APTI PLUS
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ECONOMIC SURVEY 2021

Volume -I

For UPSC Prelims and Mains

Salient features:

Coverage of all the major charts which prominently feature in prelims paper.

All the examples of major schemes have been covered in text box for better understanding.

Survey has been further broken in parts to make understanding better and crisp.

All the aspects of survey has been covered.

Introduction part has been simplified to make clear understanding of dilemma. It will be helpful in essay as well ethics papers.

Relevant boxes of survey has been simplified to give better information.

IASGYAN
PREDICT THE UNPREDICTABLE

CHAPTER 1: SAVING LIVES AND LIVELIHOODS 01 AMIDST A ONCE-IN-A-CENTURY CRISIS

Saving a life that is in jeopardy is the origin of dharma – Mahabharata (Shanti parva), Chapter 13, Shloka 598

Introduction :

Unprecedented pandemic of Covid 19 is causing recession in 90% of countries. Indian approach focussed on saving lives and livelihoods by taking short term pain for long term gain. Indian approach :

1. Save live in the beginning by intense lockdown
2. Preserve livelihoods via economic recovery in Medium to long term. Which is based on Nobel prize winning research. The research recommended policy focussing on minimising losses in worst case scenario when uncertainty is high.

Uniqueness of strategy to Indian conditions:

1. Pandemic spread is dependent upon network effects, and huge population magnify the risks.
2. High population density at bottom of pyramid aggravates the pandemic.
3. India has high population of aged people specially in absolute population.
4. Overburdened health infrastructure could have exacerbated the humongous supply demand mismatch.

Implementation of Strategy:

1. Stringent lockdown at onset of pandemic which flattened the pandemic curve.
2. Faced with enormous uncertainty, India adopted a strategy of Bayesian updating to continually calibrate its response while gradually unlocking and easing economic activity.

Success of Strategy :

1. According to survey, India restricted the Covid-19 spread by 37 lakh cases and saved more than 1 lakh lives.
2. Uttar Pradesh, Gujarat and Bihar have restricted the case spread the best; Kerala, Telangana and Andhra Pradesh have saved the most lives.
3. 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.
4. The v- shaped economic recovery also strongly correlates with the stringency of the lockdown.

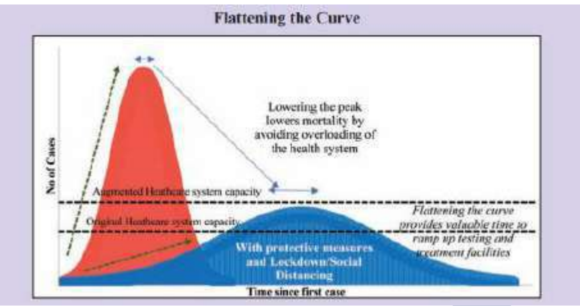
Factors like BCG vaccination, higher level of immunity were common to all states of India , but, differential performance of states points to efficacy of stringent lockdown by states.

Economic recovery:

1. 23.9 contraction in GDP in Q1.
2. V shaped recovery reflected by 7.5 % decline in Q2.
3. Economic activity in States with higher initial stringency has rebounded faster during the year.

India undertook demand and supply side measures to mitigate the disruptions caused by Covid-19. It undertook structural reforms in labour market. On demand side, Indian policies focussed on necessities. during the unlock phase, demand-side measures have been announced in a calibrated manner.

COVID-19: ONCE IN A CENTURY 'CRISIS'



The pattern and trends in spread of the virus across major countries showed that confirmed cases spread exponentially once community transmission began.

The exponential rise in the number of cases being witnessed daily compelled the World Health Organization (WHO) to title this outbreak a pandemic on March 11, 2020 – within a period of three months of its emergence.

The only strategy that seemed viable for containment of the pandemic was active surveillance, early detection, isolation and case management, contact tracing and prevention of onward spread by practicing social distancing and safety precautions.

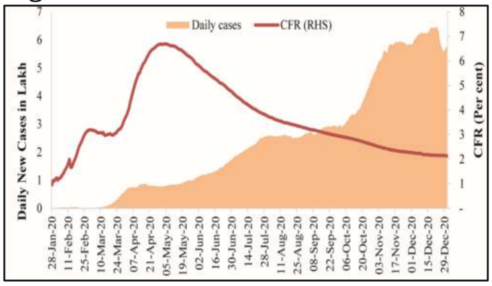
Various non-pharmaceutical interventions (NPIs) – such as lockdowns, closure of schools and non-essential business, travel restrictions – were, therefore, adopted by countries across the globe.

Economic Impact : The world economy is estimated to contract in 2020 by 4.3 per cent, as per World Bank, and 3.5 per cent, as per IMF.

Uniqueness of crisis:

1. Health induced global recession unlike financial, oil prices crisis or by wars.
2. This recession is highly synchronized as the fraction of economies experiencing annual declines in national per capita is highest since 1870—more than 90 per cent, even higher than the proportion of about 85 per cent of countries in recession at the height of the Great Depression of 1930-32 (Figure 2). It is aptly called the 'Great Lockdown'.
3. The pandemic required social distancing and limiting of physical interactions. Thus, inherent to the crisis there was the tradeoff – at least in the short run – between health and human lives, on the one hand, and the economy and livelihoods, on the other hand.

Figure 1: Global Trend in COVID-19 Spread and



Source: Data accessed from World Health December.

The short-run trade-off presented countries with policy options that revealed policymakers' preferences for the "value" placed on human life versus the "price" of temporary economic restrictions. India's policy response valuing human life, even while paying the price of temporary GDP decline, has initiated the process of transformation where the short-term trade-off between lives and livelihoods is converted into a win-win in the medium to longterm that saves both lives and livelihoods.

RESEARCH-DRIVEN POLICY RESPONSE AMIDST UNPRECEDENTED UNCERTAINTY

Two fundamental strategies to combat an epidemic are possible:

(a) mitigation, which focuses on slowing the epidemic spread by reducing R_0, Challenges : High death rate and adverse impact on economic activity in terms of productive lives.

(b) suppression, which aims to reverse epidemic growth by reducing R_0 below 1. It has significant impact on health and well being in short and longer time . It has the potential to suppress transmission below the threshold of R_0=1 required to rapidly reduce case incidence.

Analysis of any disease:

Two factors are particularly important for evaluating the severity of a contagious disease:

1. first, CFR or the fraction of individuals infected who lose their life due to the disease;
2. second, the basic reproduction number R_0 - the expected number of new cases of the disease caused by a single individual.

Uncertain COVID-19 Parameters in March 2020

1. The CFR was as high as 12 per cent in Italy while the world average was 6 per cent in March, 2020 (Figure 3a).
2. Various studies showed that COVID-19 had a higher range of R_0, than many recent viruses,
3. Another key factor regarding uncertainty in both the CFR and R_0 was the fact that many cases were initially asymptomatic.

This made it very difficult to ascertain the true number of individuals infected with COVID-19, and hence determine the CFR and R_0.

COVID-19, therefore, presented before the world in March 2020 the predicament of which strategy to choose and whether to save 'lives' or 'livelihoods'.

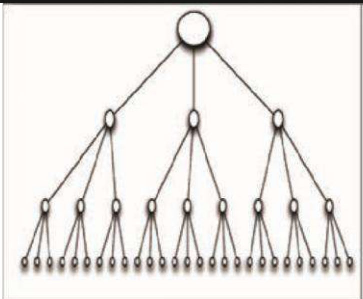
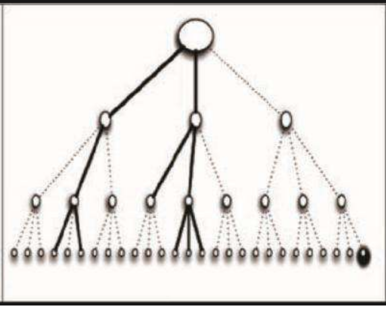
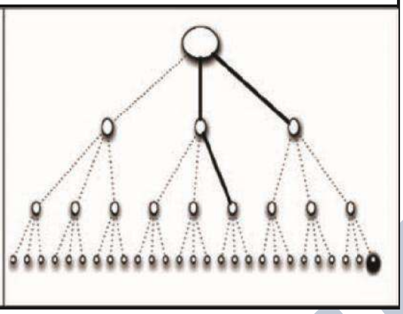
Higher Speed of Transmission Potential in Dense Areas

Two important factors that, then, become significant are the absolute population and population density. This is because higher the proximity between people, higher is the likelihood that an infected person carrying the virus will make contact with a susceptible person.

This is evident in the spread of COVID-19 wherein countries with higher population have shown higher caseloads and higher fatalities while countries with higher population density have shown higher caseloads though fatalities do not vary much with population density .

Network effects of a Pandemic:

The transmission potential of an epidemic is measured by the basic reproduction number, R_0 - the expected number of new cases of the disease caused by a single individual. R_0 is an interplay between the number of people an infected person meets (k) and the probability with which he spreads the infection to the person he comes into contact with (p).

A Contact Network	High Contagion Probability - the Infection Spreads Widely	Low Contagion Probability, the Infection is Likely to Die Out Quickly
		

- In dense areas, commuters make more extensive use of public transport. The physical proximity and grouping of people in public transport may also be a source of contagion.

This had important policy implications in terms of early measures to prevent spread for a densely populated country like India with more than 130 crore people and a population density of 382 persons per square km versus the global average of 58 persons per square km.

Efficacy of Lockdowns in a Pandemic: Learnings from Spanish Flu

- The evidence comparing the containment policies of 21 cities during the 1918 H1N1 influenza pandemic shows that social distancing policies reduce transmission.
- It showed that cities that implemented lockdowns earlier delayed the time to peak mortality, reduced the magnitude of the peak mortality as well as the total mortality burden.
- Research showed that cities in which multiple interventions were implemented at an early phase of the epidemic had peak death rates ~50 per cent lower than those that did not and had less-steep epidemic curves.
- The economic effects of lockdowns could be both positive and negative.While lockdowns lower economic activity, they have a salubrious effect by delaying the temporal effect of a pandemic, reducing the overall and peak attack rate, reducing the number of cumulative deaths, providing valuable time for production and distribution of pandemic-strain vaccine and antiviral medication and decreasing the burden on health care services and critical infrastructure.
- Research shows that implementing lockdowns earlier in the pandemic and using them more intensely produced significantly higher rates of growth in manufacturing output and employment from 1919 to 1923 than did slower activation or less intense use of lockdowns.
- The findings suggest that pandemics can have substantial economic costs, and lockdowns can lead to both better economic outcomes and lower mortality rate.
- When faced with enormous uncertainty, policies must be designed with the objective of minimizing large losses by selecting the policy that would be optimal under the worst-case scenario.

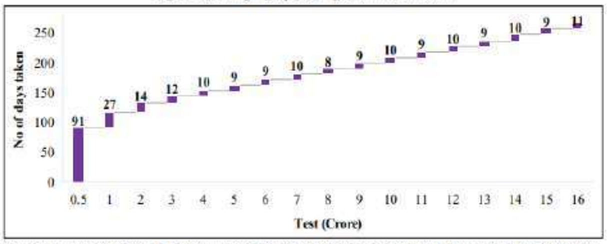
INDIA'S HUMANE POLICY RESPONSE: SHORT-TERM PAIN, LONGTERM GAIN

Indian policymakers followed an approach similar to the Barbell strategy in finance – hedging for the worst outcome initially, and updating its response step-by-step via feedback.

- The clear objective of 'Jaan Hai to Jahan hai' and to 'break the chain of spread' before it reaches 'community transmission' 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 was amongst the first of the countries that imposed a national lockdown when there were only 500 confirmed cases.

- The stringent lockdown in India from 25th March to 31st May was necessitated by the need to break the chain of the spread of the pandemic.
- This was based on the humane principle that while GDP growth will come back, human lives once lost cannot be brought back.
- The 40-day lockdown period was used to scale up the necessary medical and para-medical infrastructure for active surveillance, expanded testing, contact tracing, isolation and management of cases, and educating citizens about social distancing and masks, etc.
- The lockdown provided the necessary time to put in place the fundamentals of the '5 T' strategy - Test, Track, Trace, Treat,Technology.

Figure 9: Ramping up Testing Facilities in India



Source: Data accessed from https://www.Covid19india.org/, Ministry of Health and Family Welfare (MoHFW)

- As the first step towards timely identification, prompt isolation & effective treatment, higher testing was recognized as the effective strategy to limit the spread of infection.
- The requisite resources of PPEs, masks and sanitizers were also expanded at a fast pace.At the onset of the pandemic in January, 2020, India did less than 100 COVID-19 tests per day at only one lab. However, within a year, 10 lakh tests were being conducted per day at 2305 laboratories.

Table B1: Description of Indicators

No	Containment/Closure Indicators	Include/ description
C1	Inter state movement	Public and private transport
C2	Intra state movement	Public and private transport
C3	Night Curfews	Restriction on movement/opening
C4	Shops & other business establishment	Shops and industrial units
C5	Services	Restaurants, Hotel & hospitality
C6	Places of Worship	Temple, Masjid, Church and others
C7	Entertainment	Theatres, Cinema hall, Entertainment parks
C8	Personal Services	Spa, Parlor and salon
C9	Work Places	Government and private offices
C10	School/Colleges	School, college and educational institutions
C11	Large public Gathering	Social/political/religious/academic/cultural/sports
C12	Marriage & funeral gathering	People allowed in particular events

India was successful in flattening the pandemic curve, pushing the peak to September. India managed to save millions of 'lives' and outperform pessimistic expectations in terms of cases and deaths. It is the only country other than Argentina that has not experienced a second wave. It has among the lowest fatality rates despite having the second largest number of confirmed cases. The recovery rate has been almost 96 per cent. India, therefore, seems to have managed the health aspect of COVID-19 well.

EFFICACY OF INITIAL LOCKDOWN IN CONTROLLING THE PANDEMIC

- According to Oxford COVID-19 Government Response Tracker (OxCGRT), India imposed the most stringent lockdown (equal to 100 as per the index) for around a period of forty days from late March to early May – this was when it had total cases of only around 500-600 cases. As a comparison, stringency in US was around 72 only during that period when it already had 1 lakh cases.
- Analysis shows that India has been able to effectively manage both the spread of COVID-19 and the fatalities. India has 37.1 lakh less cases than what was estimated by the model while the actual cases in US are more than the estimated cases by 62.5 lakh cases.
- India has been able to save a large number of lives.
- Higher initial stringency in countries in March-April, 2020 had a significant impact on controlling the number of confirmed cases and deaths (at 10 per cent level of significance).
- Uttar Pradesh and Bihar have much lower cases than what is naturally expected while Maharashtra had much higher cases. In fact, highly populous, densely populated States like Uttar Pradesh (with a density of 690 persons per square km) and Bihar (with a density of 881 persons per square km) – as against the national average of population density of 382 persons per square km – have managed the pandemic well.

