing units through credit linked subsidy. The Scheme adopts One District One Product (ODOP) approach to reap benefit of scale in terms of procurement of inputs, availing common services and marketing of products.

The States need to identify one food product per district keeping in view the existing clusters and availability of raw material. Support for common infrastructure and branding & marketing would be for that product. The Scheme also places focus on waste to wealth products, minor forest products and Aspirational Districts. (NITI Aayog has identified 112 most backward districts of the country as Aspirational Districts)

Operation Greens

MoFPI is implementing a central sector scheme “Operation Greens – A scheme for integrated development of Tomato, Onion and Potato (TOP) value chain” to provide support to farmers when prices of agri produce is low. This scheme is not meant for intervention in the market during price rise. Under the short term- price stabilization measures of the scheme, there is a provision for 50 per cent subsidy on cost of transportation and storage for evacuation of surplus production from producing area to the consumption center during the glut situation.

Under Atma Nirbhar Bharat Abhiyan, this scheme has been extended from tomato, onion and potato (TOP) crops to the other notified horticulture crops (Total) for a period of six months. Transport subsidy has been allowed on any fruit & vegetable through any rail service provided by Indian Railways.

Production-Linked Incentive (PLI) Scheme

Government gave its approval in November 2020 to introduce the Production-Linked Incentive (PLI) Scheme in 10 key sectors, including food processing sector, for enhancing India's manufacturing capabilities and improving exports. The approved financial outlay for the PLI scheme in food processing is Rs. 10,900 crores. The food segments identified includes ready to eat/ready to cook, marine products, processed fruits & vegetables, mozzarella cheese, and innovative/organic products of SMEs. The scheme would also support the branding and marketing abroad.

Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)

Under the umbrella scheme Pradhan Mantri Kisan SAMPADA Yojana, the Ministry is implementing various component schemes which, inter-alia, includes (i) Mega Food Parks, (ii) Integrated Cold Chain and Value Addition Infrastructure, (iii) Infrastructure for Agro-processing Clusters, (iv) Creation of Backward and Forward Linkages (v) Creation/ Expansion of Food Processing & Preservation Capacities, and (vi) Operation Greens.

FOOD MANAGEMENT

For prudent management of foodgrain stock and to ensure adequate availability of wheat and rice in central pool with a view to augment the domestic availability of wheat and rice and ensure food security, the Central Government has undertaken the following measures:
I. MSP of wheat and paddy has been increased to protect the interest of farmers.
II. State Governments, particularly those undertaking Decentralized Procurement (DCP), are encouraged to maximize procurement of wheat and rice by state agencies.
III. Strategic reserves of 5 million tons of food grains over the existing buffer norms have been maintained to be used in extreme situations.
IV. Sale of wheat and rice is undertaken through Open Market Sale Scheme (OMSS) (Domestic) to check inflationary trend of food in market.

Procurement of Foodgrains

During the Kharif Marketing Season (KMS) 2019-20, 519.97 lakh metric tons (LMT) of Rice was procured against an estimated target of 529.05 LMT. In the ensuing KMS 2020-21, a total of 374.93 LMT of rice has been procured as on 15.01.2021. During Rabi Marketing Season (RMS) 2020-21, 389.92 LMT wheat was procured against 347.89 LMT procured during RMS 2019-20. During the Kharif Marketing Season 2020-21, a total of 4.78 LMT of coarse grains have been procured as on 18.01.2021.

Allocation of Foodgrains

During the Financial Year 2020-21, allocation of foodgrains has been done through two channels- under the National Food Security Act (NFSA) and the Pradhan Mantri Garib Kalyan Anna Yojana (PM-GKAY) scheme. At present NFSA is being implemented in all the 36 States/UTs and they are receiving monthly allocation of foodgrains under NFSA. During the Financial Year 2020-21 (upto 18.01.2021), Rs. 3679.82 crores was released to State Governments as central assistance to meet the expenditure incurred on intra-State movement of foodgrains and fair price shop dealers' margins.

In pursuance of the pro-poor announcement made under Pradhan Mantri Garib Kalyan Package, Government of India launched the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) scheme for additional allocation of foodgrains from the Central Pool at the rate of 5 kg per person per month free of cost for all the beneficiaries covered under Targeted Public Distribution System (TPDS) (AAY & PHH) including those covered under Direct Benefit Transfer (DBT) for a period of 3 months i.e April-June, 2020. Accordingly, about 121 LMT of foodgrain was allotted to approximately 80.96 crores beneficiaries entailing subsidy outgo of nearly Rs. 46061 crores. The PMGKAY scheme was extended for a further period of 5 months i.e. July – November, 2020. Accordingly, about 201 LMT of foodgrains have been allocated for free of cost distribution to beneficiaries entailing subsidy outgo of nearly Rs. 76062.11 Crores.

Further under Atma Nirbhar Bharat Package, Government of India made allocation of free foodgrain (wheat and rice) at the rate of 5 kg per person per month for two months (May and June, 2020) to benefit approximately 8 crores migrants/stranded migrants who are not covered under NFSA or state ration card entailing subsidy of Rs. 3109 crores approximately. The period of distribution to migrants for already lifted foodgrains (upto 25.06.2020) was extended till 31st August, 2020. Under ANBP, on an average about 2.74 crore persons per month for the month of May and June, 2020 were covered. Thus, a total of 5.48 crore person were given around 2 LMT of rice and 0.74 LMT of wheat with total expenditure of approx Rs. 989.30 crore.

Fortification of Rice and Its Distribution

To address the issue of anaemia and micro-nutrient deficiency and to promote nutrition security in the country, a centrally sponsored pilot scheme on "Fortification of Rice & its Distribution under Public Distribution System" was approved for a period of 3 years beginning in 2019-20 with total budget outlay of Rs. 174.64 crores. The pilot scheme is being funded by Government of India in the ratio of 90:10 in respect of North Eastern, Hilly and Island States and 75:25 ratio in the rest of the States.

The pilot scheme will focus on 15 Districts, preferably one district per state during the initial phase of implementation. Following State Governments, namely, Andhra Pradesh, Karnataka, Kerala, Maharashtra, Odisha, Assam, Gujarat, Uttar Pradesh, Tamil Nadu, Telangana, Punjab, Chhattisgarh, Jharkhand, Uttarakhand & Madhya Pradesh have consented and identified their respective districts for implementation of the pilot scheme. Uttar Pradesh, Chattisgarh, Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu have already started distribution of fortified rice under the scheme in their selected districts.

One Nation One Ration Card

The Department of Food & Public Distribution in collaboration with all States/UTs is implementing a central sector scheme namely "Integrated Management of Public Distribution System (IM-PDS)" the validity of which is extended up to 31.03.2022. The main objective of the scheme is to introduce nation-wide portability of ration card under National Food Security Act (NFSA) through 'One Nation One Ration Card' System.

This system will enable the ration card holders to lift their entitled foodgrains from any fair price shop (FPS) of their choice anywhere in the country by using their same/existing ration card. At present, the facility is seamlessly enabled in 32 States/UTs covering nearly 69 crores beneficiaries (86 per cent of the total NFSA population) in the country. Under this system, equivalent food subsidy through DBT (Cash Transfer) is provided to portability beneficiaries in Chandigarh and Puducherry instead of subsidised foodgrains.

Open Market Sale Scheme (Domestic)

In addition to maintaining buffer stocks and for making a provision for meeting the requirement of the National Food Security Act (NFSA) and Other Welfare Schemes (OWS), the Food Corporation of India (FCI) on the instructions from the Government sells excess stocks out of Central Pool through Open Market Sale Scheme (Domestic) [OMSS (D)] in the open market from time to time at predetermined prices. A target of 150 lakh MT of wheat has been set for sale by FCI including retail sale, out of the Central Pool in the open market under OMSS (D) during 2020-21. For rice, this target is 50 lakh MT during 2020-21.

Food Subsidy

The difference between the per quintal economic cost and the per quintal Central Issue Price (CIP) gives the quantum of per quintal food subsidy. In order to ensure food security to the vulnerable sections, the Government has continued with the subsidized pricing under NFSA.

The CIP of wheat and rice for NFSA beneficiaries has not been revised since the introduction of the Act in 2013 from Rs. 200 per quintal in case of wheat and Rs. 300 per quintal in case of rice. On the other hand, the economic cost of wheat for FCI operations has increased from Rs. 1908.32 per quintal in 2013-14 to Rs. 2683.84 per quintal in 2020-21. Similarly, the economic cost of rice has increased from Rs. 2615.51 per quintal in 2013-14 to Rs. 3723.76 per quintal in 2020-21. Further, the NFSA provides a wider coverage than the erstwhile TPDS. These all taken together has resulted in the rise in food subsidy.

Storage

The total storage capacity available with FCI and state agencies for storage of foodgrains as on 31.12.2020 was 819.19 LMT, comprising covered godowns of 669.10 LMT and Covered and Plinth (CAP) facilities of 150.09 LMT. Out of the total available storage capacity of 819.19 LMT, FCI has a capacity of 407.76 LMT while state agencies have a capacity of 411.43 LMT. The stock of rice and wheat in the Central Pool as on 01.01.2021 was 529.59 LMT.

Construction of godowns has been undertaken in PPP mode in 24 states under Private Entrepreneurs Guarantee (PEG) Scheme through the private sector as well as the Central Warehousing Corporation (CWC) and the State Warehousing Corporation (SWC). As on 30.11.2020, a capacity of 144.06 LMT has been created under this scheme. Apart from this, godowns are also being constructed through a central sector scheme by FCI in the North Eastern States, Kerala, Jharkhand and Himachal Pradesh.

The Government of India has also approved action plan with construction of steel silos in the country for a capacity of 100 LMT in public private partnership (PPP) mode with a view to modernize storage infrastructure and improve shelf life of stored foodgrains. Against this, as on 31.12.2020, a total capacity of 8.25 LMT of silos was completed.

Ethanol

The Government has set 10 per cent blending target for mixing ethanol with petrol by 2022 & 20 per cent blending target by 2030. With a view to achieve these blending targets, Government is encouraging sugar mills and molasses based standalone distilleries through various financial assistance to enhance their ethanol distillation capacity. The ethanol supply under Ethanol Blended Petrol (EBP) Programme, which was only about 38 crore litre in 2013-14, has increased to about 189 crores litre during Ethanol Supply Year (ESY) 2018-19 and it was 173 crores litre in ESY 2019-20. In the ESY 2020-21, about 325 crores litre ethanol is targeted to be produced to achieve 8.5 per cent blending and in ESY 2021-22, it is targeted to achieve 10 per cent blending by producing more than 400 crores litre of ethanol.

Government has also allowed conversion of surplus stock of rice with FCI and Maize to ethanol so that these targets of blending can be achieved smoothly.

Recent agricultural reforms: A REMEDY, NOT A MALADY

The President gave his assent on September 27, 2020 to three reforms related to agriculture sector—Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, and the Essential Commodities (Amendment) Act. Major provisions of the Reforms are presented below.

The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020

It seeks to create an ecosystem where the farmers and traders enjoy the freedom of choice relating to sale and purchase of farmers' produce. The reform grants freedom to farmers and buyers to transact in agricultural commodities even outside notified APMC mandis ensuring competitive alternative trading channels to promote efficient, transparent and barrier-free interstate and intra-state trade.

The Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020

It seeks to provide for a national framework on contract farming that protects and empowers farmers in their engagement with agri-business firms, processors, wholesalers, exporters or large retailers for farm services and sale of future farming produce at a mutually agreed remunerative price in a fair and transparent manner.

The Essential Commodities (Amendment) Act, 2020

It seeks to remove commodities like cereals, pulses, oilseeds, edible oils, onion and potatoes from the list of essential commodities. The reform ends the era of frequent imposition of stock-holding limits except under extraordinary circumstances.

Benefits of the Farm Reforms

The farmers in India have suffered from various restrictions in marketing their produce. There were restrictions for farmers in selling agri-produce outside the notified APMC market yards. The farmers were also restricted to sell the produce only to registered licensees of the state governments. Further, barriers existed in free flow of agriculture produce between various States owing to the prevalence of various APMC legislations enacted by the state governments.

