

India as an Alternative to China in Global Supply Chains

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Abstract

In present scenario, one cannot think of global supply chain, especially in manufacturing, without China. The dominance of China in manufacturing space makes it harder for any country to beat, and practically it is impossible for any country to think of replacing China as alternative to global supply chain. The trade war between USA and China has increased the global tension about secure, and reliable supply chain partner. Under these circumstances, India has emerged as on the most discussed alternative to China for manufacturing and supply chain. Most countries called this strategy at China Plus One (C+1) strategy. Present study is an attempt to examine the potential role of India as manufacturing and supply chain hub alternative to China considering the comparative advantage in terms of labour costs, demographic dividend, innovation capabilities, policy system etc. along with challenges in the field of logistic costs, infrastructure deficiencies, ease of doing business, regulatory complexities etc. Study is based on descriptive analysis of secondary data collected from various national and international agencies and international organizations. The results of the study shows that while India has considerable long-term advantages in the areas like pharmaceuticals, defence and information technology, the immediate challenges include high logistic costs, regulatory framework, and infrastructure deficiencies. Based on the findings emerging from the analysis, paper provide useful recommendations for government, industry and international organizations for positioning India at global platform to play major role in global manufacturing and supply chain.

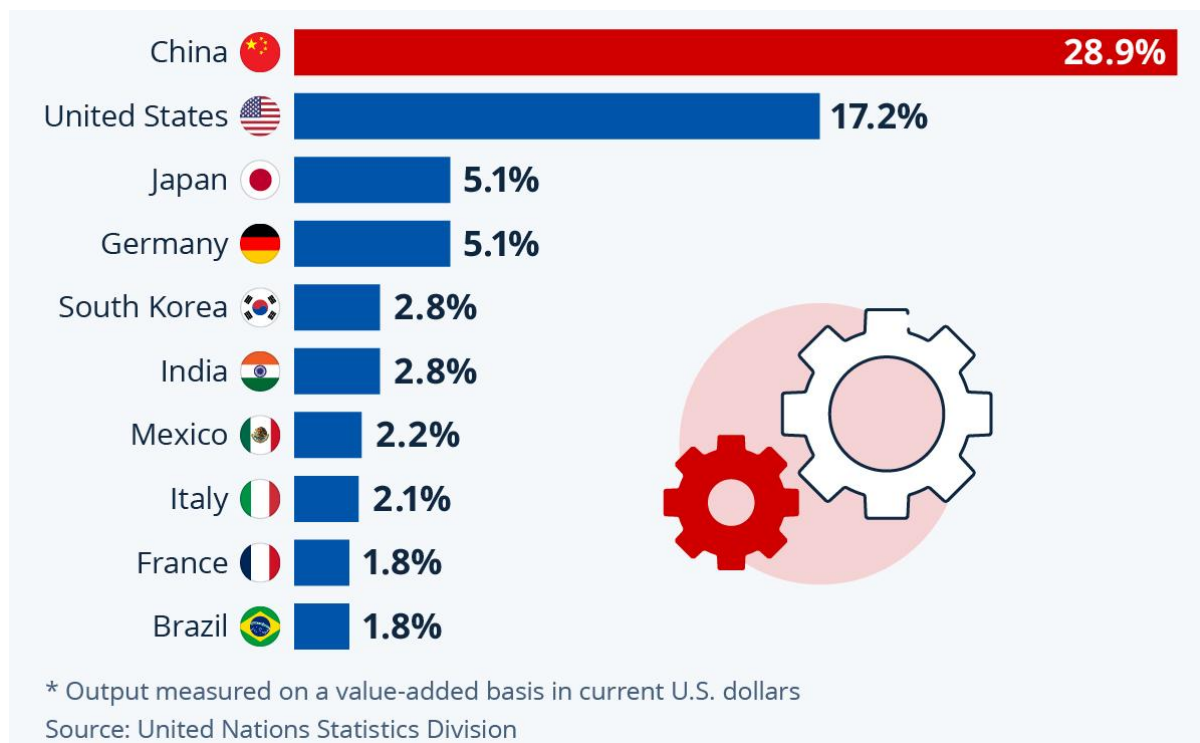
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Introduction

According to data published by United Nations Statistical Division, China account for nearly 29 percent of global manufacturing output in 2023 which is almost double the share of United States which was leading as manufacturing hub until 2010. The total value of manufacturing output by China amounts of \$4.8 trillion.¹ Manufacturing sector contribute to nearly 27 percent of total GDP of China. The other major economies with high contributed to global manufacturing landscape include Japan (5.1 percent) and Germany (5.1 percent). India accounts for nearly 2.8 percent of global manufacturing output. China has specific advantages in terms of lower wages, robust manufacturing ecosystem, and extraordinary infrastructure which makes it one the most important contributor to global production and critical node in manufacturing network. But with changing geopolitical situation, are putting pressure on this fundamental calculus.

