10

CHAPTER

INDUSTRY: SMALL AND MEDIUM MATTERS

Industrial growth accelerated in FY24, with manufacturing and construction leading the way. Industrial GVA at constant prices in FY24 was 25 per cent higher than the pre-Covid FY20 levels, affirming broad-based recovery and consolidation. This was supported by greater credit offtake, a thrust on capital formation to shore up infrastructure-oriented sectors, and a supportive policy framework.

In the last decade, there were considerable changes in the sectoral composition of India's manufacturing landscape. Some consumer-oriented industries like automobiles, wood products, furniture and pharmaceuticals have made large gains in output share and production-oriented sectors like machinery, chemicals, non-metallic minerals, and rubber and plastic products have also had share gains, balancing the growth dynamics. At a same time, sectors like petroleum products, textiles, beverage and tobacco have witnessed gradual decline in their output share.

Going forward, invigorating ongoing efforts to impart greater efficiencies, skills, and dynamics to labour-intensive segments like textiles, food processing, and MSMEs would lend greater balance to industrial expansion. Incentivising R&D investment, greater formalisation of smaller manufacturers, alleviating their supply chain bottlenecks, facilitating market access and improving access to finance will also foster industrialisation. Further reduction in the compliance burden for MSMEs will considerably improve their growth prospects.

Domestic demand conditions on account of consumption and investment are strong and conducive to smooth industrial output expansion in the near term. A forward-looking survey of the Reserve Bank of India on business expectations and industrial outlook presents a positive outlook. However, headwinds persist in terms of uncertain global demand conditions and prices of key inputs for which India is import-dependent.

INTRODUCTION

10.1 Economic growth of 8.2 per cent in FY24 was supported by an industrial growth of 9.5 per cent.[1] Among the four sub-sectors of industry, manufacturing and construction achieved close to double-digit growth, while mining & quarrying and electricity & water supply also recorded strong positive growth in FY24. This reflects the broad-based acceleration of

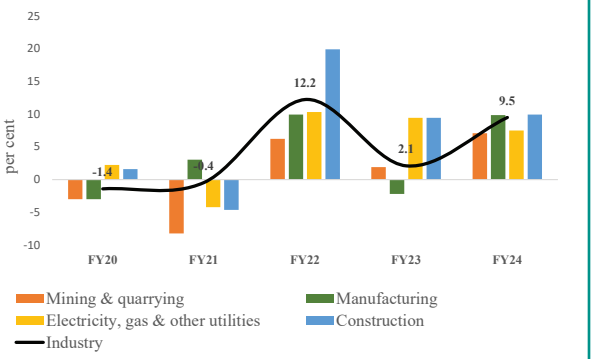
1 As per the provisional estimates of GDP released by the Central Statistics Office on 30 May 2024. This is greater than the 9 per cent industrial growth estimated in the second advance estimates of GDP released in February 2024, indicating faster than anticipated expansion of industrial output during the latter part of FY24.

industrial output. The HSBC India Purchasing Managers' Index (PMI) for manufacturing also consistently remained well above the threshold value of 50 in all months of FY24, indicating sustained expansion and stability in India's manufacturing sector.

10.2 The share of manufacturing in total gross value added at current prices was 14.3 per cent in FY23. However, the output share is 35.2 per cent during the same period, indicating that the sector has significant backward and forward linkages that are not fully captured within its value-added share. About 47.5 per cent of the total value of output in the country is used as inputs in productive activities (inter-industry consumption)[2]. Manufacturing activities account for about 50 per cent of the inter-industry consumption and, at the same time, supply almost 50 per cent of inputs used in all productive activities (agriculture, industry and services).

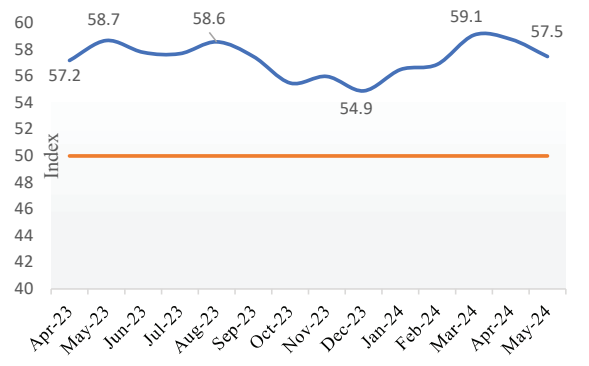
Chart X.1: Share of industry and its Components in total GVA (in constant prices)

Chart X.2: Annual growth of industry and its components (in constant prices)



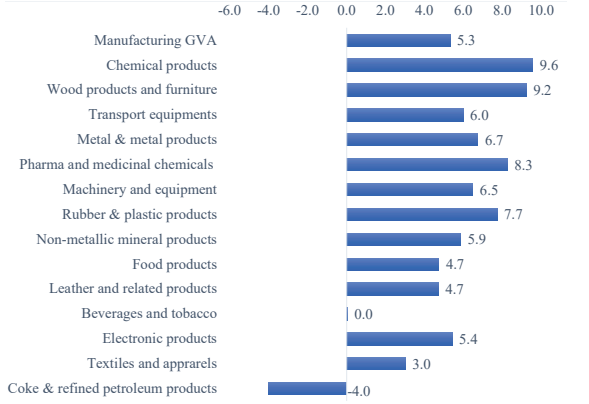
Source: Survey calculations based on National Account Statistics 2024 (Statement 8.6.1 & 8.6.2), MoSPI

Chart X.3: India Manufacturing Purchasing Managers' Index



Source: IHS Markit
Note: The index has values ranging from 0 to 100.

Chart X.4: Average annual growth in components of manufacturing GVA in constant prices (FY14 to FY23) in per cent

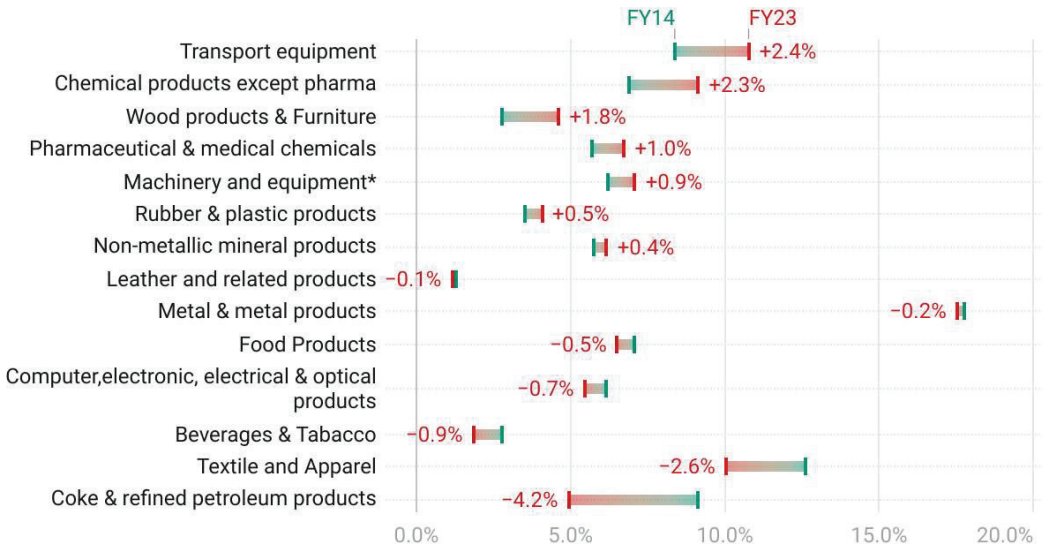


Source: Survey calculations based on National Account Statistics 2024 (Statement 8.6.1 & 8.6.2), MoSPI
Note: *excludes electrical, electronic, computer and transport equipment

2 As per the Supply and Use Tables published by the Central Statistics Office for FY20.

10.3 Despite the pandemic and consequent impairment of manufacturing value chains, the manufacturing sector achieved an average annual growth rate of 5.2 per cent in the last decade. The manufacturing sub-sectors witnessed considerable realignment in output shares in the last decade. Catalysts of manufacturing growth in the last decade included chemicals, wood products and furniture, transport equipment, pharmaceuticals and machinery and equipment. Out of them, the expansion of steel, machinery and equipment, wood products, and transport equipment signifies a thrust on capital formation in the economy, especially in the public sector.

Chart X.5: Change in share of manufactured products GVA in total GVA between FY14 to FY23 (in constant Prices)



Source: Survey calculations based on National Account Statistics 2024 (Statement 8.6.1 & 8.6.2), MoSPI
Note: *excludes electrical, electronic, computer and transport equipment

10.4 India's industrialisation was held in check by the absence of physical infrastructure and logistics as well as intrusive and cumbersome licensing requirements on capacity creation and expansion. Further, the manufacture of specific items was reserved for the small-scale sector. Much of these restrictions have been now lifted, and physical infrastructure is being created at a rapid pace. Connectivity has improved. The Goods and Services Tax has created a single market for several commodities, enabling manufacturing at scale. However, India faces stiff challenges in growing its manufacturing base. Public policy must do whatever it can to boost competitiveness. Action lies predominantly in deregulation. The private sector must think long-term and invest in quality through R&D spending. These may not be sufficient, but they are necessary conditions for the growth of the sector. Manufacturing still has the ability to generate low and semi-skilled jobs and bring development closer to the people. India needs to prioritise the sector.

10.5 The remaining sections of the Chapter are organised in the following way. The next section examines progress, challenges and policy initiatives in different industrial segments, such as key industrial intermediates and consumer-oriented industries[3]. This is followed by a brief discussion on cross-cutting themes like production-linked incentives (PLIs), micro, small

3 Fertiliser is covered in chapter 9 on Agriculture and Food Management

and medium enterprises (MSMEs), central public sector undertakings (CPSEs) and industrial R&D and innovation. The final section concludes the discussions and provides a wayforward.