APMC regulations have indeed resulted in a number of inefficiencies and consequent loss to the farmers. The presence of multiple intermediaries between the farmers and the final consumers has led to low realization by farmers. Further, a large range of taxes and cesses levied by APMCs cuts into farmers' price realization while only a small proportion is ploughed back into the development of mandi infrastructure. Poor infrastructure at the mandis compounds the problem of price realization for the farmers. Issues related to manual weighing, single window systems and lack of modern grading and sorting processes create long delays and measurement errors that tend to be biased against the seller. Long queues of farmers waiting, most often, in the hot sun to sell their produce with limited ability to take their produce elsewhere even if the price is higher in an other mandi is a characteristic feature of APMC mandis. The delays result in large post-harvest losses to the tune of 4-6 per cent in cereals and pulses, 7-12 per cent in vegetables and 6-18 per cent in fruits. Total post-harvest losses were estimated at Rs. 44,000 crores at 2009 wholesale prices.

Recognizing the above limitations of existing market regulations, various committees had recommended several reforms in the marketing of agricultural commodities.

The Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020 will empower farmers in their engagement with processors, wholesalers, aggregators, large retailers, exporters and will provide a level playing field. It will transfer the risk of market unpredictability from the farmer to the sponsor and also enable the farmer to access modern technology and better inputs. Farmers have been provided adequate protection as sale, lease or mortgage of farmers' land is totally prohibited and farmers' land is also protected against any recovery. The farmers will have full power in the contract to fix a sale price of their choice for the produce. They will receive payment within a maximum of 3 days.

As part of this law, 10000 Farmer Producer Organizations are being formed throughout the country. These FPOs will bring together small farmers and work to ensure remunerative pricing for farm produce. After signing the contract, farmer will not have to seek out traders as the purchasing consumer will need to take the produce directly from the farm.

The Essential Commodities (Amendment) Act 2020 removes commodities like cereals, pulses, oilseeds, edible oils, onion and potatoes from the list of essential commodities. This aims to remove fears in private investors from excessive regulatory interference in their business operations. The freedom to produce, hold, move, distribute and supply will lead to harnessing of economies of scale and will attract private sector/foreign direct investment into the agriculture sector. The legislation will help drive up investment in cold storages and modernization of food supply chain.

The three agricultural reform legislations are designed and intended primarily for the benefit of small and marginal farmers which constitute around 85 per cent of the total number of farmers and are the biggest sufferer of the regressive APMC regulated market regime. The newly introduced farm laws herald a new era of market freedom which can go a long way in the improvement of farmer welfare in India.

WAY FORWARD

The objective of inclusive development in India cannot be realized without the development of rural sector which crucially depends on agriculture. Agriculture and allied activities engage almost half of India's workforce and contributes close to 18 per cent of the gross value added of the country. Progress in agriculture (including forestry and fisheries) has a bearing on the fate of the largest low-income group in India.

There is a need for a paradigm shift in how we view agriculture from a rural livelihood sector to a modern business enterprise. In this context, both production and post production in agriculture needs urgent reforms to enable sustainable and consistent growth. Increase in area under irrigation, adoption of hybrid and improved seeds, increasing variety replacement ratio and augmentation in seed testing facilities will help address low productivity concerns.

Adequate storage and remunerative markets for agricultural products should be the main focus of post-production management. It is also important to integrate agriculture with nutritional outcomes by means of food fortification of staples.

On the post-production front, measures like village level procurement centres, linkages between production and processing, development of rural markets, option of selling outside the APMC markets – warehouse upgradations and strengthening of railways freight operations, dedicated freight corridors among others are needed and are being taken up. These measures will not only reduce post-harvest losses but will also help realize the objective of doubling farmers' income.

All business enterprises need to optimise on inputs - both knowledge and materials. Therefore, it is also essential to impart farmers with basic education and training to transform his / her role from that of a producer to an entrepreneur. The option of setting up of rural agricultural schools for hands-on training may be explored in this regard. Allied sectors including animal husbandry, dairying and fisheries have gradually become a significant source of farm income and employment. Measures need to be taken to increase the productivity of the allied sectors along with sufficient provision for marketing of their products. Another area of emphasis is the need to strengthen agriculture extension services which are extremely important as they provide technical information to the farmer about improved agricultural practices, guidance on the use of these inputs and other services in support of their production.

The food subsidy bill is becoming unmanageably large. While it is difficult to reduce the economic cost of food management in view of rising commitment towards food security, there is a need to consider the revision of CIP to reduce the bulging food subsidy bill.

Chapter 8 - Industry and Infrastructure

The financial year 2020-21 (FY21) began amidst a global pandemic, the management of which led to countries adopting unprecedented measures that brought the economy to a grinding halt. The lockdown and the corresponding restrictions on local and global movement of people and goods, except for essential goods and services, was an exogenous shock that posed considerable challenges to the economy, created uncertainty, was responsible for extensive loss of livelihoods and led to the displacement of people. The unlocking of the economy in a phased manner has helped the economy to get back on its feet. The rebuilding of the Indian economy is hinged on various reform measures aimed at addressing concerns of businesses and support to livelihoods.

India implemented policies aimed at reducing transaction costs, supporting Micro Small and Medium Enterprises (MSMEs), enhancing competition, fostering employment creation and securing sustenance through the Atmanirbhar Bharat Abhiyan. The performance of the industrial sector is critical given its deep backward and forward linkages with the other sectors of the economy. A strong industrial sector is a sine quo non for an Atmanirbhar Bharat. Any initiative aimed at securing a rapid recovery needs to keep industry concerns at the core of its intervention.

A bouquet of measures equivalent to Rs. 29.87 lakh crores or 15 per cent of India's GDP were introduced as a measure of relief and support to the economy.

Atmanirbhar Bharat Abhiyan
Atmanirbhar Bharat is the vision of the GoI of making India a self-reliant nation. The announcements under the Atmanirbhar Bharat Abhiyan were made in three tranches. The key measures pertaining to industry and infrastructure are summarized below:

Atmanirbhar Bharat 1.0
I. Relief and credit support to MSMEs to fight against COVID-19.
1. Rs. 3 lakh crores Collateral-free Automatic Loans for Businesses, including MSMEs
2. Rs. 20,000 crores Subordinate Debt for Stressed MSMEs
3.Rs. 50,000 crores equity infusion through MSME Fund of Funds
4. New definition of MSME: Low threshold in the MSME definition have created a fear among the MSMEs of graduating out of the benefits. Hence, the government has revised the definition of MSME by raising the investment limit. An additional criteria of turnover has been introduced and distinction between manufacturing and service sector stands removed.
5. Global tenders to be disallowed upto Rs. 200 crores:

II. Packages for Power Sector- Rs. 90,000 crores liquidity injection for DISCOMs

III. Real Estate: The extension of registration and completion date of real estate projects under Real Estate (Regulation and Development) Act (RERA)

IV. Public Sector Enterprise Policy for a New, Self-reliant India
• Government to announce a new coherent policy—where all sectors are open to the private sector while public sector enterprises (PSEs) will play an important role in defined areas
• List of strategic sectors requiring presence of PSEs in public interest will be notified
• In strategic sectors, at least one enterprise will remain in the public sector but private sector will also be allowed
• In other sectors, PSEs will be privatized (timing to be based on feasibility etc.)
• To minimize wasteful administrative costs, number of enterprises in strategic sectors will ordinarily be only one to four; others will be privatized/ merged/ brought under holding companies

Atmanirbhar Bharat 2.0 (second tranche of measures) provided Rs. 25,000 crores as additional capital expenditure to the Ministry of Road Transport and Ministry of Defence.

Atmanirbhar Bharat 3.0 (third tranche of measures) initiatives that impact the industrial sector include:
• Rs. 1.46 lakh crores boost for Atmanirbhar manufacturing production-linked incentives for 10 Champion Sectors
• Rs. 18,000 crores additional outlay for PM Awaas Yojana (PMAY) –Urban
• Support for construction & infrastructure – relaxation of Earnest Money Deposit (EMD) & performance security on Government tenders
• Rs. 1.10 lakh crores platform for infra debt financing

Industrial sector
As per the latest estimates on Gross Value Added (GVA), the industrial sector is expected to record a growth of -9.6 per cent with an overall contribution in GVA of 25.8 per cent in 2020-21 (FY21). The contribution of the industrial sector has been constantly declining since 2011-12. The fall in share is across the board except in case of 'Electricity, gas, water supply & other utility services' whose share in GVA has increased from 2.3 per cent in FY12 to 2.7 per cent in FY21.

TRENDS IN INDUSTRIAL SECTOR

Index of Eight-Core Industries and Index of Industrial Production (IIP)

On 24 March 2020, when the 21-day national lockdown was imposed to prevent the proliferation of COVID-19, it was expected that the economic activities would freeze except for some essential services. Based on the IIP, the industrial activity contracted by 1.9 per cent in November-2020 recovering from the nadir of -57.3 per cent in April-2020

The cumulative growth of IIP for the period April-November 2020 was (-) 15.5 per cent as compared to 0.3 per cent from April-November 2019.

The calibrated and gradual unlocking process led to the resumption of economic activities translating into positive growth in IIP for the first time in September-2020 since the lockdown. The subsequent months have seen consistent improvement and the sub-components of the IIP have gradually inched towards their pre-COVID levels, a reflection of the beginning of the revival of the economy. The improvement has been broad-based in both the core and non-core components of the IIP with a few exceptions like the petroleum products in the core group that are still below the normal level.

The eight-core industries that support infrastructure, such as coal, crude oil, natural gas, refinery products, fertilizers, steel, cement, and electricity have a total weight of nearly 40 percent in the IIP. The eight-core index recorded its all-time low growth of (-) 37.9 due to covid -19 led nation-wide lockdown (April-2020).

The eight-core industries registered (-) 2.6 per cent growth in November-2020 as compared to 0.7 per cent in November-2019 and (-) 0.9 per cent in October-2020. The cumulative growth of core industries during April-November 2020 was (-) 11.4 per cent as compared to 0.3 per cent during April-November 2019.

The trajectory of the eight-core index has been improving since May-2020 and further recovery/expansion is expected in remaining months of FY21.

The overall IIP broadly follows the eight-core index. The various subcomponents of Index of Industrial Production (IIP) and eight-core index have experienced a V-shaped recovery with consistent movement being seen towards the pre-crisis levels.

Gross Capital Formation in the Industrial Sector

The rate of growth of Gross Capital Formation (GCF) in industry registered a sharp rise from 1.2 per cent in FY18 to 17.5 per cent in FY19, showing a substantive improvement in GCF in the sector. Mining & Quarrying, Manufacturing, 'Electricity, Gas, Water Supply & Other Utility Services' and Construction had registered a growth rate of 14.9 per cent, 15.9 per cent, 15.3 per cent, and 24.4 per cent respectively in FY19. However, the share of GCF of the industrial sector had declined from 38.2 per cent in FY12 to 30.2 per cent of GDP in FY18 before an uptick (31.9 per cent) was recorded in FY19.

Credit to the Industrial Sector

Gross bank credit to the industrial sector, on a YoY basis, recorded (-) 1.7 growth in October-2020 as compared to 3.4 per cent growth in October-2019. Some of the industries recorded a nominal credit growth including the construction sectors. The laggards in the group are ‘All Engineering’, ‘Cement & Cement Products’, and ‘Basic Metal & Metal Products’ which recorded a YoY negative growth in October-2020

Performance of Central Public Sector Enterprises (CPSEs)

The public sector enterprise policy enunciated by the Government in November 2020, spells a complete change in paradigm as compared to its policy of import substitution and self sufficiency which became the basis of the Mahalanobis Plan in 1956. However, the inherent inefficiencies leading to low productivity in the PSEs, high-cost structure and strained public finances led the GoI to privatize the PSUs after 1991. Thus, began the journey of privatisation/disinvestment in the country.

The Government has since then taken several measures to reduce its presence in commercial activities both through the stock market route and through strategic sale.
Under the aegis of the Atmanirbhar Bharat Mission, the government has proposed to rationalise the participation of the CPSEs in commercial activities. It has been argued that the existence of the CPSEs should only be in the ‘strategic sectors’. Accordingly, the number of PSEs in the strategic sector will ideally be limited to four– others would either be merged or privatized or brought under holding companies. Further, the CPSEs in the non-strategic sectors would be privatized as per guidelines issued. This initiative is expected to bring healthy competition in sectors and will also assist the Government to focus extensively on ‘strategic sectors.’