INDIA: RIDING AGAINST THE WAVE

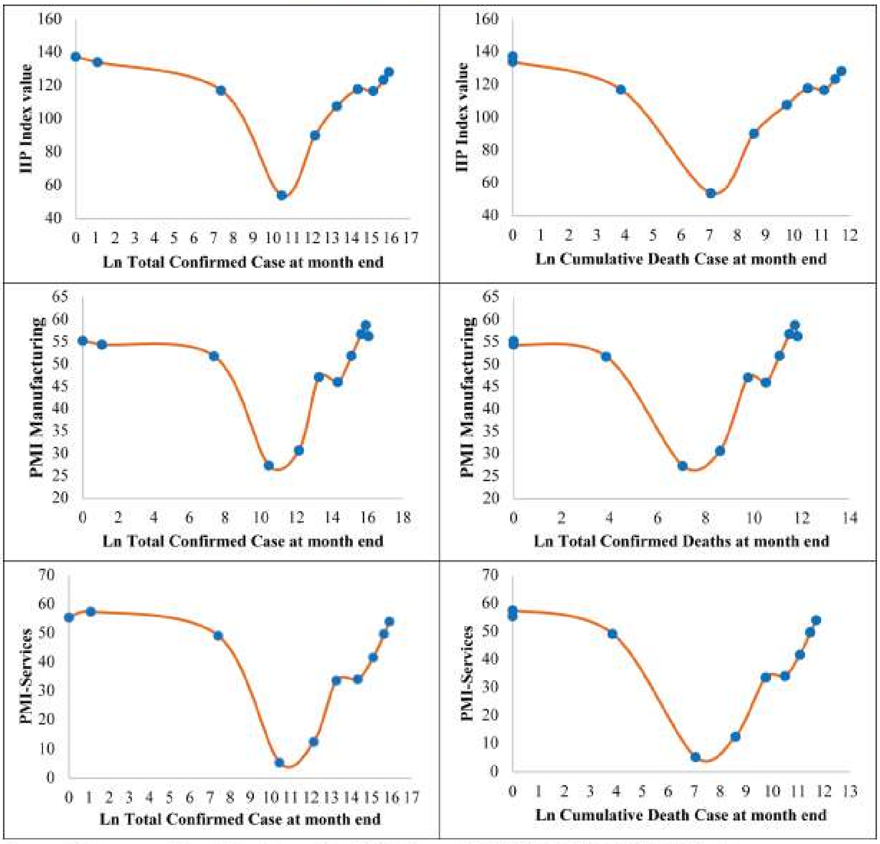
- Most countries had to re-impose intermittent lockdowns while India has been increasingly unlocking. These trends reinforce that India has been effective in combating the COVID-19 pandemic.
- The institutional capacity built during the initial period helped to cope with the peak caseload and sustain the controlled spread after the peak.
- India took around 175 days to reach the peak from its first 100 cases while most countries reached their first peak in less than 50 days.
- Second waves have been more lethal in terms of number of cases. The fatalities in US were 2.9 times higher during second wave. The prospect of India facing a strong second wave is receding with the start of the vaccination this year.

V-SHAPED ECONOMIC RECOVERY DUE TO TIMELY STRINGENT LOCKDOWN

The economy was gradually unlocked since June, 2020 and has experienced a V-shaped recovery since then.

- The lockdown negatively impacted economic activity .
- The Survey see that the month-on-month change in the three-month moving average of the stringency index has a positive relationship with the growth in each of the economic indicators. Thus, the initial stringent lockdown has supported a V-shaped recovery across all the economic indicators.

Figure 28: V-shaped Economic Recovery



Source: Data accessed from https://www.Covid19india.org/, MoHFW, MoSPI, BSE, IHS Markit

FAR-SIGHTED POLICY RESPONSE FOR ECONOMIC RECOVERY

- Service sectors reliant on face-to-face interactions—particularly wholesale and retail trade, hospitality, and arts and entertainment— have seen larger contractions than manufacturing.
- The pandemic induced lockdowns led to local, regional, and global supply disruptions hitting economic activity – rendering a 'first order' supply shock.This, in turn, has led toa demand shock both through disruptions in the labour market, which affect householdincome, and through the precautionary motive to save, which stemmed from the uncertaintyamidst the health crisis.

Table 3: Pradhan Mantri Garib Kalyan Package – Total Direct Benefit Transfers

Scheme	Number of Beneficiaries (Crore)	Amount (₹ Crore)
Support to PMJDY women account holders	1st Ins – 20.65 2nd Ins – 20.63 3rd Ins – 20.62	10,325 10,315 10,312
Support to NSAP (Aged widows, Divyang, Senior citizen)	2.81	2814
Front-loaded payments to farmers under PM-KISAN	8.94	17891
Support to Building & Other Construction workers	1.82	4987
24 per cent contribution to EPFO	.45	2570
Pradhan Mantri Ujjwala Yojana	1st Ins – 7.43 2nd Ins – 4.43 3rd Ins – 1.82	9700
TOTAL	42.1	68914

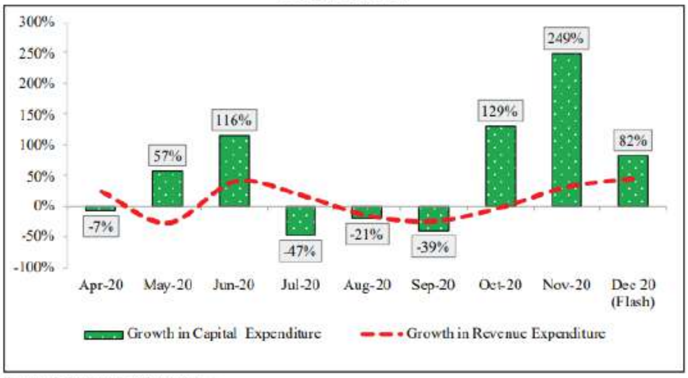
Source: PIB
Note: Progress as on 31st December 2020, Ins means Instalment

- In a normal economic crisis, policy support is rendered to stimulate aggregate demand as quickly as possible. However, the containment measures required to limit the spread of the pandemic, which constrained economic activity, reduced the efficacy of demand-side measures during the lockdown.
- The fiscal policy response of the Government of India to the pandemic was, accordingly, strategized with a step-by-step approach.

Fiscal Policy

- During the first two quarters of FY:2020-21, the Government ensured that funds for essential activities were available despite a sharp contraction in revenue receipts.
- The initial approach was to provide a cushion for the poor and section of society and to the business sector (especially the MSMEs) to tide over the distress caused by disruption of economic activity.

Figure 29: Trend in Growth of Monthly Expenditure of Central Government during FY 2020-21 (YoY)



Source: Department of Expenditure

- The Pradhan MantriGaribKalyanYojana (PMGKY) for ensuring food security through public distribution system, direct benefit transfers to widows, pensioners and women, additional funds for MGNREGS, and debt moratoria and liquidity support for businesses.
- The timing of stimulus was tuned to the absorptive capacity of the economy, which was affected by the lockdown.
- The timing of the expenditure push, especially the capital expenditure, after the reduction in health-related curbs, manifests the strategy of stimulating 'growth' when it would be most effective.

Structural Reforms

- India initiated a slew of multi-sectoral supply-side structural reforms to lend flexibility and resilience to supply chains as a part of the Atmanirbhar Bharat Mission.
- These reforms primarily focus on strengthening the potential of primary and secondary sectors of the economy to create jobs.
- The primary sector in India (agriculture and mining sectors) contributes around 16 per cent of Gross Value Added (GVA) while it employs around 43 per cent of the workforce.

Table 4: Major Structural Reforms Undertaken as a Part of Atmanirbhar Bharat Package

Sector	Structural Reform Undertaken
Deregulation and Liberalization of Sectors	
Agriculture	• Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020 • Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020 • Essential Commodities (Amendment) Act, 2020
MSMEs	• New MSME definition covering almost 99 per cent of all firms enabling MSMEs to grow in size and create jobs • Removal of artificial separation between manufacturing and service MSMEs
Labour	• Enactment of four labour codes namely, Wage Code, Industrial Relations Code, 2020, Code on Occupational Safety, Health & Working Conditions Code, 2020 & Social Security Code, 2020 • 'One labour return, one licence and one registration'
Business Process Outsourcing (BPO)	• Simplification of the Other Service Provider (OSP) guidelines of the Department of Telecom. Several requirements, which prevented companies from adopting 'Work from Home' and 'Work from Anywhere' policies have been removed
Power	• Tariff Policy Reform: DISCOM inefficiencies not to burden consumers, Progressive reduction in cross subsidies, Time bound grant of open access, etc. • Privatization of Distribution in UTs
PSUs	• PSUs in only strategic sectors • Privatization of PSUs in non-strategic sectors
Mineral Sector	• Commercial Mining in Coal Sector • Removal of distinction between captive and merchant mines • Transparent auction of mining blocks • Amendment to Stamp Act, 1899 to bring uniformity in stamp duty across States • Introduction of a seamless composite exploration-cum-mining-cum-production regime
Strengthening Productive Capacity	
Industry	• Production Linked Incentive (PLI) Scheme for 10 identified sectors • National GIS-enabled Land Bank system launched
Space	• Level playing field provided to private companies in satellites, launches and space-based services • Liberal geo-spatial data policy for providing remote-sensing data to tech-entrepreneurs
Defence	• Corporatization of Ordnance Factory Board • FDI limit in the Defence manufacturing under automatic route to be raised from 49 per cent to 74 per cent. • Time-bound defence procurement process
Strengthening Productive Capacity	
Education	• PM-eVidya to enable multi-mode and equitable access to education • Manodarpan initiative for psychosocial support
Social Infrastructure	• Scheme for Financial Support to Public Private Partnerships (PPPs) in Infrastructure Viability Gap Funding (VGF) Scheme extended till 2024-25
Ease of Doing Business	
Financial Markets	• Direct listing of securities by Indian public companies in permissible foreign jurisdictions • Provisions to reduce time line for completion of rights issues by companies • Private companies which list NCDs on stock exchanges not to be regarded as listed companies

Corporates	• Including the provisions of Part IXA (Producer Companies) of Companies Act, 1956 in Companies Act, 2013 • Decriminalization of Companies Act defaults involving minor technical and procedural defaults • Power to create additional/ specialized benches for NCLAT • Lower penalties for all defaults for Small Companies, One-person Companies, Producer Companies & Start Ups • Simplified Proforma for Incorporating Company Electronically Plus (SPICe +) introduced
Administration	• National platform for recruitment: National Recruitment Agency to conduct a Common Eligibility Test • Revised guidelines on Compulsory retirement to remove ineffective or corrupt officials through Fundamental Rule 56(j)/(l) and Rule 48 of CCS (Pension) Rule • Faceless tax assessment and a 12-point taxpayers charter • Fast track Investment Clearance through Empowered Group of Secretaries

Source: Compiled from various sources. The list presents the major structural reforms.

Benefits of Reforms:

MSME:

- The modified definition of MSMEs facilitates expansion and growth of these enterprises without them fearing the loss of government incentives, thereby avoiding the phenomenon of dwarfs among MSMEs.
- The resulting economies of scale can enhance productivity without the MSMEs losing out on several government incentives including interest subvention, collateral-free loans, market support, export promotion, preferential procurement in the public sector and enabling of IT ecosystems.
- The historic labour reforms will benefit MSMEs to increase employment, enhance labour productivity and thereby wages in MSMEs.
- The use of fulltime equivalents provides flexibility to MSMEs to tailor their labour strength to market conditions and thereby enhance employment.
- The increase in the size thresholds from 10 to 20 employees to be called a factory, 20 to 50 for contract worker laws to apply, and 100 to 300 for standing orders enable economies of scale and unleash growth.

Agriculture

- The agricultural reforms enable the farmer to sell where he gets the best deal and thereby enable competition that is sine qua non to create welfare for the small farmer.
- The reforms in agriculture markets will enable creation of 'One India one market' for agri-products, create innumerable opportunities for farmers to move up the value chain in food processing - from farm to fork, create jobs and increase incomes.

Mining:

- The proposed structural reforms in the mining sector aim to increase participation of the private sector in mineral exploration, redefine the norms of exploration for auction of mineral blocks to ensure a seamless exploration-cum-mining-cum-production regime.
- They will also redefine the standard of exploration required for auctioning of blocks for prospecting license-cum mining lease and open acreage licensing policy for allocation of mining rights which will give a major boost to the production of minerals in the country.
- These reforms aim to reduce dependence on imported coal, to create a strong, self-reliant domestic energy sector, attract private investments, generate jobs and stimulate the economic growth in the medium-term.

PLI

- Production-linked incentive (PLI) schemes have been implemented in ten key specific sectors to make Indian manufacturers globally competitive, attract investment in the areas of core competency and cutting-edge technology; ensure efficiencies; create economies of scale; enhance exports and make India an integral part of the global supply chain.

- These Schemes provide incentive to enhance production and create wealth and jobs.

All these reforms are intended to bolster the productive capacity of the economy, and create wealth and jobs especially at the bottom of the pyramid. This would, in turn, lead to inclusive growth and sustained demand generation in the economy.

Most of these reforms have long been recommended for enhancing the efficiency and achieving economies of scale in various sectors.

LOOKING FORWARD

- The V-shaped economic recovery while avoiding a second wave of infections make India a sui generis case in this unique, synchronized global recession.
- 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.

CHAPTER 2: DOES GROWTH LEAD TO DEBT SUSTAINABILITY? YES, BUT NOT VICE-VERSA!

"The state collects tax for the greater welfare of its citizens in the same way as the sun evaporates water, only to return it manifold in the form of rain." (Chapter 1, Shloka 18) — MahakaviKalidasa'sRaghuvansham

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 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. 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.

Current situation demands that fiscal multipliers are disproportionately higher during economic crises than during economic booms. 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.

The Survey endeavours to provide the intellectual anchor for the government to be more relaxed about debt and fiscal spending during a growthslowdown or an economic crisis.

Concern related to Fiscal expansion:

- Implications for future growth,
- Debt sustainability,
- Sovereign ratings,
- Possible vulnerabilities on the external sector

Need for Counter Cyclical fiscal policy:

- In a country like India, which has a large workforce employed in the informal sector, counter-cyclical fiscal policy becomes even more paramount.
- While counter-cyclical fiscal policy is necessary to smooth out economic cycles, it becomes critical during an economic crisis.
- In a country like India, where the private and public sector labour markets are largely segmented, such crowding out of private sector employment is minimal.
- Debt-financed public expenditure is more cost-effective to employ during recessions than during economic booms.

Box 1: 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 (Figure A).

Fiscal policy (FP) stance	Recession (↓ GDP)	Expansion (↑ GDP)	Outcome
Pro-cyclical	Contractionary FP ↓ Govt. Expenditure or /and ↑ Taxes	Expansionary FP ↑ Govt. Expenditure or/and ↓ Taxes	Deepens recessions and amplifies expansions, thereby increasing fluctuations in the business cycle.
Counter-cyclical	Expansionary FP ↑ Govt. Expenditure or/and ↓ Taxes	Contractionary FP ↓ Govt. Expenditure or /and ↑ Taxes	Softens the recession and moderates the expansions, thereby decreasing fluctuations in the business cycle.

