# India's Trade Competitiveness in a Changing Global Environment

Working Paper No: 154

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**EXPORT-IMPORT BANK OF INDIA**

**WORKING PAPER NO. 154**

# India's Trade Competitiveness in a Changing Global Environment

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# Executive Summary

## Global Trade Dynamics and Recent Disruptions

Foreign trade has long been integral to global economic development, transitioning from a relatively modest activity in the early 19th century to a defining feature of today's interconnected world. Foreign trade is today characterised by complex supply chains, deep economic interdependence, and rapid technological change, reflecting a long journey from protectionist systems to modern, integrated global commerce.

Over the past decade, a succession of shocks has reshaped global trade, policy priorities, and supply-chain design. China's rise as a manufacturing hub since its accession to World Trade Organisation (WTO) in 2001, reconfigured production networks and deepened US-China interdependence even as strategic frictions grew. The US tariffs on Chinese goods in 2018 triggered a sharp decline in bilateral trade and supply-chain disruptions, prompting firms to shift sourcing toward Southeast Asian economies such as Vietnam, though indirect dependence on China persisted as these economies increased their own imports from China. This episode marked a decisive pivot in global supply chains and accelerated the search for 'China-Plus-One' alternatives.

The COVID-19 pandemic then exposed structural vulnerabilities in global value chains (GVCs). World trade contracted sharply in 2020 amid lockdowns, logistics bottlenecks, and factory and port closures, before rebounding in 2021. Concentrated sourcing, especially reliance on China for semiconductors, pharmaceuticals, and medical supplies, spurred renewed interest in reshoring, nearshoring, and friend-shoring. Additional shocks including the Suez Canal blockage, rising input and energy costs, and geopolitical tensions across different regions, underscored the fragility of highly fragmented, cross-border production systems.

Geopolitical risk intensified with the Russia-Ukraine conflict which started in February 2022, adding macro and commodity-market stresses. Extensive sanctions on Russia tightened global energy markets, pushing up crude oil and natural gas prices, while reduced availability of agricultural commodities (e.g., wheat, sunflower oil) raised food prices and aggravated inflation. Maritime chokepoints became a critical pressure point. Security incidents in the Red Sea and water-level restrictions at the Panama Canal due to prolonged drought in 2023 lengthened routes, lifted freight and insurance costs, and led to delays across energy, metals, and agricultural shipments, further straining a logistics system still recovering from the pandemic. The ongoing conflict in the Middle East and the resultant closure of, or restricted movement of ships through, the Strait of Hormuz has also led to delayed global shipments, disruption in supply of key essentials, increase in oil prices, and escalation of transport costs, impacting many economies relying upon this corridor for trade and commerce.

In addition, the renewed wave of tariffs, led by broad US measures, and widening geopolitical rift has accelerated efforts by several economies to reduce reliance on the US dollar in cross-border transactions. Overlaying these shifts, the EU's Carbon Border Adjustment Mechanism (CBAM) adds a climate-pricing layer to trade, reflecting the growing role of emissions standards in determining trade competitiveness.

## India's Trade Performance in the Past Decade

India is among the world's fastest-growing major economies, with GDP growth projected at 7.3% in 2025, far exceeding the global average of 3.3%. This strong performance is expected to remain on track, supported by robust macroeconomic fundamentals. Over the last decade, the country's participation in global merchandise trade has expanded substantially, with total trade rising from US$ 643.3 billion in FY16 to US$ 1.2 trillion in FY25. India has also improved its position in the global export landscape, advancing from the 20$^{th}$ largest merchandise exporter in 2015 to the 18$^{th}$ largest in 2024. Merchandise exports recorded a compound annual growth rate (CAGR) of 5.8%, growing from US$ 262.3 billion in FY16 to US$ 437.4 billion in FY25, after easing from the record high of US$ 451.1 billion in FY23. Imports grew at a comparatively faster pace, rising at a CAGR of 7.3%, from US$ 381 billion in FY16 to US$ 720.2 billion in FY25.

Over the past decade, India's export profile has undergone a notable transformation, from once dominated by raw materials and agricultural products to a basket increasingly centred on semi-finished and processed goods. Engineering goods, including machinery, mechanical appliances, and electrical equipment, emerged as a major export category, accounting for 17.7% of total exports in FY25, followed by mineral products (16.3%) and chemical products (14.6%), among others. This shift highlights a broader structural movement toward higher-value manufacturing and technology-driven production. Asia remained India's largest regional export destination in FY25, absorbing 40.2% of the country's total exports followed by Europe (accounting for 22.7% of the exports) and North America (20.9%) during the same financial year.

India's import pattern has seen little change over the past decade, with crude oil remaining the dominant component of its energy mix. In FY25, mineral products made up about 32% of total imports, followed by engineering goods (21.2%), and pearls and precious stones (12.3%). Geographically, India's dependence on Western economies has declined, with the combined share of Europe and North America dropping from 36% in FY16 to 20% in FY25. In contrast, imports from Asia, especially China, have grown significantly, pushing Asia's overall share from 49.5% to 61.7% during the same period.

## Scope for Increasing India's Trade Performance

India's prospects for expanding its role in global trade increasingly depend on its competitiveness across products, markets, and value chains. India's exports stood at US$ 441.7 billion in the calendar year 2024 against world imports of US$ 24.2 trillion, translating into a 1.8% share. A closer look at product-level indicators presents a more nuanced picture.

A classification of 5,786 products at the HS 6-digit level into four categories, based on India's average export share in world import demand during 2020-2024, indicates substantial untapped opportunities across major global markets. The category with India's average export share in world import demand less than 1% covers 61% of all HS-6 digit lines, including high-demand products such as aircraft parts, vaccines, data-transmission machinery, and plastic articles. Despite accounting for 66.8% of world import demand, these items contribute only 9.2% of India's exports, revealing a long tail of under-scaled categories and substantial headroom for

growth through sectoral capability building and improved market access. India's strongest performance lies in the 1–5% and 5–10% categories, which together contribute 62.4% of India's exports but represent only 30.2% of global demand. Key products here include smartphones, medicaments, petroleum oils, nitrogen heterocycles, and tankers, which are categories where India holds competitive strengths but the global demand pools are comparatively smaller. India's export strongholds, i.e., products for which India's average export share in world import demand >10% remain narrow but significant, comprising diamonds, milled rice, and jewellery, which together represent 17.8% of India's exports, but only 2.9% of global import demand.

Further, India has Trade Intensity Index (TII) value greater than 100 with 80 of its 224 trading partners in 2024, indicating that India trades with these countries more intensively than their share in world trade. These 80 countries account for 42.3% of world GDP and absorb 66.6% of India's exported value in 2024. This underscores India's reliance on a concentrated set of partners such as the US, UAE, Saudi Arabia, and other Asian economies, and the opportunities for diversification by connecting with economies representing the remaining share of global GDP.

Competitiveness analysis using Revealed Comparative Advantage (RCA) further highlights India's strengths and gaps. At the HS 2-digit level, India possesses RCA>1 in 46 product groups, which together account for 67% of its export basket and 40.6% of world demand, notably mineral fuels, precious stones, pharmaceuticals, and organic chemicals. Meanwhile, remaining product groups with RCA<1 include electrical machinery, mechanical appliances, vehicles, and plastics. A deeper analysis at HS 6-digit level indicates that India shows RCA>1 for 1,251 of 2,130 major export products, while the remaining items having RCA<1, account for 67.6% of world import demand.

## India's Integration into Global Value Chains

India's integration into global value chains (GVCs) remains that of a mid-chain economy with overall backward linkages near 25.7% and forward linkages near 18.5%, reflecting India's relatively lower backward participation (less foreign value added in exports) and growing forward participation (domestic value used in others' exports), however trailing behind smaller, highly trade-intensive hubs. In the 'China-Plus-One' realignment landscape, India could leverage this opportunity and integrate more deeply into the value chains. In the category of electronics (HS 85), India occupies a hybrid, mid-chain position, with rapid growth in assembly-led exports, particularly smartphones, alongside emergence of upstream capabilities in components and semiconductor devices. While backward linkages are relatively high, indicating dependence on imported inputs, forward linkages are rising as India begins supplying more intermediate value into global production networks. India can strengthen its position by transitioning from an assembly-centric footprint to deeper participation in design, component ecosystems, testing and tooling so that a greater share of domestic value moves into foreign final demand. In the category of machinery and mechanical equipment (HS 84), India functions primarily as a supplier of precision components rather than a producer of final machinery. Its GVC position shows moderate forward linkages and elevated backward linkages, indicating import dependence for specialized parts yet increasingly supplying components to global machinery networks, pointing to the need to deepen component ecosystems and expand downstream capabilities. In the category of motor vehicles and transport equipment (HS 87), India reflects an earlier-chain, input-oriented profile with high domestic content and moderate forward linkages, but limited direct reach to foreign consumers, pointing to the need to deepen component ecosystems and expand downstream and branding to lift final-demand penetration. In the category of plastics and articles (HS 39), India displays a mid-chain profile, a growing converter of films, packaging and plastic articles, yet still dependent on imported feedstocks.

## Policy Recommendations and Way Forward

India's trade profile has steadily shifted from low and medium-tech products toward more sophisticated sectors such as technology, pharmaceuticals, and engineering goods. The World Bank data shows that while global exports grew 2.5% in 2024, India's exports rose 7.1%, indicating improving global competitiveness. To further strengthen export performance, the Government has introduced measures to build domestic capacity, diversify supply chains, and enhance resilience. However, India's global trade integration has slowed, with merchandise trade falling from 38.5% of GDP in 2014 to 29.7% in 2024, signalling a gradual inward shift despite growing global interlinkages. At the same time, India's footprint in world merchandise exports has remained virtually unchanged, inching up only marginally from 1.7% to 1.8% over the same period.

India's export performance has been affected less by the absence of support schemes and more by structural factors that influence overall competitiveness. Several constraints, such as scale limitations in manufacturing, relatively higher logistics, documentation and transaction costs, and complexities arising from inverted duty structures continue to shape export outcomes. In addition, regulatory burdens, frequent litigation, and India's limited participation in global value chains have constrained the ability of exporters to integrate smoothly into international markets. Import policies that maintain higher tariff and non-tariff barriers, often to protect upstream industries, can also raise input costs for downstream, export-oriented sectors, affecting their ability to compete globally.