While disinvestment and rationalization of some the CPSEs is being planned, there is also a need to strengthen the ones that would be retained in their respective sectors so as to fully meet with the expectations of the government. An important step in this direction would be to completely revamp the Boards of the CPSEs to reorganize their structure, enhance their operational autonomy coupled with strong corporate governance norms including listing on stock exchanges for greater transparency. Department of Public Enterprises has separately initiated revamping of Performance Monitoring system of the CPSEs to make it more objective and forward-looking based on sectoral indices/benchmarks. Also, certain reforms in the direction of timely closure of sick and loss making the CPSEs and disposal of their assets have been initiated.

As of January 15, 2021, based on provisional information with Department of Public Enterprises, there are 366 CPSEs as of March 2020. Of these, 256 are in operation, but only 171 CPSEs booked profit during FY20. The total profit of profit-making CPSEs was Rs. 1.38 lakh crores in FY20, whereas the consolidated loss of loss-making enterprises was Rs. 44,816 crores. The overall net profit of the CPSEs declined by 34.6 per cent to reach Rs. 93,295 crore in FY20 from Rs. 1.43 lakh crore in FY19. CPSEs are operating in 4 sectors – Agriculture, Mining & Exploration, Manufacturing, and Services.

Corporate Sector Performance

As per the RBI report on corporate performance, demand conditions in the manufacturing sector moved to the path of recovery with a softer contraction of 4.3 per cent (YoY) in nominal sales for Q2:2020-21 after a contraction of 41.1 per cent in the previous quarter due to pandemic led country-wide lockdown. The recovery was led by iron and steel, food products, cement, automobile, and pharmaceutical companies. The net profit for the manufacturing sector contracted by 7.8 per cent in Q2:2020-21.

Ease of Doing Business

The GoI is committed to facilitating a pro-business environment to enable the country to become the global hub of manufacturing and economic activities. Several measures have been taken resulting in the simplification and rationalization of many existing and age-old rules and regulations. The introduction of information technology and single window clearance to make governance more efficient and effective were some of the other concrete steps taken by the Government to improve the environment of doing business.

As per the Doing Business Report (DBR), 2020, the rank of India in the Ease of Doing Business (EoDB) Index for 2019 has moved upwards to the 63rd position amongst 190 countries from a rank of 77 in 2018. India has improved its position in 7 out of 10 indicators, inching up to the international best practices. The DBR, 2020 acknowledges India as one of the top 10 improvers, the third time in a row, with an improvement of 67 ranks in three years. It is also the highest jump by any large country since 2011.

Start-up India

Startups are the platform for entrepreneurs who have the ability to think out of the box and innovate to conceive products that can create a niche for themselves in a dynamically changing world. Startups have the potential to be the engine of growth in the medium to long run. To facilitate the growth of startups, GoI had announced the "Startup India, Stand-up India" initiative. The action plan is based on the three pillars "Simplification and Handholding", "Funding Support and Incentives", and "Industry-Academia Partnership and Incubation". As on December 23, 2020, GoI has recognized a total of 41061 startups and 4,70,000 jobs have been reported by more than 39,000 startups.

Initiative Taken by GoI to Support Startups in India

1. Startups Intellectual Property Protection (SIPP) scheme enables a start-up to seek assistance from any empanelled facilitator to file and prosecute their application. The facilitator can claim payment for the services given to the start up from the Office of the Controller General of Patents, Designs and Trademarks (O/o CGPDTM) on submission of certificate in prescribed format. As of June-2020, 510 patent facilitators and 392 trademark facilitators have been empanelled to provide free-of-charge services to Startups.

2. Further to boost innovation in the sector and encourage the youths to secure their rights on technology and the product developed by them, startup have been provided 80 per cent rebate in patent filing fees and 50 per cent rebate on trademark filing fees. Additionally, facility of expedited examination of patent applications to reduce the time taken in granting patents is also available to the startups.

3. The Fund of Funds for Startups (FFS) with a total corpus of Rs. 10,000 crores was established with contribution spread over the 14th and 15th Finance Commission cycle based on the progress of implementation
4. So far 319 startups have been granted income tax exemptions till November-2020.

5. Startup Yatra (an initiative that travels to Tier 2 and Tier 3 cities of India to search for entrepreneurial talent by conducting day long bootcamps) has been conducted across 23 States in 207 districts impacting 78346 aspiring entrepreneurs. A total of 1,424 incubation offers have been given to the startups as a result of this initiative.

Foreign Direct Investment (FDI)

FDI is a one of the major sources of investment and investment financing that drives the economic growth in the country. The FDI flows are also associated with the enhancement of productivity, skills and technology development in the country. The proactive policy measures and improvement in the ease of doing business in the country resulted in massive improvement in FDI inflows. The FDI equity flows have been on the upswing since FY13. During FY20, total FDI equity inflows were US$49.98 billion as compared to US$44.37 billion during FY19. The similar number for FY21 (up to September-2020) was US$30.0 billion. The bulk of FDI equity flow is in the non-manufacturing sector leading to a reduction in the share of manufacturing in the FDI flows.

SECTOR WISE ISSUES AND INITIATIVES

Steel

Steel is one of the critical inputs to industries, urban development and infrastructure development. Taking cognizance of the requirement of this critical input in these crucial pillars of economic growth, the National Steel Policy, 2017 (NSP-17) envisioned significant expansion in production capacity while being globally competitive. The NSP-17 aims at achieving a crude steel capacity of 300 million tonnes (MT) and a finished steel capacity of 230 MT with a per capita consumption of 158 kg by 2030-31.

India is the **second-largest producer of crude steel only after China.** India is also the **second largest consumer** of steel. However, its per capita total finished steel consumption was around 74.7 kg during FY20 as against the global average of 229 kg. Further, the capacity utilization in crude steel plants continues to be low.

Coal

Coal is the one of the most important and abundant fossil fuel in India. It accounts for 55 per cent of the country’s energy needs. Coal is not only the primary source of energy in the country but is also used as an intermediary by many industries such as steel, sponge iron, cement, paper, brick-kilns, etc.

In the FY20, the production of raw coal in India was 729.1 million tonnes (MnT) with a minuscule growth of 0.05 per cent over the previous year. In FY21 (April-October), all India coal production was 337.52 MnT, thus declining by 3.3 per cent YoY. The contraction in production is attributable to COVID-19. **India is also an importer of coal** importing 248.54 MT of coal in FY20, a growth of 5.7 per cent over FY19.

The energy supply in India is heavily coal-dependent. Nevertheless, the GoI has taken many measures to strike a balance between energy needs and environment friendliness

Measures Taken by GoI in the Coal Sector

A. Clean Coal

• Creating carbon sink: About 54500 ha land has been brought under green cover by planting 132 million trees - estimated carbon sink of 2.7 lakh tonnes of CO_2 equivalent/year. Plan to cover 20000 ha of additional area by plantation of around 50 million trees by 2030.
• Two Coal Bed Methane (CBM) Projects with considerable potential for carbon footprint reduction are in the pipeline
• Surface coal gasification projects (100 million tonnes (MT) coal by 2030) with relatively lesser carbon footprint.
• First mile connectivity projects: transportation of coal from pitheads to dispatch points.

B. Amendment in Act & Rules and other measures

• Several amendments were brought into the Coal Mines (Special Provisions) Act, 2015 through the Mineral Laws (Amendment) Act, 2020 enacted on 13.03.2020.
• A total of 11 coal blocks are allocated under Mines and Minerals (Regulation and Development) (MMDR) Act. Further, directions had been issued to Nominated Authority for allocation of 25 coal blocks by auction for sale of coal
• Of the auction of 38 coal mines for commercial mining in June-2020, 19 were successfully auctioned (a success rate of 50 per cent as compared to 30 per cent in the past).

Micro, Small & Medium Enterprises (MSME)

The GoI has undertaken numerous initiatives to empower the MSMEs to tide over the present crisis and become drivers of growth for the Indian economy. With more than 6 crores MSMEs, the sector has been the backbone of the economy and plays a crucial role in employment generation and in contribution to GDP. The sector employs more than 11 crores people, contributes roughly 30 per cent to the GDP, and contributes half of the country’s exports helping in building a stronger and a self-reliant India.

The MSME sector was one of the worst hit sectors during the nation-wide lockdown. Several corrective and supportive measures have been taken to bring the sector on track. The first among those is the revision of the investment criteria in the MSME definition. The need for a change that provides small firms the incentives to grow and thereby reap economies of scale was argued for in the Economic Survey 2018-19. This upward revision in investment criteria is expected to make them globally competitive and facilitate robust expansion of the MSMEs in the country. It will help in unleashing the economies of scale in production without the fear of forgoing the benefits of an MSME unit.

Textile and Apparels

The textile and apparel industry plays an important role in the overall social and economic development of the country. The textile and apparel industry contributed 2 per cent in the overall GDP and 11 per cent of total manufacturing GVA in FY20 and provided total direct and indirect employment of about 10.5 crore people. The sector is the second-largest employment generator in the country, next only to agriculture. Most important with a major part of this workforce being women, it plays a vital role in women empowerment and in the overall social development of the country.

The GoI is implementing several schemes cutting across sectors such as the Amended Technology Upgradation Fund Scheme (ATUFS), Scheme for Integrated textiles park (SITP) and a scheme called Samarth. ATUFS, is a revised version of TUFS and has the objective to modernize and upgrade the technology of the Indian textile industry. SITP is for providing world class infrastructure facilities. Of the 56 textile parks which were sanctioned under SITP, 23 have been completed so far. Samarth focusses on capacity building in the textile sector.

India is the **sixth-largest exporter** of textile and apparel products after China, Germany, Bangladesh, Vietnam, and Italy. India is well known in the global market for many products including cotton yarn, fashion garments, hand-made carpets, etc. The designing capability of this industry is respected worldwide, which has helped the country to build its image as an industrial powerhouse.

INFRASTRUCTURE

Basic infrastructure facilities in the country provide the foundation of growth. In the absence of adequate infrastructure, the economy operates at a suboptimal level and remains distant from its potential and frontier growth trajectory. The strong backward-forward linkages of the infrastructure sector are well established. Therefore, investment in infrastructure is quintessential for more rapid and inclusive economic growth.

GoI launched the National Infrastructure Pipeline (NIP) for the FY 2020-2025 to facilitated world class infrastructure projects to be implemented. This first of its kind initiative will boost the economy, generate better employment opportunities, and drive the competitiveness of the Indian economy. It is jointly funded by the Central Government (39%), State Governments (40%), and the private sector (21%).

The NIP was launched with the projected infrastructure investment of Rs. 111 lakh crore ($1.5 trillion) during the period 2020-2025. The sectors like energy (24%), roads(18%), urban infrastructure(17%), railways (12%) have a major share in the NIP.

In India, private investment in infrastructure has come mainly in the form of Public-Private Partnerships (PPPs). PPPs help in addressing the infrastructure gap as well as improve efficiency in infrastructure service delivery. The GoI set up the Public Private Partnership Appraisal Committee (PPPAC) responsible for the appraisal of PPP projects in the Central sector.

Road Sector

India runs on the road, be it the passenger or goods movement, road transport is the dominant mode of transportation in the country. The share of the transport sector in the GVA for FY19 was about 4.6 per cent of which the share of road transport contributed roughly 67 per cent.

The road network is the backbone of the transport system in India and it is very well integrated with the multi-modal system of transportation, which provides crucial links with airports, railway stations, ports, and other logistical hubs. With 63.86 lakh kms of rural-urban roads and national-state highways, **India is next only to the United States of America that has a road network of 66.45 lakh km**. With the proactive policy initiatives in the sector, the road network has continuously been expanding in the country.

During the decade ending in FY19, the national highways recorded a CAGR of 7.25 per cent followed by rural roads (6.25 per cent) and urban roads (4.27 per cent). The pace at which roads have been constructed has grown significantly from 12 kms per day in 2014-15 to 30 kms per day in FY19 before it moderated in FY20. The decline in the construction of road per day in FY21 is mostly on account of the COVID-19 shock. With the unlocking of the economy, construction of roads is expected to return back to the high pace attained before COVID-19.

Total investment in the Roads and Highway sector has gone up more than three times in the six years period from FY15 to FY20, which also led to increased road density across the states.

