VAJIRAM & RAVI
Institute for IAS Examination

ECONOMIC SURVEY

SUMMARY

2022-2023

1. STATE OF THE ECONOMY 2022-23: RECOVERY COMPLETE

INTRODUCTION

- At least three shocks have hit the global economy since 2020 starting with the pandemic-induced contraction of the global output, followed by the Russian-Ukraine conflict leading to a worldwide surge in inflation.
- The central banks across economies led by the Federal Reserve responded with synchronized **policy rate hikes to curb inflation causing the US Dollar to appreciate against most currencies** and leading to *widening Current Account Deficits (CAD), increased inflationary pressures in net importing economies* and lowering of the global growth forecasts by the IMF in its October 2022 update of the World Economic Outlook.
- The Indian economy appears to have moved on after its encounter with the pandemic, staging a full recovery in FY22 ahead of many nations and positioning itself to ascend to the pre-pandemic growth path in FY23. Yet India still **faces the challenge of reining in inflation** that the European strife accentuated.
- Measures taken by the government and RBI, along with the easing of global commodity prices, have finally managed to bring retail inflation below the RBI upper tolerance target in November 2022.
- However, the challenge of the depreciating rupee and loss of export stimulus persists.
- Despite these, India is projected as the fastest-growing major economy at 6.5-7.0 per cent in FY23 by agencies worldwide.

	Growth Projections (per cent)		Change from WEO Update (July 2022) (per cent)	
	2022	2023	2022	2023
World	3.2	2.7	0	–0.2
Advanced Economies	2.4	1.1	–0.1	–0.3
United States	1.6	1	–0.7	0
Euro Area	3.1	0.5	0.5	–0.7
UK	3.6	0.3	0.4	–0.2
Japan	1.7	1.6	0	–0.1
Emerging Market Economies	3.7	3.7	0.1	–0.2
China	3.2	4.4	–0.1	–0.2
India*	**6.8**	**6.1**	**–0.6**	**0**

CHALLENGES FACED BY THE GLOBAL ECONOMY

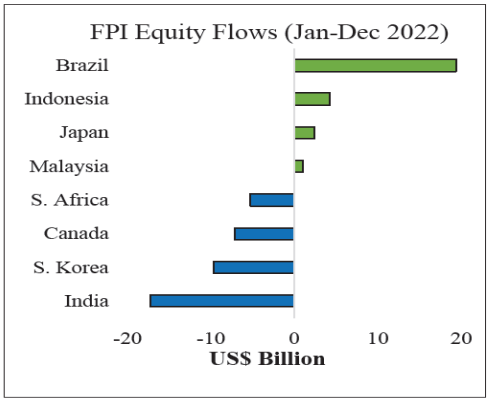
1. **Global Challenges**: In the last century, several events can be recollected that have had an adverse impact on the global economy like the two World Wars, Spanish flu, the Great Depression, regional conflicts, Oil shocks, the East Asian crisis, the technology bust followed by global financial crisis, trade tensions between super-powers etc. The third decade of the new millennium brought a new set of challenges which included:
   - Covid-19 pandemic notified by the WHO in January 2020.
   - The Russia-Ukraine conflict which broke out in February 2022.
   - Tight monetary policies by countries across the world.
   - Slow cross-border trade.
   - Loss of education and income- earning opportunities due to pandemic.
2. **Supply Chain Disruptions In World Economy**

- Russia-Ukraine conflict disrupted the restoration of supply chains disrupted earlier by lockdowns, limited trade traffic, caused the prices of critical commodities such as crude oil, natural gas, fertilisers, & wheat to soar.
- This strengthened the inflationary pressures that the global economic recovery had triggered.
- Rising commodity prices also led to higher inflation in Emerging Market Economies (EMEs), which otherwise were in the lower inflation zone because of calibrated fiscal stimulus to address output contraction in 2020.

3. **Inflation and Tight Monetary Policies**

- Led by the US Federal Reserve, central banks have been hiking policy rates to rein in inflation. This has led to hardening of bond yields across economies and resulted in outflow of equity capital from most of the economies around the world into the traditionally safe-haven market of the US. This led to strengthening of US Dollar index and further widening of CAD and increasing inflationary pressures in the net importing economies.

- Yearly growth rates of global trade, retail sales, and industrial production have significantly declined in the second half of 2022.
- Non-financial sector debt of most economies has increased considerably as a percentage of GDP. Lately, banks have reported much weaker earnings growth, & technology companies have begun to announce layoffs.
- India is, however, one of the few countries whose debt burden has declined over this period, mainly because of the banking & corporate balance sheet clean up of last decade.



Core debt of the non-financial sector (Q2 2022, % of GDP)					Change since Q2 2008			
Debt/GDP (Avg %)	Household	Pvt Non-Financial	Government	Total	Household	Pvt Non-Financial	Government	Total
Global Avg	62	160	88	**248**	-4	15	27	**38**
Australia	117	181	52	**232**	7	-9	42	**33**
Brazil	35	88	91	**179**	17	-36	28	**66**
Mainland China	62	220	74	**295**	43	107	47	**155**
France	67	231	114	**345**	19	71	47	**118**
Germany	56	128	67	**195**	-4	0.4	2	**3**
India	36	88	82	**170**	-7	**-17**	16	**-7**
Italy	43	113	151	**264**	4	-4	47	**43**
Japan	69	187	238	**426**	9	29	94	**122**
South Korea	106	222	45	**268**	35	61	23	**84**
Mexico	16	40	41	**81**	3	12	20	**33**
South Africa	35	67	71	**138**	-9	-13	45	**32**

MACROECONOMIC AND GROWTH CHALLENGES IN THE INDIAN ECONOMY

1. **Impact of Pandemic**

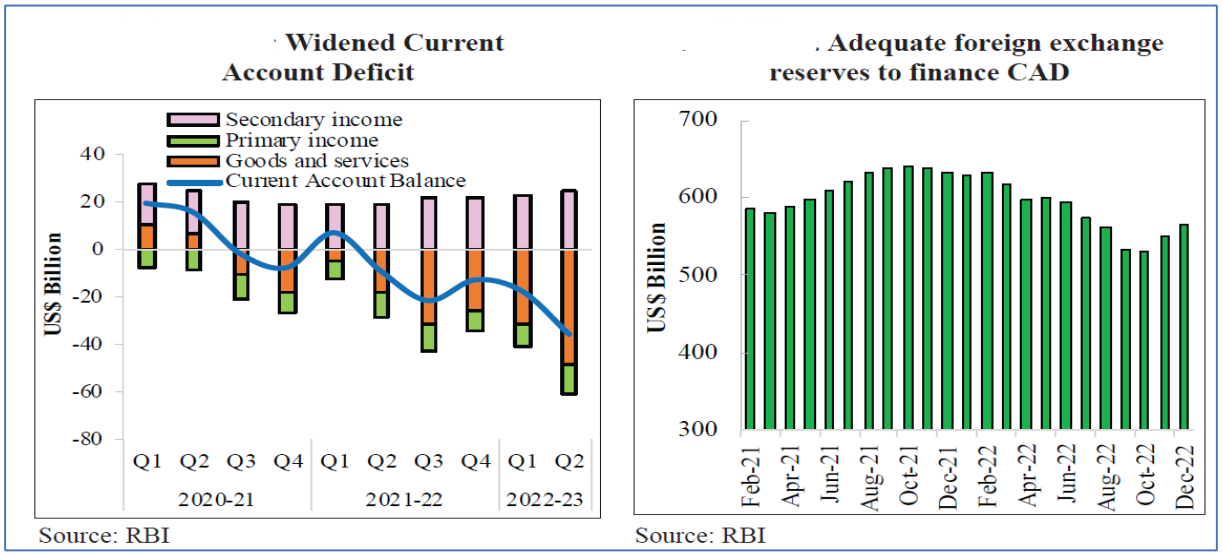
- It resulted in a significant GDP contraction in FY21.
- In FY22, the Indian economy started to recover despite the Omicron wave of January 2022 as mobility enabled by localised lockdowns, rapid vaccination coverage, mild symptoms and quick recovery from the virus contributed to minimising the loss of economic output in the January-March quarter of 2022.
- Thus, FY23 opened with a firm belief that the pandemic was rapidly on the wane and that India was poised to grow at a fast pace and quickly ascend to the pre-pandemic growth path.

2. **Conflict in Europe**

- It necessitated a revision in expectations for economic growth and inflation in FY23.
- Country's retail inflation remained above the target range for ten months before returning to below the upper end of the target range of 6 per cent in November 2022.
- Rising international commodity prices contributed to India's retail inflation as also local weather conditions like excessive heat and unseasonal rains, which kept food prices high.
- The government cut excise and customs duties and restricted exports to restrain inflation while the RBI, like other central banks, raised the repo rates and rolled back excess liquidity.

3. **Monetary Tightening**

- The US dollar has appreciated against several currencies, including the rupee. The modest depreciation, the rupee underwent, added to the domestic inflationary pressures besides widening the CAD.
- Global commodity prices eased but are still higher compared to pre-conflict levels and have further widened the CAD, already enlarged by India's growth momentum.
- For FY23, India has sufficient forex reserves to finance its CAD and intervene in the forex market to manage volatility in the Indian rupee.



4. **Recovery**

- For many countries around the world, including India, 2021 was a period of recovery for health and economies from the impact of the pandemic.
- India's exports surged in FY22, and the momentum lasted up to the first half of FY23. It was strong enough to increase India's share in the world market of merchandise exports.
- As per United Nations Conference on Trade and Development (UNCTAD) latest global trade update, global trade growth turned negative during the H2:2022, and geopolitical frictions, persisting inflationary pressures, and subdued demand are expected to suppress global trade further in 2023.

INDIA'S ECONOMIC RESILIENCE AND GROWTH DRIVERS

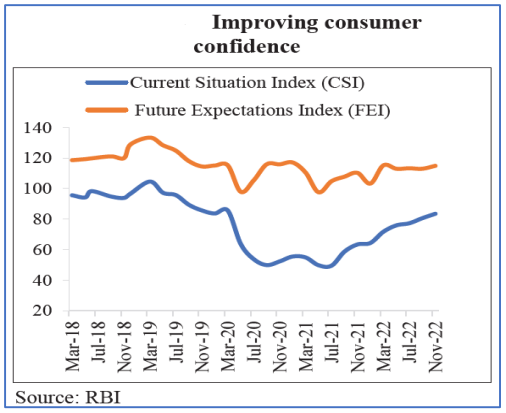
- **Rebound of Indian Economy**
  - Monetary tightening by the RBI, widening of the CAD, and plateauing growth of exports have essentially been the outcome of geopolitical strife in Europe.
  - Despite strong global headwinds and tighter domestic monetary policy, if India is still expected to grow between 6.5 and 7.0 per cent, and that too without the advantage of a base effect, it is a reflection of India's underlying economic resilience.
- **Economic Resilience**
  - The economy has withstood the challenge of mitigating external imbalances caused by the Russian-Ukraine conflict without losing growth momentum in the process.
  - It can be seen in the *domestic stimulus to growth seamlessly replacing the external stimuli*. The growth of exports may have moderated in the second half of FY23.
  - Manufacturing and investment activities consequently gained traction.
  - A relatively higher growth forecast among major economies, projected retail inflation only slightly higher than the tolerance limit, and an estimated current account deficit financeable with normal capital inflows

and forex reserves large enough to finance close to a year's imports are clear evidence of economic resilience amidst a global poly-crisis.

- Strong consumption rebound, robust revenue collections, sustained capex in both the public and the private sector, growing employment levels in the urban as well as the rural areas, and targeted social security measures further underpin the prospects for economic and social stability and sustained growth.
- Private Consumption, as a percentage of GDP, stood at 58.4 % in Q2 of FY23, the highest among the second quarters of all the years since 2013-14, supported by a rebound in contact-intensive services such as trade, hotel and transport, which registered sequential growth of 16 % in real terms in Q2 of FY23 compared to the previous quarter.

- **Universal Vaccination**
  - The near-universal coverage of vaccination in India, overseen by the government, was the single most important reason that brought people out to the streets and resume business.
  - If, on the one hand, it saved lives, on the other, it served as a health stimulant to raise consumer sentiments and thus the recovery and growth of the economy.

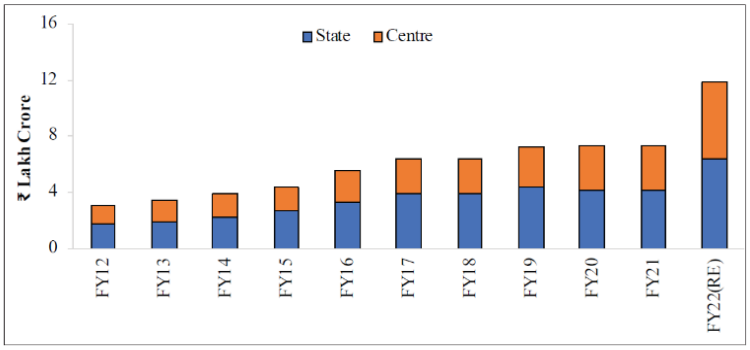
- **Rebound in Consumption**
  - It was supported by the release of **"pent-up" demand**, a phenomenon not again unique to India but nonetheless exhibiting a local phenomenon influenced by a rise in share of consumption in disposable income.
  - RBI's most recent survey of **consumer confidence** released in Dec' 2022 pointed to improving sentiment w.r.t. current and prospective employment and income conditions.



Source: RBI

- **Growth in Housing Market and Construction**
  - Demand for housing loans picked up, housing inventories declined, prices firmed up, and construction of new dwellings is picked up pace.
  - Construction activity, in general, has significantly risen in FY23 as the much-enlarged capital budget (Capex) of the central government and its public sector enterprises is rapidly being deployed.
  - Going by the Capex multiplier estimated for the country, the economic output of the country is set to increase by at least four times the amount of Capex.

- **Capex Thrust**
  - It was part of a strategic package aimed at crowding-in private investment into an economic landscape broadened by the vacation of non-strategic PSEs (disinvestment) and idling public sector assets.
  - It was due to:
    a) Significant increase in the Capex budget in FY23, as well as its high rate of spending.
    b) Highly buoyant direct tax revenue collections and GST collections, which ensure the full expending of the Capex budget within the budgeted fiscal deficit.
    c) Pick-up in private sector investment since the January-March quarter of 2022.



Source: Union Budget, States Budgets, RBI

- **Stronger Balance Sheets of Corporates**
  - As per the data on non-financial debt from the Bank for International Settlements, in the course of the last decade, Indian non-financial private sector debt and non-financial corporate debt as a share of GDP declined by nearly thirty percentage points.

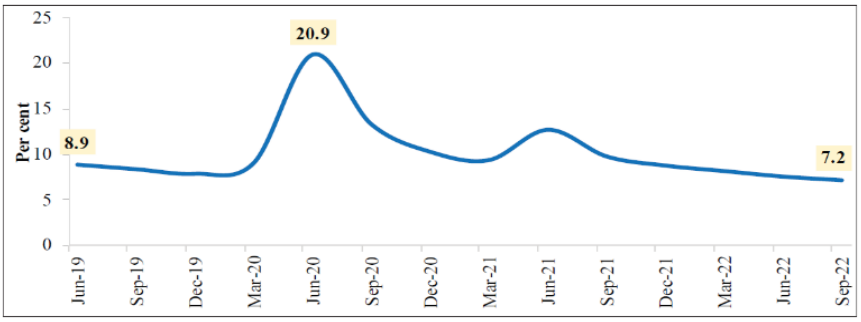
- This limited the increase in interest costs, which, together with possible savings on overheads during lockdowns, contributed to the recent fortification of corporate balance sheets by higher profits. In FY22, the surge in exports also contributed to increasing profits in the corporate world.
- After-tax profits were also boosted by the lower taxes announced in 2019. Better profitability helped corporates pay down debt.
- Consequently, not only do corporates have more scope to borrow now, but their improved financial health has also reassured their prospective lenders to expand their credit portfolios.

- **Demand for Credit**
  - The Year-on-Year growth in credit since the January-March quarter of 2022 has moved into double-digits.
  - The finances of the public sector banks have seen a significant turnaround, with profits being booked at regular intervals and their Non-Performing Assets (NPAs) being fast-tracked for quicker resolution/liquidation by the Insolvency and Bankruptcy Board of India (IBBI).
  - Financial strength has helped banks make up for lower debt financing provided by corporate bonds and External Commercial Borrowings (ECBs) so far in FY23. Rising yields on corporate bonds and higher interest/hedging costs on ECBs have made these instruments less attractive than the previous year.
  - At the same time, the government has been providing adequate budgetary support for keeping the PSBs well-capitalized, ensuring that their Capital Risk-Weighted Adjusted Ratio (CRAR) remains comfortably above the threshold levels of adequacy.

- **Inflation**
  - RBI has projected headline inflation at 6.8 per cent in FY23, which is outside its target range, not high enough to deter private consumption and not so low as to weaken the inducement to invest.
  - Moderately high inflation has further ensured the anchoring of inflationary expectations preventing prices from weakening demand and growth in India.

INDIA'S INCLUSIVE GROWTH

- **Increased Employment Levels**
  - Both official and unofficial sources confirm that employment levels have risen in current financial year.
  - The Periodic Labour Force Survey (PLFS) shows that the urban **unemployment rate** for people aged 15 years and above **declined** from 9.8 % in the quarter ending Sept' 2021 to 7.2 % one year later (quarter ending Sept' 2022), accompanied by an improvement in labour force participation rate (LFPR).
  - Job creation went up with the initial surge in exports, a strong release of the "pent-up" demand, and a swift rollout of the capex.



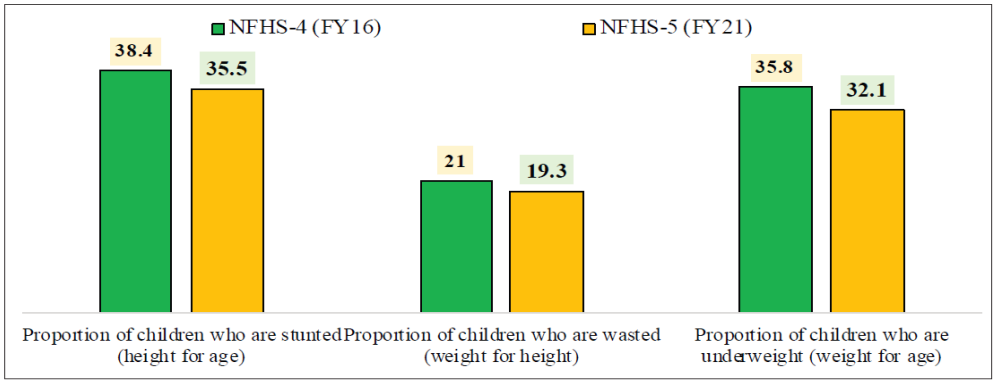
Source: NSO, MoSPI

- **Emergency Credit Line Guarantee Scheme (ECLGS)**
  - ECLGS was rolled out in 2020 to provide Rs 3 Lakh Crores (now Rs 5 Lakh Crores upto Ma 31, 2023) unsecured loans to MSMEs as part of the Centre's Aatmanirbhar package in response to the Covid-19 crisis to support small businesses struggling to meet their operational liabilities due to lockdown.

- CIBIL data also shows that ECLGS borrowers had lower non-performing asset rates than enterprises that were eligible for ECLGS but did not avail of it.
- Further, the GST paid by MSMEs, after declining in FY21, has been rising since and now has crossed the pre-pandemic level of FY20, reflecting the financial resilience of small businesses and the effectiveness of the pre-emptive government intervention targeted towards MSMEs.

- **Government Schemes**
  - The Mahatma Gandhi National Rural Employment Guarantee Act **(MGNREGA)** scheme has been rapidly creating more assets in respect of "Works on individual's land" than in any other category. Its share rose to about 60 per cent in FY22. Besides generating daily wage employment, it has also been creating assets for individual households to diversify their sources of income and lift their supplementary incomes.
  - Schemes like **PM-KISAN**, which benefits households covering half the rural population, and **PM Garib Kalyan Anna Yojana** have signif-icantly contributed to lessening impoverishment in the country.
  - In addition, the National Family Health Survey (NFHS) in India shows improved rural welfare indicators from FY16 to FY20, covering aspects like gender, fertility rate, household amenities, and women empowerment.

Improvement in Rural Welfare Indicators



Source: NFHS-4 and NFHS-5

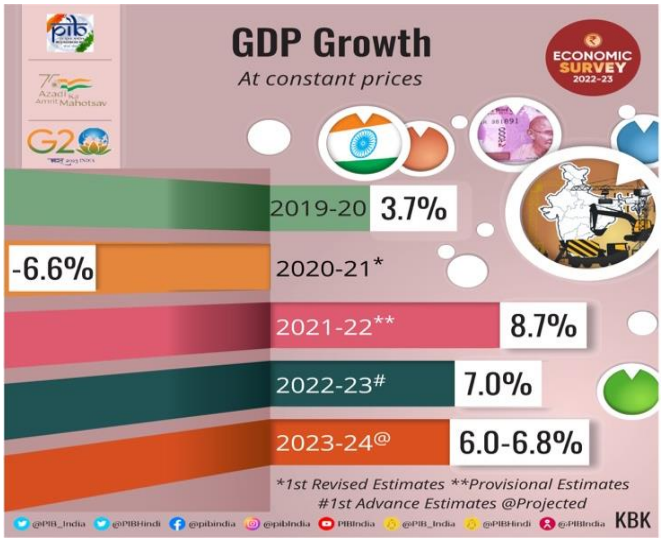
OUTLOOK: 2023-24

- **Recovery**
  - India's recovery from the pandemic was relatively quick, and growth in the upcoming year will be supported by solid domestic demand and a pickup in capital investment.
  - The financial system stress experienced in the second decade of the millennium, evidenced by rising non-performing assets, low credit growth and declining growth rates of capital formation, caused by excessive lending witnessed in the first decade-plus, is now behind us.
  - Compensating for the private sector's caution in capital expenditure, the government raised capital expenditure substantially. Budgeted capital expenditure rose 2.7X in the last seven years, from FY16 to FY23, re-invigorating the Capex cycle.
  - Structural reforms such as the introduction of the GST and the Insolvency and Bankruptcy Code enhanced the efficiency and transparency of the economy and ensured financial discipline and better compliance.

- **Challenges**
  - Multi-decadal high inflation numbers have compelled central banks across the globe to tighten financial conditions which has impacted Indian economy asw well.
  - Adverse spill overs from the prolonged strains in supply chains and heightened uncertainty due to geo-political conflict have further deteriorated the global outlook.
  - On the external front, strong domestic demand amidst high commodity prices will raise India's total import bill and contribute to unfavourable developments in the current account balance. Exports might slacken due to global slowdown. This might lead to currency depreciation.

- **Growth Outlook**: The upside to India's growth outlook arises from:
  a) Limited health and economic fallout for the rest of the world from the current surge in Covid-19 infections in China and, therefore, continued normalisation of supply chains;
  b) Inflationary impulses from reopening of China's economy turning out to be neither significant nor persistent
  c) Recessionary tendencies in major AEs triggering a cessation of monetary tightening and a return of capital flows to India amidst a stable domestic inflation rate below 6 per cent
  d) This leading to an improvement in animal spirits and providing further impetus to private sector investment.
- **Projections**:

  The survey projects a baseline GDP growth of 6.5 % in real terms in FY24 and is broadly comparable to the estimates provided by multilateral agencies such as the World Bank, the IMF, and the ADB and by RBI, domestically.



2. INDIA'S MEDIUM-TERM GROWTH OUTLOOK: WITH OPTIMISM AND HOPE

INTRODUCTION

- A close observation about the phases of economic reforms in India show us that there have been examples when reforms and economic shocks have gone hand-in-hand, for instance, 1999-2000 to 2002 reforms and 1998-2002 shock went hand in hand. But due to reforms despite having shocks, the economy got benefits in terms of lagged effect. Similarly, it has been argued that government has undertaken a series of reforms since 2014 called sab ka saath, sab ka vikaas. At the same time, we have been experiencing shocks like covid shock, global uncertainties etc. Despite these factors, India is poised to grow strongly because of growth magnets which we have developed due to our reforms.

PRODUCT AND CAPITAL MARKET REFORMS

- **Initiation of The Reforms-1991**
  - The high combined deficit of the central and state governments, elevated inflationary pressures, and large and unsustainable current account deficit (CAD) led to a balance of payments crisis in the Indian economy. In response to the situation, trade and investments were liberalised in 1991.
  - **Import licensing** on almost all intermediate inputs and capital goods was done away with, and the **entry restrictions** for firms were simplified.
  - The new policy encouraged the entry of private sector firms by **ending the public sector monopoly** in many sectors and initiating the automatic approval policy for FDI up to 51 per cent.
  - **Exchange rate was made flexible** and allowed to depreciate as necessary to maintain competitiveness. Rupee was made fully convertible on the current account and partially on the capital account.

IMPACT:

- **Growth** went up from 5.5% (1980s) to 6.3% (1990s)
- Trade liberalisation had a visible effect on external trade: **Trade-to-GDP Ratio** rose from 17.2% (1990s) to 30.6% (2000).

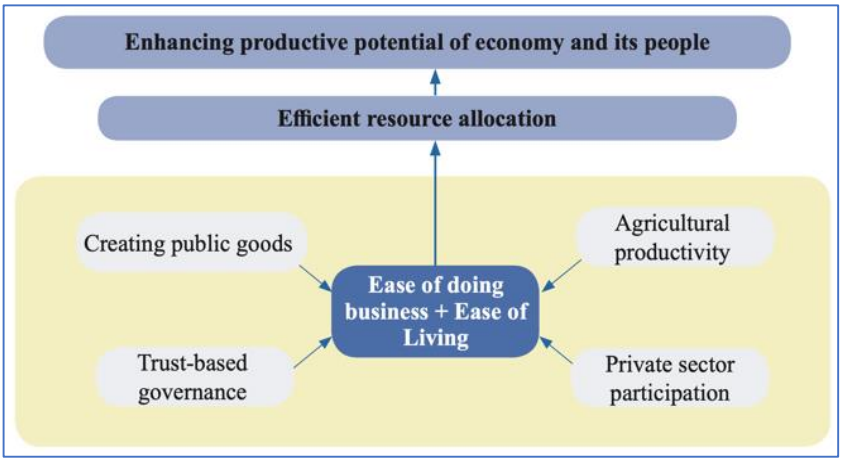
- **Continuity In Reforms With A Renewed Impetus (1998-2002)**
  - Investments were liberalised further to encourage Foreign Direct Investment (FDI) as a main source of non-debt-creating capital inflows.
  - The telecom sector was entirely reformed by the **New Telecom Policy 1999** and was opened for private sector participation with a strengthened regulatory regime (TRAI). The reforms separated the licensing and policy functions of the government from that of an operator (BSNL).
  - A dedicated **Ministry for Disinvestment and Privatisation** was setup which sold equity stakes in some CPSEs and privatised companies such as Maruti Udyog, Hindustan Zinc, Bharat Aluminum, and Videsh Sanchar Nigam Limited.
  - The largest infrastructure project of independent India, the '**Golden Quadrilateral**' was launched which enhanced connectivity, improved industrial activity, trade, and economic growth.
  - The **Fiscal Responsibility and Budget Management (FRBM) Act 2003** was passed to address the historic highs of the combined Gross fiscal deficit of the Government.
  - **Interest rates were deregulated** to promote competition amongst banks, provide more banking options to depositors, and strengthen monetary policy transmission.
  - The **SARFAESI Act** allowed banks and financial institutions to recover their dues by proceeding against the secured assets of the borrower/guarantor without the intervention of the court/ tribunals.
- **One-Off Shocks Overshadowed The Reforms Of 1998-2002:**
  - The sanctions imposed by the US after **India's nuclear test** led to a sharp decline in capital flows to India during the months following the nuclear tests.

- The period between 2000 and 2002 also witnessed **two successive droughts** accompanied by heightened global uncertainties resulting from the end of a tech boom and the 9/11 attacks.
- The balance sheets of the Indian financial system and corporate sector were under-repair during the period.

- **India's Participation In The Global Boom Of 2003-08:**
  - While the global growth averaged 4.8 % during 2003-2008, the Indian economy grew at more than 8 % on average.
  - The economic growth during the period was supported by strong capital inflows which indicated favourable domestic and external factors such as sustained momentum in domestic economic activity, better corporate performance, a conducive investment climate, positive sentiments for India as a preferred investment destination, and encouraging global liquidity conditions/ interest rates.

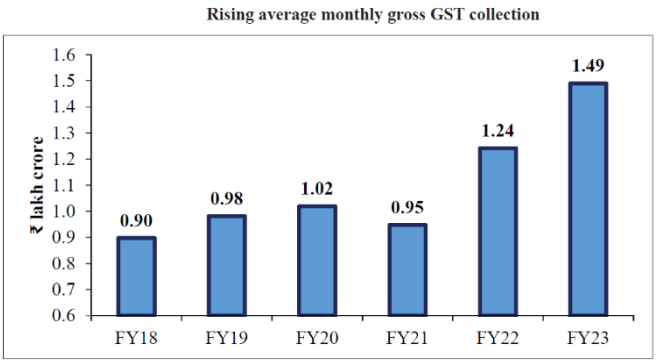
REFORMS FOR NEW INDIA - SABKA SAATH SABKA VIKAAS

The reforms emphasised on enhancing the ease of living and doing business and improving economic efficiency. The broad principles behind the reforms were:



1. **Creating Public Goods To Enhance Opportunities, Efficiencies And Ease Of Living:**
   - The dedicated programs for road connectivity **(Bharatmala)**, port infrastructure **(Sagarmala),** electrifycation, railways upgrad-ation, and operationalising new airports/ air routes **(UDAN)** have significantly improved the physical infrastructure in the last few years.
   - With the **National Infrastructure Pipeline (NIP) in 2019** and the **National Monetization Pipeline in 2021**, a strong baseline for infrastructure creation and development has been put in place, providing a multitude of opportunities for foreign investment and engagement.
   - Besides the push to physical infrastructure, the government's emphasis on developing **public digital infrastructure**. Based on the pillars of a digital identity Aadhar, linking bank accounts with PM-Jan Dhan Yojana, and the penetration of mobile phones **(JAM Trinity),** the country has witnessed significant progress in financial inclusion in recent years. The population covered with bank accounts increased from 53 % in 2015-16 to 78 % in 2019-21 (as per NFHS).
   - Numerous digital public goods such as digital verification (e-KYC), digital signature, digital repositories (Digilocker), and digital payments (UPI) have supported financial inclusion.
   - The creation of digital identities such as Aadhar, registration of unorganised workers on the **e-Shram** portal, street vendors on **SVANidhi**, taxpaying firms on **GSTN**, and MSMEs on the **Udayam portal**, has played a significant role in the inclusion of these groups under the formal economic net.
   - Moreover, digital systems such as the Goods and Services Tax Network (GSTN) and **e-Way Bill system** have enabled the formalisation of business transactions.
   - The **National Single Window System** for business approvals, the **JanSamarth portal** for credit-linked Central Government scheme, and the **UMANG app** for access to Central and state govt services are essential steps towards enhancing the ease of doing business through the integration of existing systems.
   - **PM Gatishakti***, the* GIS-based platform that brings together multiple ministries for coordinated planning & implementation of multimodal infrastructure connectivity projects, aims to reduce logistics costs.

2. **Trust-based Governance**
   - Building trust between the government and the citizens/businesses unleashes efficiency gains through improved investor sentiment, better ease of doing business, and more effective governance. Consistent reforms have been made in this direction during the last eight years.
   - **Insolvency and Bankruptcy Code (IBC)** provides an honourable exit mechanism for honest business failures and enables the release of credit locked into the stressed assets for better resource allocation.
   - **Real Estate (Regulation and Development) Act (RERA)** is creating a culture of transparent transactions in the real estate sector and has transformed the real estate sector by registering real estate brokers and agents with the regulator, establishing mechanisms for the speedy redressal of disputes and enabling a single window clearance for timely approvals to the developers.
   - **Companies Act of 2013**: By introducing civil liabilities for dealing with simple defaults that do not involve fraud or where the nature of the lapse is purely procedural, the government has demonstrated its intent to promote ease of doing business for domestic and global investors.
   - **GST** has helped businesses by reducing compliances, ensuring a free flow of goods across states, doing away with the need for businesses to have a separate warehouse for every state, and hence improving the ease of doing business. The average monthly gross GST collection has increased from ₹0.90 lakh crore in FY18 to ₹1.49 lakh crore in FY23.



   - The Corporate tax collections for April to November 2022 have increased by 21.1 % on a YoY basis compared to a longer-term average YoY growth of 10.3 % during the corresponding period from FY13 to FY19. One prominent reason behind the higher revenue buoyancy is the **introduction of technology-backed tax governance reforms** for simplifying tax processes, enhancing compliance, and improving fraud detection systems.
   - The **faceless assessment and appeal systems** no longer require a physical interface between taxpayers and the Income Tax department. Multiple consistency checks possible with integrated digital systems reduce tax evasion.
3. **Promoting Private Sector As A Co-Partner In The Development**
   - The government's disinvestment policy has been revived in the last eight years with stake sales and the successful listing of PSEs on the stock market. During FY15 to FY23 (as of 18 January 2023), an amount of about ₹4.07 lakh crore has been realised as proceeds from disinvestment using various modes/instruments.
     - ✓ The *privatisation of Air India* was particularly significant for re-igniting the privatisation drive.
   - The **New Public Sector Enterprise Policy for Atma-nirbhar Bharat** has thus been introduced to realise higher efficiency gains by minimising the presence of government in PSEs to only a few strategic sectors.
   - Sector-specific **Production Linked incentives (PLI)** have been introduced in the aftermath of pandemic to incentivize domestic & foreign investments and to develop global Champions in manufacturing industry.
   - The last eight years have seen further liberalisation of the policy towards foreign investors, with most sectors now open for **100% FDI under the automatic route** resulting in a visible structural shift in the gross FDI flows to India during the last decade. India's gross FDI has increased from an average of 2.2 % of GDP during FY05-FY14 to 2.6 % in FY15-FY22. The highest-ever *annual gross FDI inflow of USD 84.8 billion* was recorded in FY22.
   - The **National Logistics Policy (2022)** has been launched to create an overarching logistics ecosystem for lowering the cost of logistics and bringing it at par with other developed countries. This would boost economic growth, provide employment opportunities, and make Indian products more competitive in the global market.

- **Opening the strategic sectors, such as defence, mining and space, for the private sector** has enhanced the business opportunities in the economy.
- Investment incentives and easing business compliances have created an **ecosystem for the start-ups** to nurture.
- Further measures, such as **introduction of TReDS** to address the delayed payments for MSMEs, the inclusion of Retail and Wholesale trades as MSMEs, and the extension of non-tax benefits for three years in case of an upward change in the status of MSMEs, have created a *resilient support system for the MSME sector* to grow.

4. **Enhancing Productivity In Agriculture**

- Policies such as **Soil Health Cards, Micro irrigation Fund,** and **organic and natural farming** have helped the farmers optimise resource use and reduce the cultivation cost.
- The promotion of **Farmer Producer Organisations (FPOs)** and the **National Agriculture Market (e-NAM)** extension Platform have empowered farmers, enhanced their resources, & enabled them to get good returns.
- **Agri Infrastructure Fund (AIF)** has supported the creation of various agriculture infrastructures. **Kisan Rail** exclusively caters to the movement of perishable Agri Horti commodities.
- **Cluster Development Programme (CDP)** has promoted integrated and market-led development for horticulture clusters. Support for creating a Start-up ecosystem in agriculture and allied sectors is also being provided to the farmers.

RETURNS TO THE ECONOMIC AND STRUCTURAL REFORMS AFTER 2014

- **Shocks That Economy Faced During 2014-22**
  - Comprehensive and wide-ranging reforms undertaken in the economy during the last eight years would have accelerated India's growth. But the 'culprit' is India's balance sheet stress caused by the credit boom in previous years.
  - As per data from the Bank for International Settlements, India's **non-financial private sector debt to GDP ratio** went up from 72.9 % in March 2004 to 113.6 % by December 2010, an increase of 40.7 percentage points in just over six years.
  - Despite limited economic reforms, global capital flows and optimism about BRICS triggered a domestic credit and investment boom that eventually proved unsustainable, as the twin deficit – fiscal and external - crisis of 2013 revealed.
  - Thereafter, the non-financial private sector debt to GDP ratio **began to come down meaningfully only from 2015 onwards**, dropping to a low of 83.8 % by December 2018.
  - Unsurprisingly, the credit to the private non-financial sector as a per cent of GDP was consistently below its trend value for most of the second decade of the millennium, implying a negative credit gap to GDP ratio. It shows that the banks' credit supply was severely constrained due to stress in their balance sheet during the second decade.
  - As investments made by companies went sour, it impaired their ability to repay bank loans. Hence, banks' non-performing assets began to rise. That set in motion a long period of repair of the financial and non-financial sector balance sheets in the second half of the last decade.
  - The government and the RBI took several policy initiatives to help the financial sector recoup the balance sheet stress during the 2010s such as the **amendment to the SARFAESI Act 2002**, implementation of the **Insolvency and Bankruptcy Code (IBC),** launch of '**Asset Quality Review' (AQR)**, introduction of **prompt corrective action (PCA) framework, recapitalisation of Public Sector Banks (PSB),** and **merger of PSBs** among others.
  - Re-financings of non-banking finance companies by banks came down in the wake of the **collapse of IL&FS**, a big NBFC, followed by the **collapse of some housing finance companies**. Therefore, bank credit growth came down to single digits towards the end of 2019, continuing into 2020. This impacted economic growth and the government responded with several measures to stem the fallout of the collapse of IL&FS and housing finance companies, including a corporate tax cut in September 2019.

- Soon thereafter, the pandemic struck, and the government had to address the emerging health, social and economic consequences of unprecedented nature.

