



## Industrial Sector: Trend, Issues, Challenges and Remedies

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### **Abstract:**

*This paper examines the casual relationship of Industrial Sector in GDP, recent trends of a sector according time series data. This research paper shows dynamic co-relationship in short run and long run contribution in GDP. The systematic analysis of challenges and looking forward for Sustainable growth for a sector, it also highlights the core potential and also issues faced by sector. Further interaction of growth, development and sectorial integration, Paper further studies effectiveness of sector that affected by other sectors. It examines impulsive responses shown by industrial sector through policy changes. This paper suggests remedies to more effective result to strengthen industrial policy. It helps to policy maker to make appropriate decision for future policy formulation. All aspect of Industrial sector and recommendation are based on recent data of respective sector. This will be making important assessment for policy makers to make more effective actions on industrial policy.*

**Keywords:** *Industrial Sector, GDP, Sustainable Growth etc.*

### **Introduction:**

India a 3<sup>rd</sup> largest economy of world marching on its path of making itself as a developed nation. An ambitious to make India as global manufacturing hub, it quite enthusiastic to study its industrial sectorial evaluation, potential and overall industrial policy. According to economic survey of India 2023-24 the manufacturing sector remained at forefront of industrial sector achieving an average annual growth rate 5.2 percent in the last decade (PIB, 2024 JULY 22). The industrial sector growth is about 9.5 (at constant prices) percent for last year 2023-2024. The manufacturing policy shown its importance to constantly showing positive growth in output as far for FY 23 its GVA<sup>1</sup> is 14.3 percent and an output share is 35.2 percentage during same period (Survey, 2024).

<sup>1</sup> GVA: Gross Value Added [ a method for estimate Gross Domestic Product]

Indian industrial Sector primarily consisting Micro, Small & Medium Enterprises (SME's), Chemicals and Petro chemicals, cottage, Fertilizers, Heavy Industries, Oil & natural Gas, Retail, Tourism, Mining, Corporate Governance, Defence product, Food processing, Manufacturing, Pharmaceuticals, Textile. In Indian perspective the industrial growth remains adequate, the major contributor, manufacturing sector consistently contributing less than 20% output in industrial sector except 2003-2008 (called as Dream Run). Since independence it is in premature industrialization stage, while Industrial policy always give push to robust the process of industrialization time to time. In history after independence first planning commission focused on the set-up of mother industries like infrastructure, manufacturing etc. in 1991-92 Government of India accepted liberalized economic policy, it opens new

gateways for foreign direct investment this directly resulted robust the Industrial sector through FDI.

The abolition of license Raj in 1991-92 push to set up new MSMEs and ease of doing business provides a suitable environment for growth and development of industries. While in 2011-12 under National Manufacturing Policy (NMP 2011) promotion of Special Economic Zone (SEZ) provides industrial expansion across the region, it provides another leverage to process of economic development.

Make in India and Start-up India initiative in 2014-2015 made a significant footprint in process of industrialization, the setup of new start-up and intervention of new industries enhances the productive capacity and competitiveness in Indian market. It reflected the rise of industries like Automobile, telephone etc. it resulted into high FDI inflow, the provides more feasible ecosystem for stakeholders. In this 21<sup>st</sup> century information technology has its own place, to compete with this policy give to push set up semiconductor industries under Make in India initiative, under Start-up India achieves success as third largest start-hub in world with 128,000 Start-up in April 2024, with 1.3 million jobs (Indian Startup success report 2024, 2024).

As per recent data, 17% contribution in GDP with 27.3 million workers engaged with manufacturing sector plays significant role in Indian economy (IBEF, 2024). The industrial sector has its own potential to make India as global manufacturing hub by 2030, another way it has been always criticized for its stagnant growth, but as far concern constraint of research and development,

skill workforce, environmental degradation and policy reforms are consistently taken under consideration by industrial policy maker to create a favorable environment for industrial growth and sustenance. Schemes like Production link Incentive (PLI), PM Gati shakti for better connectivity, and Industrial corridors across the region plays a pivotal role in the process of economic development.

