

# India's Industrial Transformation: From License Raj to Global Integration

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Received: April 09, 2019

Accepted: May 21, 2019

**ABSTRACT:** *This study examines India's industrial evolution from 1947 to 2018, analyzing three distinct phases: colonial constraints, state-led development, and market liberalization. The research demonstrates that while the 1991 economic reforms successfully dismantled bureaucratic barriers and increased foreign investment, structural challenges in infrastructure, regulation, and human capital development continue to constrain optimal growth. The analysis reveals that despite policy initiatives like Make in India, manufacturing's contribution to GDP remained stagnant at 16-17%, significantly below policy aspirations for substantial industrial expansion.*

**Key Words:** *industry, industrial policy, license raj, global integration.*

## Introduction:

India's industrial journey since independence represents a remarkable economic transformation spanning seven decades. Beginning with the restrictive colonial framework that deliberately suppressed industrial growth, the nation embarked on an ambitious development path that fundamentally reshaped its economic landscape. The industrial sector, encompassing manufacturing, mining, utilities, and construction, evolved from a modest base into a sophisticated ecosystem spanning traditional industries like textiles and steel to cutting-edge sectors including pharmaceuticals, information technology, and advanced manufacturing. This transformation unfolded through distinct phases: the centrally planned, state-dominated approach of the early post-independence era, followed by gradual market-oriented reforms culminating in comprehensive liberalization in 1991. Today's Indian industrial landscape demonstrates significant diversification and global integration, contributing substantially to national output and employment generation while maintaining strategic importance in the country's economic development trajectory.

## Historical Development Phases

The British colonial administration systematically suppressed industrial development, prioritizing raw material extraction over value-addition processes. Industrial activities remained confined to basic textile production, jute processing, iron and steel manufacturing, and coal extraction. The establishment of Tata Iron and Steel Company in 1907 represented one of the few instances of indigenous industrial enterprise during this restrictive period, highlighting the limited scope for domestic industrial development under colonial rule.

Independent India adopted a mixed economic model emphasizing government control over industrial development. The Industrial Policy Resolutions of 1948 and 1956 established the foundational framework prioritizing self-sufficiency and import substitution strategies (Ahluwalia, 1985). The Industries Development and Regulation Act of 1951 mandated government approval for industrial establishment and expansion, creating what became known as the "License Raj." This regulatory mechanism, intended to ensure coordinated development, frequently resulted in administrative inefficiencies and project delays. Government entities dominated strategic industries including steel production, coal mining, petroleum refining, and heavy machinery manufacturing, with public enterprises controlling over 25% of total industrial output by the 1980s. Substantial tariff barriers protected domestic industries from international competition, fostering local manufacturing capabilities while potentially compromising efficiency and global competitiveness.

The 1991 economic crisis catalyzed comprehensive structural reforms that fundamentally altered India's industrial paradigm. The New Industrial Policy dismantled licensing requirements, reduced state sector dominance, and welcomed foreign participation (Ahluwalia, 2002). Industrial licensing was eliminated for most sectors except those involving security, safety, or environmental considerations, while public sector reservations decreased from 17 to 3 industries. Progressive FDI policy relaxation permitted 100% foreign equity in numerous sectors, introducing advanced technology and capital resources that enhanced productivity and competitiveness. Significant tariff reductions and elimination of quantitative

restrictions exposed Indian industries to global competition while facilitating access to modern technology and intermediate inputs.

### **Industrial Structure and Composition**

Manufacturing constitutes the largest industrial component, contributing approximately 16-17% to GDP while employing over 50 million people across key sub-sectors including textiles, chemicals, pharmaceuticals, automotive, machinery, and food processing. The mining and extraction sector contributes roughly 2.5% to GDP, encompassing coal mining, iron ore extraction, petroleum production, natural gas, and mineral extraction, with India ranking among the world's leading producers of coal, iron ore, and various minerals. Rapid expansion in electricity generation achieved installed capacity exceeding 344 GW by 2018, though distribution inefficiencies and rural electrification gaps persist as ongoing challenges. The construction industry, closely linked to industrial activity, has experienced robust growth driven by infrastructure development and urbanization trends.