- **The period 2014-2022 is analogous to the period 1998-2002:** A parallel between the periods 1998-2002 and 2014-2022 is given beside-

1998-2002	2014-2022
Shocks to the economy	
• Nuclear device testing 1998; sanctions followed	• Period of Banking, Non-Banking and Non-Financial Corporate Sector Balance-sheet stress
• Banking and Corporate Sector deleveraging and repairing balance-sheets	• Unprecedented pandemic shock followed by inflation global commodity price shock followed by tightening of financial conditions
• Two successive droughts	
• Technology bust; US recession and 09/11	
Structural reforms in the economy	
• Interest rate deregulation • Privatisation • Asset Recovery for banks • Infrastructure (Golden quadrilateral) • FRBM Act	• Unique Identity • Financial Inclusion • GST leading to formalisation • Insolvency & Bankruptcy Code • Privatisation • Tax rates rationalisation and tax administration reforms • Decriminalisation of offences • Vaccines roll-out • Expenditure Management Reforms • AatmaNirbhar Bharat • Public Digital Infrastructure
Growth returns	
• One-off shocks delayed the growth returns	• Balance sheets strengthened in the financial sector; the corporate sector deleveraged by about 30 percentage points (Non-financial private sector debt to GDP ratio)
• Once shocks faded away, structural reforms paid growth dividends from 2003 onwards	• Emphasis on macro-economic stability while dealing with global shocks

GROWTH MAGNETS IN THIS DECADE (2023-2030)

- **India Is Prepared To Grow At Its Potential Once The One-Off Shocks Recede:**

1. **Healthy Financial System:**
   a. Banks have low NPA which would improve Credit growth
   b. Corporates are getting better Returns for investment as projects getting completed
2. **Digital Revolution:**
   a. It led to formalisation of economy
   b. Higher financial inclusion
   c. Banks more aware of customer's credit risks than before ➔ make for a healthier and longer credit cycle than before.
3. **Skill:**
   ✶ If India generates skill programmes to harness its Demographic Dividends, GDP would shoot up.
4. **Global Supply Chain:**
   a. Covid taught a lesson that overdependence on one supplier is fatal.
   b. India has a golden opportunity to become a part of global supply chain
   c. India can become a new potential FDI destination.
5. **Governance Reforms:**
   a. The **deregulation and simplification of compliances** like dismantling the licensing, inspection and compliance regime entirely can make the system efficient.
   b. State governments need to undertake **power sector reforms.**
   c. **Education and skilling** for industry-academia partnership is required.
   d. **Climate change** and **energy transition** has to remain a priority in our growth model.
   e. **Health Reforms** must be undertaken like lifestyle diseases etc.
   f. **Asset monetisation revenues** can be used to reduce public sector debt ➔ reduce fiscal deficit of government
   g. **MSME Reforms** like registration, capital, reduce their compliance burden etc would improve the growth of MSMEs in India.

3. FISCAL DEVELOPMENTS: REVENUE RELISH

INTRODUCTION

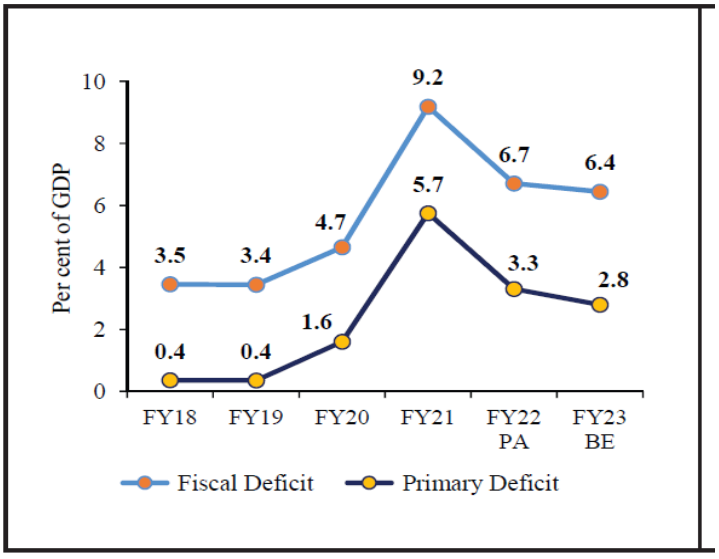
In India, during the pandemic, fiscal policy provided a safety net, revived the economy through boosting demand. India addressed domestic supply-side constraints through public investments and reforms.

- The large stimulus packages in response to the pandemic caused overstimulation of demand and overheating of the economy. It led to inflationary pressures and made it difficult for fiscal-policy experts to find the right balance between providing continued support and withdrawing stimulus to control inflation and regain fiscal space.
- Against this backdrop, the Government of India (GoI) adopted a calibrated fiscal response to the pandemic. GoI planned to gradually withdraw fiscal stimulus as outlined in the FY22 budget.

The chapter provides an overview of the government's fiscal strategy amidst uncertain geopolitical developments, starting with a discussion of the performance of the Union government's finances, followed by a review of state finances, and concluding with an analysis of India's debt profile.

DEVELOPMENTS IN UNION GOVERNMENT FINANCES

India entered the pandemic with a strained fiscal position, but the government's prudent response helped maintain stable public finances even in uncertain times. The Union government's fiscal deficit, which reached 9.2% of GDP in FY21, has moderated to 6.7% in FY22 and is budgeted to reach 6.4% in FY23. This gradual decline was observed due to careful fiscal management and strong revenue collection over the past two years.



Union Government On Track To Achieve The Fiscal Deficit Target for FY23

- The Union Budget for FY23 was presented in a challenging economic environment but did not account for the unexpected geopolitical events. The conflict in Europe caused supply disruptions and affected the prices of essential items (fuel, food). This led to increased government spending on subsidies and duty cuts.
- Despite additional fiscal pressures, the government is on track to meet its fiscal deficit target, with the deficit at 58.9% of the budget estimate (BE) at the end of November 2022. This is lower than the five-year average of 104.6% of BE.

Conservative Budget Assumptions Provide A Buffer During Global Uncertainties

- The resilience in the Union Government's fiscal performance is attributed to the recovery of economic activity, revenue growth, and conservative budget assumptions.
- The cautious assumptions in the FY23 Budget provided a cushion during global uncertainties.

Stable performance of the Union Government fiscal indicators from April to November 2022

	₹ lakh crore			As a per cent of BE		YoY growth (per cent)		
	BE FY23	Apr-Nov 2021	Apr-Nov 2022	Apr-Nov 2021	Apr-Nov 2022	5 yr Avg Apr-Nov	Apr-Nov 2021	Apr-Nov 2022
Revenue Receipts	22.04	13.58	14.23	75.9	64.6	12.3	67.1	4.8
Gross tax revenue	27.58	15.42	17.81	69.5	64.6	13.9	50.3	15.5
Assignment to States	8.17	4.03	5.51	60.5	67.5	16.6	20.4	36.8
Tax Revenue (net to Centre)	19.35	11.35	12.25	73.5	63.3	12.9	64.9	7.9
Non-Tax Revenue	2.70	2.23	1.98	91.8	73.5	13.3	79.5	-11.1
Non-Debt Capital Receipts	0.79	0.21	0.41	11.0	52.3	30.6	14.1	100.4
Non-Debt receipts	22.84	13.79	14.65	69.8	64.1	12.2	66.0	6.2
Total Expenditure	39.45	20.75	24.43	59.6	61.9	11.4	8.8	17.7
Revenue Expenditure	31.95	18.01	19.96	61.5	62.5	11.4	8.2	10.8
Capital Expenditure	7.50	2.74	4.47	49.4	59.6	12.9	13.5	63.4
Revenue Deficit	9.90	4.43	5.73	38.8	57.8	11.4	-48.1	29.3
Fiscal Deficit	16.61	6.96	9.78	46.2	58.9	11.5	-35.3	40.6
Primary Deficit	7.21	2.34	4.33	33.5	60.1	13.1	-66.2	85.1

Source: Union Budget documents, O/o CGA

Performance of Union Government Non-debt Receipts

The Union government's non-debt receipts comprise revenue receipts (tax and non-tax) and non-debt capital receipts. The shortfall in the non-debt receipts to meet the expenditure requirement is met by borrowings of the government (called fiscal deficit). This section evaluates the performance of the Receipts side of the Union Government's finances.

Sustained Revenue Buoyancy Over The Last Two Years

- The revenue receipts in India experienced strong growth in FY22, rebounding from the decline in FY21 during the pandemic. The growth was driven by an increase in the collection of major direct and indirect taxes (excluding excise duties) in FY22.
- The momentum of revenue growth has continued into the current year with a YoY growth of 15.5% in Gross Tax Revenue and 7.9% in Net Tax Revenue to the Centre after assignment to states from April to November 2022.
- The sustained growth in revenue receipts in India is due to the resilience of the country's economic growth, as well as the government's effective efforts to expand the tax base and improve tax compliance.
- The introduction of GST and the digitalization of economic transactions have formalized the economy, resulting in an expanded tax net.
- Other measures, such as the Faceless Assessment and Appeal, simplification of return filing, generation of e-way bills under the GST system and use of technology and artificial intelligence, have encouraged higher tax compliance and contributed to the growth in revenue.

Tax Revenue

1) Direct taxes propelling the growth in Gross Tax Revenue

Direct taxes (make up half of Gross Tax Revenue) showed a 26% year-on-year growth from April to November 2022 due to an increase in corporate and personal income taxes.

2) Customs and Excise Duties Act as Flexi-fiscal Policy Tools

- The government used both direct and indirect taxes (such as customs and excise duties) during the pandemic to maintain revenue.
- Excise duties on petrol and diesel were raised during the pandemic year but later reduced to control rising global oil prices and inflation. The budget estimate predicted a 20.9% YoY decline in excise collections from April to November 2022.
- To control the inflation impact on essential imported products (edible oils, pulses, cotton, steel, etc.), customs duties were reduced during FY23. Despite this, high imports have led to a 12.4% YoY growth in customs collections from April to November 2022, surpassing the average growth from FY13 to FY19.

3) Stabilising Goods and Services Tax Yielding Returns

The Goods and Services Tax (GST) has become a stable and significant revenue source for the central and state governments.

- From April to Dec' 2022, their gross GST collections reached ₹13.40 lakh crore with a YoY growth of 24.8%.
- The number of GST taxpayers has doubled from 70 lakh in 2017 to over 1.4 crore in 2022.

Thus, the GST regime and its implementation mechanism have not only protected the states' revenues from the challenges of a new tax system but also safeguarded their finances during external shocks in the last five years. Without GST, the states would not have had access to compensation or the ability to increase revenue through new or higher levies during the pandemic.

Non-Tax Revenue

Center on track to meet Non-Tax Revenue targets

The non-tax revenue for the central government includes interest on loans to states and UTs, dividends from public sector enterprises and RBI, and external grants and services provided by the Union government.

- The budget for FY23 predicted a 22.5% lower collection of non-tax revenue compared to FY22, with 73.5% collected as of November 2022.

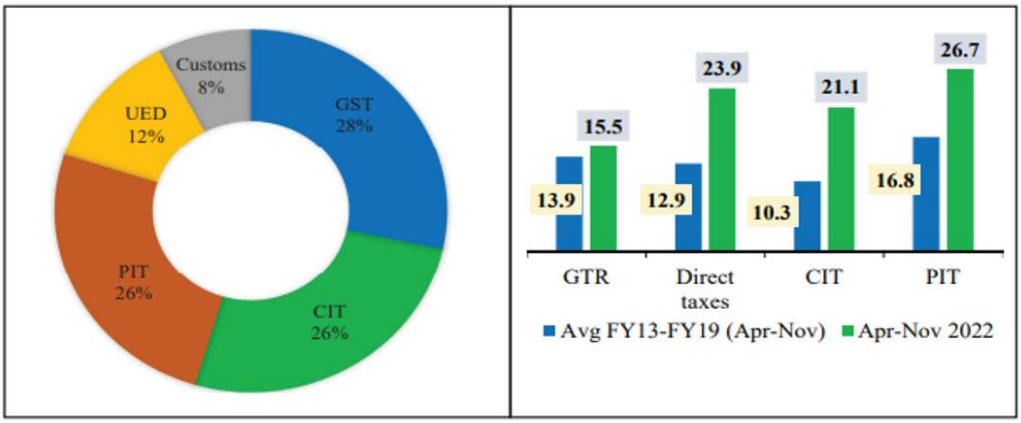
Non-debt Capital Receipts

Committed Towards Disinvestment But Dependent On External Factor

Non-debt capital receipts, which consist of loan recoveries and disinvestment proceeds, have become a significant part of the non-debt receipts for the Union government.

- From FY15 to FY23 (as of Jan 18, 2023), ₹4.07 lakh crore has been generated through 154 disinvestment transactions.
- This includes ₹3.02 lakh crore from minority stake sale and ₹69,412 crore from strategic disinvestment of 10 CPSEs (HPCL, REC, DCIL, HSCC, NPCC, NEEPCO, THDC, Kamarajar Port, Air India, and NINL).

The government's disinvestment transactions faced challenges due to the pandemic, geopolitical conflict, and associated risks over the last three years. However, the government has reaffirmed its commitment to privatizing and strategically disinvesting in public sector enterprises through the implementation of the New Public Sector Enterprise Policy and Asset Monetization Strategy.



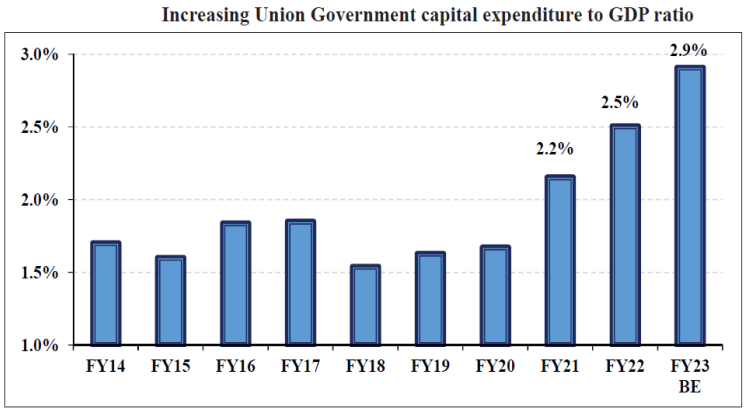
Source: Union Budget FY23, O/o CGA
Note: GTR - Gross Tax Revenue, GST - Goods and Services Tax, CIT - Corporation Income Tax, PIT - Taxes on Income other than Corporation Income Tax.m UED - Union Excise Duties

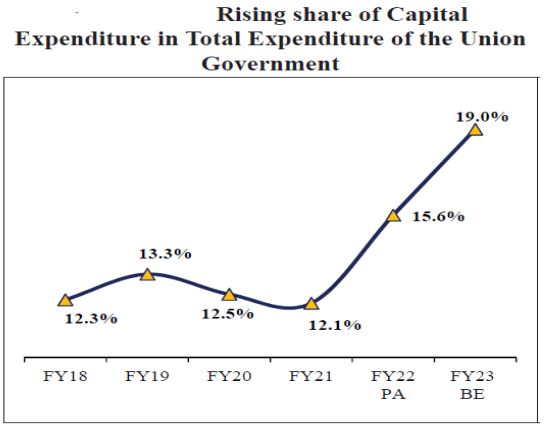
PERFORMANCE OF UNION GOVERNMENT EXPENDITURE

Pragmatic Expenditure Policy Of Re-Prioritisation

The government adopted a countercyclical fiscal policy during the pandemic to support the economy.

- This policy led to an increase in total Union Government expenditure to 17.7% of GDP in FY21, higher than the previous 5-year average of 12.8% of GDP.
- In the following year, FY22, the expenditure was reduced to 16% of GDP with a focus on productive domestic capital expenditure.
- The capital expenditure (Capex) by the Centre has increased from an average of 1.7% of GDP in the past to 2.5% of GDP in FY22 and is planned to increase to 2.9% of GDP in FY23. This increase in Capex demonstrates an improvement in the quality of government expenditure.





Revenue Expenditure

Geopolitical developments stretched the Revenue Expenditure requirements

The main components of the Centre's revenue expenditure are Interest payments, major subsidies, government employee salaries, pensions, defense expenses, and transfers to states. Much of the expenditure is committed and leaves limited room for flexibility. However, re-prioritizing expenses and reducing subsidies are important ways to drive demand and meet redistribution goals.

- The revenue expenditure of the Union Government was reduced from 15.6% of GDP in FY21 (pandemic year) to 13.5% of GDP in FY22, primarily due to a decrease in subsidy expenditure.
- The interest payments were a stable component of revenue expenditure before the pandemic, but increased as a result of higher borrowings during the pandemic.
- Due to the recent geopolitical conflict (resulting in higher international prices for food, fertilizer and fuel), The Union Government has sought an additional ₹80,000 crore for food subsidies and additional allocation for Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) and ₹1.09 lakh crore for fertilizer subsidies.

Major Items of Revenue Expenditure by Union Government

Items	FY18	FY19	FY20	FY21	FY22 PA*	FY23 BE
						(in ₹ Lakh crore)
Revenue Expenditure of which	18.79	20.07	23.51	30.84	32.01	31.95
a. Salaries (pay & allowances)	1.94	2.11	2.28	3.34	3.67	4.10
b. Pensions	1.46	1.6	1.84	2.08	1.99	2.07
c. Interest payment	5.29	5.83	6.12	6.80	8.05	9.41
d. Major subsidies	1.91	1.97	2.28	7.08	4.46	3.18
e. Defence Services	1.86	1.96	2.08	2.06	2.29	2.33

However, the subsidy expenditure was brought down from 3.6% of GDP in FY21 to 1.9% of GDP in FY22 and is further budgeted to decrease to 1.2% of GDP in FY23.

Capital Expenditure (Capex)

Capex-led growth to bring back animal spirits and manage debt levels

Capital expenditure strengthens demand and encourages private investment while also increasing the supply-side productive capacity in the long run. The government has provided incentives to increase states' capital expenditure with interest-free loans and additional borrowing provisions.

- The Indian Government has budgeted a record-high ₹7.5 lakh crore for Capital Expenditure in FY23 and as of November 2022, 59.6% has been spent, registering a YoY growth of over 60% which is much higher than the long-term average growth of 13.5% from FY16 to FY20.

The government has increased its focus on Capital Expenditure, especially in the infrastructure sectors like roads, highways, railways, housing and urban affairs, which has a positive impact on growth.

Overall, The Union Government's finances are expected to be sufficient to cover the additional expenditure needs of the current year due to higher-than-anticipated revenue collections. The budget estimate for the fiscal deficit during FY23 will not pose a concern for the government, as they are expected to be on track with the fiscal path outlined by the Medium-Term Fiscal Policy Statement. The government's recent budgetary reforms will also support their efforts to attain the fiscal policy targets.

Major Reforms In The Union Budget Over The Last Few Years

1. **Improved fiscal transparency and realistic revenue assumptions in the Budget:** The Union Government has prioritized improving transparency in financial statements and accounts by including below-the-line expenditures in its budget. It reduced extra-budgetary borrowings from ₹1.48 lakh crore in FY20 to ₹750 crore in FY22 and did not include any extra budgetary resources in the FY23 budget.
2. **Discontinuation of Plan-Non plan classification:** The Budget FY18 discontinued having Plan and Non-Plan classifications of Government expenditure. The reform gave a greater emphasis to the Revenue and Capital classification of Government Expenditure.
3. **Merger of railway Budget with the Main Budget:** The merging of the railway budget with the Union budget in FY18 provided a comprehensive view of the government's financial position. This reform has improved resource allocation and planning between various modes of transportation such as highways, railways and inland waterways.
4. **Shifting the date of the Budget to 1 February:** The date of the Budget was advanced to 1 February from the Budget FY18 to pave the way for early completion of the Budget cycle. It has also enabled the Ministries to ensure better planning and execution of schemes from the beginning of the financial year.

OVERVIEW OF STATE GOVERNMENT FINANCES

Performance of State Finances

- State governments improved their finances in FY22, reducing their Gross Fiscal Deficit (GFD) from 4.1% of GDP in FY21 to 2.8% in FY22. However, due to geopolitical uncertainties, the GFD-GDP ratio is budgeted at 3.4% for FY23.
- According to the FY23 budget estimates of state governments, the combined own Tax revenue and own Non-Tax revenue were expected to grow by 17.5% and 25.6% respectively over FY22 RE. On the expenditure side, revenue and capital expenditures were projected to grow by 10.4% and 16% respectively over FY22 RE.

Cooperative Fiscal Federalism Drives A Well-Targeted Fiscal Policy

Cooperative fiscal federalism refers to the mutual cooperation between the Union government and the state governments in order to design and implement fiscal policies effectively. The Union Government has taken following various measures to support the states.

1) Transfer from Centre to States

Transfer of funds to the States comprises the share of States in Union taxes devolved to the States, Finance Commission Grants, Centrally Sponsored Schemes (CSS), and other transfers.

- Total transfers to States have risen between FY19 and FY23 BE.
- The Finance Commission had recommended allocation of an amount of ₹1.92 lakh crore for FY23 in respect of post-devolution revenue deficit grants, grants to local bodies, health sector grants, and disaster management grants under Article 275 of the Constitution.

2) Supporting The GST Compensation Payments During Crisis

The Union Government recognizes the importance of well-targeted fiscal policies of the national and sub-national governments.

- To address the shortfall in GST compensation for states, the government borrowed ₹2.69 lakh crore during FY21 and FY22 and passed it onto the states.
- In addition to regular GST compensation from the fund. Cess payments and tax devolution installments were also frontloaded to give states early access to funds.
- In FY23, the government of India released ₹1.16 lakh crore (from its own resources) towards the total GST compensation payable to states as of June 30, 2022, even though the total cess collection was insufficient.

3) Enhanced Limit Of Borrowing For The States And Incentives For Reforms

- Since the pandemic, the central government has kept the net borrowing ceiling of state governments above the Fiscal Responsibility Legislation threshold. This was fixed at 5% of GSDP in FY21, 4% of GSDP in FY22, and 3.5% of GSDP in FY23.
- Some of this extra borrowing was linked to reforms, encouraging states to implement them. For example, in FY21, part of the additional borrowing was linked to the implementation of the One Nation One Ration Card System, ease of doing business reform, local body/utility reforms, and power sector reforms.
- The Fifteenth Finance Commission has recommended an additional borrowing space of 0.50% of the Gross State Domestic Product (GSDP) to states in the power sector. This special provision is available for four years from FY22 to 2024-25.

4) Centre's Support Towards States' Capital Expenditure

The Union government has provided 50-year interest-free loans to state governments under the 'Scheme for Special Assistance to States for Capital Investment' for the last three years. This interest-free loan in the present arrangement is dedicated only to capital expenditure.

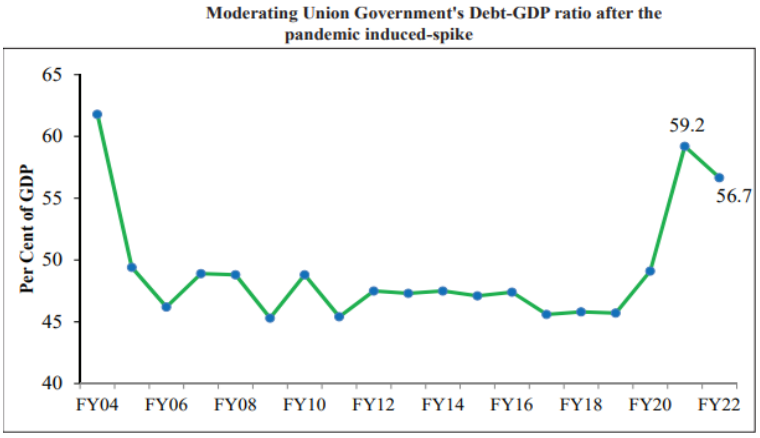
- Amounts of ₹11,830 crore and ₹14,186 crore were provided to states in FY21 and FY22.

- During the year FY23, the allocation under the Scheme has been raised to ₹1.05 lakh crore to give further impetus to State Capex plans.

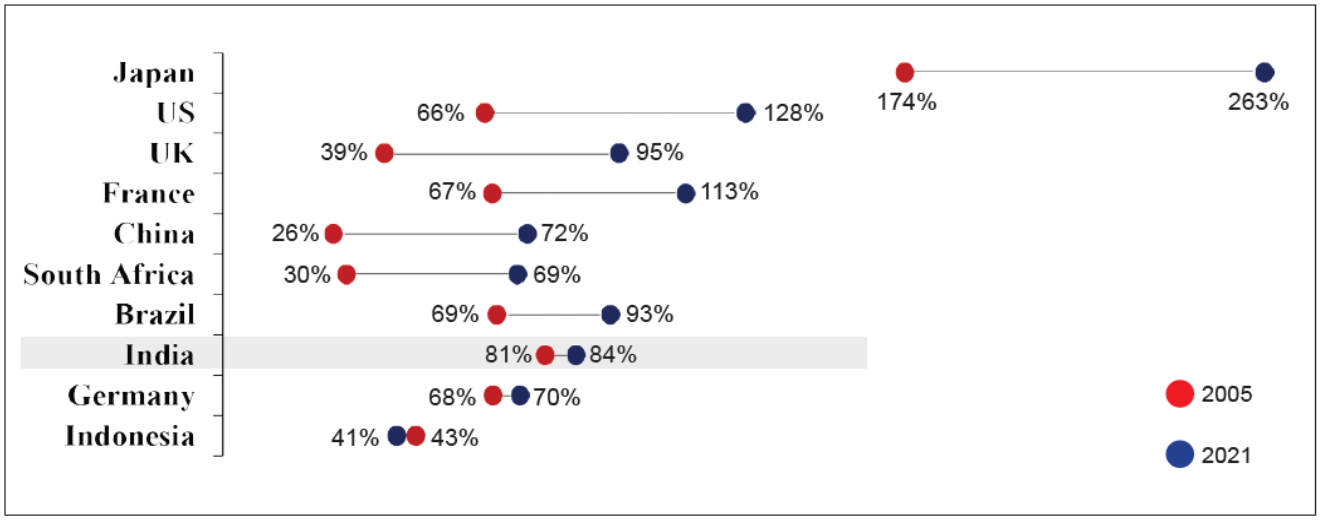
Overall, The COVID-19 pandemic has impacted state finances by increasing expenses and lowering revenues. The Union government has offered support through various initiatives, while states have taken measures to increase their revenue, such as revising property taxes, power tariffs, liquor policies, and privatizing state public sector enterprises. Some states have also adopted revenue-generating measures such as liquidation schemes for payment of arrears, one-time settlement of old VAT dues, and green taxes to discourage use of old vehicles. The RBI has pointed out the low property tax collection in India compared to OECD countries and the need for reforms in property taxation practices.

DEBT PROFILE OF THE GOVERNMENT

The global economy is facing significant concerns over rising government liabilities, resulting from the unprecedented fiscal expansion in 2020. The International Monetary Fund projects that global government debt will be 91% of GDP in 2022, 7.5 percentage points higher than pre-pandemic levels. Against this global backdrop, It is crucial to analyse India's government debt profile.



- The total liabilities of the Indian Union Government saw a significant increase in the year FY21 due to the COVID-19 pandemic. It led to higher government borrowings to finance additional expenditure needs and a sharp contraction in the GDP. However, the total liabilities moderated from 59.2% of GDP in FY21 to 56.7% in FY22.
- India's public debt profile is considered to be stable with low currency and interest rate risks. Because the debt portfolio is mostly contracted at fixed interest rates (with floating internal debt constituting only 1.7 percent of GDP in end-March 2021) and has a low interest rate risk.
- The majority of the Union Government's total net liabilities in March 2021 were denominated in domestic currency (Internal Liability-95.1%) and only 4.9% in sovereign external debt (External Liability), reducing currency risk.

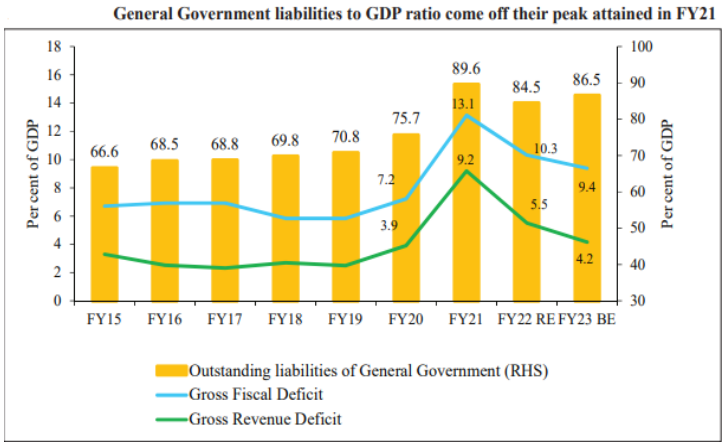


Source: World Economic Outlook, October 2022.

Consolidating General Government Finances

The General Govt finances in India give an overview of the fiscal position of the government sector as a whole.

- In FY21, the General Government liabilities increased steeply as a proportion of GDP due to additional borrowing by the Centre and States during the pandemic. However, the ratio has declined in FY22 and is expected to continue to consolidate in the medium term, leading to a more stable fiscal position.
- The General Government Debt to GDP ratio increased from 75.7 % at the end-March 2020 to 89.6 % at the end of the pandemic year FY21. It is estimated to decline to 84.5 percent of GDP by end-March 2022.



The recent emphasis on capital expenditure (capex) in India is expected to positively impact the country's economy through direct and indirect means, leading to higher GDP growth and revenue collection.

CONCLUSION

- The increase in India's debt and deficit ratios was not only caused by higher spending due to the pandemic but also due to the contraction or slower growth of nominal GDP.
- The government should encourage states to undertake reforms and increase capital spending to strengthen the General government's position. The capex-led growth strategy will lead to sustainable debt levels in the medium term.

To sum up, The Government of India has adopted a holistic policy towards fiscal stability in the last few years by using the crisis as an opportunity. These reforms like budget transparency, tax reforms and implementation of technology have contributed to the formalization of the economy. These measures increased the credibility of the government's commitment to fiscal management.

Value Added Information
1) Fiscal policy
Fiscal policy is implemented though the budget and is the primary means by which the government can influence the economy.
2) Countercyclical fiscal policy
• Fiscal policy is said to be counter- cyclical if the government deficit increases (Expenditure > Revenue) during economic downturns.
• Thus, in a recession (slowdown), the government should increase expenditure and reduce taxes (Phenomenon opposite to fiscal policy) to create a demand that can drive an economic boom.
3) Monetary Policy
This comprises actions taken by the RBI to regulate the level of money or liquidity in the economy.
4) The fiscal deficit: It is the difference between the government's total expenditure and its total receipts (excluding borrowing). The primary deficit is the fiscal deficit minus interest payments.
5) Budget Estimates
Amount of money allocated in the Budget to any ministry or scheme for the coming financial year.
6) Revised Estimates
• Revised Estimates are mid-year review of possible expenditure, taking into account the rest of expenditure (New instrument of Services etc.)

- Any additional projections made in the Revised Estimates need to be authorized for expenditure through the Parliament's approval or by Re-appropriation order.

7) Public debt

- It is the total amount, including total liabilities, borrowed by the government to meet its development budget. It has to be paid from the Consolidated Fund of India.
- The central government broadly classifies its liabilities into two categories — debt contracted against the Consolidated Fund of India, and public account.
- The sources of public debt are dated government securities (G-Secs), treasury bills, external assistance, and short-term borrowings.

8) The Union Government has accepted the recommendations made by the Fifteenth Finance Commission (XVFC) in its Report for the award period 2021-22 to 2025-26 relating to the grants-in-aid amounting to Rs. 2,43,244 crores to the States during 2022-23 for Post Devolution Revenue Deficit grant, grants to Local Bodies, Health sector grant and Disaster Management grants.

• The Post Devolution Revenue Deficit Grants are provided to the States under Article 275 of the Constitution.

9) New Public Sector Enterprise ("PSE") Policy

Under the New PSE Policy, public sector commercial enterprises have been classified as Strategic and Non Strategic sectors. four broad strategic sectors have been delineated namely 1) Atomic Energy, Space and Defence; 2) Transport and Telecommunication; 3) Power, Petroleum, Coal and other minerals; and 4) Banking, Insurance and Financial Services.

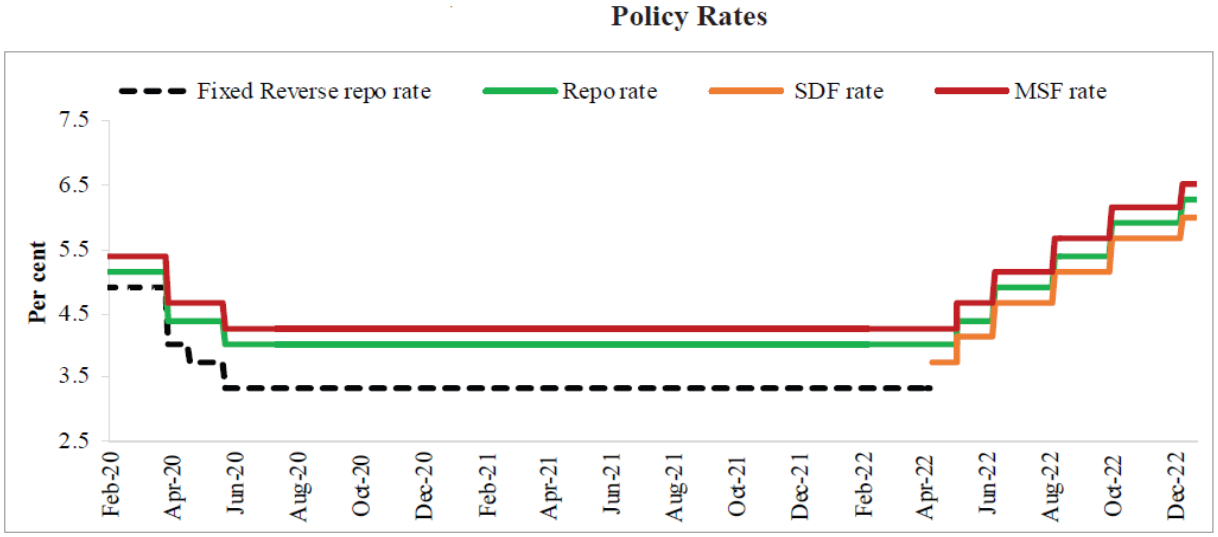
UPSC MAINS PYQs

1. Distinguish between Capital Budget and Revenue Budget. Explain the components of both these Budgets. (2021).
2. Define potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP? (2020)
3. Explain the rationale behind the Goods and Services Tax (Compensation to States) Act of 2017. How has COVID-19 impacted the GST compensation fund and created new federal tensions? (2020)
4. Enumerate the indirect taxes which have been subsumed in the goods and services tax (GST) in India. Also, comment on the revenue implications of the GST introduced in India since July 2017. (2019)
5. The public expenditure management is a challenge to the Government of India in the context of budget-making during the post-liberalization period. Clarify it. (2019)
6. Comment on the important changes introduced in respect of the Long term Capital Gains Tax (LCGT) and Dividend Distribution Tax (DDT) in the Union Budget for 2018-2019. (2018)
7. One of the intended objectives of Union Budget 2017-18 is to 'transform, energize and clean India'. Analyse the measures proposed in the Budget 2017-18 to achieve the objective. (2017)
8. What are the salient features of 'inclusive growth'? Has India been experiencing such a growth process? Analyze and suggest measures for inclusive growth. (2017)
9. Women empowerment in India needs gender budgeting. What are the requirements and status of gender budgeting in the Indian context? (2016)
10. What were the reasons for the introduction of Fiscal Responsibility and Budget Management (FRBM) Act, 2013? Discuss critically its salient features and their effectiveness. (2013)
11. What is the meaning of the term 'tax expenditure'? Taking the housing sector as an example, discuss how it influences the budgetary policies of the government. (2013)
12. Discuss the rationale for introducing the Goods and Services Tax (GST) in India. Bring out critically the reasons for the delay in roll out for its regime. (2013)

4. MONETARY MANAGEMENT AND FINANCIAL INTERMEDIATION: A GOOD YEAR

MONETARY DEVELOPMENTS

- In FY23, global economics was dominated by inflationary pressures caused by the pandemic recovery in FY22 and the conflict in Europe in Feb 2022. These scenarios led to rising commodity prices and triggering a synchronous monetary tightening cycle.
- The chapter reviews India's monetary developments and financial system performance. It includes monetary policy actions and their impact, banking system performance, credit developments, and capital market, insurance, and pension sector developments.
- In April 2022, the Monetary Policy Committee (MPC) introduced the **Standing Deposit Facility (SDF)** which allowed for the deposit of excess funds by banks with the RBI without the necessity of collateral in the form of government securities. The SDF replaced the reverse repo rate as the new floor of the Liquidity Adjustment Facility (LAF) corridor.
- Over the following five meetings from May 2022 to December 2022, the MPC implemented a cumulative hike of 225 bps in the policy repo rate, SDF, MSF, and bank rate. This hike was done due to commodity price-driven inflationary pressures and signs of a global slowdown.



Reserve Money (M0) and Broad Money (M3)

- The Reserve money (M0) increased by 10.3% YoY as of December 30, 2022 compared to 13% the previous year. The main driver of M0 growth in FY23 was bankers' deposits with the RBI and an increase in the CRR.
- The growth in Currency in Circulation (CIC) was largely stable, with only a minor increase due to the Russia-Ukraine conflict.
- The broad money stock (M3) increased by 8.7% YoY as of December 30th, 2022. Deposits and bank credit to the commercial sector and government have driven the expansion of M3.
- As of December 30, 2022, the money multiplier (M3/M0) remained stable at an average of 5.1 from April to December 2022, compared to 5.2 in the same period the previous year.

LIQUIDITY CONDITIONS

The liquidity conditions remained in surplus in 2022-23. The daily average net liquidity absorption was ₹2.5 lakh crore (during FY23 (up to 21 December 2022)), compared to ₹6.7 lakh crore in FY22.

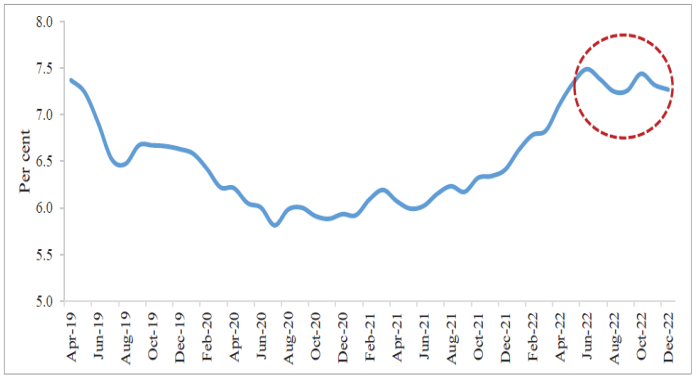
MONETARY POLICY TRANSMISSION

Lending and deposit rates of banks increased during FY23. An analysis of the transmission of policy changes across different bank groups, it is found that Public sector banks had a higher increase in the Weighted Average Lending Rate (WALR) on fresh loans, while private banks had a higher increase in the Weighted Average Domestic Term Deposit Rate (WADTDR) on outstanding deposits and the average lending rate on outstanding loans.

DEVELOPMENTS IN G-SEC MARKET

- The yield on the 10-year government bond rose in 2022 after remaining steady in 2020 and 2021. The increase was due to market volatility caused by uncertainty in crude oil prices, a hawkish stance of major central banks, a rise in global bond yields, and pressure on the rupee.
- The trading volume of government securities (including Treasury Bills and state development loans) reached a two-year high of ₹27.7 lakh crore. This increase in volume indicates a growing interest among market players and traders in the government security market.

G-sec yields easing since July, with decline in oil prices and global bonds yields



BANKING SECTOR

Resilient and Well-capitalised Banking System

The Reserve Bank of India (RBI) and the government have made efforts to strengthen the regulatory and supervisory framework and improve the balance sheet of the banking system since the mid-2010s.