Channels of Transmission

Recalling the National Income identity , Y= C+I+G+X-M , the net effect of a recession on the private sector may be in terms of lower private consumption (C), lower private investment (I), risk aversion by the private sector and pessimistic expectations/sentiments. In such a scenario, adopting a counter cyclical policy by expanding the Government Expenditure – both consumption and investment - will support the GDP and minimise the output gap (as seen in the figure above). This happens primarily through the following channels:

(i) An expansion in Government expenditure can cushion the contraction in output by contributing to the GDP growth, by offsetting the decline in consumption and investment; and also by boosting private investment and consumption through higher spending multipliers during recession.

(ii) Through risk multiplier by compensating for greater risk-aversion of private sector to bring back 'animal spirits'.

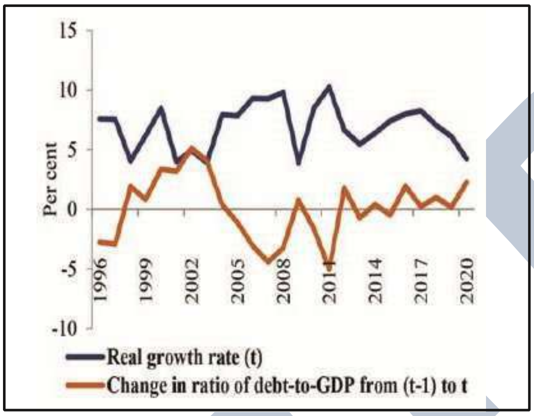
(iii) Through expectation multiplier by building confidence in tough times.

(iv) Fiscal policy is more effective in boosting private consumption during recessions due to the presence of binding liquidity constraints on households.

(v) Fiscal multipliers are likely to be higher in recessionary periods because private savings increase through the precautionary motive to save.

A counter-cyclical fiscal policy stance with policy actions against the cycle acts as a stabiliser by reducing output volatility and keeping growth on a steady path. Industries have grown faster in economies where fiscal policy has been more countercyclical, both in terms of output and productivity.

For India, in the current scenario, when private consumption, which contributes to 54 per cent of GDP is contracting, and investment, which contributes to around 29 per cent is uncertain, the relevance of counter-cyclical fiscal policies is paramount.



Note: d (t) - General Government Debt as a per cent of GDP at time period (t), Debt for 2018-19 is RE and 2019-20 is BE.

This implies that changes in IRGD are mostly attributable to changes in growth rates rather than the changes in interest rates. Thus, it is a higher growth that provides the key to the sustainability of debt for India .

Growth leads to debt sustainability

Does higher growth lead to lower debt or lower debt cause higher growth?

Arguments in against:

- The argument supporting higher debt leading to lower growth is as follows: higher levels of public debt are accompanied by more taxes in the future to pay for the debt, thereby leading to lower lifetime wealth, which may decrease consumption and savings, eventually resulting in lower aggregate demand and growth rates.
- If higher public debt (i.e. lower public savings) is not accompanied by increase in private savings, it may also lead to lower total savings in the economy.
- This may put upward pressure on the interest rates, resulting in crowding out of investment and thus negatively impacting the growth rates.

Arguments in support:

- Higher GDP growth leads to lower public debt through the increase in the denominator, i.e. GDP.
- Evidence over the last two-and-a-half decades demonstrates clearly that in India, higher GDP growth causes the ratio of debt-to-GDP to decline but not vice-versa.
- The evidence therefore shows the direction of causality between the two variables: higher growth leads to lower public debt in India, but not vice-versa.

Box 5: Debt Sustainability through higher growth following the Asian Financial Crisis

Fiscal policy has been a key determinant of growth acceleration after an exogenous global shock led to a decline in growth. Consider the shock due to the Asian Financial Crisis (1997-98). During the period 1997-98 to 2002-03, growth slowed down to an average of 5.3 per cent in real terms. Despite a fall in growth levels, an expansionary fiscal policy that focused on infrastructure spending was adopted by the Government.

Government expenditure increased consistently during these years, which led to general government debt reaching record levels. This fiscal push imparted the necessary impetus required for the growth to take off and average 8 per cent in real terms over the next six years from 2003- 04 to 2008-09. High growth in this period brought debt down from the record high levels of 83 per cent of GDP attained in 2003-04 to around 70 per cent of GDP in 2009-10 (Figure 9a and 9b). This episode highlights that public debt – when productively streamlined – can enable the economy to reach a higher growth trajectory and, in turn, ensure debt sustainability.

Thus, the evidence clearly points out that for countries growing their GDP at high rates, growth leads to lowering of their public debt as measured by their debt-to-GDP ratios but not vice versa. In contrast, when the GDP growth rate is low, no such causal relationship manifests between growth and public debt. This is seen through the following summary of the results demonstrated so far.

- For India and other EMEs, which have consistently grown their GDP at high rates over the last few decades, the relationship between debt and growth exhibits a clear direction of causality: Higher growth lowers debt-to-GDP ratios but lower debt does not necessarily lead to higher growth.
- The same phenomenon is obtained during the high growth phases for the advanced economies, which have otherwise grown at significantly lower GDP growth rates when compared to India and other EMEs.
- In contrast, across both the high and low growth episodes, in the advanced economies, where GDP growth rates have been low on average over the last few decades, this relationship does not manifest.

Crowding Out Due To Public Expenditure?

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.

However, for emerging economies such as India, an increase in public expenditure in areas that boost private sector's propensities to save and invest, may enable private investment rather than crowding it out.

In other words, 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

In fact, if the public expenditure is directed to sectors where the fiscal multipliers are large – for instance for building infrastructure – such spending may significantly crowd in private investment as well.

Research shows that savings and growth are not only positively correlated but their positive correlation is even stronger than that between growth and investment.

Research show for Asia that both savings and investment rise with the proportion of the working population. Jobs that pay meaningful wages drive savings rate in the economy. It shows that savings increases as average life expectancy increases in a country.

Thus, in an economy operating below full capacity, the supply of savings may grow from greater government spending through demand creation and thereby greater employment. This is because, as highlighted by recent research, favourable demographics – in the form of a large population of working age – would enhance savings through meaningful jobs.

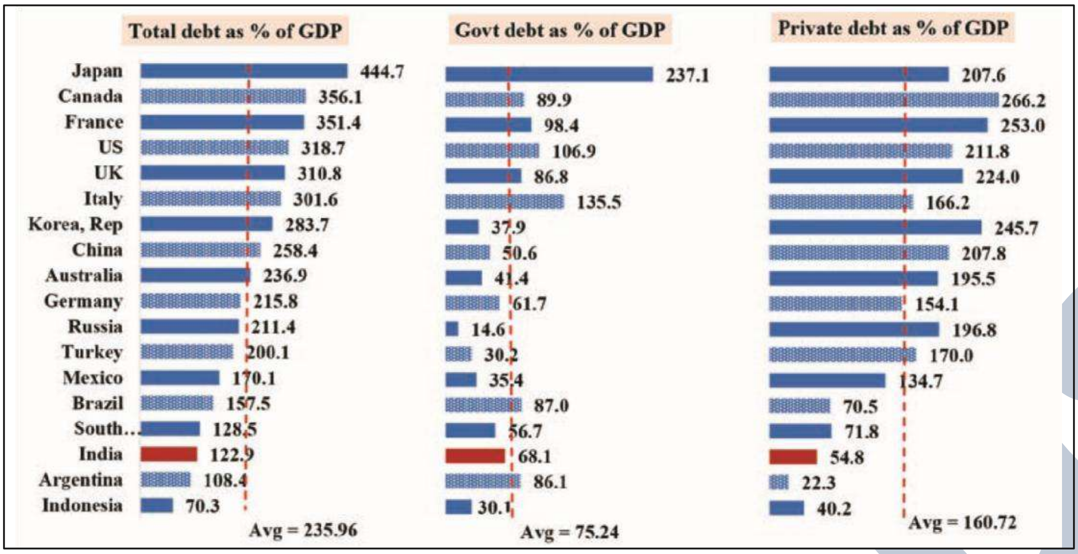
Consistent with these arguments against crowding out, studies find no evidence of crowding out of private investment due to public investment for developing economies.

Economic survey found no evidence of crowding out over the last three decades post liberalization. However, during the pre-liberalisation period of FY 1951-FY 1990, a negative correlation between changes in public investment and changes in private investment provides evidence consistent with the rationale of fixed loanable funds and possible crowding out .

Structure OF India's Debt

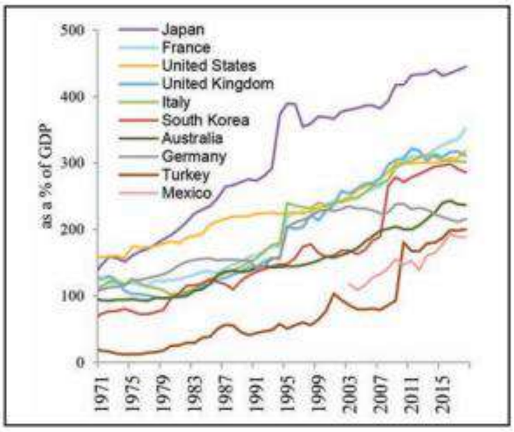
India's public debt-to GDP has been significantly low compared to high global debt levels (Figure 17).

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

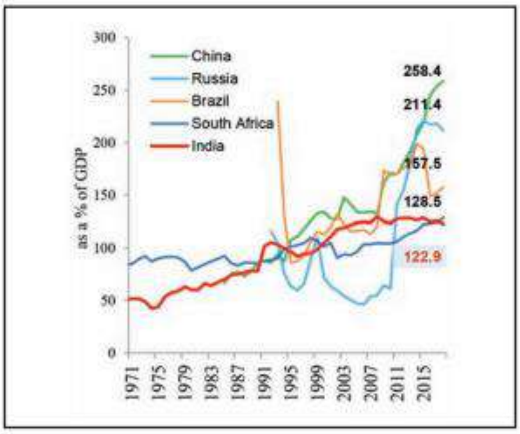


Source: IMF Debt database

18a. India lowest among G-20 OECD countries using Total Debt as per cent of GDP



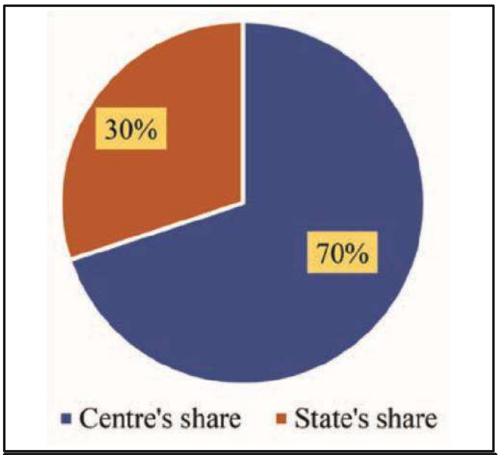
18b. India lowest among G-20 BRICS countries using Total Debt as per cent of GDP

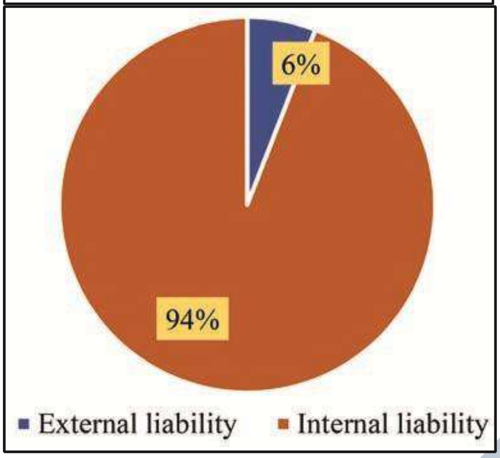


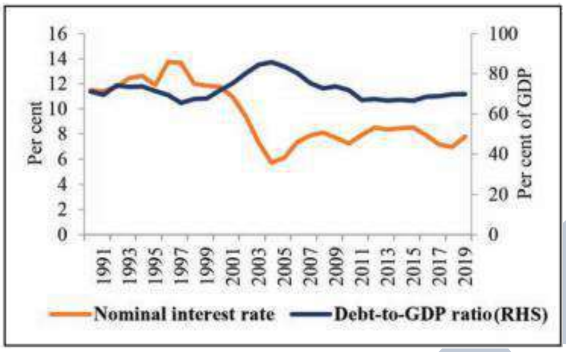
- The Government's debt portfolio is characterized by very low foreign exchange risk as the external debt is only 2.7 per cent of GDP (5.9 per cent of total Central Government liabilities) .
- Of the total public debt, 70 per cent is held by the Centre .
- The long maturity profile of India's public 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 per cent of public debt) tends to limit rollover risks, and insulates the debt portfolio from interest rate volatility.

Figure 19: Composition of General **Figure 20: Composition of Central Govt. debt**

Government public debt

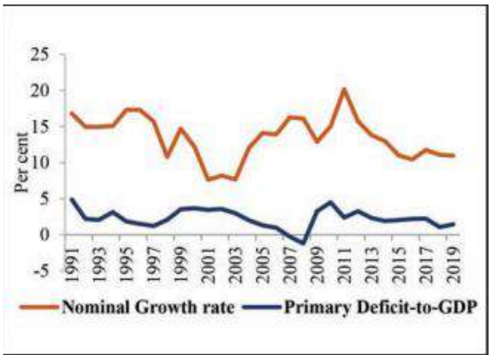






Scenario Analysis: Is India's Current debt sustainable?

- Thus, as long as the primary deficit is less than a maximum threshold, debt would remain sustainable.
- An increase in the general government debt-to-GDP correlates with lower (not higher) nominal interest rates. Research suggest that in a worst case scenario where the real growth is only 4 per cent in the next 10 years, public debt is sustainable. Research also show that even at high primary deficits, low real growth and high nominal interest rates, India's debt will remain sustainable.



Policy Implications

To eliminate the possibility of growth being impacted in the medium to long run, the Government has been extremely pro-active in launching several seminal reforms. However, their impact will manifest in the medium to long-term. To ensure that the economy remains in good health to avail the full benefit of these significant reforms, the "economic bridge" to the medium and long-term has to be created.

During an economic crisis a well designed counter cyclical policy can lead to better economic outcomes in two ways. First, it can boost potential growth with multi-year public investment packages that raise productivity.

Second, there is a risk of the Indian economy falling into a low wage-growth trap, as has happened in Japan during the last two decades. Implementing the NIP via front-ended fiscal spending could generate higher-paying jobs and boost productivity.

CHAPTER 3: DOES INDIA'S SOVEREIGN CREDIT RATING REFLECT ITS FUNDAMENTALS NO!

"Where the mind is without fear and the head is held high … Into that heaven of freedom, my Father, let my country awake".
—RavindranathThakur

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.

Do the fundamentals that supposedly drive sovereign credit ratings rationalise this historical anomaly?

About Credit Ratings:

Credit ratings map the probability of default and therefore reflect the willingness and ability of borrower to meet its obligations.

Indian Strength:

- Zero sovereign default history.
- Extremely low foreign currency denominated debt of the sovereign
- 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 external debt including that of the private sector.

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.