Civil Aviation

The aviation market of India is one of the fastest growing in the world. India’s domestic traffic has more than doubled from around 61 million in FY14 to around 137 million in FY20, a growth of over 14 per cent per annum. From the third largest domestic aviation market, it is expected to become the third largest overall (including domestic and international traffic) by the year FY25.

Despite the severe challenges posed by Covid-19, the Indian aviation industry has persevered through the crisis and demonstrated long-term resilience and full commitment to serve. The Vande Bharat Mission was launched on 7th May 2020 to evacuate stranded Indians across the world. It has thus reported over 30 lakhs passenger arrivals by 13 December 2020, with over 27 lakhs facilitated through chartered flights and Air India Group, making it the largest evacuation mission in human history. The air cargos took the lead in transporting life-critical supplies to the remotest corners of India under the Lifeline Udan initiative and also in seamlessly handling the imports of essential medical supplies.

Air passenger travel and aircraft movements are predicted to reach pre-COVID level in early 2021 as a result of swift and decisive interventions and effective measures put in place by the Government. Government has also entered into air-links or air transport bubble arrangements with 23 countries to facilitate the movement of passengers between the respective countries and India.

Port and Shipping

The ports and shipping sector is the backbone of international shipment of goods and services. It not only facilitates international trade but also reduces the cost of international shipping and waiting period at the ports. In India, around 95 per cent (68 per cent) of total volume (value) of international trade is transported by sea.

India is endowed with a rich coastline of ~7500 km and has a strategic location on key international maritime trade routes. To harness and unleash the potential benefit of navigable waterways, the GoI has embarked on the ambitious Sagarmala Programme to promote port-led development in the country and reduce logistics costs for trade.

The Sagarmala program has identified 500+ projects under four pillars— 211 port modernization projects, 200 port connectivity projects, 32 port-led industrialization projects, and 62 coastal community development projects which can unlock the opportunities for portled development and are expected to mobilize more than Rs. 3.59 lakh crores of infrastructure investment.

The installed capacity of major ports in India has increased to 1534.91 MTPA in March-2020 as compared to 871.52 MTPA in March-2014. The major ports handled traffic of 704.82 MT during FY20. GoI has also been striving to improve operational efficiencies of major ports through mechanization, digitization, and process simplification. The average turnaround time in FY20 improved to 61.75 hours as against 126.96 hours in FY11 and 96 hours in FY15. The average output per ship berth day has increased from 12,458 tonnes in FY15 to 16,433 tonnes in FY20.

Unlike the preconceived notion that the port which contributes more in total traffic has a higher turnover time, the evidence suggests that the average turnover time is not significantly associated with the volume of traffic handled by the port. Irrespective of total traffic there are some major ports that are efficient on turnaround time and vice-versa.

Railways

Indian Railways (IR) with over 67,580 route kms, is the **third-largest network in the world** under single management. During the FY20, IR carried 1.2 billion tonnes of freight and 8.1 billion passengers – making it the world's largest passenger carrier and fourth-largest freight carrier.

IR endeavours to provide safe, efficient, and competitive means of transport by adopting technological changes including through development of specific indigenous systems in signalling to avert train collision and to enable real time management of trains, in keeping with the Atamnirbhar Bharat Mission and by maintaining cleanliness standards under Swachh Bharat Abhiyan.

Revenue earning freight loading (excluding loading by Konkan Railway) by IR in FY20 was 12,084 lakh tonnes, registering a decrease of 1.1 per cent over FY19. The passenger traffic was 80,857 lakhs in FY20 registering a growth of (-) 4.2 per cent over FY19.

The IR accorded the highest priority to safety and took various measures on a continuous basis to prevent accidents and to enhance safety. As a result, the number of train accidents has come down from 104 in FY17 to 55 in FY20 despite a substantial increase in the traffic volume carried by the Indian Railways during the same period.

The IR launched a special cleanliness campaign under Swachh bharat Abhiyan on 2nd October 2014. Under the cleanliness campaign, the IR has installed the bio-toilets in all passenger coaches.

The GoI has allowed the private players to operate in the Railways sector through the PPP mode under the "New India New Railway" initiative. The initiative is expected to garner an investment of about Rs. 30,000 crores from the private sector. Ministry of Railways has identified over 150 pairs of train services for the introduction of 151 modern train sets or rakes through private participation. The private entity shall be responsible for financing, procuring, operating, and maintenance of the trains and shall have the freedom to decide on the fare to be charged from its passengers. The private entities that would undertake the project is being selected through a two-stage competitive bidding process. The bidding process is expected to be completed by May 2021 and the private trains are likely to be introduced in 2023-24.

The Union Budget 2020-21 made an announcement to run the Kisan Rail services to provide better market opportunity by transporting perishables and agri-product, including milk, meat, and fish.

During the lock-down on account of COVID-19 pandemic, the operations of all passenger carrying trains was stopped, which shut-down the movement of essential commodities that had been moving by parcel services. To ensure that the supply of essential commodities throughout the country is not disrupted, Indian Railways introduced parcel special train services, including time-tabled parcel special trains. The first time-tabled parcel special train was run by the Indian Railways on 31st March 2020.

To develop capacity- both infrastructure and rolling stock- ahead of demand, the Ministry of Railways has developed a National Rail Plan (NRP). It aims at developing adequate rail infrastructure by 2030 to cater to the projected traffic requirements up to 2050. NRP has attempted to map the entire transport infrastructure of the country on a common platform. It has also assessed the existing passenger and freight traffic carried on all modes and forecast the growth for the period 2030 to 2050 and then strategize a significant modal shift to rail.

The objective is to increase the modal share of rail in freight from the current level of 27 per cent to 45 per cent. Innovative financing has been devised to fund these priority projects. Indian Railway Finance Corporation (IRFC) is mobilizing resources with sufficient moratorium period and projects are being targeted to be completed well before the expiry of the moratorium period. These priority projects are being planned in such a way that they will provide enough return to service the debt.

Telecom Sector

The telecom sector plays an important role in implementation of JAM-trinity (Jandhan Aadhar Mobile) based social sector schemes and other pro-development initiative of the GoI. The sector has been recognized all over the world as a powerful tool for development and poverty reduction. The GoI has laid considerable emphasis on broadband for all as a part of its Digital India Campaign. Efforts are being made to address the digital divide by extending inclusive internet access to every Indian citizen.

The wireless telephony constitutes 98.3 per cent of all subscriptions whereas the share of landline telephones now stands at only 1.7 per cent. The overall teledensity in India stands at 86.6 per cent at the end of November-2020, whereas teledensity in rural and urban areas are 59.1 per cent and 139.0 per cent respectively.

Internet and broadband penetrated both in urban and rural area at a rapid pace. The number of internet subscribers (both broadband and narrowband put together) stood at 776.45 million at the end of September-2020 as compared to 636.73 million in March-2019. The wireless data usage grew at exponential rate during the calender year 2019 and was at 76.47 Exa bytes. During January-September 2020, it had already reached 75.21 Exa bytes. Average wireless data consumption per subscriber per month increased from 9.1 GB in March-2019 to 12.2 GB in June-2020. The reduced cost of data could enable affordable internet access at a rapid pace. As on June-2020, the cost of wireless data stood at Rs.10.55 per GB.

The GoI has taken various initiatives including **BharatNet** for achieving the goal of Digital India programme. Under the project, network infrastructure is being established for Broadband Highways, accessible on a non-discriminatory basis to provide affordable broadband services to citizens and institutions in rural areas, in partnership with States and the private sector. As on 15.01.2021 about 4.87 lakh kms of optical fiber cable has been laid to cover 1.63 lakh Gram Panchayats (GPs) and nearly 1.51 lakh GPs have become service ready.

Petroleum and Natural Gas

India is the **third-largest energy consumer in the world after USA and China**. With a share of 5.8 per cent of the world's primary energy consumption, the Indian energy consumption basket is primarily dominated by Coal and Crude Oil. India's indigenous crude oil production declined to 32.17 Million Metric Tonnes (MMT) in FY20 as against 34.20 MMT in FY19. Of the total crude oil & condensate production, 64.1 per cent was from ONGC, 9.7 per cent from OIL, and 26.2 per cent from the Production Share Contract (PSC) regime. During FY21 (Apr-Dec), oil production registered a decline of 5.7 per cent as compared to the corresponding period in FY20. The decline in production is mainly on account of the spread of COVID-19. Therefore, production is expected to return to normalcy given the economic recovery.

Natural Gas production during FY20 was 31.18 Billion Cubic Meters (BCM) as against 32.87 BCM in FY19. Of the total production of natural gas, 76.1 per cent was from ONGC, 8.6 per cent from OIL, and 15.3 per cent from the PSC regime. During April-December 2020, gas production was 21.13 BCM which was 11.3 per cent lower than the production during the same period in FY20.

Processed Crude Oil for the year FY20 was 254.39 MMT as against 257.20 MMT in FY19, showing a decrease of about 1.1 per cent. During FY20, most refineries had planned shutdowns for the implementation of quality upgradation projects. Crude processed during April-December 2020 was 160.36 MMT which is 15.8 per cent lower than crude processed during April-December 2019.

Despite this, the Government provided much needed support to poor households by distributing over 14 crore free LPG cylinders, and continued uninterrupted fuel supplies across the country throughout COVID-19 lockdown.

Power

Electricity is essential for powering economic activity and is also required in leisure time. The power sector has witnessed substantial transformation from both the demand (universal electrification) and supply-side (the advent of green energy). Commendable progress has been made in the generation and transmission of electricity in India. The total installed capacity has increased from 3,56,100 MW in March-2019 to 3,70,106 MW in March 2020. Further, the generation capacity increased to 3,73,436 MW in October-2020 and comprised of 2,31,321 MW of thermal, 45,699 MW of hydro, 6,780 MW of nuclear, and 89,636 MW of renewables and others. The capacity addition in the power sector was mainly driven by the Government in the year FY20.

The decline in energy deficit may be partially attributed to enhanced energy efficiency and improved energy intensity in India. Energy intensity is defined as the quantity of energy required to produce a unit of output. Therefore, lower the energy intensity better it is. The energy intensity of India (at 2011-12 prices) decreased from 65.6 toes per crore rupees in FY12 to 55.43 toe per crore rupees in FY19. At the same time, the per capita consumption increased from 0.47 toe in FY12 to 0.58 toe in FY19.

In 2014, GoI approved the Integrated Power Development Scheme (IPDS) to facilitate state utilities to ensure quality and reliable 24x7 power supply in the urban areas with a total outlay of Rs. 32,612 crores.

Further, the country has already accomplished two major landmarks in rural electrification arena: (i) 100 per cent village electrification under Deen Dayal Upadhyaya Gram Joyti Yojana, and (ii) universal household electrification under 'Pradhan Mantri Sahaj Bijli Har Ghar Yojana' (Saubhaagya).

T&D losses have been declining since 2001-02 but are still substantial. As compared to the T&D losses of the peer countries, India's T&D are very high.

Mining Sector

Minerals are valuable natural resources that are finite and play a key role in the overall economic development. The mining sector is one of the core sectors of the economy. India produces as many as 95 minerals which include 4 hydrocarbon energy minerals (coal, lignite, petroleum & natural gas), 5 atomic minerals (ilmenite, rutile, zircon, uranium, and monazite), 10 metallic, 21 non-metallic, and 55 minor minerals.

The Gross Value Added (GVA) of the mining and quarrying sector in FY20 was Rs. 3,93,102 crores (at current price), accounting for about 2.1 per cent of the overall GVA during FY20. The production value of the major minerals increased by 2.3 per cent in FY20 as compared to 22.4 per cent growth in FY19. The mining sector has undergone significant reforms in recent years, that has resulted in better exploration and utilization of natural resources.

Amendments in the Mines and Mineral (Development and Regulation) Act, 1957 (MMDR Act) in 2015 heralded major reforms in this sector. The move towards grant of mineral concessions through auction as against the earlier method of 'first-come-first-served' brought in transparency and removed discretion in the grant of mineral concessions.

Establishment of the National Mineral Exploration Trust (NMET) for providing impetus to exploration; uniform lease period of 50 years; dispensing of the requirement of previous approval of the Central Government for grant of mineral concession other than for atomic minerals, coal and lignite; establishing district mineral foundation for benefit of people and areas affected by mining.