PERFORMANCE OF KEY SECTORS AND RELATED ISSUES

Key Industrial Intermediates

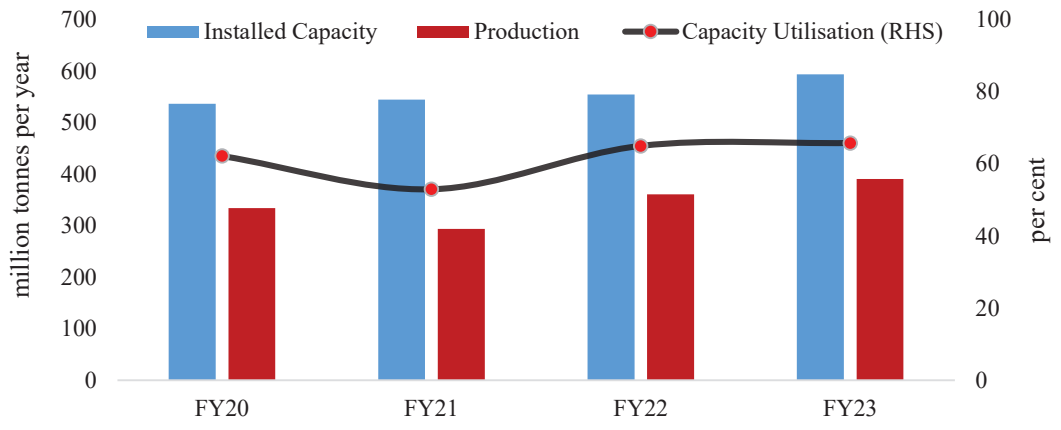
Cement: Building the future

10.6 The cement industry contributes approximately 11 per cent of the input cost to the construction sector in India.[4] Since de-licensing in 1991, the cement industry has progressed significantly both in capacity and process technology, so much so that India is the second largest cement producer in the world after China.[5]

10.7 The Indian cement industry comprises 159 integrated large cement plants, 120 grinding units and 62 mini cement plants. The current annual installed capacity of the cement industry in India is about 622 million tonnes, with cement production of around 427 million tonnes in FY24. Most of the cement plants in India are located in proximity to the raw material source. About 85 per cent of the cement industry is concentrated in the States of Rajasthan, Andhra Pradesh, Telangana, Karnataka, Madhya Pradesh, Gujarat, Tamil Nadu, Maharashtra, Uttar Pradesh, Chhattisgarh and West Bengal.

10.8 The industry has adequate capacity to meet the domestic cement demand; the quantity of cement imported in the year FY23 is about 0.2 per cent of total domestic cement production. The export of clinker and other cement increased until FY19 and then started declining except for other hydraulic cement on account of lower global demand and increasing competition from other countries. In FY23, India exported only a negligible quantity of clinker.

Chart X.6: Installed capacity, production and capacity utilisation of cement industry



Source: Department for Promotion of Industry and Internal Trade (DPIIT)

4 National Accounts Statistics, 2023-24, Statement 8.8: Output and value added from construction, MoSPI
5 DPIIT

10.9 The industry has maintained a capacity utilisation rate of approximately 60-65 per cent in recent years. Reports also expect that the global demand for cement is likely to be flat during 2024-2030, with bright spots in demand emanating only from India, Africa, the Middle East and North America to an extent. Yet gross margins in the cement industry are likely to be robust globally, helped by higher prices and lower fuel costs.[6]

10.10 Domestic cement consumption in India is around 260 kg per capita against a global average of 540 kg per capita, signifying potential for growth. In the last ten years, the import of clinker has increased. However, the quantity of imports is still low.

10.11 The cement industry is mainly driven by robust infrastructure development and urbanisation. The government's focus on mega infrastructure projects such as highways, railways, housing schemes and smart cities will boost cement demand significantly. The push for rural development and increased investment in industrial and commercial construction support growth prospects.

10.12 Globally, the cement sector generates about 7 per cent of the total anthropogenic emissions. The Indian cement industry has been working on the issue. Greenhouse gas emissions are estimated to have been reduced to 0.56 t CO2 per tonne of cement in 2023. CO2 emissions are targeted to be further reduced to 0.35 t CO2 per tonne of cement by 2050, as estimated in the cement industry technology roadmap.[7]

Steel sector on the growth path

10.13 Iron and steel contribute approximately 47 per cent of all inputs in the building & construction sector.[8] It also serves as a critical input for the production of machinery and consumer goods. The steel sector achieved its highest levels of production and consumption during FY24.

10.14 India became a net exporter of finished steel over the past decade. In FY24, India started off as a net exporter in Q1. However, in Q2 and Q3, it became a net importer. This was largely driven by price differentials between international and domestic prices of finished steel. Low prices in the international market led to reduced profit margins for exports and made imports more affordable, affecting the trade balance in steel. However, the import dependence on coking coal, an essential raw material for steel production went up from 56.1 MT in FY23 to 58.1 MT in FY24.

10.15 As the world moves towards a low-carbon economy, green steel is poised to play a pivotal role in reshaping the future of the steel industry. India's steel sector accounts for 12 per cent[9] of India's greenhouse gas emissions with an emission intensity of 2.5 tonnes of CO2 per tonne of crude steel compared to the global average of 1.9 tonnes of CO2 per tonne of crude steel.

6 Global Cement Industry Outlook: Trends and Forecasts. Link: https://www.worldcementassociation.org/blog/news/global-cement-industry-outlook-trends-and-forecasts.
7 World Business Council for Sustainable Development, 2018
8 National Accounts Statistics, 2023-24, Statement 8.8: Output and value added from construction, MoSPI
9 Ministry of Steel

Chart X.7: Average annual growth of finished Steel (in per cent)

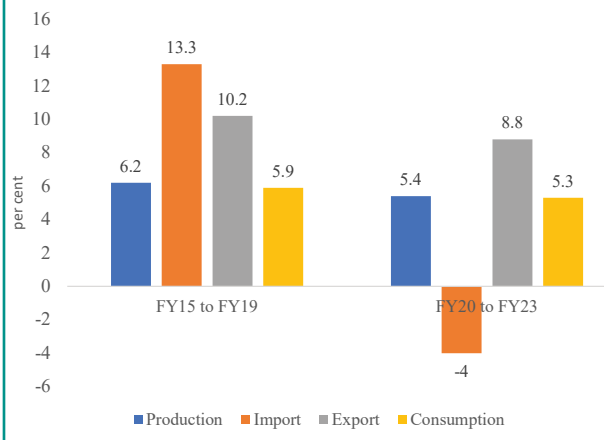
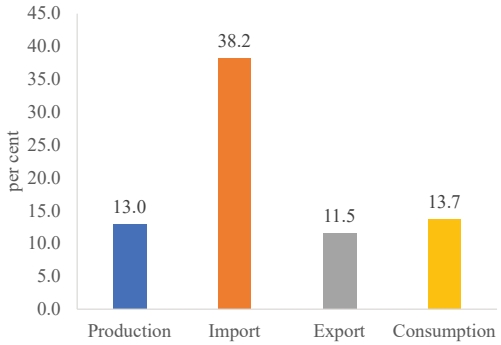
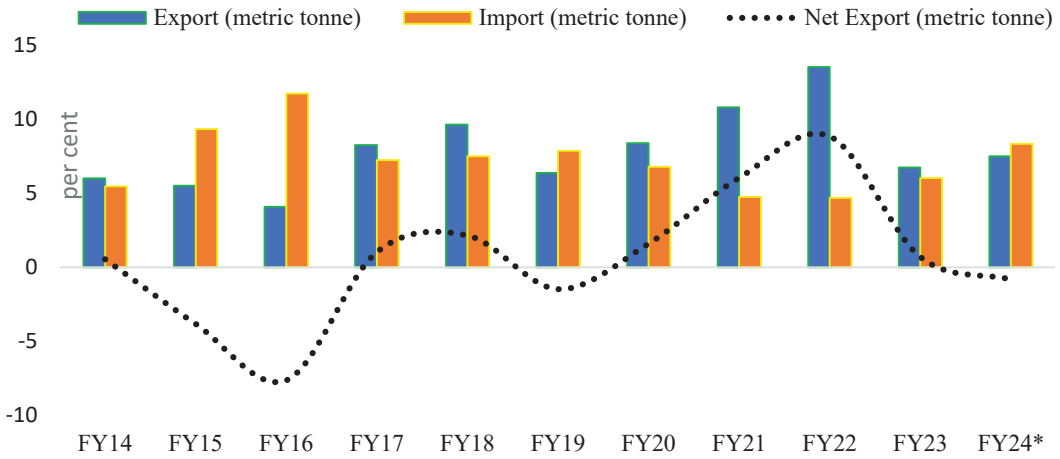


Chart X.8: Annual growth of finished Steel in FY24 (in per cent)



Source: Survey calculation based on data from the Ministry of Steel

Chart X.9: India was a net exporter of finished steel in 4 out of the last 5 years



Source: Survey calculation based on data from the Ministry of Steel
Note: *provisional

Box X.1: Steel sector initiatives

To achieve the goal of a self-reliant India and boost the steel sector, the Government established the Nagarnar Steel plant in Bastar district in October 2023, marking a significant milestone in India's steel production capabilities. The greenfield project is expected to produce high-quality steel, contributing to the socio-economic development of the region and positioning India as a key player in the global steel market. The plant is designed to produce a range of flat steel products. In FY24, the plant produced 4.93 Lakh tonnes of hot-rolled coils. Among the steel CPSEs, Steel Authority of India Limited achieved its best-ever production of hot metal, crude steel, and saleable steel in FY24.

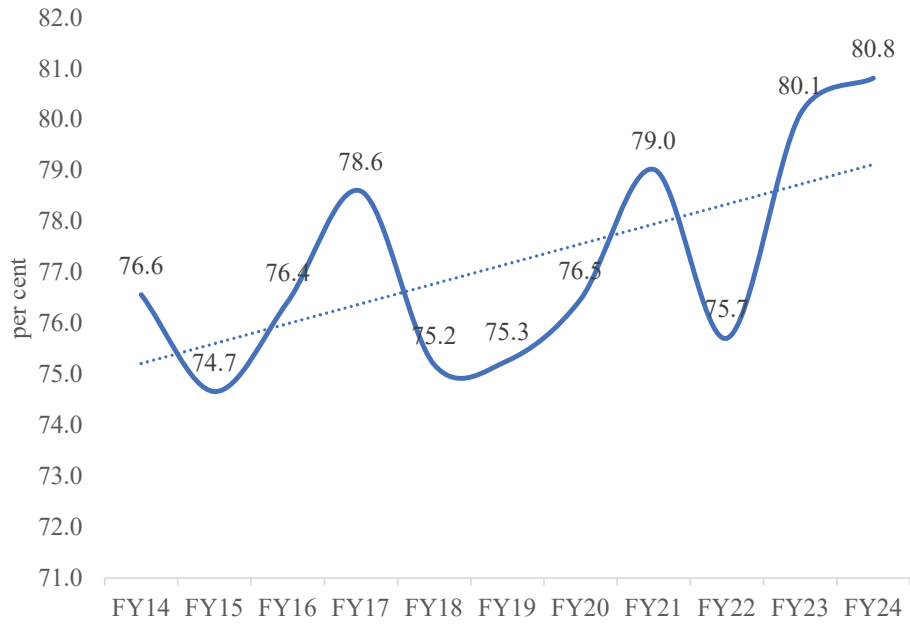
The PLI Scheme for speciality steel, approved in 2021, has attracted investment of ₹15,519 Crore till May 24. On 17.03.2023, Ministry of Steel signed Memorandum of Understanding (MOU) with the 27 selected companies having 57 applications. This scheme will attract total investment commitment of ₹29,531 Crore with capacity addition of 24,780 thousand tonnes.