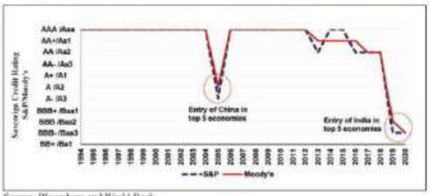
As ratings do not capture India's fundamentals, it comes as no surprise that past episodes of sovereign credit rating changes for India have not had major adverse impact on select indicators such as Sensex return, foreign exchange rate and yield on government securities.

Despite ratings not reflecting fundamentals, noisy, opaque and biased credit ratings damage FPI flows. It is therefore imperative that countries engage with CRAs to make the case that their methodology must be corrected to reflect economies' ability and willingness to pay their external obligations.

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.

THE BIAS AGAINST EMERGING GIANTS IN SOVEREIGN CREDIT RATINGS

Figure 1: Sovereign Credit Rating of Fifth Largest Economy (Current US $)



Source: Bloomberg and World Bank

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

Source: IMF (2010)

INDIA'S SOVEREIGN CREDIT RATINGS

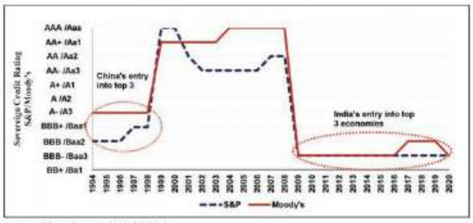
Table 1: India's Sovereign Credit Rating (1998-2020)

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 t
Source: Compiled from S&P Global, Fitch and Moody's

DOES INDIA'S SOVEREIGN CREDIT RATING REFLECT ITS FUNDAMENTALS? NO!

Figure 2: Sovereign Credit Rating of Third Largest Economy (PPP Current International $)



Source: Bloomberg and World Bank

Biasness in Credit Rating Agency:

- CRAs downgraded East Asian crisis countries more than what would have been justified by these countries' worsening economic fundamentals. This adversely affected the supply of international capital to these countries.
- Sovereign credit ratings tend to be reactive, especially for emerging market economies, with significantly higher probability of downgrade as well as higher size of downgrade as compared to developed economies.
- CRAs give higher ratings to developed countries regardless of their macroeconomic fundamentals.
- Subjective component of S&P, Moody's and Fitch ratings tends to be large, especially for low-rated countries.
- S&P and Fitch are further shown to find it more difficult to upgrade African countries relative to other developing countries, for any given improvement in ability and willingness to repay debts.
- Findings suggest that respective home country, countries with linguistic and cultural similarity, and countries with higher home-bank exposuresreceived higherratingsthan justified by their political and economic fundamentals.

Indian Concern:

- India is a negative outlier and is currently rated much below expectation for its level of :
  - ✓ General government gross debt (as per cent of GDP)
  - ✓ CPI inflation.

- ✓ Cyclically adjusted primary balance (per cent of potential GDP).
- ✓ Current account balance (as per cent of GDP).
- ✓ political stability.
- ✓ Rule of law
- ✓ Control of corruption.
- ✓ Short-term external debt (as per cent of reserves).

Table 2: Summary of Average Changes in Select Indicators during India's Sovereign Credit Rating Downgrades (1998-2018)

Indicator	During/Post event	Short Term			Medium Term			Long Term		
Sensex return	During event		-1.14%			-3.73%			34%	
	Post event		0.38%			0.5%			26%	
Exchange Rate	During event		-0.01%			1.3%			9%	
	Post event		-0.01%			0.2%			2%	
G Sec Yield		5 yr	10 yr	Spread	5 yr	10 yr	Spread	5 yr	10 yr	Spread
	During event	-	-	-	-1.4%	-3.3%	-22%	-	-	-
	Post event	-	-	-	0.1%	-0.3%	1%	-	-	-
FPI Flows		Equity		Debt	Equity	Debt		Equity		Debt
	During event	-		-	-	-		-67%		-289%
	Post event	-		-	-	-		-759%		-114%

Note: Green indicates positive economic outcome, Red indicates negative economic outcome

HAVE INDIA'S SOVEREIGN CREDIT RATINGS REFLECTED ITS FUNDAMENTALS IN THE PAST? NO!

- India has consistently been rated below expectation as compared to its performance on various parameters during the period 2000-20.

On all the indicators, India has never been given ratings as per its standard even in the past.

Does INDIA'S SOVEREIGN CREDIT RATING REFLECT ITS WILLINGNESS AND ABILITY TO PAY? NO!

- India is again a negative outlier, rated below expectation for the numbers of years since last sovereign default (which is zero for India) within its sovereign credit ratings cohort.
- 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.
- India's sovereign external debt as per cent of GDP stood at a mere four per cent as of September 2020.
- Moreover, 54 per cent of India's sovereign external foreign currency denominated debt was owed to multilaterals and IMF as of end-March 2020 (DEA).
- India's forex reserves stood at US$ 584.24 as of January 15, 2021 (RBI), greater than India's total external debt (sovereign and non-sovereign) of US$ 556.2 bn as of September 2020 (DEA).

EFFECT OF SOVEREIGN CREDIT RATING CHANGES ON SELECT INDICATORS

- From 1998 till date, India has witnessed four instances of a sovereign credit ratings downgrade and seven instances of a sovereign credit ratings upgrade.
- 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
- During the rating downgrade, Sensex return, on average, fell by around one per cent over the previous day, and recovered to grow at 0.38 per cent over the next two weeks.
- During the rating downgrade, exchange rate (INR/USD), on average, appreciated by around 0.01 per cent over

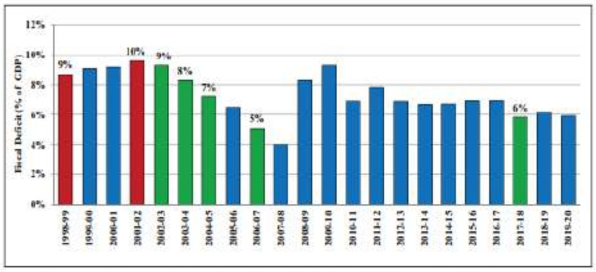
Literature Survey:

- Investment grade status reduced spreads by 36 per cent over and above that implied by macroeconomic fundamentals.
- Significantly affect bond and stock markets
- donors' as well as recipients' credit ratings impact FDI flows.
- ratings affect own-country exchange rates as well as have strong regional spill over effect on exchange rates

the previous day, and appreciated by 0.01 per cent over the next two weeks.

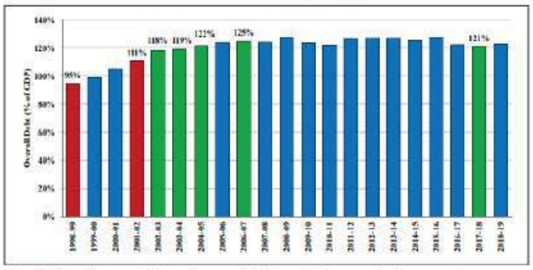
- During ratings downgrade, yield on G-Sec (5 year), on average, fell by 1.4 per cent over the previous month, and grew at 0.1 per cent over the next six months.
- During the year of the rating downgrade, on average, FPI Equity fell by 67 per cent over the previous year, and fell by 759 per cent in the next year.

Figure 37: India's Fiscal Deficit (as per cent of GDP) and Sovereign Credit Rating Changes



Note: Red signifies year of rating downgrade. Green signifies year of rating upgrade.
Source: RBI

Figure 39: India's Overall Debt (as per cent of GDP) and Sovereign Credit Rating Changes



Note: Red signifies year of rating downgrade. Green signifies year of rating upgrade.
Source: IMF

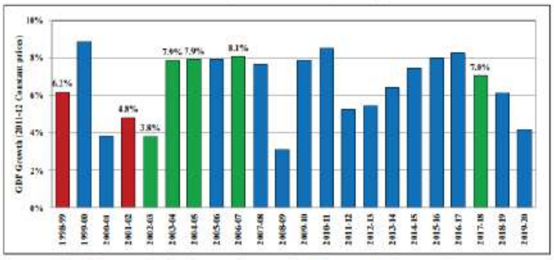
Effect of India's Sovereign Credit Rating Upgrades:

T

Indicator
Sensex return
Exchange Rate
G Sec Yield
FPI Flows

Note: Green indicat

and Sovereign Credit Rating Changes



Note: Red signifies year of rating downgrade. Green signifies year of rating upgrade.
Source: MoSPI and RBI

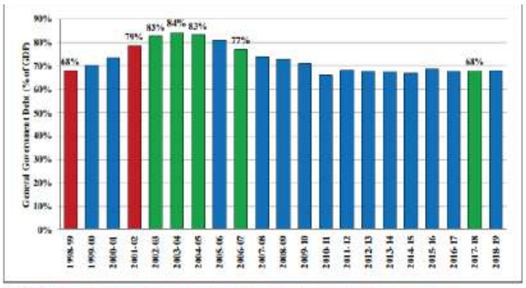
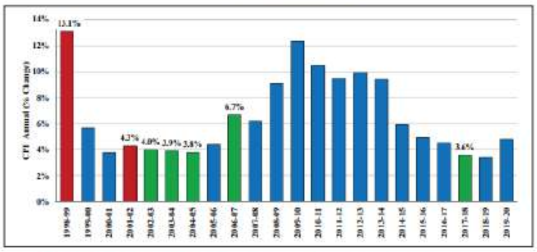
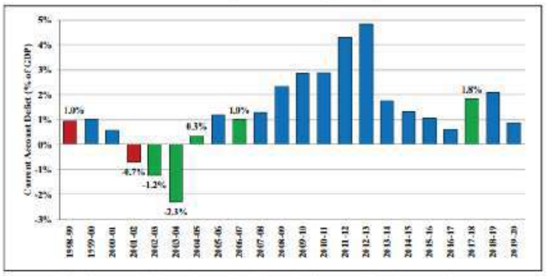


Figure 40: India's Consumer Price Inflation (Annual per cent Change) and Sovereign Credit Rating Changes



Note: Red signifies year of rating downgrade. Green signifies year of rating upgrade.
Source: RBI and IMF

Figure 41: India's Current Account Deficit (as per cent of GDP) and Sovereign Credit Rating Changes



Note: Red signifies year of rating downgrade. Green signifies year of rating upgrade.
Source: RBI

MACROECONOMIC INDICATORS AS DETERMINANTS OF SOVEREIGN credit RATING CHANGES

- Past episodes of rating changes have no or weak correlation with macroeconomic indicators.

It may be seen that during years of India's sovereign credit rating changes, the average performance of macroeconomic indicators was better than or similar to the previous year. The average performance of macroeconomic indicators further improved or was similar in the year after the sovereign credit rating change.

POLICY IMPLICATIONS

Survey 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.

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 creditratingsinG20.Inresponse,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?

Poverty is the parent of revolution and crime. —Aristotle

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?

By examining the correlation of inequality and per-capita income, which reflects the impact of economic growth, with a range of socio-economic indicators, the Survey highlights that both economic growth and inequality have similar relationships with socio-economic indicators. Thus, unlike in advanced economies, in India economic growth and inequality converge in terms of their effects on socio-economic indicators.

GROWTH, INEQUALITY, AND SOCIO-ECONOMIC OUTCOMES: INDIA VERSUS THE ADVANCED ECONOMIES

Research shows that higher inequality leads to adverse socio-economic outcomes but income per capita, a measure of economic growth, has little impact.

Finding of Survey:

- Across the Indian states, it is observed that both inequality and income per capita correlate similarly with socio-economic outcomes.
- The index of health outcomes correlates positively with both inequality and income per capita across the Indian states. Thus, while the conflict between growth and inequality is clearly seen across the advanced economies, inequality and growth converge in their effects on health among Indian states.
- Same result is seen using the index of education, life expectancy, infant mortality and crime respectively.
- Neither inequality nor income per capita among Indian states correlate strongly with drug usage; however, inequality correlates strongly with drug usage in the advanced economies.

- While birth and fertility rates decline with inequality and income per capita, death rates do not correlate with either inequality or income per capita.

Are the patterns similar across different types and measures of inequality and different time periods?

- States with greater consumption inequality are the ones facing greater asset inequality as well.
- Inequality of consumption is what matters the most rather than inequality of assets or inequality of income. The permanent income hypothesis posits that individuals and households attempt to smooth their consumption over time by borrowing or saving. Thus, while the income of an individual varies from year to year, consumption is more permanent as individuals tend to smooth their consumption over time.
- Inequality of income does not reflect the true inequality that individuals and households as consumers encounter.

POVERTY AND INEQUALITY TRADEOFF IN CHINA:

- As per data from China National Bureau of Statistics, the head count ratio of poverty has reduced by 94 per cent from 1980 to 2015 in rural China.
- In contrast, the Gini coefficient of income distribution among rural residents in China rose from 0.241 in 1980 to 0.39 in 2011 or by 62 per cent according to the official estimation.
- The huge fall in poverty came from the poorest quintile increasing their annual income over a long time, while the rise in inequality stemmed from top quintile increasing their income much faster than their poor counterparts.
- Accelerating industrialization and urbanization in a country of over one billion people has transformed a large number of the agricultural surplus labor in the countryside into urban employment in China.
- Evidently, low-income rural households have benefitted proportionally from the changes in the country's employment pattern engendered by the dual process of industrialization and urbanization.

Conclusion:

- The findings that inequality and income per capita converge in terms of their correlation with socio-economic outcomes, thereby implying the absence of a trade-off between economic growth and inequality.

IS PERFECT EQUALITY OPTIMAL?

- In most cases, inequality of opportunity is much more objectionable than inequality of outcomes, as individuals' opportunities are influenced by endowments that are related to parents and other adults, peers, and a variety of chance occurrences throughout their lifetimes.
- 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.
- Hence, For India, 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 OR 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.

> *How do people view inequality: Fairness, self-interest and morality*
> - It appears that even when imagining an ideal world, people aim for social stratification.
> - Americans wish for a ratio of 7:1 in CEO-worker pay gaps so that a CEO should ideally earn \$7 for every \$1 earned by a factory worker.
> - Ironically, what leads people inequality is their sense of fa with certain inherent charac than others.
> - In essence, people will toler depending on what favours

> MPI is based on three dimensions – education, health and standard of living – using ten indicators viz; education attainment, year of education; nutrition and mortality; and electricity, drinking water, sanitation, cooking gas, housing, and assets.

- If the poverty is conceptuated in relative terms, there is no need to distinguish it from inequality. A relative measure of poverty is indeed a measure of inequality.

- On the other hand, if poverty is conceptualized in an absolute sense, that is, focusing on the absolute levels of assets, income or consumption of those at the low end of the distribution, then increases in inequality may be accompanied by reduction in poverty.

- Rawls argued that the most reasonable way to decide upon a fair distributive principle is to imagine that you must make this decision knowing you will be born into the world but not knowing anything about what your assets and characteristics – intelligence, personality traits, parents, neighbourhood, gender, skin colour, etc. – will be. Rawls's distributive principle is a "maximin" one: whatever distribution maximizes the income of the poorest (and provides basic liberties) is to be preferred.In his view, as long as the poor have "adequate" incomes, an increase in the incomes of the rich need not benefit the poor to be considered just. The results of such experiments suggest that (absolute) poverty should be of greater concern than inequality.