### *Strengthening India's Export Basket*

An examination of India's RCA profile indicates that the country holds competitive strength in several product categories that also correspond to sizeable global import demand (with products having an RCA > 1) accounting for 40.6% of world imports. Leveraging these strengths while simultaneously nurturing underperforming yet high-potential sectors is essential for enhancing India's export dynamism. In the short run, prioritizing specialization of product champions, such as mineral oils, smartphones, and pharmaceutical products could deliver substantial gains. Alongside these, strengthening export capabilities in the identified "underachiever" product categories with high global import demand would support higher and more diversified export growth over the medium to long term.

### *Deepening India's GVC Integration*

Technological upgradation and innovation are vital for India to move up the value chain in an evolving supply chain environment, as value capture accrues disproportionately to upstream activities such as design and process engineering. India should prioritise mutual recognition of testing, certification, and product-safety standards in line with global norms. In electronics, the focus should be on leveraging relocated assembly operations, while simultaneously strengthening the domestic component and designing ecosystem. The machinery sector offers potential for expanding precision subsystems and service-linked exports, while the EV transition within automotive enables movement into higher-value battery, power-electronics, and safety-system segments. In plastics and chemicals, upgrading into performance and specialty categories, supported by circularity and sustainability standards could reinforce India's role as a key intermediate supplier.

### *Exporting Under Trade Uncertainty*

The rise of protectionism and growing trade disputes has created a challenging environment for Indian exporters, who now face higher tariffs, policy unpredictability, and more complex compliance requirements.

For an economy aiming to expand its export footprint, such uncertainty can delay investment, disrupt supply-chain efficiency, and reduce competitiveness. To stay resilient, Indian businesses, especially MSMEs should strengthen supply-chain visibility through digital and AI-based tools, diversify suppliers and customers across geographies, and build strong cybersecurity. To enhance systemic resilience, policymakers could institutionalise an Early Warning System based on high-frequency indicators to detect emerging stress across logistics, demand, and financial channels.

### *Enhancing the Efficiency of India's Logistics Ecosystem*

In India's fast-growing economy, logistics forms the foundation of trade and commerce, shaping business competitiveness, sectoral productivity, and the overall ease of doing business. A well-functioning logistics ecosystem is essential for supporting domestic markets and strengthening India's integration into global supply chains. India should focus more on structured multimodal transportation, uniform interstate permits and charges, and use of technology to resolve chronic driver shortage. Having an app-based ecosystem which connects nationwide shippers with verified truck drivers on real time basis, could address the issue of lack of backhaul availability and driver shortage, thereby decreasing the logistics costs, fuel consumption, and minimising emissions.

### *Resolving Inverted Duty Challenges with GST Reforms*

The Government of India's 2025 GST reforms introduced a simplified two-slab structure of 5% and 18%, along with broad rate reductions for essential, labour-intensive, and agriculture-linked sectors. However, the reforms did not fully resolve the inverted duty structure (IDS), where tax rates on inputs remain higher than those on finished goods. Key sectors such as pharmaceuticals, packaged foods, and several consumer products continue to face cost pressures due to this imbalance. Going forward, gradually narrowing these rate differentials is essential to minimise distortions. A more balanced and streamlined GST framework, aligned with global best practices, would reduce cost inefficiencies, strengthen domestic manufacturing ecosystems, and enhance the competitiveness of Indian exports in global markets.

### *Carbon-Aligned Competitiveness*

GVCs are increasingly being shaped by climate-related trade policies as countries move toward net-zero commitments. For India, which is deeply integrated into several carbon-intensive value chains, the EU's CBAM carries significant implications. Hence, Indian industries should focus on accelerating the adoption of low-carbon technologies such as renewable electricity, green hydrogen, carbon capture, and waste-heat recovery. Reducing emissions in intermediate goods is especially important, as India's key export strengths in steel, aluminium, chemicals, and auto components lie upstream, where CBAM exposure is highest. Proactive carbon-accounting alignment and faster technology upgrades will be essential to protect market access and strengthen India's GVC resilience.

Moving forward, India could prioritise technology adoption, carbon-aligned production processes, supply-chain diversification, and deeper GVC integration to strengthen its global trade footprint. With coordinated policy support and industry-led innovation, India is well-positioned to capture emerging opportunities and elevate its role in the rapidly evolving global trade landscape.

Chapter

1

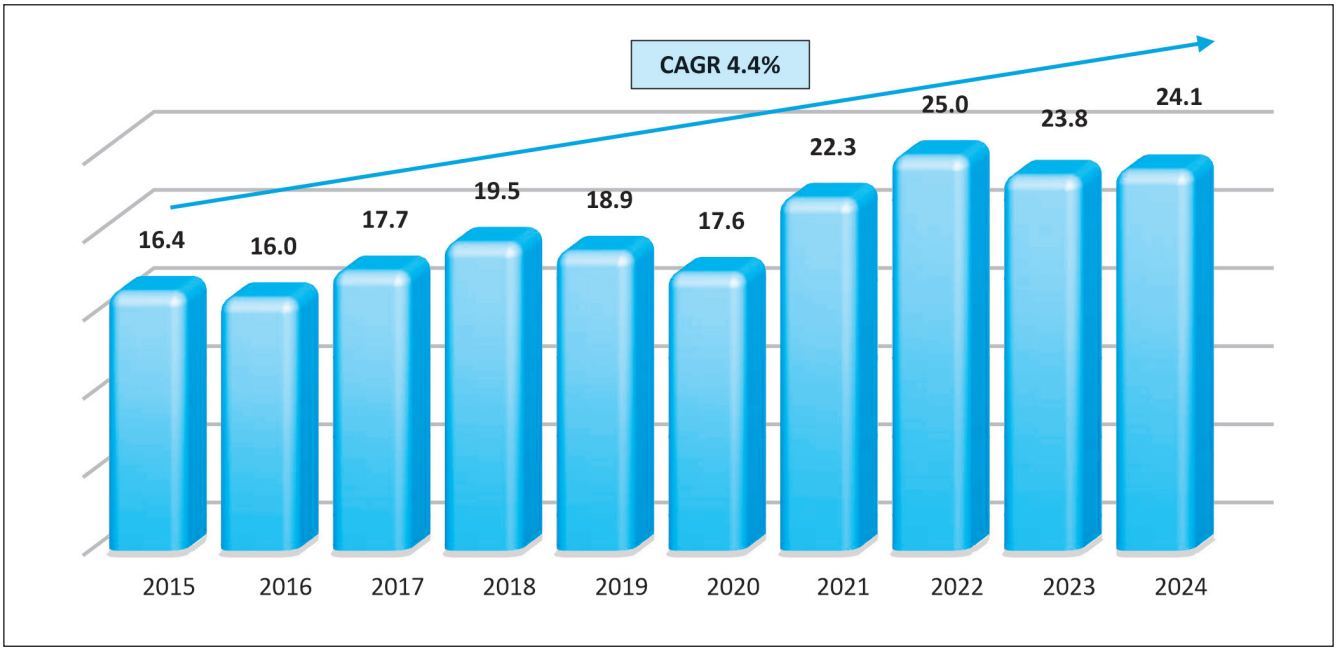
# Global Trade Dynamics

Foreign trade has long been integral to global economic development, transitioning from a relatively modest activity in the early 19th century to a defining feature of today's interconnected world. Although the expansion of global trade has been uneven across time and geography, it has reshaped production structures, linked distant markets, and deepened economic interdependence across regions. A significant milestone in the world economy was the creation of global economic institutions such as the World Bank, International Monetary Fund, and the General Agreement on Tariffs and Trade (GATT), after World War II. Successive negotiating rounds under GATT brought down tariff barriers and laid the foundation for a rules-based trading order. This culminated in the establishment of the World Trade Organisation (WTO) in 1995, equipped with a strong dispute settlement mechanism to ensure compliance with global commitments. As tariff barriers reduced, countries increasingly turned to non-tariff measures, including technical standards, countervailing duties, and regulatory requirements, reshaping global trade dynamics. Foreign trade is today characterised by complex supply chains, deep economic interdependence, and rapid technological change, reflecting a long journey from protectionist systems to modern, integrated global commerce.

Total world trade[1] has increased from US$ 16.4 trillion in 2015 to US$ 24.1 trillion in 2024, growing at a Compound Annual Growth Rate (CAGR) of 4.4% (**Chart 1.1**), with China, the US, Germany, and Japan being the leading players in global trade.

[1] Defined as the arithmetic average of exports and imports of all countries in the world (https://www.unescwa.org/sd-glossary/total-world-trade)

**Chart 1.1: Total Global Trade Values (during 2015 to 2024)**




Source: ITC Trade Map and India Exim Bank Research

From 2015 to 2024, China has maintained its position as the leading global merchandise exporter, with its share in global exports increasing from 13.9% in 2015 to 14.9% in 2024, underscoring the country's expanding manufacturing capacity, competitive supply chains, and sustained dominance in international commerce. This was followed by the US (8.6% share in the world exports in 2024), Germany (7%), Japan (3%), Netherlands (2.9%) and South Korea (2.9%) **(Charts 1.2 and 1.3)**. These economies have remained among the leading global exporters over the last decade primarily by specialising in high-value, sophisticated manufacturing, leveraging high-tech innovation, integrated supply chains, and, in case of the US, a surge in energy exports.