At present after auction of mines, the successful bidder applies for clearances and after obtaining clearances production starts. Generally, getting clearances takes longer times, anywhere around 3 to 4 years and consequently production is delayed. For immediate start of production after auction, approach adopted in the amended Act is that States need to obtain the clearances before auction. As a result, production will start without any delay because clearances are already available.

Housing and Urban Infrastructure

India is witnessing rapid urbanisation. According to Census 2011, India's urban population was 37.7 crores, which is projected to grow to about 60 crores by 2030. Urbanization in India has become an important and irreversible process, and it is an important determinant of national economic growth and poverty reduction. Though the cities are engines of growth, a rapid pace of urbanization poses significant challenges to basic infrastructure services such as water supply, sanitation, solid waste and wastewater management.

The GoI has been implementing the Deendayal Antyodaya Yojana - National Urban Livelihoods Mission in all the statutory towns to address the social & occupational vulnerabilities of the urban poor. Under the mission, urban poor are imparted skill training for self and wage employment and assisted in setting up self-employment ventures by providing credit at subsidized rates of interest. The Mission also provides for shelters for urban homeless and infrastructure for street vendors.

PM Street Vendor's Atmanirbhar Nidhi (PM SVANidhi) was launched as part of the Atmanirbhar Bharat Abhiyan for providing micro-credit facility to the street vendors to restart their businesses post COVID-19 lockdowns. This scheme targets to benefit over 50 lakhs street vendors who had been vending on or before March 24, 2020, in urban areas including those from surrounding peri-urban/ rural areas.

Under the Scheme, the vendors can avail a working capital loan of up to Rs. 10,000, which is repayable in monthly instalments in the tenure of one year. On timely/ early repayment of the loan, an interest subsidy @ 7 per cent per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on quarterly basis. As on November 9, 2020, of the 26.48 lakh loan applications received, over 13.70 lakh were sanctioned and over 6.70 lakh were disbursed. Work is on to prepare a socio-economic profile of the street vendors and their families and assess their potential eligibility for various central welfare schemes, to further facilitate the linkages to these schemes.

Pradhan Mantri Awas Yojan-Urban (PMAY-U) has been rapidly moving towards achieving the vision for providing a pucca house to every household by 2022. It has so far approved more than 109 lakh houses of which over 70 lakh houses have been grounded for construction. More than 41 lakh houses have been completed and delivered. The GoI has made additional outlay of Rs. 18,000 crore for the year FY21 through budgetary allocation and extra budgetary resources for the scheme under Atmanirbhar Bharat 3.0. Further, a sub scheme Affordable Rental Housing Complexes (ARHCs) under PMAY-U has been initiated to address the needs of the migrant workers for decent rental housing at affordable rate near their work places.

WAY FORWARD

The COVID-19 led economic crisis adversely affected the global and domestic economy. The economic activities across the sectors were suddenly suspended that forced billions of people to restrict their movement. The crisis management strategy had to encompass all the stakeholders, especially the weaker and the vulnerable sections. The nature and scale of the unprecedented shock triggered several interventions from the Government –short term as well as those aimed at ushering in structural reforms through the Atmanirbhar Bharat package. A rapid recovery of the industrial sector following a sudden fall in the high frequency growth indicators could only be witnessed because of timely, meaningful, and appropriate policy measures.

The year after the crisis (FY22) will require sustained and calibrated measures to facilitate the process of economic recovery and to enable the economy to get back to its long-term growth trajectory. The revival of the industrial and infrastructure sector will be key to overall economic growth and macroeconomic stability.

The FY21 can be summarized in the lines of Saint Francis of Assisi "Start by doing what's necessary, then do what's possible, and suddenly you are doing the impossible" because as Albert Einstein said, "In the midst of every crisis, lies great opportunity."

Chapter 9 - Services

Impact of COVID-19 on Services Sector
The year 2020 was a peculiar year marred by the COVID-19 pandemic and consequent nationwide and worldwide lockdown measures implemented since March, 2020. The contact intensive services sector was severely impacted, particularly sub-sectors such as tourism, aviation, and hospitality. The first half of FY 2020-21 saw services sector contract by almost 16 per cent YoY. This decline was led by a sharp contraction in all sub-sectors particularly 'Trade, hotels, transport, communication & services related to broadcasting', which contracted by 31.5 per cent in H1 FY 2020-21.

Share of service sector in Gross Value Added (GVA) is more than 54%. As per the first advance estimates, Gross Value Added (GVA) of services sector is estimated to contract by 8.8 per cent in 2020-21, whereas it grew by 5.5 per cent in 2019-20. Sub-sectors 'Trade, hotels, transport, communication & broadcasting services', 'Financial, real estate & professional services', and 'Public administration, defence & other services' are estimated to contract by 21.41 per cent, 3.68 per cent and 0.82 per cent respectively.

It is pertinent to note that while the services sector contracted by over 20 per cent in the first quarter (Q1) of FY 2020-21, the contraction narrowed to 11.4 per cent in the second quarter (Q2) of FY 2020-21. This pace of recovery is broadly aligned with high frequency indicators that point to a pick in economic momentum with the measured opening up of the economy from June 2020.

FDI Inflows into Services Sector
India improved its position from 12th in 2018 to **9th in 2019 in the list of the world's largest FDI recipients** according to the latest World Investment Report 2020 by United Nations Conference on Trade and Development (UNCTAD). FDI into India recorded almost 17 per cent jump during April-September 2020 over the corresponding period last year, despite the global slowdown, the COVID-19 pandemic, lockdown measures and supply chain disruptions.

Services sector, being the largest recipient of FDI in India, witnessed a strong growth during April-September 2020. The gross FDI equity inflows (excluding re-invested earnings) into the services sector jumped 34 per cent YoY during April-September 2020 to reach US$ 23.61 billion, accounting for almost four-fifth of the total gross FDI equity inflows into India during this period. **The jump in FDI equity inflows was driven by strong inflows into the 'Computer Software & Hardware' sub-sector,** wherein FDI inflows increased to US$ 17.55 billion which is over 336 per cent higher over the corresponding period last year. High growth in FDI inflows was also present in subsectors such as 'Retail Trading', 'Agriculture Services', and 'Education'.

Trade in Services Sector
In 2020, the world trade in services was severely impacted by the COVID-19 pandemic and the resultant supply chain disruptions worldwide. While World Trade Organisation (WTO) projects the global merchandise trade volume growth to fall by 9.2 per cent in 2020, the IMF expects volume of global trade in goods and services to contract by 10.4 per cent in 2020. **WTO services trade activity index** indicated a decline in global trade in commercial services of 4.3 per cent in the first three months of 2020, reflecting partly the adverse effect from spread of COVID-19. During Q2 of 2020 (April-June), the global trade in commercial services plunged by 30 per cent YoY as several countries imposed lockdown and transportation restrictions that covered cross-border measures as well.

India has a significant presence in the services sector exports. It remained among the top ten trading countries in commercial services in 2019 accounting for 3.5 per cent of world services exports. Notwithstanding the setback witnessed in the wake of the pandemic, **India's services sector remained relatively resilient when compared to merchandise trade**. The sector provided steady flow of current receipts even though exports from a few sub-sectors were adversely affected. Net services export receipts amounted to US$ 41.67 billion in H1 of FY2020-21 as compared with US$ 40.47 billion a year ago.

India's services export growth moderated to 2.5 per cent in 2019-20 from 6.6 per cent in 2018-19 as receipts primarily on account of transportation, insurance and communication services. With contraction in global demand and implementation of COVID-19 induced lockdown measures, services exports declined by 7.87 per cent in H1 of FY2020-21 as against a growth of 6.39 per cent in the corresponding period of previous year.

With **significant drop in foreign tourist arrivals** owing to the mobility restrictions imposed worldwide, travel receipts witnessed a decline of 73.49 per cent in H1 of 2020-21 as against a growth of 8.21 per cent in corresponding period of the previous year. Slowdown in trade activity and supply chain disruptions led to the decline in transportation receipts by 2.34 per cent in H1 of FY2020-21 as against a growth of 10.77 per cent in H1 of FY2019-20.

Software exports, with a share of 49.3 per cent in total services exports, however, remained resilient with higher demand for digital support, cloud services and infrastructure modernisation catering to the new challenges posed by the pandemic. In fact, majority of software companies which had reported negative revenue growth in Q1 of FY2020-21, have shown signs of rebound in Q2 with positive sequential growth on account of the increased revenue from their financial, banking and insurance, retail, life sciences and health care units.

India's services imports exhibited sharper decline of 13.95 per cent in H1 of FY2020-21 in comparison with services exports. Payments for all major services imports decreased on YoY basis. Among the major sectors, payments for overseas travel fell by 55.09 per cent due to restrictions on outbound travel from India. Payments for transport services (accounting for over 16 per cent share in total services imports) recorded a decline of 25.9 per cent in H1 of FY2020-21 on a year-on-year basis. Payment for imports of business services, which accounted for 43.41 per cent of total services imports, increased by 4.22 per cent in H1 of 2020-21.

Sharper decline in services imports over exports led to an increase in net services receipts by 2.1 per cent in Q1 of 2020-21 over the previous year. **Sharp contraction in merchandise trade deficit and a stable net services receipts led to a current account surplus of 3.9 per cent of GDP in Q1 of 2020-21**. According to the World Trade Organization (WTO), though the world services trade declined by 4.3 per cent (YoY) in Q1 of 20202 (January-March), key sectors have started showing signs of rebound. The provisional data on India's trade in services in Q2 of 2020-21 is showing signs of revival with exports increasing by 8.4 per cent QoQ and imports increasing by 13.2 per cent Q-o-Q; resulting in improvement of 2.3 per cent QoQ in net services exports.

Even though projections of world trade volume of goods and services are optimistic for 2021, duration and containment of the pandemic and effectiveness of government policy responses to revive the economy would be key factors in shaping India's services trade.

MAJOR SERVICES: SUB-SECTOR WISE PERFORMANCE AND RECENT POLICIES

In the wake of the Covid-19 pandemic, most of the sub-sectors of the services sector witnessed a contraction in growth during 2020-21. **Aviation and tourism declined sharply in 2020**. Only 2.46 million foreign tourist arrived in India during January-June 2020 as compared to 5.29 million during January-June last year. Consequently, foreign exchange earnings from tourism declined to US$ 6.16 billion during the first six months of 2020 as compared to US$ 14.19 billion during in corresponding period last year. Domestic passenger traffic too dropped to 22.77 million during April-November 2020 from 95.7 million during the corresponding period last year. In the ports sector, Cargo traffic at ports fell by 10.09 per cent to 777.04 million tonnes (MT) during April-November period of the current fiscal compared to 864.32 MT during April-November 2019.

Tourism Sector

Tourism sector is a major engine of economic growth that contributes significantly in terms of GDP, foreign exchange earnings and employment. However, the COVID-19 pandemic has had a debilitating impact on world travel and tourism, including India. As per the World Tourism Barometer of the United Nation's World Tourism Organization (December, 2020 edition), international arrivals fell by 72 per cent globally over the first ten months of 2020, with restrictions on travel, low consumer confidence and a global struggle to contain the COVID-19 virus, all contributing to the worst year on record in the history of tourism. World destinations received 900 million fewer international tourists between January-October when compared with the same period of 2019, translating into a loss of US$ 935 billion in export revenues from international tourism. Note that International Tourist Arrivals (ITA) had reached a total of 1.5 billion in 2019.

Director General of Civil Aviation (DGCA), to contain the spread of the virus, had suspended all commercial international flights in March 2020. The ban has been extended till January 2021. In order to evacuate Indians stranded abroad after the breakout of the Covid-19 pandemic and the resultant lockdowns across the world, Vande Bharat Mission was launched in early May. Under this Mission, which is currently in its ninth phase, the government established Transport Bubbles with countries to repatriate its citizens. At present, India has active air bubbles with 24 countries. As of January 5, 2021, over 4.49 million people were facilitated international travel through different air ever since the Vande Bharat Mission was launched.

Transport Bubbles" or "Air Travel Arrangements" are temporary arrangements between two countries aimed at restarting commercial passenger services when regular international flights are suspended as a result of the COVID-19 pandemic. They are reciprocal in nature, meaning airlines from both countries enjoy similar benefits.