- Of course, it is possible that if the incomes of the rich pull too far away from the rest of society, growing frustration may lead to rising crime, withdrawal from civic engagement, and loss of social cohesion.

RELATIVE IMPACT OF ECONOMIC GROWTH AND INEQUALITY ON POVERTY IN INDIA

There does not exist any correlation between inequality and poverty among the Indian states leading to an ambiguous conclusion.

States that witnessed large reduction in poverty, using the official estimates based on consumption, experience proportional reductions in multi-dimensional poverty as well.

It indicates that improvement in poverty also alleviates poverty measured along multiple dimensions and vice versa.

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.

Research find that the pattern of growth has changed significantly after 1991. Poverty is concentrating more and more in urban areas, as now one-in-three poor is living in urban areas, which was about one-in-eight in the early 1950s. In the post-liberalisation period urban growth and non-agricultural growth has emerged as a major driver of national poverty reduction including rural poverty.

Conclusion:

- 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 income per capita (as a proxy for economic growth) and inequality have similar relationships with socio-economic indicators.
- Economy Survey finds that economic growth has a far greater impact on poverty alleviation than inequality.
- Therefore, given India's stage of development, India must continue to focus on economic growth to lift the poor out of poverty by expanding the overall pie.
- Note that this policy focus does not imply that redistributive objectives are unimportant, but that redistribution is only feasible in a developing economy if the size of the economic pie grows.

CHAPTER 5: HEALTHCARE TAKES CENTRE STAGE, FINALLY!

"It is health that is real wealth and not pieces of gold and silver." —Mohandas K. Gandhi

Introduction:

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 percentage points per year.
- 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 outof-pocket payments made for healthcare.
- OOP(Out of Pocket) for health increase the risk of vulnerable groups slipping into poverty because of catastrophic health expenditures.
- At low levels of public health expenditure, i.e. were public healthcare expenditure as a per cent of GDP is less than 3 per cent, OOP expenditure as a share of total health expenditure drops precipitously when public health expenditure increases.
- An increase in public health expenditure from the current levels in India to 3 per cent of GDP can reduce the OOP expenditure from 60 per cent currently to about 30 per cent.

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

- **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. It requires pooling of healthcare insurances to reduce healthcare risk.

- **Information asymmetry:** Buyers of information (patients) rarely know the value of the information until after it is purchased and sometimes never at all. As patient will never know the value of open heart surgery hence will always visit a reputed hospital.
- However, reimbursement rates pre-negotiated with insurance companies, advertising, the private incentives for testing, etc. can exacerbate the conflict of interest which doesn't let doctor to be altruistic in nature.
- 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
- **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. . 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
- The privately optimal preference for primary care may be so low that individuals may have to even be paid to use adequate primary care.
- Individuals also under-estimate health risks and may, therefore, not purchase adequate health insurance.

Need for system design in healthcare:

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:

- 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.

Countries with more fragmented health systems tend to have lower performance as reflected in higher costs, lower efficiency, and poor quality.

Therefore, most well-functioning health systems are structured as oligopolies purchasing from oligopsonys instead of individual consumers purchasing from individual providers.

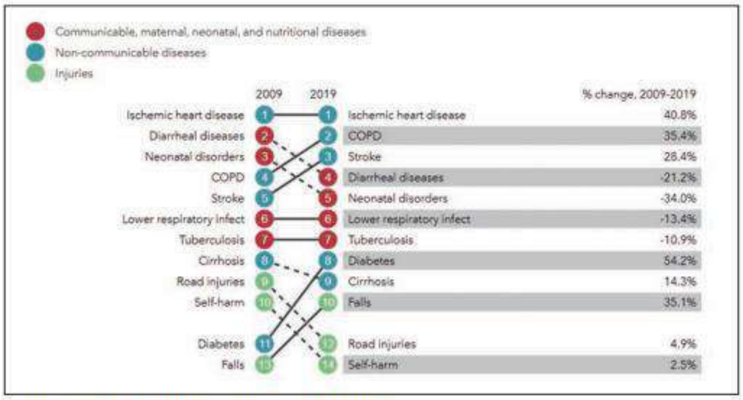
Issue of Health Insurance:

- Ex-ante moral hazard: Individuals have less incentives to avoid the poor health behavior.
- Ex-Post Moral Hazard: It stems from the fact that the cost of an individual's excess usage of healthcare is spread over all other purchasers of insurance. This free-rider problem causes the individual to not restrain his usage of care.

Covid-19 and India's healthcare policy:

The Covid-19 pandemic has spread worldwide because it is a communicable disease.But, designing policy based on Covid19 will result into saliency bias(which involves over-weighing recent phenomena). 71 per cent of global deaths and about 65 per cent of deaths in India are caused by non-communicable diseases.

Figure 4 (Panel b): NCD's: one among top 10 reasons for deaths



Source: Institute for Health Metrics and Evaluation

Further, preventing communicable diseases requires focus on better sanitation and drinking water, which the Swachh Bharat and the HarGhar Jal Abhiyan campaigns are focusing on.

Better healthcare infrastructure is no insurance against communicable disease:

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.

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.

Indian Healthcare currently:

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).

Poor health outcomes:

Despite improvements in MMR and IMR, India still needs to improve significantly on these metrics.

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.

High out-of-pocket health expenditures: India has one of the highest out of pocket health expenditures.

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.

Figure 9: Increasing equity in healthcare (2004-18)

Low budget allocations for healthcare:

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.

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.

Findings from PMJAY:

- Using the data till November 2019, it is observed that the average claim amount in a readmission case is INR 19,295 compared to INR 12,652 in the corresponding original case.
- The average length of stay is also higher in the readmission, 7.5 days versus 6.6 days.
- Crucially, the data shows that the mortality rate for neonatal procedures is much higher in private hospitals than in public hospitals, 3.84 per cent and 0.61 per cent respectively

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:

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.

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.

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

Around 74 per cent of outpatient care and 65 per cent of hospitalisation care is provided through the private sector in urban India.

The quality of treatment in the private sector does not seem to be markedly better in the private sector when compared to the public sector. Yet, the costs of treatment are not only uniformly higher in the private sector, the differences are humongous for in-patient treatments of severe illnesses such as cancers (3.7x), cardio (6.8x), injuries (5.9x), gastro (6.2x), and respiratory (5.2x).

Way Forward:

- Healthcare policymakers should consider creating agencies to assess the quality of the healthcare providers – both doctors and hospitals.
- 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 sectoral regulator that undertakes regulation and supervision of the healthcare sector must be seriously considered.

Telemedicine

Impressive growth has been seen in the adoption of telemedicine in India since the outbreak of the COVID-19 pandemic. Government has issued Telemedicine Practice Guidelines 2020. eSanjeevani OPD (a patient-to-doctor tele-consultation system) has recorded almost a million consultations since its launch in April 2020.

The number of telemedicine consultations correlates strongly with the Internet penetration in a state. Thus, the success of telemedicine critically hinges on having decent level of health infrastructure and Internet connectivity nationwide.

CONCLUSIONS AND POLICY SUGGESTIONS:

- India's healthcare policy must continue focusing on its long-term healthcare priorities. Simultaneously, to enable India to respond to 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.
- Given India's unique last mile challenges, technology-enabled solutions need to be harnessed to the fullest.
- An increase in public spend from 1 per cent to 2.5-3 per cent of GDP – envisaged in the National Health Policy 2017 – can decrease the OOPE from 65 per cent to 30 per cent of overall healthcare spend.
- Information utilities that help mitigate the information asymmetry can be very useful in enhancing overall welfare. 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 in this context.
- A standardised 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.

Success of National Health Mission:

- 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.
- Similarly, the percentage of the poorest accessing institutional delivery increased from 18.6 per cent to 23.1 per cent and from 24.7 per cent to 25.4 per cent for post-natal care.
- The poorest utilising inpatient care and outpatient care has increased from 12.7 per cent to 18.5 per cent and from 15.6 per cent to 18.3 per cent.

CHAPTER 6: PROCESS REFORMS: ENABLING DECISION-MAKING UNDER UNCERTAINTY

Introduction:

International comparisons show that the problems of India's administrative processes derive less from lack of compliance to processes or regulatory standards, but from overregulation. Even when there is no dispute/ litigation and all paperwork is complete, it takes 1570 days to be stuck off from the records.

The problem of over-regulation and opacity in Indian administrative processes flows from the emphasis on having complete regulations that account for every possible outcome. This is due to the inadequate appreciation of the difference between 'Regulation' and 'Supervision', on the one hand, and the inevitability of incomplete regulations, on the other hand.

Real-world regulation is inevitably incomplete because of the combination of:

- bounded rationality due to "unknown unknowns",
- complexity involved in framing "complete" contracts across all possible contingencies,
- the difficulty for a third party to verify decisions.

Having provided the government decision maker with discretion, it is important then to balance it with three things-improved transparency, stronger systems of ex-ante accountability (such as bank boards) and ex-post resolution mechanisms.

THE PROBLEM OF REGULATORY EFFECTIVENESS

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.

The 'World Rule of Law Index' published by the World Justice Project provides cross country comparison on various aspects of regulatory enforcement. The index has various sub-categories, which capture compliance to due processes, effectiveness, timelines, etc. In 2020, India's rank is 45 out of 128 countries in the category of 'Due process is respected in administrative proceedings' (proxy for following due process). In contrast, in the category 'Government regulations are effectively enforced' (proxy for regulatory quality/effectiveness), the country's rank is 104.

Table 1: India's rank in various categories of regulatory enforcement

	2015	2020
Regulatory Enforcement overall rank	69	74
Government regulations are effectively enforced	87	104
Government regulations are applied and enforced without improper influence	74	107
Administrative proceedings are conducted without unreasonable delay	75	89
Due process is respected in administrative proceedings	72	45
Number of Countries	102	128

Source: World Justice Project

The index shows that United Kingdom, United States, Singapore and Canada are placed much better than India in case of both, following due process and regulatory effectiveness.

World Bank's Regulatory Quality Index shows that despite improvement in India's regulatory quality since 2013 , it is still much lower than UK, US, Singapore, Japan etc. Similarly, the 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 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.

1. Bounded Rationality: humans are boundedly rational because the future comprises of "unknown unknowns."
2. Complexity in framing contracts arises from the difficulties involved in anticipating and specifying all obligations for all parties in full across all possible contingencies.

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

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.

Complex rules and regulations create more discretion because of the multiple ways in which they can be interpreted.

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

Evidence supporting the increase in discretion with over-regulation

Studies show that complex set of rules, in fact, gave more discretion to the inspector. Because of having complex and a large number of standards to check, idiosyncratic factors associated with the narrow expertise of the inspector caused particular standards to be checked.

Studies show that more the number of regulations, higher the discretion in implementing them in the case of award of construction permits.

Stringency of labour regulation (measured as fine for violation of minimum wage) correlates negatively with the intensity of its enforcement (measured as average medium imprisonment for the same).

Illustration:

- 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.

This reveals that having more stringent regulation may actually mean that exercise of discretion on the ground is more, not less.

THE PROBLEM OF REGULATORY DEFAULT

Studies argue that multi-dimensional tasks are ubiquitous in the world and agents have to divide their time among various duties. In such cases, agents choose the tasks whose outcomes are measurable. For instance, if there is an incentive pay for teachers based on their students test scores, then teachers will focus on the narrowly defined basic skills that are tested on standardised tests and not on the various aspects of student learning.

Similarly, 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.

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.'

The Commerce Ministry's Report of the HighLevel Advisory Group (2019) noted a maze of complex and stringent regulations to stop 'roundtripping' of funds. The report highlighted that 'the baggage of round-tripping cannot be used to stifle the financial services sector any more than using the risk of a traffic accident to stop construction of a key highway'.

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.

Comment on L1 bidding:

Quality Council of India (QCI) 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.

NITI Ayog 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.

Discretion is questioned with the benefit of hindsight

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.

Government departments follow default precedent

Government departments take actions either to tick off boxes in checklist of regulation or follow the default precedent.

SOLVING FOR DISCRETION

It should be clear that there is no substitute for active supervision and discretion. Specifically, ex-ante regulation cannot substitute for ex-post supervision.

Strengthen ex-ante accountability:

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.

Reforms by GeM Portal:

- 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.
- 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.
- The average prices on GeM are lower by atleast 15-20 per cent than previously, and in some cases even upto 56 per cent.
- On on average, the variation between the prices on GeM and other online market places is only around 3 per cent.
- Being an open platform alert citizens can continue to monitor it real time.

Bring transparency in 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.

Build resilient ex-post resolution mechanism

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.

OECD 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.

DIRECTION OF ADMINISTRATIVE PROCESS REFORMS

Government Initiatives:

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.

To reduce the compliance burden of the BPO industry, government announced new guidelines on Other Service Providers (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.

Way Forward:

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.

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.

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.

Table 7: India's rank in the World Rule of Law Index (2020)

Particulars	India Rank out of 128
World Rule of Law Index	69
People can Access and Afford Civil Justice	115
Civil Justice is not subject to unreasonable delay[7]	123
Civil Justice is effectively enforced	102
Alternative dispute resolution mechanism is accessible	88

Source: World Justice Project (2020)

CHAPTER 7: REGULATORY FORBEARANCE: AN EMERGENCY MEDICINE, NOT STAPLE DIET!

"Those who do not learn from history are condemned to repeat it." — George Santayana, Spanish philosopher

INTRODUCTION:

To address the economic challenges posed by the Covid-19 pandemic, financial regulators across the world have adopted regulatory forbearance. India is no exception.

Example:

Without Forbearance	With Forbearance
1. If the project is viable, the bank would restructure the asset and downgrade it to a Non-Performing Asset (NPA) and provision for the same.	1. If the project is viable, the bank would restructure the asset. As restructured assets do not require the same level of provisioning as NPAs, inadequate provisions are made.
2. If the project is unviable, the bank would not restructure the loan and declare the asset as non-performing. Crucially, banks do not gain by restructuring projects in this case.	2. Capital-starved banks now have an incentive to restructure even unviable projects to reduce provisioning and avoid the consequent hit on capital.

Challenges of Forebearance:

- Forbearance provides incumbent managers an opportunity to window-dress their balance sheets, show good performance during their tenure, and thereby enhance post-retirement career benefits.

Figure 1: Growth rate of Real GDP

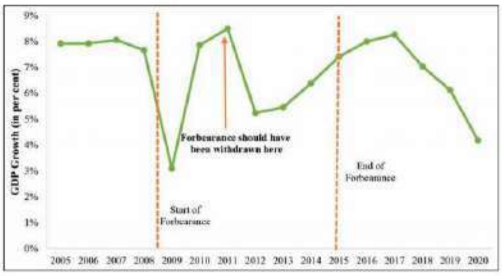
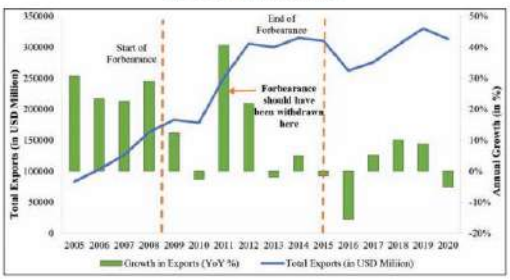


Figure 2: Growth in Exports



- Consequently, bank managers resort to distortionary practices under forbearance. Second, banks' management may use forbearance as a shield to cover up outright corruption and nepotism.The events with the Punjab National Bank or recent allegations of deceit against former bank CEOs corroborate this possibility. Notice that forbearance allows banks to hide bad loans by delaying the recognition of losses. Bank managers, therefore, foresee very little downside in making unviable loans to connected parties, against the upside of making quick personal gains.