- This has been done through the implementation of the 4R approach (Recognition, Resolution, Recapitalisation, and Reforms) and other policy measures.
- These efforts have resulted in an increase in risk absorption capacity and a healthier balance sheet for the banking system, both in terms of quantity and quality of assets.
- The asset quality of SCBs (scheduled commercial banks) has been steadily improving over the years due to effective policy measures. This has resulted in a decrease in the GNPA ratio and NNPA to a seven-year low and ten-year low, respectively.
- There has been a broad-based improvement in the GNPA ratio in the industrial sector, but it remains elevated for the gems and jewellery and construction sub-sectors.
- The RBI's stress testing framework projects the GNPA ratio to continue declining and drop further to 4.9% in March 2023.
- The provisioning coverage ratio (PCR) has been rising steadily and reached 71.6% in September 2022, due to the shrinking GNPAs.
- The Capital to Risk-weighted Asset Ratio (CRAR) of Scheduled Commercial Banks (SCBs) has increased sequentially, however, it moderated in September 2022 due to an increase in risk-weighted assets. Despite the moderation, CRAR remains well above the minimum capital requirement, including the capital conservation buffer requirement of 11.5%.
- SCBs (Scheduled Commercial Banks) showed improvement in profitability during H1 FY23, measured by Return on Equity (ROE) and Return on Assets (ROA).

Credit Growth Aided by a Sound Banking System and Deleveraged Corporate Sector

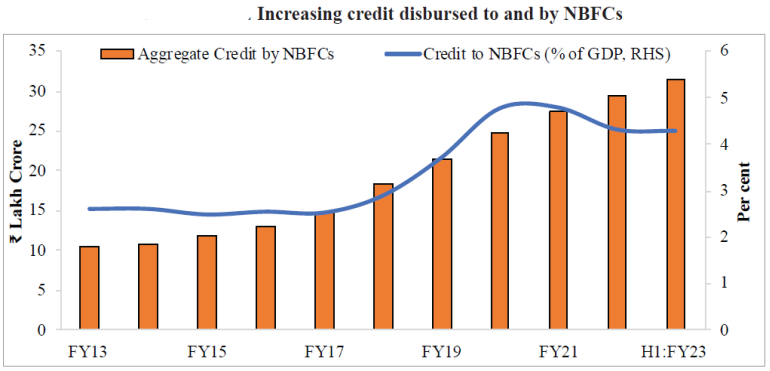
- The growth in non-food bank credit has increased to 15.3% in December 2022 due to the recovery in economic activity and improved financial stability of banks and corporates. This indicates an acceleration of current economic activity and a positive outlook for future economic momentum.
- Credit growth has been seen across various sectors, with retail credit leading the growth. Agricultural credit and Services credit also gained momentum. Industrial credit growth was boosted by credit to MSMEs and government support through the Emergency Credit Line Guarantee Scheme (ECLGS) and production-linked incentives.

Thus, A well-capitalized banking system with a low NPA ratio and robust corporate sector fundamentals will continue to support the flow of bank credit into productive investment opportunities despite rising interest rates.

NON-BANKING FINANCIAL COMPANIES (NBFCS) SECTOR

The NBFC sector has become increasingly important in the Indian financial system, reflected by the consistent rise in NBFC credit as a proportion of GDP and credit extended by SCBs.

- The asset quality of NBFCs has improved, with the GNPA ratio declining (Across all sectors) from 7.2% during the second wave of the pandemic to 5.9% in September 2022, almost reaching the pre-pandemic level.
- The capital position of NBFCs remains robust, with a CRAR of 27.4% in September 2022, slightly lower than 27.6% in March 2022 but still above the regulatory requirement.
- NBFCs' credit is picking up momentum, with the outstanding amount reaching ₹31.5 lakh crore in September 2022. The largest amount of credit was deployed to the industrial sector, followed by retail, services, and agriculture. Loans to the services sector (14.7 per cent) and personal loans (share of 29.5 per cent) showed double-digit growth.

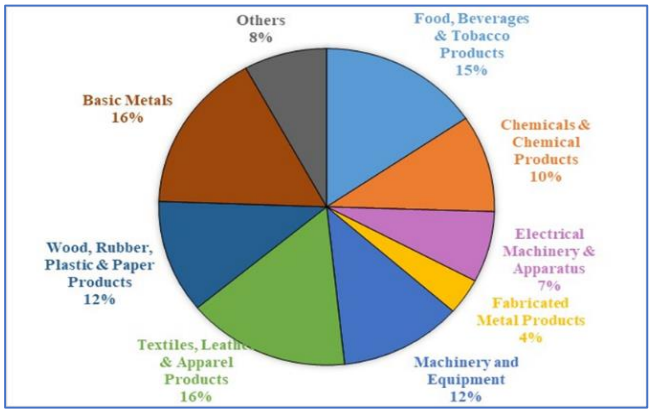


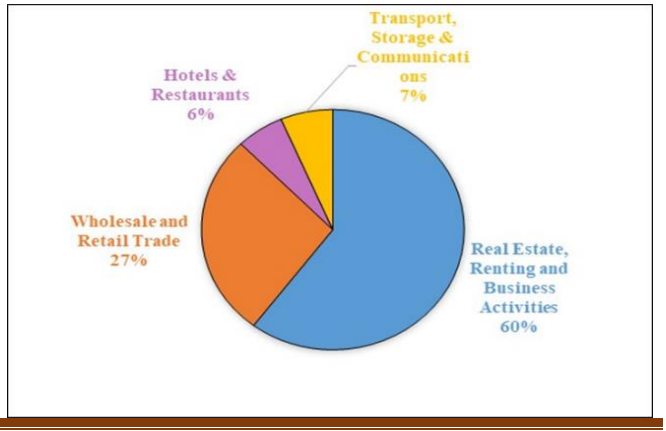
PROGRESS MADE UNDER INSOLVENCY AND BANKRUPTCY CODE, 2016 (IBC)

Ease Of Doing Business: Facilitating The Process Of 'Exit'

The Insolvency and Bankruptcy Code (IBC) has helped in the exit of distressed firms by reallocating resources to more productive use.

- As of end-September 2022, 5,893 Corporate Insolvency Resolution Processes (CIRPs) have begun, of which 67% have been closed, with 46% ending in orders for liquidation.





- Sectoral analysis reveals that 52 per cent of the ongoing CIRPs belong to industry, followed by 37 per cent in the services sector by September 2022.
- Further, within the industry, 74 percent of the initiated CIRPs were from the manufacturing sector. Of these, the textile, basic metals and food sectors accounted for 48 percent of the ongoing CIRPs.
- While in the services sector, 60 percent of the ongoing CIRPs belong to real estate, renting and business activities.

Behavioural Change: Recoding Business Relationships

The implementation of the Insolvency and Bankruptcy Code has led to a behavioral change among debtors. The fear of losing control over the CD upon initiation of CIRP has caused many to settle their debts before the initiation of insolvency proceedings.

- Until September 30, 2022, 23,417 applications for CIRP involving defaulted corporate debtors with a total value of ₹7.3 lakh crore were resolved before admission into the CIRP process.
- As of September 30, 2022, 553 CIRPs have been resolved, with 69% of distressed assets being rescued.

NPAs: IBC Recovers Highest Amount For Scheduled Commercial Banks

As per the RBI data, in FY 22, the total amount recovered by SCBs under IBC has been the highest compared to other channels such as Lok Adalat, SARFAESI Act and DRTs in this period.

DEVELOPMENT IN CAPITAL MARKETS

Primary Market	Secondary Market
A) Equity Market: Large number of SMEs coming out with the public offer 1) From April to November 2022, the primary market performed well despite turbulence in global financial markets. The number of firms opting to list on stock exchanges increased by 37% compared to the previous fiscal year. 2) In May 2022, the Indian government listed the Life Insurance Corporation (LIC) on stock exchanges, resulting in the largest initial public offering (IPO) in Indian history and the sixth largest globally in 2022. **B) Debt Market: Underactivity in public debt issuances more than compensated by private debt placements**	**A) Stock Market Performance: Indian stock market witnessing a resilient performance** 1) In April to December 2022, global stock markets suffered due to geopolitical uncertainty, but the Indian stock market performed well with the Nifty 50 index and BSE Sensex registering a 3.7% and 3.9 percent returns respectively during the same period. 2) Valuations (Price to Earning Ratio or P/E Ratio): The Nifty 50 index had a P/E ratio of 21.8 at the end of December 2022, making it expensive compared to global markets, but still lower than its own five-year average. **B) Retail Participation in the Capital Market:** 1) During April-November 2022 (FY23), the proportion of individual investors in the cash segment slightly decreased compared to the same period in FY22. However, the number of demat accounts increased significantly by 39%. **C) equity derivatives volumes witnessed a huge jump** **D) Commodity Derivatives Market: sharp correction on account of monetary tightening by the Fed** 1) The conflict between Russia and Ukraine caused disruptions in the supply of various commodities, particularly energy, base metals, and food. As a

1) Debt securities mobilization increased by 5% in the primary market during April to November 2022 compared to the previous year. 2) Public debt issues increased by 10% but the amount raised decreased by 27%. However, the drop in public debt was compensated by an increase in private debt placements with 11% more placements.	result, prices of crude oil and some base metals like nickel and aluminum experienced a sudden surge. 2) However, commodity prices experienced a sharp correction as the Federal Reserve increased interest rates in March 2022 to control rising inflation. The prices of aluminum, copper, zinc, and nickel at MCX also decreased compared to March 2022. **E) Mutual Funds witnessed lower net inflows** 1) In April-November 2022, debt-oriented and hybrid mutual fund schemes had outflows compared to the same period the previous year. 2) The outflows were due to rising interest rates, corporate liquidity needs, and tax commitments.

FOREIGN PORTFOLIO INVESTORS (FPIs)

Strong Macroeconomic Fundamentals Ensure India Remains An Attractive Destination

- Global economic factors, such as inflationary pressures, central bank monetary tightening, and recessionary fears in advanced economies, led to FPIs selling in the Indian stock market.
- Despite this, assets under custody with FPIs increased by 3.4% at the end of November 2022, due to the strong macroeconomic fundamentals of the Indian economy and improved market risk appetite. Investments by Domestic Institutional Investors (DIIs) also acted as a countervailing force against FPI outflows during recent years, rendering the Indian equity market relatively less susceptible to large scale corrections.
- Foreign Portfolio Investors recorded a net outflow of ₹16,153 crore in FY23 ending December 2022, compared to an outflow of ₹5,578 crore in the same period in FY22. Both the equity and debt segments experienced net FPI outflows.
- During FY23, there was a large outflow of capital from EMDEs like India and China and an influx of capital into commodity export-oriented markets such as Indonesia, Malaysia, and Brazil.

DEVELOPMENTS IN INSURANCE SECTOR

The insurance sector is important for economic development as it protects against risks, encourages savings, and provides long-term funding for infrastructure. Its growth is necessary to support economic transformation.

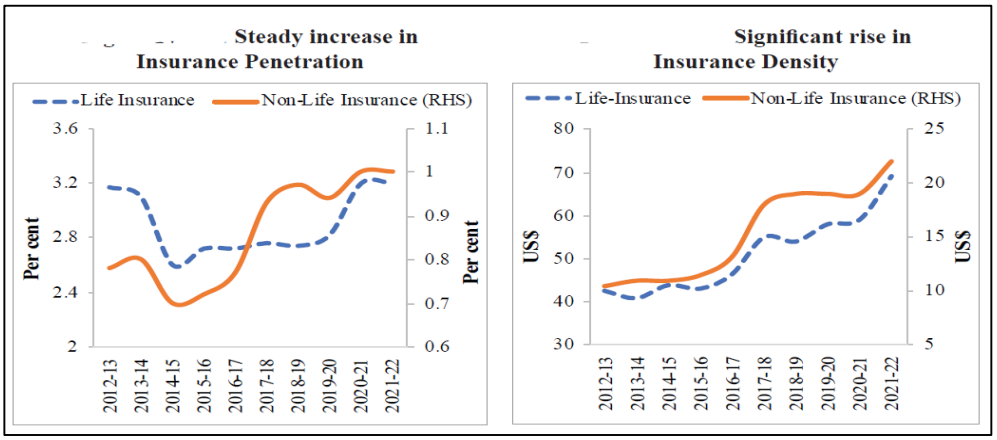
Insurance Markets Globally Have Demonstrated Remarkable Flexibility And Resilience In Overcoming The Impact Of The Pandemic

- Internationally, The insurance sector's potential and performance are measured by two parameters: 1) Insurance penetration (ratio of total insurance premiums to GDP) and 2) Insurance density (ratio of insurance premium to population).
- In 2021, global insurance premiums grew by 3.4% with the non-life insurance sector registering 2.6% growth.
- In the life insurance segment, The US remained the largest insurance market in the world, with total premiums (non-life and life) of US$ 2.8 trillion in 2021, followed by China and Japan.

India Poised To Emerge As One Of The Fastest-Growing Insurance Markets In The Coming Decade

- The insurance penetration in India increased steadily from 2.7% to 4.2% in 2021.
- The insurance density in India has increased from US$11.1 in 2001 to US$91 in 2021, reflecting the fast expansion of the insurance market in the country.

- The non-life insurance premium in India grew by 10.8% YoY in FY22, driven by the health and motor segments. The net incurred claims of non-life insurers were ₹1.4 lakh crore in FY22, due to rising per capita income, product innovations and financial literacy.



- Life insurance premium grew by 10.2% YoY in FY22, with new businesses contributing 45.5% of the total premiums. The life insurance industry paid benefits worth ₹5.02 lakh crore in FY22, with 8.3% of the benefits being death claims.
- The Insurance Regulatory and Development Authority of India (IRDAI) has issued regulations to increase insurance penetration to lower income segments in India by providing affordable insurance products. These regulations have contributed to the development and promotion of micro-insurance products in India.
- The Indian government's initiatives and financial inclusion programs have led to increased insurance adoption and penetration across all segments. Key initiatives such as the Pradhan Mantri Fasal Bima Yojana for crop insurance, Ayushman Bharat for health coverage, Pradhan Mantri Suraksha Bima Yojana, Pradhan Mantri Jeevan Jyoti Bima Yojana and Pradhan Mantri Vaya Vandana Yojana have helped to drive growth.

As per the Swiss Re Institute World Insurance: 'Inflation risks front and center report',

India is one of the fastest-growing insurance markets globally, ranking 10th in total premium volume with a market share of 1.9% and being the second largest of all emerging markets. India is expected to be one of the top six insurance markets in the world by 2032.

DEVELOPMENTS IN PENSION SECTOR

The global pension system has undergone changes, with the pension sector being substantial in advanced countries. Some countries had pension assets that exceeded 100% of the GDP, with the largest holdings in pension funds being in the US, followed by the UK and Australia.

India's Pension Sector Demonstrated Remarkable Performance During Covid-19

- The Indian government took steps to support families who lost their primary earners due to the Covid-19 pandemic. It expanded the benefits of the Employees State Insurance Corporation (ESIC) pension scheme to cover dependents of those who died from Covid-19, and increased the insurance benefits under the Employees Deposit Linked Insurance (EDLI) scheme.
- To enhance the "Ease of Living" of Central Government Civil Pensioners, an Electronic Pension Payment order (e-PPO) was integrated with Digi Locker, creating a permanent PPO record in the Digi Locker.
- The Government of India is implementing various pension schemes such as the Indira Gandhi National Old Age Pension Scheme (IGNOAPS), Indira Gandhi National Widow Pension Scheme (IGNWPS), Indira Gandhi National Disability Pension Scheme (IGNDPS) under the National Social Assistance Programme (NSAP) with a total beneficiary coverage of 4.7 crore.
- The National Pension System (NPS) was introduced in January 2004, the primary pension system for government employees with a pay-as-you-go defined benefit plan. In 2009, NPS was extended to all the citizens of the country in the age group of 18-70 years, including the unorganised sector workers (on a voluntary basis). In 2011, PFRDA launched "NPS-Corporate Sector Model" In order to ensure that an avenue

for savings is available to all sections of society, to provide NPS to the employees of corporate entities, including PSUs.

- The Government introduced APY in June 2015 as a part of the overarching objective of providing universal social security. The scheme applies to all individuals aged 18-40 years, with an emphasis on underprivileged, unorganised, and low-income individuals.
- PFRDA has undertaken various measures to ease the accessibility of NPS and APY to subscribers, such as reducing timelines for processing settlements to T+2 days. Central Recordkeeping Agencies have integrated their systems with DigiLocker to provide Subscriber Centric Services such as electronic-Pension Retirement Account Number (e-PRAN), electronic Account statements, and Aadhar & DigiLocker-based account openings.

India's pension sector provides a flexible mode of old age income-security for salaried employees and the common person. The various efforts of the regulator and the government would accelerate the movement towards a pensioned society.

OTHER DEVELOPMENTS

A) Necessity of a common approach to regulating the crypto ecosystem:

1) The recent collapse of the crypto exchange FTX and the resulting sell-off in the crypto markets have highlighted the vulnerabilities in the crypto ecosystem.

2) US regulators have classified Bitcoin, Ether, and other crypto assets as not being securities due to the lack of intrinsic cash flows. A joint statement by the Federal Reserve, FDIC, and OCC has raised concerns about the risks posed to the banking system by crypto assets.

The global response to regulation of crypto assets is evolving, and regulatory approaches vary by country.

B) IFSC – GIFT City: Emerging as a Preferred Jurisdiction for International Financial Services

1) The aim is to facilitate India to emerge as a significant economic power by accelerating the development of a strong base of International Financial Services in the country.

2) The IFSC is housed in India's first fully operational Smart City and is governed by the International Financial Services Centres Authority, established by an act of Parliament in 2019.

3) The IFSC has an internationally aligned regulatory regime, competitive tax structure, and beneficial cost of operations, which has attracted over 390 entities across the full spectrum of financial services. 4) The Global Financial Centres Index recently ranked the IFSC in GIFT City as one of the top 15 centers globally, which is expected to become more significant in the next 2-3 years.

5) In just a few years, GIFT-IFSC has become a major gateway for global capital into India and has introduced innovative financial services such as bullion trading, aircraft leasing, fintech, and sustainable financing.

6) The government is also creating a thriving knowledge economy by allowing foreign universities to set up operations and establishing a premier fintech institute in GIFT City.

7) The vision for GIFT-IFSC goes beyond traditional finance and ventures into thought leadership and innovation, transforming GIFT City into a bustling financial hub with an international character.

OUTLOOK

The Indian financial system is robust, reflected in strong bank balance sheets, capital levels in NBFCs, and growth in domestic mutual fund assets under management (AUM).The Insolvency and Bankruptcy Code (IBC) supports ease of doing business by allowing for time-bound resolutions for firms. These strengths are helping the financial system withstand external spillovers, tightening global financial conditions, and high financial market volatility. India's pension sector has potential for growth as the country's per capita income is expected to rise and its demographic structure favors accumulation.

Value Added Information
A) Inflation Target:
1) The Central Government, in collaboration with the RBI, sets the inflation target in terms of the Consumer Price Index (CPI) every 5 years. The target of 4% (+/- 2%) CPI inflation (upper limit of 6% and lower limit of 2%) was announced on August 5, 2016 (Till 2021).
2) The same inflation target and tolerance band was retained by the govt for next 5 years (until March 31, 2026).
B) Monetary policy transmission: It refers to the process by which the central bank's policy actions are transmitted to achieve the goals of inflation and economic growth.
C) G-sec Acquisition Programme (G-SAP):
1) A secondary market G-SAP was announced during the year 2021-22.
2) G-SAP involves upfront commitment to purchase a specific quantum of government securities with a view to enabling a stable and orderly evolution of the yield curve.
D) Digital Payments:
1) Unified Payments Interface (UPI) is currently the single largest retail payment system in the country in terms of volume of transactions, indicating its wide acceptance.
2) Bhutan recently became the first country to adopt UPI standards for its QR code. It is also the second country after Singapore to have BHIM-UPI acceptance at merchant locations.
3) Another digital payment solution launched in August 2021, e-RUPI is a person-specific, and purpose-specific digital voucher where it is not required for the customer to have a bank account and is operable on basic phones, even in areas which lack an internet connection.
4) The Digital Payments Index of RBI captures the extent of digitization of payments across the country.
E) NPA (Non-Performing Asset): It refers to a loan or an advance for which the borrower has not made the required payments for a specified period of time, usually 90 days. NPA is an indicator of the financial health of a lender, such as a bank, and high levels of NPAs can signal financial stress or poor lending practices.
F) The Capital to Risk-Weighted Asset Ratio (CRAR):
1) It is a financial metric that measures a bank's ability to withstand losses and maintain solvency.
2) It represents the ratio of a bank's capital to its risk-weighted assets. The CRAR indicates the amount of capital a bank holds in relation to the level of risk it is exposed to through its lending and investment activities.
3) A higher CRAR means that a bank has a larger cushion to absorb losses, while a lower CRAR suggests greater financial risk.
G) The Global Financial Centres Index: It is a ranking of the competitiveness of financial centers around the world. It is published by Z/Yen Group, a leading market strategy firm.
1) The GFCI is widely used by industry professionals, policymakers, and researchers and is considered one of the most influential rankings of financial centers.
2) The top-ranked financial centers in the GFCI include New York, London, and Hong Kong.

UPSC MAINS PYQ
1. Pradhan Mantri Jan Dhan Yojana (PMJDY) is necessary for bringing the unbanked to the institutional finance fold. Do you agree with this for financial inclusion of the poor section of Indian society? Give arguments to justify your opinion. (2016)
2. The craze for gold in Indians has led to a surge in import of gold in recent years and put pressure on the balance of payments and external value of the rupee. In view of this, examine the merits of the Gold Monetization Scheme. (2015)

5. PRICES AND INFLATION: SUCCESSFUL TIGHT-ROPE WALKING

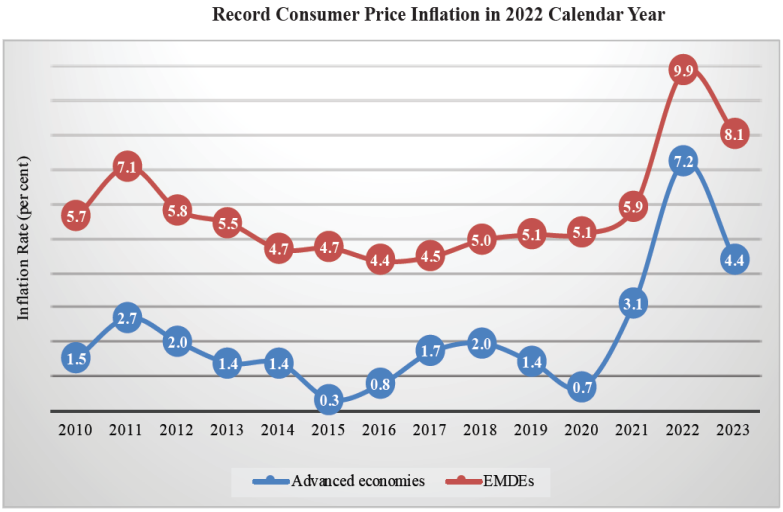
INTRODUCTION

- From 2017 to 2019, India's inflation rate has been well-behaved and lying below the RBI target rate of 4 per cent.
- In 2020, supply-side disruptions (essential goods, food, medicine etc) pushed inflation beyond the RBI's upper tolerance limit of 6 per cent. The pandemic delivered a larger shock on supply than it did on demand. This supply-chain disruptions aggravated cost-push inflation in the country.
- Post Pandemic, due to the Russia-Ukraine war, there was surging prices of crude oil and other commodities. Hence, it brought worldwide inflation (Particularly in advanced economies) . Responding to these inflation, respective central banks adopted a dear monetary policy. As the US Federal Reserve raised rates, the US dollar appreciated, making dollar-denominated fuel imports even dearer.
- The war had compounded the effects of a strong recovery in demand for goods and services after the pandemic. Inflation rates of the some of the countries are as follows:
  a) As per IMF, In advanced economies, the rate of inflation increased from 3.1 per cent in 2021 to 7.2 per cent in 2022 which is highest since 1982.
  b) The inflation rate in Emerging Markets and Developing Economies (EMDEs) is anticipated to have increased from 5.9 per cent in 2021 to 9.9 per cent in 2022 (WEO, October 2022).
  c) The US inflation reached its 40-year high at 9.1 per cent in June 2022 before moderating to 6.5 per cent in December 2022.
  d) Turkey's inflation was above 80 per cent from August to November 2022 before declining slightly to 64.3 per cent in December 2022.

Additional Information

As per IMF classification, Advanced Economies include 40 economies and EMDEs include 156 economies.

- India and Inflation: India's inflation rate peaked in April 2022 at 7.8 per cent before moderating to 5.7 per cent in December 2022. The rising phase was largely due to the fallout of the Russia-Ukraine war and a shortfall in crop harvests due to excessive heat in some parts of the country. However, due to Prompt and adequate measures taken by the Government of India and the Reserve Bank of India (RBI), rising inflation rate brought within the Central Bank's tolerance limit.

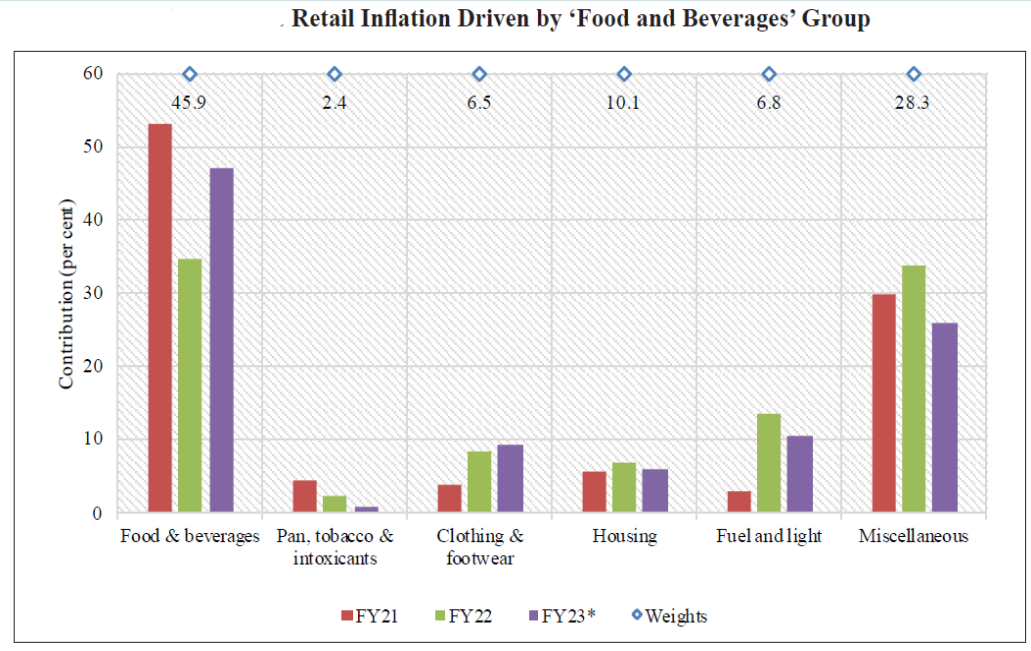


To sum up, In India, the government and the central bank took decisive measures to cap the rise in prices. In contrast, major Western countries, which pumped stimulus during the pandemic periods, continue to grapple with high levels of inflation.

DOMESTIC RETAIL INFLATION

Despite the three shocks of COVID-19 and Russian-Ukraine conflict, the Central Banks across economies led by the Federal Reserve responded with synchronised policy rate hikes to curb inflation. This led to appreciation of the US

Dollar and the widening of the Current Account Deficits (CAD) in net importing economies. The worldwide agencies continue to project India as the fastest-growing major economy at 6.5-7.0 per cent in FY23.

FY22	**A) Headline Inflation (base: 2012) Declined from its Peak:** FY22 witnessed lower CPI-Combined (CPI-C) based retail inflation as compared to FY21.
For FY23	In FY23, retail inflation was mainly driven by higher food inflation (From 4.2 per cent to 8.6 per cent), while core inflation stayed at a moderate level (around 6 per cent except in April 2022).  **A) Retail Inflation Driven by Food Commodities:** 1) During FY23, 'food & beverages', 'clothing & footwear', and 'fuel & light' were the major contributors to headline inflation. **B) Food Inflation Caused by Vegetables and Cereals in FY23:** 1) Food inflation based on the Consumer Food Price Index (CFPI) climbed to 7.0 per cent (major contributors are vegetables, cereals, milk and spices) in FY23 from 3.8 per cent in FY22. 2) High inflation in vegetables from April to September 2022 was mainly due to a spike in prices of tomatoes owing to crop damage and supply disruption due to the unseasonal heavy rains in the major producing states of Karnataka, Tamil Nadu, Andhra Pradesh, and Telangana. 3) To insulate vulnerable sections from the rise in prices, the Government has launched a new integrated food security scheme, 'Pradhan Mantri Garib Kalyan Ann Yojana' on 1 January 2023, to provide free foodgrains to more than 80 crore beneficiaries. **C) Rural-Urban Inflation Differential has Declined:** 1) Rural inflation has remained above its urban counterpart throughout the current fiscal year, reversing the trend seen during the pandemic years. 2) While the current fiscal year saw rural and urban inflation closely tracking each other, FY22 had seen a wider differential between the two. **D) Majority of the States/UTs have Higher Rural Inflation than Urban Inflation:** 1) CPI-C inflation increased in most of the states in FY23 as compared to FY22. Fuel and clothing were the major contributors to the surge in inflation. 2) Most of the States and UTs have witnessed higher rural inflation than urban inflation in the current year, mainly owing to marginally higher food inflation in rural areas.

Inflation Caused By Edible Oils

India meets 60 per cent of its edible oils demand through imports, making it vulnerable to international movements in prices. For instance, sunflower oil, which makes up 15 percent of our total edible oil imports, is procured mainly from Ukraine and Russia.

1) For FY22: International prices of edible oils surged in FY22 owing to a shortfall in global production and an increase in export tax levies by various countries. Thus, FY22 saw edible oil inflation on account of international price pressures.

2) For FY 23: However, inflation remained subdued in FY23 because of rationalisation of tariffs and the imposition of stock limits on edible oils and oil seeds.

Measures to Contain Inflation in Essential Food Commodities

The government keeps a close watch on the production and availability of essential commodities through regular reviews by the Inter-Ministerial Committee and Committee of Secretaries. Different ways to keep check on inflation are as follows:

- Prohibition on export or export with certain restrictions in order to prevent a domestic surge in prices.
- Increase in export duty or reduction of import duty (or import under the Free Category)
- Reduction (or nil) of the Agriculture Infrastructure and Development Cess (AIDC)
- Exemption on customs duty or Reduction in the basic duty
- Notification as an Essential Commodity under the Essential Commodities Act,1955.
- Imposition of stock limits under 'Stock Limits and Movement Restrictions on Specified Foodstuffs Order, 2016'
- Directive to ensure a reduction in the maximum retail price.

DOMESTIC WHOLESALE PRICE INFLATION (Base: 2011-12)

Wholesale Price Inflation Caused by Global Supply Chain Disruption

- WPI-based inflation remained low during the Covid-19 period. After the Pandemic, The Russia-Ukraine conflict further exacerbated the burden as it worsened global supply chains along with the free movement of essential commodities. As a result, the wholesale inflation rate climbed to about 13.0 per cent in FY22.
- Part of WPI inflation is imported inflation. The high import dependence on items (petroleum products, basic metals, chemicals & chemical products, and edible oils) with maximum exposure to international pricing translated into a rise in the domestic WPI inflation.
- Capital outflows in FY23 (First Half) had impacted India's exchange rate adversely; this was another reason for high prices of imported inputs, which are mostly dollar-denominated.

Average Annual Wholesale Inflation Based on WPI (per cent) (Base: 2011-12=100)

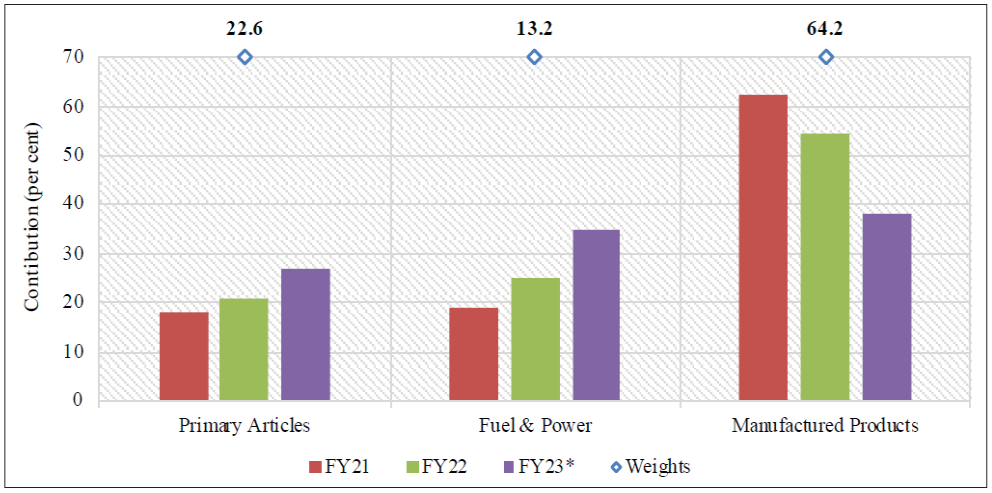
Groups/Subgroups	Weight	FY20	FY21	FY22	FY23*
Primary Articles	**22.6**	**6.8**	**1.7**	**10.3**	**12.3**
Food articles	**15.3**	**8.4**	**3.1**	**4.1**	**8.3**
Cereals	2.8	7.5	-2.6	1.6	10.7
Pulses	0.6	15.9	11.6	6.9	0.0
Vegetables	1.9	31.2	3.4	0.4	13.2
Fruits	1.6	3.2	1.4	11.3	10.4
Non-Food Articles	**4.1**	**4.5**	**1.4**	**21.1**	**12.0**
Minerals	0.8	13.2	6.7	19.6	6.2
Crude Petroleum & Natural Gas	**2.4**	**-7.7**	**-17.5**	**56.7**	**57.7**
Fuel & power	**13.2**	**-1.8**	**-8.0**	**32.6**	**33.8**
LPG	0.6	-8.3	-2.7	43.3	16.9
Petrol	1.6	-3.2	-11.8	62.9	41.9
High Speed Diesel	3.1	-3.5	-14.4	59.9	60.8
Manufactured Products	**64.2**	**0.3**	**2.7**	**11.1**	**7.1**
Food products	**9.1**	**4.1**	**5.6**	**11.7**	**6.0**
Edible oils	2.6	1.4	20.3	30.5	1.4
Food Inflation (Food articles + Food products)	***24.4***	***6.9***	***3.9***	***6.8***	***7.5***
Core Inflation (Manufactured Products-Food products)	***55.1***	***-0.4***	***2.2***	***11.0***	***9.2***
Headline Inflation	***100***	***1.7***	***1.3***	***13.0***	***11.5***

FUEL PRICE INFLATION: DECLINING GLOBAL CRUDE OIL PRICES

In FY22 and FY23, inflation in WPI 'fuel and power' was mostly driven by high international crude oil prices. There was a fluctuations in Global Crude Oil Prices due to following reasons:

- Decline in prices (US$20-65/bbl) Subdued global demand because of Covid-19 induced restrictions
- Surging prices (US$116/bbl) because of unprecedented cuts in crude oil supply by the Organisation of the Petroleum Exporting Countries (OPEC) and other oil producing countries and also due to supply disruption amid rising tensions in Eastern Europe and the Middle East in June 2022.
- Subsequently, the price declined to US$ 78/bbl in December 2022 due to a cut in central excise duty on petrol and diesel in November 2021 and May 2022. This is followed by a reduction in Value Added Tax (VAT) by the State Governments, leading to a moderation of the retail selling price of petrol and diesel in India.

Drivers of Wholesale Inflation in FY23* – 'Primary Articles' & 'Fuel & Power'



CONVERGENCE OF WPI AND CPI INFLATION

The pass-through of international prices to wholesale prices is relatively quick, it impacts retail prices with a lag. Usually due to various domestic and global factors and difference in composition and weights assigned to different commodities , there is a visible difference between WPI and CPI inflation rates. However, The convergence between the WPI and CPI indices was mainly driven by two factors which are as follows:

1) **Decrease in WPI Inflation:** A cooling in inflation of commodities such as crude oil, iron, aluminum and cotton led to a lower WPI. These commodities occupy a larger weight in the WPI as compared to the CPI.

2) **Increase in CPI Inflation:** CPI inflation rose due to an increase in the prices of services. Services form a part of the core component of the CPI-C but are not included in the WPI basket.

FALLING INFLATIONARY EXPECTATION

Inflationary expectations are decisive in charting the course of inflation. The RBI's anchoring of inflationary expectations through forward guidance and responsive monetary policy has helped guide the trajectory of inflation in the country.

- **Inflationary expectations by businesses:** . As businesses are price-setters, their perceptions on inflation are significant in making sense of whether costs would be passed on, resulting in higher prices in the near future.
- **Inflationary expectations by households:** households- who are the price takers of the economy- determine their consumption choices in the near future.

Much like businesses, household inflation expectations too have moderated.

MONETARY POLICY MEASURES FOR PRICE STABILITY

Reserve Bank of India's Monetary Policy Committee (MPC) increased the policy repo rate under the liquidity adjustment facility (LAF) by 2.25 per cent (225 basis points) from 4.0 percent to 6.25 percent between May and December 2022.

How Is The Current Inflation Different From The 1970s?

Unprecedented global inflation in the current year recalls the experience of the 1970's, particularly the aftermath of the oil crises in 1973 and 1979. Both crises contributed to rising commodity prices worldwide and their spill-over effects on the prices of other goods and services. However, the environment and intensity of the crises differ in various respects which are as follows:

1970s Inflation	Current Global Inflation
Inflation confined to oil prices only	Price increase across a broader range of commodities (non-oil energy, some agricultural goods, fertilisers, and metals)
Smaller role of commodity supply disruptions	Global commodity supply chains have now become more efficient than in the 1970s. However, supply disruptions could intensify over the coming year, as the war in Ukraine will lower global production of wheat, maize and fertilisers.
The 1973 crisis took place against a backdrop of several years of steadily rising world inflation and signs of a de-anchoring of inflation expectations.	After several years of low inflation, global inflation has risen significantly since the start of 2021.
The 1973 crisis closely followed the collapse of the Bretton Woods managed exchange rate regime as the goals and even instruments of monetary policy were poorly defined in many countries.	Central banks have much clearer and more robust institutional frameworks that focus on price stability today. This has prevented inflation expectations of the public from becoming unanchored despite a sharp rise in inflation during the year 2022.