**Chart 1.2: Share of Top Exporters in the World in 2015**

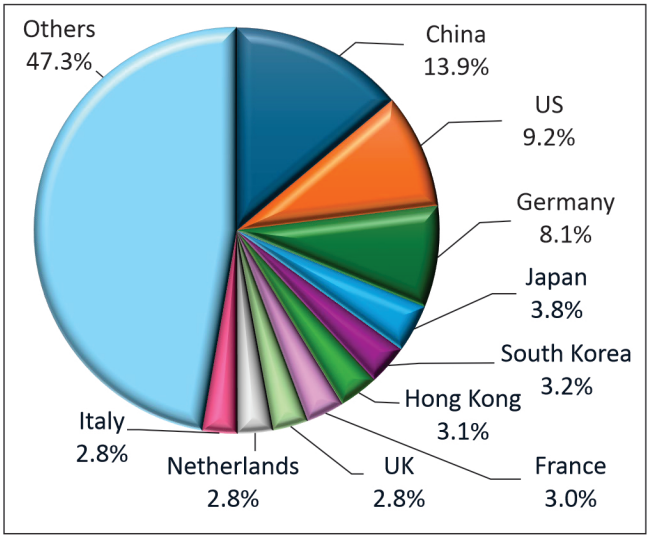
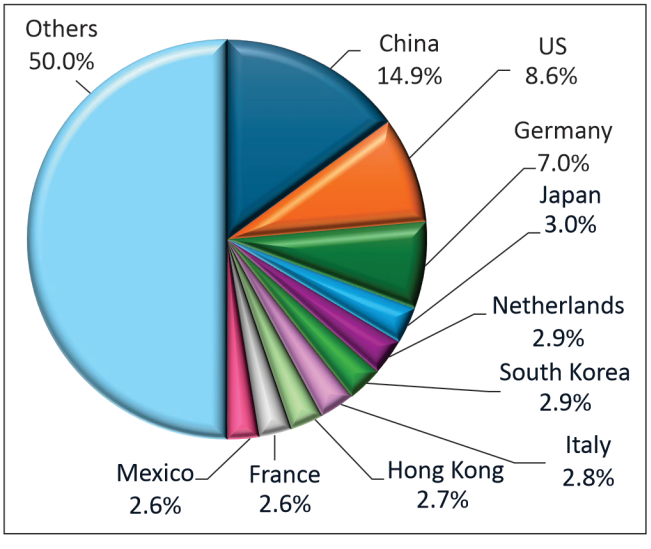



**Chart 1.3: Share of Top Exporters in the World in 2024**




Source: ITC Trade Map and India Exim Bank Research

Throughout the decade, the US remained the largest global importer, though its share declined slightly from 14% in 2015 to 13.8% in 2024, reflecting a more diffused pattern of global demand. China strengthened its position as the second-largest importer, with its share rising from 10.1% in 2015 to 10.7% in 2024, supported by growing domestic consumption and the expansion of its manufacturing ecosystem. Germany continued to rank among the leading importers, although its share edged down from 6.4% to 5.8%, partly due to structural adjustments in the European Union (EU) economy. Other advanced economies such as Japan, the UK, France, and South Korea maintained relatively stable shares, indicating consistent demand driven by high-value manufacturing and integrated supply chains. India ranked as the 7th largest importer in the world, accounting for 2.9% of global imports in 2024, reflecting rising demand across sectors and higher disposable incomes **(Charts 1.4 and 1.5)**.

**Chart 1.4: Share of Top Importers in the World in 2015**

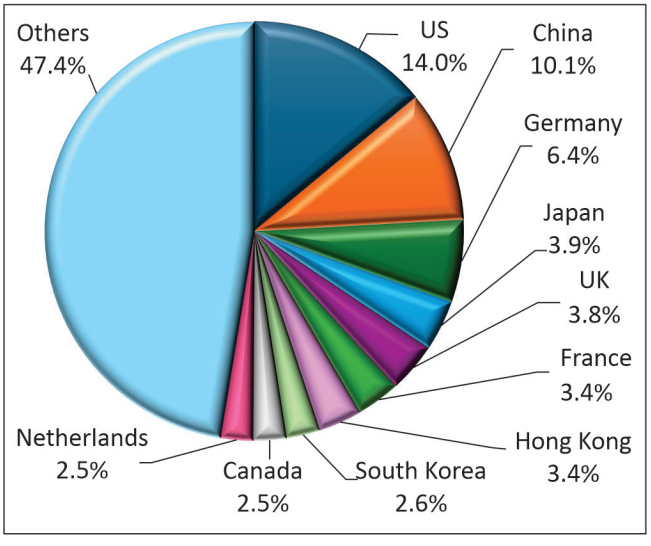
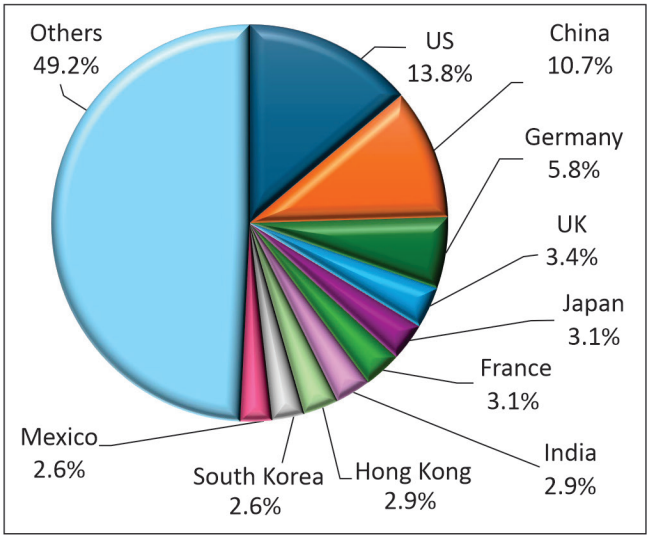



**Chart 1.5: Share of Top Importers in the World in 2024**




Source: ITC Trade Map and India Exim Bank Research

## Global Trade Disruptions between 2015 to 2025

A succession of shocks in the past decade has altered global trade dynamics and policy priorities, and exposed the vulnerabilities in supply chains, fuelling geopolitical frictions that now threaten the foundation of the rules-based system. In recent years, there has been a shift from cooperative liberalisation to more protectionist measures contributing to uncertainty and fragmentation in the global markets. Over the past decade, global tariffs have declined from 13% to 7% on an average, while the frequency of Non-Tariff Measures (NTMs), such as quotas and safety and sanitary standards for food and medical products, has increased from 53% to 72%[2]. These challenges are especially significant for least developed countries and also pose notable difficulties for emerging and developing economies, which are encountering increasing hurdles in navigating a more unpredictable trade environment.

Over the past decade, international trade has been influenced not only by economic factors and trade related policy changes, but also by a range of non-economic events. Health crises and geopolitical disruptions have interacted with global trade dynamics, impacting countries across the world. The following section outlines

[2] UNCTAD 2024 Report on Key Evolutions in Trade and Development over the Decades

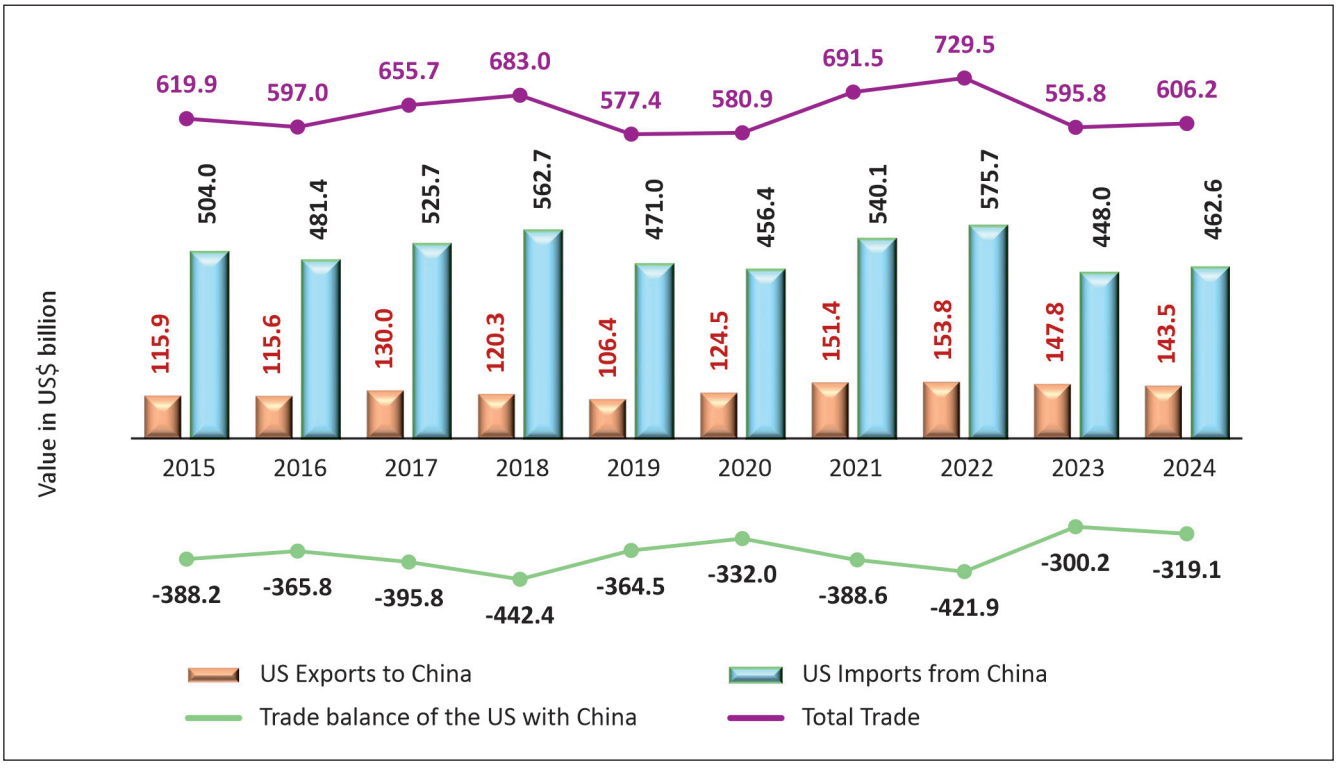
some of the major global events of the past decade that have influenced the way international trade is perceived and used, shifting it from being primarily a driver of growth to, at times, an enabler of disruption.

### *Ascent of China and its Response*

The rise of China and other emerging economies, especially Southeast Asian economies, have fundamentally reshaped global trade and production networks. Since joining the WTO in 2001, China rapidly increased its exports becoming the largest global exporter in 2009, surpassing the US in 2007 and Germany in 2009. China's dominance in the manufacturing sector positioned it as a critical hub in supply chains spanning industries from electronics to heavy machinery. This strength is underpinned by significant economies of scale, enabled by large-scale production facilities lowering costs and, economies of scope, enabled by its broad industrial ecosystem allowing firms to produce a wide range of related goods efficiently, strengthening its role as a versatile and indispensable supply-chain hub.