¹ <https://unstats.un.org/unsd/snaama/Downloads>

Fig 1: Countries With Highest Share in Global Manufacturing Output



Source: <https://www.statista.com>

In present scenario, one cannot think of global supply chain, especially in manufacturing, without China. The dominance of China in manufacturing space makes it harder for any country to beat, and practically it is impossible for any country to think of replacing China as alternative to global supply chain. The issue of global supply chain accelerated after Covid-19 pandemic which further got the momentum after China- U.S.A. trade war. The trade war between USA and China has increased the global tension about secure, and reliable supply chain partner. No country in the world want to rely on trade partner which is unpredictable, especially in an era of changing geopolitical tension and uncertainties. Most countries and companies have realized the importance of having alternative destination and business partner. Under these circumstances, India has emerged as on the most discussed alternative to China for manufacturing and supply chain. Most countries called this strategy at China Plus One (C+1) strategy. As part of their China Plus One strategies, multinational companies across the globe and looking for establishing and expanding their manufacturing operations to country other than China along with their presence in China. In order to diversify their production operations multinational companies are looking for alternative in countries like Vietnam, Thailand, Indonesia, Mexico and India. Boston Consulting Group survey conducted in 2023, found that more than 90 percent of North American manufacturing companies have already shifted some part of their production to alternative countries (BCG, 2023). Under these changing landscape, India is uniquely placed and world's most populous country with highest young population looking for leveraging demographic dividend. Government schemes including Make in India (2014), Production Linked Incentive (PLI) stated in 2020, National Logistic Policy of 2022 etc. have proved their success in terms of attracting foreign direct investment. According to data published by DPIIT, 2025, FDI inflow in India reached near \$81.4 billion during the year 2024-25 which was 14 percent higher than 2023-24.

The efforts put by Indian government to be part of China Plus One strategy to attract multinational companies in India achieve limited success so far. According to Trade Watch Report of NITI Ayog, Vietnam, despite its limited resources compared to India, has attracted more export-oriented manufacturing foreign direct investment in many categories. Trade Watch report of NITI Ayog (2025) also reports "India performs well in pharmaceutical products, cereals, and natural pearls.

Sectors like electrical machinery, nuclear reactors, and vehicles show significant room for improvement. China is India's leading competitor across the majority of India's export commodities. Brazil, Indonesia, and South Africa generally trail India in most categories, while Malaysia and Thailand outperform India in select sectors like electrical machinery. Understanding peer strategies could help India improve its competitiveness in these areas² Present study provides balanced assessment of role of India as alternative to China as global manufacturing and supply chain.

Review of Literature

The studies related to global supply chain have significantly increase and changed in dimensions after pandemic and USA – China trade war. Gereffi and Lee (2012) demonstrated conceptual framework for Global value Chain, and proved that production processes, especially in manufacturing, are increasing fragmented across multiple geographical areas with each country have their role specific part of value chain. (Christopher & Peck, 2004) also supported theoretical base for supply chain diversification. Building on portfolio theory, authors highlighted that as investors hedge the risk by holding multiple assets, multinational companies are reducing their operational risks by sourcing from multiple countries across the world. Shih (2020) in their research work titled “Global supply chains in a post-pandemic world” argues that pandemic proved that risks and flow of China centric supply chain model which was dominating the world for long time. Author mentioned that “As a consequence of all this, manufacturers worldwide are going to be under greater political and competitive pressures to increase their domestic production, grow employment in their home countries, reduce or even eliminate their dependence on sources that are perceived as risky, and rethink their use of lean manufacturing strategies that involve minimizing the amount of inventory held in their global supply chains”. Simchi-Levi et al. (2021) have further extended the analysis for suggesting supply chain network to be more resilience and optimised in order to have balance between efficiency and redundancy. The discussion increased around friendshoring, strategic approach where countries attempt to reduce their supply chain risks by sourcing raw materials, part and manufacturing operations from trusted and economical and political allies (Sullivan, 2022).