Source: Ministry of Steel

Coal: Reducing external dependence

10.16 Coal accounts for more than 55 per cent of India's primary commercial energy. Coal-fired power generation accounts for about 70 per cent of the total power generation. Coal production accelerated in the last five years, leading to reduced import dependence. In FY24, India produced 997.2 million tonnes of coal, imported 261 MT and consumed 1233.86 MT[10]. The ratio of domestic production of coal to consumption improved gradually over the last decade as the growth in production outstripped the growth in consumption.

Chart X.10: Coal production as per cent of domestic consumption



Source: Survey calculation based on data from the Ministry of Coal

Table X.1: Growth in production, consumption and import of coal (CAGR in per cent)

Year	Production	Consumption	Import
FY14 to FY19	5.2	5.6	7.1
FY19 to FY24	6.5	5.0	2.1
FY24(YoY)	11.7	10.7	9.8

Source: Ministry of Coal

10 Ministry of Coal

Box X.2: Recent initiatives, challenges and opportunities in the coal sector

Recent Initiatives	Challenges, opportunities and options
• The government has set a target to gasify 100 MT of coal by 2030 to reduce imports. • A scheme with an outlay of ₹8500 Crore during 2023-24 to provide viability gap funding to coal/lignite gasification projects has been launched. • Launched Integrated Coal Logistics Policy and Plan in February 2024 to develop technologically enabled, integrated and cost-effective logistics for coal evacuation. • Notified the amended Coal Blocks Allocation Rules, 2017, in May 2023. • Coal India Limited (CIL) is venturing to set up 3,000 MW of renewable power capacity for power mining operations by 2025-26. During 2023-24, a total of 8.60 million units were generated from solar installations till December 2023. • CIL is gradually moving to a high-capacity coal evacuation system, making it more efficient and efficient by installing coal handling plants/silos under its 'First Mile Connectivity' projects. • CIL is pursuing the acquisition of critical mineral assets like lithium and cobalt in India and abroad.	• Technological difficulties due to the limited availability of modern mining equipment from Indigenous manufacturers • Procedural complexities in acquiring forestry and environmental clearances, land acquisition, and possession need to be taken care of for the timely development of mining projects. • Need for sustainable solutions amid global environmental action. • To mitigate challenges, the industry is focusing on reducing emissions, improving energy efficiency, and adopting cleaner coal technologies. • In spite of an adequate domestic supply of thermal coal, only the substitutable part of the import can be replaced. Increasing demand for coking coal will push coking coal imports up. Coking coal beneficiation needs to be scaled up for blending with imported coal under the 'coking coal mission'. • Coal can be used as a green energy source, such as coal mine methane (CMM), coal bed methane (CBM), coal to liquid, and coal to methanol. The CMM and CBM need to be tapped progressively.

Source: Ministry of Coal

Major Consumer-oriented Industries

Pharmaceuticals: Growing and Global Presence

10.17. India's pharmaceutical market currently valued at USD 50 Billion is the world's third-largest by volume. With a diversified product base covering generic drugs, active pharmaceutical ingredients, bulk drugs, over-the-counter drugs, vaccines, biologics and biosimilars, the Indian

pharmaceutical industry has a strong presence at the global level. "Pharmacy of the world" as it is often called offers around 60,000 generic brands across 60 therapeutic categories, accounting for 20 per cent of global generic drug exports by volume. Not surprisingly, eight of the top 20 global generic companies are based in India.

10.18. India's pharmaceutical sector boasts high rates of quality compliance, with 703[11] US FDA-approved facilities (as of April 2023), 386[12] European GMP-compliant plants (as of November 2022) and 2418[13] WHO-GMP-approved plants. To further bolster the regulatory framework, in December 2023, revised pharma manufacturing rules were notified under Schedule-M relating to Good Manufacturing Practices, a mandatory requirement that safeguards quality and brings the existing regime in line with global standards.[14]

Chart X.11: Turnover, export and import of the pharma sector in FY24

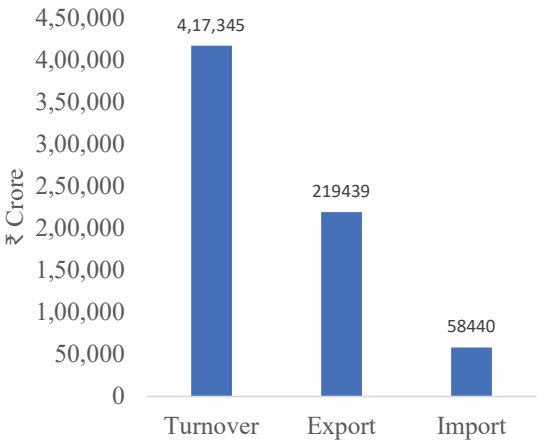
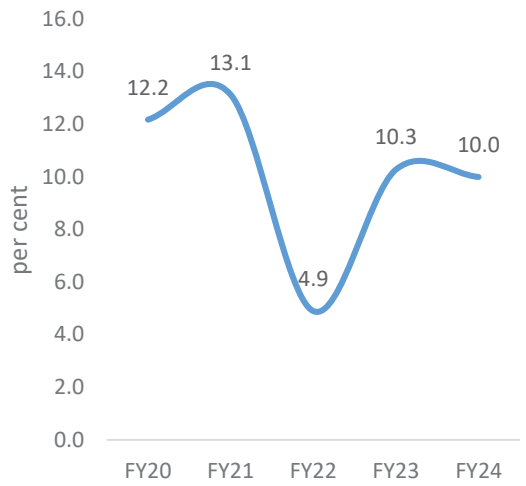


Chart X.12: Domestic turnover growth in the pharma sector



Source: Department of Pharmaceuticals

10.19. India's pharmaceutical industry has traditionally been dependent on API imports from one country. The PLI schemes for bulk drugs and pharmaceuticals have helped stabilize the import of bulk drugs and improved our supply chain resilience. Under the scheme, fermentation-based manufacturing capabilities got strengthened through production of antibiotics such as Penicillin G and Clavulanic Acid. The CAGR of import of bulk drugs between FY22 and FY24 was 2.3 per cent, as compared to the CAGR of 5.9 per cent in their export. India has become a net exporter of bulk drugs. During FY24, the value of export and import of bulk drugs was ₹39,632 Crore and ₹37,722 Crore respectively.

11 Pharmaceutical Export Council of India, Handbook, 2023. Ministry of Commerce and Industry. Link: https://pharmexcil.com/uploads/files/Hand_Book_Design.pdf

12 Pharmaceutical Export Council of India, Handbook, 2023. Ministry of Commerce and Industry. Link: https://pharmexcil.com/uploads/files/Hand_Book_Design.pdf

13 https://cdsco.gov.in/opencms/opencms/system/modules/CDSCO.WEB/elements/industry_download.jsp?num_id=MTcyNQ==

14 Ministry Of Health And Family Welfare (Department of Health and Family Welfare) Notification New Delhi, the 28th December, 2023 https://pharmadocx.com/wp-content/uploads/2024/01/Notified-Schedule-M-dt-28.12.2023-1.pdf

10.20. The PLI scheme for medical devices is beginning to provide a positive impetus as reflected in the narrowing gap between export and import of medical devices. Production of several medical devices such as CT-Scan machines, Linear Accelerator (LINAC), Rotational Cobalt Machine, C-Arm, MRI, etc has started in the country.[15]

Box X.3: Recent Initiatives, Challenges and Outlook of the Pharma Sector

Aatmanirbharta Pursuit	Pradhan Manri Bhartiya Janaushadhi Pariyojana	Challenges and outlook
• Aims to boost domestic manufacturing of identified KSMs, DIs and APIs by attracting large investments and reducing import dependence on critical APIs. • Under the PLI scheme for bulk drugs, 48 projects have been approved with a committed investment of ₹3938.6 Crore. • The Scheme for the Promotion of Bulk Drug Parks provides support to establish three bulk drug parks for the creation of world-class Common Infrastructure Facilities. This will bring down the manufacturing cost of bulk drugs and improve India's competitiveness and drug security.	• The aim is to make quality generic medicines available at affordable prices to all. • Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs) are open to provide generic medicines. Till now, more than 12500 PMBJKs have been opened, covering all districts. • It has made an impact on the common masses and the poor by providing quality medicines at affordable prices. • In FY23-24, Pharmaceuticals & Medical Devices Bureau of India sold Jan Aushadhi medicines worth ₹1470 Crore, leading to savings of approximately ₹7350 Crore. • The Scheme is particularly delivering greater savings on medicines for chronic diseases. On average, 10–12 Lakh people visit Jan Aushadhi Kendras daily.	• India is largely dependent on imports for many antibiotic APIs manufactured through fermentation. India's import dependency is largely due to a lack of cost-effective options in domestic API manufacturing compared to imports. Domestic infrastructure and R&D capabilities have improved considerably in recent years, but challenges remain (Box X.10). • Export growth occurred due to consistent innovation in the last 5-6 decades. The export growth can be sustained by increasing the capabilities in biopharmaceuticals manufacturing. • Pharma industry is expected to reach US$ 130 billion by 2030. • The next leg of growth in pharma necessitates skill advancement, the use of innovation and technology, and the establishment of a strong supply chain.