The tourism sector in India had been performing well with Foreign Tourist Arrivals (FTAs) growing at 14 per cent to 10.04 million and Foreign Exchange Earnings (FEEs) at 19.1 per cent to US$ 27.31 billion in 2017. However, the sector underwent a slowdown in 2018 and 2019 before declining sharply in 2020. The Foreign Tourist Arrivals (FTAs) in 2019 stood at 10.93 million compared to 10.56 million in 2018. In terms of growth, the growth rate of FTAs declined from 14 per cent in 2017 to 5.2 per cent in 2018 and further to 3.5 per cent in 2019. Foreign Exchange Earnings (FEEs) from tourism stood at US$ 30.06 billion in 2019 as compared to US$ 28.59 billion in 2018. In terms of growth, the FEEs declined from 19.1 per cent in 2017 to 4.7 per cent in 2018, picking up slightly to 5.1 per cent in 2019.

India ranked 23rd in the world in terms of international tourist arrivals in 2019, falling slightly from the 22nd position in 2018. The country accounts for 1.23 per cent of world's international tourist arrivals and 4.97 per cent of Asia & Pacific's international tourist arrivals. India ranks 12th in the world and 7th in Asia & Pacific in terms of tourism foreign exchange earnings, accounting for over 2 per cent of the world's tourism foreign exchange earnings.

Foreign tourists from the top 10 countries visiting India are from Bangladesh, USA, UK, Australia, Canada, China, Malaysia, Sri Lanka, Germany and Russia. They accounted for 67 per cent of the total foreign tourist arrivals in India in 2019. Among the foreign tourists, 57.1 per cent tourists visited for leisure, holiday and recreation, 14.7 per cent for business purposes, and 12.7 per cent was Indian diaspora.

Looking at tourism trends at the state level, the **top five states attracting domestic tourists** are Uttar Pradesh, Tamil Nadu, Andhra Pradesh, Karnataka, and Maharashtra, accounting for nearly 71 per cent of the total domestic tourist visits in the country in 2019. The **top five states attracting foreign tourists** are Tamil Nadu, Maharashtra, Uttar Pradesh, Delhi and West Bengal, accounting for 69.4 per cent of the total foreign tourist visits in the country in 2019.

To facilitate international tourism, India introduced the e-Tourist Visa regime in September 2014 for 46 countries. Prior to the launch of the scheme, the e-Visa facility was available for only 12 countries. The government further liberalized the visa regime in 2016, renaming it to e-Visa scheme with five sub-categories i.e. 'e-Tourist Visa', 'e-Business Visa', 'e-Medical Visa', 'e-Conference Visa' and 'e-Medical Attendant Visa'. The e-Visa scheme is now available for 169 countries with valid entry through 28 designated airports and 5 designated seaports. With this, foreign tourist arrivals to India on e-visas have increased from 4.45 lakh in 2015 to 29.28 lakh in 2019 and stood at 8.37 lakh in January-March 2020.

India ranked 34th in Travel and Tourism Competitiveness Index, improving significantly from its rank of 65 in 2013. Tourism contributed 5 per cent share to India's total GDP in 2018-19. It also supports almost 13 per cent of total employment in India. With the ongoing vaccination drive, the contact intensive service sectors can expect to witness revival.

IT BPM Services

The Indian IT-BPM Industry has been the flag-bearer of India's exports over the last 20 years. While 1999-2000 to 2009-10 was a decade of growth, the last decade has been that of consolidation and the industry succeeded in decoupling revenue and employee growth. Over the last decade, the industry grew by 102 per cent reaching US$ 190.5 billion in revenues in 2019-20. It also added 1.8 million employees, up 70 per cent over the last 10 years. However, the business model has changed over the years.

Over the last six years, **IT services has constituted the majority share (over 50 per cent) of the IT-BPM sector**, with about US$ 97 billion in revenues in 2019-20. Software & Engineering Services has witnessed a consistent growth each year, constituting a share of 21 per cent in the sector and US$ 40.2 billion in revenue in 2019-20. BPM Services has maintained its share at 19.8 per cent, while the Hardware services has been declining in share each year but maintaining growth in revenues.

A significant part **(about 84 per cent) of the IT-BPM industry (excluding hardware and e-commerce) continues to be export driven**, with export revenues in excess of US$ 146 billion in 2019-20. During 2019-20, the revenue growth for IT-BPM sector (excluding hardware and e-commerce) made a recovery to reach 7.9 per cent up from 6.8 per cent in 2018-19. This was driven primarily by a significant boost in domestic revenue growth (6.6 per cent in 2019-20 from -0.3 per cent in 2018-19)

Out of the total US$ 146.55 billion in exports of the IT-BPM sector in 2019-20, **IT services contributed US$ 79.1 billion, accounting for 54 per cent of the exports**. BPM and Software Products & Engineering services accounted for the remaining 46 per cent with each accounting for a roughly equal share of about 23 per cent. All three subsectors witnessed an increase in export revenues in 2019-20, with IT services growing by 6.9 per cent, BPM services by 8.4 per cent and Software Products & Engineering Services by 10.7 per cent.

Looking at country-wise distribution of export revenues, **USA remained the biggest recipient of exports**, amounting to US$ 91 billion, **accounting for 62 per cent of total IT-BPM exports** (excluding hardware) in 2019-20. This is **followed by UK,** being the second largest export market for IT-BPM services amounting US$ 24.7 billion but with a much smaller share of around 17 per cent. Europe (excluding UK) and Asia-Pacific account for 11.4 per cent and 7.6 per cent of the export earnings of India, respectively.

Major policy initiatives and reforms in IT-BPM Sector

- **Relaxation of OSP Terms & Conditions:** With an aim to improve the Ease of Doing Business of the IT Industry particularly Business Process Outsourcing (BPO) and IT Enabled Services, the Government, in November 2020, simplified the Other Service Provider (OSP) guidelines of the Department of Telecom. The new guidelines tremendously reduce the compliance burden of the BPO industry and enables to 'Work from Home' (WFH).

- The Department of Consumer Affairs (DoCA) published the Consumer Protection (E-commerce) Rules, 2020 in July 2020.

The Indian start-up ecosystem has been progressing well, despite the Covid-19 pandemic. Faced with a myriad of challenges at the onset of the pandemic, the ecosystem defied the odds and had a record number of 12 start-ups that reached unicorn status. The country is home to 38 unicorns at present, as per the Nasscom Tech Start up Report 2021. The US and China have 243 and 227 unicorns, respectively.

Ports, Shipping and Waterways Services

Ports handle around 90 per cent of export-import cargo by volume and 70 per cent by value in India. The total cargo capacity of major ports which was 871.52 Million Tonnes Per Annum (MTPA) at the end of March 2014 has increased to 1,534.91 MTPA by the end of March 2020 and handled traffic of 704.92 MT during 2019-20. Ports including Deendayal (Kandla), Paradip, JNPT, Vishakhapatnam, and Chennai had the highest cargo capacities as of March 2020. India has a 1 per cent share in world fleet as on January 2020. The total numbers of ships owned by Indian companies stood at 1,431 in 2019-20, up from 1,210 in 2014-15.

A consistent growth of around 6 per cent was maintained in overall port traffic between 2015-16 and 2018-19. It decelerated to 1.98 per cent in 2019-20 before falling sharply in 2020 owning to the lockdown in the wake of COVID-19 pandemic. Cargo traffic growth contracted considerably between April to June 2020, however is now showing signs of pick up. Infact, cargo traffic growth has turned positive since September 2020

The turnaround time of ships, which is a key indicator of efficiency of the ports sector, has declined from 4 days in 2014-15 to 2.62 days in 2020-21 (April-September). The shipping turnaround time has declined across all major ports and is now the lowest at the Cochin port and the highest at the Mormugao port. It must be noted that among all the major ports, Paradip port has shown biggest improvement in reducing average turnaround time of ships from over 7 days in 2014-15 to less than 3 days in 2020-21(April-September). As per the latest UNCTAD data, the median ship turnaround time globally is 0.97 days, suggesting that India has room to further improve upon the efficiency at ports.

To harness the coastline, 14,500 km of potentially navigable waterways and strategic location on key international maritime trade routes, the Government has embarked on the ambitious Sagarmala Programme to promote port-led development in the country. The vision of the Programme is to reduce logistics cost of Exports-Imports and domestic trade with minimal infrastructure investment. This includes reducing the cost of transporting domestic cargo; lowering logistical cost of bulk commodities by locating future industrial capacities near the coast; improving export competitiveness by developing port proximate discrete manufacturing clusters, etc. The Sagarmala programme has identified 504 projects under four pillars – 211 port modernization projects, 199 port connectivity projects, 32 port-led industrialization projects and 62 coastal community development projects which can unlock the opportunities for portled development and are expected to mobilize more than Rs. 3.57 Lakh Crore of infrastructure investment.

Space Sector

India's space programme has grown exponentially in the past six decades, expanding from simple mapping services in the 1960s to many diversified uses including- design and development of a series of launch vehicles and related technologies, satellites and related technologies for earth observation, telecommunication & broadband, navigation, meteorology and space science, R&D in space sciences, & most recently, planetary exploration.

India spent about US$ 1.8 billion on space programmes in 2019-20. However, the country still lags behind the major players in the space sector, such as USA, which spent US$ 19.5 Billion about 10 times more than India in the space sector in 2019-20, and China, which spent US$ 11 Billion about 6 times more and Russia, which spent US$ 3.3 Billion.

India has launched around 5-7 satellites per year in the recent years. On the other hand, USA, Russia and China dominate the satellite launching services with 19, 25 and 34 satellites respectively in 2019.

Prospects for commercialization and attracting private investment in the space sector

India's space programme is one of the most well-developed in the world and has achieved numerous successes through its state-owned agency, the Indian Space Research Organisation (ISRO) which is responsible for driving the space activities in India. With the long term vision of making the country self-reliant and technologically advanced, the Government in June 2020, opened up the Space sector enabling the participation of Indian private sector in the entire gamut of space activities. New Space India Limited (NSIL), a Central Public Sector Enterprise under Department of Space, has been mandated to transfer the technologies emanating out of Indian space programme and enable Indian industry to scale up high-technology manufacturing base. Government of India has also established Indian National Space Promotion and Authorisation Centre (IN-SPACe) for promoting industries and attracting investment in space sector. Further, ISRO would be sharing its infrastructure, transfer technology know-how for production and spin-off. These measures would help India become a manufacturing hub of space assets.

As per industry estimates, there are more than 40 start-ups working in India with funding, teams and structure on space and satellite projects complimenting the efforts of government. This number is likely to increase in coming years with technology to play a big role. The recent reforms announced by Government of India for unlocking the space potential of India stresses the need to enable the private industry to be the co-traveller in India’s space journey.

As per Satellite Industry Association Report (2020), the global space economy in 2019 was pegged at US$ 366 billion, growing by about 1.7 per cent over 2018. The **commercial satellite industry is accounting for nearly 75 per cent of global space business**. Technology innovations and demand drives the need for higher bandwidth capacity, throughput speeds, improved optical, radar and thermal imaging. PwC estimates that the Indian space economy is valued at US$ 7 billion, which is around 2 per cent of the global space economy.

Chapter 10 - Social Infrastructure, Employment and Human Development

The COVID-19 has brought into focus the vulnerabilities of societies, states and countries in facing a pandemic. India imposed a complete lockdown of the economy from 24th March, to 31st May 2020, which helped in arresting the number of fatalities due to COVID-19 as well as taking precautionary measures to contain the spread of the disease and it has helped India to save lakhs of lives. However, the lockdown had an inevitable impact on the vulnerable and informal sector, the education system, and on the economy as a whole. The Government announced the first relief package of Rs. 1.70 lakh crores under 'Pradhan Mantri Garib Kalyan Yojana (PMGKY)' in March, 2020 and comprehensive stimulus cum relief package of Rs. 20 lakh crore under 'Atma Nirbhar Bharat Abhiyan' in May, 2020. Development and welfare schemes being implemented by the Government over the years together with these relief measures enabled the country to endure the impact of the COVID-19 pandemic and led to a V-shaped economic recovery

TRENDS IN SOCIAL SECTOR EXPENDITURE

The expenditure on social services (education, health and other social sectors) by Centre and States combined as a proportion of GDP increased from 6.2 to 8.8 per cent during the period 2014-15 to 2020-21 (BE). This increase was witnessed across all social sectors. For education, it increased from 2.8 per cent in 2014-15 to 3.5 per cent and for health, from 1.2 per cent to 1.5 per cent during the same period. Relative importance of social services in government budget, as measured in terms of the share of expenditure on social services out of total budgetary expenditure, has also increased to 26.5 per cent in 2020-21 (BE) from 23.4 per cent in 2014-15.