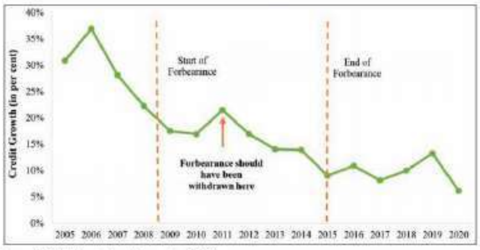
THE ORIGINAL SIN: THE SEVEN-YEAR FORBEARANCE!

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
- The 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.

But, 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.

Figure 5: Growth in Outstanding Credit of Banks



Source: RBI Table on Annual Account of SCBs

Results:

- The results show that, during the Global Financial crisis (GFC), banks more likely to benefit from forbearance do not differ in their selection of restructuring choices when compared to a bank with a lower likelihood of utilizing forbearance.
- Evidently, once the banks got a signal about the continuation of forbearance despite the economic recovery, several types of distortions crept in.
- The proportions of loans restructured increased significantly during this period.
- 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.
- 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
    - the resultant undercapitalization of banks
- The existing tier-I capital for public sector banks is overstated because of the regulatory forbearance which RBI provides on restructured assets.
- 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.

Table 2: NPA ratio of countries and when that peaked after the Global Financial Crisis

Early Resolvers (2009-2010)		Late Resolvers (2015-2019)	
	Peak NPA as % of assets		Peak NPA as % of assets
Brazil	4.21	Argentina	5.75
Canada	1.27	China	2.40
Germany	3.31	India	9.98
Indonesia	3.29	Italy	18.06
Saudi Arabia	3.29	Portugal	17.48
South Africa	5.94	Russia	10.12
United States	4.96	Turkey	5.02
Australia	2.15		
South Korea	0.59		
Average	3.22	Average	9.83

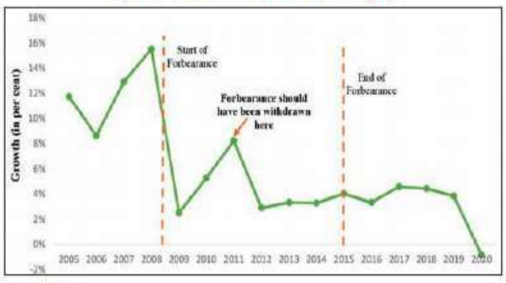
Source: IMF

Source: Ministry of Corporate Affairs

COST OF EXTENDED FORBEARANCE VERSUS EARLY RESOLUTION OF BANKING CRISES: INTERNATIONAL EVIDENCE

The pattern of evolution of non-performing loans over time across G20 countries provides valuable insights on the costs of extended forbearance versus early resolution of banking crises. The countries that reached their peak NPA during 2009 and 2010 (2009-2010) are called "Early Resolvers".

Figure 3: Growth in Industrial Production (IIP)



- Their share of non-performing loans started declining after 2009-10. These include countries like the United States, which immediately recognized toxic assets and launched a recapitalization program.

- In contrast, “Late Resolvers” correspond to the countries that reached their peak NPAs in 2015-19, i.e. up to a decade post the crisis.

Important Patterns out of it:

- The “Late Resolvers” ended up with much higher peak NPAs than the “Early Resolvers.”
- The impact on GDP growth for the late resolvers (-1.7% on average) was significantly worse than that for the early resolvers (-0.8% on average).

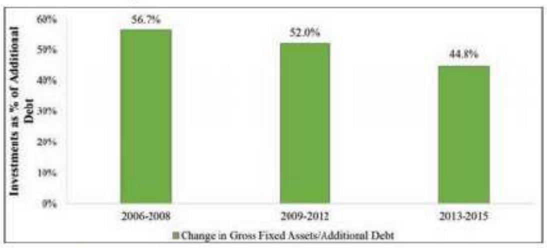
ADVERSE IMPACT OF FORBEARANCE ON BANK PERFORMANCE AND LENDING

Undercapitalization of Banks

- A policy of prolonged forbearance has the effect of overstating the actual capital and creating a false sense of security.
- Equity capital is privately expensive to the owners of banks, the banks may use the forbearance window to withdraw their capital.
- 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.
- Banks that benefited more from forbearance increased their dividend payments to incumbent management, including the government.
- Banks with a high share of restructured loans raised less fresh capital than banks with a low share of restructured loans.

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.

Figure 15: Decrease in Firm Investments



Source: CMIE Prowess

Lending to Zombie Firms

- Undercapitalized banks find risky lending and shady lending practices, such as those based on high upfront fees, attractive.
- 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”.

Ever-greening of Loans

- 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.
- 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.
- 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

Weakening of Corporate Governance in Borrowers benefitting from forbearance

- 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.
- Research show that credit was instead diverted for the private benefit of the incumbent management.

Deterioration in the Quality of the Board

- 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.
- Therefore, a decline in the proportion of non-promoter directors implies a weakening of governance among firms.
- the percentage of non-promoters on the board decreased significantly after restructuring during the forbearance regime, while it slightly increased upon restructuring before 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,
    - (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. Research shows that the total capex projects increased only modestly for firms restructured both during the forbearance regime and before.
- Total stalled projects (as a proportion of all capex projects) increased by 40% (30%) during forbearance, while the same witnessed a decline of 12% (18%) pre-forbearance.

Mis-appropriation of resources in borrowers that benefited from forbearance

- Related party transactions to key personnel increased by around 34% among firms whose loans were restructured during the forbearance regime. When taken as a proportion of total expenses, related party transactions to key personnel increased by over 7%.

Deterioration in performance of borrowers benefiting from forbearance

- As a consequence of the weakened governance, the impacted firms' performance deteriorated.
- The firms' profitability, measured as profits as a proportion of firms' assets, suffered a sharp decline of over 138% in the forbearance era.

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.

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.
- The RBI also decided to conduct a detailed Asset Quality Review (AQR) to know the true status of banks' NPAs.

Concern

- Firms in distress would have no incentive to raise equity voluntarily as managers – who know more about the firm's fundamentals than investors – fear dilution of the value of equity.

- Therefore, absent a policy for either mandatory capital raising or capital backstop, incumbent shareholders and managers of banks – who would invariably know more about the bank's fundamentals than the regulator or investors – have no incentive to raise equity capital.
- 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

- 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
- There was neither a forced recapitalization of the banks nor was an explicit capital backstop provided for.

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.
- Research argue that the AQR was mostly restricted to targeting bad lending through restructuring, rather than identifying subtle ever-greening activities.
- 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.

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.

Adverse impact on lending

- As the banks were unable to raise adequate fresh capital after the clean-up, their lending reduced.
- There was a sharp decline in lending post the increased NPAs that resulted from the AQR.
- 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.
- Firms more exposed to the AQR- affected banks could not entirely replace their credit supply from other financial institutions.

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.

IMPLICATIONS FOR THE CURRENT FORBEARANCE REGIME

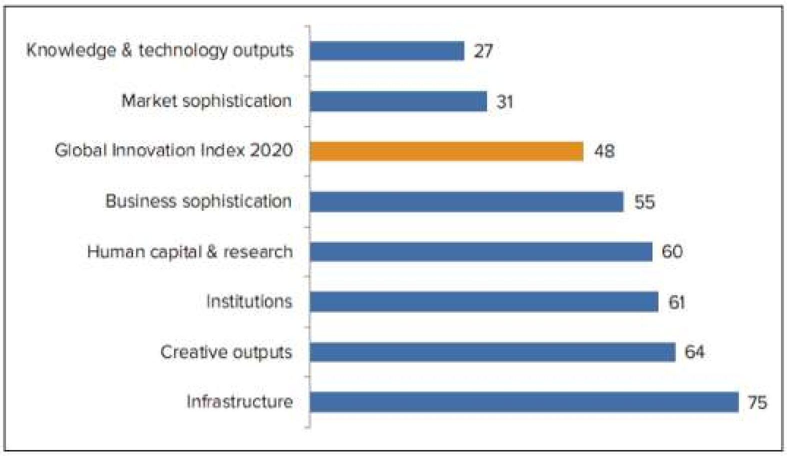
- Policymakers should lay out thresholds of economic recovery at which such measures will be withdrawn. These thresholds should be communicated to the banks in advance so that they can prepare for the same.
- A clean-up of bank balance sheets is necessary when the forbearance is discontinued.
- The asset quality review must account for all the creative ways in which banks can evergreen their loans.
- A clean-up unaccompanied by mandatory capital infusion exacerbates bad lending practices.

- 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.
- 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.
- 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

"If a rare opportunity occurs, while it lasts, let a man do that which is rarely to be accomplished (but for such an opportunity)". — Thirukural, Chapter 49, verse 489.

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



Source: GII 2020 Report

Introduction:

- India entered the top 50 innovating countries for the first time in 2020 since the inception of the Global Innovation Index (GII) in 2007, by improving its rank from 81 in 2015 to 48 in 2020.
- Among the seven pillars of the GII, India ranks 27th in knowledge and technology outputs (KTO); 31st in market sophistication; 55th in business sophistication; 60th in human capital and research (HCR); 61st in institutions; 64th in creative output; and 75th in infrastructure.
- 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).
- 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.
- 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).

WHY INNOVATION MATTERS

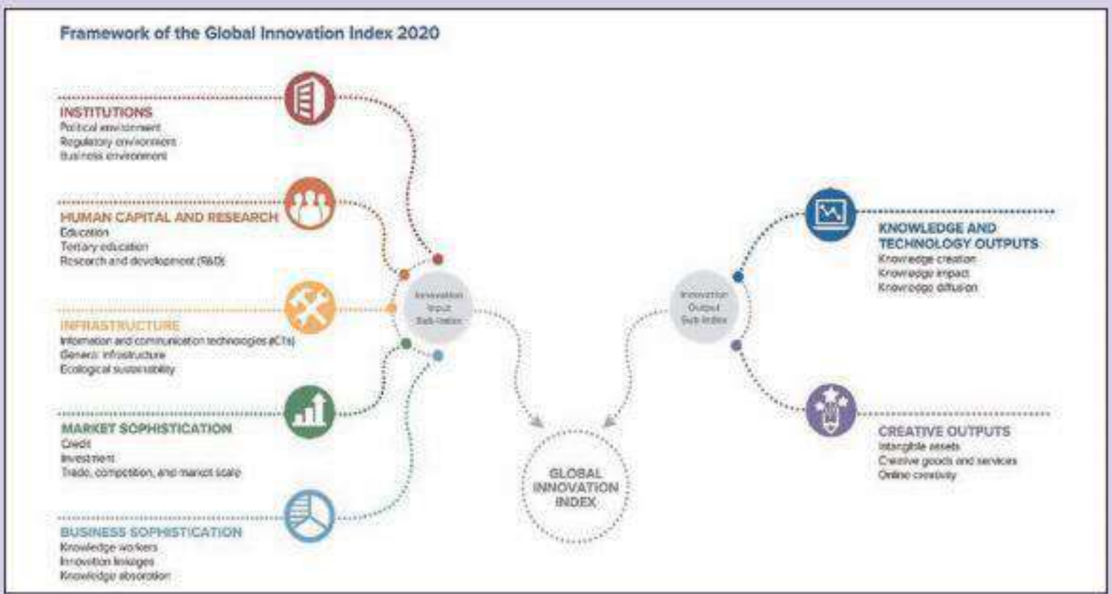
- An increase of 10 per cent in R&D investment has been associated with productivity gains ranging from 1.1 per cent to 1.4 per cent.
- Research showed that small enterprise R&D activities brought large returns to the national economy through new technologies.
- R&D activities could make long run growth possible.

HOW DOES INDIA PERFORM ON INNOVATION?

Box 2: 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, and seven pillars, each consisting of three sub-pillars, further divided into a total of 80 indicators. 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. GII was first conceptualised in 2007.



Source: GII

Top 3 innovation economies by income group

HIGH-INCOME GROUP	UPPER MIDDLE-INCOME GROUP	LOWER MIDDLE-INCOME GROUP	LOW-INCOME GROUP
1. SWITZERLAND	1. CHINA	1. VIET NAM	1. UNITED REPUBLIC OF TANZANIA ↑
2. SWEDEN	2. MALAYSIA	2. UKRAINE	2. RWANDA ↓
3. UNITED STATES OF AMERICA	3. BULGARIA	3. INDIA ★	3. NEPAL ★

Is India a positive outlier only because of its population?

It may be seen that population does not seem to be correlated to GII, Innovation Outputs and Innovation Inputs. However, GDP seems to be positively correlated with innovation performance.

Survey shows that India is a negative outlier in terms of its GDP, i.e. India seems to be underperforming in innovation w.r.t. the size of its GDP. This divergent performance for India in terms of the size of its economy and its level of development is a significant finding and warns against being complacent.

India's performance on sub-components of the Global Innovation Index 2020

- In 2020, India performed above expectation for its level of development in all three sub-pillars of the Knowledge and Technology Output (KTO) pillar.
    - knowledge creation:
    - knowledge impact
    - knowledge diffusion
- It performed particularly well in knowledge diffusion subpillar (rank ten), which can be mainly attributed to its performance in the parameter ICT services exports as per cent of total trade.
- India performed above expectation for its level of development in two sub-pillars of the creative outputs pillar. It performed better in creative goods & services (rank 58) and intangible assets (rank 67) pillar than online creativity (rank 90).
- India performed above expectation for its level of development in all three subpillars of the institutions pillar in 2020. It performed better in business environment (rank 62) and political environment (rank 63) than in regulatory environment (rank 70), taking its overall institutions ranking to 61.
- India performed above expectation for its level of development in two sub-pillars (tertiary education and R&D) of the HCR pillar in 2020, performing particularly well in R&D (rank 35).
- It performed below expectation for its level of development in the primary & secondary education sub-pillar (rank 107), which is mainly attributed to India's poor performance in pupil-teacher ratio in secondary education (rank 118).
- India performed above expectation for its level of development in two sub-pillars of the infrastructure pillar in 2020, performing well in the electricity, logistics and GCF sub-pillar (rank 46).
- India performed below expectation for its income level in the ecological sustainability sub-pillar (rank 98), which can be mainly attributed to the parameter environmental performance (rank 124).
- India performed above expectation for its level of development in all three sub-pillars of the market sophistication pillar in 2020, performing particularly well in trade, competition and market scale sub-pillar (rank 15).
    - This was driven by the parameter domestic market scale in which India ranked third globally.
    - India's performance in investment subpillar was driven by the parameters ease of protecting minority investors (rank 13) and market capitalisation as per cent of GDP (rank 19).
    - India's performance in credit sub-pillar was driven by the parameters ease of getting credit (rank 23) and microfinance gross loans as per cent of GDP (rank 25).
- India performed above expectation for its level of development in two sub-pillars of the business sophistication pillar in 2020 – knowledge absorption (rank 39) and innovation linkages (rank 41).
    - Its performance in knowledge absorption sub-pillar was led by the parameters intellectual property payments as per cent of total trade (rank 27) and high-tech imports as per cent of total trade (rank 29).
    - India's relatively poor performance in knowledge workers sub-pillar can be mainly attributed to its low performance in the parameter females employed with advanced degrees (rank 101), followed by the parameter knowledge-intensive employment (rank 90).

