

A Study on the Performance Eight Core Industries in India

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Abstract

India's eight core industries are vital since they serve as the backbone of the industrial sector and provide a substantial contribution to the nation's overall economic expansion. These sectors collectively make up 40.27 percent of the Index of Industrial Production (IIP) and comprise coal, crude oil, natural gas, refinery products, fertilizers, steel, cement, and power. Their performance has a direct impact on the nation's overall economic activity and industrial progress. These industries offer more job possibilities and make greater contributions to India's economic growth. This paper's main goal is to examine the patterns of industrial growth from 2015–16 to 2023–24. The report specifically examines the growth performance and pathophysiology of the eight main industrial sectors during the study period. It also examines the performance of these core industries during the COVID-19 pandemic. It emphasized the key elements that caused the industries' growth to slow down. The results indicate that its growth trajectory has been erratic, and many industries experienced significant fluctuations during the epidemic. An attempt is made to make some policy recommendations in light of this study in order to resurrect industrial growth in the future.

Keyword: Industrial Growth, Core Industry.

INTRODUCTION

India's economy has grown significantly in the last few years, but the manufacturing sector is not keeping up, making up only 16–17% of GDP, compared to the global average of 20%. This is significantly less than the GDPs of Thailand, China, and South Korea, where manufacturing makes up 31%, 35%, and 39% of the GDPs, (Althaf & Babbitt, 2021). respectively. An essential part of any economy's growth is the industrial sector. Over the past few decades, the industrial production of the Indian economy has grown rapidly. Industrial sector plays a crucial role in the development of every economy. Indian economy has been experiencing rapid growth in industrial production in the last few decades. In India the Index of Eight Core Industries is calculated and this index comprises nearly 38 % of the weight of items included in the Index of Industrial Production (IIP). (Muhammadrizaj Faniband, 2016). The Index of Eight Core Industries, which accounts for almost 40% of the weight of the items in the Index of Industrial Production (IIP), is calculated in India. Coal, crude oil, refinery products, fertilizers, steel, cement, and power are all part of the Eight Core Industries (ECI). The Indian economy has benefited greatly from these eight key industries. The Index of Industrial Production (IIP) gives the Eight Core Industries 40.27% of its total weight, demonstrating their substantial impact on the IIP's measurement of overall industrial performance.

The key industries that are essential to a nation's economy are referred to as its core sectors. These sectors usually need substantial investment, are capital-intensive, and have a big influence on other sectors through both forward and backward linkages.

In India, the term "core sectors" is most commonly used to describe the eight vital industries that the government has identified as significantly influencing the nation's total economic growth. Although these eight industries are regarded as "core," this does not mean that other sectors are not significant. Every sector of the Indian economy contributes to its general growth and development, making it a complex and varied system. The government keeps a careful eye on these eight industries, and the Index of Eight Core Industries (ICI) tracks their performance. The core sectors provide a variety of purposes. Its primary goal is to supply the necessities for an economy to function, such as fundamental products and services. By supplying infrastructure, energy, and raw materials, it also boosts industrial expansion, generates job opportunities, and encourages advancements in other industries. The basic industries that make up an economy's foundation could be referred to as "core sectors" in a more general sense. Mining, manufacturing, transportation, energy, and agriculture may all fall under this category. However, based on each economy's unique stage of growth, different industries may be deemed "core." The core industries contribute significantly to a country's GDP.

India's GDP is significantly influenced by its core industries. It makes a substantial contribution to economic output as the main source of industrial output. A nation's overall economic health is frequently gauged by the success of its core industry. Strong industrial activity is indicated by a solid core sector, which raises GDP growth. On the other hand, economic difficulties may be indicated by a slowdown in the core sector. The three sectors' respective compositions at 2011–12 prices are roughly 15.13% (agricultural), 30.67% (industry), and 54.20% (services). While India's industry and services contribute less than the global norms (30% for industry and 63% for services), the country's agriculture sector provides more than the global average (6.4%). Given its size, the services sector has a major influence on India's total economic expansion. India's economy is significantly shaped by its major sectors. In this section, we will examine their contributions to GDP.