Source: Department of Pharmaceuticals

15 PIB released on 17 Jan 2024 Link: https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1996964

Box X.4: Need to Enhance and Reimagine Pharma R&D

The pharmaceutical industry worldwide can be divided into an innovator or a generic producer. As the name suggests, 'innovator' firms carry out extensive research to bring new medicines or treatments for diseases to the world. Considering the extent of time and resources as also the risk involved in the process, the prices of such medicines are usually very high. Such firms thrive on monopolies created through intellectual property rights owned by them for these new medicines. In recent years, big innovator pharma companies have made a strategic move to invest in smaller, more agile research-oriented firms. Between 2021 and 2023, the investment amounted to USD 54 billion in small bio-tech firms.[16]

India's strength in the pharmaceutical sector lies in being a cost effective and efficient producer of existing off patented drugs- also called the generic industry. Even so research and development is key to producing the same medicines once they get off patent at a fraction of the cost of the original drug. They thrive on competition. The world needs both the innovators and those that can provide drugs at a reasonable price, with the latter playing a vital role in enhancing social benefits. Hence, the strength of the industry lies in having a diverse combination of innovators and generic producers.

As we move towards realising the vision of Viksit Bharat, it is vital to promote innovation. The R&D expenditure in the drugs and pharmaceutical sector in India averaged around 5 per cent of the sales turnover in FY20 and FY21[17]. The development of new drugs aimed at addressing unaddressed health concerns will improve the breadth and quality of healthcare access for the population, while producing better returns on investments.

The report "Indian pharmaceutical sectorial system of innovation"[18] underscores the need for:

i) fostering joint research amongst industry actors with the aim of making the sector more strategically collaborative rather than competitive.

ii) bolstering industry-academic interactions for applied research, in particular better participation of public knowledge-based institutions.

iii) reducing the rigidity of communication between knowledge-based institutions in order to foster better knowledge exchange and collaboration in the areas of research, particularly with the inclusion of Tier 2 and Tier 3 institutions.

iv) supporting secondments and placements between knowledge-based institutions and industry in order to better orient human capital development.

v) strengthening communication channels amongst the knowledge-based institutions and intermediaries, particularly industry associations.

vi) increasing the channels of funding from venture capital and angel investors to support the process of ideation to market.

16 The Economist, Apr 30 2024, Can biotech startups upstage Eli Lilly and Novo Nordisk? Link to access:(https://www.economist.com/business/2024/04/30/can-biotech-startups-upstage-eli-lilly-and-novo-nordisk)

17 R&D expenditure from Department of Science & Technology; and sales turnover from Department of Pharmaceuticals.

18 https://dst.gov.in/sites/default/files/Indian%20Pharmaceutical%20Sectorial%20System%20of%20Innovation%20%28IPSSI%29%20Report_0.pdf

vii) better knowledge sharing amongst government bodies to promote an 'all of government approach' to innovation thus translating into more coordinated joint research in strategic areas.

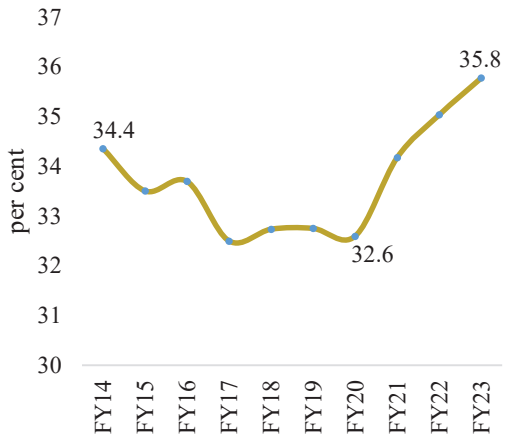
The government has taken several measures to create and nurture an ecosystem that promotes innovation. This is reflected in the setting up of centres for excellence to promote collaborative research in the pharmaceutical sector, and in artificial intelligence including for the health sector. The recently introduced Promotion of Research and Innovation in Pharma MedTech Sector is expected to herald a transformation in the pharmaceutical sector towards innovation.

Textile industry: Navigating challenges

10.21. As per the National Accounts published by the Central Statistics Office, textiles, including the wearing apparel sector, generated a gross value added of ₹3.77 lakh Crore in FY23, which was about 10.6 per cent of the manufacturing GVA at current prices during the year. The sector also accounted for 29.3 per cent of the total non-corporate manufacturing GVA and 7.9 per cent of the corporate manufacturing GVA in FY23.

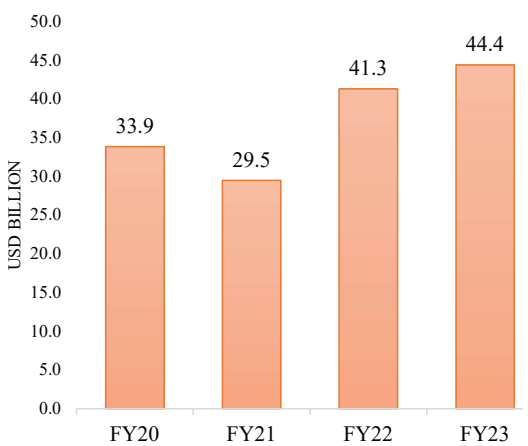
10.22. India has a robust end-to-end value chain in the textile industry, spanning raw materials like natural and MMF fibre to the final product and covering apparel, home textiles, and technical textiles. India is the world's second-largest clothing manufacturer and one of the top five exporting nations. In FY24, the export of textiles and apparel, including handicrafts, increased by 1 per cent, reaching ₹2.97 lakh Crore. The sector is diversified, with readymade garments accounting for the largest share (41 per cent) in the total exports in FY24, with exports of ₹1.2 lakh Crore, followed by cotton textiles (34 per cent) and man-made textiles (14 per cent).

Chart X.13: Share of non-corporate GVA in the total textile (including apparel) GVA in current prices



Source: National Account Statistics 2024, MoSPI

Chart X.14: Total exports of textile products



Source: Ministry of Textiles

Box X.5: Challenges and supportive initiatives in the textile industry

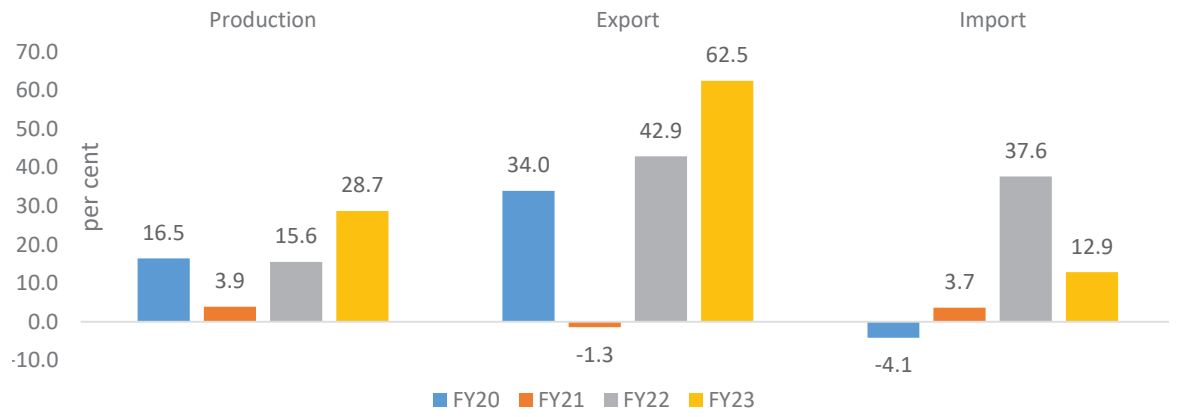
Industry context and challenges	Supportive initiatives
• The majority of India's textile and apparel production capacity is on account of MSMEs, which account for over 80 per cent of the sector, and the average scale of operations is relatively small. Thus, efficiency and economies of scale from large-scale modern manufacturing are limited. • The fragmented nature of India's apparel sector, with raw materials sourced predominantly from Maharashtra, Gujarat, and Tamil Nadu, while spinning capacities are concentrated in southern states, contributes to higher transportation costs and delays. • Other factors, such as India's heavy dependence on imported machinery, except in the spinning segment, inadequate availability of skilled manpower, technological obsolescence, etc, also act as significant constraints. • NITI Aayog's recommendations for the sector include supporting domestic machine manufacturers through initiatives such as ATUFS, fostering R&D, and promoting innovation. • Priorities also include creating world-class textile infrastructure with plug-and-play facilities. The focus will also be on technological upgradation, sustainability and circularity, quality and standards and promotion of handloom and handicraft products.	• Seven PM MITRA Parks, with a budget of ₹4,445 Crore, will be established from FY22 to FY28 in Tamil Nadu, Telangana, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh, and Maharashtra. • The parks will feature 1,000-acre industrial infrastructure and "plug and play" facilities. • MoUs were signed with all seven states, with JVs and SPVs established in five states. • The Government approved a PLI Scheme with ₹10,683 Crores over five years for man-made fibre apparel and fabrics and technical textiles. It is expected to attract over ₹19,000 Crore in investment and create 2.5 Lakh jobs. • Launched with an outlay of ₹1,480 Crore for FY21 to FY24, the National Technical Textiles Mission focuses on increasing the use of technical textiles in various sectors. • It has four components: research innovation & development, promotion and market development, education, training and skilling, and export promotion. It has been extended to March 2026, with a sunset clause until March 2028. • 137 research projects for ₹474 Crore have been approved so far. • The National Handloom Development Programme (NHDP) approved for FY22 to FY26 with an outlay of ₹998 Crore. • In FY24, initiatives were undertaken to establish 96 small handloom clusters. Nine mega handloom clusters have also been set up.

Source: Ministry of Textiles

Electronics industry: Powering the future

10.23. India's electronics manufacturing sector has experienced significant growth since 2014, accounting for an estimated 3.7 per cent of the global market share in FY22. At the same time, the industry contributed 4 per cent to India's total GDP in FY22. Domestic production of electronic items increased significantly to ₹8.22 lakh Crore, while exports rose to ₹1.9 lakh Crore in FY23. India has become an attractive destination for investments in this sector, and substantial manufacturing capacities have been established in the country over the past five years. Many major brands, both foreign and domestic, have either established their own manufacturing facilities or have outsourced manufacturing to Electronics Manufacturing Services companies operating in India.

Chart X.15: Growth (YoY) in production and trade of electronics items



Source: Ministry of Electronics and Information Technology (MEITY)

10.24. Research by the Centre for Development Studies[19] shows that India has seen a significant increase in domestic value addition (DVA), employment, wages and salaries in mobile manufacturing segment since FY17. The share of DVA in mobile phone output rose from an average of 8.7 per cent in FY17 to FY19 (Phase 1) to 22 per cent in FY20 to FY22 (Phase 2), indicating considerable increase in local participation. While the DVA as a ratio of exports may be low, participating in global value chains (GVC) increases in overall value added because of economies of scale in manufacturing for the vast global market. The direct workforce in the production of mobile phones has more than tripled between FY17 to FY22, particularly benefiting female blue-collar workers. Wages and salaries increased by 317 per cent between phase 1 and phase 2. The study suggests that reducing service link costs is crucial for seamless participation in GVC, necessitating efforts to lower transaction costs. This recommends a comprehensive policy approach, including low import tariffs for intermediate inputs, to replicate success in other sectors.