As two of the world's largest trading nations, US-China trade ties remain central to global commerce, reflecting both deep economic integration and ongoing strategic frictions. **Chart 1.6** shows that the total trade between the US and China has moderated over the years from US$ 619.9 billion in 2015 to US$ 606.1 billion in 2024, after peaking at US$ 729.5 billion in 2022. Exports from the US to China increased from US$ 115.9 billion to US$ 143.5 billion, growing at a CAGR of 2.4% during 2015-2024. Imports of US on the other hand, increased from US$ 504 billion in 2015 to US$ 575.7 billion in 2022, before moderating to US$ 462.6 billion in 2024, witnessing a CAGR of (-) 0.9% over the decade since 2015. As a result, US's trade deficit with China has reduced from US$ 388.2 billion in 2015 to US$ 319.1 billion in 2024. In 2024, China was the third largest export destination for the US after Canada and Mexico, and US was the largest importer of Chinese goods.

**Chart 1.6: Trends in US-China Trade (2015-2024)**




Source: ITC Trade Map and India Exim Bank Research

In 2018, the US administration imposed a sweeping set of tariffs on the imports from China including iron, steel and aluminium products, machinery and equipment parts, and organic chemicals as a response to China's unfair and discriminatory trade practices related to the forced transfer of American technology and intellectual property[3]. This marked a shift in the US trade policy and led to several rounds of tit-for-tat retaliation until nearly all Chinese goods were covered by US tariffs. As a result, in 2019, the US's imports from China fell by nearly US$ 92 billion year-on-year, reducing overall trade flows between the two countries. Businesses on both sides faced supply-chain disruptions, and the U.S. agricultural sector incurred significant losses due to China's retaliatory measures, among other effects. The US had also sharply increased the tariffs on intermediate goods, raising the production costs for American firms and reducing export competitiveness. Businesses responded to this by shifting their sources away from China towards other low-cost countries in Asia which were not targeted by tariffs. For instance, Vietnam's exports grew from US$ 162 billion in 2015 to over US$ 403.2 billion in 2024, illustrating the region's deepening role in global trade, driven by competitive labour markets, strategic trade policies, and foreign investment[4]. Although, direct dependence on China declined, indirect dependence grew as countries like Vietnam and Indonesia expanded their own imports from China to supply to the US, leaving the role of China in the global value chain largely unchanged.

Amid rising economic costs, the US and China started negotiations in 2019 and entered Phase One trade agreement 2020. As per this deal, China agreed to purchase an additional US$ 200 billion worth of US goods and services over 2020-2021, as compared to 2017 levels[5]. These purchases were to include agricultural, energy, manufacturing, and services sectors. China also agreed to restrict forced technology transfers, strengthen intellectual property protections and open the financial services market to the US firms. In turn, the US agreed to cancel some of its planned tariffs and reduce other existing ones. However, China ultimately failed to meet the large purchase commitments amidst the pandemic, and the agreement had largely been abandoned by both the sides upon its expiration by the end of 2021.

### *COVID-19 Pandemic and Disruptions in Global Value Chain*

The COVID-19 pandemic had a significant impact on world trade, disrupting both demand and supply across nations. In 2020, global merchandise exports contracted sharply from US$ 18.7 trillion in 2019 to US$ 17.7 trillion, registering a decline of 6.8% as lockdowns, travel and cross-border restrictions, port closures, and factory shutdowns halted production and reduced consumption. The decline in global trade in 2020 was close to that during the global financial crisis in 2008/09 and substantially worse than the recession in 2015. However, the global trade had begun to recover in the second half of 2020 and subsequently witnessed a sharp recovery in 2021 and 2022.

The pandemic disrupted the global value chains and exposed vulnerabilities in the existing trade structures. Heavy dependence on few countries for intermediate goods, like China, and shortages of critical items such as semiconductors, pharmaceuticals, and medical equipment led to supply bottlenecks, rising costs and production delays globally. This negative sentiment towards global value chains triggered calls for reshoring, nearshoring, and friendshoring policies aimed at enhancing the supply resilience. Supply chains have grown increasingly complex involving many cross border networks, now combining inputs from global markets,

[3] Office of United States Trade Representative Press Release - USTR Issues Tariffs on Chinese Products in Response to Unfair Trade Practices

[4] Data from ITC Trade Map

[5] Office of United States Trade Representative - Economic and Trade Agreement between the United States of America and the People's Republic of China Factsheet, 2020

with production split into smaller specialised steps across GVCs. These require careful partner matching and generate substantial search and coordination costs.

Beyond pandemic-related disruptions, GVCs were hit by additional shocks that exposed their vulnerability to unexpected events. The blockage of the Suez Canal in March 2021 by an Evergreen container ship, which halted one of the world's busiest trade arteries for nearly a week and stranded more than 400 vessels, highlights how a single chokepoint failure can disrupt global commerce. Rising energy and input costs, geopolitical tensions, sanctions, and evolving environmental regulations added further layers of complexity, forcing firms to navigate volatility on multiple fronts. While these events drew global attention to supply chain fragilities, they also underscored that businesses routinely manage risks of disruption. The recent period, however, marked an exceptional convergence of shocks, prompting firms worldwide to re-assess sourcing strategies, strengthen resilience, and adapt to a more uncertain global environment.

### *Russia-Ukraine Conflict*

The ongoing Russia Ukraine conflict had intensified in early January 2021 when Ukraine urged the US to support its bid to join North Atlantic Treaty Organisation (NATO), a move which Russia viewed as a direct threat to its security because NATO's eastward expansion would bring the alliance closer to the Russian borders. Russia further demanded legally binding guarantees that NATO would not expand further or admit former Soviet Union states like Ukraine, and that no NATO military activities would occur in Eastern Europe; demands the US rejected under NATO's 'open-door policy'[6]. The larger conflict materialised on 24 February 2022, when Russia launched a 'special military operation' on Ukraine triggering international attention. This was quickly followed by the imposition of wide-ranging sanctions on Russia, and provision of military support for Ukraine from most OECD and EU countries. The new sanctions imposed by the US, EU, UK, Canada, Australia, Japan, and others included freezing Russian assets, restricting financial transactions, excluding Russian banks from Society for Worldwide Interbank Financial Telecommunication (SWIFT) used to facilitate secure international money transfers and standardised financial communication, and imposing bans on high-tech exports, aircraft supplies, and energy-related technologies.

The global impact of the crisis was felt through new geopolitical and economic uncertainties, soaring energy prices, and disrupting global value chains that relied on Russian and Ukrainian firms. Since Russia is one of the largest oil exporters in the world, the conflict led to an immediate global supply shock and resulted in driving up the crude oil and natural gas prices globally[7]. Further, the availability of food in the global market and hence the food prices, particularly global wheat market, was also impacted as Russia and Ukraine are important producers of agricultural commodities in the world. Since Ukraine and Russia are leading exporters of edible oil, essentially sunflower oil, major producers of metals and steel, and key sources of essential inputs for semiconductor manufacturing, the conflict between them had severely tightened global supplies, pushing prices upward across these markets.

### *Disruptions to Maritime Trade and Maritime Security*

Maritime trade forms the backbone of global commerce, carrying nearly 80% of the world's traded goods by volume due to its efficiency and cost-effectiveness[8]. As the primary mode for transporting bulk commodities,

6 OP 212: Economic Impact of Russia-Ukraine Conflict: An Indian Perspective (India Exim Bank, 2022)
7 International Energy Agency Report: Russia's War on Ukraine - Analysing the impacts on energy markets and energy security
8 UNCTAD's Review of Maritime Transport

energy resources, and containerised goods across continents, it connects major production centres with consumption markets and enables the smooth functioning of global value chains. Consequently, any disruption, from geopolitical tensions to port congestion, has immediate spillover effects on international trade flows and economic activity.

The Suez Canal continues to be one of the most critical routes for global trade, yet it remains highly vulnerable to security risks, geopolitical tensions and regional instability. Ongoing conflicts in Yemen, attacks on commercial vessels, and renewed piracy risks have increased security threats, driving maritime insurance premiums up by more than 25% for ships navigating high-risk zones[9]. These maritime risks have intensified alongside the Israel–Hamas conflict. The most visible logistics disruption came from attacks on cargo vessels in the Red Sea or Suez route, which triggered widespread rerouting. In early 2024, Red Sea traffic fell by about half, while the alternative Cape of Good Hope route saw a major rise in usage. This diversion increased the travel distance and fuel consumption, thereby making movement of goods complex and costly.

Beyond the Red Sea, disruption in another strategic chokepoint, the Panama Canal, which carries about 5% of global maritime trade volumes, has added pressure to global maritime networks. A prolonged drought beginning in early 2023 pushed Panama Canal water levels to critical lows, prompting transit restrictions that reduced throughput by an estimated 15 million tonnes in 2023 and led to multi-day delays. Furthermore, authorities had to halve daily passages to about 18 ships by February 2024, down from 36 in ordinary times to conserve water[10]. Some traffic shifted toward alternatives like the Strait of Magellan, while others relied more on multimodal routing, including unloading at major West Coast North American ports and moving containers inland by rail. These chokepoint disruptions matter most for sectors that depend heavily on maritime trade, especially fossil fuels and agricultural commodities, which form a large share of non-containerised canal traffic. The Asia-Europe corridor has also faced longer transits and delays with about half of affected Red Sea trade rerouted.

The ongoing conflict in the Middle East and the resultant closure of, or restricted movement of ships through, the Strait of Hormuz has also led to delayed global shipments, disruption in supply of key essentials, increase in oil prices, and escalation of transport costs, impacting many economies relying upon this corridor for trade and commerce.

### *Renewed Tariff Policy amid Geopolitical Tensions*

The renewed wave of tariff hikes, led by the sharp escalation of trade barriers by the US since 2025, has intensified geopolitical tensions and disrupted global trade flows. The US imposition of a 10% tariff on Chinese goods and 25% tariffs on steel, aluminium, and automotive imports from longstanding partners such as Canada, Mexico, and the EU marks the most protectionist shift in decades. These measures, along with China's planned counter-tariffs on the US agricultural products and the EU's countervailing duties on subsidised Chinese exports, are increasing uncertainty, raising input costs, and straining supply chains already tested by earlier shocks. The current tariff wave is expected to weigh on global trade growth through higher import costs, rising inflationary pressures, and reduced scope for monetary policy easing. While these barriers aim to protect the domestic economy, they also risk further fragmentation of the global markets.