**Methodology:**

Researcher proposed research on topic of an industrial sector trends, issues and challenges used the time series data of various institution like MoSPI, Ministry of Trade and commerce India, publication like Economic Survey etc. researcher used secondary data to analyze the trend, issues and challenges of industrial sector, further he takes help of various report and journal to collect data, a systematic approach is used to describe the recent patterns of industrial sector in short and long run, whereas researcher apply Multivariate model for data analysis in his research paper.

**Data Analysis:****Trend:**

The Indian industrial sector plays a significant role in Indian economic development, the share of sector into India's GDP is about 17%, the role of sector it's a unique characteristic itself to analyze the trend of industrial sector, according to data described above the share is remains less due to nourishment of industrial sector underprivileged, and close economy that's bound to industrial expansion, whereas the share of manufacturing sector significant in that period also. The share of Electricity, Gas

and water remained highest in the growth of Industrial Sector, according to this data the share of industrial sector has been steadily grow over the decades into national growth. (Industrial Secor, 2011)

After the economic reforms in 1991-92 the industrial expansion was

rapidly spread across country, the FDI inflows are fuel industries to grow and produce more, after 1991 the share of industrial output has consistently dominated over the whole nations GDP.

**Table 11.1: Sectoral Average Annual Rates of Growth of GVA: 1970-80, 1980-90 (at 1980-81 prices)**

(Per cent per annum)

	Sector	1970-71 to 1979-80	1980-81 to 1989-90	1980-81 to 1984-85	1985-86 to 1989-90
1.	Agriculture, Forestry and Fishing	1.7	2.4	1.2	3.6
2.	Mining and Quarrying	4.6	8.5	8.2	9.0
3.	Manufacturing	4.9	7.0	6.2	7.8
	3.1 Registered	-	8.1	8.1	8.1
	3.2 Unregistered	-	5.8	4.1	7.5
4.	Electricity, Gas and Water	7.4	8.7	7.9	9.5
5.	Industry = (2)+(3)+(4)	-	7.6	7.2	8.0
	Total GDP	3.4	5.9	5.6	6.2

Sources: 1) Dandekar (1992).

2) Central Statistical Organisation (CSO): National Accounts Statistics,

*Industrial Output Growth by Two-Digit Industry Groups, 1991-92 to 2007-08 (Average of annual percentage growth rates)*

NIC	Industry Group	1992-1996	1997-2002	2003-2008	1992-2008
20-21	Food	4.6	2.7	4.5	3.9
22	Beverages	9.2	11.6	14.3	11.9
23	Cotton Textiles	6.8	2.4	4.9	4.6
24	Silk, Wool Textiles	10.7	9.0	4.3	7.8
25	Jute	1.3	-0.2	4.3	1.8
26	Textile Products	0.6	3.8	10.3	5.2
27	Wood	5.0	-4.3	7.2	2.5
28	Paper	7.4	5.4	7.3	6.6
29	Leather	1.2	8.3	1.2	3.7
30	Rubber	3.4	6.7	6.4	5.6
31	Chemicals	6.6	8.0	9.2	8.0
32	Non-metallic Minerals	8.9	9.0	6.6	8.1
33	Basic Metals	13.6	3.0	12.4	9.4
34	Metal Products	-2.2	6.4	3.4	2.8
35-36	Electrical and Non-electric machinery	3.0	6.4	12.1	7.4
37	Transport Equipment	8.0	7.6	11.0	8.9
38	Other Manufacturing	3.5	4.8	13.2	7.4
<b>2-3</b>	<b>Manufacturing</b>	<b>6.1</b>	<b>5.6</b>	<b>8.9</b>	<b>6.9</b>

Source: Economic Survey, various issues.