Academic literature on shift from China traced before pandemic period. Adhikari and Yamamoto (2007), in their study have already identified, with empirical evidences, early signs of migration of textile industries from China. Blanchard and Acalin (2016) in their research work highlighted the role of policy uncertainty and response at the company level that results into shifting supply chain. Baldwin (2022) ascertained that regionalization of supply chain is not only part of diversification process, but is part of emerging trends where manufacturing companies are looking for more reliable and trusted networks.

Research works in this directions have implications for country like India, due to its proximity to East Asian supply chain, domestic market size and socioeconomic position. Rajan and Lamba (2024) in their research work have argued that India is better position to take lead in service sector rather than manufacturing sector due to its natural advantage. Studies have also examined the growth potential of manufacturing sector of India. Mukherjee (2020) have proved that production linked incentive scheme (PLI) has potential to transform manufacturing sector of India, specially through cluster development. Similarly, Kumar and Saqib (2023) have studied that pharmaceutical sector of India has transformed cost based structure to innovation based structure to overcome the competitive environment. Due to its innovative culture, pharmaceutical sector of India has emerged as one of the biggest player in global market to become third largest producer by volume.

Research studies to identify the factors that constraint the growth and competitiveness of Indian manufacturing sector. Arthur D. Little (2022) computed that logistic cost of India is nearly 14

² <https://www.niti.gov.in/sites/default/files/2024-12/Trade-Watch.pdf>

percent of GDP which is higher compared to global average, adversely affecting competitiveness. The Logistic Performance Index of World Bank (2023) ranked India at 38th place which is ahead of many competitive countries but quite behind China which is placed at 22nd rank. Study conducted by Desai and Pistor (2019) attributed regulatory framework across Indian states, creating barrier for multinational companies, specially manufacturing, entering into Indian market. Wignaraja (2023) compared India and Vietnam in terms of competing destination for companies shifting their manufacturing operations from China, found that the success of Vietnam reflects their consistent efforts and export oriented policies rather than short run intervention done by Indian government. On the other side, Chandrasekhar and Ghosh (2023) reported that large market size, domestic demand and growth dynamics of India will bypass Vietnam's export led model in the long run.

Existing literature on the subject focused on individual dimension of India's supply chain advantages like FDI, Infrastructure, market size, economic growth etc. very limited literature is available for systematic comparison of India on multiple competing destination across wide set of indicators affecting supply chain strategies. Present study is an attempt to address this gap by providing comprehensive, holistic and data driven assessment.

Objectives and Research Methodology

The primary objective of the study is (a) to examine the factors that affect Indian position in global supply chain as alternative to China. (b) to study comparative advantage of India against competing countries like Vietnam, Thailand and Indonesia. (c) analysis of trends in Foreign Direct Investment inflow in manufacturing sector as indicator of India's supply chain integration (d) to formulate evidence based recommendations for key stakeholders like government, industry and international investors.

To achieve the objectives present study followed descriptive analysis framework. Secondary data for various indicators related to global competitiveness and supply chain are collected for national and international agencies. Global data were collected from WTO, United Nations Conference on Trade and Development, World Bank etc. On the other side national level data are collected from NITI Aayog (Government of India), Department for Promotion of Industry and Internal Trade (DPIIT), Government of India, Reserve Bank of India (RBI) etc.

FDI inflow in Manufacturing Sector

Government of India has launched Make in India initiative in the year 2014, a move towards making India global manufacturing hub. Since then India has attracted cumulative FDI inflow of \$667.4 billion (2014-24) which was nearly 119 percent higher than preceding decade i.e. 2004-2014³. Foreign inflow of fund was reported across all 31 stated and 57 sectors. India has open most of the sectors, except some strategic sectors, to 100 percent FDI under automatic route. FDI inflow in manufacturing sector registered at \$165.1 billion during period 2014-24 what was nearly 69 percent higher as compared to preceding period of 2004-2014. Government of India followed investor friendly FDI policy which resulted into steady rise in FDI inflow from USD 36.05 billion in FY 2013–14 to USD 81.04 billion (provisional) in FY 2024–25, marking a 14% increase from USD 71.28 billion in FY 2023–24⁴. India is emerging as manufacturing hub positively affecting the FDI inflow. FDI inflow in India has increased from \$16.12 billion in 2023-24 to 19.04 billion, thus, recording increased by around 18 percent during the period.