SCOPE AND NEED FOR THE STUDY

The industrial sector is a major contributor to the overall expansion of any nation's economy. The establishment of small and medium-sized businesses by entrepreneurs in various Indian states and Union Territories has boosted the proportion of SME units in total production, fixed investment, exports, employment, and capacity utilization, among other areas. Understanding the dynamics of different sectors, their GDP contributions, and their effects on employment, people's earnings, technological advancement, and overall national progress is made easier with the aid of these assessments. By examining growth rates, determining the main forces behind the industry and its difficulties, and formulating plans for fair, sustainable industrial growth, the size of the Indian industrial sector can be determined. Since the First Plan, the policy framework has emphasized the need to boost the industrial sector due to its strategic significance to India's overall economic growth.

OBJECTIVES OF THE STUDY

Based on the above theoretical and the views shared by various experts, the following objectives have been set for the present study.

- To examine the growth of Eight Indian Core Industries over the period of time i.e from 2015-16 to 2023-24.
- To analyse and estimate the Production of Eight Core Industries in India from 2011-12 to 2022-23

The purpose of this research paper is to examine the performance and makeup of the Indian economy's eight core industries between 2015 and 2023. This report specifically aimed to examine the weight increase and production performance of various industries. The information was gathered from a number of publications released by the Indian government's Ministry of Chemicals and Fertilizers. The basic percentage approach was used to tabulate and evaluate the gathered data. The success of India's core industries is explained in the following tables:

Table 1
Growth Rates of Eight Core Industries
(2015 - 16 to 2023-24)

Industrial Sector	Weight	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022 - 23	2023-24
Coal	10.33	4.80	3.20	2.60	7.40	-0.40	- 1.90	8.50	14.80	11.80
Crude Oil	8.98	- 1.40	- 2.50	- 0.90	- 4.10	- 5.90	- 5.20	- 2.60	- 1.70	0.60
Natural Gas	6.88	4.70	- 1.00	2.90	0.80	- 5.60	- 8.20	19.20	1.60	6.10
Refinery Products	28.04	4.90	4.90	4.60	3.10	0.20	- 11.20	8.90	4.80	3.60
Fertilizers	2.63	7.00	0.20	0.00	0.30	2.70	1.70	0.70	11.30	3.70
Steel	17.92	- 1.30	10.70	5.60	5.10	3.40	- 8.70	16.90	17.20	12.50
Cement	5.37	4.60	- 1.20	6.30	13.30	- 0.90	- 10.80	20.80	8.70	8.90
Electricity	19.85	5.70	5.80	5.30	5.20	0.90	- 0.50	8.00	8.90	7.10
Overall Index	100.00	3.00	4.80	4.30	4.40	0.40	- 6.40	10.40	7.80	7.60

Note: Figures are in percentage

Source: Ministry of Chemical & Fertilizers, Govt. of India – various issues

Growth Rates of Eight Core Industries

The aforementioned table discusses the growth rates of eight key sectors. It is evident from the data that the coal sector continued to develop at a strong pace of 11.8%, however the growth rate decreased by 3% from 2022–2023 to 2023–2024. The steel industry expanded by 12.5%. This suggests that India's infrastructure and building development are reviving. Additionally, the cement industry exhibits consistent growth in 2023–2024, suggesting a rise in construction activity. Additionally, the electricity sector expanded gradually, rising from 5.70 percent in 2015–16 to 7.10 percent in 2023–24. The crude oil industry is performing poorly. With the exception of a little positive gain of 0.6% in 2023–2024, it consistently showed negative growth for eight years in a row. Although the natural gas industry has a cyclical pattern, 2021–2022 saw very robust growth of 19.2%.

In 2023–2024, refinery products climbed by just 3.6%. Since 2018–19, this sector has had negative growth. The majority of sectors saw declines, and the overall index dropped to -6.4 percent. The industries that saw the biggest declines as a result of COVID-19 were natural gas (-8.2%), steel (-8.7%), cement (-10.8%), and refinery products (-11.2%). Another noteworthy aspect is that the steel, cement, and coal industries all had significant recovery from 2021–2022 to 2023–2024. The electricity industry also made a partial recovery. The crude oil industry, meanwhile, is still performing poorly. The information in the table indicates that steel (17.92%), electricity (19.85%), and refinery products (28.04%) are all significant. In the Indian industrial sector, these three sectors were found to be highly weighted. Together, these three sectors make up more than 65% of the index, and the index as a whole is greatly impacted by their performance.