19 Veeramani, C. (2024 forthcoming) "Gains from Mobile Phone Manufacturing in India through Backward Participation in Global Value Chains", Centre for Development Studies (CDS), Thiruvananthapuram, India

Box X.6: Initiatives to Boost Electronics Industry

The Indian government places a high priority on electronics hardware manufacturing, which is a key aspect of both the "Make in India" and "Digital India" initiatives. In order to attract and encourage significant investments in the electronics value chain and boost exports, the government has introduced several schemes: (i) Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing, (ii) PLI IT Hardware, (iii) Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS), and (iv) Modified Electronics Manufacturing Clusters (EMC 2.0). These schemes have been instrumental in driving growth in the country's electronics sector. As a result, the CAGR in the production of electronics goods from FY18 to FY23 was 16.19 per cent, while the exports increased by 35.7 percent in the same period.

To bolster the electronics manufacturing ecosystem in the country, the Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) was introduced in 2020. The scheme offers a substantial financial incentive of 25 per cent on capital expenditure for a specific list of electronic goods that form the downstream value chain of electronic products. As of March 2024, a proposed investment of ₹12,638 Crore and committed incentives of ₹1758 Crore have been approved under the Scheme.

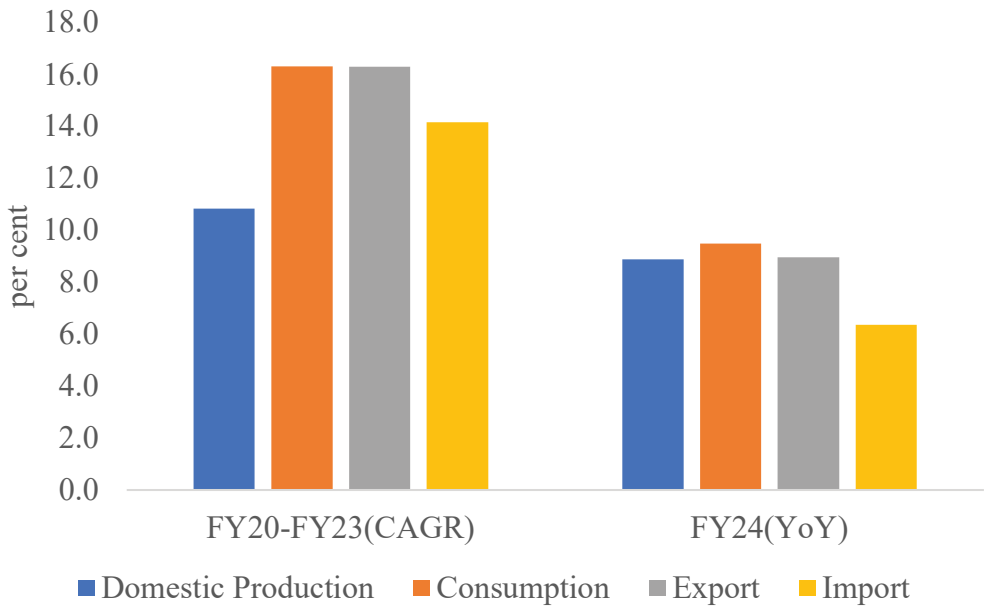
PLI 2.0 for IT Hardware	Electronics Manufacturing Clusters (EMC/EMC 2.0) Scheme
➢ Notified in May 2023, the Scheme aims to broaden and deepen the manufacturing ecosystem by encouraging localisation of components and sub-assemblies tied to incremental sales and investment thresholds. ➢ The Scheme offers an average incentive of around 5 per cent on net incremental sales of eligible goods manufactured in India for six years. ➢ Progress of the Scheme: Total production: ₹3367.63 Crore Additional investment: ₹269.44 Crore Additional direct jobs: 3493	➢ The EMC Scheme, launched in 2012, supports EMC projects and Common Facility Centres to attract electronics manufacturing in India. ➢ The EMC 2.0 Scheme, notified in April 2020, extends financial assistance for the above projects, with applications open until March 2024 and disbursement until March 2028. ➢ Progress of Scheme: ₹184.91 Crore has been released under the scheme and is expected to attract ₹40,429 Crore in investment and generate employment for 5.02 Lakh.

Source: Ministry of Electronics and Information Technology (MEITY)

Automotive industry

10.25. The Indian automobile industry includes major global auto manufacturers across different categories, as well as a vibrant auto component industry that produces various auto parts, body and chassis. The growth in the value of domestic production and consumption of automotive parts moderated during FY20 to FY23, compared to the previous five years. The production of auto components depends on the dynamics of the domestic and export markets. The auto components sector closely follows the trends in automobile production. As seen below, the pandemic affected the automobile sector considerably, which weakened the demand for automotive parts and, hence, their pace of expansion.

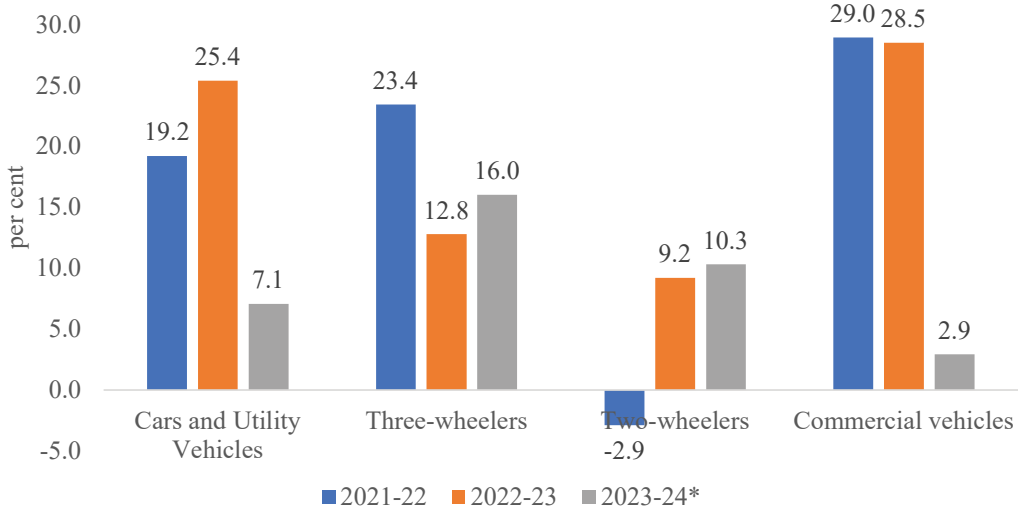
Chart X.16: Performance of automotive parts industry



Source: Survey calculation based on data from the Ministry of Heavy Industries

10.26. In the first half of the last decade, passenger vehicles, such as cars and utility vehicles, experienced significant growth. However, the pandemic had a substantial impact on all segments of the automotive industry. While passenger vehicles quickly recovered, the recovery period for two-wheelers, three-wheelers, and commercial vehicles is longer. Chart X.17 indicates that cars and utility vehicles (UVs), three wheelers, two wheelers and commercial vehicles are currently expanding as seen in the growth rates of recent years. In FY24, the country produced approximately 49 lakh passenger vehicles, 9.9 lakh three-wheelers, 214.7 lakh two-wheelers, and 10.7 lakh commercial vehicles.

Chart X.17: Annual growth (YoY) in the production of different categories of automobiles



Source: Survey calculation based on data from the Ministry of Heavy Industries

Box X.7: Policy Support for Automobiles and E-mobility

	For E-mobility	
Under the PLI Scheme	**Battery Storage**	**Phase II of the FAME Scheme**
• PLI Scheme for automobile and auto components has a budgetary outlay of ₹ 25,938 Crore from FY23 to FY27. • Sub-divided into champion OEM incentive scheme and component champion incentive scheme. • 85 applicants have been approved. • Attracted a proposed investment of ₹67,690 Crore, against which ₹14,043 Crore has been invested till end-March 2024.	• National Programme on Advanced Chemistry Cell (ACC) Battery Storage was approved in May 2021 with a budgetary outlay of ₹ 18,100 Crore. • Envisages to enhance manufacturing capabilities of ACCs by setting up of Giga scale ACC and battery manufacturing facilities. • Aims to set up a cumulative ACC manufacturing capacity of 50 GWh for ACCs and a cumulative capacity of 5 GWh for Niche ACC Technologies. • The first round of the ACC PLI bidding concluded in March 2022, whereby a capacity of 30 GWh was allocated.	• Approved with an outlay of Rs 11500 Crore for 5 years during FY20 to FY24. • Aims to generate demand for electric vehicles by supporting 7000 e-buses, 5 Lakh e-3 wheelers, 5 to FY5000 e4 wheeler passenger cars and 10 Lakh e-2 wheelers. The progress in e-vehicles is presented in table X.2. • The Scheme to Promote Manufacturing of Electric Passenger Cars in India (SPMEPCI) was approved in March 2024.

• Applicants have proposed employment generation of 1.48 lakh, against which 28,884 of employment has been generated till 31/03/2024.	• Government released a Request for Proposal on 24th January 2024 for a total manufacturing capacity of 10 GWh. Bids were received for a cumulative capacity of 70 GWh.	• Electric Mobility Promotion Scheme 2024 (EMPS 2024) with an outlay of ₹500 Crore for a period of 4 months till July 2024. It aims to faster adoption of e2 wheelers and e3 wheelers, including registered e-rickshaws, e-carts, and L5.