[9] United Nations Committee for Development Policy – Issue Brief on Challenges to Global Trade Growth in 2025
[10] IMF Report on Climate Change is Disrupting Global Trade

**Box 1.1: US Tariffs imposed on Indian goods**

The US is India's topmost export destination, accounting for nearly 19.7% of India's overall merchandise exports during 2024. The US introduced a Reciprocal Tariff Matrix in April 2025, proposing global tariffs with a baseline of 10% across all imports and country specific tariffs on imports from its trade partners, with select exclusions on products such as pharmaceuticals, critical minerals and select electronics. This was followed by a 90-day pause on implementation of the proposed tariff hike, placing all countries, except China, under a flat 10% tariff band. In early July 2025, the US postponed the tariff hike until August 1, 2025. On July 31, 2025, the US announced a 25% tariff on its imports from India. Following this, on August 6, 2025, the US, announced an additional duty of 25% on Indian goods imported into the US, effective from August 27, 2025. Accordingly, the US's tariff on India's exports have therefore increased to over 50% on select goods.

### *Oil Shock*

Recent geopolitical tensions, policy uncertainties, and structural changes in energy consumption have created significant volatility in global oil markets. Conflicts in the Middle East, tariff driven slowdowns, and weaker growth expectations have weighed directly on global oil demand. At the same time, OPEC+'s decision to unwind production cuts from May 2025, coupled with weakened trade activity, pushed oil prices to multi-year lows before geopolitical escalation triggered a rebound. These supply swings have added to the instability in the trade flows and in energy-importing economies. The underlying drivers of oil demand, mainly China, are also shifting. China which has driven the consumption growth of oil is now approaching a demand peak due to rapid expansion of electric vehicles, LNG-powered freight, and high-speed rail, while the US faces slower production growth as shale momentum eases[11]. This marks a departure from the past decade, when U.S. supply and Chinese demand dominated global oil dynamics. The rise of petrochemicals as the main source of demand growth from emerging economies like India, and the increasing displacement of oil in transport and power generation are further reshaping trade patterns and redirecting crude flows toward faster-growing Asian markets. The ongoing conflict in the Middle East, among some of the oil rich and oil producing nations, is also having a direct impact on the levels of oil produced and exported globally leading to spiralling oil prices. Economies dependent on oil imports are expected to face inflationary pressures in the near to mid-term, until re-stabilisation of global oil prices, when the ongoing conflict in the region comes to an end.

### *Increasing use of Local Currencies in Trade*

Growing geopolitical tensions and sanctions have accelerated efforts by several economies to reduce dependence on the U.S. dollar in trade settlement. Select economies have encouraged the use of local currencies and enhanced cooperation on settlements. China and Russia have sharply expanded yuan-denominated trade. India is also increasing the use of the rupee in bilateral transactions with key partners. Although the dollar still accounts for around 60% of world's central banks' foreign exchange reserves[12], the rise of these parallel settlement systems reflects a gradual diversification of the global financial architecture. For developing economies, this trend brings both opportunities and new risks, as navigating multiple currencies and financial systems introduces greater volatility in exchange rates and trade financing.

[11] International Energy Agency Report – Oil 2025 (June 2025)
[12] IMF Report: The US dollar might slip, but it will continue to rule

### *Carbon Taxation*

The European Union's Carbon Border Adjustment Mechanism (CBAM) has become a prominent feature of global discussion on aligning trade with climate objectives. The EU presents CBAM as an initiative to push towards carbon neutrality, and a way to ensure that imported goods face carbon related costs comparable to those borne by the domestic producers under the EU Emissions Trading System. This aims to address concerns about competitiveness and 'carbon leakage'. Several stakeholders have also expressed reservations that the mechanism could place heavier adjustment burden on developing economies, particularly where the industrial production remains emissions-intensive and access to affordable low-carbon technology and finance is more limited. Further, economies which depend on exports of steel, cement and fertilisers may experience added cost pressures under CBAM, such as India. This suggests that the effectiveness and fairness of border measures depend on whether they are accompanied by practical support, such as finance, technology transfer, and capacity building, to enable lower income countries to transition without disproportionate disruption to jobs, revenues, and industrial development.

Under CBAM, exporters were required to begin emissions reporting since October 2023 and the definitive period of levying which began from January 2026[13] where a charge is expected to be levied on a set of initial sectors, iron and steel, aluminium, cement, fertilisers, electricity and hydrogen, with a broader rollout over time. The framework also allows for recognition of carbon costs already paid in the exporting country, subject to documentation, to reduce the risk of double charging and to encourage the development of domestic carbon pricing frameworks.

Amid these shifting global trade dynamics and recurring disruptions, it becomes essential to assess how such external pressures interact with domestic economic structures. For India, understanding the composition and evolving patterns of its merchandise trade is key to evaluating its exposure, resilience, and strategic response. Chapter 2 therefore turns to India's trade profile over the past decade, mapping its export–import structure within this challenging global environment.

[13] The UK has also proposed its own CBAM, scheduled to come into force on 1 January 2027 (Economic Survey, 2025)

Chapter

# Assessing India's Trade Pattern during 2015-2024

India occupies a strategically important position in South Asia, sharing land borders with China, Pakistan, Bangladesh, Nepal, Bhutan, and Myanmar, while its extensive coastline opens onto the Bay of Bengal to its east, the Arabian Sea to its west and the Indian Ocean to its south. This geography places India at the intersection of major continental and maritime routes, shaping its role in regional and global trade. The Indian Ocean is one of the world's most significant waterways for commercial and energy transport, linking East Asia, the Middle East, Africa, and Europe. Critical chokepoints such as the Strait of Hormuz and the Strait of Malacca lie along routes vital to global shipping, making their stability essential for international commerce. India's proximity to these sea lines of communication enhances its ability to monitor and support maritime activity.

As one of the world's fastest-growing major economies, India's real GDP is expected to increase by 7.3% in 2025, significantly above the global average of 3.3%[14]. The country is positioned to sustain this momentum in the years ahead, given its strong macroeconomic fundamentals and a growing global positive sentiment. Aspiring to attain high middle-income status by 2047[15], India has been leveraging its strong record of economic expansion and social development. Both the central and state governments have renewed and aligned their efforts to strengthen the manufacturing ecosystem and expand the nation's external trade in goods and services through financial and policy support. Foreign trade contributes to global efficiency, and it plays a crucial role in growth, employment generation and development of a nation or economic region at various stages of economic progression. In recent years, the Government of India has also identified exports as a key driver of growth, alongside sectors such as agriculture, MSMEs, and investments[16].

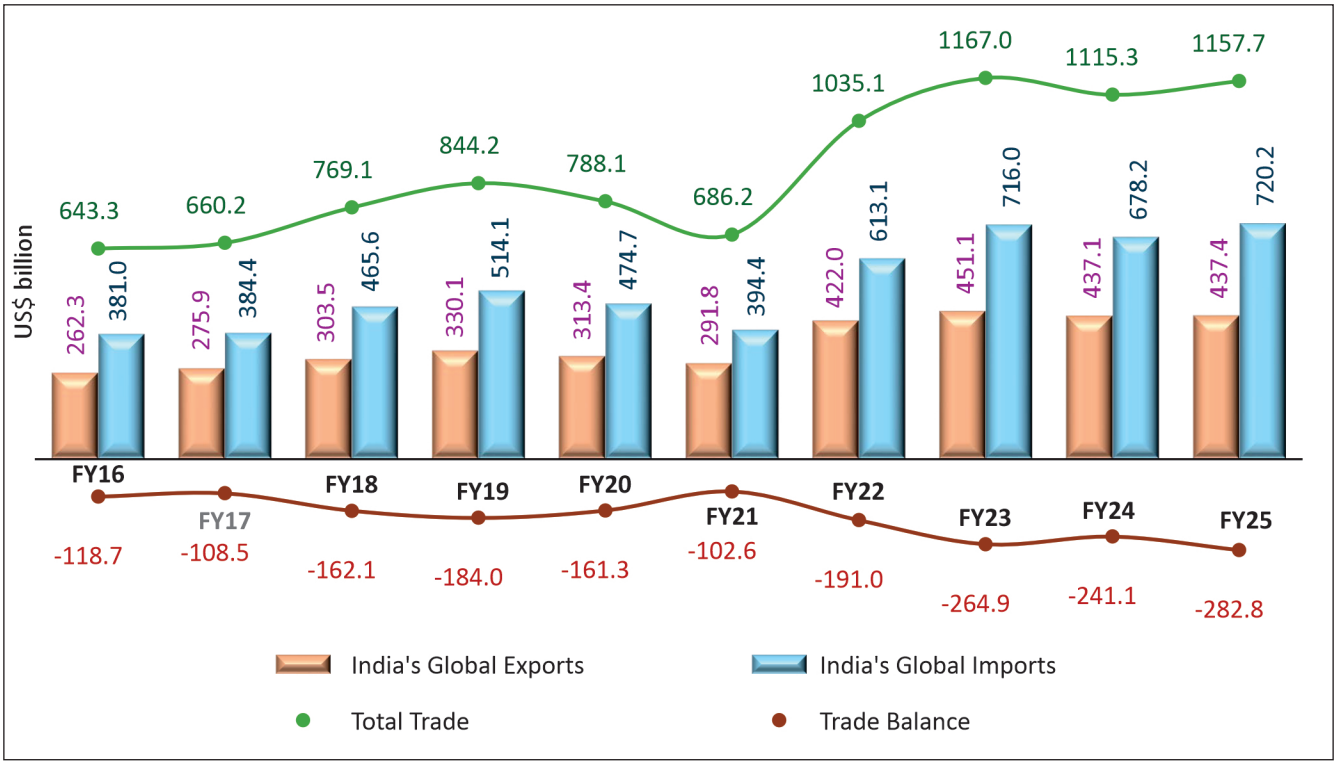
## Overview of India's Merchandise Trade

India's global merchandise trade has expanded significantly over the past decade, rising from US$ 643.3 billion in FY16 to US$ 1.2 trillion in FY25[17]. Globally, India has moved from being the 20th largest merchandise exporter in 2015 to the 18th largest in 2024[18]. Merchandise exports increased by a compound annual growth

[14] World Economic Outlook, January 2026
[15] World Bank, Country Overview of India
[16] Union Budget of India (2025-26)
[17] In India, the financial year (FY) runs from April 1st to March 31st of the following year—a cycle that broadly aligns with the agricultural calendar in many regions of the country. Therefore, FY25 refers to the period from April 2024 to March 2025 and can also be written as 2024-25 for simplicity.
[18] World Trade Organisation, Database

rate (CAGR) of 5.8%, growing from US$ 262.3 billion in FY16 to US$ 437.4 billion in FY25, after easing from the record high of US$ 451.1 billion in FY23. On the other hand, imports rose at a faster pace of CAGR 7.3%, moving from US$ 381 billion in FY16 to US$ 720.2 billion in FY25. Oil exports accounted for a share ranging between 9% to 22% of India's total merchandise exports during the period. On the other hand, India being the third-largest oil consumer in the world, oil imports displayed a consistently higher contribution, between 21% and 29% between FY16 and FY25. Together, these trends highlight not only the firming of domestic energy demand but also India's deeper integration with global trade flows over the past decade **(Chart 2.1)**.