Table: 2

Production of Eight Core Industries in India: (Base year: 2011-12 = 100) (2011–12 to 2022-23),
(Figures in '000 tonne)

Year	Coal	Crude Oil	Natural Gas	Petroleum Refinery products	Fertilizers	Steel	Cement	Electricity
2011–12	551.55	38089.67	46481.07	203201.91	38778.70	75697.00	229500.00	876950.70
2012–13	569.13	37861.99	39776.84	217736.20	37493.10	8169.00	246614.00	912056.70
2013–14	574.54	37788.44	34638.22	220756.33	38045.70	87673.00	255826.00	967237.79
2014–15	620.78	37461.21	32790.60	221135.53	38539.40	92157.00	270938.00	1110458.00
2015–16	650.79	36941.75	31242.49	231923.95	41243.60	90980.00	283457.00	1173601.97
2016–17	671.53	36008.83	30919.54	243260.62	41329.40	100748.00	279975.00	1242105.77
2017–18	688.76	35683.86	31803.73	254398.87	41343.80	106364.00	297711.00	1308195.69
2018–19	739.62	34203.29	32064.34	262361.27	41484.00	111780.00	337322.00	1375684.69
2019–20	737.00	32169.29	30256.57	262941.05	42591.10	115531.00	334366.00	1388668.56
2020–21	723.22	30493.54	27782.75	233436.22	43228.00	105173.00	296283.00	1381838.64
2021-22	730.10	4931.21	29019.66	248188.63	42909.55	110352.00	315324.50	1385253.60
2022-23	726.66	16813.34	28401.25	240812.42	43068.77	107762.50	305803.75	1383546.12

Source: Ministry of Commerce & Industry, Govt. of India.

Production of Eight Core Industries in India

The production performance of India's eight main industries from 2011–12 to 2022–23 is explained in the table. Over the time, the majority of industries, especially those producing coal, electricity, and petroleum refinery products, had a general trend of increased production. Crude oil and natural gas showed a consistent downward trend over the course of the time, albeit with occasional oscillations. In 2014–15, electricity grew at its fastest rate, at about 14.81%. In 2018–19, cement's growth peaked at about 13.31%. During the 2019–20 and 2020–21 fiscal years, a number of businesses, including coal, natural gas, and cement, saw a brief pause or reduction in growth, most likely as a result of the worldwide pandemic.

Table 3

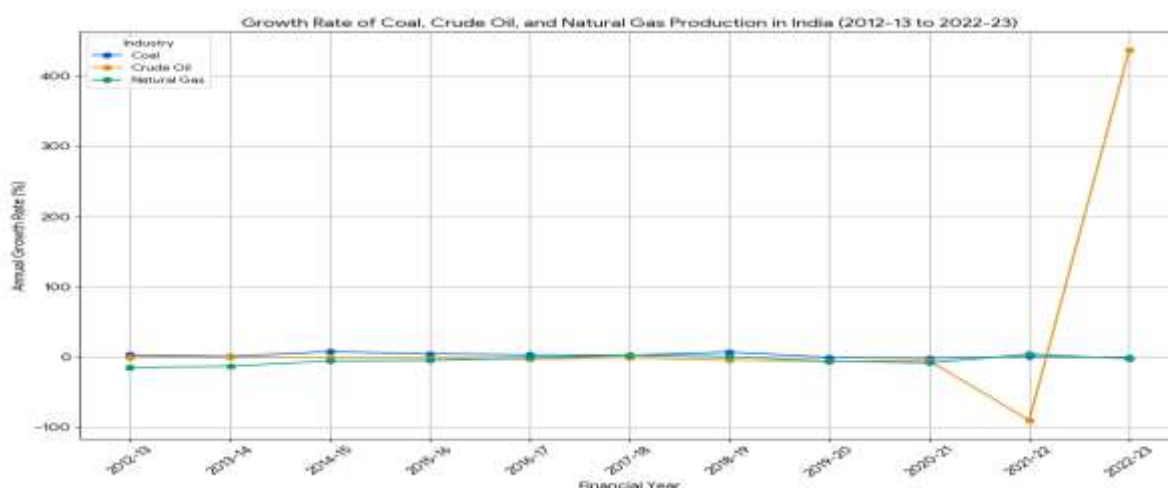
Growth rate of Production of Coal, Crude Oil and Natural Gas Industries in India: (2011 – 12 to 2022-23) (Figures in '000 tonne)