Table X.2: Number of vehicles incentivised under Phase II of the FAME Scheme (in '000)

Segment	2019-20	2020-21	2021-22	2022-23	2023-24	Total
e-2W	11.4	29.3	116.6	208.8	804.2	1170.2
e-3W	3.4	9.1	21.8	19.8	76.2	130.3
e-4W	0.7	0.7	0.7	2.1	12.4	16.6
e-bus	0.0	0.4	0.7	1.6	1.9	4.6
Total	15.6	39.6	139.8	232.2	894.6	1321.8

Source: Survey calculation based on data from the Ministry of Heavy Industries

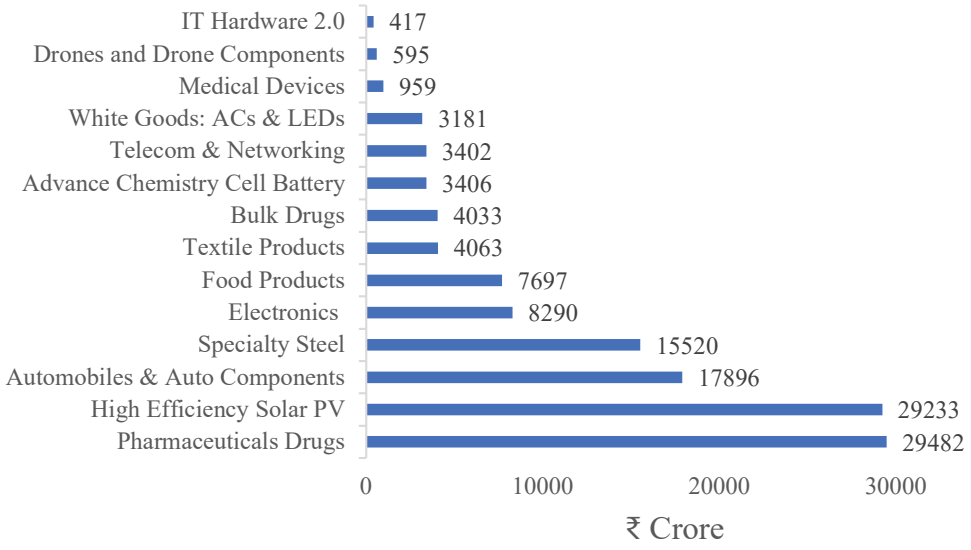
CROSS-CUTTING THEMES

Production Linked Incentive (PLI) Scheme

10.27. Keeping in view India's vision of becoming 'Aatmanirbhar', Production Linked Incentive (PLI) Schemes for 14 key sectors were announced with an outlay of ₹1.97 Lakh Crore to enhance India's manufacturing capabilities and exports. Over ₹1.28 Lakh Crore of investment was reported until May 2024, which has led to production/sales of ₹10.8 Lakh Crore and employment generation (direct & indirect) of over 8.5 Lakh. Export boosted by ₹4 Lakh Crore, with significant contributions from sectors such as large-scale electronics manufacturing, pharmaceuticals, food processing, and telecom & networking products.

10.28. PLI Scheme for White Goods (ACs and LED Lights) with a total outlay of ₹6,238 Crore was approved by the Government. As of May, 2024 the cumulative investment achieved by white goods(AC, LEDs) under the PLI scheme was ₹3181 crore which generated cumulative sales of ₹13320 crore. The PLI scheme for the remaining sector is covered under the respective sector sections.

Chart X.18: Actual sector-wise investment under the PLI scheme



Source: DPIIT

Micro, Small & Medium Enterprises

10.29. As per the latest information available from the Ministry of Statistics & Programme Implementation, the share of MSMEs in all-India manufacturing output during the year FY22 was 35.4 per cent. Data Dissemination Portal of Directorate General of Commercial Intelligence and Statistics (DGCIS) states that the share of export of MSME-specified products in all-India exports in 2023-24 was 45.7 per cent.

10.30. According to the Annual Survey of Unincorporated Sector Enterprises for 2021-22 and 2022-23,[20] the number of unincorporated enterprises in India increased with 5.9 per cent during the period of October 2022-September 2023 in comparison to April, 2021-March 2022. During the same period, Gross Value Added (GVA) per worker increased from ₹1,38,207 to ₹1,41,769 and Gross Value of Output (GVO) per establishment increased from ₹3,98,304 to ₹4,63,389. This shows an increased productivity with more efficient use of resources including labour, which is critical for sustained economic growth and competitiveness.

10.31. The Udyam Registration portal, launched in July 2020, has been instrumental in formalising MSMEs by providing a simple, online, and free registration process based on self-declaration. As of 05 July 2024, 4.69 Crore MSMEs are registered on the Udyam Registration portal, including Informal micro enterprises registered on the Udyam Assist Platform. Udyam registration helps MSMEs avail themselves of the benefits of the Ministry of MSME schemes. Udyam-registered MSMEs are also eligible for priority sector lending from banks. Udyam Portal has API linkage with 37 other portals, and through this, data sharing is facilitated. This has benefited the MSME sector considerably.

10.32. The Union Budget 2023-24 allocated ₹9,000 Crore to the Credit Guarantee Fund Trust

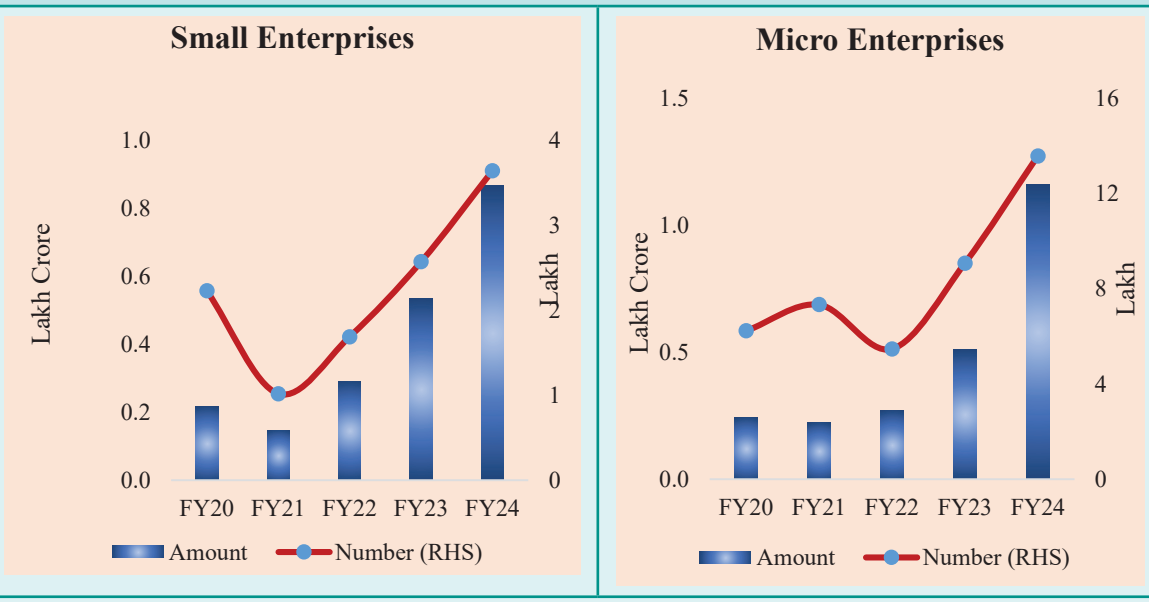
20 Fact sheet of Annual Survey of Unincorporated Sector Enterprises (2021-22, 2022-23) link: https://www.mospi.gov.in/sites/default/files/publication_reports/Factsheet_with_infograph_A4.pdf

for Micro and Small Enterprises (CGTMSE), aiming to enable an additional ₹2 Lakh Crore in credit with reduced costs. Significant growth was witnessed from FY20 to FY24 in the amount and number of guarantees for micro and small enterprises (Chart X.19).

Box X.8: MSME credit schemes

Prime Minister's Employment Generation Programme	The Credit Guarantee Scheme (CGS)
• During FY23, facilitated assistance to 85,167 micro-units with a margin money subsidy of ₹2,722.17 Crore, generating employment for around 6.81 Lakh people. • In FY24, this support was extended to 89,118 micro-units with a margin money subsidy of ₹3,093.87 Crore, creating employment opportunities for around 7.13 Lakh.	• Administered by the CGTMSE • Aim to alleviate the credit constraints faced by MSMEs by offering collateral-free loans of up to ₹5 Crore, with a guaranteed coverage of up to 85 per cent. • The scheme, since its inception, has approved 91.76 Lakh guarantees amounting to ₹6.78 Lakh Crore. In FY24 alone, 17.24 Lakh guarantees worth ₹2.03 Lakh Crore were approved.

Chart X.19: Guarantees approved under CGTMSE increased considerably



Source: Ministry of MSME

10.33. **Challenges and Opportunities:** MSMEs face challenges, including issues with formalisation and inclusion, limited access to finance, markets, technology, and digitalisation, infrastructural bottlenecks, and skilling. To address these challenges, the Government has implemented initiatives and platforms aimed at supporting formalisation, ease of registration and grievance redressal, like the Samadhaan Portal, Sambandh Portal, and Champions Portal, which aid in delayed payment issues, procurement monitoring, and speedy resolution

of grievances. The Global Value Chain Development Report (2019) highlights that although SMEs are underrepresented in global value chains, the digital economy offers them significant new opportunities. This is evident in India's MSME sector, where nearly 70 per cent of total e-commerce sales in 2020-21 were from MSMEs, reflecting a year-on-year growth rate of 60-70 per cent[21]. Further, research shows that reimagining the level of regulations on the usage of factory space, like those relating to setbacks, will likely augment the manufacturing capacity, especially of the micro and small firms (Box X.9).

Box X.9: Reimagining building regulations to augment manufacturing capacity

Existing industrial building regulations limit factory land usage, reducing land utility and resulting in unquantified costs. The report titled State of Regulation: Building Standards Reforms for Jobs and Growth[22] illustrates how land remains unutilised while complying with the four building regulations relating to ground coverage, setbacks, parking and floor area ratio.

1. **Land lost due to Ground Coverage:** The report shows that under the ground coverage regulations on factory plots, intended to control density and promote groundwater recharge, a factory building can cover no more than 40–60 per cent of the plot, depending on the State in which the factory conducts its operations. In comparison, in Hong Kong, a factory will not lose any proportion of the plot; in the Philippines, only 30 per cent of the plot.
2. **Land lost due to Setbacks:** State-level regulations limit the horizontal building expansion to minimise fire risk and ensure ventilation and light. The aforementioned report shows that regulations, however, do not account for modernisation in technology and manufacturing processes. For example, the use of fire-resistant materials and automatic fire-fighting equipment can effectively reduce hazards without locking up productive land. Moreover, natural light and ventilation may be counterproductive in certain industries like chemicals, pharmaceuticals, and electronics. Setbacks are particularly challenging for micro and small factories in certain States. The factories end up losing even 60–90 per cent of their land in certain States just to comply with these regulations. A mega factory in an Indian State loses ~2X more land to setbacks than one in the Philippines and ~5X more than the one in Singapore.
3. **Land lost due to Parking Regulations:** State governments enforce regulations mandating off-street parking to ease street congestion. However, research suggests that these mandates may actually contribute to more congestion. Parking requirements do not align with actual demand, leading factories to lose a significant amount of land. The report finds that the factories across India lose ~12–70 per cent of their land to

21 MSMEs Go Digital: Leveraging Technology to Sustain during the Covid-19 Crisis, ICRIER, 2022, Page 10 (MSMEs_Go_Digital.pdf (icrier.org))

22 Bhuvana, A., Kaur, S., and Roy, S., 2023. "State of Regulation: Building standards reforms for jobs and growth". Prosperiti, December

meet parking minimums. A factory in India may have to provide at least double the number of car parking spaces compared to Hong Kong, the Philippines, or Singapore.