**Chart 2.1: International Merchandise Trade of India (US$ billion)**




Source: DGCI&S and India Exim Bank Research

The World Health Organisation (WHO) declared COVID-19 a global public health emergency on January 30, 2020, and later classified it as a pandemic on March 11, 2020. In response, countries across the world introduced strict measures to contain the spread of the virus. These included restrictions on both domestic and international travel, and in several cases, nationwide lockdowns. The second quarter of 2020 saw some of the most severe restrictions, marking what became known as the first wave of the pandemic. Gradually, as the initial wave subsided, most countries began easing these measures.

The pandemic had a huge impact on international trade. Although global trade activity began to pick up from the second quarter of 2020, the recovery was slow, with significant improvement only becoming evident in 2021. India, too, experienced notable disruptions during this period. The country recorded a sharp decline in international trade in FY21. Exports fell by nearly 7% compared to FY20, largely due to widespread cancellations and postponements of foreign orders. Restrictions on physical movement, coupled with temporary port closures aimed at containing the virus, significantly constrained export operations. On the supply side, production and export capacity declined sharply, particularly in sectors where remote

work was not feasible. Simultaneously, the demand also weakened due to reduced household incomes and economic uncertainty led to lower consumption in many countries including India. As a result, India's imports contracted by 17% in FY21, falling to US$ 394.4 billion.

## India's Export Profile

India's export performance between FY16 and FY25 reflects steady momentum, marked by diversification across products and markets and a balanced contribution from merchandise and services exports. The export basket recorded higher export values across major commodities. The country's exports have grown significantly, from US$ 262.3 billion in FY16 to US$ 437.4 billion in FY25. **Table 2.1** presents a breakdown of India's export product mix, grouping similar commodities at the HS 2-digit level to highlight major export categories and illustrate how their contribution has evolved over the years. Driven by diversification, innovation, and strategic trade reforms, India continues to strengthen its position in global markets.

Over the past decade, India's export profile has undergone a transformation, from a basket dominated by raw materials and agrarian products to one increasingly centred on semi-finished and processed goods. This shift reflects a broader structural move toward higher-value manufacturing and technology-driven production. Among major export categories, petroleum products, chemicals and allied products and machinery and mechanical appliances and electrical machinery witnessed a sharp increase in their respective shares in India's total exports, underscoring India's growing integration into global industrial value chains. Share of mineral products (HS Codes 25–27), for instance, increased from 12.9% of total exports in FY16 to 16.3% in FY25, highlighting rising competitiveness in resource-based processing. Similarly, engineering goods, specifically mechanical and electrical appliances (HS Codes 84 and 85) saw their share climb from 8.2% in FY16 to 17.7% in FY25, making them one of the fastest-growing components of India's merchandise exports.

A key driver of this structural shift could be the Production Linked Incentive (PLI) scheme, which has accelerated investment and scale in strategic manufacturing segments. Since its launch in 2020, the PLI Scheme has attracted ₹1.76 lakh crore investments across 14 sectors[19], boosted domestic value addition, and stimulated output and employment growth across sectors such as electronics, pharmaceuticals, renewable energy components, and iron and steel. With a target of US$ 500 billion worth of domestic electronics ecosystem by 2030–31, India is positioned to emerge as a competitive hub for electronic design, advanced manufacturing, and technology-led exports[20].

Notable categories that saw a decline in shares were textiles and articles, as well as pearls, precious stones, metals, and imitation jewellery. The share of textiles and textile articles (HS Codes 50–63) fell from 14% of total exports in FY16 to 8.4% in FY25. India's global position in textile exports has also shifted, moving from second place in 2015 to sixth place in 2024, with countries such as Bangladesh, Vietnam, Germany, and Italy gaining competitiveness[21]. A key factor behind this trend is India's relatively limited presence in the fast-growing synthetic apparel segment, which now accounts for a major share of global demand. With synthetic apparel (HS Code 54 and 55) making up less than 10% of India's textile exports in FY25, the industry has been unable to fully leverage this expanding market. Additionally, structural challenges, including a predominance of small and ageing weaving units, higher production costs, and quality constraints, have

[19] PLI Scheme: Powering India's Industrial Renaissance (PIB, August 2025)
[20] Crafted in India, Delivered Globally (PIB, December 2025)
[21] ITC TradeMap

affected competitiveness.

In the case of pearls, precious stones and metals, and imitation jewellery (hereafter referred to as gems and jewellery), India's global ranking has seen a modest decline. The country, which was the world's 6th largest exporter in 2015, moved to 8th position in 2024, with China and Canada overtaking it during this period. According to the ITC Export Potential Map, India has an unrealised export potential of over US$ 38 billion in the gems and jewellery sector, indicating substantial scope for expansion. To bridge this gap, India could benefit from diversifying its export destinations, particularly in markets such as Belgium, the UK, Thailand, Switzerland, Israel, and France, among others. Beyond market diversification, an industry-wide strategic shift toward developing distinctive, design-led products tailored to evolving global consumer preferences would help strengthen India's competitive position[22].

**Table 2.1: Export Composition of India (US$ million)**

| HS Chapter | Broad Product Category | FY16 | % Share in total exports | FY20 | % Share in total exports | FY25 | % Share in total exports |
|---|---|---|---|---|---|---|---|
| 01-05 | Live Animals; Animal Products | 9,187.2 | 3.5 | 9,940.9 | 3.2 | 11,619.0 | 2.7 |
| 06-15 | Vegetable Products | 15,932.0 | 6.1 | 16,778.4 | 5.4 | 28,164.4 | 6.4 |
| 16-24 | Prepared Foodstuffs; Beverages, Spirits and vinegar; Tobacco and its substitutes | 5,837.5 | 2.2 | 7,169.2 | 2.3 | 12,083.9 | 2.8 |
| 25-27 | Mineral Products | 3,3773.2 | 12.9 | 47,868.0 | 15.3 | 71,435.4 | 16.3 |
| 28-38 | Products of Chemicals or Allied Industries | 3,3571.8 | 12.8 | 47,320.6 | 15.1 | 64,035.3 | 14.6 |
| 39-40 | Plastics and its articles; Rubber and its articles | 7,618.6 | 2.9 | 10,079.5 | 3.2 | 13,020.6 | 3.0 |
| 41-43 | Raw Hides and Skins, Leather, and its articles; travel goods, Handbags and similar Containers; Articles of animal gut | 3,441.5 | 1.3 | 2,964.1 | 0.9 | 3,076.4 | 0.7 |
| 44-49 | Wood and Articles of Wood; cork and articles, Manufactures of Straw, Pulp of Wood | 1,902.8 | 0.7 | 2,797.1 | 0.9 | 3,734.1 | 0.9 |
| 50-63 | Textile and Textile Articles | 36,727.5 | 14.0 | 34,221.7 | 10.9 | 36,961.0 | 8.4 |
| 64-67 | Footwear, Headgear, Umbrellas, Walking-sticks, Riding-crops and Parts thereof; Prepared Feathers and articles Made therewith; artificial Flowers | 3,055.1 | 1.2 | 2,954.6 | 0.9 | 3,202.2 | 0.7 |

[22] Making Gems and Jewellery Clusters Exportable (OP No. 233, India Exim Bank)

| HS Chapter | Broad Product Category | FY16 | % Share in total exports | FY20 | % Share in total exports | FY25 | % Share in total exports |
|---|---|---|---|---|---|---|---|
| 68-70 | Articles of Stone, Plaster, Cement, Mica or similar Materials; Ceramic Products; Glass and Glassware | 2,952.1 | 1.1 | 4,440.4 | 1.4 | 6,080.0 | 1.4 |
| 71 | Pearls, precious stones and metals and articles thereof; Imitation Jewellery; Coin | 39,554.0 | 15.1 | 36,085.9 | 11.5 | 29,958.4 | 6.8 |
| 72-83 | Base Metals and Articles of Base Metal | 19,307.8 | 7.4 | 24,877.5 | 7.9 | 32,534.3 | 7.4 |
| 84-85 | Machinery and Mechanical Appliances; Electrical Equipment; Parts thereof; Television Image and sound Recorders and Reproducers | 21,532.6 | 8.2 | 36,022.8 | 11.5 | 77,524.8 | 17.7 |
| 86-89 | Vehicles, Aircraft, Vessels and Associated Transport Equipment | 22,410.0 | 8.6 | 22,955.2 | 7.3 | 34,265.5 | 7.8 |
| 90-92 | Optical, Photographic, Cinematographic, surgical Instruments and apparatus; clocks and watches; musical instruments | 2,508.3 | 1.0 | 3,488.5 | 1.1 | 5,403.9 | 1.2 |
| 93 | Arms and Ammunition; Parts and Accessories thereof | 124.5 | 0.0 | 131.0 | 0.0 | 567.2 | 0.1 |
| 94-98 | Miscellaneous Manufactured Articles | 2,355.1 | 0.9 | 3,066.4 | 1.0 | 4,037.9 | 0.9 |
| | **Total Exports** | **2,61,791.8** | **100.0** | **3,13,161.7** | **100.0** | **4,37,704.2** | **100.0** |

Note: HS Code – 99 Miscellaneous Goods has been excluded in the analysis.