Social services include, education, sports, art and culture; medical and public health, family welfare; water supply and sanitation; housing; urban development; welfare of SCs, STs and OBCs, labour and labour welfare; social security and welfare, nutrition, relief on account of natural calamities etc.

A clarion call for 'Atma Nirbhar Bharat' was announced to revive the economy and to address the pandemic. A special economic and comprehensive package of Rs. 20 lakh crore - equivalent to 10 per cent of India's GDP was announced in May 2020. In subsequent announcements, additional support cumulating to Rs. 29.88 lakh crore up to November 2020 was announced. Of these, provision for Rs. 4.31 lakh crore made for social sector includes PMGKY and PMGKY Anna Yojana, housing and health (including R & D Grant for COVID-19 Suraksha), EPF support to worker & employers, street vendors, MGNREGS workers and ABRY etc.

HUMAN DEVELOPMENT

India's rank in Human Development Index (HDI) was 131 in 2019, compared to 129 in 2018, out of a total 189 countries according to UNDP Human Development Report, 2020.

It may be mentioned that the decline in HDI ranking by two points in 2019 as compared to 2018 is relative to other countries as HDI Value was increased in 2019 as compared to 2018. In 2019 HDI Value is 0.645 and in 2018 it was 0.642. By looking at the sub-component wise performance of HDI indicators, India's 'GNI per capita (2017 PPP $)' has increased from US$ 6,427 in 2018 to US$ 6,681 in 2019, and 'life expectancy at birth' has improved from 69.4 years in 2018 to 69.7 years in 2019, respectively. However, the 'mean years of schooling' and 'expected years of schooling' remained unchanged in 2019 compared to 2018.

However, considering the value of Planetary pressures adjusted HDI (PHDI), India was positioned 8 ranks better than HDI rank. If a country puts no pressure on the planet, its PHDI and HDI would be equal, but the PHDI falls below the HDI as pressure rises. PHDI values are very close to HDI values for countries with an HDI value of 0.7 or lower.

The value of HDI for India has increased from 0.579 in 2010 to 0.645 in 2019. The average annual HDI growth during 2010-2019 was 1.21 per cent as compared to 1.58 per cent during the period 2000-2010. Cross country comparison of average annual HDI growth shows India is ahead of BRICS countries. To sustain this momentum, and overcome possible fallouts of COVID-19 on human development, the thrust on access to social services such as education and health is critical.

QUALITY EDUCATION FOR ALL

India will have the highest population of young people in the world over the next decade. So, our ability to provide high-quality educational opportunities to them will determine the future of our country (National Education Policy, 2020).

While India has attained a literacy level of almost 96 per cent at the elementary school level, it is still behind in achieving 100 per cent literacy. As per National Sample Survey (NSS), the literacy rate of persons of age 7 years and above at the All India level stood at 77.7 per cent but the differences in literacy rate attainment among social-religious groups, as well as gender still persists.

The government announced the new National Education Policy, 2020 replacing the 34 year old National Policy on Education, 1986. The new policy aims to pave the way for transformational reforms in school and higher education systems in the country. It aims to provide all students, irrespective of their place of residence, quality education system with special focus on the marginalised, disadvantaged and underrepresented groups.

National Education Policy (NEP) 2020

• Universalization of education from pre-school to secondary level with 100 per cent Gross Enrolment Ratio (GER) in school education by 2030.
• To bring 2 crore out of school children back into the mainstream through universalization of access and expanding the open schooling system.
• The current 10+2 system to be replaced by a new 5+3+3+4 curricular structure corresponding to ages 3-8, 8-11, 11-14, and 14-18 years, respectively
• Class 10 and 12 board examinations to be made easier to test core competencies rather than memorized facts.
• School governance is set to change, with a new standards framework based on online selfdeclaration in the public domain for both public and private schools.
• Emphasis on foundational literacy and numeracy, and no rigid separation between academic streams, extra-curricular, vocational streams in schools.
• Vocational Education to start from Class 6 with Internships.
• Teaching up to at least Grade 5 to be in mother tongue/regional language, wherever possible. No language will be imposed on any student.
• Assessment reforms with 360-degree Holistic Progress Card, tracking student progress for achieving learning outcomes
• A new and comprehensive National Curriculum Framework for school education, Early Childhood Care & Education, Teacher Education and Adult Education.
• By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree.

Impact of COVID-19 pandemic on School Education

Since March 2020, most of the schools are closed due to the COVID-19 induced restrictions and children are taught online from their homes using available assets at home. Access to data network, electronic devices such as computer, laptop, smart phone etc. gained importance due to distance learning and remote working. As per Annual Status of Education Report (ASER) 2020 Wave-1 (Rural), released in October 2020, percentage of enrolled children from government and private schools owning a smartphone increased enormously from 36.5 per cent in 2018 to 61.8 per cent in 2020 in rural India. If utilized well, the resultant reduction in the digital divide between rural and urban, gender, age and income groups is likely to reduce inequalities in educational outcomes. To enable this process, the Government is implementing several initiatives to make education accessible to children during this pandemic.

PM eVIDYA: This initiative was announced for school and higher education under the Atma Nirbhar Bharat programme in May, 2020. It is a comprehensive initiative to unify all efforts related to digital/online/on-air education to enable multi-mode and equitable access to education for students and teachers. The four PM e-Vidya components of school education are:

a. **One nation, one digital education infrastructure:** Under this component all States/UTs have **free access to a single digital infrastructure i.e, DIKSHA.** It is artificial intelligence based, highly scalable, and can be accessed through a web-portal and mobile application. It provides access to a large number of curricula linked e-content through several use cases and solutions such as QR coded Energized Textbooks (ETBs), courses for teachers, quizzes andothers. DIKSHA has experienced more than 800 crore hits since lockdown. In April, 2020, VidyaDaan portal was launched on Diksha as a national content contribution program that leverages the DIKSHA platform and tools to seek and allow contribution/donation of e-learning resources for school education by educational bodies, private bodies, and individual experts.

b. One class, one TV channels through Swayam Prabha TV Channels: Swayam Prabha DTH channels are meant to support and reach those who do not have access to the internet. 12 channels are devoted to telecast high quality educational programmes in school education. The pilot/beta version has been launched in October, 2020.

c. Extensive use of Radio, Community radio and Podcasts: Radio broadcasting is being used for children in remote areas who are not online. 303 pieces of curriculum-based radio programmes (for Classes 1-8) have been produced by CIET-NCERT for its dissemination/ broadcast on 12 GyanVani FM Radio Stations, 60 Community Radio Stations, iRadio and Jio Saavn Mobile apps. 289 Community Radio Stations have also been used to broadcast content for NIOS for grades 9 to 12. A Podcast of CBSE called Shiksha Vani is being effectively used by learners of grades 9 to12. It contains over 430 pieces of audio content for all subjects of grades 9 to 12.

d. For the differently-abled: One DTH channel is being operated specifically for hearing impaired students in sign language. For visually and hearing-impaired students, study material has been developed in Digitally Accessible Information System (DAISY) and in sign language; both are available on NIOS website/ YouTube.

SKILL DEVELOPMENT

There is an improvement in the proportion of skilled people over the annual cycle of Periodic Labour Force Survey (PLFS) across rural, urban and gender classification. However, the level of skill acquirement remained low, as only 2.4 per cent of the workforce of age 15-59 years have received formal vocational / technical training and another 8.9 per cent of the workforce received training through informal sources. Out of the 8.9 per cent workforce who received non-formal training, the largest chunk is contributed by on-the-job training (3.3 per cent), followed by self-learning (2.5 per cent) and hereditary sources (2.1 per cent) and other sources (1 per cent).

Among those who received formal training, the most opted training course is IT-ITeS among both males and females, followed by electrical-power and electronics.

First phase of Pradhan Mantri Kaushal Vikas Yojana 3.0 (PMKVY 3.0) was rolled out in 2020-21 with a tentative target to skill 8 lakh candidates including migrants.

STATUS OF EMPLOYMENT

Based on the results of PLFS, estimates in absolute numbers of labour force, employed persons and unemployed persons have been derived for 2017-18 and 2018-19, separately for rural and urban sectors and for males and females for all ages.

The size of labour force in 2018-19 was estimated at about 51.82 crore persons (2017-18: 50.97 crore) : about 48.78 crore employed (2017-18: 47.14 crore) and 3.04 crore unemployed (2017-18: 3.83 crore). The size of the labour force increased by about 0.85 crore between 2017-18 and 2018-19. Out of these, 0.46 crore were from urban sector and 0.39 crore were from rural sector. The gender composition of the increase in the labour force comprised about 0.64 crore males and about 0.21 crore females.

The size of the workforce (Employment) increased by about 1.64 crore, of which 1.22 crore were in rural sector and 0.42 crore in urban sector. The gender composition was 0.92 crore females and 0.72 crore males. Number of unemployed persons declined by about 0.79 crore between 2017-18 and 2018-19, largely in the category of females, and in rural sector. The females labour force participation rate increased from 17.5 per cent in 2017-18 to 18.6 per cent in 2018-19. These facts reveal that 2018-19 was a good year for employment generation.

Among the total employed of 48.78 crores, about 25.07 crore are self-employed, 12.17 crore regular wage/salaried employees and 11.52 crore casual workers. Self-employment is still the major source of employment with close to 52 per cent of the workforce was self-employed. The proportion of regular wage/salaried employees saw an increase in both rural & urban areas and for both males & females. This increase was more among urban females which increased from 52.1 per cent in 2017-18 to 54.7 per cent in 2018-19. This also indicates the improvement in quality of employment. At the same time, the proportion of casual labour showed a decline, which was more in the case of urban females from 13.1 per cent in 2017-18 to 10.7 per cent in 2018-19, as compared to males from 15.1 per cent in 2017-18 to 14.2 per cent in 2018-19.

Industry-wise estimates on workforce shows that the largest, about 21.51 crore persons are employed in 'Agriculture', which is still the largest employer with 42.5 per cent of workforce. Next important industry is ‘other services’ where about 6.44 crore persons (13.8 per cent) were engaged. 'Manufacturing' and ‘Trade, hotel & restaurants’ each employed about 5.9 crore persons with the share of nearly 12.1 per cent and 12.6 per cent respectively, while ‘Construction’ sector employed about 5.7 crore persons in 2018-19 with share of 12.1 per cent.

Formal Employment

The net payroll data of Employees' Provident Fund Organisation (EPFO) as on 20th December, 2020 shows a net increase of new subscribers in EPFO of 78.58 lakhs in 2019-20 as compared to 61.1 lakhs in 2018-19. These estimates are net of the members newly enrolled, exited and re-joined during the year as per records of the EPFO. During FY 2020-21, the net new EPF subscribers shows an increase across all age groups and had peaked in September, 2020 to 14.2 lakh subscribers.

Data from Department for Promotion of Industry and Internal Trade also shows that employment reported by startups increased from 1.52 lakh in January-December, 2019 to 1.75 lakh in January-December, 2020 due to increase in the number of active recognition of startups from 11,694 to 14,784 in the same period.

Unemployment

Unemployment rates at all India level, for all ages, declined marginally to 5.8 per cent in 2018-19 from 6.1 per cent in 2017-18.

The decline in unemployment rate is widespread across all the categories. The highest decline in unemployment rates is seen among those who have received formal vocational/ technical training. The level of unemployment is recorded the highest, 20.2 per cent, among urban youth (age 15-29 years)

Labour Reforms

Years 2019 and 2020 are landmark years in the history of labour reforms, when the country saw the nearly 29 Central Labour laws being amalgamated, rationalized and simplified into four labour codes viz.: (i) the Code on Wages, 2019, (ii) the Industrial Relations Code, 2020, (iii) the Occupational Safety, Health and Working Conditions Code, 2020 and (iv) the Code on Social Security, 2020, thereby bringing these laws in tune with the changing labour market trends and at the same time accommodating the minimum wage requirement and welfare needs of the unorganized sector workers, including the self-employed and migrant workers, within the framework of legislation.