4. **Land lost due to Floor Ratio:** States regulate the floor area ratio (FAR) to restrict vertical expansion on designated land parcels, aiming to manage density, alleviate traffic congestion, and facilitate the provision of essential utilities such as water and electricity. However, such regulations may inadvertently contribute to urban sprawl, thereby exacerbating road congestion and escalating utility provisioning expenses. On average, factories across states are only allowed to create floor space up to 1.3 times the plot size. With a 1000 sqm plot, an office building in Mumbai can be built up to 5000 sqm, whereas in Japan, it can go up to 13,000 sqm and 15,000 sqm in Singapore and Hong Kong.

There is a need to examine and rationalise building regulations to augment manufacturing capacity. Better utilisation of land will bring the fixed cost of production per unit, thus incentivising the entrepreneur to hire more workers as well. Apart from studying international best practices, inter-state comparisons can help states identify best practices and adopt appropriate policies.

Box X.10: ODOP: Crafting regional pride and economic empowerment

In 2018, the Government launched the One District One Product (ODOP) initiative to identify, brand, and promote the unique strengths of each district through a single, iconic product produced in that district to bridge the regional economic divide and nurture self-reliance across India's diverse districts. Districts that have more than one product identified have been categorised as secondary or tertiary products. These products cover various sectors, including agriculture, manufacturing, handloom and textiles, handicrafts, food processing, marine, and services. The initiative has identified 1102 products from 761 districts across the country till now.

To give an impetus to the ODOP initiative, the Union Budget of FY24 announced that States would be encouraged to set up a "Unity Mall" in their state capital or most prominent tourism centre or the financial capital for the promotion and sale of their own ODOPs, GI products and other handicraft products, and for providing space for such products of all other states. These "PM-Ekta Malls" aim to link the artisans of ODOP and consumers. These malls are creating a vibrant marketplace for the nation's unique products, aiming at both domestic and foreign markets.

The Government has been undertaking many initiatives to promote ODOP and showcase success stories. 'ODOP Sampark' workshops were conducted in 15 States to facilitate collaboration between the Centre and local sellers and revive indigenous industries. ODOP showcased India to the world at the various G20 events organised across the country during India's G20 Presidency, where the artisans, sellers and weavers got much visibility on the global stage during the events.[23]

23 https://pib.gov.in/PressReleasePage.aspx?PRID=2000801

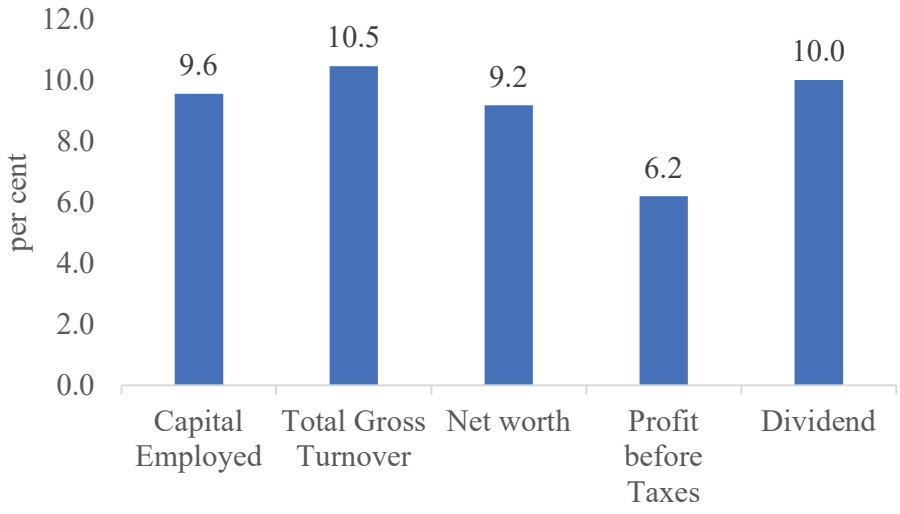
Some of the success stories of ODOP

- Pack sheds and irrigation arteries, funded by various Government initiatives, have resulted in a 20 per cent surge in the production of Shopian apples in Kashmir.
- NGOs, local administration, and over 700 farmers in the Uttarkashi district of Uttarakhand have been empowered with organic farming skills through 15 tailored training sessions. Equipped with vital tools for 1000+ beneficiaries, red rice production in this district increased considerably.
- Nearly 1,50,000 tribal families in Araku Valley, Andhra Pradesh, have boosted coffee output by 20 per cent, fuelled by Girijan Co-Operative Corporation loans.
- Over 5,000 trained workers in the Kandhamal district of Odisha have joined 1,300 farmers in garnering domestic and international turmeric markets. Government procurement of the spice has also increased by about 70 per cent. Speedy testing labs, financial aid in the form of subsidies, loans, and support for formalisation in the Bhatinda district of Punjab have led to a 30 per cent rise in honey production.[24]

Central Public Sector Enterprises (CPSEs)

10.34. As of March 31, 2023, 254 CPSEs were operational. Around 66 per cent of the CPSEs operated in the service sector; the rest in manufacturing, processing & generation and mining & exploration. CPSEs achieved stronger financial parameters FY23 and FY24. The total Market Capitalisation (M-cap) of 63 CPSEs traded on stock exchanges of India was ₹16.69 Lakh Crore as of March 31, 2023, as against ₹15.46 Lakh Crore as of March 31, 2022, reflecting an increase of 7.95 per cent[25]. The overall net profit of operating CPSEs in FY23 was ₹2.12 Lakh Crore. The major financial parameters of CPSEs are presented in the Charts below.

Chart X.20: Improvement in Performance of CPSEs between FY19 and FY23 (CAGR)

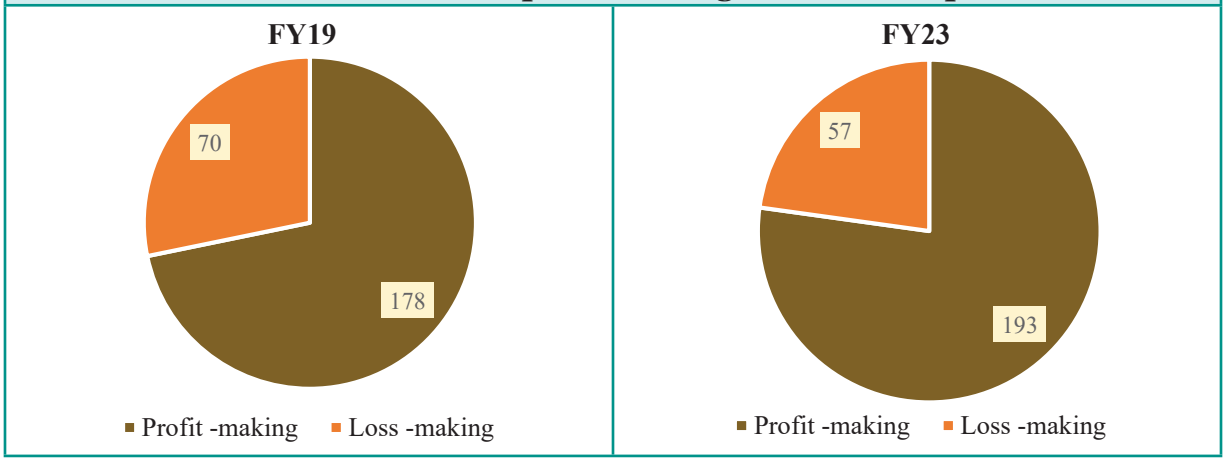


Source: PE Survey Report, Department of Public Enterprises

24 PIB press release of Ministry of Commerce and Industry dated 2 February 2024, link available at: https://pib.gov.in/FeaturesDeatils.aspx?NoteId=151807&ModuleId%20=%202

25 https://dpe.gov.in/sites/default/files/PES%202022-23_E.pdf

Chart X.21: Number of profit-making CPSEs has improved

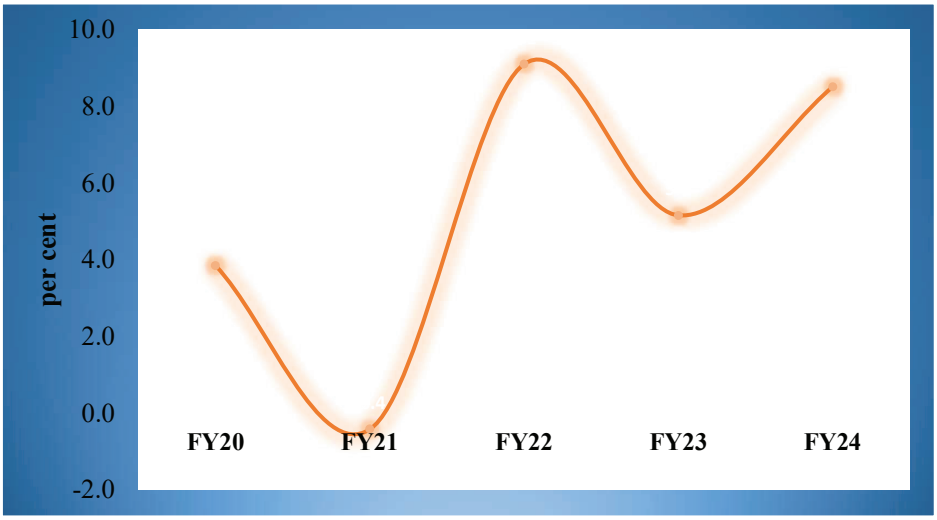


Source: PE Survey Report, Department of Public Enterprises

Industrial Credit

10.35. Industrial credit growth depends on a host of factors, including the cyclicality of economic activity, relativity in the availability and cost of bank funds and other market options, the position of own resources of industrial enterprises and the banking system's own risk appetite. Recovering from the pandemic-driven moderation in FY21, industrial credit picked up strongly in the next year. In FY23, credit growth was mainly driven by large industries; however, this growth was hampered by a decrease in credit to certain sectors.