(Source: R. Nagaraj, review' industrial performance 1991-2008)

In first two decades of economic reforms, various pillars of the sector started growing rapidly, however the untapped potential of industries resulted into two-digit industries group also the provision like ease of doing business, liberalized economic policy, abolition of license Raj provides huge free and competitive access for industries to grow. (Nagaraj)

In 2005 the Special Economic Zone policy provides another leverage to industrial sector through high foreign direct Investment and the establishment of SEZ across India creates various economic zones for e.g., Vishakhapatnam SEZ, Moradabad SEZ etc. in 2011 National Manufacturing policy and after that make in India and startup India creates opportunity to make India as global manufacturing hub and consistently increase the share of industrial sector into countries GDP. The trend over the years showing positive output result in terms of GVA and growth rates. According to world bank report and various other institution India will establish itself a global manufacturing hub by 2030.

**Issues:**

Showing a steady increase in output and growth as well still Industrial facing issue to contribute more than 20% of total GDP.it has necessary to India increase the share of industrial sector to make itself global manufacturer and create dominance over the global supply chain market. The regulatory provision for set-up of industries and documentation are already under the ease of doing business and single window system are helpful, after all these decisions many issues still has face by sector.

**Key Challenges Confronting the Indian Industrial Sector:****Insufficient Infrastructure**

A major impediment to the Indian industrial sector's growth is underdeveloped infrastructure. Despite strides in road and rail connectivity, challenges persist in areas like logistics, power supply, and industrial parks. Inefficient transportation systems and poor connectivity to critical industrial hubs lead to high logistics expenses, delays, and diminished global competitiveness. Additionally, unreliable power supply and inadequate warehousing facilities add to operational inefficiencies.

**Shortage of Skilled Talent**

Although India has an abundant labor force, the lack of advanced skill sets required for modern manufacturing is a significant challenge. As automation, robotics, and digital technologies reshape industries, there is a growing demand for expertise in areas like AI, machine learning, and data analytics. The current education system's misalignment with industry requirements worsens the situation, preventing the sector from fully capitalizing on technological advancements.

**Regulatory and Policy Complexities**

The Indian industrial landscape is often burdened by bureaucratic red tape, delays in obtaining approvals, and frequent policy shifts. These factors hinder business operations and deter foreign investments. While initiatives like Make in India aim to simplify processes, challenges such as multi-layered taxation systems, complex labor laws, and shifting environmental regulations continue to create hurdles for industrial growth.

**Challenges in Accessing Finance:**

Financial constraints, particularly for SMEs, are another critical issue. Smaller enterprises often face difficulties in obtaining loans due to high-interest rates, stringent lending criteria, and limited venture capital availability. These financial challenges restrict their ability to invest in advanced technologies, expand capacity, and drive innovation, hampering growth.

**Sustainability and Environmental Pressures:**

Rising expectations for environmentally sustainable practices are both a challenge and an opportunity for the Indian industrial sector. While adopting green technologies incurs additional costs, non-compliance with environmental regulations can result in penalties, reputational harm, and operational disruptions. Striking a balance between profitability and sustainability remains a significant concern for many industries.

**Global Competition and Trade Restrictions:**

Competing on a global scale remains a daunting task for Indian industries. Many global players leverage advanced automation and innovative processes, making it difficult for Indian businesses to compete on price, quality, and innovation. Additionally, trade barriers such as tariffs, geopolitical tensions, and export restrictions further constrain the ability of Indian industries to penetrate international markets. (Handbook of Industrial Policy and Statistics, 2022)

**Opportunities for Growth in the Indian Industrial Sector:**

**1. Embracing Industry 4.0:** The adoption of technologies like IoT, AI, advanced robotics, and data analytics presents a transformative opportunity for Indian industries. These technologies can help improve efficiency, reduce operational costs, and enhance product quality. With India's IT ecosystem already well-developed, the country is well-positioned to lead in the era of digital manufacturing and smart factories.

**2. Expanding Skill Development Programs:** Addressing the skill gap is crucial for the sector's growth. By investing in skill development programs and fostering partnerships between industries, educational institutions, and training organizations, India can create a workforce capable of meeting the demands of advanced manufacturing processes. Initiatives like PMKVY, if expanded and tailored to industry needs, can bridge this gap effectively.