Following liberalization, private enterprises have assumed dominance in industrial production, accounting for over 75% of output by 2017-18. Major conglomerates including Reliance, Tata, Aditya Birla, and Mahindra have expanded substantially both domestically and internationally. Despite reduced relative importance, state-owned enterprises maintain significant positions in strategic sectors such as oil and gas, steel, coal, and defense manufacturing. The Micro, Small, and Medium Enterprise (MSME) sector contributes approximately 30% of industrial production and 45% of manufacturing exports while providing employment to over 110 million people, highlighting its critical role in India's industrial ecosystem (Ministry of MSME, 2018).

### **Major Industrial Segments**

The textile and apparel industry, as one of India's oldest and largest industrial sectors, contributes approximately 2.3% to GDP and 12% to manufacturing production. India maintains its position as the world's second-largest textile producer and exporter, with particular strengths in cotton textiles, ready-made garments, and technical textiles. The industry benefits from abundant raw material availability, skilled workforce, and diverse production capabilities spanning traditional handlooms to modern integrated facilities. However, technological obsolescence, fragmented structure, and intense global competition pose ongoing challenges to sustained growth and competitiveness.

India's pharmaceutical industry has achieved global leadership in generic drug manufacturing, earning recognition as the "world's pharmacy." The sector contributes approximately 1.72% to GDP while supplying over 50% of global vaccine demand and 40% of generic drug requirements in the United States. Core strengths include cost-effective production capabilities, skilled scientific personnel, and robust regulatory compliance systems that have enabled leading companies such as Sun Pharma, Dr. Reddy's, Cipla, and Lupin to establish substantial international presence through exports and strategic acquisitions.

The automotive sector represents one of India's most dynamic industrial segments, contributing over 7% to GDP and directly employing more than 4.5 million people. India has emerged as the world's fourth-largest automobile manufacturer by volume and leads in tractor, motorcycle, and three-wheeler production. The sector encompasses passenger vehicles, commercial transportation, two-wheelers, agricultural tractors, and automotive components, with domestic manufacturers like Tata Motors, Mahindra & Mahindra, and Bajaj Auto operating alongside international companies including Maruti Suzuki, Hyundai, Honda, and Toyota.

The chemical industry constitutes a fundamental pillar of India's industrial economy, contributing approximately 3% to GDP and 14% to manufacturing production. The sector includes basic chemicals, specialty chemicals, pharmaceuticals, fertilizers, paints, and petrochemicals, with India ranking among the world's largest chemical producers. The industry benefits from significant cost advantages due to abundant feedstock availability from domestic refineries, with major players including Reliance Industries, Indian Oil Corporation, ONGC Petro Additions, and various specialty chemical manufacturers driving growth and innovation.

### **Policy Framework and Government Initiatives**

Launched in 2014, the Make in India initiative aimed to transform India into a global manufacturing hub across 25 sectors, with primary objectives including increasing manufacturing's GDP share from 16% to 25% by 2025, creating 100 million additional manufacturing jobs, and enhancing global competitiveness. The program focused on improving business environment conditions, facilitating investment, fostering innovation, and developing world-class manufacturing infrastructure through regulatory simplification, FDI liberalization, and infrastructure development initiatives.

India established Special Economic Zones to promote exports and attract foreign investment through superior infrastructure and simplified regulatory procedures, with over 200 operational SEZs contributing significantly to exports and employment generation by 2018. Government promotion of industrial parks and clusters provided plug-and-play infrastructure for manufacturing units through programs like the National Manufacturing Competitiveness Programme and Industrial Infrastructure Upgradation Scheme, supporting cluster development and industrial competitiveness. Recognizing MSMEs' critical role in industrial development and employment generation, the government implemented comprehensive support schemes including credit enhancement programs, technology modernization initiatives, and market access facilitation measures.

### **Performance Analysis and Trends**

India's industrial sector demonstrated mixed performance during the review period, with the Index of Industrial Production exhibiting volatile patterns and average annual growth of approximately 3-4% during 2012-2018, significantly below the 8% growth achieved during 2003-2008. Manufacturing growth remained moderate at 6-7% annually during 2014-2018, falling short of the 12-14% growth targets necessary to achieve Make in India objectives. Industrial capacity utilization fluctuated between 70-75% during 2014-2018, indicating underutilized industrial capacity and subdued demand conditions that constrained optimal performance.