Cost of Labour and Demographic Dividend

India is recognized to have competitive advantage in terms of labour cost. A report by Deloitte (2023) confirmed that fact that manufacturing sector wages in India is nearly 47 percent lower as

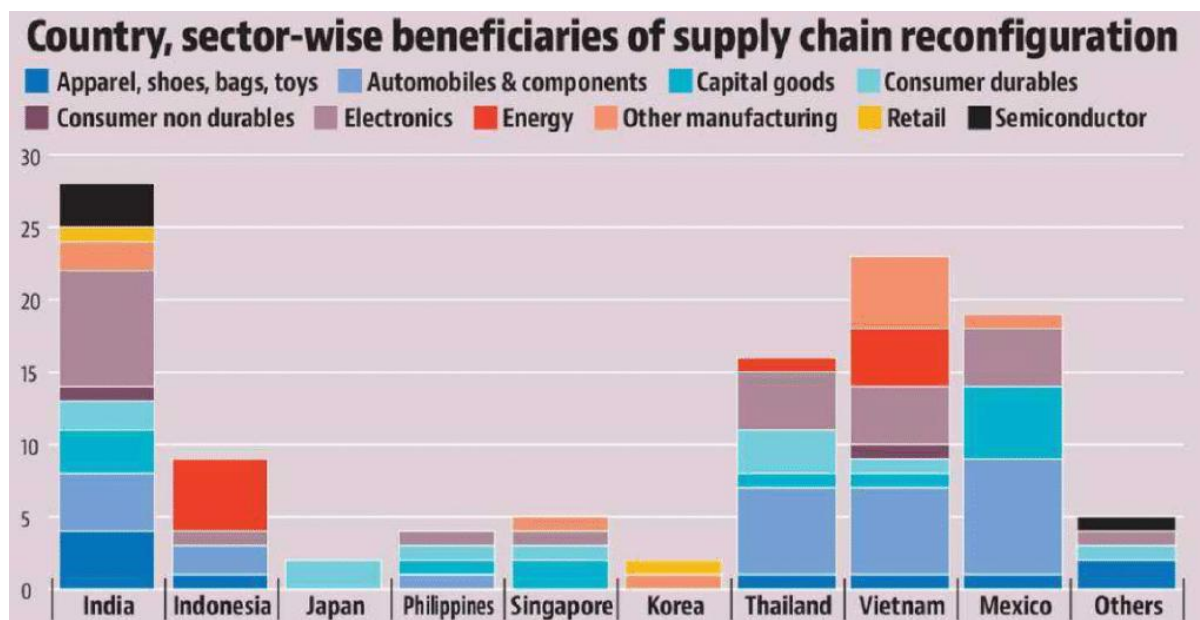
³ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2058603®=3&lang=2>

⁴ <https://www.pib.gov.in/>

compared to China. The average manufacturing wage in China is \$7.10 per hour, compared to \$2.50 per hour in India and Vietnam⁵. Along with lower labour cost, India also has advantage in terms of demographic dividend as compared to China. More than 50 percent population under the age of 30, with working age population is expected to continue growing till 2047. This will provide sustained labour supply, in contrast to ageing economies like China, Japan, USA, South Korea etc. on the other side working age population in China is expected to decline by 200 million by 2050, which will create labour shortage.⁶

Sectoral Analysis

Fig 2: Sector-wise Beneficiary Countries



Source: <https://frigate.ai/contract-manufacturing/china-plus-one-strategy-and-why-companies-are-adopting-it/>

Fig 3: India's Global Landscape

Sr. No.	4HS Code	Description	Global Rank 2014	Global Rank 2023
1	7104	Precious & Semi-Precious Stones	11	1
2	2710	Petroleum Oils & Oils obtained from Bituminous Minerals	5	2
3	1701	Cane or Beet Sugar	4	2
4	3808	Insecticides, Rodenticides, Fungicides & Similar Products	5	3
5	2707	Other Coal Tar Distillation Products	14	4

Source: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2079986®=3&lang=2>

Supply chain potentials of India is not evenly distributed across different sectors. There are sectors which are relatively more competitive as compared to others. Certain Indian industries have

⁵ <https://frigate.ai/contract-manufacturing/china-plus-one-strategy-and-why-companies-are-adopting-it/>

⁶ <https://frigate.ai/contract-manufacturing/china-plus-one-strategy-and-why-companies-are-adopting-it/>

demonstrated real global competitiveness. The data available from figure 2 and 3 shows that India has highest level of advantage in terms of supply chain reconfiguration. Specific advantage that India has in the sectors like semiconductor, consumer non-durables, electronics, capital goods, automobiles & components, energy & other manufacturing, and apparel, shoes, bags & toys. Indian advantage is also reflected in its rank in global export landscape. India's rank improved from 11 in 2014 to 1 during 2023 in the case of export of precious and semi-precious stone. Similarly, petroleum oil rank improved from 5th to 2nd.