Year	Coal	AGR	Crude Oil	AGR	Natural Gas	AGR
2011–12	551.55	-	38089.67	-	46481.07	-
2012–13	569.13	3.19	37861.99	-0.60	39776.84	-14.42
2013–14	574.54	0.95	37788.44	-0.19	34638.22	-12.92
2014–15	620.78	8.05	37461.21	-0.87	32790.60	-5.33
2015–16	650.79	4.83	36941.75	-1.39	31242.49	-4.72
2016–17	671.53	3.19	36008.83	-2.53	30919.54	-1.03
2017–18	688.76	2.57	35683.86	-0.90	31803.73	2.86
2018–19	739.62	7.38	34203.29	-4.15	32064.34	0.82
2019–20	737.00	-0.35	32169.29	-5.95	30256.57	-5.64
2020–21	723.22	-1.87	30493.54	-5.21	27782.75	-8.18
2021-22	730.1	0.95	3133.14	-89.73	29019.66	4.45
2022-23	726.66	-0.47	16813.34	436.63	28401.25	-2.13

Source: Ministry of Commerce & Industry, Govt. of India.

Note: AGR: Annual Growth Rate

The growth rates of India's output of coal, natural gas, and crude oil from 2012–13 to 2022–23 are displayed in the above table. As can be seen in the graphic below, the data clearly shows that India's production of natural gas, coal, and crude oil followed distinct paths from 2012–13 to 2022–23.



With a few notable exceptions, the coal sector grew positively throughout this time. At 8.05%, the highest growth rate was observed in 2014–15. Growth dropped after this peak but remained positive until 2019–20, when it went negative at -0.35%. In 2021–2022, the growth rate marginally improved to 0.95%, but in 2022–2023, it dropped once more to -0.47%. A broad fall in production was shown by the crude oil industry's largely negative growth rates. The industry saw a steady decline from 2012–13 to 2020–21, with the worst drop of -5.95% in 2019–20. There is a great deal of instability in the 2021–22 and 2022–23 figures. In 2021–2022, the growth rate fell to -89.73%, but in 2022–2023, it sharply increased to 436.63%. The most inconsistent performance was displayed by the natural gas sector, with notable. In 2021–2022, the growth rate fell to -89.73%, but in 2022–2023, it sharply increased to 436.63%. The performance of the natural gas sector was the most erratic, with notable upswings and downturns. Beginning with a sharp decline in growth, the industry hit a low of -14.42% in 2012–2013. Over the following several years, the decrease lessened, and in 2017–18 the industry regained positive growth (2.86%) and in 2018–19 it grew by 0.82%. From 2019–20 to 2020–21, growth sank once again, falling by the most, -8.18%. After returning to positive growth in 2021–22 at a rate of 4.45%, the industry ended the era with a minor fall of -2.13% in 2022–23.

Table 4

Growth rate of Petroleum refinery products, Fertilizers and Steel Industries in India (Figures in '000 tonne) [2011-12 to 2022-23]

Year	Petroleum Refinery Products	A G R	Fertilizers	A G R	Steel	A G R
2011–12	203201.91	--	38778.70	--	756.97	--
2012–13	217736.20	7.15	37493.10	-3.32	8169.00	979.17
2013–14	220756.33	1.39	38045.70	1.47	87673.00	973.24
2014–15	221135.53	0.17	38539.40	1.30	92157.00	5.11
2015–16	231923.95	4.88	41243.60	7.02	90980.00	-1.28
2016–17	243260.62	4.89	41329.40	0.21	100748.00	10.74
2017–18	254398.87	4.58	41343.80	0.03	106364.00	5.57
2018–19	262361.27	3.13	41484.00	0.34	111780.00	5.09

2019–20	262941.05	0.22	42591.10	2.67	115531.00	3.36
2020–21	233436.22	-11.22	43228.00	1.50	105173.00	-8.97
2021–22	248188.63	6.32	42909.55	-0.74	110352.00	4.92
2022–23	240812.42	-2.97	43068.77	0.37	107762.50	-2.35

Source: Ministry of Commerce & Industry, Govt. of India.