**3. Focus on Sustainable Manufacturing:** The global shift towards sustainable practices offers Indian industries the chance to capitalize on emerging markets for eco-friendly products. By investing in renewable energy, waste reduction, and resource efficiency, businesses can not only meet regulatory requirements but also gain a competitive edge in global markets. Sectors like renewable energy and electric vehicles hold immense potential for growth.

**4. Improving Ease of Doing Business:** Simplifying regulatory frameworks, easing land acquisition processes, and introducing faster approval mechanisms can create a more conducive environment for investments. Government initiatives

like Atmanirbhar Bharat and Make in India have already paved the way for improvements, but further policy refinements can unlock even greater opportunities for industrial growth.

**5. Boosting Exports:** With global supply chains seeking diversification, Indian industries have the potential to become major exporters. By enhancing infrastructure, reducing trade restrictions, and leveraging initiatives like the PLI scheme, the country can position itself as a key player in international markets. By providing more accessibility to export and promotion of export through SEZ, the capacity of industries to increase more output Strengthening the competitiveness of domestic manufacturing can further boost export volumes.

**6. Collaborative Public-Private Partnerships (PPP):** Partnerships between public and private sectors can bridge infrastructure gaps and promote innovation. Joint ventures in developing industrial clusters, smart cities, and digital infrastructure can significantly enhance India's industrial ecosystem. Such collaborations can also play a pivotal role in long-term growth and sustainability.

#### **Remedies:**

**Renewable Energy:** For the reduction of emission of greenhouse gases through industrial plants, and also for achieve carbon net zero emission under the SDG's goal, industries must have set up the photovoltaic panel to its energy consumption. Green energy has low costs than traditional and also environmental degradation can be reduce by using renewable energy.

**Industrial collaborative solutions:** The industries should be prioritizing its waste management, it could be an industrial collaboration for the management of waste that ensure it equal to the sewage and compatible also, it remains proportionate ratio to flow and the pollution load of the sewage.

**Technological integration:** Technological integration across all the industries lead to optimization of output whereas technology can lead the competitiveness and healthy environment to grow industries vaster along with skill resource, this will a must and prior step to make industries more compatible and sustainable.

**Efficient resource Management:** High skilled professional, and skilled labor force also reduce the chances of wastage of resources, the expert from the industrial resource management and the industries skill force only can do the effective resource management.it increases the chances of reduce wastage of resources and efficient use of it.

**Optimize industrial Production::** Along with optimization of firm/Industry, the industries should be taken care of the output is more equitable and environmentally friendly, whereas they should conscious about industrial development should be more inclusive that leads integration and economic development in sustainable in long run.

#### **Conclusion:**

In the process of economic development industrial sector has playing pivotal role contributing 17% output in nations GDP, but the nurture of Industrial sector has still stagnant, the data shows contribution of manufacturing sector has decreasing in recent years, some of new

industries arises in last 10 years where the automobile, semiconductor, telephone industries are growing vaster. Since the schemes like Make in India and Startup India were launched the participation of labor force into industrial sector has been rising. In particular way the untapped potential of employment generation of an industrial sector has shown its capacity to make India as a manufacturing hub and a dominant supplier in the global supply chain market. Upcoming future the adoption of technologies like robotics, AI, IoT and IT are the main pillars contributing more to sectorial expansion as well as growth, the futuristic pathway like embracing Industry 4.0 is significant in the process of inclusive industrial growth. Here the need is strengthening industrial policy and reducing complexities to make it more feasible for stakeholders. The FDI inflows into the industrial sector also need improvement, taking into consideration the current status of the sector it has to be prioritized.

In between the government initiatives like 'Atmanirbhar Bharat', PM Gati Shakti for better connectivity across regions, and establishment of new ports, industrial corridors (for e.g., Delhi-Mumbai) are still being created. Positive hopes for industrial expansion and economic developmental process. Environmental constraints and resource deficiencies still need attention,

to look forward with Sustainable Development Goals. The industrial sector also needs convergence and inclusivity with the green economy. Overall, the process of economic development is going hand in hand with the growth of the industrial sector, to create a more efficient market. Industries have the capability to address questions like unemployment, employment generation and to make India a global manufacturing hub.

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