Reducing Logistics Cost

Deficiency of infrastructure has remained most significant factor affecting its competitiveness in global supply chain. Logistics in India has remained in the range of 13-14 percent of GDPP i.e. around \$400 which was much higher than China, US and other developed European countries (Arthur D. Little, 2022; S&P Global, 2024). The World Bank's Logistics Performance Index (2023) ranked India 38th globally, an improvement of six positions from its 2018 ranking but significantly behind China (22nd), Vietnam (39th, comparable), and far behind developed market benchmarks (US: 14th).

Government of India has taken initiatives for improvement of logistic infrastructure. The National Logistics Policy 2022 aims at reducing logistic cost to below 10 percent of GDP by 2030. The efforts and investment for development of infrastructure proved results in term of improving logistic system. The report by National Council of Applied Economic Research (NCEAR) for Department for Promotion of Industries and Internal Trade (DPIIT) concluded that India's logistic cost as a percentage of GDP is in single digit and very close to developed nations⁷. This gives an opportunity for India to be globally competitive. The logistic cost of India ranges from 7.8 – 8.9 percent of GDP during 2021-22 to 8.7-9.9 percent during 2011-12.

Policy Reforms and Structural Environment

Government of India efforts in developing manufacturing sector has increased extensively. Initiatives like Make in India provide directional framework. Production Linked Incentive scheme covering 14 key sectors have increased its coverage to many states with increased outlay. "The Production Linked Incentive (PLI) Scheme, with an incentive outlay of ₹1.91 lakh crore, represents a strategic reform initiative aimed at strengthening India's manufacturing base. With 836 applications approved across 14 strategic sectors, the Scheme reflects strong industry confidence and robust adoption. Since its launch, the PLI Scheme has demonstrated sustained uptake by industry and consistent expansion of manufacturing capacity."⁸ As on 31st December 2025, 836 application across total 14 sectors have increased investment by 2.16 lakh crore generating total sales volume of 20.41 lakh crore and direct and indirect employment to 14.39 lakh.

Reduction in corporate tax is one of the important step in this direction. During the year 2019, government has reduced corporate tax rates in order to boost investment. The base rate of corporate tax was reduced from 22 percent for domestic companies and to 15 percent for new manufacturing firms. "In order to promote growth and investment, a new provision has been included in the Income Tax act, that allows any domestic companies an option to pay income tax at the rate of 22% without exemptions. Amendments will be made through an ordinance to IT Act. These companies will not be required to pay MAT,"⁹

⁷ <https://infra.economictimes.indiatimes.com/news/logistics/indias-logistics-cost-is-not-13-14-percent-of-gdp-it-never-was-/106301381>

⁸ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2230621®=3&lang=2>

⁹ <https://www.voiceofca.in/siteadmin/document/Corporatetaxcut.pdf>

Conclusion

Study examined India's potential as supply chain alternative to China in term of FDI inflow, labour cost, logistic sector, and policy framework. India has potential to be globally competitive to emerge as alternative destination for companies following China Plus One. India has successfully improved the FDI in manufacturing sector. FDI inflow in India has increased from \$16.12 billion in 2023-24 to 19.04 billion, thus, recording increased by around 18 percent during the period. With growing FDI in manufacturing sector, India proved its commitment to be open economy ready to welcome foreign companies as their destination. Availability of young population, demographic dividend and lower labour cost favour India as alternative destination for global firms. India is expected to leverage this advantage till 2047, will assured sustained labour supply and skilled manpower. Sectoral analysis also shows that India has advantage over its competitor in certain sectors like semiconductors, electronics, consumer non-durable goods etc. India has significant export advantage in many products like precious stone, petroleum products, sugar etc. Logistic cost in India has also shows downward trends, giving significant competitive edge as compared to other countries. Policy initiatives by government in terms of increasing infrastructure spending, lowering corporate tax, production linked incentive schemes etc. reflect the commitment of country to promote manufacturing sector and supporting global firms in India.

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