INDIA'S INNOVATION PERFORMANCE VIS-À-VIS TOP TEN ECONOMIES

- 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 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.
- Although India performs as per expectations for its level of development, India is ranked second lowest, after Brazil, on innovation outputs.

- India performs in line with its level of development but ranks second lowest, after Brazil, on innovation inputs amongst the top ten economies.
- India ranks highest amongst the top ten economies (GDP current US$) on the knowledge diffusion sub-pillar while it ranks lowest on the knowledge creation sub-pillar. In comparison, China performs much above expectation for its level of development on the KTO pillar as well as knowledge creation and knowledge impact sub-pillars.
- India performs in line with its level of development on the creative outputs pillar, performing above expectation on online creativity and creative goods and services.
- However, India is ranked second lowest, after Brazil, on the creative output pillar and the intangible assets and creative goods and services sub-pillars.
- India ranks third lowest, after Brazil and China, on the institutions pillar and regulatory environment sub-pillar.

Box 3: R&D Roadmap of China

In January 2006, China initiated a 15-year "Medium to Long Term Plan (MLP) for the Development of Science and Technology". MLP called for China to become an "innovation-oriented society" by the year 2020, and a world leader in science and technology (S&T) by 2050. It committed China to developing capabilities for "indigenous innovation" and to leapfrog into leading positions in new science-based industries by the end of the plan period. The MLP of China used R&D as an important instrument for development of S&T ecosystem.

MLP – A Snapshot

Duration

- 15 years: 2006 to 2020

Goals

- China to become an "innovation-oriented society"
- A world leader in S&T by 2050
- Developing capabilities for "indigenous innovation" and to leapfrog into leading positions in new science-based industries

Targets and Instruments

- Gross domestic expenditure on R&D (GERD) as a percentage of GDP to increase from 1.35 per cent in 2005 to 2.5 per cent by 2020
- Raise contributions to economic growth from technological advance to more than 60 per cent
- Limit dependence on imported technology to no more than 30 per cent
- China to become one of the top five countries in the world in the number of invention patents granted to Chinese citizens
- Chinese-authored scientific papers to become among the world's most cited

Source: Office of Principal Scientific Adviser to the Government of India

- India ranks second lowest, after Brazil, on political and business environment sub-pillars.
- However, amongst the top ten economies, India ranks lowest on the HCR pillar and the R&D and primary and secondary education sub-pillars.
- India ranks fourth lowest – after Japan, Brazil and China, on the tertiary education sub-pillar.
- India ranks lowest on the infrastructure pillar and the ICT and ecological sustainability subpillars amongst the top ten economies.
- India ranks third lowest – after Brazil and Italy, on the electricity, logistics and GCF sub-pillar.
- India ranks second lowest, after Brazil and Italy, on the market sophistication pillar and the credit and trade, competition and market scale sub-pillars.
- Amongst the top ten economies, India ranks lowest on the business sophistication pillar and knowledge worker sub-pillar. It ranks second lowest, after Italy, on knowledge absorption sub-pillar.

TRENDS IN INDIA'S INOVATION PERFORMANCE

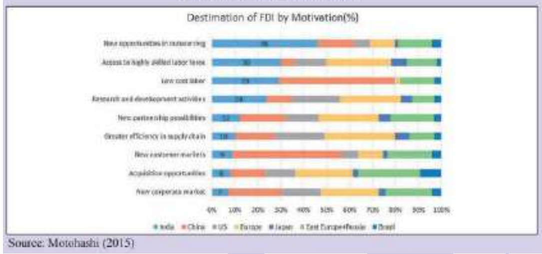
India has consistently improved on GII from rank 81 in 2015 to rank 48 in 2020 .While India has performed impressively, there is scope for much more improvement.

- India's GII rankings have been led by its performance in innovation outputs. India has consistently improved on innovation outputs from rank 69 in 2015 to rank 45 in 2020.
- India has consistently improved on innovation inputs, from rank 100 in 2015 to rank 57 in 2020.
- Amongst output pillars, India has significantly improved on KTO pillar since 2014, almost halving its rank from 50 in 2014 to 27 in 2020.
- On creative outputs pillar, India's rank improved from 95 in 2015 to 64 in 2020 . Meanwhile, China's rank improved from 54 in 2015 to 12 in 2020.
- Consistent improvement is shown in India's rank on institutions pillar from 106 in 2014 to 61 in 2020.
- India has significantly improved in the Human Capital and Research (HCR) pillar over time from rank 103 in 2015 to 60 in 2020.
- On the infrastructure pillar, India's rank improved from 89 in 2013 to 75 in 2020 while China's rank improved from 44 to 36 during this period.
- India's rank has improved considerably on market sophistication pillar from 72 in 2015 to 31 in 2020.

R&D EXPENDITURE IN INDIA

- Although India's Gross Domestic Expenditure on R &D (GERD) is in line with expectation for its level of development, there is much scope for improvement. Other top ten economies such as USA, China, Japan, Germany and France have higher than expected GERD for their level of development.
- Research shows positive correlation between the level of development and GERD as per cent of GDP and business sectors' participation in total GERD while government sector's participation in GERD is negatively correlated with development.
- India performs below expectation for its level of development in terms of R&D personnel and researchers, making it an area warranting attention.
- India has amongst the lowest number of R&D manpower as compared to other top ten economies (GDP current US$).

Attractiveness of FDI Destination by Host-Country and Motivation (per cent), 2004



Source: Motohashi (2015)

- Indian business sector's contribution to R&D personnel (30 per cent) and researchers (34 per cent) was the second lowest, after Brazil.

Highlights of R&D incentives in select countries (2012-17)

Countries	Tax Allowance/ Deductions	Tax Credit	Accelerated Depreciation on the R & D assets/Capital	Reduced Tax Rates	Tax Holiday	Tax Deferrals	Tax Exemptions (Excise & Custom duty)	Grants
Brazil	√		√	√				√
China	√		√	√			√	
India	√		√		√		√	√
South Africa	√		√					
Germany								√
Japan		√						
Malaysia	√							√
Republic of Korea		√						
Thailand	√			√				√
USA		√				√		

Source: Saha and Shaw (2018)

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.
- Unlike India, Brazil and Canada, other top ten economies (GDP current US$) have a higher share of patent applications by residents than non-residents.
- 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.

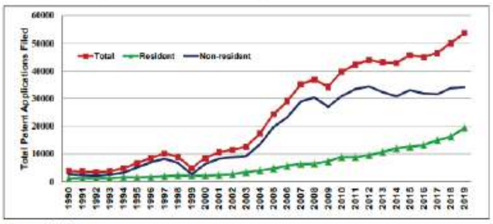
IS INDIAN INNOVATION AFFECTED BY ACCESS TO FINANCE?

- India and Brazil rank much below expectation for their level of equity market development in the overall GII, innovation outputs and innovation inputs amongst the top ten largest economies.
- India and Brazil rank much below expectation for their level of debt market development in the overall GII, innovation outputs and innovation inputs amongst the top ten largest economies.

IS INDIA EFFECTIVELY TRANSLATING INNOVATION INPUTS INTO INNOVATION OUTPUTS?

- Research shows that India stands to gain more from its investments into innovation than many other countries.

Figure 38: Trend in Patent Applications Filed in India



Source: WIPO

- 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.
- Improvements in institutions and business sophistication could lead to higher creative output performance.
- Higher income is also expected to lead to better performance in creative outputs.
- Potential for higher business sophistication to lead to better performance in knowledge & technology outputs.

POLICY IMPLICATIONS

- 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.
- Indian residents' share in total patents filed in the country stands at 36 per cent. This lags behind the average of 62 per cent in other largest economies. Resident share in patent applications must rise for India to become an innovative nation.
- India must focus on improving its performance on institutions and business sophistication innovation inputs. These are expected to result in higher improvement in innovation output.

CHAPTER 9: JAY HO: AYUSHMAN BHARAT'S JAN AROGYA YOJANA (JAY) AND HEALTH OUTCOMES

Of all the forms of inequality, injustice in healthcare is the most shocking and most inhuman. —Martin Luther King Jr.

INTRODUCTION

- Government of India approved the Ayushman Bharat Pradhan Mantri Jan ArogyaYojana (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.

Table 4: Suggested Focus Areas for boosting Innovation Performance

Input Pillar and Potency of Expected Impact	Build on strengths	Improve
Institutions **Potency of potential impact:** One standard deviation improvement in Institutions rank from 61 in 2020 to 23 is expected to increase overall Innovation Output rank to 40 from 45 in 2020	• Ease of resolving insolvency (rank 47) • Government effectiveness (rank 55)	• Ease of starting a business (rank 105) • Political and operational stability (rank 83) • Regulatory quality (rank 84) • Rule of law (rank 62) • Cost of redundancy dismissal (rank 61)
Business Sophistication **Potency of potential impact:** One standard deviation improvement in Business Sophistication rank from 55 in 2020 to 17 is expected to increase overall Innovation Output rank to 42 from 45 in 2020	• Intellectual Property payments as % of total trade (rank 27) • High-tech imports as % of total trade (rank 29) • % of Firms offering formal training (rank 37) • State of cluster development (rank 37) • Research talent, % in business enterprise (rank 38) • University/Industry research collaboration (rank 45) • JV-strategic alliance deals/bn PPP$ GDP (rank 47) • Patent families 2+ offices/bn PPP$ GDP (rank 47) • % GERD financed by business (rank 48)	• % of Females employed with advanced degrees (rank 101) • FDI net inflows as % of GDP (rank 92) • % of Knowledge intensive employment (rank 90)

- 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.

Performance of the Scheme:

- PMJAY is being used significantly for high frequency and low cost care consisting with the general utilisation of healthcare services.
- Using the distribution of claims, survey find that the distribution is a long-tailed one that peaks in the range of INR 10,000-15,000.
- General medicine has been the overwhelmingly major clinical specialty used since 2018 with its share continuously growing. It is followed by general surgery, obstetrics and gynaecology.
- The claims for dialysis did not diminish due to Covid-19 or because of the lockdown in March-April 2020 even while we can observe a steep fall in claims under the overall general medicine category during the lockdown. This highlights the users' reliance on PM-JAY for the life-saving dialysis procedure.
- General care-seeking as seen in the PM-JAY claims exhibited a V-shaped recovery after falling during the lockdown and has reached the pre-Covid-19 levels in December 2020.

Survey compare the health indicators measured by National Family Health Survey 4 (NFHS 2015-16) and the National Family Health Survey 5 (NFHS 2019-20) to undertake this analysis. As PM-JAY was implemented in 2018, these two surveys provide before-after data to assess the impact of PMJAY with the NFHS-4 serving as the baseline to compare the changes using NFHS-5. Comparison has been made with west Bengal which didn't implement the scheme.

Findings of the Survey:

- 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.
- From 2015-16 to 2019-20, infant mortality rates declined by 20 per cent for West Bengal and by 28 per cent for the three neighbouring states.
- Similarly, while Bengal saw a fall of 20 per cent in its Under-5 mortality rate, the neighbours witnessed a 27 per cent reduction.
- Modern methods of contraception, female sterilization and pill usage went up by 36 per cent, 22 per cent and 28 per cent respectively in the three neighbouring states while the respective changes for West Bengal were negligible.
- Various metrics for mother and child care improved more in the three neighbouring states than in West Bengal.

PM-JAY: STATUS AND PROGRESS SO FAR

As per the latest annual report of PM-JAY released by the National Health Authority (NHA, 2019), the status of implementation is as follows:

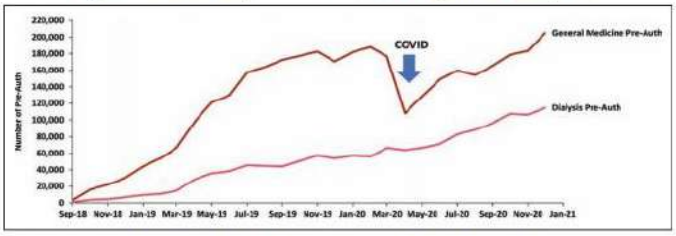
- 32 states and UTs implement the scheme
- 13.48 crore E-cards have been issued
- Treatments worth INR 7,490 crore have been provided (1.55 crores hospital admission)
- 24,215 hospitals empanelled
- 1.5 crore users have registered on the scheme's website

PUBLIC GOODS, DEMOCRACIES AND GOVERNANCE

Certain goods as "public goods" and "no decentralized pricing system can serve to optimally determine these levels of collective consumption (of the public good).

- As public goods are non-rival and non-excludable, market failures predominate in the provision of such goods.
- Also, given their non-rivalry, private producers cannot make the requisite profits to justify investing in such goods. Therefore, public goods may get severely under-produced without intervention by a government
- Since public goods are not adequately provided for by the markets, they must be supplied by the government.

Figure 3a: Number of pre-authorised claims July 2018-January 2021



Source: NHA data secured from PMJAY. Data for January 2021 is till 13-Jan-2021.

- Access to safe drinking water, sanitation, transport, medical care, and schools is essential both as a direct component of well-being as well as inputs into productive capabilities.
- The presence of strong linkages between public goods provision and economic development accentuates the need for the provision of public good at national, regional and international levels.
- Despite the importance of the delivery of public goods, governments may suffer from the "horizon problem" in democracies, where the time horizon over which the benefits of public goods reach the electorate may be longer than the electoral cycles.
- As a result, many democratically elected governments can focus only on short-term gains rather than commit to long-term projects.

PM-JAY AND COVID-19

Many private hospitals were not providing services for fear of infection and government hospitals were reserved for COVID-19 patients. On the demand side, patients avoided hospitals due to fear of contracting the virus, or their access to medical services could have been impeded by lack of transport or finances during the lockdown. Both the demand and supply side factors seem to have since recovered completely during the unlock phase.

- while access to medical services were classified as

Learning from International Experience

- In the United States, there exist strong interconnections between health insurance coverage, poverty and health.
- Health insurance coverage provided by the government is vital in providing for better health care and health outcomes.
- Likelihood of receiving basic preventive services such as breast cancer screening (64 per cent versus 89 per cent) and hypertension screening (80 per cent versus 94 per cent) was much lower for the uninsured working adults.
- Government insurance in USA has resulted into remarkable benefits for children and their families for example, receiving essential health services, long term benefits of better health status, greater academic development and higher future earnings.
- The likelihood of financial insecurity, medical debt or bankruptcy is reduced if the families have access to these insurance programs.
- The insurance coverage of the parents tends to be positively correlated with children's benefit as child's health is directly influenced by the health of his parents, with healthy parents leading to positive childhood developments.

essential services during the lockdown, care-seeking exhibited a V-shaped behaviour during the lockdown and unlock phases with the pre-Covid-19 levels being reached in December 2020.