Note: AGR: Annual Growth Rate

Growth rate of Petroleum refinery products, Fertilizers and Steel Industries in India

Here is a summary of the growth rates for the steel, fertilizer, and petroleum refinery sectors in India from 2011–12 to 2022–23, based on the data in the table. The average yearly growth rate of products from petroleum refineries is a pitiful 1.69%. Fertilizer was found to have an average annual growth rate of 0.99%. In the steel industry, the average yearly growth rate was 179.51%. Products from petroleum refineries grew at the fastest rate (7.15% in 2012–13) and the slowest rate (-11.22% in 2020–21). The greatest growth in fertilizer was 7.02% in 2015–16, while the lowest was -3.32% in 2012–13. The steel industry grew by 979.17% in 2012–13 the highest growth rate and by -8.97% in 2020–21.

Table 5

Growth rate of Petroleum refinery products, Fertilizers and Steel Industries in India (In '000 tonne) [2011-12 to 2022-23]

Year	Cement	AGR	Electricity	AGR
2011–12	229500.00	--	876950.70	--
2012–13	246614.00	7.46	912056.70	4.00
2013–14	255826.00	3.74	967237.79	6.05
2014–15	270938.00	5.91	1110458.00	14.81
2015–16	283457.00	4.62	1173601.97	5.69
2016–17	279975.00	-1.23	1242105.77	5.84
2017–18	297711.00	6.33	1308195.69	5.32
2018–19	337322.00	13.31	1375684.69	5.16
2019–20	334366.00	-0.88	1388668.56	0.94
2020–21	296283.00	-11.39	1381838.64	-0.49
2021–22	315324.51	6.43	1385253.6	0.25
2022–23	305803.75	-3.02	1383546.12	-0.12

Source: Ministry of Commerce & Industry, Govt. of India.

Note: AGR: Annual Growth Rate

Growth rate of Petroleum refinery products, Fertilizers and Steel Industries in India

Table 5 shows the growth rates for India's cement and electricity sectors from 2011–12 to 2022–23. According to the data, the cement sector grew at an average annual rate of 2.84 percent, while the electrical business grew at an average annual rate of 4.31 percent. The cement sector grew at the fastest pace (13.31%) in 2018–19, whereas the power industry grew at the fastest rate (14.81%) in 2014–15. These industries experienced the slowest growth over the research period, with respective growth rates of -0.49% and -11.39 in 2020–21.

It is evident from the examination of eight key industrial sectors that the growth rate of each sector fluctuated throughout the study period. Since the economy depends on a variety of elements to achieve economic growth, it is impossible to have consistently positive growth. Most significantly, the natural environment and the economic are tightly related. Natural changes, government economic policies, trade policy, and minor adjustments to the economic system are all closely related to industrial production. Understanding the issues causing the variation in the production processes is therefore crucial. Almost every industry was impacted by the pandemic period because to a lack of manufacturing, as is widely known. Hence, it is difficult to find steady or constant growth in any economy.

Summary and Conclusion

One of the obstacles facing Indian industry is a lack of infrastructure development. Financial constraints, a lack of private sector participation, technology lag, environmental concerns, legal and legislative hurdles, and a complicated regulatory environment are additional problems. Old infrastructure includes things like power grids, congested transit systems, and inadequate logistical systems. Together, they create bottlenecks that raise production costs and decrease productivity. Another problem that Indian businesses have encountered is land acquisition hurdles; the complexity of the land acquisition processes results in delays in project execution, which in turn leads to delays and cost overruns. Many public sector efforts in key areas are unable to invest in modernization and expansion due to high debt. Global competitiveness and productivity are impacted by core sectors' limited adoption of advanced technologies like automation and artificial intelligence. These problems limit growth and obstruct the nation's economic objectives. As a result, it is decided that the government needs to take appropriate action to address the previously mentioned problems.

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