Changing Nature of Work: Gig and Platform Workers
The nature of work has been changing with the change in technology, evolution of new economic activities, innovation in organization structures and evolving business models. Digital platforms have emerged as enablers for employment creation with the power to easily discover job seekers and job providers in the absence of middlemen. Apart from traditional forces, these new forces have created massive opportunities for the consumer and service provider to interact through innovative ways. Digital technology enables two-sided markets which saw the emergence of e-commerce and online retailing platforms such as Amazon, Flipkart, Ola, Uber,Urban Clap, Zomato, Swiggy etc. India has emerged as one of the largest country for flexistaffing in the world.

During the period of COVID-19 induced lockdown, the increasing role of the gig economy was evident with significant growth of online retail business. The lockdown period also saw employers preferring 'Work from home' of their employees, cutting down on staff strength and engaging freelancers or outsourcing tasks to reduce overhead costs as well as to hire skilled services. With increasing demand in industries for on hire project-specific consultants, logo/content designers, web designers etc. for the white-collar workers, the delivery boys and taxi drivers engaged in platforms like Uber/Ola, Swiggy, Big Basket, Pizza Hut etc, are now showing potential as well. As a result, the gig economy have been popular amongst the workers in India. The **benefit of the gig economy is that it allows flexibility in employer-employee relationship to both service seeker and service provider**.

The nature of job contract for a gig worker is different from the contract between an employer and employee/worker. Their labour contract is usually shorter and more specific to the task or job assigned. Their employment type might be either temporary or contractual and certainly not regular. The nature of payment against the work is more of piece rate, negotiable, may be as wage or partly as profit/reward than a fixed salary. The control over their work by employer varies in degree but in any case, is not full. The workers most of the time are flexible to decide on when to work, where to work etc.

Till recently, gig or platform workers were devoid of their basic rights and social security protections mainly because they were neither considered as worker nor employee under definition of employee in the labour laws of the country and were not entitled to legal protections under labour laws. **For the first time, these class of workers have been brought under the ambit of the newly introduced Code on Social Security 2020** by defining them exclusively in the category of unorganized worker for providing social security benefits.

Impact of COVID-19 on the Labour Market
COVID-19 has exposed the vulnerability of urban casual workers, who account for 11.2 per cent of urban workforce (All-India) as per PLFS, January-March, 2020, a significant proportion of them are supposed to be migrants who were impacted by the lockdown. About 63.19 lakh migrant workers travelled through Shramik Special trains from May-August 2020. With limited data available on inter-state migration and employment in informal sectors, it is difficult to figure the numbers of migrants who lost jobs and accommodation during the pandemic and returned home.

GENDER DIMENSION OF EMPLOYMENT
LFPR of females in the productive age (15-59 years) was 26.5 per cent in 2018-19, as compared to 80.3 per cent for males (rural+urban). While 54.7 per cent of urban women were employed in the regular wage/salaried category, about 59.6 per cent of rural females were not only self-employed but 37.9 per cent among them were helpers in household enterprises. The low female LFPR is attributed to high participation of women (15 years & above) in domestic duties, that is 55.7 per cent in rural areas and 59.1 per cent in urban areas in 2018-19.

The Time Use Survey, 2019 reported that females spend relatively more time in unpaid domestic and care giving activities (7.5 hours) as compared to employment related activities (5.7 hours) per day. This is reported to be one of the main reasons for the low female participation in the labour market.

In order to incentivise more women to join into the labour force, investment in institutional support to affordable and quality child care facilities, paid paternal leave, family-friendly work environment, and support for elderly care needs to be made. There is also a need to promote non-discriminatory practices at the workplace like pay and career progression, improve work incentives, including other medical and social security benefits for female workers.

HEALTH

COVID-19 demonstrated the importance of investing and strengthening public health system. India has made significant progress in improving its health outcomes over the last two decades by eliminating Polio, Guinea worm disease, Yaws and maternal & neonatal Tetanus.

Health indicators shows, Total Fertility Rate (TFR) has reduced sharply from 3.6 in 1991 to 2.2 in 2018. Maternal Mortality Ratio (MMR) was 113 per 1,00,000 live births for the period 2016-2018 and Under Five Mortality Rate (U5MR) was 36 per 1000 live births in 2018. But in 2020, it was the COVID-19 pandemic that put to test the health infrastructure of India. The pandemic brought forth the inherent strengths of the medical fraternity in effectively managing the spread of the disease. There are more than 1 crore Covid-19 cases reported in India, with recovery of more than 95 per cent. However, the country lost around 1.52 lakh lives due to the Covid-19 pandemic. Public health measures were taken in pre-emptive, pro-active and graded manner based on the evolving scenario. To provide, financial support, 'COVID-19 Emergency Response and Health Systems Preparedness Package' of Rs.15000 crore was announced and implemented with an aim to deliver a combination of emergency response and health system capacity building efforts. Government has taken several measures including world's largest vaccination drive to prevent, control, and mitigate the impact of COVID-19.

WATER AND SANITATION

Swachh Bharat Mission-Grameen (SBM-G)

Under SBM-G, rural sanitation coverage has made an incredible leap in the target achievement from 39 per cent in 2014 to 100 per cent in 2019 with more than 10 crore toilets built since 2014. UNICEF study on 'Access to Toilets and Safety, Convenience and Self-respect of Women in Rural India' (February, 2020), states that 91 per cent of the women reported that they have been able to save upto an hour and do not have to travel up to a kilometre for defecation after the construction of toilets.

With a view to sustain the gains made under the programme in the last five years and to ensure that no one is left behind and to achieve the overall cleanliness in villages, Phase-II of SBM(G) from 2020-21 to 2024-25 is being implemented with a total outlay of Rs. 1,40,881 crores focusing on Open Defecation Free (ODF) sustainability and Solid & Liquid Waste Management (SLWM) through convergence between different verticals of financing and various schemes of Central and State Governments such as 15th Finance Commission grants to local bodies, MGNREGS, Corporate Social Responsibility (CSR) funds etc. Further, PMGKRA was also launched in June, 2020 under ANB package for creating employment opportunities and sanitary infrastructure creation in order to have better, safe hygiene and sanitary practices during COVID-19.

Jal Jeevan Mission (JJM)

Government has accorded highest priority to improve the quality of life and enhance ease of living of people especially those living in rural areas by announcing the Jal Jeevan Mission. At the time of roll out of the scheme in August 2019, about 3.23 crore (17 per cent) households out of total 18.93 crore rural households had tap water supply. Remaining 15.70 crore (83 per cent) rural households were to be provided with functional tap water connections (FTWC) by 2024.

Goal of JJM is to enable every rural household get assured supply of potable piped water at a service level of 55 litres per capita per day (lpcd) regularly on long-term basis by ensuring functionality of the tap water connections by 2024 with a total outlay of Rs. 3.60 lakh crore in partnership with States.

RURAL DEVELOPMENT

The rural sector in India witnessed the phenomenon of reverse migration during the period of complete lockdown, with migrants availing all possible means of transport or even walking back kilometers to reach homes. But the eventual return of these migrants back to metropolitan cities would materialize only with the normalization of COVID-19 related stringencies. Despite such adversities, the resilience of the rural economy in tackling the COVID -19 related crisis was supported by a good crop season and stimulus packages of the Government.

The first of measures announced under the PMGKP in March, 2020 included cash transfers of upto Rs. 1000 in two installments of Rs. 500 each to the existing old aged, widowed and disabled beneficiaries under the National Social Assistance Programme (NSAP). An amount of Rs. 2814.50 crore was released to 2.82 crore NSAP beneficiaries. An amount of Rs. 500 each was transferred for three months digitally into bank accounts of the women beneficiaries in PM Jan Dhan Yojana, totaling about 20.64 crores. Free distribution of gas cylinders to about 8 crore families for three months was also undertaken. Limit of collateral free lending for 63 lakh women SHGs increased from Rs. 10 lakhs to Rs. 20 lakhs which would support 6.85 crore households.

In the second tranche of stimulus measures announced under ANB Abhiyan, an additional Rs. 40,000 crore was allocated for Mahatma Gandhi NREGS to help generate nearly 300 crore person-days to address the need for more work for the returning migrant workers as well as to take care of the monsoon season. Wages under Mahatma Gandhi NREGA was increased by Rs. 20 from Rs. 182 to Rs. 202 w.e.f. 1st April, 2020, which would provide an additional amount of Rs. 2000 annually to a worker.

Deen Dayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM)

DAY-NRLM seeks to alleviate rural poverty through building sustainable community institutions of the poor. The mission aims at mobilizing about 9-10 crore households into SHGs and link them to 'sustainable livelihoods opportunities by building their skills and enabling them to access formal sources of finance, entitlements and services from both public and private sectors. Cumulative progress (upto December 2020) shows that about 7.26 crore households have been mobilized into 66.03 lakh SHGs under the mission. In terms of capitalization support, the SHGs have been provided more than Rs. 12,195 crore cumulatively as Revolving Fund and Community Investment Fund from the Mission. As an integral approach to capacity building, the Mission has trained and deployed more than 3 lakh Community Resource Persons, who are providing support to the community institutions. DAY-NRLM has also been instrumental in providing the last mile delivery of financial services in remote rural areas through promotion of digital finance and deployment of SHG Women as Banking Correspondent Sakhi (BC Sakhi), with the support of banks and Common Service Centres.

Pradhan Mantri Gram Sadak Yojana (PMGSY)
PMGSY was launched on 25th December, 2000 with the objective to provide single allweather road connectivity to all eligible unconnected habitations of the designated population size (500+ in plain areas, 250+ in North-Eastern and Himalayan States) in rural areas of country.

The PMGSY has completed two phases and third phase has been launched with the target allocation of 1.25 lakh km all-weather road connectivity. The scheme has helped immensely in providing access to basic services and lifting the income of rural masses.

Garib Kalyan Rojgar Abhiyan (GKRA)
GKRA was launched on 20th June, 2020 for a period of 125 days with a focus on 25 works in 6 States. The Abhiyan was a convergent efforts between 12 different Central Ministries/Departments. The major objectives of the initiative include the provision of livelihood opportunities to returning migrants and similarly affected rural citizens, saturate villages with public infrastructure viz. roads, housing, anganwadis, panchayat bhavans, various livelihood assets and community complexes, among others and a basket of a wide variety of works. The programme was intended to enhance long term livelihood opportunities.

To address the hardship of a large number of returnee migrant workers, district with a concentration of 25,000 and more returnee migrant workers were selected. The Abhiyan started with a resource envelope of Rs. 50,000 crore with estimated employment generation of 40.34 crore person-days from 20th June, 2020 to 22nd October, 2020. The Abhiyan has helped in empowering villagers with livelihood opportunities in the selected 116 Districts of 6 States namely Bihar (32 districts), Jharkhand (3 districts), Madhya Pradesh (24 districts), Odisha (4 districts), Rajasthan (22 districts) and Uttar Pradesh (31 districts). The Abhiyan had achieved an employment generation of 50.78 crore persondays with a total expenditure incurred of Rs. 39,293 crore.

CONCLUSION

Investment in social infrastructure played a crucial role in India's economic growth. The government is committed to invest in social sector viz education, healthcare, skill development, providing employment opportunity, housing, sanitation etc in order to bring overall improvement in socio-economic indicators and achieving SDGs. Inspite of COVID-19 pandemic, public spending on social sector has increased in 2020-21 and efforts continued through Aatma Nirbhar Bharat Rojgar Yojana, higher allocation under MGNREGS, Garib Kalyan Rozgar Abhiyan and path-breaking labour reforms etc. India's progress towards vibrant economy is deep-seated in investing in social capital.

Universal Basic Income (UBI)

UBI model says that all citizens may be given a fixed livable income instead of various social welfare schemes.

Economic Survey 2016-17 has advocated the concept of Universal Basic Income (UBI) as an alternative to the various social welfare schemes in an effort to reduce poverty.

CDS 2017
UBI, as an alternative for substance in poverty alleviation, stands for
(a) Union Basic Income (b) Undefined Basic Income (c) Unconditional Basic Income **(d) Universal Basic Income**

$5 trillion economy

Honourable Prime Minister laid down the vision of India becoming a $5 trillion economy by 2024-2025. As per Economic Survey 2018-19, To achieve the vision of #Economy@5trillion, India needs to shift its gears to accelerate and sustain a real GDP growth rate of 8%.