- This is indicative of an increase in the utilization of PM-JAY for non-costly procedures and PMJAY even being used as a substitute for primary care.

PM-JAY AND HEALTH OUTCOMES: DIFFERENCE-IN-DIFFERENCE

Survey compare the health indicators measured by National Family Health Survey-4 (NFHS 2015-16) and the National Family Health survey 5 (NFHS 2019-20) to undertake this analysis.

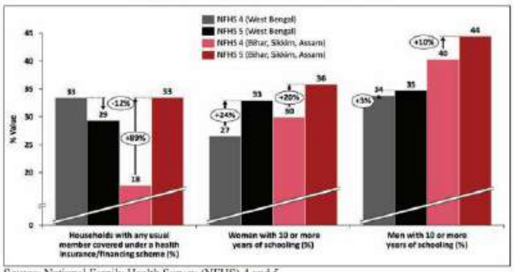
- The proportion of population that had health insurance increased from NHFS 4 to NFHS 5 in Bihar, Assam and Sikkim by 89 per cent. The corresponding change in West Bengal was -12 per cent.
- While infant and child mortality declined for all states, the decline has been sharper for states that implemented PM-JAY.
- The reduction in neo-natal mortality rates were similar for the four states: 30 per cent for West Bengal and a marginally higher 31 per cent for the three neighbours.
- The total unmet need for family planning methods shows a stark decline in states with PM-JAY when compared to West Bengal.
- The increase in registered pregnancies for which mother received a Mother Child Protection card was marginally higher in Bihar, Assam and Sikkim at 3 per cent when compared to West Bengal at 1 per cent.
- The adoption of PM-JAY in Bihar, Sikkim and Assam facilitated notable progress in health outcomes pertaining to child vaccinations and vitamin-A supplementation.
- The proportion of women who have comprehensive knowledge of HIV/AIDS increased significantly in the three states which adopted PM-JAY.
- While the share of population who were made aware about family planning options and side effects increased in all four states, the improvements were higher for the three states under PM-JAY.

Although the four states are not very different in terms of their demographics and household characteristics, the difference in improvements of certain maternal and child related health outcomes has been higher in states with PM-JAY. This can be attributed to the impact of PMJAY which was implemented in 2018.

Concluding Observations:

- 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.

Figure 5: Characteristics of adults (15-49 years): West Bengal versus Adjoining States (Bihar, Sikkim, Assam)



Source: National Family Health Survey (NFHS) 4 and 5

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

Overall, the comparison reflects significant improvements in several health outcomes in states that implemented PM-JAY versus those that did not. As the difference-in-difference analysis controls for confounding factors, the Survey infers that PM-JAY has a positive impact on health outcomes.

Chapter 10: The Bare Necessities

Look for the bare necessities, The simple bare necessities, Forget about your worries and your strife, I mean the bare necessities! —The Jungle Book

INTRODUCTION

A family's ability to access bare necessities – such as housing, water, sanitation, electricity and clean cooking fuel – have therefore been regarded as an important barometer of economic development in academic and policymaking circles.

The Sustainable Development Goals (SDGs) focus on providing "the bare necessities" to all: Goal 6 focuses on access to clean water and sanitation to all while, goal 7 inter alia aims to provide universal access to electricity and clean cooking fuel.

The "bare necessities" of housing, water, sanitation, electricity and clean cooking fuel are jointly consumed by all the members of a household.

Need for Bare necessities:

- As these are durable assets, they deliver services to the household over long periods of time.
- Access to clean drinking water, safe sanitation and clean cooking fuel also have direct linkages with health of the members in the household.
- Access to these saves time for a household, which they can utilise in productive activities such as education and learning.

Government Efforts:

- The network of schemes designed to deliver these necessities include inter-alia the Swachh Bharat Mission (SBM), National Rural Drinking Water Programme (NRDWP), Pradhan MantriAwaasYojana (PMAY), Saubhagya, and UjjwalaYojana.
- These Schemes were equipped with new features such as use of technology, real time monitoring, geo-tagging of assets, social audit, embedded digital flow of information, and direct benefit transfers wherever possible.

Achievement of Different Schemes:

To measure the progress in the delivery of "the bare necessities", the Survey develops a composite index called the Bare Necessities Index (BNI).

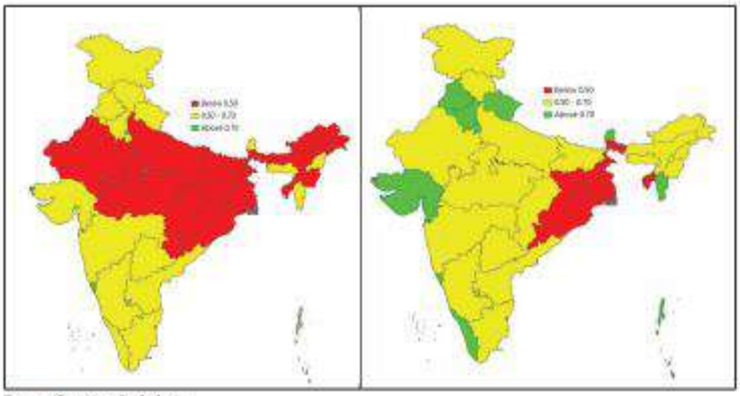
- These necessities are measured using 26 comparable indicators on five dimensions viz., water, sanitation, housing, micro-environment, and other facilities.
- The indicators used to capture the availability and quality of housing, access to bathroom, kitchen, toilet, drinking water, waste discharge facilities, clean cooking fuel and disease free environment, etc

Pradhan Mantri Awaas Yojana (PMAY)	PMAY intends to provide housing for all in urban and rural areas by 2022.	Under PMAY (Urban), as on 18th January, 2021, 109.2 lakh houses have been sanctioned out of which 70.4 lakh houses have been grounded for construction of which 41.3 lakh have been built to the beneficiaries under PMAY(U) since inception of the scheme in June, 2015. The target number of houses for construction under PMAY (Gramin) is 2.95 crore in two phases i.e. 1.00 crore in Phase I (2016-17 to 2018-19) and 1.95 crore in Phase II (2019-20 to 2021-22). Since 2014-15, construction of approx. 1.94 crore rural houses have been completed, out of which 1.22 crore houses have been constructed under the revamped scheme of PMAY-G and 0.72 crore under erstwhile Indira Awaas Yojana scheme.
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	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 by 2024. Upto 16th January, 2021, so far about 3.2 crore of rural households have been provided with FTWC since the launch of the Mission. Keeping with 'no one is left out' principle, 18 districts in the country spread across Gujarat (5), Telangana (5), Himachal Pradesh (1), Jammu & Kashmir (2), Goa (2) and Punjab (3) have become 'Har Ghar Jal districts' whereas 57,935 villages have also become 'Har Ghar Jal Gaon'.
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.	All States have declared electrification of all households on Saubhagya portal, except 18,734 households in Left Wing Extremists (LWE) affected areas of Chhattisgarh as on 31.03.2019. Electricity connections to 262.84 lakh households have been released from 11.10.2017 to 31.03.2019. Subsequently, seven States reported that 19.09 lakh un-electrified households identified before 31.03.2019, which were earlier un-willing but have expressed willingness to get electricity connection. States have been asked to electrify these households under Saubhagya.

Scheme	Objective	Targets and achievements
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-Urban 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.	Under SBM, rural sanitation coverage has made an incredible leap in the target achievement with more than 10 crore toilets built across rural India. 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 focusing on 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, MNREGS, Corporate Social Responsibility (CSR) funds etc. Since its launch in 2014, SBM-U has made significant progress in the area of both sanitation and solid waste management. 4,327 Urban Local Bodies (ULBs) have been declared ODF so far. This has been made possible through construction of more than 66 lakhs individual household toilets and over 6 lakhs community/ public toilets, far exceeding the Mission's targets. The Mission is now focusing on holistic sanitation through its ODF+ and ODF++ protocols with a total of 1,319 cities certified ODF+ and 489 cities certified ODF++ as on date. In the area of solid waste management, 100 per cent of wards have complete door-to door collection. Further, out of 1,40,588 Tonnes Per Day (TPD) waste generated per day, 68 per cent (i.e., 95,676 TPD) is being processed.

Figure 1: Improvement in the Bare Necessities Across India (Rural + Urban) from 2012 to 2018

BNI for India (Rural + Urban) 2012 | BNI for India (Rural + Urban) 2018

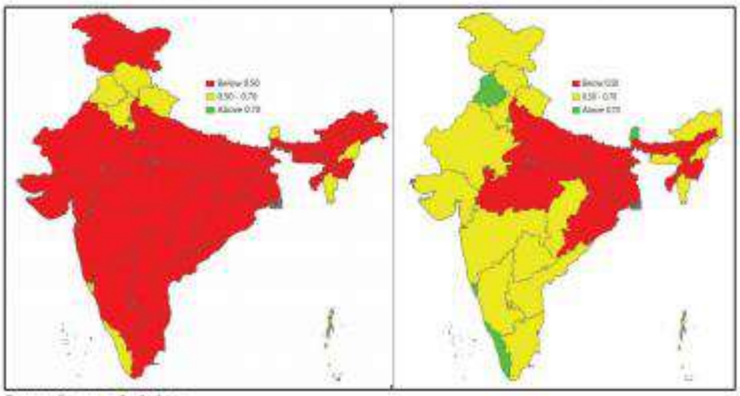


Source: Survey calculations

- As reflected in the all-India index, access to bare necessities is high in the States such as Kerala, Punjab, Haryana and Gujarat while lowest in Odisha, Jharkhand, West Bengal and Tripura.
- The improvement is significantly higher in the rural areas when compared to the urban areas.
- Inter-State disparities in terms of access to bare necessities to the households have declined both in rural as well as in urban areas.
- Access to bare necessities has improved disproportionately more for the poorest households when compared to the richest households across India (urban + rural), rural as well as urban areas.

Figure 2: Improvement in the Bare Necessities Across Rural India from 2012 to 2018

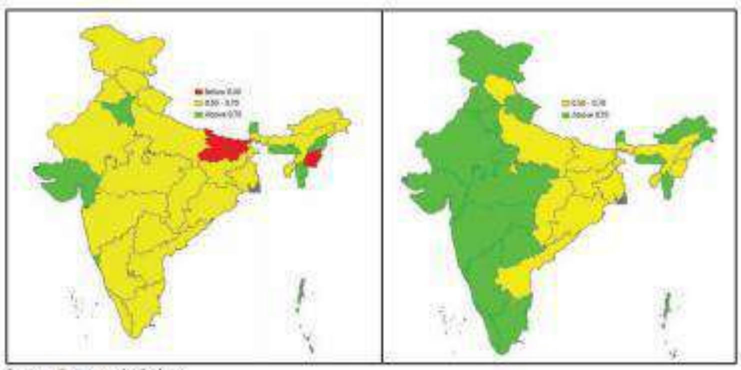
BNI for Rural India 2012 | BNI for Rural India 2018



Source: Survey calculations

Figure 3: Improvement in the Bare Necessities Across Urban India from 2012 to 2018

BNI for Urban India 2012 | BNI for Urban India 2018



Source: Survey calculations

DRINKING WATER ACCESSIBILITY INDEX

- The sub-index for access to drinking water, drinking water accessibility index, is composed of sub-dimensions viz., the principal source of drinking water, distance from source of water, nature of access, and method of taking out water.
- The access to drinking water to households in most of the States has improved in 2018 compared to 2012, in rural as well as in urban areas, (except for Andhra Pradesh in Rural and Andhra Pradesh and Himachal Pradesh in urban areas).
- Regional disparities have increased in 2018 when compared to 2012 despite such disparities declining in urban areas.
- The Jal Jeevan mission must therefore focus on reducing the disparities in the rural areas as the reduction in such disparities will reduce the disparities across India.
- Across all groups, equity in access to drinking water increased in 2018 when compared to 2012.

SANITATION INDEX

- Indicators used in the sub-index are percentage of households by access to latrine for exclusive use, the type of latrine viz., piped sewer system, septic tank, twin leach pit, single pit.
- However, inter-State difference in access to sanitation are still large, especially in rural areas. The level of access to safe sanitation has increased in lowest income quintile, both in rural as well as in urban areas.
- The sanitation access has improved for all States in rural areas and for most of the States in urban areas in 2018 compared to 2012.

HOUSING INDEX

- The housing index measures not only the structure of house (in terms of Pucca or Katcha), but also the quality of house in terms of type of dwelling unit (independent or not) and condition of structure (Good or not).
- The inter-State disparities have also declined as the States having low level in 2012 have gained more.
- The improvement in access to housing has also been disproportionately greater for the lowest income group when compared to the highest income group, thereby enhancing equity in access to housing in 2018 vis-à-vis 2012.

MICRO-ENVIRONMENT INDEX

- The micro-environment index measures the percentage of households who are living in a dwelling unit with access to drainage (indicated in terms of access to drainage and quality of drainage in terms of other than Katcha drainage), without problems of flies/mosquitoes (indicated by other than severe), and efforts made by local bodies/State government to tackle problem of flies/mosquitoes.
- It has improved in 2018 for all States, except for Assam in rural and Odisha and Assam in urban areas, as compared to 2012.
- The micro-environment is much better in urban areas when compared to the rural areas, and the rural-urban gaps are large.
- The access to microenvironment in 2018 has improved especially to the lowest income quintile in rural as well as in urban areas.

OTHER FACILITIES INDEX

- 'Other facilities' index captures the availability of kitchen, kitchen with a water tap, good ventilation in house, access to bathroom, attached bathroom, electricity use, the types of wiring used instead of temporary electric wiring, and type of fuel used for cooking (LPG or others).
- Access to Other-facilities for a household has improved for all States in 2018 compared to 2012 for rural as well as in urban areas except for Himachal Pradesh.
- The equity in access to other facilities has improved in rural and urban areas.
- The gaps are still high across the State in rural, between rural and urban in States, between income groups, and between rural and urban in income groups.

EDUCATIONAL OUTCOMES

- Research studies support that the access to bare necessities through its possible linkages can positively impact educational indicators as well.
- It is found that water hauling activity is negatively associated with the girls' school attendance.
- Access to latrine in schools substantially increases enrolment of pubescent-age girls.
- In fact, there is a strong correlation between electricity consumption per capita and higher scores on the education index across countries.

Conclusion

- It was found that compared to 2012, access to "the bare necessities" has improved across all States in the country in 2018.
- The improvements are widespread as they span each of the five dimensions viz., access to water, housing, sanitation, micro-environment and other facilities.
- Access to "the bare necessities" has improved disproportionately more for the poorest households when compared to the richest households across rural and urban areas.
- It was also found that the improved access to "the bare necessities" has led to improvements in health indicators and in education indicators.

- 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.