With better coordination among the global central banks and the application of unconventional monetary policy tools, inflation has been controlled in a better way so that its negative spillovers are limited.

Hence, we may expect recent commodity price rises to be less disruptive than those of the 1970s.

HOUSING PRICES: RECOVERING HOUSING MARKET AFTER THE PANDEMIC

Housing prices provide helpful information on the state of the economy via booms and busts in asset markets, which give rise to economic imbalances. Monitoring housing prices is essential for achieving the objectives of price stability, financial stability, and growth.

The National Housing Bank (NHB) publishes two Housing Price Indices (HPI), namely 1) 'HPI assessment price' and 2) 'HPI market price quarterly', with FY18 as the base year. A composite index (RESIDEX) is calculated for 50 cities across India using the population of the cities as weights.

HPI Assessment Price	HPI Market Price
Based on the valuation prices of residential units collected from primary lending institutions	Based on the market prices for unsold inventories collected from developers
The annual change in HPI assessment price varied widely across the cities ranging from an increase of 20.2 per cent in Gandhinagar to a decline of 2.3 per cent in Bhiwadi in the QE Sept 22 over QE Sept 21.	The annual variation in HPI market price ranged from an increase of 37.7 per cent in Bhubaneshwar to a contraction of 6.5 per cent in Indore in the Quarter Ending (QE) Sept 22 over QE Sept 21.

The Covid-19 crisis significantly impacted the residential real estate market. However, timely policy intervention by the government coupled with low home loan interest rates propped up demand and attracted buyers more readily in the affordable segment in FY23.

All of the eight major metros of the country, viz Ahmedabad, Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Mumbai and Pune, recorded increases in the both index on an annual basis. Hence, The overall increase in composite HPI assessment and HPI market prices indicates a revival in the housing finance sector.

NHBs Support To The Housing Finance Sector (HFC)

The last three years were challenging for the housing sector. NHB has provided a significant impetus to obviate the liquidity issues faced by the Housing Finance Sector in the last 3 years.

- **The Liquidity Infusion Facility Scheme:** It was launched in 2019 to support HFCs in creating individual housing loan portfolios that fall under the priority sector, as defined by the RBI.
- **Special Refinance Facility (SRF):** It was launched during the COVID-19 pandemic for disbursing an amount of `10,000 crore provided by RBI under the Special Liquidity Facility.
- **Support to Commitment of COP26:** In view of the nation's commitment at COP26 to reach net-zero emission by 2070, NHB has extended 100 bps concession for loans under Green Housing.
- **Concession and refinance for Vulnerable Section and Aspirational Districts/Harsh Area:**

As a part of the Azadi Ka Amrit Mahotsav (AKAM), NHB has extended concessions of 25/30 basis points under refinance for the various categories. It includes women, rural areas, SC/ ST, aspirational districts, north-eastern region, loans to third gender/differently abled/disabled, UTs of Jammu & Kashmir and Ladakh, and green housing.

KEEPING CHECK ON PHARMACEUTICAL PRICES

The principles for the regulation of the prices of drugs are based on the National Pharmaceuticals Pricing Policy, 2012. The key principles of the policy are the essentiality of drugs, control of formulation prices and market-based pricing.

- Until 31 December 2022, ceiling prices for 890 formulations of 358 drugs/medicines across various therapeutic categories under National List of Essential Medicines (NLEM), 2015 have been fixed by National Pharmaceuticals Pricing Authority.
- Subsequently, NLEM 2022 was promulgated by the Ministry of Health and Family Welfare in September 2022. The Ministry also revised the Schedule I of Drugs (Prices Control) Order (DPCO) which was notified on 11 November 2022 by the Department of Pharmaceuticals incorporating NLEM, 2022.
- Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP): This scheme was launched to make quality generic medicines available at affordable prices to all. dedicated outlets known as Janaushadhi Kendras are opened. It also provides self-employment with sustainable and regular earnings opportunities. Until 31 December 2022, the product basket of PMBJP comprises 1759 medicines and 280 surgical devices available for sale

CONCLUSION

- In FY 23: Both CPI-C and WPI have fallen below 6 per cent (which is the RBI tolerance limit for the former)
- For FY 24: RBI projects CPI inflation for Q1 - FY24 at 5.0 per cent and for Q2 -FY24 at 5.4 per cent on the assumption of a normal monsoon.

India's inflation management has been particularly noteworthy and can be contrasted with advanced economies that are still grappling with sticky inflation rates. Due to the anticipated slowdown in advanced economies, inflation risks coming from global commodity prices are likely to be lower in FY24 than in FY23.

Value Added Information
A) Supply side constraints:
1) It simply means that production in the economy is unable to keep pace with rising demand due to a variety of factors such as inadequate infrastructure, lack of credit, availability of labour and availability of technology.
2) When the aggregate supply of goods and services decreases because of an increase in production costs (Due to supply side constraints), it results in cost-push inflation.
3) Given the importance of supply-side factors in having a predominance in determining inflation in India, long-term policies like Changing Production Patterns, Calibrated Import Policy and Transportation and Storage Infrastructure For Perishable Commodities are likely to help.
B) Headline & Core Inflation:
1) A measure of the total inflation that is experienced throughout an entire economy. In contrast, the core CPI, which is used to measure core inflation excludes price fluctuations in the food and energy sector due to their seasonal or volatile movements.
2) A 'refined' core inflation was constructed by excluding main fuel items viz., 'petrol for vehicle', 'diesel for vehicle' and 'lubricants and other fuels for vehicles',
C) Retail Inflation:
1) The rate of inflation often refers to the rate of inflation based on the consumer price index (CPI). The CPI tracks **the change in retail prices of goods and services** which households purchase for their daily consumption.
2) Retail inflation, as measured by Consumer Price Index-Combined (CPI-C) inflation in India.
D) Food Inflation & Its measurement:
1) There are two indices for measuring food inflation. The first is the food price index calculated from food items that comes under the WPI, and the second one is the Consumer Food Price Index (CFPI) by CSO.
2) Consumer Food Price Index (CFPI, Launched in early 2014) is a measure of change in retail prices of food items consumed by the population. Under the CSO's CFPI, the index gives food price level changes for rural, urban and all India basis. The base year used in CFPI is 2012 as in the case of CPI.
E) Subsidy Regime:
1) Prices of LPG in India are based on Saudi Contract Price (CP), the benchmark for international prices of LPG.
2) LPG subsidy is governed under Direct Benefit Transfer for LPG consumers (DBTL) scheme, wherein the subsidy on domestic LPG is regulated based on direction of price trends in the international market.
3) Kerosene is distributed through PDS and is sold at market price with zero central subsidy.

UPSC MAINS PYQ
1. Investment in infrastructure is essential for more rapid and inclusive economic growth." Discuss in the light of India's experience. (2021)
2. Do you agree with the view that steady GDP growth and low inflation have left the Indian economy in good shape? Give reasons in support of your arguments. (2019)
3. In what way could replacement of price subsidy with Direct Benefit Transfer (DBT) change the scenario of subsidies in India? Discuss. (2015)

6. SOCIAL INFRASTRUCTURE AND EMPLOYMENT: BIG TENT

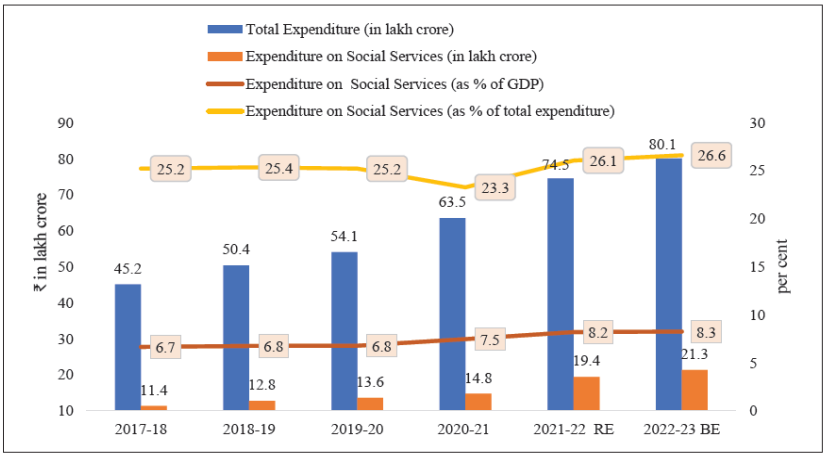
INTRODUCTION

- The years 2020 and 2021 were the peak years of the pandemic, which tested the strength of the country's social and health infrastructure, hampering education, loss of job opportunities, etc. Several measures were taken to meet the growing needs of the health pandemic during this time, extending into 2022.
- FY23 has been a year of rejuvenation for the sector, having withered the storm of the pandemic and come out stronger. Various dimensions of the sector are recouping lost grounds and are on the path of reenergising to meet the vision of "*sabka sath, sabka vikas and sabka vishwas*".
- India is entering the Amrit Kaal with better-equipped schools, affordable healthcare, increasing formal employment, empowered women's collectives, and far-reaching access to basic amenities such as sanitation, drinking water and electricity.

SOCIAL SECTOR EXPENDITURE KEEPING PACE WITH GROWING IMPORTANCE OF THE SECTOR

- The share of expenditure on social services in the total expenditure of the Government has increased to 26.6 per cent in FY23 (BE).
- The social services expenditure witnessed an increase of 8.4 per cent in FY21 over FY20 and another 31.4 per cent increase in FY22 over FY21, being the pandemic years, which required enhanced outlay, especially in the health and education sectors.
- The share of expenditure on health in the total expenditure on social services, has increased from 21 per cent in FY19 to 26 per cent in FY23 (BE).
- Also, the Fifteenth Finance Commission had recommended that public health expenditure of Union and States together should be increased in a progressive manner to reach 2.5 per cent of GDP by 2025.

Trends in social service sector expenditure by General Government (Combined Centre and States)



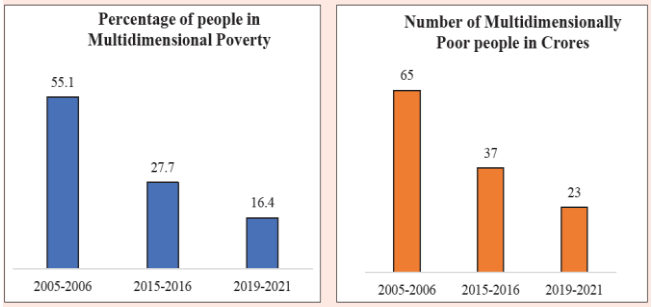
IMPROVING HUMAN DEVELOPMENT PARAMETERS

- 'Human Development' is the key enabler for upward social mobility.
- According to United Nations Development Programme (UNDP) report, India ranked 132 out of 191 countries and territories in the **2021/2022 HDI report**. However, India's HDI value continues to exceed South Asia's average human development.
- On the parameter of gender inequality, India's Gender Inequality Index (GII) value is 0.490 in 2021 and is ranked 122. This score is better than that of the South Asian region (value: 0.508) and close to the world average of 0.465. This reflects the Government's initiatives and investments towards more inclusive growth, social protection, and gender-responsive development policies.
- Generally, poverty is primarily measured in terms of lack of monetary means for a decent living. The 2022 report of the UNDP on **Multi-Dimensional Poverty Index (MPI)** shows that 16.4 per cent of the population in

India (228.9 million people in 2020) is multidimensionally poor while an additional 18.7per cent is classified as vulnerable to multidimensional poverty (260.9 million people in 2020).

India's position and trends in the Global HDI 2021

	HDI 2021		HDI Rank 2020	Life expectancy at birth (years)	Expected years of schooling (years)	Mean years of schooling (years)	Gross national income per capita (2017 PPP $)
	Rank	Value					
Switzerland	1	0.962	3	84.0	16.5	13.9	66,933
Norway	2	0.961	1	83.2	18.2	13.0	64,660
United Kingdom	18	0.929	17	80.7	17.3	13.4	45,225
Japan	19	0.925	19	84.8	15.2	13.4	42,274
United States	21	0.921	21	77.2	16.3	13.7	64,765
China	79	0.768	82	78.2	14.2	7.6	17,504
Brazil	87	0.754	86	72.8	15.6	8.1	14,370
South Africa	109	0.713	102	62.3	13.6	11.4	12,948
Indonesia	114	0.705	116	67.6	13.7	8.6	11,466
India	**132**	**0.633**	**130**	**67.2**	**11.9**	**6.7**	**6,590**
South Asian region		0.632		67.9	11.6	6.7	6,481
World average		0.732		71.4	12.8	8.6	16,752



Source: UNDP Report on Multidimensional Poverty, 2022

TRANSFORMATION OF ASPIRATIONAL DISTRICTS PROGRAMME

- It was launched in January 2018 with a vision of a New India by 2022.
- The focus is to raise living standards of its citizens and ensuring inclusive growth of all in the burgeoning economy.
- 117 Aspirational Districts (ADs) across 28 States/UTs have been identified by NITI Aayog based upon composite indicators ranging from health and nutrition, education, agriculture, and water resources, financial inclusion and skill development, and basic infrastructure which have an impact on HDI.
- The broad contours of the programme are Convergence (of Central & State Schemes), Collaboration (of Central, State level Nodal Officers & District Collectors), and Competition among districts through monthly delta ranking; all driven by a mass movement.
- **Achievements:**
  - Many ADs have surpassed the average state values in several indicators under the Health and Nutrition theme monitored under the programme.
  - ADs have performed better than non-aspirational districts.
  - Several ADs have reported saturation in the basic infrastructure indicators like:
    - The percentage of households with electricity connection;
    - Percentage of habitations with access to all-weather roads under Pradhan Mantri Gram Sadak Yojana (PMGSY);
    - Cumulative number of kilometres of all-weather road work completed as a percentage of total sanctioned kilometres in the district under PMGSY;
    - Percentage of households with individual household washrooms, etc.
- The ADP has emerged as a template for good governance, especially in remote and difficult areas. At present, two programmes have been conceptualised along the lines of ADP design, one is 'Mission Utkarsh' and the other is 'Aspirational Blocks Programme' (ABP).

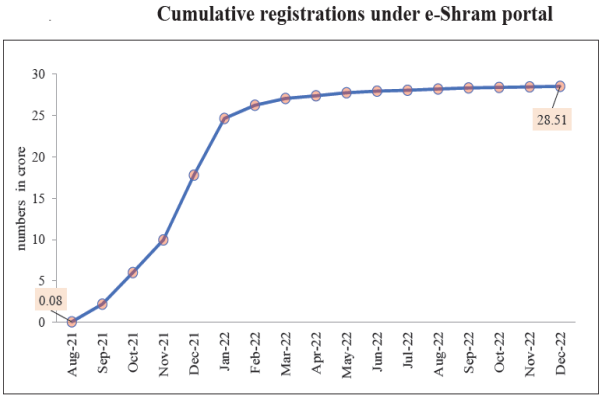
PROGRESSING LABOUR REFORM MEASURES

- In 2019 and 2020, 29 Central Labour Laws were amalgamated, rationalised, and simplified into four Labour Codes, *viz.,* the Code on Wages, 2019 (August 2019), the Industrial Relations Code, 2020, the Code on Social Security, 2020, and the Occupational Safety, Health & Working Conditions Code, 2020 (September 2020).
- They ease compliance mechanism aiming to promote ease of doing business/setting up of enterprises and catalyse creation of employment opportunities while ensuring safety, health and social security of every worker.

- Use of technology, such as, web-based Inspection has been introduced in order to ensure transparency and accountability in enforcement.
- Decriminalisation of minor offences has also been provided in the Labour Codes.

e-Shram portal

- Developed by Ministry of Labour and Employment (MoLE) portal for creating a National database of unorganised workers, which is verified with Aadhaar.
- It captures details of workers like name, occupation, address, occupation type, educational qualification, and skill types etc., for the optimum realisation of their employability and extend the benefits of the social security schemes to them.
- It is the first-ever national database of unorganised workers, including migrant workers, construction workers, gig and platform workers, etc.



- Currently, e-Shram portal has been linked to NCS portal and ASEEM portal for seamless facilitation of services.

AADHAAR: THE MANY ACHIEVEMENTS OF THE UNIQUE IDENTITY

- Aadhaar, a 12-digit unique identification number provides a digital identity to the residents of India and ensures authentication.
- It connects the Government and the individual, replacing the disentangled web of multiple IDs for multiple purposes, and secures the social contract between the State and the Citizen.

Achievements

- It is an essential tool for social delivery by the State.
- Aadhaar Generated- 135.2 crore Aadhaar Updated- 71.1 crore
- Authentication Done- 8621.2 crore
- eKYC Done-1350.2 crore
- 75.3 crore residents have linked their Aadhaar with ration cards to avail of ration
- 27.9 crore residents linked Aadhaar with cooking gas connection for LPG subsidy
- 75.4 crore bank accounts are linked with Aadhaar & 1549.8 crore transactions via Aadhaar Enabled Payment Systems
- **Key Usage**:
  - ***Aadhaar – Usage in DBT**:* When linked with a bank account, an Aadhaar becomes the 'Financial Address' of an individual, which helps to accomplish the country's goal of financial inclusion.
  - ***Aadhaar Enabled Payment Systems (AEPS):*** helps an individual to do basic banking transactions, viz. withdrawal, cash deposit, transfer of funds from his bank account, etc., by simply using his Aadhaar.
  - ***JAM (Jan-Dhan, Aadhaar, and Mobile*)** trinity, combined with the power of DBT, has brought the marginalised sections of society into the formal financial system, revolutionising the path of transparent and accountable governance by empowering the people.
  - ***One Nation One Ration Card (ONORC) Scheme*:** Grain disbursal through Aadhaar-based Biometric Authentication has brought meaningful transparency and back-office improvement of the logistic network of PDS. Free distribution of food grains under 'Pradhan Mantri Garib Kalyan Yojana' (PMGKY) has greatly

mitigated the Covid pandemic's impact, especially for the weakest and most vulnerable sections of society.

- ***PM Kisan Samman Nidhi:*** Aadhaar platform forms the backbone for the implementation of this scheme, right from registration through Aadhaar eKYC to DBT through the APB.
- ***Co-WIN:*** Aadhaar played a vital role in developing the Co-WIN platform and in the transparent administration of over 2 billion vaccine doses.
- ***Face Authentication:*** The use of face has helped, especially the elderly, to get 'Jeevan Praman' through their smartphones to avail of pension.

The Aadhaar Ecosystem

- 66,103 Aadhaar counters and 34,834 Child Enrolment Lite Client devices are functional.
- 180 Active Registrars.
- 507 Active Enrolment Agencies.
- UIDAI run 88 Aadhaar Sewa Kendra are functional in 72 cities.
- 15,002 Village Level Entrepreneurs operational as Banking Correspondents permitted to undertake Aadhaar updates services.
- Around 53,750 postmen/Grameen Dak Sewaks under India Post Payment Bank have been approved to provide mobile number update facility.
- 178Aadhaar User Agencies.
- 169 e-KYC user agencies.

IMPROVING EMPLOYMENT TRENDS

- The broad-based improvement in employment indicators can be observed in data covering both the supply side and demand side of the labour market.
- Labour markets have recovered beyond pre-Covid levels, in both urban and rural areas, with unemployment rates falling from 5.8 per cent in 2018-19 to 4.2 per cent in 2020-21, and a noticeable rise in rural FLFPR from 19.7 per cent in 2018-19 to 27.7 per cent in 2020-21.
- More recent urban employment data shows progress beyond pre-pandemic levels as the unemployment rate declined from 8.3 per cent in July-September 2019 to 7.2 per cent in July-September 2022.
- **Supply Side Of Employment:** ***Annual Periodic Labour Force Survey***
  - As per usual status, the labour force participation rate (LFPR), worker population ratio (WPR) and unemployment rate (UR) in PLFS 2020-21(July-June) have improved for both males and females in both rural and urban areas compared to PLFS 2019-20 and 2018-19.
  - Region-wise, while rural labour market indicators have been improving for both males and females, the urban labour market is slightly behind pre-Covid levels in 2020-21 (July-June).
  - The share of self-employed increased and that of regular wage/salaried workers declined in 2020-21 vis-à-vis 2019-20, driven by trend in both rural and urban areas. The share of casual labour declined slightly, driven by rural areas.
  - Based on the industry of work, the share of workers engaged in agriculture rose marginally from 45.6 per cent in 2019-20 to 46.5 per cent in 2020-21, the share of manufacturing declined faintly from 11.2 per

cent to 10.9 per cent, the share of construction increased from 11.6 per cent to 12.1 per cent, and share of trade, hotel & restaurants declined from 13.2 per cent to 12.2 per cent, over the same period.

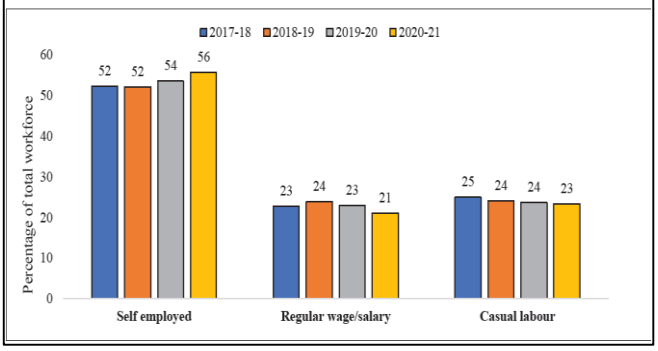
Employment trends as per usual status
(principal status + subsidiary status) for persons of all ages

(per cent)

		Rural			Urban			Rural + Urban		
		2018-19	2019-20	2020-21	2018-19	2019-20	2020-21	2018-19	2019-20	2020-21
Male	LFPR	55.1	56.3	57.1	56.7	57.8	58.4	55.6	56.8	57.5
	WPR	52.1	53.8	54.9	52.7	54.1	54.9	52.3	53.9	54.9
	UR	5.6	4.5	3.9	7.1	6.4	6.1	6.0	5.1	4.5
Female	LFPR	19.7	24.7	27.7	16.1	18.5	18.6	18.6	22.8	25.1
	WPR	19.0	24.0	27.1	14.5	16.8	17	17.6	21.8	24.2
	UR	3.5	2.6	2.1	9.9	8.9	8.6	5.2	4.2	3.5
Person	LFPR	37.7	40.8	42.7	36.9	38.6	38.9	37.5	40.1	41.6
	WPR	35.8	39.2	41.3	34.1	35.9	36.3	35.3	38.2	39.8
	UR	5.0	4.0	3.3	7.7	7.0	6.7	5.8	4.8	4.2

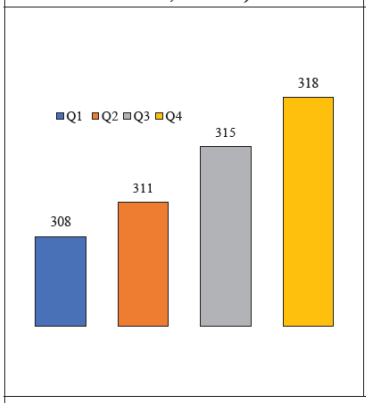
Source: Annual PLFS 2017-18 to 2020-21, MoSPI

Trends in broad employment status *(Persons, rural+urban)*

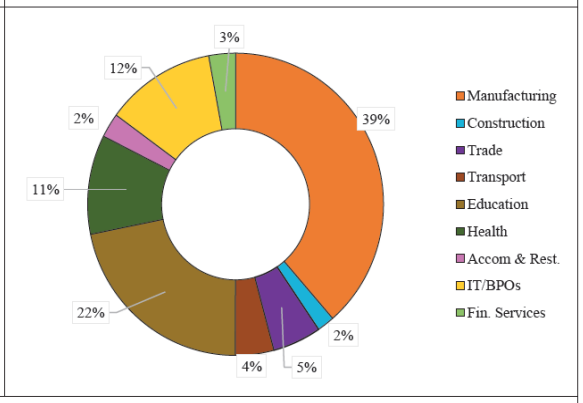


- **Demand Side Of Employment: *Quarterly Employment Survey (QES)***
  - The QES, conducted by the Labour Bureau, covers establishments with ten or more workers in nine major sectors viz. manufacturing, construction, trade, transport, education, health, accommodation & restaurants, IT/BPOs, and financial services.
  - Regarding terms of employment:
    - ✓ Regular employees constituted the majority of workers across sectors, with a share of 86.4 per cent in the total workforce in Q4FY22.
    - ✓ Contractual employees formed a relatively small proportion of the workforce in these nine sectors, except Manufacturing (12.4 per cent) and Construction (19.0 per cent).
    - ✓ Gender-wise, 31.8 per cent of the total estimated employed are women and 68.2 per cent are men.

Estimated Number of Workers according to QES *(in FY22 , in lakh)*



Sector-wise share of total employment according to QES *(in Q4 FY22; in percentage)*



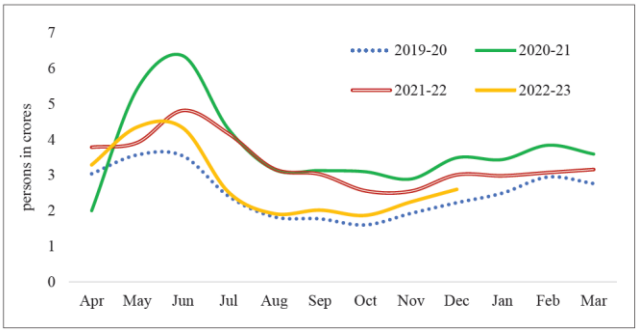
Source: QES Reports, Labour Bureau

- **Annual Survey Of Industries (ASI) 2019-20**
  - The ASI, conducted by MoSPI, is an important source of industrial statistics of the registered organised manufacturing sector of the economy. It covers all factories employing ten or more workers using power; and those employing twenty or more workers without using power.
  - As per the latest ASI FY20, employment in the organised manufacturing sector has maintained a steady upward trend over time, with the employment per factory increasing gradually.
  - In terms of share of employment (total persons engaged), the food products industry (11.1 per cent) remained the largest employer, followed by wearing apparel (7.6 per cent), basic metals (7.3 per cent), and motor vehicles, trailers, and semi-trailers (6.5 per cent).

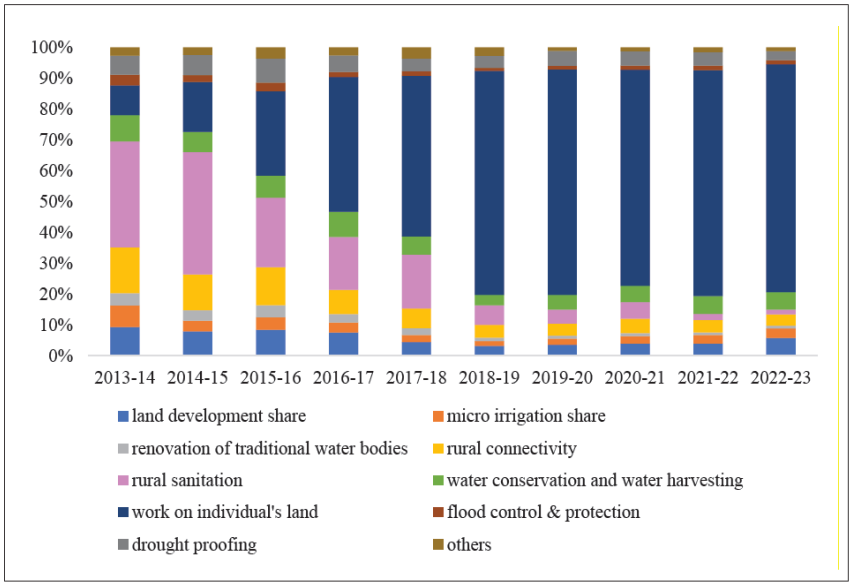
- **Formal Employment**
  - Organised sector job market conditions measured by payroll data for Employees' Provident Fund Organisation (EPFO) and Employees' State Insurance Corporation (ESIC) reveal the benefits of the government initiatives towards improvement in the labour market.
  - EPFO data indicates a consistent YoY increase in payroll addition, pointing towards improved formalisation as economic activities picked up.
  - In FY23, net average monthly subscribers added under EPFO increased from 8.8 lakh in April-November 2021 to 13.2 lakh in April-November 2022.
  - The swift rebound of formal sector payroll addition can be attributed to the Aatmanirbhar Bharat Rojgar Yojana (ABRY) to boost the economy, increase the employment generation in post Covid-19 recovery phase, and to incentivise creation of new employment along with social security benefits and restoration of employment lost during the pandemic.
  -

- **Demand For Work Under MGNREGS**
  - The number of persons demanding work under MGNREGS was seen to be trending around pre-pandemic levels from July to November 2022. This could be attributed to the normalisation of the rural economy due to strong agricultural growth and a swift recovery from Covid induced slowdown, culminating in better employment opportunities.
  - In FY23, as on 24 January 2023, 6.49 crore households demanded employment under MGNREGS, and 6.48 crore households were offered employment out of which 5.7 crore availed employment.
  - The works include creating household assets such as animal sheds, farm ponds, dug wells, horticulture plantations, vermicomposting pits etc., in which the beneficiary gets both labour and material costs as per standard rates. This has long-term implications for aiding income diversification and infusing resilience into rural livelihoods.

Number of persons demanding work under MGNREGS



Share of completed works under MGNREGS *(by count)*



- **National Career Service(NCS):** It works towards bridging the gap between candidates and employers; candidates seeking training and career guidance and agencies providing training and career counselling. NCS portal has a job fair module to streamline the process of job fair activity on a single online platform by engaging all stakeholders i.e. model career centres, nodal officers, job seekers and employers. It is also supported by a dedicated helpline (multi-lingual) for assisting users.

- **The Trend In Rural Wages**
  - Nominal rural wages have increased at a steady positive rate during FY23 (till November 2022).

- The YoY rate of growth of nominal wage rates in agriculture was 5.1 per cent for men and 7.5 per cent for women, during the period April-November 2022.
- In non-agricultural activities, the growth of nominal wage rates was 4.7 per cent for men and 3.7 per cent for women, during the same period.
- Growth in real rural wages has been negative due to elevated inflation.
- As inflation is expected to soften with the easing of international commodity prices and domestic food prices, it is expected that this will translate into a rise in real wages.

ENSURING QUALITY EDUCATION FOR ALL

- "Quality Education" which is enlisted as Goal 4 under UN SDGs (SDG4), aims to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030. This goal is of critical importance because of the transformative effects that it can have on most other SDGs, such as "no poverty", "zero hunger", "gender equality" etc.
- **NEP2020**: It is in this context that the NEP 2020 was laid down. The NEP provides for nurturing all-around development and skill acquisition by youth in an inclusive, accessible, and multilingual set-up.
- **Samagra Shiksha**: launched as an overarching programme for the school education sector extending from pre-school to class XII with an aim to ensure inclusive and equitable quality education at all levels of school education.
- The year FY22 saw improvement in Gross Enrolment Ratios (GER) in schools and improvement in gender parity.
- In FY22, a total of 26.5 crore children were enrolled in schools and 19.4 lakh additional children were enrolled in Primary to Higher Secondary levels.
- School dropout rates at all levels have witnessed a steady decline in recent years. The decline is for both girls and boys.

School Gross Enrolment Ratios

(in per cent)

Year	Primary			Upper Primary			Secondary		
	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total
2013-14	107.9	106.5	107.2	88.6	85.0	86.7	73.5	74.2	73.8
2019-20	103.7	101.9	102.7	90.5	88.9	89.7	77.8	78.0	77.9
2020-21	104.5	102.2	103.3	92.7	91.6	92.2	79.5	80.1	79.8
2021-22	104.8	102.1	103.4	94.9	94.5	94.7	79.4	79.7	79.6

School dropout rates

(in per cent)

Year	Primary			Upper Primary			Secondary		
	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total
2013-14	4.7	4.7	4.7	4.0	2.3	3.1	14.5	14.5	14.5
2019-20	1.2	1.7	1.5	3.0	2.2	2.6	15.1	17.0	16.1
2020-21	0.7	0.8	0.8	2.6	2.0	2.3	13.7	14.3	14.0
2021-22	1.4	1.6	1.5	3.3	2.7	3.0	12.3	13.0	12.6

- The schemes such as Samagra Shiksha, RTE Act, improvement in school infrastructure and facilities, residential hostel buildings, availability of teachers, regular training of teachers, free textbooks, uniforms for children, **Kasturba Gandhi Balika Vidyalaya** and the **PM POSHAN** Scheme play an important role in enhancing enrolment and retention of children in schools.
- The basic infrastructure facilities in schools – both in terms of the number of recognised schools and teachers' availability reflected in the Pupil-Teacher Ratio, showed an improvement in FY22.
- Basic facilities in schools continued to improve in FY22 over earlier years except for medical check-ups in schools as the schools remained closed physically in the wake of Covid-19 curbs. Toilets (girls or boys), drinking water, and hand-washing facilities are now available in most Government schools. Priority to drinking water and sanitation in schools under Samagra Shiksha Scheme as well as Swachh Bharat Mission have been instrumental in providing required resources and creating these assets in schools.
- **PM Schools for Rising India (PM SHRI)**: a Centrally Sponsored Scheme (CSS) which will be equipped with modern infrastructure and showcase the implementation of the NEP and emerge as exemplary schools over a period of time, while offering leadership to other schools in the neighbourhood.

- **The National Curriculum Framework (NCF) For Foundational Stage:** has been launched as the new 5+3+3+4 curricular structure which integrates early childhood care and education for all children of ages 3 to 8. It will deal with the role of teachers as well as parents and communities in enabling and enhancing the developmental outcomes that are sought during this stage.

Improving school infrastructure
(Schools with basic facilities as a percentage of all schools)

Year	2012-13	2019-20	2020-21	2021-22
Girls Toilet	88.1	96.9	97.3	97.5
Boys Toilet	67.2	95.9	96.2	96.2
Hand wash Facility	36.3	90.2	91.9	93.6
Library/Reading Room/ Reading corner	69.2	84.1	85.6	87.3
Electricity	54.6	83.4	86.9	89.3
Medical check-ups in school in a year	61.1	82.3	50.4*	54.6*
Computer	22.2	38.5	41.3	47.5
Internet	6.2	22.3	24.5	33.9

- **Pilot Project of Balvatika:** With a focus on developing cognitive, affective, and psychomotor abilities and also early literacy and numeracy for students in the age groups of 3+, 4+ and 5+ years, Project Balvatika, i.e., 'Preparatory Class', was launched in 49 Kendriya Vidyalayas.
- **Toy-Based Pedagogy:** designed to promote the integration of indigenous toys and their pedagogy into the curriculum of school education, early childhood care and education and teacher education. This will help teachers select or create age-appropriate toys to explain various concepts to students.
- **Screening Tools (Mobile App) For Specific Learning Disabilities:** *PRASHAST*, a Disability Screening mobile app, covering 21 disabilities, including the benchmark disabilities as per the Rights of Persons with Disabilities Act 2016 will help in screening disability conditions at the school level and will generate the school- wise report, for further sharing with the authorities for initiating the certification process.
- **National Credit Framework (NCrF):** is an umbrella framework for skilling, re-skilling, up-skilling, accreditation and evaluation, seamlessly integrating the credits earned through school education, higher education, and vocational and skill education by encompassing the National Higher Education Qualification Framework (NHEQF), National Skills Qualification Framework (NSQF) and National School Education Qualification Framework (NSEQF).
- **Strengthening teaching-learning and results for States (STARS):** is being implemented as a CSS in six states namely Himachal Pradesh, Madhya Pradesh, Rajasthan, Maharashtra, Odisha and Kerala over a period of 5 years i.e., till FY25, partly funded by a loan from the World Bank with the objective to improve the quality and governance of school education in the selected states.
- **Vidyanjali (a School Volunteer Initiative):** The Vidyanjali portal (https://vidyanjali.education. gov.in/en) enables community and volunteers/organisations to interact and connect directly with the Government and Government aided schools of their choice and share their knowledge and skills and/or contribute in the form of assets/material/equipment to meet the requirement of the schools.
- **Samagra Shiksha Scheme:** It supports the establishment of smart classrooms, and ICT labs in schools, including support for hardware, educational software and e-content for teaching. It envisages covering all Government/Government-aided schools with classes VI to XII.
- **Higher Education**
  - Number of medical colleges in the country have been increased from 387 in 2014 to 648 in 2022 and the number of MBBS seats have increased from 51,348 to 96,077.
  - Number of Indian Institutes of Technology (IITs) and Indian Institute of Management (IIMs), respectively stand at 23 and 20 in 2022 against 16 and 13 in 2014.

Students' enrolment in higher education
(in crore)

Year	Male	Female	Total
2016-17	1.9	1.7	3.6
2017-18	1.9	1.7	3.6
2018-19	1.9	1.8	3.7
2019-20	2.0	1.9	3.9
2020-21	2.1	2.0	4.1

  - The total enrolment in higher education has increased to nearly 4.1 crore in FY21 from 3.9 crore in FY20.
  - The GER in higher education, based on 2011 population projections (revised), was recorded at 27.3 per cent in FY21, which is an improvement from 25.6 in FY20.
  - GER for males increased from 24.8 in FY20 to 26.7 in FY21 while GER for females has also shown improvement from 26.4 to 27.9 during the same period.

- **Initiatives:**

  Research & Development Cell (RDC) in Higher Education Institutions (HEI): It would help create a research ecosystem for reliable, impactful, and sustained research output.

  Guidelines For Pursuing Two Academic Programmes Simultaneously: to allow the students to pursue two academic programmes simultaneously (in physical mode or one in full-time physical mode and another in Open and Distance Learning (ODL)/Online mode; or up to two ODL/Online programmes simultaneously) providing flexible curricular structures to enable creative combinations of disciplines for study, that would offer multiple entry and exit points, thus, removing currently prevalent rigid boundaries and create new possibilities for life-long learning through interdisciplinary thinking.

  Interest Subsidy On Education Loan: full interest subsidy is provided during the moratorium period (course period plus one year) on education loan taken by students from economically weaker sections (EWS) having parental income less than `4.5 lakh per annum for professional study in India.

EQUIPPING THE WORKFORCE WITH EMPLOYABLE SKILLS AND KNOWLEDGE IN MISSION MODE

- Integration of vocational education with general education and mainstreaming of vocational education have been identified as the key reform in the education System of the country.
- PLFS FY21 shows that formal vocational/technical training among youth (age 15- 29 years) and the working population (age 15-59 years) have improved in FY21 over FY19 and FY20. The improvement in skills has been for males and females, both in rural and urban sectors.
- **Skill India Mission** focuses on skilling, re-skilling and up-skilling through short term and long term training programmes.