Source: DGCI&S and India Exim Bank Research

## Major Export Destinations

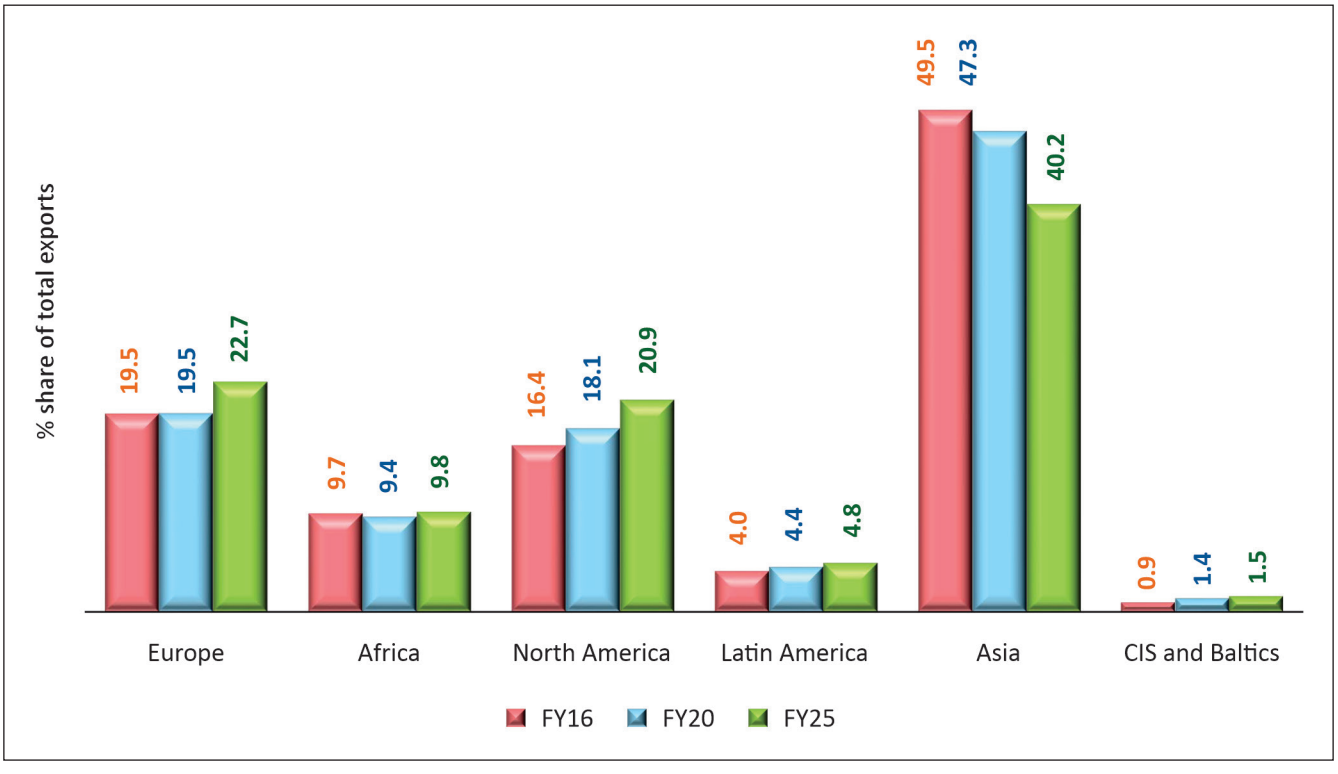
India has not only increased its share in global trade, but has also diversified its partnerships and the range of products it trades. According to UNCTAD's Trade and Development Report 2025, India ranked among the leading economies in trade partner diversification, ranking third in the Global South and recording a trade diversity score higher than all Global North economies. In terms of the merchandise trade diversity indicator, India ranks fourth in the Global South, following Thailand, China and Turkey, with an index score of 0.88.

India's export pattern, though still somewhat concentrated, has shown notable shifts over the past decade **(Chart 2.2)**. A decade ago, nearly half of India's exports were directed to Asian markets; this share has since declined by about 10 percentage points to 40.2% in FY25. While exports to Asia have continued to grow in absolute terms, their proportion in India's overall export basket has fallen due to broad-based diversification

toward other global markets. Within Asia, India has strengthened its trade ties particularly with West Asia (GCC countries). Exports to this sub-region have risen substantially, with the UAE and Saudi Arabia consistently ranking among India's top ten export destinations, over the past two financial years[23]. Trade with East Asia (Oceania) has also expanded markedly growing about 2.6 times between FY16 and FY25, with exports to Australia and New Zealand nearly doubling during this period.

In North America, India's exports have seen strong growth. The value of exports to the US, India's largest trading partner more than doubled, rising from US$ 40.3 billion in FY16 to US$ 86.5 billion in FY25. The United States accounted for one-fifth of India's total exports in FY25, underscoring its central role in India's external trade. India's exports to Europe have also expanded steadily. The continent's share in India's total exports, which stood at 19.5% in both FY16 and FY20, increased by over three percentage points to 22.7% in FY25. A major contributor to this growth has been the Netherlands. India's exports to the Netherlands surged from US$ 8.4 billion in FY20 to US$ 22.7 billion in FY25. Notably, the Netherlands which was absent from India's top ten export destinations a decade ago, rose from ninth place in FY19 to become India's third-largest export destination in FY25.

**Chart 2.2: Regional Export Composition**




Note: Data for North America does not include Mexico; Mexico has been included in Latin America

Source: DGCI&S and India Exim Bank Research

[23] While the UAE has consistently remained among India's top five export destinations over the past decade, Saudi Arabia's position has fluctuated, moving in and out of the list at various points between FY16 and FY25.

## India's Import Profile

India's import pattern has remained largely unchanged over the past decade, with crude oil continuing to play a dominant role in the country's energy mix **(Table 2.2)**. Despite notable progress in renewable energy, crude oil still makes up about a quarter of India's primary energy supply and remains the second-largest energy source after coal. At the same time, India has become the world's third-largest consumer of crude oil after the US and China, accounting for around 4.8% of global daily demand[24].

The demand for petroleum products in India has strengthened, supported by robust economic activity following the easing of Covid-19 restrictions and the resolution of several trade-related bottlenecks. Improved mobility and a revival in industrial operations have further contributed to this momentum. As one of India's eight core industries, the oil and petroleum sector plays a pivotal role in shaping economic decisions across multiple segments of the economy. India's position as a net importer of crude petroleum continues to be reinforced by these trends. Reflecting the rising domestic requirements, the value of mineral product imports (HS Codes 25–27) has more than doubled over the past decade. Consequently, their share in India's overall import basket has increased to about 32%, underscoring the growing importance of these commodities in meeting the country's energy and industrial needs.

Engineering goods (covering mechanical and electrical products under HS Codes 84 and 85) have steadily increased their presence in India's import basket, with their share rising from 18.4% in FY16 to 21.2% in FY25. Within mechanical appliances, automatic data processing machines and units (HS 8471) along with turbo-jets and turbo-propellers (HS 8411) emerged as the largest import categories in FY25, together accounting for 24% of all machinery and mechanical appliance imports. A significant shift is visible within electrical equipment, electronic integrated circuits and their parts (HS 8542), which made up only 4.4% of imports in FY16, now constitute 27.8% in FY25. In contrast, telephone sets including smartphones (HS 8517), once dominant at 41.7% in FY16 have declined to 22.2% in FY25, indicating a notable change in the composition of India's electronics imports.

**Table 2.2: Import Composition of India (US$ million)**

| HS Chapter | Broad Product Category | FY16 | % Share in total imports | FY20 | % Share in total imports | FY25 | % Share in total imports |
|---|---|---|---|---|---|---|---|
| 01-05 | Live Animals; Animal Products | 168.7 | 0.0 | 220.2 | 0.0 | 358.2 | 0.0 |
| 06-15 | Vegetable Products | 19,199.8 | 5.1 | 16,937.9 | 3.6 | 31,266.2 | 4.3 |
| 16-24 | Prepared Foodstuffs; Beverages, Spirits and vinegar; Tobacco and its substitutes | 2,175.7 | 0.6 | 2,701.1 | 0.6 | 5,330.9 | 0.7 |
| 25-27 | Mineral Products | 1,04,950.0 | 28.1 | 1,58,911.5 | 33.5 | 2,30,662.7 | 32.0 |
| 28-38 | Products of the Chemicals or Allied Industries | 37,054.8 | 9.9 | 45,633.0 | 9.6 | 64,238.3 | 8.9 |
| 39-40 | Plastics and its articles; Rubber and its articles | 14,327.9 | 3.8 | 17,332.7 | 3.7 | 26,749.2 | 3.7 |

[24] Insights into Import of Crude Oil and International Crude Oil prices (DGCI&S, October 2025)

| HS Chapter | Broad Product Category | FY16 | % Share in total imports | FY20 | % Share in total imports | FY25 | % Share in total imports |
|---|---|---|---|---|---|---|---|
| 41-43 | Raw Hides and Skins, Leather, and its articles; travel goods, Handbags and similar Containers; Articles of animal gut | 985.6 | 0.3 | 1,010.0 | 0.2 | 939.1 | 0.1 |
| 44-49 | Wood and Articles of Wood; cork and articles, Manufactures of Straw, Pulp of Wood | 6,834.7 | 1.8 | 7,421.1 | 1.6 | 9,401.1 | 1.3 |
| 50-63 | Textile and Textile Articles | 5,865.2 | 1.6 | 8,157.4 | 1.7 | 9,772.4 | 1.4 |
| 64-67 | Footwear, Headgear, Umbrellas, Walking-sticks, Riding-crops and Parts thereof; Prepared Feathers and articles Made therewith; artificial Flowers | 526.4 | 0.1 | 844.7 | 0.2 | 808.7 | 0.1 |
| 68-70 | Articles of Stone, Plaster, Cement, Mica or similar Materials; Ceramic Products; Glass and Glassware | 2,253.4 | 0.6 | 2,698.8 | 0.6 | 4,233.6 | 0.6 |
| 71 | Pearls, precious stones and metals and articles thereof; Imitation Jewellery; Coin | 56,537.0 | 15.1 | 54,493.8 | 11.5 | 88,975.7 | 12.3 |
| 72-83 | Base Metals and Articles of Base Metal | 25,648.4 | 6.9 | 29,742.8 | 6.3 | 48,954.0 | 6.8 |
| 84-85 | Machinery and Mechanical Appliances; Electrical Equipment; Parts thereof; Television Image and sound Recorders and Reproducers | 68,832.4 | 18.4 | 92,556.2 | 19.5 | 1,52,898.5 | 21.2 |
| 86-89 | Vehicles, Aircraft, Vessels and Associated Transport Equipment | 14,974.8 | 4.0 | 21,346.2 | 4.5 | 27,546.0 | 3.8 |
| 90-92 | Optical, Photographic, Cinematographic, surgical Instruments and apparatus; clocks and watches; musical instruments | 7,594.2 | 2.0 | 9,652.8 | 2.0 | 14,572.7 | 2.0 |
| 93 | Arms and Ammunition; Parts and Accessories thereof | 28.3 | 0.0 | 61.6 | 0.0 | 118.6 | 0.0 |
| 94-98 | Miscellaneous Manufactured Articles | 5,384.4 | 1.4 | 4,951.1 | 1.0 | 4,368.0 | 0.6 |
| | **Total Exports** | **3,73,341.8** | **100.0** | **4,74,672.7** | **100.0** | **7,21,193.7** | **100.0** |

Note: HS Code – 99 Miscellaneous Goods has not been considered in the analysis.