Chart X.22: Growth in deployment of gross bank credit to industry



Source: Database on Indian Economy, Industry-wise deployment of gross bank credit, RBI
Note 1: With effect from March 2019, sectoral credit data are based on a revised format, due to which values and growth rates of some of the existing components published earlier have undergone changes.
Note 2: Credit data are adjusted for past reporting errors by select SCBs for March 2022.
Note 3: Data for 2023-24 include the impact of the merger of a non-bank with a bank

Table X.3: Industry-wise Growth (YoY) in credit deployment (in per cent)

Sector	(Minimum) CAGR from March 2020 to March 2024	Growth (YoY) in Mar-24 (Maximum)
Mining and quarrying (incl. Coal)	4.5	-10.1
Food processing	9.7	14.9
Beverage and tobacco	14.6	30.9
Textiles	7.3	11.2
Leather and leather products	4.7	5.4
Wood and wood products	15.0	12.4
Paper and paper products	9.2	4.9
Petroleum, coal products and nuclear fuels	13.4	-11.4
Chemicals and chemical products	5.8	11.3
Rubber, plastic and their products	14.5	7.6
Glass and glassware	15.4	26.3
Cement and cement products	-0.5	2.9
Basic metal and metal product	3.5	12.2
All engineering	4.8	10.5
Vehicles, parts and transport equipment	5.9	11.4
Gems and jewellery	6.2	8.0
Construction	1.1	6.9
Infrastructure	4.7	6.6
Other industries	3.7	18.4
Total Industries	5.5	8.5

Source: Database on Indian Economy, Industry-wise deployment of gross bank credit, RBI

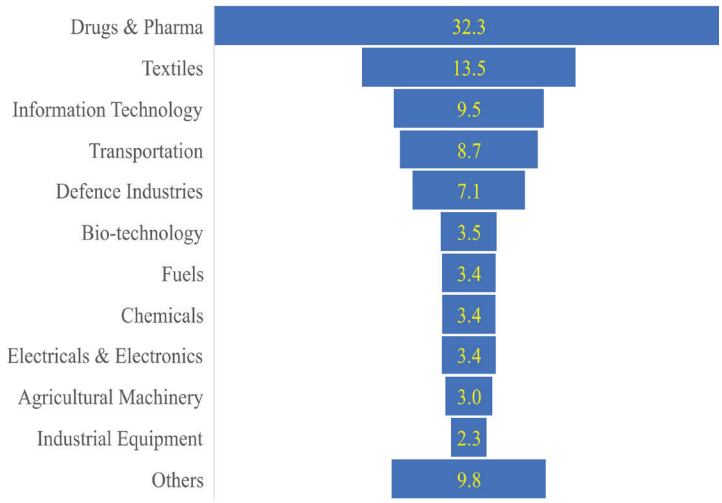
Industrial R&D and Innovation

10.36. As the public sector presence in core manufacturing is limited to only about 7 per cent, its share in industrial R&D is also limited. An initial review of the Global Innovation Index (GII) 2023 indicator shows that the U.S. is leading in corporate R&D, followed by China and Germany. Middle-income countries like India, Turkey, Brazil and Indonesia also experienced an increase in their R&D[26]. As industrial R&D in India is highly concentrated in a few sectors, the top five sectors account for more than 70 per cent.

26 Global Innovation Index (2023) World Intellectual Property Organisation (WIPO)

Table X.4: Industrial R&D Facts in India: FY19 to FY21 average	
Industrial R&D spending in India (₹ Crore)	44720
Industrial R&D as per cent of manufacturing GVA	1.61
Industrial R&D by private sector as per cent of private sector manufacturing GVA	1.53
Industrial R&D by public sector as per cent of public sector manufacturing GVA	2.67
Number of industrial R&D units: private sector	1866
Number of industrial R&D units: public sector	94

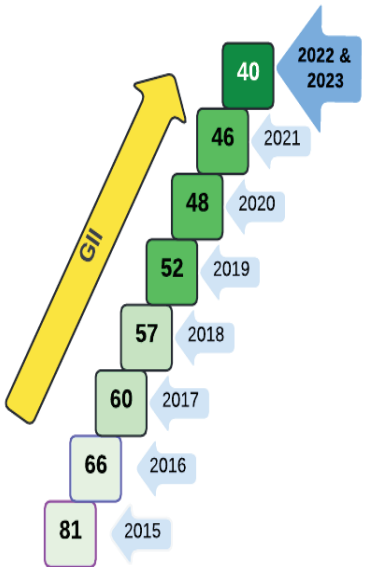
Chart X.23: Share of sub-sectors in industrial R&D spending in India: FY19 to FY21 (in per cent)



Source: Research and Development Statistics, Department of Science & Technology

10.37. Building a holistic innovation ecosystem is crucial for inclusive, sustainable, and innovation-driven economies. The innovation system emphasises the systemic interactions between stakeholders and institutions impacting innovation processes.[27] This incorporates insights from informal and grassroots innovation, highlighting their potential to meet niche demands. The most significant initiatives adopted to foster innovation and startup culture in India include:

Box X.11: Efforts to promote startups and innovation culture in India

Patents and research	Start-ups	Innovation
• Patent Rules, 2024 was notified, simplifying patent acquisition and management. • The number of granted patents increased seventeen-fold from 5978 in 2014-15 to 103057 in 2023-24. • Registered designs rose from 7147 in 2014-15 to 30672 in 2023-24.	• From around 300 start-ups in 2016, the number of DPIIT-recognised start-ups increased to more than 1.25 Lakh by end-March 2024. • More than 45 per cent of the recognised start-ups are emerging out of Tier 2/3 cities. • More than 47 per cent of the recognised start-ups have at least one woman director. Start-ups filed more than 12,000 patent applications from 2016 to March 2024.	

27 Lundvall, B. A., Joseph, K. J., Chaminade, C., Vang, J. (2009). "Handbook of innovation system and developing countries" Cheltenham: Edward Elgard

• Anusandhan National Research Foundation (ANRF) bill 2023 was passed. Estimated cost of ₹ 50,000 Crore during 2023-28. • ANRF will act as an apex body to provide high-level strategic direction for scientific research. It will forge collaborations among the industry, academia, governments, and research bodies and facilitate interface.	• There are over 13,000 DPIIT-recognized start-ups in artificial intelligence, the Internet of things, robotics, and nanotechnology by the end of FY24. • Under Fund of Funds for Start-ups, more than ₹10,500 Crore has been committed to more than 135 Alternative Investment Funds, which invested more than ₹18,000 Crore in start-ups by the end of FY24. • The Bharat Startup Knowledge Access Registry aims to bring together diverse stakeholders in the startup ecosystem.	• Under the Global Innovation Index (GII), India's rank improved consistently. • India ranks first in the lower middle-income countries and among central and southern Asian economies. • India holds the top rank globally in the domestic market scale indicator.
Source: DPIIT		

CONCLUSION AND OUTLOOK

10.38. The foregoing analysis gives an indication of the emerging trends in the Indian industrial landscape. First, over the last decade, there has been a significant realignment of output shares among industrial segments. Sectors like chemicals, wood products and furniture, pharmaceuticals, transport equipment, steel and machinery and equipment have gained in strength. Some of these are important industrial intermediates and consumer goods, while the others cater to requirements of capital formation. On the other hand, sectors like textiles, food products, beverages and tobacco and petroleum products and leather lost their relative positions.

10.39. Secondly, the export-import balance of different industrial segments has vastly varied over the last few years. Consistently, major net exporters include industries such as steel, pharmaceuticals, and automobiles. On the other hand, import dependency in key sectors like coal, capital goods and chemicals continue.

10.40. Thirdly, the medium-term outlook on the demand for capital goods and key construction inputs like steel and cement is likely to be positive, as there are clear signs that capital formation in the private sector is gathering momentum. Global uncertainties raise question mark on export demand and the domestic cost of production due to dependence on critical imported inputs like coal, petroleum, steel and machinery.

10.41. Government has taken many recent initiatives to improve ease of doing business, reduce compliance burden and to alleviate logistic and infrastructural bottlenecks. The PLI schemes for key sectors have attracted significant investments, boosted production, sales and exports and generated jobs, particularly in the case of white goods. Where governments across the country can help is in reviewing, amending, relaxing and annulling regulations that are messy, stifling, counterproductive and raise the cost of operations for businesses without commensurate public benefits. Decisions that are best left to the entrepreneurs are mandated by law, leading to fear of prosecution. The path to further industrialisation in India is paved with deregulation.

10.42. Two common requirements across industries relate to incentivising R&D and innovation and improving the skill levels of the workforce. With respect to both, industry must take the lead. Commitment to R&D must be in the DNA of the industry, independent of any fiscal incentive, since it is about global competitiveness and profitability. With active collaboration between industry and academia and emphasis on vocational education in curriculums, India can meet the skill shortage more effectively than hitherto.

10.43. Sectors with widely scattered production units like textiles, and the MSME sector in general, seek solutions to constraints of supply chain management, market access and formalisation. There have been many focused policy initiatives addressing these issues, as mentioned in the section on MSME; further action along the following lines may be considered at the levels of the appropriate governments in a cooperative federalism mode:

(a) Ensuring support systems to develop MSME projects and their bankability and adequate financing arrangements for such projects

(b) targeted facilitation and incentivisation of employment-intensive MSME segments

(c) progressively easing the compliance requirements with a single-window mechanism for clearances, digitisation of processes and equipping MSMEs to handle these processes with ease

(d) providing grassroots-level facilitation to ensure market access to MSME products

(e) government-industry-academia collaboration to upskill the workforce.

10.44. Upgrading the statistics on industry on the following lines will aid policymaking:

(a) Updated index of industrial production, incorporating the vast changes that have occurred in India's manufacturing landscape. State level variants of such indices will help understanding the emerging geographical patterns

(b) Regular indicators of the dynamics of production and employment in MSMEs

(c) Information on industry-wise gross disbursement of bank credit (as opposed to the data on outstanding credit currently available), industry-wise monthly gross financial flows through domestic and external equity and debt routes as well as other financing sources.

****