Skill Development Scheme	Progress
PMKVY was first launched in 2015. Presently, the third phase of PMKVY, i.e., PMKVY 3.0 is being implemented across the country since January 2021 PMKVY has two training components, viz., Short Term Training (STT) and Recognition of Prior Learning (RPL). Pradhan Mantri Kaushal Kendra set up at District level, are envisaged as state of the art, visible and aspirational model training Centres.	✓ Between FY17 and FY23 (as of 5 January 2023), under PMKVY 2.0 about 1.1 crore persons have trained: 83 per cent certified and about 21.4 lakh placed. Under PMKVY 3.0, during FY21 to FY23 (as on 5 January 2023) 7.4 lakh persons have been trained, 66 per cent certified and 41,437 placed. ✓ PMKVY also provided training to Shramiks (migrant labourers) affected by Covid-19. This component covered 116 districts of 6 States, viz., Assam, Bihar, Madhya Pradesh, Odisha, Rajasthan, and Uttar Pradesh. As on 31 October 2022, 1.3 lakh migrants have been trained/ oriented (0.88 lakh in STT and 0.38 lakh in RPL).
Jan Shikshan Sansthan Scheme provides for a lump sum annual grant is released to Jan Shikshan Sansthans (NGOs) for skill training to non-literate, neo-literates, persons with a rudimentary level of education and school dropouts up to class XII in the age group of 15-45 years. The priority groups are women, SC, ST, and other backward sections of society.	✓ From FY20 to FY23 (as of 5 January 2023), 16.0 lakh beneficiaries have been trained of which 28.4 per cent are from urban areas and 69.0 per cent are from rural areas and 2.7 per cent are from tribal areas. Notably, 81 per cent of the trainees are women.
National Apprenticeship Promotion Scheme provides financial support to industrial establishments undertaking apprenticeship programmes under the Apprentices Act, 1961.	✓ Since the launch of the scheme in 2016, as on 31 December 2022, 21.4 lakh apprentices have been engaged by Industries.
Craftsmen Training Scheme provides long-term training in 149 trades through 14,938 Industrial Training Institutes (ITIs) across the country.	✓ Since 2015, 91.7 lakh students have been trained as on 30 October 2022.

QUALITY AND AFFORDABLE HEALTH FOR ALL

- Under the National Health Mission, the Government has made concerted efforts to engage with all relevant sectors and stakeholders to move in the direction of achieving universal health coverage and delivering quality healthcare services to all at affordable cost.
- With concerted efforts made under the Reproductive, Maternal, New-born, Child, Adolescent Health Plus Nutrition (RMNCAH+N) strategy, India has made considerable progress in improving the health status of both mothers and children.
- Eight states have already achieved the SDG target to reduce MMR to less than 70 per lakh live births by 2030. These include Kerala (19), Maharashtra (33), Telangana (43) Andhra Pradesh (45), Tamil Nadu (54), Jharkhand (56), Gujarat (57), and Karnataka (69).
- Under Five Mortality Rate (U5MR) and Neonatal Mortality Rate (NMR) have further declined as a result of countrywide efforts.

Improvement in health-related Indicators

	NFHS-4 (2015-16)	NFHS-5 (2019-21)
Households with any usual member covered under a health insurance/ financing scheme (per cent)	28.7	↑ 41.0
Total fertility rate (children per woman)	2.2	↓ 2.0
Current Use of Family Planning Method- Any Method (per cent)	53.5	↑ 66.7
Mothers who had at least 4 antenatal care visits (per cent)	51.2	↑ 58.1
Institutional births (per cent)	78.9	↑ 88.6
Neonatal mortality rate (per 1000 live births)	29.5	↓ 24.9
Infant mortality rate (per 1000 live births)	40.7	↓ 35.2
Under-five mortality rate (per 1000 live births)	49.7	↓ 41.9
Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall (per cent)	62.0	↑ 76.4
Children under age 6 months exclusively breastfed (per cent)	54.9	↑ 63.7
Children under 5 years who are stunted (height-for-age) (per cent)	38.4	↓ 35.5
Children under 5 years who are wasted (weight-for-height) (per cent)	21.0	↓ 19.3
Children under 5 years who are underweight (weight-for-age) (per cent)	35.8	↓ 32.1
Children under 5 years who are overweight (weight-for-height) (per cent)	2.1	↑ 3.4
Women who are overweight or obese (BMI≥25.0 kg/m^2) (per cent)	20.6	↑ 24.0
Men who are overweight or obese (BMI≥25.0 kg/m^2) (per cent)	18.9	↑ 22.9
Women age 15-24 years who use hygienic methods of protection during their menstrual period (per cent)	57.6	↑ 77.3

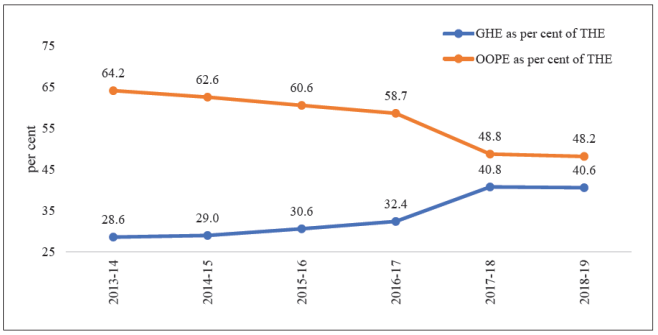
Source: National Family Health Surveys (NFHS) 2015-16 and 2019-21, MoHFW

- **Health expenditure estimates:** There has been an increase in the share of Government Health Expenditure (GHE) in the total GDP from 1.2 per cent in FY14 to 1.3 per cent in FY19. Additionally, the share of GHE in Total Health Expenditure (THE) has also increased over time, standing at 40.6 per cent in FY19, substantially higher than 28.6 per cent in FY14.

Trends in Mortality indicators

	2014	2016	2018	2020
Maternal Mortality Ratio (per lakh live births)	167 (2011-13)	130 (2014-16)	113 (2016-18)	97 (2018-20)
Infant Mortality Rate (per 1000 live births)	39	34	32	28
Neonatal Mortality Rate (per 1000 live births)	26	24	23	20
Under 5 Mortality Rate (per 1000 live births)	45	39	36	32
Early Neonatal Mortality Rate – 0- 7 days (per 1000 live births)	20	18	18	15

Government Health Expenditure (GHE) and Out of Pocket Expenditure (OC as per cent of Total Health Expenditure (THE)



- **Rural Health Care – Strengthening of Infrastructure And Human Resource -** The recent health sector reforms can be observed in the rise in the number of Sub-centres (SCs), Primary Health Centres (PHCs), and Community Health Centres (CHCs) in rural areas, along with the rise in doctors, nurses, and other medical personnel over time. With the implementation of the Ayushman Bharat programme, the strengthening of SCs and PHCs are being done by converting them into Health and Wellness Centres (HWCs), in a phased manner, to deliver comprehensive Primary Healthcare services through these Centres.
- **Progress Under Major Government Initiatives For Health**
  - **Immunisation:** is being provided free of cost against 12 vaccine-preventable diseases: Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, a severe form of Childhood Tuberculosis, Rotavirus diarrhoea, Hepatitis B, etc. To reinforce universal immunisation, Mission Indradhanush (MI) was launched in December 2014 with the aim to rapidly increase full immunisation coverage of children to 90 per cent and sustain it thereafter. The drive focuses on unvaccinated and partially vaccinated children.

- **eSanjeevani:** is an innovative, indigenous, cost-effective, and integrated cloud-based telemedicine system application to enable patient-to-doctor teleconsultation to ensure a continuum of care and facilitate health services to all citizens in the confines of their homes, free of cost.
- **Ayushman Bharat Pradhan Mantri – Jan Arogya Yojana (AB PM-JAY)** is the world's largest health insurance scheme that provides health cover of `5 lakh per family per year for secondary and tertiary care hospitalisation to over 10.7 crore poor and vulnerable families (approximately 50 crore beneficiaries) that form the bottom 40 per cent of the Indian population identified based on the deprivation and occupational criteria of the Socio- Economic Caste Census 2011 (SECC 2011) and other State schemes.
- **Ayushman Bharat – Health and Wellness Centres (AB-HWCs):** Under the scheme, 1.5 lakh AB-HWCs were envisaged to be established by upgrading the SHCs and PHCs in rural and urban areas which will ensure comprehensive primary health care closer to the community by expanding and strengthening the existing Reproductive & Child Health services and Communicable Diseases services and by including services related to Non- Communicable Diseases such as hypertension, diabetes and 3 common cancers, viz. Oral, Breast and Cervix.
- **Ayushman Bharat Digital Mission (ABDM):** aims at creating a secure online platform based on open, interoperable digital standards. This will enable access and exchange of health records of citizens with their consent through Services such as the issuance of Health ID, Healthcare Professionals Registry, Health Facility Registry and Health Records.

National Covid-19 Vaccination Programme

- World's largest vaccination programme, began initially with the aim of covering the adult population of the country in the shortest possible time, was expanded to include all persons aged 12 years and above and for the precautionary dose for all persons aged 18 years and above.
- Test-Track-Treat-Vaccinate and adherence to Covid appropriate behaviour continue to remain the tested strategy for Covid management.
- The introduction of Covid-19 vaccines entailed many challenges such as research and development for new Covid vaccines, training of more than 2.6 lakh vaccinators and 4.8 lakh other vaccination team members, optimum utilisation of available vaccine, difficult-to- reach population, and the need to ensure all essential health services along with scaling up of vaccination programme.

SOCIAL PROTECTION FOR THE RAINY DAY

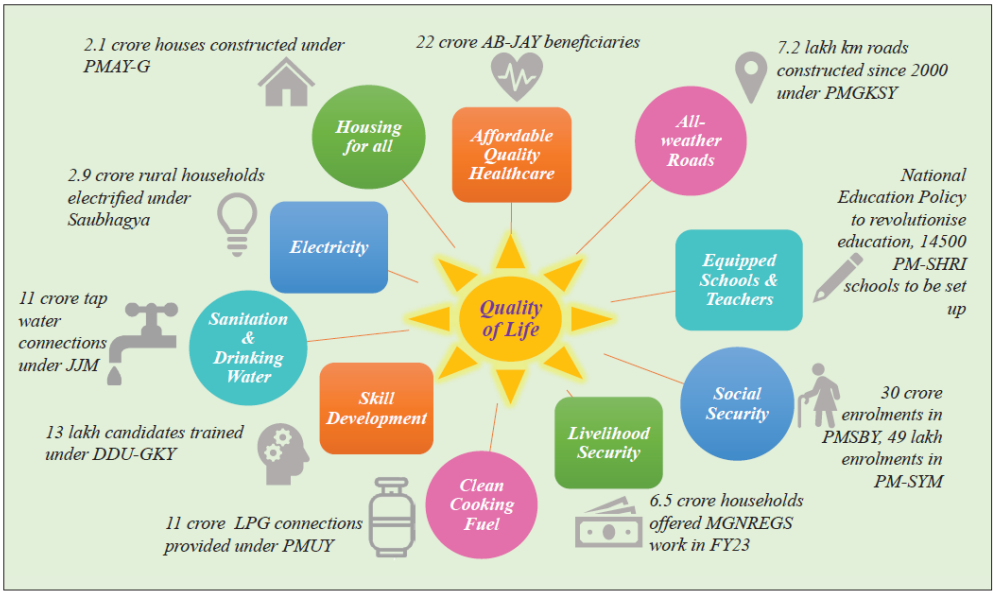
- **Pradhan Mantri Vaya Vandana Yojana (PMVVY):** is offered by the Life Insurance Corporation of India and supported by the Government of India, to provide senior citizens of age 60 years or more an assured minimum pension for a term of 10 years, linked to the price at which they purchase the pension policy.
- **Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJY):** is available to people in the age group of 18 to 50 years and provides risk coverage of `2 lakh in case of death of the insured, due to any reason, at an annual premium of 436/-.
- **Pradhan Mantri Suraksha Bima Yojana (PMSBY):** is available to people in the age group 18 to 70 years providing a risk coverage of `2 lakh in case of accidental death or total permanent disability and `1 lakh for partial permanent disability due to accident at a premium of `20 per annum.
- **Pradhan Mantri Shram Yogi Maan-Dhan Yojana (PM-SYMDY):** is a voluntary and contributory pension scheme for providing a monthly minimum assured pension of `3,000 upon attaining the age of 60 years. The workers in the age group of 18 to 40 years having a monthly income of `15,000 or less and not a member of EPFO/ ESIC/ NPS (Govt. funded) can join the scheme.
- **PM Street Vendor's Atmanirbhar Nidhi Scheme (PM SVANIDHI):** a Central Sector Scheme launched on 1 June 2020, to empower street vendors by extending working capital loans of up to `10,000 with a one-year tenure and free onboarding of beneficiaries on digital payment platforms.

- **Pradhan Mantri Mudra Yojana (PMMY):** to grant loans of up to `10 lakh for income-generating manufacturing, trading, and service sectors, including activities allied to agriculture such as poultry, dairy, beekeeping, etc. The salient features are:
- 'Shishu' (loans up to `50,000/-), 'Kishore' (loans above `50,000/ and up to `5 lakh) and 'Tarun' (loans above `5 lakh and up to `10 lakh) signify the stage of growth / development and funding needs of the beneficiary micro unit / entrepreneur and also provide a reference point for the next phase of graduation / growth;
- No insistence on collateral(s) during sanction of loan;
- Rate of Interest is decided by the lending institution, interest is charged only on the money held overnight by borrower.

DEVELOPMENT OF INDIA'S ASPIRING RURAL ECONOMY

- Various measures have been taken to enhance the quality of life in rural areas encompassing rural housing, drinking water, and sanitation, clean fuel, social protection, rural connectivity along with enhancing rural livelihoods.
- The financing needs of rural households and small businesses are being met through microfinance institutions, self-help groups (SHGs), and other financial intermediaries.
- Taking digitisation and technology to the rural economy has also been a key aspect of the rural development agenda, be it in agricultural activities or governance.
- A primary focus has also been on the health parameters of the rural population, & women empowerment.

Multifaceted initiatives to improve the ecosystem of quality of life



Enhancing Rural Incomes

- **Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM):** It seeks to achieve its objective through investing in four core components viz., (a) social mobilisation and promotion and strengthening of self-managed and financially sustainable community institutions of the rural poor women; (b) financial inclusion; (c) sustainable livelihoods; and (d) social inclusion, social development, and access to entitlements through convergence.
- **Mahatma Gandhi National Rural Employment Guarantee Scheme:** It aims at enhancing the livelihood security of households in rural areas of the country by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. Its achievements include:
  - Geo tagging of assets: carried out in three stages viz: before initiation of work, during the work, and after completion of work.
  - Mandatory expenditure on agriculture and allied activities
  - e-payments

- DBT
- Aadhar based payments

- **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY):** It is a market-led, placement-linked skill development programme for providing wage employment to rural poor youth. Until 30 November 2022, a total of 13,06,851 candidates have been trained under this scheme of which 7,89,685 have got job placements.

Rural Housing

- *Pradhan Mantri Awaas Yojana –Gramin* (PMAY-G) was launched with the aim of providing around 3 crore pucca houses with basic amenities to all eligible houseless households living in kutcha and dilapidated houses in rural areas by 2024.
- It also addresses basic needs such as the construction of the toilet, piped drinking water, electricity connection, LPG gas connection, and 90/95 person-days of unskilled labour from MGNREGS.
- It selects beneficiaries using housing deprivation parameters in the SECC, 2011 date which is to be verified by the *Gram Sabhas*.
- Under the scheme, landless beneficiaries are accorded the highest priority in the allotment of houses.
- Against the total target of completion of 52.8 lakh houses in FY23, 32.4 lakh houses have been completed.

Drinking Water And Sanitation

The UN-SDG6 aims to "*Ensure availability and sustainable management of water and sanitation for all.*" Some details of key schemes/programmes are:

- **Jal Jeevan mission**
  - It was announced, to be implemented in partnership with States, to provide tap water connection to every rural household and public institutions in villages like schools, Anganwadi centres, *ashram shalas* (tribal residential schools), health centres, Gram Panchayat building, etc., by 2024.
  - Further, four States, i.e., Goa, Gujarat, Telangana & Haryana, and three UTs, i.e., Andaman & Nicobar Islands, Dadra Nagar Haveli & Daman Diu and Puducherry have become '*Har Ghar Jal*' State/ UT, i.e., 100 per cent households are having tap water supply.
  - **Steps taken for ensuring water quality**
    - ✓ Stresses on the provision of potable water of adequate quantity and good quality as prescribed by the Bureau of Indian Standards.
    - ✓ To bring focus on water supply, sanitation and hygiene (WASH), thus to improve public health, a nation-wide Water Quality Management Information System (WQMIS) has been launched on by using field testing kits as well as water quality testing in laboratories. The data is uploaded, analysed and in case of quality issues, local authorities are alerted to take up immediate remedial action.
    - ✓ Five women in each village, preferably including at least one ASHA worker and one Anganwadi worker, are being trained to test water samples of any kind of contamination by using Field Test Kits (FTKs).
    - ✓ Water testing laboratories have been opened to the public to get their water samples tested at nominal rates.
    - ✓ A functionality assessment exercise is undertaken every year to assess the status of water service delivery to households.
    - ✓ Anganwadi centers across the country have been provided with potable tap water supply for drinking & cooking mid-day meals, hand-washing and use in toilets.
    - ✓ 100-days water quality campaign "Swachh Jal Se Suraksha" announced for focusing on awareness creation on the importance of water quality through Information, Education, and Communication, training activities and capacity building of villagers using citizen science approach.

- ✓ Five "Centers for Sustainable Drinking Water", in various IITs, supported by the JJM are working on developing innovations and technologies for bringing sustainability in drinking water.

- **Mission Amrit Sarovar**
  - Launched on National Panchayati Raj Day on 24 April 2022 with the objective to conserve water for the future. It is aimed at developing and rejuvenating 75 water bodies in each district of the country during this Amrit Varsh, 75th Years of Independence.
  - Impact:
    - ✓ About 32 crore cubic meters of water holding capacity has been enhanced.
    - ✓ Water Users' groups have been associated with each Amrit Sarovar inter-alia improving the livelihoods base of the local community.
    - ✓ Participation of freedom fighters, Martyr's families, Padma Awardees, and other eldest citizens of the local areas helped in community participation at a large scale, promoting social harmony and patriotism, and making this mission a mass movement.
    - ✓ People's participation has been seen in this mission in a form of "Shram -Daan."
- **Jaldoot App**
  - Launched for measuring the water level in a Gram Panchayat through 2-3 selected open wells twice a year (pre-monsoon and post- monsoon).
  - Gram Rojgar Sahayak is required to measure the water level and document the same at the Central server using the Jaldoot mobile app.
  - This will enable groundwater monitoring, water budgeting, and planning for water harvesting and conservation-related works.
- **Swachh Bharat Mission (Grameen)**
  - Launched to ensure cleanliness in India and make it Open Defecation Free (ODF).
  - Phase-II of SBM (G) is now being implemented during FY21 to FY25, with the focus to sustain the ODF status of villages and covering all the villages with Solid and Liquid Waste Management, i.e., to convert the villages from ODF to ODF Plus.
  - Andaman & Nicobar Islands has declared all its villages as ODF plus model, thus becoming the first *Swachh, Sujal Pradesh*.

LPG Connections

Pradhan Mantri Ujjwala Yojana 2.0, Swachh Indhan Behtar Jeevan: Under the Union Budget for FY22, provision for the release of an additional one crore LPG connections under the PMUY scheme, i.e., Ujjwala 2.0, has been made. This scheme will offer deposit-free LPG connection, first refill and hot plate free of cost to beneficiaries, and a simplified enrolment procedure. In this phase, a special facility has been given to migrant families.

Rural Connectivity : **Pradhan Mantri Gram Sadak Yojana (PMGSY)**

- The objective is to provide single all-weather road connectivity to all eligible unconnected habitations of the designated population size (500+ in plain areas, 250+ in North-Eastern and Himalayan States) in rural areas of the country.
- It has been launched in three phases with the latest third phase having been launched on 10 July 2019 for consolidation of 1,25,000 km through routes and major rural links connecting habitations, inter-alia, to Gramin Agricultural Markets, higher secondary schools, and hospitals.

Electricity

- **SAUBHAGYA- Pradhan Mantri Sahaj Bijli Har Ghar Yojana:** Launched 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. It has been successfully completed and closed on 31 March 2022.

- **Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY):** Launched with the objective to improve the quality and reliability of power supply in rural areas. It envisaged the creation of basic electricity infrastructure in villages/habitations, strengthening & augmentation of existing infrastructure, and metering of existing feeders/distribution transformers/consumers to improve the quality of power supply in rural areas.

DIRECT BENEFIT TRANSFER: A GAME CHANGER

- The JAM Number Trinity – Jan Dhan Yojana, Aadhaar and Mobile numbers – has allowed the Government support to identified households in a targeted and less distortive way in the form of DBT.
- Since the inception of DBT, cumulative transfers of over `26.5 lakh crore in respect of Central schemes have been made through the DBT route, total savings of over `2.2 lakh crore have accrued as on 31 March 2021 for Central schemes alone due to the removal of 9.4 crore duplicate, fake/non-existent beneficiaries across databases.
- Cash transfers under central schemes like PM-KISAN, MGNREGS, National Social Assistance Programme (NSAP), Pradhan Mantri Matru Vandana Yojana (PMMVY), NRLM, National Health Mission (NHM), scholarship schemes of various ministries through the National Scholarship Portal (NSP) and food subsidy under Pradhan Mantri Garib Kalyan Ann Yojana and Atma Nirbhar Bharat Package were a big relief for all the adversely affected masses of India during the Covid-19 period.
- To make DBT schemes more accessible and transparent, major DBT schemes are being end-to-end digitized (EED) with provision for online and mobile-based access.
- The citizen experience in accessing DBT schemes through the UMANG app is markedly rich since UMANG offers a well-catalogued bouquet of services in multiple Indian languages to cater to a wide audience.
- India has successfully implementated DBT for efficiently providing support (subsidies, food grain, and cash benefits directly) to large masses at low- income levels (85 per cent of rural households and 69 per cent of urban households).
- Achievements:
  - Accurate identification & targeting of beneficiaries;
  - Greater inclusion and ease of availing services through online application;
  - Transparency in fund transfers to beneficiaries;
  - Curbing of leakages in the benefit delivery processes through the elimination of middlemen/agents;
  - Creation of greater accountability on behalf of the Government; /Facilitating reforms in Government processes through re-engineering;
  - Increase in efficiency in scheme delivery processes; and
  - Effectiveness of schemes through timely implementation.

ENHANCING RURAL GOVERNANCE FOR INCLUSIVE GROWTH

- **Rashtriya Gram Swaraj Abhiyan-** The major focus of the scheme of RGSA was Capacity Building and Training (CB&T) to empower PRIs and to prepare convergent Plans at the respective level of Panchayats. The scheme has been revamped for the period FY23 to FY26 and is focussed on re-imagining PRIs as vibrant centres of local self-governance with a special focus on the Localisation of SDGs (LSDGs) at the grassroots level adopting thematic approach through concerted and collaborative efforts of Central Ministries and State line departments and other stakeholders with 'Whole of Government and Whole of Society' approach.
- **SVAMITVA Scheme:** SVAMITVA (*Survey of Villages* and *Mapping with Improvised Technology in Village Areas*) is a Central Sector Scheme which aims to provide the 'Record of Rights' to village household owners possessing houses in inhabited rural areas. The scheme aims to provide the following benefits:

- Creation of accurate land records for rural planning and reducing property-related disputes.
- To bring financial stability to the citizens in rural India by enabling them to use their property as a financial asset for raising loans and other financial benefits.
- Determination of property tax, which would accrue to the Gram Panchayats directly in states where it is devolved or else, add to the state exchequer.
- Creation of survey infrastructure and GIS maps that can be leveraged by any department for their use.

CONCLUSION AND WAY FORWARD

Going forward with the vision of 'Minimum Government; Maximum Governance', further developments will hold the key to attaining more equitable economic growth. Evident ones include stepping up learning outcomes through digital and teaching interventions in schools, enhancing the role of community workers in healthcare, pushing SHGs through better product design and upscaling enterprises. Further, channelising women's economic potential can help capitalise the gender dividend for the country's future economic and social development.

7. CLIMATE CHANGE AND ENVIRONMENT – PREPARING TO FACE THE FUTURE

INTRODUCTION

- Climate change is the long-term change in temperature and weather patterns that can occur due to natural reasons.
- However, since the beginning of the industrial revolution in the **19th century**, it has been predominantly due to anthropogenic activities.
- GHG emissions are the most significant threat to humanity and the inescapable reality the world faces.
- Action to reduce carbon emissions and adapt to the changing climatic conditions are required urgently.
- World has already started to experience the consequences of climate change. For instance, it is estimated that by 2030, about 700 million people worldwide will be at risk of displacement by drought alone.

Thomas Schelling's Suggestion on How to Fight Climate Change

- Nobel Laureate Thomas Schelling (2005) argued that the ***most effective way to combat climate change was to let nations grow first***.
- He said that the best defence, for developing countries like India, against climate change may be their own continued development.
  - For companies worldwide, the single biggest source of finance for their capital investments is their own resources before they turn to markets. That would work for nations too.
- It is a realistic proposition also because securing funding from either developed nations or multilateral organisations has been rather difficult for the developing countries.

PROGRESS ON INDIA'S CLIMATE ACTION

- India's climate vision is integrally linked with its goals of **poverty eradication** and guaranteeing **basic well-being** to all its citizens.
- In 2008, India launched the ***National Action Plan on Climate Change (NAPCC)***, establishing eight National Missions.
- Progress on eight missions under the NAPCC is shown beside in diagram.
- In 2015-16, ***National Adaptation Fund for Climate Change (NAFCC)*** was launched to support adaptation activities in States/UTs that are vulnerable to the adverse effects of climate change.
  - NAFCC is implemented in project mode, and to date, 30 projects have been sanctioned in 27 States and UTs with a total project cost of Rs 847.5 crore.
- In November 2021, the United Nations Framework Convention on Climate Change (UNFCCC) ***Conference of Parties (COP 26)*** was held in **Glasgow, UK**.

National Solar Mission	•Solar power capacity of 61.62 GW installed by October 2022
National Mission for Enhanced Energy Efficiency	•PAT Cycle–VII notified in October 2021 for energy saving target of 6.63 Million Tonnes of Oil Equivalent (MTOE)
National Mission on Sustainable Habitat	•721 km of metro rail network made operational by August 2022. •62.79 lakh individual household toilets and 6.21 lakh community and public toilets constructed by April 2022
National Mission for a Green India	•₹ 626.96 crore for afforestation targets over an area of 2.1 lakh ha
National Water Mission	•Jal Shakti Abhiyan: Catch The Rain 2022
National Mission on Strategic Knowledge for Climate Change	•Created and strengthened 12 Centres of Excellence for climate change (June 2021)
National Mission for Sustaining Himalayan Ecosystems	•Inter-University Consortium •8 Major R&D Programmes initiated
National Mission for Sustainable Agriculture	•Key targets for FY 2022-2023 covering 0.15 lakh ha under organic farming and 10 lakh ha under micro irrigation

- At the COP26, Prime Minister Narendra Modi expressed his vision through "***Panchamrit***".
- The vision mentions of sustainable lifestyles and climate justice to protect the poor and vulnerable from the adverse impacts of climate change.

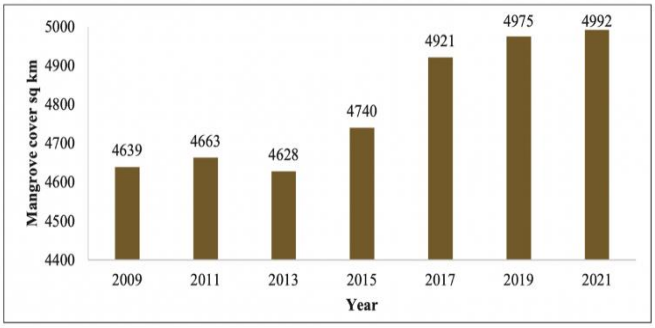
India's Updated Nationally Determined Contributions (NDCs)

- An NDC, or Nationally Determined Contribution, is a climate action plan to cut emissions and adapt to climate impacts. Each Party to the **Paris Agreement** (2015) is required to establish an NDC and update it every five years.
- India submitted its first NDC to UNFCCC in October 2015. This was updated in August 2022.
- **Major Quantifiable NDCs include the following –**
  - To ***reduce the Emissions Intensity of its GDP by 45 per cent by 2030***, from the 2005 level.
  - To achieve about ***50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030***.
  - To create an additional ***carbon sink of 2.5 to 3 billion tons of CO2 equivalent through additional forest and tree cover by 2030***.

Status of Forest and Tree Cover

- The forest and tree cover in India has shown a gradual and steady trend of increase in the last one and a half decades.
- The country ***ranks third globally with respect to the net gain in average annual forest area between 2010 and 2020***.
- Following schemes have been amongst the most significant ones –
  - ✓ Green India Mission (GIM),
  - ✓ Compensatory Afforestation Fund Management and Planning Authority (CAMPA),
  - ✓ National Afforestation Programme (NAP),
  - ✓ Green Highway Policy - 2015,
  - ✓ Policy for enhancement of Urban Greens,
  - ✓ National Agro-forestry Policy, and
  - ✓ Sub-Mission on Agro-forestry (SMAF)

Carbon Stock In India's Forest and Tree Cover



- Carbon stock is the ***amount of carbon sequestrated from the atmosphere and stored in biomass, deadwood, soil, and litter in the forest***.
- The Indian State of Forest Report (ISFR) estimates the carbon stock of forests to be about 7200 million tons in 2019, which is an increase of 79.4 million tons of carbon stock as compared to the estimates of the previous assessment for 2017.
- This translates into ***carbon emissions sequestrated through forest and tree cover to be 30.1 billion tons of CO2 equivalent***.
- Amongst States, **Arunachal Pradesh** has the maximum carbon stock in forests, followed by **Madhya Pradesh**.

Increasing Mangrove Cover in India

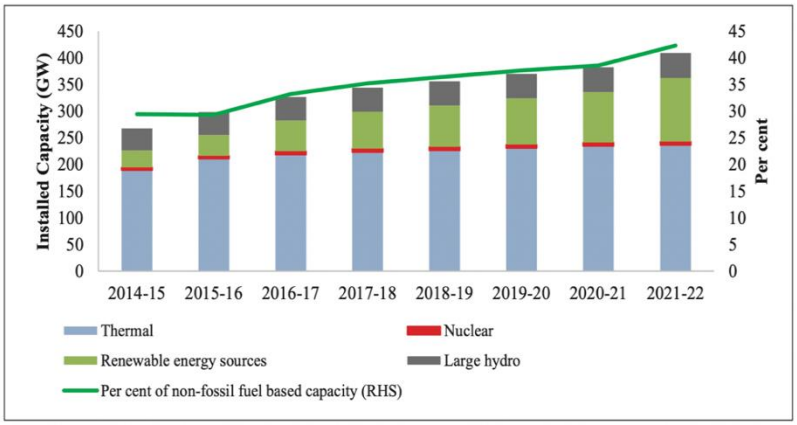
- Wetlands are natural buffers against floods, droughts, and tropical cyclones.
- Wetlands can act as sponges, storing peak rainfall and releasing water gradually during the lean season.
- Mangroves and coastal wetlands form the first line of defence for coastal communities against increased storm surges, flooding, and hurricanes.
- The Government has taken both regulatory and promotional measures to protect and conserve mangroves.

River Conservation and Rejuvenation

- The Government is working on mapping and converging the 5Ps' - **People**, **Policy**, **Plan**, **Programme** and **Project**.
- It has been supplementing the efforts of the States/UTs by providing financial and technical assistance for the abatement of pollution in identified polluted stretches of rivers.
- This is being done through –
  - The Central Sector Scheme of **Namami Gange** for River Ganga and its tributaries, and
  - The Centrally Sponsored Scheme of **National River Conservation Plan (NRCP)** for other rivers.
  - In addition, the government has recently released ***Detailed Project Reports (DPR) for the rejuvenation of 13 major rivers of the country***.

Transition to Renewable Energy Sources:

- In line with its updated NDCs, India is now striving to achieve the target of 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.
- During the period 2014 -2021, total investment in renewables stood at **US$ 78.1 billion** in India.
- The ***likely installed capacity by the end of 2029-30 is expected to be more than 800 GW of which non-fossil fuel would be more than 500 GW***.



Green Hydrogen – A Critical Source of Alternate Energy:

- Green hydrogen is produced by using clean energy from surplus renewable energy sources, such as solar or wind power, to split water into two hydrogen atoms and one oxygen atom through a process called electrolysis.
- This makes green hydrogen the cleanest option – ***hydrogen from renewable energy sources without CO2 as a by-product***.
- The Government approved the **National Green Hydrogen Mission** in January, 2023 with an initial outlay of **Rs. 19,744 crores**.
- The Mission will facilitate demand creation, production, utilization and export of Green Hydrogen and mobilization of over Rs. 8 lakh crores of investment by 2030.

Long-Term Low Emissions Development Strategy (LT-LEDS)

- The 27th session of the Conference of the Parties (COP27) to the UNFCCC was held in **Sharm El Sheikh, Egypt** in November, 2022.
- At the COP27, India submitted its LT-LEDS. The **salient features of LT-LEDS are –**
  - Focus on the rational utilization of national resources with due regard to energy security.
  - Encompasses the objectives of the National Hydrogen Policy.
  - Increased use of biofuels, especially ethanol blending in petrol.

FINANCE FOR SUSTAINABLE DEVELOPMENT THROUGH GREEN BONDS

- Green bonds are ***financial instruments that generate proceeds for investment in environmentally sustainable and climate-suitable projects***.
- IMF data indicates that green bonds of value around **US$620 billion** were issued across the world in the year 2021.
- In keeping with the ambition to reduce the carbon intensity of the economy significantly, the Union Budget 2022-23 announced the issue of **Sovereign Green Bonds**.
- Subsequently, the RBI had notified that it would issue SGBs **worth Rs 16,000 crores** for the fiscal year 2022-23.

INDIA'S RECENT INITIATIVES AT INTERNATIONAL STAGE

- **LiFE Movement –**
  - India participated in COP 27, with a focus on mainstreaming the theme of ***LiFE*** – ***Lifestyle for Environment***.
  - LiFE is a <u>pro-people and pro-planet effort seeking to shift the world from mindless and wasteful consumption to mindful and deliberate utilization of natural resources</u>.
  - India invited all countries to join the LiFE movement.
- **Leadership Group for Industry Transition (LeadIT) –**
  - LeadIT was launched by governments of Sweden and India in 2019.
  - LeadIT members subscribe to the notion that energy-intensive industries can and must progress on low-carbon pathways, aiming to achieve net-zero carbon emissions.
- **Coalition for Disaster Resilient Infrastructure –**
  - Launched by PM Narendra Modi in 2019, CDRI aims to promote the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development.
  - As of June 2022, 31 countries have joined as members of CDRI.

INITIATIVES RELATED TO OTHER ENVIRONMNETAL ISSUES

Battery Waste Management

- The Government published the Battery Waste Management Rules, 2022 to ensure environmentally sound management of waste batteries.
- The rules function based on the concept of **Extended Producer Responsibility (EPR)**, where the producers (including importers) of batteries are responsible for the collection and recycling/refurbishment of waste batteries.
  - EPR mandates that all waste batteries be collected and sent for recycling/ refurbishment, prohibiting disposal in landfills and incineration.

- The rules cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries, and industrial batteries.

Elimination of Single-Use Plastics

- India is committed to mitigating pollution caused by littered single-use plastics.
- In July 2022, ***a ban was imposed on the manufacture, import, stocking, distribution, sale and use of identified single-use plastic items, which have low utility and high littering potential, all across the country***.
- The measures will promote a circular economy, reduce the plastic footprint of plastic packaging, promote the development of new alternatives to plastic packaging.

Project Cheetah

- The cheetah was declared extinct from India in **1952**.
- Under Project Cheetah, **eight Namibian wild cheetahs** were introduced in 2022 in **Kuno National Park, Madhya Pradesh**.
- Reintroduction of Cheetahs in India is part of a long series of measures for ensuring sustainability and environmental protection.
- Cheetahs can help restore open forest and grassland ecosystems in India.

CONCLUSION

India is spearheading one of the world's most ambitious clean energy transitions and remains steadfast in its commitment to combating climate change. Despite the adverse impacts of Covid-19 on the economy, ***India has enhanced its climate ambition manifold and embarked on a long-term journey towards a Low GHG Emission Development Strategy***.

Value Added Material

- **Promotion of Organic Farming in the Country –**
  - ***Paramparagat Krishi Vikas Yojana (PKVY)*** was initiated in 2015-16 to promote organic farming in the country.
  - Up to January, 2022, **more than 6.53 lakh ha has been covered benefitting 16.19 lakh farmers**.
  - Mission Organic Value Chain Development in North East Region (MOVCDNER) has been launched.
- **Forest Conservation Rules 2022 –**
  - The Forest Conservation Rules deal with the implementation of the **Forest Conservation Act (FCA), 1980**.
  - They prescribe the procedure to be followed for forest land to be diverted for non-forestry uses such as road construction, highway development, railway lines, and mining.
  - The ***new rules make a provision for private parties to cultivate plantations and sell them as land to companies who need to meet compensatory forestation targets***.
    - ✓ This will help India increase forest cover as well as solve the problems of the States of not finding land within their jurisdiction for compensatory purposes.
    - ✓ In the earlier rules, there was no such provision.
- **Seoul Declaration –**

- Seoul Declaration was adopted at the XV World Forestry Congress, held in Seoul, South Korea in May, 2022.
- The declaration urges that ***responsibility for forests should be shared and integrated across institutions, sectors and stakeholders***.

- **Dam Safety Act, 2021 –**
  - The Dam Safety Act provides for adequate surveillance, inspection, operation, and maintenance of all the large dams in the country so as to prevent dam failure related disasters.
  - The Act provides for an institutional mechanism at both Central and State levels to address structural and non-structural measures required for ensuring the safe functioning of dams.
  - Under the Act, a **National Committee on Dam Safety (NCDS)** will be constituted to help evolve uniform dam safety policies, protocols, and procedures.
  - The Act also provides for the establishment of a **National Dam Safety Authority (NDSA)** as a regulatory body for ensuring the nationwide implementation of dam safety policies and standards.
- **Indian Antarctic Act, 2022 –**
  - Parliament passed the Indian Antarctic Bill in August, 2022.
  - The Act aims at having India's own national measures for protecting the Antarctic environment as also the dependent and associated ecosystem.
  - The Act now puts into place ***a comprehensive list of regulations related to Antarctic, for such scientific expeditions, as well as for individuals, companies and tourists***.
  - The main aim of the Act is also to ensure de-militarization of the region along with getting it rid of mining or illegal activities.