FDI inflows into manufacturing sectors increased substantially, reaching over \$40 billion annually by 2017-18, with automobiles, chemicals, pharmaceuticals, and food processing as key recipients of foreign investment. However, private sector investment remained constrained due to banking and corporate sector stress, though recovery signs emerged by 2017-2018 following non-performing asset resolution and Insolvency and Bankruptcy Code implementation. India's manufacturing exports expanded from \$147 billion in 2010-11 to \$224 billion in 2017-18, though growth remained volatile due to global uncertainties and competitive pressures. Export basket diversification improved with growth in engineering goods, pharmaceuticals, chemicals, and automobiles, reducing dependence on traditional exports like textiles and gems & jewelry.

### **Persistent Challenges**

Despite significant improvements, infrastructure constraints continue limiting industrial development across multiple dimensions. Power supply issues persist in grid stability, transmission losses, and power quality, forcing many industrial units to rely on expensive captive power generation that increases operational costs and reduces competitiveness. Transportation inadequacies increase logistics costs, with India's logistics costs as a percentage of GDP remaining among the world's highest at 13-14%, reflecting insufficient transportation infrastructure that affects industrial competitiveness. Although telecommunications infrastructure has improved dramatically, high-speed internet connectivity gaps persist in industrial areas, particularly in smaller cities, creating digital infrastructure constraints.

Industrial enterprises face complex regulatory requirements across multiple government levels, with approval and clearance requirements remaining high compared to global standards despite reform efforts. Difficulties in industrial land acquisition persist due to unclear land titles, lengthy approval processes, and social resistance that complicate project implementation. India's complex labor laws, encompassing over 40 central and numerous state-level legislations, create compliance challenges and affect labor market flexibility, constraining industrial expansion and employment generation.

The twin balance sheet problem affecting banks and corporations has constrained credit flow to the industrial sector, with non-performing assets reaching critical levels during the review period. Access to long-term finance for industrial projects remains limited, particularly for SMEs and mid-sized companies, despite significant capital market development. Rapid technological changes and productivity requirements have created significant skill gaps in advanced manufacturing, automation, and quality control areas that limit industrial competitiveness. Industrial training infrastructure requires substantial upgradation to meet modern manufacturing demands, with the apprenticeship system needing strengthening for industry-relevant skills development.

India's industrial R&D investment remains below 1% of GDP, significantly lower than levels in developed countries and emerging economies like China and South Korea, limiting innovation capabilities. While technology imports have increased substantially, capabilities for technology absorption, adaptation, and indigenous innovation remain limited across many industrial sectors, constraining long-term competitiveness and value addition.

## Future Prospects and Opportunities

India's favorable demographic profile, with over 65% of the population below 35 years, provides substantial opportunities for industrial development by supporting labor-intensive manufacturing expansion while creating markets for industrial products. Rising income levels, urbanization trends, and evolving consumption patterns are generating substantial domestic market opportunities for industrial products, with the growing middle class expected to drive demand across consumer goods, automobiles, and housing-related products.

India's strategic location, improving infrastructure, and competitive cost structure position it advantageously for global value chain integration, with opportunities particularly in textiles, pharmaceuticals, automobiles, and electronics manufacturing. The digital revolution and Industry 4.0 technologies present both challenges and opportunities for Indian industry, with early adoption of artificial intelligence, robotics, and Internet of Things technologies potentially enhancing productivity and competitiveness significantly.

## Conclusions

India's industrial sector has undergone remarkable transformation since independence, evolving from a regulated, inward-looking structure to a more liberalized, globally integrated system that demonstrates significant resilience and adaptability. Several industries have achieved global competitiveness and recognition, establishing India as a major player in pharmaceuticals, textiles, automotive, and chemicals sectors. However, substantial challenges persist in infrastructure development, regulatory complexity, skill development, and technological innovation that continue to constrain optimal performance and growth potential.

The success of initiatives like Make in India depends critically on addressing these structural constraints while leveraging India's inherent strengths in human capital, domestic market size, and entrepreneurial capabilities. The path forward requires sustained focus on improving the business environment, developing world-class infrastructure, enhancing skill development systems, and promoting innovation and technology adoption across industrial sectors. With appropriate policy support and effective implementation, India's industrial sector possesses the potential to emerge as a major driver of economic growth and employment generation in the coming decades.

The experience through 2018 provides valuable insights for future industrial development strategy, emphasizing the need for continued reforms and investment in supporting infrastructure and institutions. While the liberalization process has yielded significant benefits in terms of efficiency, competitiveness, and global integration, continued policy refinement and implementation effectiveness remain essential for realizing India's full industrial potential and achieving sustainable, inclusive industrial growth that supports broader economic development objectives.

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