UPSC MAINS PYQ

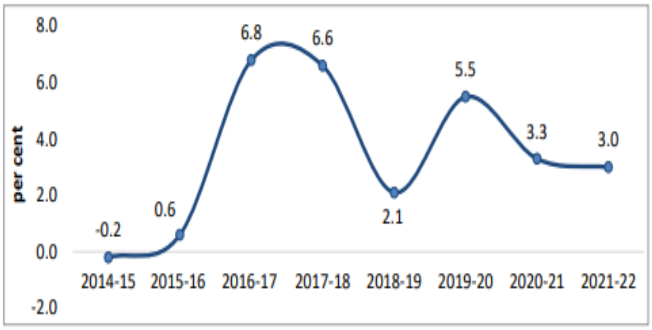
1. Do you think India will meet 50 percent of its energy needs from renewable energy by 2030? Justify your answer. How will the shift of subsidies from fossil fuels to renewables help achieve the above objective ? Explain. (2022)
2. Discuss global warming and mention its effects on the global climate. Explain the control measures to bring down the level of greenhouse gases which cause global warming, in the light of the Kyoto Protocol, 1997. (2022)
3. Explain the causes and effects of coastal erosion in India. What are the available coastal management techniques for combating the hazard? (2022)
4. Explain the purpose of the Green Grid Initiative launched at World Leaders Summit of the COP26 UN Climate Change Conference in Glasgow in November, 2021. When was this idea first floated in the International Solar Alliance (ISA)? (2021)
5. Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by the World Health Organisation (WHO). How are these different from its last update in 2005? What changes in India's National Clean Air Programme are required to achieve these revised standards ? (2021)
6. Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? (2021)
7. Explain intra-generational and inter-generational issues of equity from the perspective of inclusive growth and sustainable development. (2020)

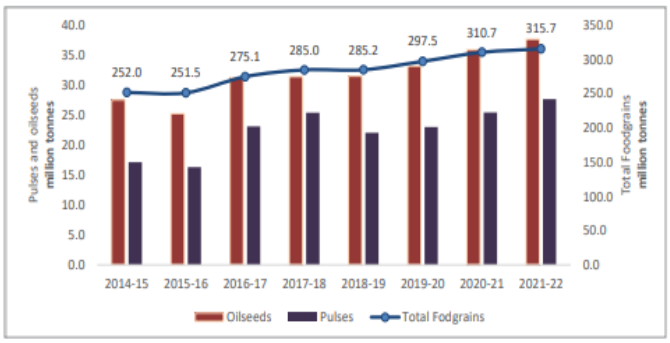
8. What are the salient features of the Jal Shakti Abhiyan launched by the Government of India for water conservation and water security? (2020)
9. Describe the benefits of deriving electric energy from sunlight in contrast to the conventional energy generation. What are the initiatives offered by our Government for this purpose? (2020)
10. Coastal sand mining, whether legal or illegal, poses one of the biggest threats to our environment. Analyse the impact of sand mining along the Indian coasts, citing specific examples. (2019)
11. What are the impediments in disposing the huge quantities of discarded solid wastes which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment? (2018)
12. How does biodiversity vary in India? How is the Biological Diversity Act, 2002 helpful in conservation of flora and fauna? (2018)
13. 'Climate change' is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change ? (2017)

8. AGRICULTURE & FOOD MANAGEMENT: FROM FOOD SECURITY TO NUTRITIONAL SECURITY

INTRODUCTION

With its solid forward linkages, the agriculture and allied activities sector significantly contributed to the country's overall growth and development by ensuring food security. The Indian agriculture sector has been growing at an average **annual growth rate of 4.6% during the last six years.**

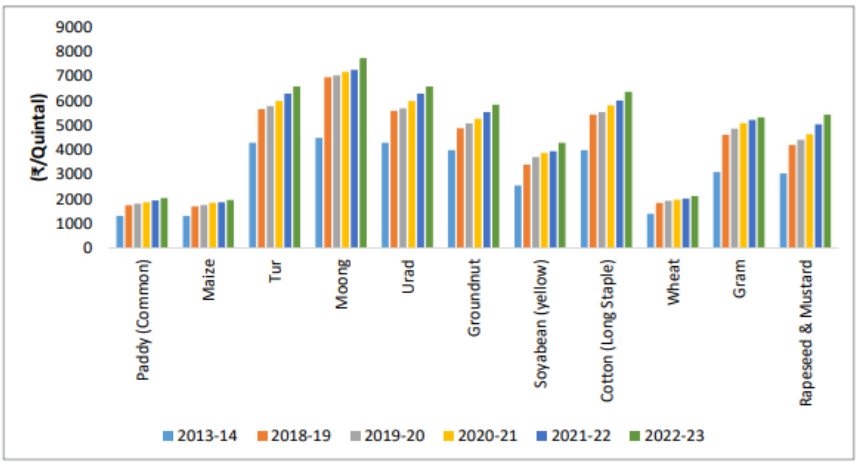




INITIATIVES TO BOOST AGRICULTURE SECTOR IN INDIA

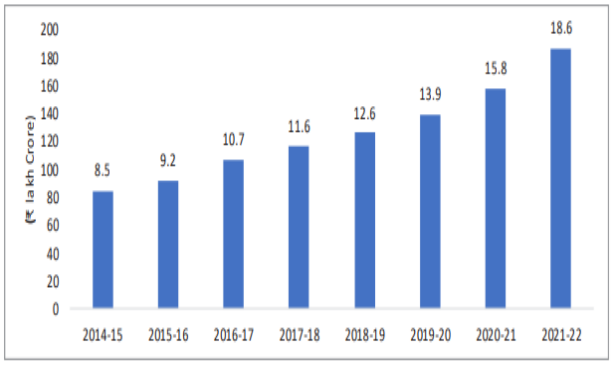
MSP to Ensure Returns Over the Cost of Production

- The Union Budget for 2018-19 announced that farmers in India would be given an MSP of **at least one and a half times the cost of production**.
- Accordingly, the Government has been **increasing the MSP for all 22** Kharif, Rabi and other commercial crops**.**
- **Given nutritional requirements** and changing dietary patterns and to achieve self-sufficiency in pulses and oilseeds production, **the Government has fixed relatively higher MSP for pulses and oilseeds.**



Enhanced Access to Agricultural Credit:

- Ensuring hassle-free credit availability at a cheaper rate to farmers has been the top priority of the GoI.
- Accordingly, the Government has launched -
  - The **Kisan Credit Card Scheme** (KCC) in 1998
  - The Interest Subvention Scheme (ISS), now renamed Modified Interest Subvention Scheme (MISS)



Farm Mechanisation - Key To Improving Productivity

- Farm mechanisation helps increase productivity **through timely and efficient use of other inputs and natural resources** while at the same time reducing the cost of cultivation.

- Under the **Sub Mission on Agricultural Mechanisation** (SMAM), State Governments are helping farmers procure various farm machinery and equipment besides setting up **Custom Hiring Centres** (CHC).

Chemical-free India: Organic and Natural Farming

- Organic and natural farming provides **chemical fertiliser and pesticide-free food grains** and other crops, improves soil health and reduces environmental pollution.
- India has **44.3 lakh organic farmers**, the highest in the world, and about 59.1 lakh ha area was brought under organic farming by 2021-22.
- **Sikkim became the first State** in the world to become fully organic (in 2016), and other States, including Tripura and Uttarakhand, have set similar targets.
- The Government has been promoting organic farming by implementing two dedicated schemes (since 2015)-
  - **Paramparagat Krishi Vikas Yojana** (PKVY) and
  - Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)
- **Promotion of natural farming began in 2019-20**, when Bhartiya Prakratik Krishi Paddhati (BPKP), a sub-scheme of PKVY, was launched to assist farmers in adopting traditional indigenous practices, including **Zero-Budget Natural Farming** (ZBNF).
  - Under the BPKP, **4.09 lakh ha of land** have been brought under Natural farming in 8 States (Andhra Pradesh, Chhattisgarh, Kerala, HP, Jharkhand, Odisha, MP and TN).

Other Important Initiatives in Agriculture

- **PM KISAN Scheme:** It is a Central Sector Scheme to supplement the financial needs of land-holding farmers by transferring ₹6,000 per year into the bank accounts of farmer families through DBT.
- **Agriculture Infrastructure Fund (AIF):** AIF is a financing facility operational from the year 2020-21 to 2032-33 for the creation of post-harvest management infrastructure and community farm assets, with benefits including 3% interest subvention and credit guarantee support.
- **Pradhan Mantri Fasal Bima Yojana (PMFBY):**
  - It was launched in the **2016** Kharif season to provide **comprehensive insurance coverage** to farmers in case of crop failure, helping stabilise their incomes.
  - PMFBY is currently the **largest crop insurance** scheme in the world in terms of farmer enrolments (averaging 5.5 crore applications every year) and the **third largest** in terms of the premium received.
  - The scheme promises minimal financial burden on the farmer, **with farmers paying only 1.5% and 2% of the total premium for the Rabi and Kharif seasons**, respectively, with Centre and State Governments bearing most of the premium cost.
- **Mission for Integrated Development of Horticulture (MIDH):** The scheme to promote horticulture covering fruits, vegetables, root and tuber crops, spices, flowers, plantation crops etc., was introduced in 2014-15.
- **National Agriculture Market (e-NAM) Scheme:** Launched in 2016, e-NAM creates an online transparent, competitive bidding system to ensure farmers get remunerative prices for their produce.
- **Climate-Smart Farming Practices:** This is slowly gaining acceptance with farmers using clean energy sources like solar for irrigation.
  - Smart farming also enables crop diversification, which will help farmers reduce their dependence on monsoons for water.
  - There are over 1,000 agritech start-ups in India, assisting farmers in improving farming techniques.
- **International Year of Millets (IYM) - 2023:**

- Millets are **Smart Food with high nutritional value**, are climate resilient, and align with several UN Sustainable Development Goals (SDGs).
- These are also important by virtue of their mammoth potential to generate livelihood, **increase farmers' income**. Hence, the UNGA declared **2023** the IYM in 2021.

ALLIED SECTORS: ANIMAL HUSBANDRY, DAIRYING AND FISHERIES CATCHING UP IN RECENT YEARS

Overview

- The allied sectors of Indian agriculture - livestock, forestry & logging and fishing & aquaculture are gradually becoming sectors of **buoyant growth and a potential source of better farm incomes**.
- The livestock sector grew at a CAGR of **7.9%** during 2014-15 to 2020- 21 (at constant prices), and its contribution to total agriculture GVA (at constant prices) **has increased from 24.3% in 2014-15 to 30.1% in 2020-21.**
- **The dairy sector** is the most critical component of the livestock sector, employing more than eight crore farmers directly, and is the most prominent agrarian product.
- Cognisant of the importance of allied sectors, the Government has made **several critical interventions to enhance infrastructure** and improve livestock productivity and disease control.

Initiatives to Boost Allied Sector

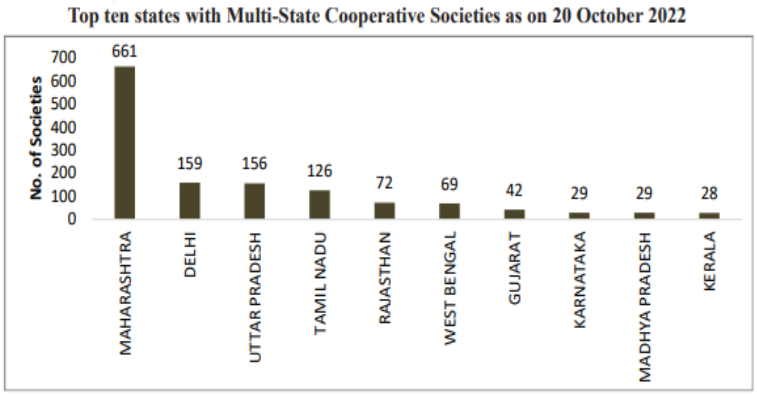
- In 2020,
  - Aatmanirbhar Bharat (ANB) stimulus package
  - **The Animal Husbandry Infrastructure Development Fund (AHIDF) worth ₹15,000 crore was launched.**
- **The National Livestock Mission (NLM) scheme,** which focuses on entrepreneurship development and breed improvement, has been restructured for 2021-22 to 2025-26.
- **The Livestock Health and Disease Control (LH&DC) Scheme** is being implemented to supplement the State/UT governments' efforts towards preventing, controlling and containing animal diseases **by vaccination.**
- **National Animal Disease Control Programme (NADCP)** is being implemented to control Foot & Mouth Disease and Brucellosis by completely vaccinating cattle, buffalo, sheep, etc.
- **A dedicated Fisheries and Aquaculture Infrastructure Development Fund** (FIDF) was established for five years, from 2018-19 to 2022-23, with an investment of ₹7,522 crore.
- **The Pradhan Mantri Matsya Sampada Yojana (PMMSY)** is the Government of India's flagship scheme launched in 2020, as a part of the ANB package, with a total outlay of ₹20,050 crore.
  - PMMSY marks the highest-ever investment in the fisheries sector in India, to be implemented over five years from FY21 to FY25 in all States/Union Territories to drive sustainable and responsible development of the fisheries sector.

OTHER KEY AREAS TO PROMOTE AGRICULTURE AND ALLIED SECTOR:

Sahakar-Se-Samriddhi - From Cooperation to Prosperity

- **The cooperative societies**, especially in the agriculture, dairy and fisheries sectors, provide the rural population with livelihood opportunities and a financial safety net with a community based approach and hold the key to **rural economic transformation**.
- There are **8.5 lakh** registered cooperatives in the country, having more than **29 crore** members mainly from the marginalised and lower-income groups in the rural areas.
- Currently, **98%** of villages are covered by Primary Agriculture Credit Societies (PACS) and around **19% of agriculture finance** is through cooperative societies.

- **The Multi-State Cooperative Societies Act,** 2002 (MSCS) was enacted after repealing the MSC Act 1984, to facilitate the democratic functioning and autonomous working of MSCSs in line with the established Cooperative Principles.
- A full-fledged **Ministry of Cooperation** was established in July 2021 to provide greater focus to the cooperative sector.
- **New National Cooperation Policy:** With the view to strengthening the cooperative movement in the country, deepening its reach to the grassroots, and promoting cooperative-based economic development, a new policy is being formulated.
- In addition, the Government has also decided to introduce **the MSCS (Amendment) Bill, 2022,** which seeks to amend the 2002 Act, to bring it in line with **Part IXB of the Constitution** and to strengthen the cooperative movement in the country.



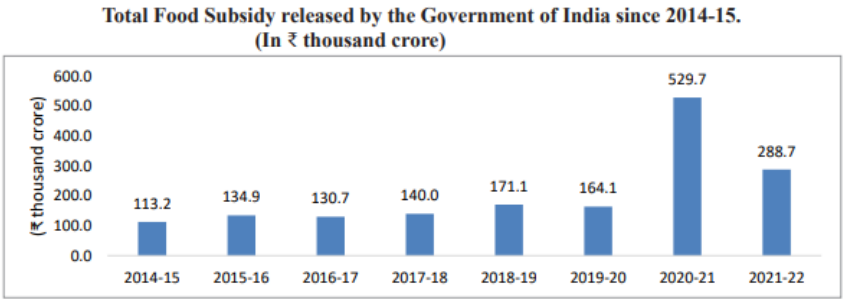
Food Processing Sector - The Sunrise Sector

- The food processing sector is of enormous significance for India's development because of the **strong connections and interactions it promotes between industry and agriculture.**
- During the last five years ending FY21, the food processing industries sector has been growing at an average annual growth rate of around **8.3%.**
- As per the latest Annual Survey of Industries (ASI) 2019-20, **12.2% of persons** in the registered manufacturing sector were employed in the food processing sector.
- The value of agri-food exports, including processed food exports, was about **10.9% of India's total exports during 2021-22.**
- **The NITI Aayog Strategy for New India** identifies the lack of adequate and efficient cold chain infrastructure as a critical supply-side bottleneck that leads to massive post-harvest losses (mostly of perishables) estimated at ₹92,561 crore annually.
- Various interventions (by the Ministry of Food Processing Industries) to promote the sector:
  - **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)**
  - Prime Minister's Formalisation of Micro Food Processing Enterprises (PMFME) Scheme as part of the ANB Abhiyan.
    - ✓ The scheme adopts the **One District One Product** (ODOP) approach to reap the benefit of scale in procuring inputs.
    - ✓ So far, 713 Districts with 137 unique products were approved under the ODOP in 35 States/ UTs.
  - **The Production Linked Incentive Scheme** for Food Processing Industry (PLISFPI), launched in 2022
  - **The Krishi UDAN 2.0 version** was launched in 2021 as a six-month pilot project.
    - ✓ This is to focus on transporting perishable food products, including horticulture, etc., from the Hilly Areas, NE States and Tribal Areas.

Food Security - Social & Legal Commitment to the People of Nation

- Food security is not only a question of the **ability to produce food but also of the ability to access food**.
- The Government is currently running the most extensive legislation-based food security programme in the world, covering about 80 crore of India's population under the **National Food Security Act (NFSA), 2013.**

- Under this, the Government will provide 5 kg of foodgrains per person to **Priority Households** (PHH) beneficiaries and 35 kg per household to **Antyodaya Anna Yojana** (AAY) beneficiaries (poorest of the poor) **free of cost**.

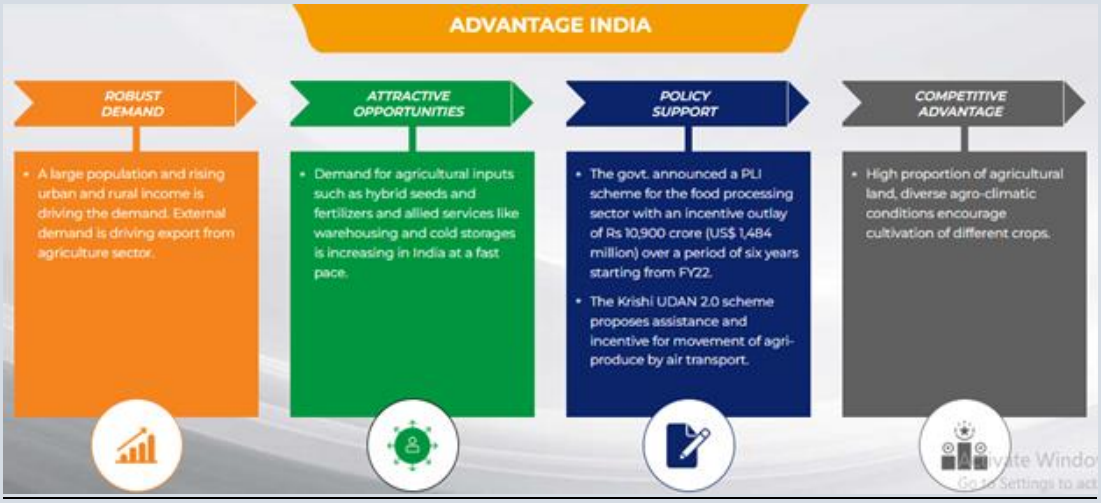


- To ease the hardships faced by the poor due to economic disruption caused by Covid-19, the Government initially launched **Pradhan Mantri Garib Kalyan Anna Yojana** (PMGKAY), which was discontinued recently.
- To further ease the process of access to food, the Government launched a citizen-centric and technology-driven scheme in 2019 called the **One Nation One Ration Card** (ONORC) scheme.

CONCLUSION

The performance of the agriculture sector remains critical to growth and employment in the country. Investment in the sector must be encouraged through an affordable, timely and inclusive approach to credit delivery.

Value Addition: Agriculture in India



Some of The Projects Initiated by NITI Aayog

Blockchain for Natural Farming

- A pilot project has been launched in **Himachal Pradesh**, with the support of the State Government, in providing data. **Apple** has been chosen as the first crop.
- This will **improve quality produce and traceability -** promoting India's food exports and incentivising growers.

Agriculture Transformation Index

- NITI Aayog is working on an Index, which will measure the performance of States across **six pillars:** inputs, sustainability, productivity and diversification, policy, preservation, processing and exports, and farmers' income and welfare.
- The index is aimed at c**apturing the new policy paradigm in agriculture**, at the core of which are sustainable intensification and increasing farmers' income.

Farm-to-Table - Driving India's Agriculture Sector Digitally: Four pilots - farm-advisory services, price prediction and blockchain for quality certification - are currently underway and expected to be completed soon under a roadmap for the implementation of **'Krishi Neev.'**

Promotion of Agroforestry and Wasteland Greening: A policy paper on identifying bottlenecks in the development of agroforestry in the existing National Agroforestry Policy is currently being prepared.

Bamboo as an Alternative Source of Wood: Research over the past decades has demonstrated bamboo as a viable alternative to wood and other traditional materials in construction and infrastructure works. A policy paper is being prepared to promote the development of the bamboo industry.

Roadmap for Self-Sufficiency in Oilseeds: NITI Aayog has formulated a draft roadmap for self-sufficiency in oilseeds.

Research Study on Waste to Wealth: NITI Aayog, in collaboration with ICAR-IARI, is conducting a comprehensive research study to develop technologies to convert crop bio-waste into farm compost, which is economically viable, to reduce stubble-burning.

UPSC MAINS PYQs

1. What are the main bottlenecks in the upstream and downstream process of marketing of agricultural products in India ? (2022)
2. What is an Integrated Farming System ? How is it helpful to small and marginal farmers in India ? (2022)
3. What are the major challenges of the Public Distribution System (PDS) in India ? How can it be made effective and transparent ? (2022)
4. How did land reforms in some parts of the country help to improve the socio-economic conditions of marginal and small farmers? (2021)
5. What are the salient features of National Food Security Act, 2013? How has the Food Security Bill helped in eliminating hunger and malnutrition in India? (2021)
6. What are the present challenges before crop diversification? How do emerging technologies provide an opportunity for crop diversification? (2021)
7. What are the challenges and opportunities of the food processing sector in the country? How can income of the farmers be substantially increased by encouraging food processing? (2020)
8. What are the major factors responsible for making the rice-wheat system a success? In spite of this success, how has this system become bane in India? (2020)
9. Suggest measures to improve water storage and irrigation system to make its judicious use under depleting scenarios. (2020)
10. Elaborate on the impact of the National Watershed Project in increasing agricultural production from water-stressed areas. (2019)
11. How has India benefited from the contributions of Sir M. Visvesvaraya and Dr. M. S. Swaminathan in the fields of water engineering and agricultural science respectively? (2019)
12. What are the reformative steps taken by the Government to make the food grain distribution system more effective? (2019)
13. What do you mean by the Minimum Support Price (MSP)? How will MSP rescue the farmers from the low-income trap? (2018)
14. Examine the role of supermarkets in supply chain management of fruits, vegetables, and food items. How do they eliminate the number of intermediaries? (2018)
15. Assess the role of the National Horticulture Mission (NHM) in boosting the production, productivity, and income of horticulture farms. How far has it succeeded in increasing the income of farmers? (2018)
16. How has the emphasis on certain crops brought about changes in cropping patterns in the recent past? Elaborate the emphasis on millet production and consumption. (2018)

9. INDUSTRY: STEADY RECOVERY

INTRODUCTION

- Industry holds a prominent position in the Indian economy, **accounting for 31% of GDP and employing over 12.1 crore people**.
- The sector's relevance can be identified through **various direct and indirect linkages** with other sectors, contributing to economic growth and employment.
- It ensures that domestic production can accommodate domestic demand and **reduces the reliance on imports,** thereby assisting in the **improvement of trade and current account balances**.

Growth and Share of Industrial Components (in Per cent)

	Growth in Per cent		Real GVA growth in FY23 over FY22	Real GVA growth in FY23 over FY20	Share in total GVA FY23
	H1:FY23	H2:FY23 (Estimated)			
Industry	3.7	4.5	4.1	11.1	30.0
Mining & quarrying	2.2	2.6	2.4	4.4	2.3
Manufacturing	0.1	3.0	1.6	11.0	17.3
Electricity, gas, water supply & other utility services	10.0	7.9	9.0	13.0	2.3
Construction	11.5	7.3	9.1	12.8	8.1
Overall GVA	**9.0**	**4.7**	**6.7**	**9.8**	-

- Industrial growth has **multiplier effects**, which translates into employment growth. Some industries, such as textiles and construction, **have high employment elasticities**.
- Industrial growth **spurs growth in services sectors** such as banking, insurance, logistics, etc.

PERFORMANCE OF THE INDIAN INDUSTRY IN THE CURRENT FINANCIAL YEAR:

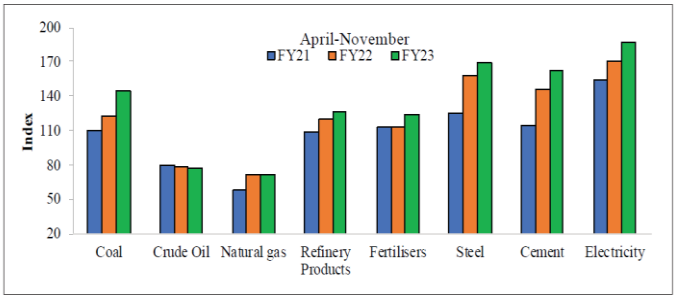
Demand Stimulus to Industrial Growth

- FY23 began with the **month-old Russian-Ukraine conflict**, which have plateaued as the year draws to a close.
- Industry has thus faced **high input costs imported** into the country. The sector has been gradually passing on the higher production costs because of concerns about the impact on demand.
- This has resulted in **core retail inflation** that is persistent but not growing. **Non-core retail inflation,** on the other hand, comprising food and energy components, has been declining.
- The consequent decrease in overall retail inflation has thus sustained the pent-up consumer demand in the post-pandemic Indian economy, **inducing an industrial recovery despite the global headwinds.**

Supply Response of Industry

- The supply response of the industry to the demand stimulus **has been robust**, as seen in high-frequency indicators.
- **The PMI-Manufacturing**, for example, has remained in the expansionary zone for 18 months since July 2021.
- The sustained growth of manufacturing output is also seen within the **overall IIP** producing consumer durables in sync with the "pent-up" consumption demand.

Steady Growth in Components of Index of Core Industries



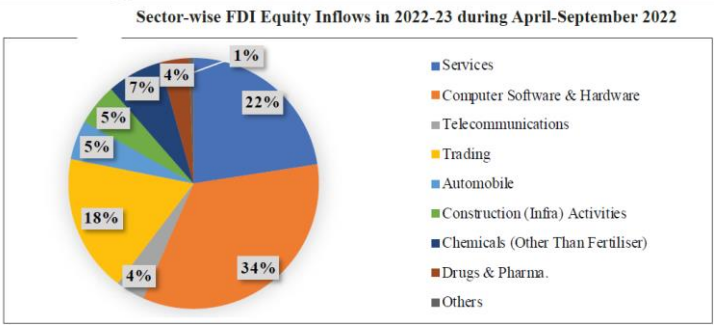
Robust Growth in Bank Credit to Industry:

- Growth in bank credit **has kept pace with industrial growth**, with a sequential surge evident since January 2022.

- While a large share of bank credit continues to be assigned to large industries, **credit to MSMEs has also seen a significant increase.**
- This was in part assisted by the introduction of the **Emergency Credit Line Guarantee Scheme (**ECLGS), which supports around 1.2 crore businesses of which 95% are MSMEs.

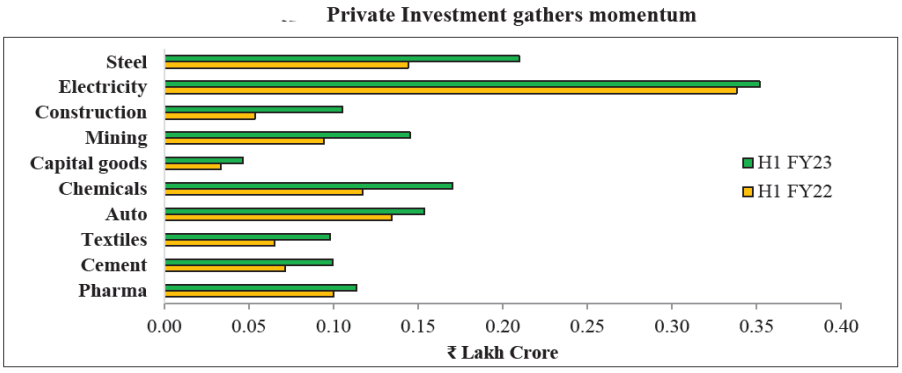
Resilient Foreign Direct Investment (FDI) Inflow in Manufacturing Sector:

- Annual FDI equity inflows in the manufacturing sector have been **steadily increasing** over the last few years.
- It jumped from US$ 12.1 billion in FY21 to **US$ 21.3 billion in FY22** as the pandemic-driven expansionary policies of advanced economies led to a surge in global liquidity.
- With the rise in global uncertainty in the wake of the Russia-Ukraine conflict, **FDI equity inflow in manufacturing in the first half of FY23 fell below its corresponding level** in the first half of FY22.
- **The monetary tightening** at the global level has further restricted the FDI equity inflows.
- To simplify the approval process of foreign Investment and to promote ease of doing business, the erstwhile **Foreign Investment Promotion Board** (FIPB) was abolished in 2017, and a new regime has been put in place.
- A revamped portal, **Foreign Investment Facilitation Portal** (FIF Portal), has been launched as the online single-point interface of the Government of India for investors to facilitate FDI.



- **A rebound in FDI inflows is, however, expected** as the Indian economy sustains its high growth while monetary tightening the world over eventually eases with the weakening of inflationary pressures.

Private Investment Gathers Momentum:



INDUSTRY GROUPS AND THEIR CHALLENGES

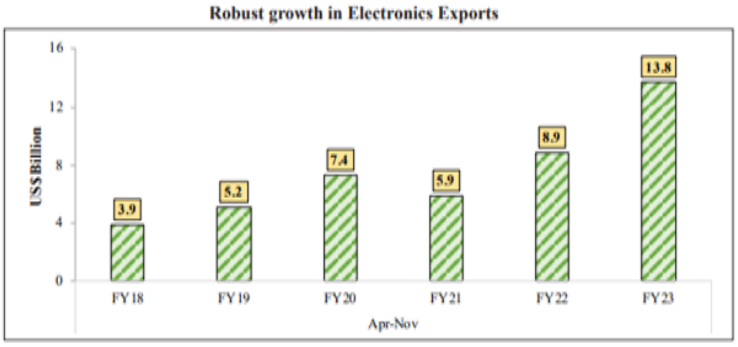
Micro, Small and Medium Enterprises (MSMEs) post smart recovery from pandemic:

- While the contribution of the MSME sector to overall GVA rose from 29.3% in FY18 to 30.5% in FY20, **the economic impact of the pandemic caused the sector's share to fall to 26.8% in FY21.**
- Through the **AatmaNirbhar Bharat Package**, the government has taken multiple steps to cushion the economic impact of the pandemic on MSMEs.
- Some of the measures undertaken include the **modification of the definition of MSMEs.**

- The government's initiative of the **Samadhaan Portal**, set up under the Micro, Small and Medium Enterprises Development (MSMED) Act to monitor the outstanding dues to the MSME sector.
- The government has also initiated the '**Raising and Accelerating MSME Performance**' scheme (RAMP) in FY23. **The WB-supported scheme** aims at strengthening institutions and governance at the Centre and State.

Electronics Industry To Be A Key Driver Of Manufacturing Output And Exports:

- Electronics, supported by continuously improving communication services, **will significantly enhance productivity, efficient service delivery, and social transformation**.
- The domestic electronics industry, as of FY20, is valued at **US$118 billion**. India aims to reach **US$300 billion** worth of electronics manufacturing and US$ 120 billion in exports by FY26, supported by the vision of a US$ 1 trillion digital economy by 2025.
- The major drivers of growth in this industry are **mobile phones, consumer electronics and industrial electronics.**
- The industrial electronics sector is also seeing growth due to improved digitisation and robotics applications in **Industry 4.0.**
- Additionally, the impetus on **Smart Cities and the Internet of Things (IoT)** will streamline the demand for smart and automated electronics.
- Some of the initiatives and incentives provided by the government to nurture and enhance the electronics manufacturing base include -
    - The **PLI scheme** for Large Scale Electronics Manufacturing,
    - The **PLI scheme** for IT hardware,
    - The Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (**SPECS**)
- **The PLI scheme** will help many more domestic players to attain economies of scale and will further **enhance export competitiveness and India's participation in the global value chain.**



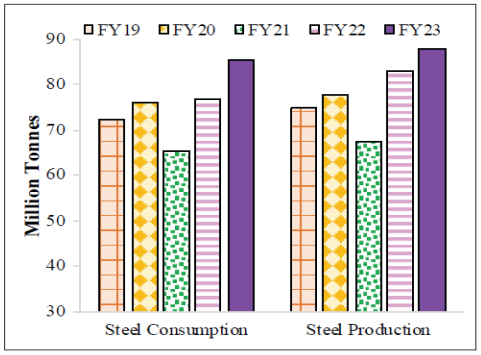
Source: DGCI&S

Coal Industry - Key In Maintaining Energy Self-Reliance During Uncertain Times:

- At the beginning of FY22, **coal availability became a challenge for India's largely thermal-based power generation plants** because of a resurgence in economic activity and the emergence of intense heat waves.
- The government of India **undertook several steps on a priority basis** to address the supply constraints of coal. **For example,** all generators were asked to import coal to the extent of 10% of their requirements (as against 4 per cent earlier).
- Well-timed measures have placed India in a better position to cater to excess energy demand. The coal production for FY23 is **estimated to increase to 911 million tonnes**, about 17% higher compared to the previous year.
- Different measures have been initiated **towards achieving self-reliance in coal production**, including private participation in coal production, FDI under the automatic route, auctioning of coal blocks for commercial production, etc.
- The coal industry is expected **to grow at 6-7% annually** to reach a production level of 1 billion tonnes by FY26 and about 1.5 billion tonnes by 2030.

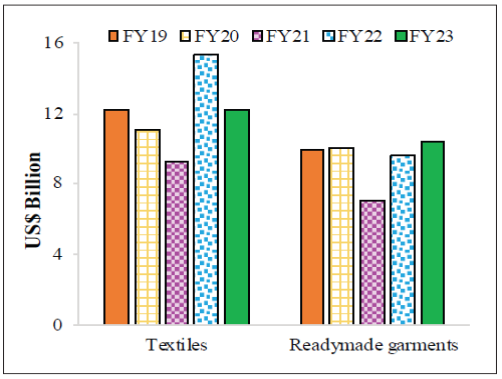
Re-Invigorated Infrastructure Sector & Construction Activity To Drive Steel Industry

- Steel Sector plays a pivotal role in crucial sectors such as construction, infrastructure, automobile, engineering and defence.
- Over the years, the steel sector has witnessed tremendous growth. The country is now a global force in steel production and the **2nd largest crude steel producer in the world**.



Government Support To Help Textile Industry Weather Current Challenges:

- The Textile industry is **one of the country's most significant sources of employment generation**, with an estimated **4.5 crore** people directly engaged in this sector, including a **large number of women and the rural population**.
- In the current financial year, the textile industry has been facing the **challenge of moderating exports** compared to FY22.
- To develop integrated large-scale and modern industrial infrastructure facilities for the entire value chain of the textile industry, the government approved the setting up of seven PM Mega Integrated Textile Region and Apparel (**PM MITRA**) Parks.



- Further, to boost the production capacity, the government launched **the Textile PLI Scheme** with an approved outlay of ₹10,683 crore over five years starting from 1st January 2022.

Growth Momentum In Pharmaceuticals Industry Sustains After The Pandemic

- The Indian Pharmaceuticals industry plays a prominent role in the global pharmaceuticals industry and is estimated at US$ 41 billion in 2021 and is likely to grow to **US$ 65 billion by 2024.**
- India is **ranked 3rd worldwide** in the production of pharma products by volume and 14th by value.
- The nation is the **largest provider of generic medicines globally**, occupying a 20% share in global supply by volume, and is the leading vaccine manufacturer globally with a market share of 60%.

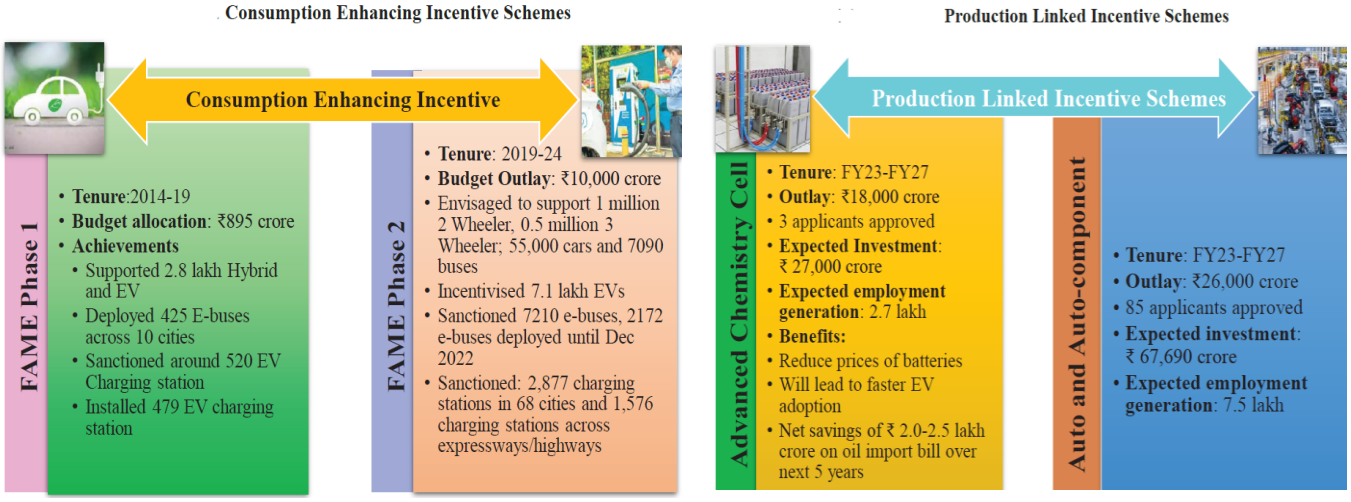
Three PLI Schemes to boost Manufacturing Capacity in the Pharmaceutical Sector

Critical KSMs/DIs/APIs	Medical Devices	Pharmaceuticals
• **Tenure**:FY21 to FY30 • **Outlay**: ₹6,940 crore • **Progress**: Until Dec 2022, 51 applicants approved with committed investment of ₹4,138.4 crore. • **Employment**: Estimated employment generation from 51 projects is 10,598 persons. • **Financial incentive**: NA	• **Tenure**: FY21 to FY28 • **Outlay**: ₹3,420 crore • **Progress**: Until Dec 2022, 21 applicants approved with committed investment of Rs 1,058.97 crore. • **Employment**: Estimated employment generation from 21 projects of around 6,411 persons. • **Financial incentive**: The financial incentive at the rate of 5 per cent on incremental sales of medical devices for 5 years.	• **Tenure**: FY21 to FY29 • **Outlay**: ₹15,000 crore • **Progress**: Until June 2022, 55 applicants approved with actual investment of Rs 18,669 crore. • **Employment**: Estimated employment generation from 55 projects : 20,000 direct and 80,000 indirect jobs. • **Financial Incentive**: on incremental sales under various categories at varying rate over the years ranging from 10 per cent to 3 per cent.

India Becomes The World's 3rd Largest Automobile Market

- The automobile sector is a key driver of India's economic growth. In December 2022, India became the **3rd largest automobile market**, surpassing Japan and Germany in terms of sales.
- In 2021, **India was the largest manufacturer of two-wheeler** and three-wheeler vehicles and the world's fourth-largest manufacturer of passenger cars.

- The sector's importance is gauged by the fact that it contributes **7.1% to the overall GDP and 49% to the manufacturing GDP** while generating direct and indirect employment of 3.7 crore at the end of 2021.



INDIA'S PROSPECTS AS A KEY PLAYER IN THE GLOBAL VALUE CHAIN

- The risk of supply chain shocks has never been more palpable than today, following compounding crises from the US-China trade war, the Covid-19 pandemic, and the war in Ukraine.
- In this fast-evolving context, as global companies adapt their manufacturing and supply chain strategies to build resilience, **India has a unique opportunity to become a global manufacturing hub this decade.**
- The manufacturing sector in India is gradually shifting to **more automated and process-driven manufacturing,** which is expected to increase efficiency and boost the production of the industry.
- **The 'Make-in-India'** Initiative was launched in 2014 to make India a hub for manufacturing, design, and innovation.
- Since then, it has facilitated investment, fostered innovation and built world-class infrastructure.

Make In India 2.0 And The PLI Schemes

- In pursuit of the objectives of the Make-in-India programme and with a vision to achieve Atma Nirbharta, **the government launched the PLI scheme**.
- The scheme is expected to attract **a capex of approximately ₹3 lakh crore** over the next 5 years.

- It has the potential to **generate employment for over 60 lakh** in India and increase the share of the manufacturing sector in total capital formation, which currently stands at around 17-20% between FY12 and FY20.

Shipbuilding Sector: Achieving Self-Reliance And Promoting Make In India

- The Shipbuilding industry is a **strategically important industry** due to its role in energy security, national defence and the development of the heavy engineering industry.
- It has the **potential to increase the contribution of the industry** and the services sector to the national GDP.
- With its **immense direct and indirect linkage**s with most other leading industries, such as steel, aluminium, electrical machinery and equipment etc., the shipbuilding industry has the potential to strengthen the mission of an **'Aatmanirbhar' Bharat.**

Fostering Innovation

- The government's efforts towards fostering innovation include **incubation, handholding, funding, industry-academia partnership and mentorship**.
- The government has also strengthened its **IPR regime by modernising the IP office**, reducing legal compliances and facilitating IP filing for start-ups, women entrepreneurs, small industries and others.
- This has resulted in a 46% growth in the domestic filing of patents over 2016-2021, signalling India's transition towards a **knowledge-based economy**.
- As per the **Global Innovation Index** (GII) 2022 report, which ranks the countries based on innovation performance, India entered the top 40 innovating countries for the first time since the inception of GII in 2007.

Flipping And Reverse Flipping: The Recent Developments In Start-Ups

- India ranks **amongst the largest startup ecosystems** in the world. An impressive 9 lakh+ direct jobs have been created by the Dept. for Promotion of Industry and Internal Trade (DPIIT) recognised startups (self-reported), **with a notable 64% increase** in new jobs in the last three years.
- **About 48%** of our startups are from Tier II & III cities, a testimony of our grassroots' tremendous potential.
- Various initiatives of the Government have given a major boost to start-ups. For instance,
  - **Start-up India Initiative**
  - Umbrella schemes of the National Initiative for Developing and Harnessing Innovations (**NIDHI**) and Atal Innovation Mission (**AIM**)
  - Technology Incubation and Development of Entrepreneurs (**TIDE** 2.0)
  - Support for International Patent Protection in E&IT **(SIP-EIT)** Scheme encourages international patent filing by Indian MSMEs and start-ups
- Many Indian companies have been getting headquartered overseas, especially in destinations with favourable legal environments and taxation policies. The technical jargon for this may be identified as **'Flipping'.**
- To accelerate **'Reverse Flipping',** certain measures are possible, some of which are listed below:
  - **Simplifying multiple layers of tax and uncertainty due to tax litigation.**
  - Simplifying procedures for capital flows by making corporate laws easier.
  - **Facilitating improved collaboration with established private entities, etc.**

Structural Reforms Have Enhanced The Ease Of Doing Business

- The DPIIT's **Business Reform Action Plan (BRAP) 2020** (fifth edition), based on the implementation of reforms by States/UTs, was released on 30th June 2022.

- It shows that **7,496 reforms** were implemented across States and UTs as part of the BRAP 2020 assessment, thereby significantly enhancing the Ease of Doing Business across the country.
- **Reducing the Compliance Burden** (RCB) on businesses and citizens is a continuous exercise to leapfrog to the next level of governance excellence and improve **Ease of Living.**

India and Industry 4.0

- The advent of the fourth industrial revolution or industry 4.0 as it's commonly referred to, has begun.
- The transformation **integrates new technologies such as cloud computing, IoT, machine learning, and artificial intelligence (AI)** into manufacturing processes, leading to efficiencies across the value chain.
- While the adoption of these technologies in the Indian manufacturing sector is underway, **large-scale adoption is yet to happen**.
- A few initiatives by the government include -
  - **The SAMARTH** (Smart Advanced Manufacturing and Rapid Transformation Hubs) Udyog Bharat 4.0 under the Ministry of Heavy Industries and Public Enterprises.
  - Another initiative is the establishment of the **Centre for Fourth Industrial Revolution in India in 2018**, which looks to develop policy frameworks for emerging technologies.

CONCLUSION AND OUTLOOK

Despite global headwinds, i**ndustrial production expanded during FY23**, backed by sustained demand conditions. Of course, the strength and duration of the recovery in commodity prices will be a function of many factors, such as the pace of China's economic recovery and growth outlook in North America and Europe. Notwithstanding such open questions, industrial output in India should continue to grow steadily **based on resilient domestic demand.**

Value Addition: Current Projects to Promote Industrial Activity

Production-Linked Incentive Scheme (PLI)

- The thrust lies on the manufacturing sector **to absorb the surplus labour force** from the agricultural sector.
- To achieve this, **the PLI Scheme was designed** to provide incentives to companies for enhancing their domestic manufacturing and focus on reducing import bills and improve the cost competitiveness of local goods.

Preparation of Roadmap for Creating Global Champions in Automotive Industry in India:

- India's share in global automotive trade has been less than 2% in value terms - indicating a significant opportunity for growth.
- This has been the driving force for the Vertical's research study on a roadmap **to create global champions in the automotive industry.**

Integration of MSMEs on e-Commerce Platforms: A sustainable business via e-commerce can be achieved by introducing a digital infrastructure platform connecting MSME sellers and traders to existing nationwide marketplaces.

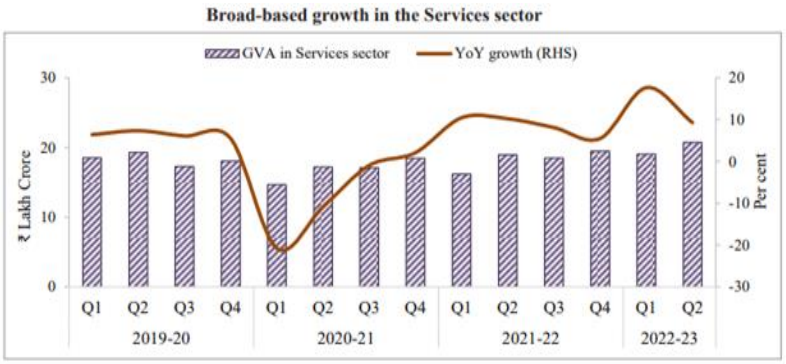
BARC Rare Earth Permanent Magnet Technology Dissemination and Establishment of Plants: Bhabha Atomic Research Centre (BARC) has developed a laboratory-scale process for the conversion of RE oxide to RE metal.

UPSC MAINS PYQ
1. Elaborate the scope and significance of the food processing industry in India. (2022)
2. "Industrial growth rate has lagged behind in the overall growth of Gross-Domestic-Product(GDP) in the post-reform period" Give reasons. How far are the recent changes in Industrial Policy capable of increasing the industrial growth rate? (2017)
3. Account for the failure of the manufacturing sector in achieving the goal of labour-intensive exports rather than capital-intensive exports. Suggest measures for more labour-intensive rather than capital-intensive exports. (2017)
4. There is a clear acknowledgement that Special Economic Zones (SEZs) are a tool of industrial development, manufacturing and exports. Recognizing this potential, the whole instrumentality of SEZs requires augmentation. Discuss the issues plaguing the success of SEZs with respect to taxation, governing laws and administration. (2015)
5. What are the impediments in marketing and supply chain management in the industry in India? Can e-commerce help in overcoming these bottlenecks? (2015)
6. Normally countries shift from agriculture to industry and then later to services, but India shifted directly from agriculture to services. What are the reasons for the huge growth of services vis-a-vis the industry in the country? Can India become a developed country without a strong industrial base? (2014)
7. The right to fair compensation and transparency land acquisition, rehabilitation and resettlement act, 2013 has come into effect from 1 January 2014. What implication would it have on industrialization and agriculture in India? (2014)
8. Foreign direct investment in the defence sector is now said to be liberalised. What influence is this expected to have on Indian defence and economy in the short and long-run? (2014)
9. What is the meaning of the term 'tax expenditure'? Taking the housing sector as an example, discuss how it influences the budgetary policies of the government. (2013)
10. Discuss the impact of FDI entry into the Multi-trade retail sector on supply chain management in the commodity trade pattern of the economy. (2013)

10. SERVICES: SOURCE OF STRENGTH

INTRODUCTION

- The Covid-19 pandemic hurt most sectors of the economy, with the effect particularly profound for **contact-intensive services** sectors like tourism, retail trade, hotel, entertainment, and recreation.
- On the other hand, **non-contact services** such as information, communication, financial, professional, and business services **remained resilient**.
- However, the services sector witnessed a swift rebound in FY22, growing Year-on-Year (YoY) at **8.4%** compared to a contraction of 7.8% in the previous financial year.
- **The improvement was driven by growth** in the 'Trade, Hotel, Transport, Storage, Communication and Services related to broadcasting' sub-sector, which bore the maximum burden of the pandemic.



TRENDS IN HIGH-FREQUENCY INDICATORS

Services PMI

- India's services sector activity, gauged by PMI Services, which remained in the contractionary zone for several months during 2020 and 2021, **recovered swiftly at the beginning of 2022.**
- However, PMI services again witnessed a setback with the outbreak of the **Russia-Ukraine conflict.**
- However, **following an overall easing of retail inflation** leading to retreating price pressures of inputs and raw materials, PMI services witnessed an uptick in December 2022.

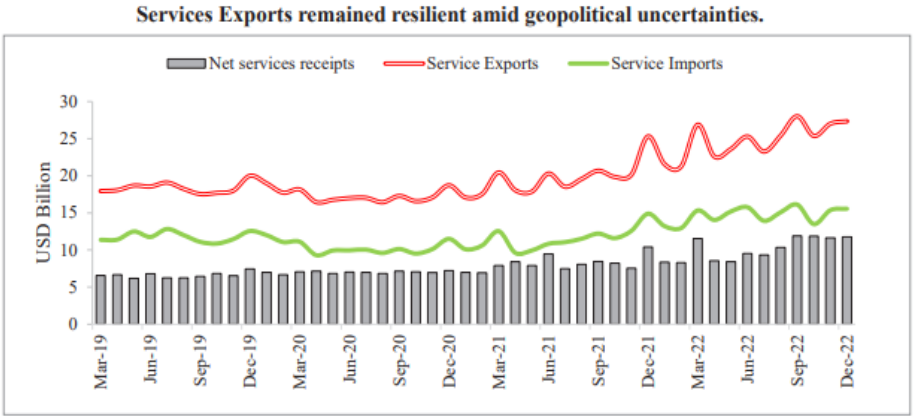
Bank Credit

- Bank credit to the services sector has witnessed **significant growth since October 2021** with the improvement in **vaccination coverage and recovery in the services sector**.
- The credit to services sector saw a YoY growth of 21.3% in November 2022, the second highest in 46 months, compared to a 3.3% growth in November 2021.

Services Trade

- **WTO's Services Trade Barometer Index** reading fell to 98.3 for October 2022 (slightly below its baseline value of 100), indicating that YoY growth in real commercial services began moderating in the third quarter of 2022.
- This decline may be carried forward further due to **declining growth prospects in major service industry economies.**
- **Financial and ICT Services** have been so far most resilient to the slowing global economy, whereas construction services and container shipping fell into contraction territory.
- Insofar as India is concerned, some headwinds may be observed in the coming months. **On the contrary, India's services exports may improve** as runaway inflation in advanced economies drives up wages and makes local sourcing expensive.

- India is a significant player in services trade, **being among the top ten services exporter** countries in 2021, having increased its share in world commercial services exports from 3% in 2015 to **4% in 2021.**
- Among services exports, **software exports** have remained relatively resilient during the Covid-19 pandemic as well as amid current geopolitical uncertainties**,** driven by higher demand for **digital support, cloud services, and infrastructure modernisation.**
- **Transport and travel exports** have been the most impacted sub-components of the services exports in FY21 and FY22.



Foreign Direct Investment (FDI) in Services

- **The World Investment Report 2022 of UNCTAD** places India as the seventh largest recipient of FDI in the top 20 host countries in 2021.
- In FY22 India received the highest-ever FDI inflows of US$ 84.8 billion including US$ 7.1 billion FDI equity inflows in the services sector.
- To facilitate investment, various measures have been undertaken by the Government, such as the launch of the **National Single-Window system, a one-stop solution for approvals and clearances**.

Insurance Sector Is At An Inflexion Point

- India will be one of the main drivers of global insurance industry growth over the next decade.
- The Indian Insurance Market is the **10th largest in the world** and is poised to **become the 6th largest by 2032**, ahead of Germany, Canada, Italy, and South Korea.
- The insurance regulator, **Insurance Regulatory and Development Authority of India** (IRDAI), has taken up the mission of universal insurance, which is expected to lead to a significant increase in insurance penetration.
- **When India celebrates 100 years of its independence in 2047**, every Indian has appropriate life, health, and property insurance cover and every enterprise is supported by appropriate insurance solutions.
- In line with the Government of India's vision towards **Financial Inclusion** and a strong emphasis on accelerating reforms, IRDAI, during FY23, **has implemented the following measures** -
    - Easy entry into the insurance sector
    - Quick launch of Insurance Products
    - Ease of doing business
    - Providing further impetus to the industry
    - Addressing dynamic needs of the industry

MAJOR SERVICES: SUB-SECTOR-WISE PERFORMANCE

Tourism and Hotel Industry

- The post-pandemic scenario of global tourism is gradually converging to the pre-pandemic one. As per the **World Tourism Barometer of the United Nations World Tourism Organisation** (November 2022),

international tourism showed robust performance boosted by strong pent-up demand, improved confidence levels and the lifting of restrictions.

- Without the continuing global uncertainties and greater inflation in advanced countries, **the rate of recovery would have been considerably faster.**
- With the waning of the pandemic, **India's tourism sector is also showing signs of revival.**
- **The Ministry of Tourism** has undertaken various measures to boost the Tourism sector, which include -
    - **National Integrated Database of Hospitality Industry (NIDHI):** The comprehensive national database will help in creating policies and strategies for the promotion and development of tourism at various destinations.
    - **System for Assessment, Awareness, and Training for Hospitality Industry (SAATHI):** It was launched in association with the QCI to restrict any further transmission of the virus while providing accommodation and other services post-lockdown.
    - **Loan Guarantee Scheme for Covid Affected Tourism Service Sector (LGSCATSS)**

Real Estate

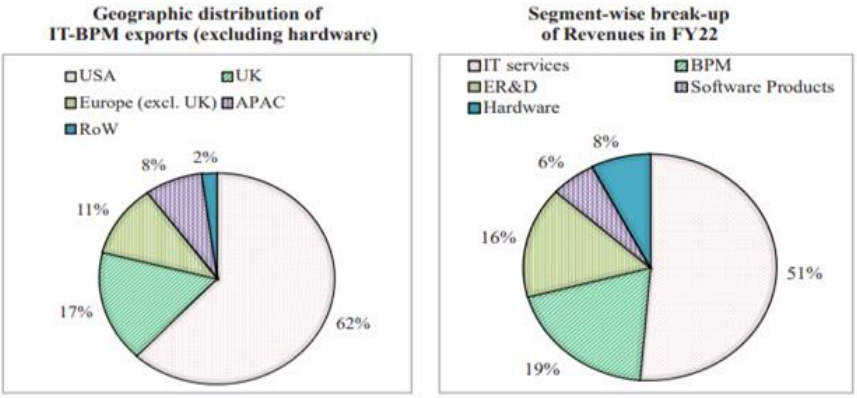
- The onset of the Covid-19 pandemic accentuated a slowdown in every economic space, and the real estate sector was no different.
- **Project delays**, deferment of big-ticket purchases, stagnation of property prices, and scarce funding for developers induced slackening of demand.
- **The work-from-home model** had an impact on the demand for office space requirements by the corporates.
- The Pandemic, however, **brought about a change in individual home buyers' sentiment** in favour of owning a house.
- Improvement in affordability in response to measures taken by the government during the pandemic, such as
    - **Lower interest rates,**
    - Reduction in circle rates, and cut in stamp duties on transaction of sale/purchase of immovable property,
    - The extension of the **Real Estate Regulation Act** (RERA) also played a significant role in the post-pandemic rebound of the Real Estate sector.
- Measures taken by the Government to boost the housing sector -
    - 'Housing for All', Aatmanirbhar Bharat, etc., provided an impetus to the Housing Finance sector.
    - The interest subvention under **Pradhan Mantri Awas Yojana-Credit Linked Subsidy Scheme** (Urban) (PMAY-CLSS (U)) has been the demand-side driver in the residential housing space.
- Notwithstanding the current impediments, such as rising interest rates on home loans and an increase in property prices, **the sector has witnessed resilient growth in the current year.**

IT-BPM Industry

- **Covid-19 has accelerated the pace of digital transformation** across most of India's end user industries, with companies witnessing a rise in investment.
- With rapid digitisation across the value chain, **end-user industries are primed to adopt holistic and high-end enterprise performance solutions** in an evolutionary journey over the near to long term.
- Major growth drivers in the IT-BPM Industry -

- Increasing penetration of digital tech and "Made in India digital-first solutions for the world"
- Margin defence through operational excellence
- India is a digital talent nation

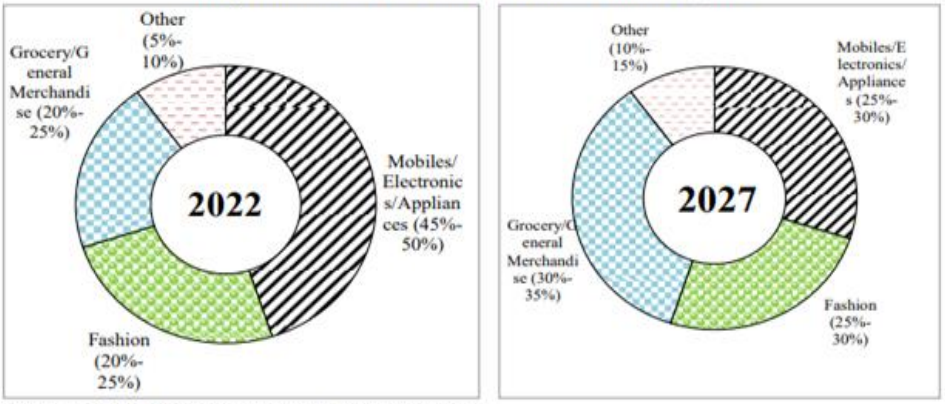
- Leading in hybrid work models



E-Commerce

- On the same lines as the IT-BPM sector, **the E-Commerce sector also witnessed a renewed push and a sharp increase** in penetration in the aftermath of the pandemic.
- The Government's push to boost the **digital economy, growing internet penetration, rise in smartphone adoption**, innovation in mobile technologies, and increased adoption of digital payments further accelerated the adoption and growth of e-commerce.
- According to the Global Payments Report by Worldpay FIS, India's e-commerce market is projected to post impressive gains and **grow at 18% annually through 2025.**

Fashion, grocery, and general merchandise to capture nearly two-thirds of the Indian e-commerce market by 2027



Source: How India Shops Online 2022, Bain and Company

Digital Financial Services

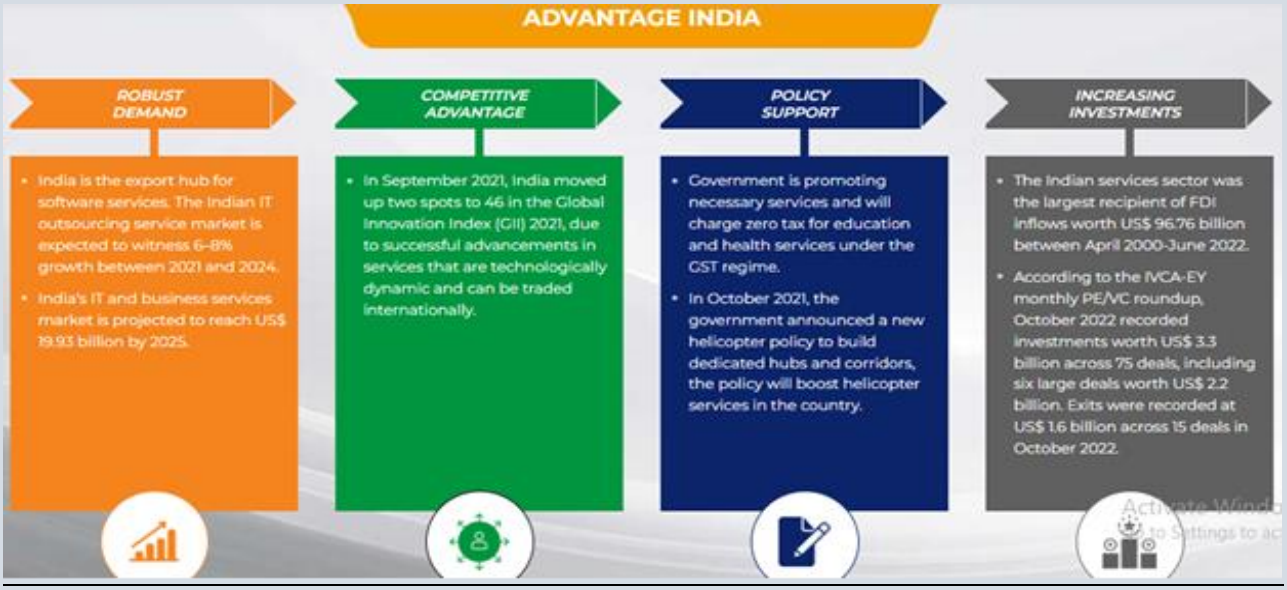
- Digital financial services enabled by emerging technologies and innovative solutions are **accelerating financial inclusion**, democratising access, and spurring the personalisation of products.
- With a strong foundation provided by the **Jan Dhan-Aadhaar-Mobile (JAM) trinity, UPI, and other regulatory frameworks**, the pandemic has aided acceleration in digital adoption.
- The **pandemic provided the opportunity for fintech companie**s to reach the underserved and provide cost-effective financial services to those at the bottom of the pyramid.
- India took the lead with the **fintech adoption rate of 87%,** substantially higher than the world average of 64% as per the latest Global FinTech Adoption Index.
- **Account Aggregator (AA) Framework - Transforming India's Financial Services:**
  - AA is a Non-Banking Financial Company (NBFC) engaged in the business of providing the service of retrieving or collecting financial information pertaining to the customer.
  - AA transfers data from one financial institution to another based on an individual's instruction and consent. Registering with an AA is fully voluntary for consumers.
- **Dematerialisation of documents - The next wave of digitisation:**
  - In line with the objective of the **Digital India mission**, which seeks to transform India into a digitally empowered nation, National e-Governance Services Limited (NeSL), introduced the **Digital Document Execution** (DDE) platform in 2020.
  - This was done at the behest of the Insolvency and Bankruptcy Board of India and with the support of the Department of Financial Services (DFS), Ministry of Finance.

- The core principle of the NeSL-DDE platform is **to digitise all the steps** of the document/ agreement execution journey and will have significant implications on the **ease of doing business in the nation.**

OUTLOOK

Broad-based recovery has been observed in India's services sector growth in recent months, with pick up in almost all sub-sectors, especially contact intensive services sector, which bore the maximum brunt of the pandemic.

Value Addition: Services



UPSC MAINS PYQ
Normally countries shift from agriculture to industry and then later to services, but India shifted directly from agriculture to services. What are the reasons for the huge growth of services vis-a-vis the industry in the country? Can India become a developed country without a strong industrial base? (2014)

11. EXTERNAL SECTOR: WATCHFUL AND HOPEFUL

INTRODUCTION

- Despite the global financial crisis in 2007-08, Global economic growth reached 4.5 percent in 2010. After the decade (In 2020), The Covid-19 pandemic took global economic growth down to a negative of 3.8 percent. These two global shocks in the new millennium 1) economic shock and 2) a health shock - have had very contrasting repercussions on the global economy.
- The following two years saw inflation rates rise to multi-decade highs, fuelled by global commodity and food price spikes. The Russia-Ukraine conflict further amplified this situation.
- As per IMF, Global growth is forecast to slow from 6.0 per cent in 2021 to 3.2 per cent in 2022 and 2.7 per cent in 2023. This is the weakest growth profile since 2001 except for the global financial crisis and the acute phase of the pandemic.
- Against this uncertain global economic growth outlook, this chapter will provide the developments in the external sector of the Indian economy. The external sector will primarily focus on exports, imports, international investment, foreign exchange reserves, movement of the currency against the US dollar, external debt, and the BoP situation.

TRADE HELPING INDIA TO REAP THE BENEFITS OF GLOBALISED WORLD

Trade is essential for developing countries to reap the benefit of increased globalisation of products and financial markets. It is well recognised that trade is not an end in itself but a means to balanced, equitable, and sustainable development.

- The trade openness of countries across the globe has been increasing as measured by trade as a proportion of GDP.
- As per World Bank Database, the share of trade as a percentage of GDP for World and India are as follows:

World Scenario (Share of trade as % of world GDP)	Indian Scenario (Share of trade as % of Indian GDP)
1) Since 2003: in the range of 50-60 per cent 2) In 2020: stood at 52 per cent Note: Trade is the sum of exports and imports of goods and services measured as a share of GDP	1) Since 2005: steadily increasing, being above 40 per cent (except 2020 being the pandemic year). 2) In 2021: The ratio stands at 46 per cent 3) H1 of 2022 (First Half of 2022): 50 per cent.

Global Trade Scenario

H1 of 2022 (First Half of 2022)	H2 of 2022 (Second Half of 2022)
1) According to the World Trade Organization (WTO), Global trade showed resilience in H1 2022 with a 4.8% growth in volume and a YoY rise of 22.2% in value in 2021 despite having Post Covid-19-induced disruptions and Russia-Ukraine conflict. 2) This growth was driven by robust merchandise imports from Europe, US and some developing countries, appreciation of the dollar in the US, strong intra-regional trade in Europe and	However, The global trade outlook became grimmer in H2 2022 due to a combination of following factors: 1) increasing likelihood of a recession in major economies, 2) tapering demand for consumer durables, 3) aggressive monetary policy tightening by central banks, 4) supply chain disruptions, and elevated freight charges. The WTO Goods Trade Barometer shows that trade growth is likely to slow in the closing months of 2022 and into 2023. The current reading of 96.2 is below the baseline value and

favorable terms-of-trade effects in some emerging economies. Hence, Trade in value terms grew by 32% in H1 2022 compared to the same period in 2019.	previous reading, reflecting the slowdown in demand for traded goods.

- According to the WTO, global trade is expected to slow down in H2 2022 and remain subdued in 2023, with a growth forecast of just 1%, a sharp revision from the previous estimate of 3.4%. The forecast has a high degree of uncertainty due to shifting monetary policy in advanced economies and the unpredictable nature of the Russia-Ukraine conflict.
- The UNCTAD Global Trade update of December 2022 notes that the ongoing trade slowdown is expected to worsen for 2023 and that negative factors appear to outweigh positive trends, making the outlook for global trade uncertain.

Additional Information

The Goods Trade Barometer:

1) The WTO has developed a set of indicators to provide "real-time" information on trends in world trade.
2) It is a leading indicator that signals changes in world trade growth two to three months ahead of merchandise trade volume statistics.
3) Values greater than 100 signal above-trend expansion while values less than 100 indicate below-trend growth.

INDIA'S GROWING AND DIVERSIFYING TRADE

International trade has been an important pillar of the resilience of India's external sector.

Trends in Merchandise Trade

- For FY 2022: India had a record-high annual merchandise export of $422 billion in fiscal year 2022.
- For FY 2023: Merchandise exports were US$ 332.8 billion over April-December 2022 against US$ 305.0 billion during the period April-December 2021. Petroleum, oil, and lubricants (POL) exports constituted about 21.1 per cent and non-POL exports were 78.9 percent of total exports during FY23 (until December 2022).

Merchandise Exports	Merchandise Imports
1) The USA remained the top export destination, followed by UAE and the Netherlands, which displaced China from the third spot. 2) India has diversified its export destinations over time, with South Africa, Brazil, and Saudi Arabia's share of total exports increasing. 3) India's exports in the pharmaceutical, electronic goods, engineering goods, and organic and inorganic chemicals sectors saw significant growth in FY22, despite global challenges in H1FY23. 4) The country's pharmaceutical exports grew from $15.4 billion in FY15 to $24.6 billion in FY22 and had a positive growth of 3.6% during April-December 2022, due to increased demand for Covid-19 vaccines and medicines.	1) As for imports, China, UAE, USA, Russia, and Saudi Arabia have a combined share of 40% of India's total imports. 2) However, the share of China and the USA declined in April-November 2022 compared to the previous year. 3) As the pandemic situation improved, India experienced a resurgence in domestic demand, leading to strong import growth. 4) Merchandise imports from April-December 2022 were $551.7 billion, compared to $441.5 billion during the same period in 2021. 5) The highest imported commodity was petroleum crude and products, which

5) India also saw consistent growth in electronic goods exports, which increased 51.6% to $16.7 billion during April-December 2022. 6) Engineering goods exports crossed the $100 billion mark for the first time in FY22, and organic and inorganic chemicals exports increased significantly to $23.0 billion during April-December 2022, with a growth of 6.5% over the same period last year.	increased by 45.6% to $163.9 billion in April-December 2022 from $112.6 billion in the same period the previous year.

- **Trade Deficit:** After analysing the above two parameters, The merchandise trade deficit (Import>Export) for April-December 2022 was estimated at US$ 218.9 billion as against US$ 136.5 billion in April-December 2021.

Trade in Services

India continued to be a leader in world services trade in FY22, despite pandemic restrictions and weak tourism revenue.

Export of Services	Import of Services
1) India's services exports in FY22 were $254.5 billion, showing a 23.5% increase over FY21, and a 32.7% growth in April-September 2022 compared to the same period the previous year. 2) Software and business services made up over 60% of India's total services exports, and showed strong growth in Q2FY23. 3) The growth in software exports was driven by strong revenue from major IT companies in various industries such as retail, media and communications, healthcare, and finance. 4) while the growth in business services exports was boosted by a significant increase in engineering and R&D services.	1) Services imports increased by 25.1% to reach $147.0 billion between FY21 and FY22 and grew 36.7% in April-September 2022 compared to the same period in FY22, primarily due to payments for transport, travel, and business services. 2) The increase was driven by a shortage of shipping vessels and high transportation costs during the resumption of global activity.

Overall Trade (Merchandise and Service)

- India's service exports have remained strong while merchandise exports have slowed down in the second half of 2022. This is due to the demand for low-cost knowledge-based services offered by India, which has not declined even during a global economic slowdown.
- Overall exports (merchandise and services combined) in April-December 2022 are estimated to be $568.6 billion, showing positive growth of 16.1% over the same period in 2021.
- Meanwhile, overall imports are estimated to be $686.7 billion in April-December 2022, displaying positive growth of 25.6% over the same period in 2021.

Key aspects of India's trade (Calendar year-wise)

	2019	2020	2021
Export performance (in per cent)			
Share in World Merchandise Exports	1.7	1.6	1.8
Share in World Commercial Services Exports	3.5	4.0	4.0
Share in World Merchandise Plus Services Exports	2.1	2.1	2.2
Import Performance (in per cent)			
Share in World Merchandise Imports	2.5	2.1	2.5
Share in World Commercial Services Imports	3.0	3.2	3.5
Share in World Merchandise Plus Services Imports	2.6	2.3	2.7
India's rank in world trade			
Merchandise Exports	18	21	
Merchandise Imports	10	14	
Services Exports	8	7	
Services Imports	10	10	

Foreign Trade Policy

India's Foreign Trade Policy (FTP) traditionally covers a 5-year period and focuses on providing a framework for exports and imports and incentives for promoting exports. The current FTP, which was originally for 2015-2020, has been extended till March 2023 due to global economic and geopolitical instability and currency fluctuations.

- In 2022, India signed free trade agreements with the UAE and Australia, aiming to provide greater market access and make exporters competitive.
- The Export Preparedness Index has also been introduced to evaluate the states' export potential and capacities, with the goal of strengthening the national and sub-national export ecosystems.

International Trade Settlement in Indian Rupees

- In July 2022, the Reserve Bank of India (RBI) issued a circular allowing an additional arrangement for invoicing, payment, and settlement of exports and imports in Indian Rupees (INR) to promote global trade and support the growing interest in using INR as an international currency.
- This framework involves invoicing exports and imports in INR, using market-determined exchange rates between the currencies of the trading countries, and settling through special Rupee Vostro accounts opened with authorized dealer banks in India.
- The framework for international settlement in INR has become significant due to the US Fed's aggressive policy rate hikes and strong US dollar, causing weakening of various EME currencies including the INR.
- This framework could reduce the demand for foreign exchange and protect Indian businesses from currency volatility, improving their chances for global growth and reducing dependence on foreign currency.
- The US dollar currently dominates global forex turnover at 88%, while the INR only accounts for 1.6%. If the INR turnover rises to 4%, the same as non-US, non-Euro currencies, the INR could become an international currency reflecting India's position in the global economy.

INITIATIVES TO ENHANCE TRADE

India's exports in FY22 reached US$ 422.0 billion, exceeding the target of US$ 400 billion, due to efforts from the government and all stakeholders. To facilitate and encourage exports, The government has also implemented specific schemes which are follows:

1) **Focus on Agricultural Products:** India achieved its highest ever agricultural exports in FY22, reaching US$ 37.8 billion, and continued strong performance in FY23 with exports of US$ 26.8 billion during April-November 2022.
2) **Interest Equalisation Scheme:** The Scheme aims to provide benefits to exporters in the interest rates charged by banks on their pre- and post-shipment rupee export credits. The subvention rates were reduced from 1 October 2021, with a revised rate of 3% (previously 5%) subvention for MSME manufacturing exporters and 2% (previously 3%) for merchant and other manufacturer exporters exporting along 410 HS lines (previously 416).
3) **Remission of Duties and Taxes on Exported Products (RoDTEP) scheme:** The scheme seeks remission of Central, State and Local duties/taxes/levies at different stages.
4) **Export Credit Guarantee:** In July 2022, ECGC launched a new scheme under its ECIB products which enhanced the insurance cover to 90% for banks providing pre- and post-shipment finance for small exporters with export working capital limit up to INR 20 crores, compared to the previous average coverage of 70%.
5) **Krishi Udan Scheme:** The scheme provides full waiver of landing, parking, terminal navigation, and route navigation charges for Indian freighters and passenger-to-cargo aircraft at 58 airports, including 25 focused on the hilly, North-Eastern, and tribal regions and 5 more recently included airports.

6) **Trade Infrastructure for Export Scheme:** The Scheme provides financial assistance in the form of grant-in-aid to Central/State Government owned agencies for setting up or for up-gradation of export infrastructure as per the guidelines of the Scheme.

7) **Districts as Export Hubs (One District One Product Initiative):** The goal is to contribute to the Atma Nirbhar mission and the Make in India the world and being Vocal for Local for vision. It aims to foster balanced regional development across all districts of the country by branding and promoting products and services from each district.

INDIA'S GLOBAL TRADE ENGAGEMENT

- India considers Regional Trading Arrangements (RTAs) as 'building blocks' towards the overall objective of trade liberalisation.
- India has engaged with trading partners to expand its export market and has concluded agreements towards Comprehensive Economic Cooperation Agreements (CEPA) which cover FTA in goods, services, investment, and cooperation in other areas.
- India has concluded 13 Free Trade Agreements and 6 Preferential Trade Agreements, including the India-UAE CEPA (wef May 2022) and the India-Australia Economic Cooperation and Trade Agreement (Ind-Aus ECTA). India is currently engaged in negotiations for FTAs with the UK, Canada, and the EU, and has initiated a review of some of its existing FTAs.

BALANCE OF PAYMENTS IN CHALLENGING TIMES

Current Account Balance	**Capital Account Balance**
India's external sector has been facing challenges due to global geopolitical developments. 1) India's current account balance (CAB) recorded the deficit (The current account deficit) for Q2FY23 was $36.4 billion (4.4% of GDP), compared to a deficit of $9.7 billion (1.3% of GDP) during the same period the previous year. 2) For the period April-September 2022, India recorded a CAD of 3.3% of GDP due to an increase in the merchandise trade deficit. However, India's CAD is modest and within manageable limits compared to selected countries.	Foreign investment, consisting of Foreign Direct Investment (FDI) and foreign portfolio investment (FPI), is the largest component of the capital account. 1) The net capital inflows declined to $29 billion in H1FY23 from $65 billion in H1FY22, primarily due to a foreign portfolio investment outflow of $14.6 billion in Q1FY23. 2) However, net foreign direct investment inflows remained relatively stable, at $20 billion in H1FY23, comparable to $20.3 billion in H1FY22.
Invisibles (Net services receipts and Remittances): **A) Net services receipts** increased from $51.4 billion in H1FY22 to $65.5 billion in H1FY23 due to strong computer and business services receipts. **B) Remittances:** 1) As per World Bank, India is the top recipient of remittances and is expected to receive $100 billion in 2022, making it the second largest source of external financing after service exports. 2) The structural shift in Indian migration destinations has moved from low-skilled jobs in the Gulf Cooperation Council countries to high-skilled jobs	**A) FDI:** 1) During April-September 2022, gross FDI inflows were US$ 39.3 billion as compared to US$ 42.5 billion a year ago. 2) Computer Software and Hardware attracted the highest share of FDI equity inflow (23.4 percent) followed by Services (15.4 per cent) and Trading (12.2 percent). 3) In terms of FDI inflow, Singapore was the top investing country with a 37.0 per cent share, followed by Mauritius (12.1 per cent), UAE (11.0 per cent), and the USA (10.0 per cent). **B) FPI**:

in high-income countries like the US, UK, and East Asia (Singapore, Japan, Australia, New Zealand). 3) The increase in remittance flows was likely due to a sharp rise in crude oil prices and depreciation of the INR. Thus, Net services exports and remittances contributed to the surplus on the invisible account, which cushioned the merchandise trade deficit.	1) The conflict between Russia and Ukraine and the tightening of monetary policy by the US Federal Reserve caused an increase in global financial market volatility. 2) This caused a net outflow of foreign portfolio investment (FPI) in the first quarter of the fiscal year 2023, with FPIs recording a net outflow of $2.5 billion from April to December 2022, compared to an outflow of $0.6 billion during the same period a year earlier. **C) Other forms of capital flows:** Among other forms of capital flows, in H1FY23, banking capital reported higher net inflows of US$ 10.6 billion against US$ 4.4 billion during the same period of FY22.

Balance of Payments and Foreign Exchange Reserves

- India's balance of payments (BoP) was under pressure in 2022 due to global economic issues such as the Russia-Ukraine conflict and monetary policy tightening by the US Fed, leading to foreign portfolio investment (FPI) outflows and a widening current account deficit (CAD).
- This resulted in a depletion of foreign exchange reserves on a BoP basis of $25.8 billion in H1FY23 compared to an accretion of $63.1 billion in H1FY22.
- India's foreign exchange reserves stood at US$ 562.7 billion as of end December 2022 covering 9.3 months of imports.

. Current account balance as percentage of GDP: India vs Select Countries

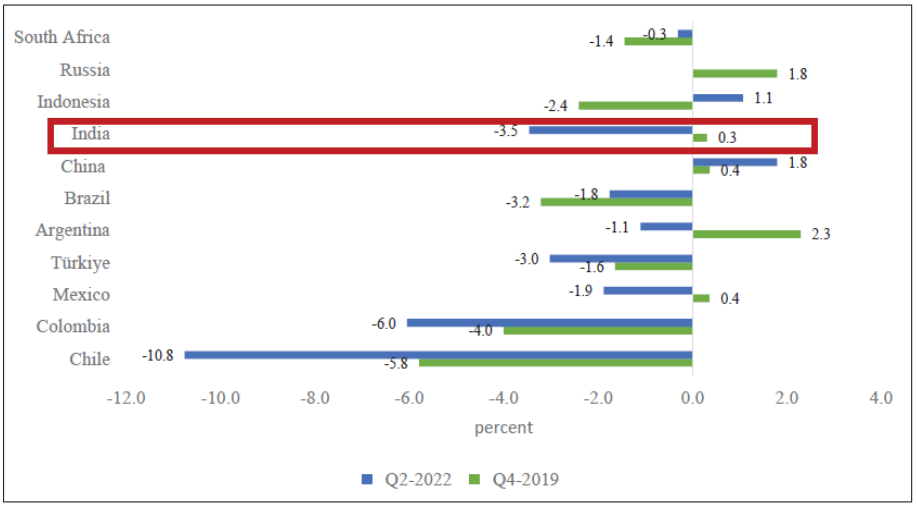


Table: Total Foreign exchange reserves excluding gold (in US$ bn)

	2005	2008	2019	2020	2021	Nov-2022	%change: 2021 over 2008
Russian Federation	175.9	411.8	443.9	457.0	497.6	567.3	20.8
India	131.9	247.4	432.4	549.1	594.4	555.3	140.3
Brazil	53.3	192.8	353.6	351.5	354.6	331.5	83.9
United States	54.1	66.6	118.4	133.9	240.2	237.8	260.7
United Kingdom	54.0	56.1	158.4	161.2	176.0	204.1	213.7
Indonesia	33.1	49.6	125.3	131.1	140.3	134.0	182.9
South Africa	18.6	30.6	48.9	47.4	50.3	60.0	64.4
Australia	41.9	30.7	55.6	39.2	53.8	57.9	75.2
World	**4395.0**	**7418.2**	**12195.3**	**13122.5**	**13944.7**	**11598.6***	**88.0**

EXCHANGE RATES MOVING IN TANDEM WITH GLOBAL DEVELOPMENTS

The value of the Indian Rupee is determined by the market, with intervention by the RBI mainly to prevent excessive volatility. The INR's external value compared to the US dollar has seen orderly movements during the current geopolitical crisis.

- From April to December 2022, the INR depreciated against the US dollar by 8.3% while the US dollar appreciated by 4.4% in terms of the US dollar index.
- The INR appreciated against major currencies other than the US dollar, such as the Pound Sterling, the Japanese Yen, and the Euro, by 6.7%, 14.5%, and 6.4%, respectively, from April to December 2022 compared to the same period in 2021.

INTERNATIONAL INVESTMENT POSITION: A REFLECTION OF INDIA'S FINANCIAL SOUNDNESS

The International Investment Position (IIP) is a statement that shows the value and composition of a country's financial assets and liabilities with non-residents at a point in time. IIP determines if a country is a net creditor or debtor nation. It represents either a net claim on or a net liability to the rest of the world.

- The Net IIP, calculated as the difference between external financial assets and liabilities.
- It serves as an indicator of the country's financial condition and is reflected in the domestic economy's international accounts along with the Balance of Payments transactions.

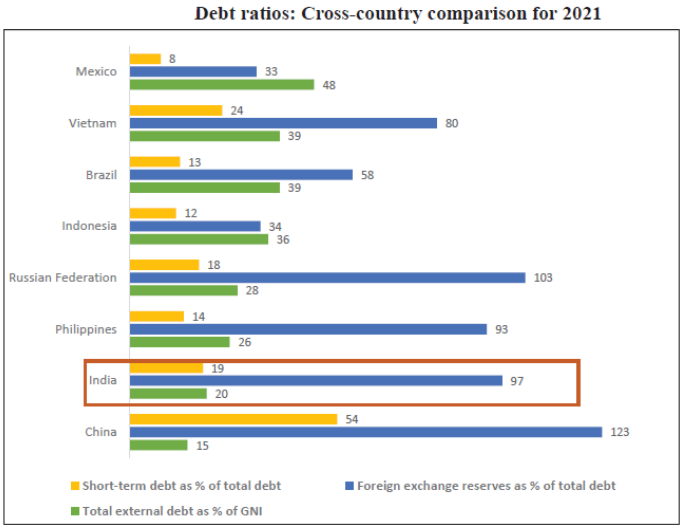
Assets (As of end-September 2022)	Liabilities (As of end-September 2022)
1) Indian residents' overseas financial assets were at $847.5 billion, down by $73.0 billion or 7.9% compared to end-March 2022.	1) International liabilities were at $1,237.1 billion, down by $41.6 billion (3.2%) compared to end-March 2022.
2) his decrease was mainly due to a reduction in reserve assets, despite an increase in trade credit and overseas direct investment.	2) The decrease was primarily due to direct investment outflows and the impact of exchange rate variations of the rupee versus other currencies.
3) Reserve assets, which made up 62.9% of India's international financial assets, fell by 12.3% over the same period.	3) Debt liabilities made up 50% of total external liabilities at the end of September 2022.

Thus, India's international financial assets covered 68.5 % of international financial liabilities as of Sept' 2022.

SAFE AND EXTERNAL DEBT SITUATION

India's external debt is primarily denominated in US dollars (55.5%), with the second largest component in Indian rupee (30.2%), reducing foreign currency risk and enhancing the stability of the external debt.

- India's external debt, at $610.5 billion as of end-September 2022, grew by 1.3% ($7.6 billion) compared to end-September 2021 ($602.9 billion). Despite this growth, the external debt to GDP ratio fell to 19.2% from 20.3% a year ago. This is below the optimal threshold of 23-24% of GDP and suggests potential for growth.



- As of end-September 2022, India's long-term debt was $478.7 billion, lower than the $498.1 billion a year prior, with its share of total debt falling to 78.4% from 82.8%.
- Meanwhile, short-term debt at $131.7 billion was higher than $104.8 billion from a year ago, with its share of total debt rising to 21.6% from 17.4%. The majority (97%) of short-term debt is trade credit for imports, making the rise in short-term debt stability-friendly.
- The trend of India's external debt growth has shifted between the sovereign and non-sovereign sectors over the years. The pandemic year of FY21 saw growth in sovereign external debt (SED) due to Covid-19 loans from multilateral institutions, but normal dynamics returned in end-March 2022.

India's Key External Debt Indicators: A snapshot of stability

(Per cent, unless indicated otherwise)

End-March	External Debt (US$ billion)	Ratio of External Debt to GDP	Debt Service Ratio	Ratio of Foreign Exchange Reserves to Total Debt	Ratio of Concessional Debt to Total Debt	Ratio of Short-Term Debt (original maturity) to Foreign Exchange Reserves	Ratio of Short-Term Debt (original maturity) to Total Debt
2017	471.0	19.8	8.3	78.5	9.4	23.8	18.7
2018	529.3	20.1	7.5	80.2	9.1	24.1	19.3
2019	543.1	19.9	6.4	76.0	8.7	26.3	20.0
2020	558.4	20.9	6.5	85.6	8.8	22.4	19.1
2021	573.6	21.2	8.2	100.6	9.0	17.5	17.6
2022PR	619.0	19.9	5.2	98.0	8.3	20.0	19.7
End-June 2022 PR	612.7	19.3	4.9	96.5	8.0	21.4	20.6
End-Sept 2022 P	610.5	19.2	5.0	87.3	7.7	24.7	21.6

OUTLOOK FOR THE EXTERNAL SECTOR CAUTION AMIDST GLOBAL HEADWINDS

- India's merchandise exports are being impacted by slowing global demand. According to IMF estimates, global growth is forecast to slow down in 2022 and 2023, which is the weakest growth profile since 2001, excluding the global financial crisis and the Covid-19 pandemic.
- The outlook for India's merchandise exports may remain stagnant if global growth does not improve in 2023. To enhance trade opportunities, India is pursuing product basket and destination diversification through Free Trade Agreements (FTAs).
- India faces competition from South Asian countries in some of its export-competitive products. Bangladesh and Vietnam have been expanding their exports in the textile sector and machinery, electronics, agriculture products, etc. However, India has the advantage of a lower average age of the working population and economies of scale, which gives it the potential to supply the global demand for several products cost-effectively.
- India's imports of petroleum products (POL) are expected to benefit from the recent decrease in global crude oil prices.

To sum up, India's external sector is facing challenges, but it is performing better compared to many of its peers due to its inbuilt shock absorbers such as the robust export of services, record levels of inward remittances, and positive net FDI and FPI inflows. The Indian rupee is also outperforming most emerging market currencies, with a comfortable import cover and a manageable current account deficit. The external debt vulnerability indicators are also benign by international standards.

Value Added Information
A) The UNCTAD & its Reports: 1. They cover a range of topics, including global trade, foreign direct investment, technology and innovation, and entrepreneurship. 2. Some of the well-known UNCTAD reports include the **World Investment Report, the Technology and Innovation Report, and the annual Trade and Development Report**. **B) Production-Linked Incentive (PLI) scheme** provides incentives to companies on incremental sales for products manufactured in domestic units, which is expected to create minimum production of over US$ 500 billion in 5 years. **C) Merchandise Trade:** It refers to the exchange of goods between countries. It typically involves the import and export of physical products, including raw materials, intermediate goods, and finished goods.

UPSC MAINS PYQ
1. How would the recent phenomena of protectionism and currency manipulations in world trade affect macroeconomic stability of India? (2018) 2. Account for the failure of the manufacturing sector in achieving the goal of labour-intensive exports rather than capital-intensive exports. Suggest measures for more labour-intensive rather than capital-intensive exports. (2017) 3. How globalization has led to the reduction of employment in the formal sector of the Indian economy? Is increased informalization detrimental to the development of the country? (2016) 4. Justify the need for FDI for the development of the Indian economy. Why is there a gap between MOUs signed and actual FDIs? Suggest remedial steps to be taken for increasing actual FDIs in India. (2016) 5. Foreign direct investment in the defence sector is now said to be liberalized. What influence is this expected to have on Indian defence and economy in the short and long-run? (2014) 6. Discuss the impact of FDI entry into the Multi-trade retail sector on supply chain management in the commodity trade pattern of the economy. (2013) 7. Though India allowed Foreign Direct Investment (FDI) in what is called multi-brand retail through the joint venture route in September 2012, the FDI, even after a year, has not picked up. Discuss the reasons. (2013)

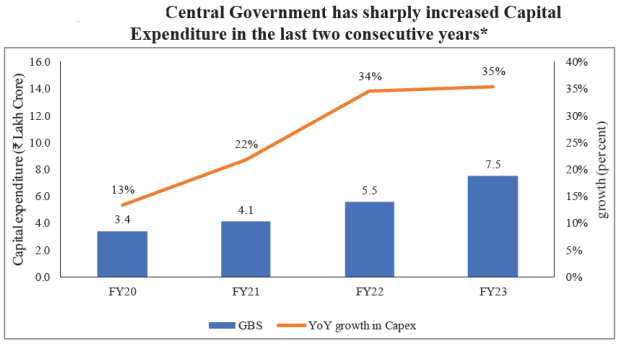
12. PHYSICAL AND DIGITAL INFRASTRUCTURE: LIFTING POTENTIAL GROWTH

INTRODUCTION

- Investing in high-quality infrastructure is crucial for accelerating economic growth and sustaining it in the long run.
- The above correlation between infrastructure and development brings us to the present scenario when during the times of pandemic and geo-political crisis, the government kept its focus on reforms in areas of physical, digital and regulatory infrastructure.
- In order to increase the private sector participation in creation of new infrastructure and development of existing ones, the government took initiatives like Public-Private Partnership (PPP), National Infrastructure Pipeline (NIP), National Monetisation Pipeline (NMP), Gati Shakti and National Logistics Policy (NLP) were also launched.
- The government has also kept its focus towards developing the traditional infrastructure like roads, railways, airports, ports, mass transport and waterways along with digital infrastructure innovations such as one-stop Co-WIN portal, Digi Locker, Open Network for Digital Commerce (ONDC), Open Credit Enablement Network (OCEN), Goods and Services Tax (GST) etc.
- Capitalising on the digital infrastructure support, India has also emerged as one of the world's most vibrant destinations for start-up ecosystems which are being envisioned as the spine of new India, as they encourage the youth to become job creators rather than job seekers.

GOVERNMENT'S VISION AND APPROACHES TO INFRASTRUCTURE DEVELOPMENT IN INDIA

- The govt provided an increased impetus for infrastructure development and investment through the enhancement of capital expenditure at a time when capital expenditure by private sector has been subdued.
- The outlay (target) for capital expenditure in 2022-23 (BE) was **increased sharply by 35.4 %** from ₹ 5.5 lakh crore in the previous year (2021-22) to ₹ 7.5 lakh crore, of which approximately 67 % has been spent from April to December 2022.
- The steady increase in public capital expenditure has helped support economic growth while laying the foundation for future growth as capital assets boost economic efficiency and potential growth.



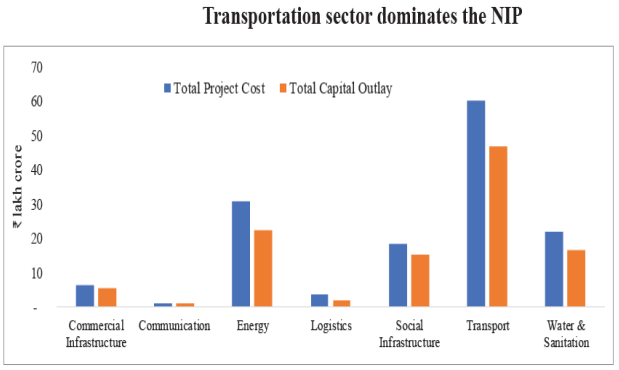
- While the NIP and the NMP would provide the much-needed impetus for stepping up infrastructure investment, the NLP will address the gaps in services, digital infrastructure and skills in the logistics workforce.
- PM GatiShakti, with a multimodal approach, is designed to fill the gaps in physical infrastructure and to integrate existing and proposed infrastructure development initiatives of different agencies.
- As physical infrastructure requires continuous support over its long gestation period, the government has also set up National Bank for Financing Infrastructure and Development (NaBFID) as development financial institution to set in motion a virtuous investment cycle.
- As India has already submitted its Long-Term Low Emission Development Strategy at COP27, the next leap would be towards advanced infrastructure, which is more energy efficient, incorporates the idea of a circular economy and transitions towards low carbon development which would require large amount of investment provided by Public-Private Partnership.

PUBLIC-PRIVATE PARTNERSHIPS (PPPS)

- Private investment in infrastructure is mainly in the form of PPPs. It helps to address infrastructure gap and improve efficiency in infrastructure service delivery.
- In India, private participation in infrastructure programmes supports several PPP models, including management contracts like Build-Operate-Transfer (BOT), Design-Build-Finance- Operate-Transfer (DBFOT), Rehabilitate-Operate-Transfer (ROT), Hybrid Annuity Model (HAM), and Toll-Operate-Transfer (TOT) model.
- Under the BOT model, there are two variants – BOT (Toll) and BOT (Annuity) depending on who bears the traffic risk. In the case of BOT (Toll), the traffic risk is borne by the PPP concessionaire, while in the case of BOT (Annuity), it is borne by the public authority.
- The Public Private Partnership Appraisal Committee (PPPAC), the apex body for appraisal of PPP projects in the Central Sector has streamlined appraisal mechanism to ensure speedy appraisal of projects, eliminate delays, adopt international best practices and have uniformity in appraisal mechanism and guidelines.
- To provide financial assistance to financially unviable but socially/ economically desirable PPP projects, DEA launched the Viability Gap Funding (VGF) scheme in 2006. Under this scheme, economic sector projects may get up to 40 per cent of Capex as VGF grant.
- Social Sector projects get VGF under two categories: Sub Scheme-1 and Sub-Scheme-2.
  - Sub-Scheme 1 caters to social sectors such as wastewater treatment, water supply, solid waste management etc. The projects under this category should have at least 100 per cent Operational Cost recovery. The Government of India (GoI) will provide a maximum of 30 per cent of Capex and the State Government concerned may provide an additional support of up to 30 per cent of Capex.
  - Sub-scheme 2 supports demonstration/pilot projects from Health & Education sectors. The projects eligible under this category should have at least 50 per cent Operational Cost recovery. The GoI will provide a maximum of 40 per cent of the Capex of the project and a maximum of 25 per cent of the Opex of the project for the first five years of commercial operations as VGF.
  - A scheme for financial support for project development expenses of PPP Projects – the 'India Infrastructure Project Development Fund Scheme' (IIPDF) was notified in 2022 to develop quality PPP projects by providing necessary funding support to the project-sponsoring authorities, both in the Central and State Governments, for creating a shelf of bankable, viable PPP projects by on-boarding transaction advisers.

NATIONAL INFRASTRUCTURE PIPELINE (NIP)

- It was launched with a forward-looking approach and a projected infrastructure investment of around ₹111 lakh crore during FY20-25 to provide high quality infrastructure across the country, improving project preparation and attracting domestic and foreign investment in infrastructure.
- It is hosted on the Invest India Grid (IIG) platform and acts as a centralised portal to track and review project progress across all economic and social infrastructure sub-sectors for States/UTs and Ministries.
- Project Monitoring Group (PMG) is an institutional mechanism put in place by the government for resolution of issues related to large-scale projects and fast-tracking of approvals/clearances for projects with an anticipated investment of ₹500 crore and above.
- Integration of NIP and PMG portals has been proposed and when implemented, NIP will become the first entry point (database) for all infrastructure projects (costing ₹100 crore or more). PMG portal will pick up data, as per requirements (project cost of ₹500 crore or more),



from the NIP database. This will save substantial time and effort by Ministries and States/UTs and ease the monitoring of large infrastructure projects.

NATIONAL MONETISATION PIPELINE – CREATION THROUGH MONETISATION

- It is based on the principle of 'asset creation through monetisation' and taps private sector investment for new infrastructure creation, provides opportunity for deleveraging balance sheets and provides fiscal space for investment in new infrastructure assets.
- The estimated aggregate monetisation potential under NMP is ₹6.0 lakh crore through core assets of the Central Government, over a four-year period, from FY20-25.
- The process of monetisation entails a limited period license/ lease of an asset, owned by the government or a public authority, to a private sector entity for upfront or periodic consideration. Funds so received by the public authority are reinvested in new infrastructure or deployed for other public purposes.
- Against the monetisation target of ₹0.9 lakh crore in FY22, ₹0.97 lakh crore have been achieved during the period under roads, power, coal and mines. NMP's 2nd year, i.e., FY23, target envisaged is ₹1.6 lakh crore (27 per cent of overall NMP Target) under Core-Asset Monetisation.

NATIONAL LOGISTICS POLICY: REDUCING THE COST OF LOGISTICS

- Logistics costs in India have been in the range of 14-18 per cent of GDP against the global benchmark of 8 per cent. Key dimensions to be addressed to improve logistics for trade include:
  - Ensuring efficiency of the clearance process (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs;
  - Improving the quality of trade and transport-related infrastructure (e.g., ports, railroads, roads, information technology);
  - Easing of arranging competitively priced shipments;
  - Enhancing the competence and quality of logistics services (e.g., transport operators, customs brokers);
  - Providing for tracking and tracing of consignments and ensuring timeliness of shipments in reaching destinations within the scheduled or expected delivery time.
- Many efforts have been made by the Government of India to improve the logistics ecosystem through 'infrastructure initiatives' such as Ude Desh ka Aam Nagrik (UDAN), Bharatmala, Sagarmala, Parvatamala, National Rail Plan, and through 'process reforms' GST, e-Sanchit, Single Window Interface for Trade (SWIFT), Indian Customs Electronic Data Interchange Gateway (ICEGATE), Turant Customs, and others.
- To integrate all these efforts by different government agencies and lay an overarching interdisciplinary, cross-sectoral, and multi-jurisdictional framework for the logistics sector, NLP was launched on 17 September 2022.
  - **Vision**- To develop a technologically enabled, integrated, cost-efficient, resilient, sustainable and trusted logistics ecosystem in the country for accelerated and inclusive growth.
  - **Aim**- To bring global standards to warehousing, multimodal digital integration, ease of logistics services, human resources, and skill enhancement.
  - **Targets**-
    - ✓ Reduce the cost of logistics in India to be comparable to global benchmarks by 2030.
    - ✓ Improve the Logistics Performance Index ranking - endeavour is to be among the top 25 countries by 2030.
    - ✓ Create a data- driven decision support mechanism for an efficient logistics ecosystem.

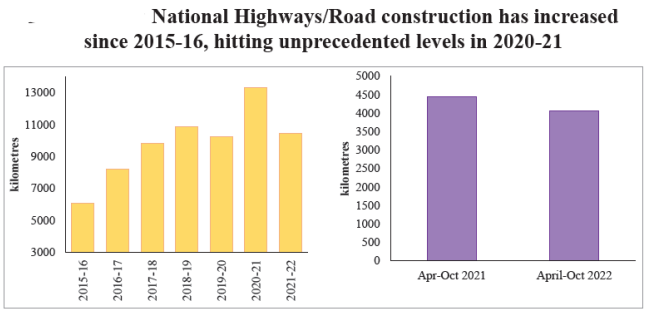
- The Policy will be implemented through a Comprehensive Logistics Action Plan (CLAP). The interventions under the CLAP are divided into specific key action areas, including Integrated Digital Logistics Systems, standardisation of physical assets & benchmarking service quality standards, Logistics Human Resources Development and Capacity Building, State Engagement, EXIM (Export-Import) Logistics, Service Improvement framework, Sectoral Plan for Efficient Logistics and Facilitation of Development of Logistics Parks.
- Among other steps taken to enhance logistics performance in the country, there has been an initiative to undertake a sub-national view of the state of logistics in the country through the Logistics Ease Across Different States (LEADS) index.

PM GATISHAKTI: A MASTER PLAN FOR INTEGRATED PROJECT PLANNING

- It entails creation of a common umbrella platform with all infrastructure projects pertaining to various ministries/ departments incorporated within a comprehensive database for efficient planning and implementation on a real-time basis.
- The aim is to improve multimodal connectivity and logistics efficiency while addressing the critical gaps for the seamless movement of people and goods, with a focus on minimising disruptions and timely completion of infrastructure projects.
- It can be integrated with various applications of different ministries/agencies to prevent duplication of work and create a single window system for infrastructure planning.
- The projects pertaining to seven engines (roads, railways, airports, ports, mass transport, waterways, and logistic infrastructure) in the NIP will be aligned with PM GatiShakti framework.
- Data layers on important assets pertaining to health, education, culture, tourism, gram panchayats, municipal corporation, social welfare housing etc. are being mapped and data validation is being done for optimum use of PM GatiShakti principles in planning of both physical and social infrastructures.

DEVELOPMENTS IN PHYSICAL INFRASTRUCTURE SECTORS

- **Road Transport: Increased Budgetary Support By The Government Augmented Road Connectivity-**
  - There has been an increase in the construction of National Highways (NHs)/roads over time, with 10,457 km of roads constructed in FY22 as compared to 6,061 km in FY16. In FY23 (until October 2022), 4,060 km of NHs/roads were constructed, which was around 91 % of the achievement in the corresponding period of the previous financial year.

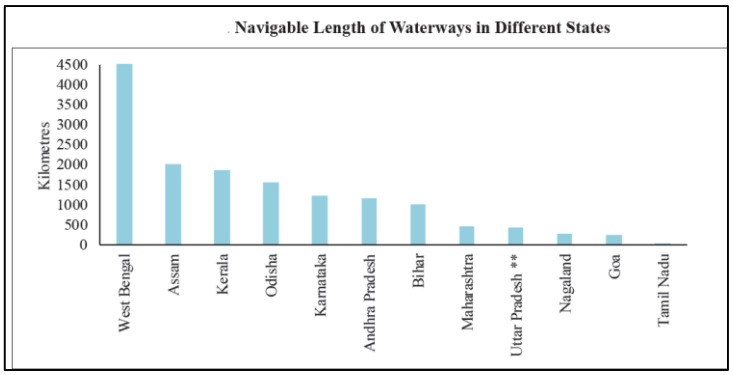


  - Total budgetary support for investment in the sector has been increasing rapidly in the last four years and stood at around ₹1.4 lakh crore during FY23 (as of 31 October 2022).
  - In line with the vision of monetisation of public sector assets, National Highways Authority of India (NHAI) launched its InvIT in FY22 not only to facilitate monetisation of roads but also to attract foreign and domestic institutional investors to invest in the roads sector.
- **Railways: Expansion And Modernisation, A Continuous Process**
  - Passenger traffic originating in IR was 809 crore during pre-Covid-19 period (2019-20), but dipped to 125 crore in 2020-21. It has since recovered to 351.9 crore in 2021-22.
  - During the current financial year, passenger traffic has seen further strong growth with the number of originating passengers already hitting 418.4 crore (up to November 2022).

- Between FY20-21 and FY21-22, there was a sharp increase in the freight traffic, reflecting the strong revival in the economic activity in the domestic economy.
- The capital expenditure (Capex) on infrastructure in railways has received tremendous boost since 2014. It has seen a continuous increase in the last four years with Capex (B.E.) of ₹2.5 lakh crore in FY23, up by around 29 per cent compared to the previous year.
- The fast pace of infrastructure augmentation by IR has been a result of substantial increase in allocation of funds and various steps being taken by the government.
- This includes delegation of powers at the field level which has helped in commissioning of doubling projects, close monitoring of the progress of projects at various levels, regular follow-up with State Governments and relevant authorities for expeditious land acquisition, forestry and wildlife clearances and resolving other issues pertaining to the projects.

- **Civil Aviation: Revival Backed By Domestic Demand**
  - The civil aviation sector in India has great potential owing to growing demand from the middle class, growth in population and tourism, higher disposable incomes, favourable demographics, and greater penetration of aviation infrastructure.
  - This is further supported by the government through schemes such as UDAN, which has considerably enhanced regional connectivity through the opening of airports in India's hinterland.
  - The government has also accorded 'in-principle' approval for the setting up of 21 greenfield airports across the country. More than one crore air passengers have availed themselves of the benefit of the UDAN scheme since its inception. The scheme focuses on the connectivity between the Tier-2 and 3 cities in the country and the number of beneficiaries will increase manifold as the connectivity improves between unserved and underserved airports.
- **Ports: Handling Higher Capacity With Governance Reforms**
  - To meet the ever-increasing trade requirements, the expansion of port capacity has been accorded the highest priority and to further enhance their efficiency, the government is focusing on improving port governance, addressing low-capacity utilisation, modernising berths with techno efficient loading/unloading equipment, and creating new channels for port connectivity.
  - For streamlining the port compliances and for reducing the Turn Around Time for (TAT) for vessels, long strides have been taken at the major ports towards the digitisation of key EXIM processes.
  - The Port Community System (PCS 1x) has digitised processes such as Electronic Invoice (e-Invoice), Electronic Payment (e-Payment) and Electronic Delivery Order (e-DO) for the physical release of cargo by custodians, in addition to the processes of generating electronic Bill of Lading (e-BL) and Letter of Credit (LC).
  - Further, the Radio Frequency Identification Device (RFID) solution has been implemented at all major ports to enable seamless movement of traffic across port gates, including substantial reductions in documentation checks.
  - Additionally, the process to bootstrap PCS 1x into National Logistics Portal-Marine (NLP-Marine) is already under way which will act as a Unified Digital Platform for all maritime stakeholders.
- **Inland Water Transport: Tapping The Potential Of Navigable Waterways**
  - Under the National Waterways Act 2016, 106 new waterways have been declared as National Waterways (NWs), taking the total number of NWs in the country to 111.
  - Based on the outcome of techno-economic feasibility and Detailed Project Reports (DPRs), 26 NWs viable for cargo movement have been prioritised, out of which developmental activities have been initiated in the 14 most viable NWs.

- Further, to promote the use of inland waterways, waterway usage charges levied by the Inland Waterways Authority of India (IWAI) on vessels moving on NWs were waived in July 2020, initially for a period of three years.
- The Inland Vessels Bill 2021, which replaced the over 100 year-old Inland Vessels Act, 1917 (Act No.1 of 1917), was passed by the Parliament in August 2021. This will usher in a new era for inland water transport sector and fulfil the vision to utilise the potential of multi-modal transport ecosystem while making the legislative framework user-friendly and promoting ease of doing business.



- **Electricity: Installed Capacity Growth Driven By Renewables**
  - India is steadfast in its commitments towards non-fossil fuel-based energy resources. It has put in place a target of achieving 50 per cent cumulative installed capacity for generating electric power from non-fossil fuel-based energy resources by 2030.

All India Installed Capacity Mode-Wise (GW)

	Hydro	Thermal	Nuclear	Renewables	Total
2020-21	46.3	307.4	6.8	100.1	460.7
2021-22@	46.9	312.2	6.8	116.4	482.2
Growth (in per cent)	1.1	1.6	0	16.2	4.7

  - Government of India has been driving a vibrant renewable energy programme aimed at achieving energy security and energy access, and reducing the carbon footprints of the national economy.
  - In order to reduce the carbon footprint of the farm sector, Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM) aims to provide energy and water security, de-dieselise the farm sector and generate additional income for farmers by producing solar power.
  - In addition, the government has introduced the Solar Park Scheme to facilitate necessary infrastructure like land, power evacuation facilities, road connectivity, water facility, etc. along with all statutory clearances.
  - Indian Railways, which is a major user of electricity in the country, has announced its intention to achieve net zero carbon emission by 2030. Other important incentives for renewable power generation include Hydropower Purchase Obligation (HPO) within Non-Solar Renewable Purchase Obligation (RPO).

DEVELOPMENTS IN DIGITAL INFRASTRUCTURE

Government's Digital India programme, which aims to transform India into a digitally empowered society and knowledge economy, envisions digital infrastructure as a core utility to every citizen. The focus areas include the availability of high-speed internet as a core utility for delivery of services to citizens, unique digital identity, enabling citizen participation in digital and financial space, shareable private space on a public cloud (citizens can digitally store their documents, certificates, etc. and share them with public agencies or others without the need to physically submit them), and a safe and secure cyber-space. Some developments in this sphere are detailed below:

Telecommunications: Accelerating Provision Of Affordable Services

- As a result of the persistent efforts made by the government towards promoting technological development and cumulative effort of telecom players who widened their network bandwidth, telecommunications services have penetrated the remotest corners of the nation.
- Today, the total telephone subscriber base in India stands at 117 crore (as of November 2022).

- The catch-up by the rural areas is heartening as the YoY change in internet subscribers is greater in rural (for the majority of the states) than in urban areas. This provided a cushion to the rural economy during the initial phase of the Covid-19 as many people went back to rural India for their livelihood.
- To further create digital linkages at the grassroots level and increase the consumer experience like the one in urban centres, a project for the saturation of 4G mobile services in uncovered villages across the country has been approved.
- With a special focus on the states in the North-Eastern Region, the government is implementing a **Comprehensive Telecom Development Plan (CTDP).** Under this, mobile connectivity on 2G is to be provided by setting up 2004 towers in the uncovered villages and along National Highways of Assam, Manipur, Mizoram, Nagaland, Tripura, Sikkim, and Arunachal Pradesh (National Highways only). And to make available high-quality and high- speed internet access, Universal Service Obligation Fund (USOF) signed an Agreement with Bharat Sanchar Nigam Limited (BSNL) for hiring of 10 Gbps International Bandwidth for Internet Connectivity to Agartala from Bangladesh Submarine Cable Company Limited (BSCCL), Bangladesh.
- The Submarine OFC connectivity from Chennai to Andaman & Nicobar Islands (CANI) project was launched to connect Port Blair and seven other islands of Andaman & Nicobar Islands with Chennai through 2,313 km of underwater OFC.
- A landmark achievement in telecommunications in India was the launch of 5G services. 5G could impact consumers directly through higher data transfer speeds and lower latency. 5G use cases developed by Telecom Service Providers and start-ups in education, health, worker safety, smart agriculture etc., are now being deployed across the country.
- The **Indian Telegraph Right of Way (Amendment) Rules, 2022,** will facilitate faster and easier deployment of telegraph infrastructure to enable speedy 5G rollout.
- To propel growth and to accelerate the provisioning of affordable services to the citizens in the fast-emerging area of satellite-based services, reforms have been undertaken to promote ease of doing business by limiting the multiplicity of charges at different stages of rolling out satellite-based communication services. To simplify the existing processes, vital changes have also been carried out to streamline satellite-related clearance processes.
- Toward realising that vision of national digital connectivity, the GatiShakti Sanchar portal was launched which will streamline the process of Right of Way (RoW) applications and permissions across the country, provide broadband infrastructure as a core utility to every citizen, governance and services on demand and in particular, digital empowerment of the citizens of our country.

Growth Story Of Digital Public Infrastructure

- The emergence of Digital Public Infrastructure (DPI), aimed at improving financial literacy, innovation, entrepreneurship, employment generation, and empowering beneficiaries has played a critical role in uplifting the economy and bringing it to the stature where it stands today.
- The three growth drivers that acted as catalysts for DPI growth were favourable demographics, vast expansion of the middle-class, and digital behaviour patterns. By leveraging these growth drivers, India has built a competitive digital economy that empowers every individual and business to transact paperless and cashless.
- With Aadhaar establishing the authentication framework for verifying the identity of beneficiaries of welfare schemes, the next logical step was to make major government services available digitally.
- **'MyScheme'** is an e-Marketplace for schemes where users can look for suitable schemes based on their eligibility. It helps reduce users' time and effort by doing away with the requirement of searching multiple websites of government departments and studying multiple scheme guidelines to check their eligibility. It acts as the single national platform for launching any government scheme.

- **Unified Mobile Application for New-Age Governance (UMANG)** enables citizens to access e-Government services offered by the Central and State Government in various sectors such as agriculture, education, health, housing, employees, pensioners, and students' welfare, the Public Distribution System, and others.
- **Open Network for Digital Commerce (ONDC)** aims to go beyond the current platform-centric digital commerce model where the buyer and seller can use the same platform or application for transactions. In this, consumers can potentially discover any seller, product, or service by using any compatible application or platform. This will increase the freedom of choice for the consumers and will enable them to match demand with the nearest available supply, allowing them to choose their preferred local businesses.
- Through **OpenForge,** the use of open-source software and sharing and reuse of e-governance-related source code is promoted.
- The national Artificial Intelligence (AI) portal has been developed with a view to strengthening the AI ecosystem in the country by pooling together and highlighting the latest developments happening in Central and State Governments, industry, academia, NGOs, and civil societies.
- **'Bhashini'**, the National Language Translation Mission, aiming at nurturing Indian language technologies and solutions as a public good, was launched in July 2022. It is a public digital platform on which 260 open-source API-based AI models are available for speech-to-text conversion, machine translation, and text-to-speech conversion in 11 Indian languages and English for various purposes.
- The **Open Credit Enablement Network (OCEN)** is another good initiative towards democratising lending operations and thus ensuring that small borrowers are able to avail themselves of the best terms under which credit is available.
- The introduction of GST, with its end-to-end digitisation of all processes, digitalisation of tax administration, and the faceless e–assessment scheme for Income Tax, have improved governance and formalisation of the economy.
- The Account Aggregator (AA) is a global techno-legal framework that enables individuals to share their financial data quickly and securely, with their consent, with any regulated third-party financial institution of their choice.
- Under **Mission 'Drone Shakti'**, the drone start-ups and Drone-as-a-Service (DrAAS) are being promoted. A Production-Linked Incentive (PLI) scheme for drones and drone import policy have been notified.
- Also, the private equity investments in agri-tech space have skyrocketed over the past four years – witnessing an increase of more than 50 per cent per annum to aggregate approximately ₹6600 crore.

CONCLUSION/OUTLOOK

- The targeted increase in investment is seen across all infrastructure sectors.
- To help sustain the investment drive, NIP provided a forward-looking roadmap of investible projects.
- PM GatiShakti has helped accelerate infrastructure development by integrating the seven engines (roads, railways, airports, ports, mass transport, waterways, and logistic infrastructure) of growth.
- While traditional infrastructure sectors such as roads and railways have received a renewed push in recent years, sectors such as inland water transport and civil aviation, which have significant untapped potential, are also being encouraged sufficiently.
- Besides, the reforms being undertaken in energy and power sector will help fast-track India's progress in the next 25 years.
- Further, with the growing importance of clean energy, there has been a renewed push towards non-fossil fuel-based energy sources in the power sector. This will ensure a gradual but calibrated energy transition, meeting the country's sustainability targets and giving primacy to its national developmental requirements.

- With initiatives like Co-WIN, e-RUPI, TReDS, Account Aggregators, ONDC, etc. at different stages of implementation, India has developed a unique and cogent digital story to tell.
- The journey is ongoing and there is much untapped potential in India's digital public infrastructure space. In sum, the synergy between physical and digital infrastructure will be one of the defining features of India's future growth story.