Source: DGCI&S and India Exim Bank Research

## Major Import Sources

India's trade dynamics have undergone a notable shift in recent years, mirroring broader global realignments in supply chains and sourcing strategies **(Chart 2.3)**. Traditionally, India relied heavily on Western economies, especially Europe and North America for its import needs. However, this pattern has changed sharply. North America's share in India's imports fell from 18.1% in FY20 to just 7% in FY25. During FY20, the US was India's second-largest source of imports, but by FY25 it had slipped to fourth place, behind China, Russia, and UAE.

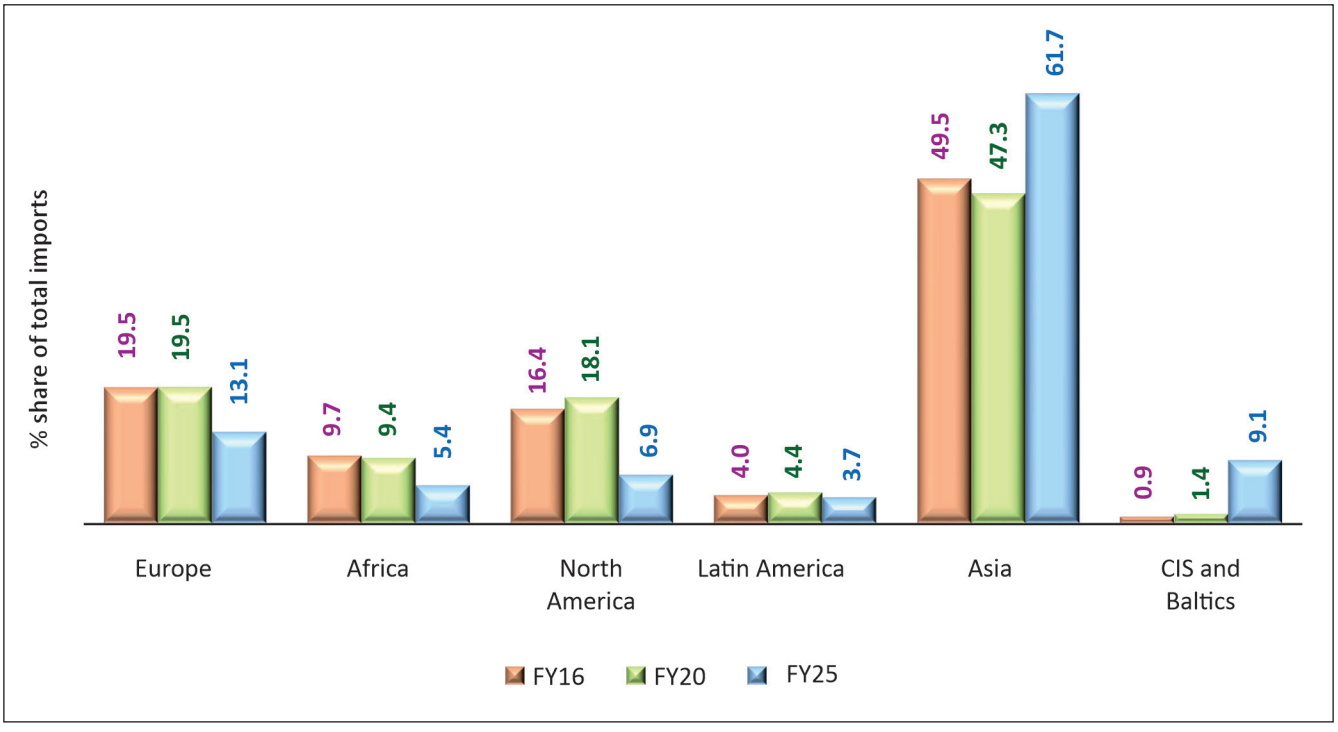
Until FY20, Europe accounted for nearly one-fifth of India's total import basket. By FY25, this share had declined to 13.1%, indicating a gradual shift in India's sourcing patterns. Imports from the European Free Trade Association (EFTA) expanded significantly, rising nearly fourteen-fold over the past five years, driven predominantly by trade with Switzerland. This growth, however, has been highly concentrated in pearls, precious stones, and metals (HS 71) which constituted about 85% of India's total imports from Switzerland in FY25, underscoring the narrow product focus within this trade corridor.

A notable aspect of this transition is also the sharp rise in India's imports from Asia, which expanded more than threefold from US$ 127.8 billion in FY16 to US$ 444.5 billion in FY25 with the corresponding share of the region in India's total imports increasing from 49.5% to 61.7% during the same period. Seven of India's top ten import sources are Asian economies, namely China, the UAE, Saudi Arabia, Iraq, Indonesia, Singapore, and South Korea, which together accounted for nearly 60% of India's total import basket in FY25.

Trade patterns across Asia have shifted significantly in recent years, with Northeast Asia[25] emerging as one of the most dynamic subregions. India's trade relationship with China, in particular, has expanded rapidly. Imports from China have increased nearly sevenfold in just five years, from US$ 16.6 billion in FY19 to US$ 113.4 billion in FY25. This surge is highly concentrated in engineering goods (HS 84 and HS 85), which together accounted for more than half of India's total imports from China in FY25. South Korea's position has also strengthened, rising from fourth place in FY16 to second place in FY25. Imports from South Korea also grew sixfold, reflecting the country's expanding role as a key supplier in India's trade landscape.

[25] According to the country classification used by India's Ministry of Commerce and Industry, the North-East Asia region comprises the following economies: Hong Kong, China, Japan, the Republic of Korea, Taiwan, the Democratic People's Republic of Korea, Mongolia, and Macao.

**Chart 2.3: Regional Import Composition**




Note: Data for North America does not include Mexico; Mexico has been included in Latin America

Source: DGCI&S and India Exim Bank Research

## Box 2.1: Russia-Ukraine Conflict and India's Trade

The Russia–Ukraine conflict and subsequent Western sanctions on Russian oil triggered a major reorientation of India's crude import strategy. Historically dependent on Middle Eastern suppliers, India imported insignificant amount of crude from Russia. However, once sanctions and price caps restricted Russia's access to Western markets, Russian crude was redirected toward alternative buyers, including India, at significantly discounted prices. As Russian exports to Europe collapsed, India's purchases surged at discounted prices within the US$ 60 price cap. India's large refining hubs, especially the Jamnagar refinery, were well positioned to process these discounted grades, enabling India to significantly expand procurement while reducing import costs.

**Value of crude oil imported from Russia to India in the last decade**

| Year | India's Import Value (US$ Thousand) | | Share of Russia (%) |
|---|---|---|---|
| | Russia | World | |
| 2015 | 71,257 | 7,23,65,746 | 0.1 |
| 2016 | 83,954 | 6,08,65,954 | 0.1 |
| 2017 | 13,08,729 | 8,20,65,030 | 1.6 |
| 2018 | 12,21,168 | 11,50,82,789 | 1.1 |
| 2019 | 14,60,076 | 10,19,48,597 | 1.4 |
| 2020 | 9,27,229 | 6,45,79,748 | 1.4 |
| 2021 | 23,09,768 | 10,64,06,787 | 2.2 |

| Year | India's Import Value (US$ Thousand) | | Share of Russia (%) |
|---|---|---|---|
| | Russia | World | |
| 2022 | 2,55,34,777 | 17,35,15,903 | 14.7 |
| 2023 | 4,47,22,551 | 14,04,18,213 | 31.8 |
| 2024 | 5,12,66,631 | 14,32,51,338 | 35.8 |

Source: ITC TradeMap and India Exim Bank Research

The table above, shows the value of Indian imports of petroleum oils and oils obtained from bituminous minerals in a crude form (HS 2709) from Russia and the world between 2015 and 2024. A relative growth decline in oil imported by India from the world was observed in 2020 and can be accounted to the COVID-19 pandemic. In 2022, the share of imports from Russia increased drastically to reach 14.7% from 2.2% in the previous year. The share of oil imports from Russia to India went on to reach 31.8% and 35.8% in 2023 and 2024 respectively. There was also a significant increase in the exports of refined petroleum to the world from India amid sanctions placed against Russia by the major economies. This demonstrates how global trade disruptions increasingly result in realignments rather than a complete breakdown of the system.

## Mapping of India's Exports with Global Demand

**Table 2.3** maps India's supply of major export products to that of the top three exporting countries in each category for their exports utilising yearly data of 2024. Linking India's top export destinations with the world's top exporters and their biggest buyers gives a complete view of where demand is deepest, which routes are hub-and-spoke, and where competitive intensity is highest. This exercise provides a foundation for market strategy, trade negotiations, and investment planning.

Interpretation of the figures:

**Country's share in India's exports of the product =** reliance on that market for the category.

**Share of category in India's total exports to the country =** how concentrated India's exports to that partner are in that product.

**Leading global exporter (share) =** the top global player in that category (share noted in brackets).

**Top destinations of the leading exporter =** the largest demand corridors globally.

**Table 2.3: Mapping of India's Supply with Leading Exports and their Prime Destinations, 2024**

| | Supply Side | | Demand Side | |
|---|---|---|---|---|
| **India's Top Export Destinations** | **Country's share in India's exports of respective product category (%)** | **Share of product category in India's total exports to respective country (%)** | **Leading global exporter in respective product world market (%)** | **Top destinations of leading global exporter in respective Product (%)** |
| **Mineral fuels, oils and products of their distillation (17.1% of total exports)** | | | | |
| Netherlands | 20.1 | 61.6 | US (10.9) | Mexico (12.8), Netherlands (11), Canada (8.2) |
| UAE | 11.6 | 23.2 | Russia (8.7) | China (37.2**),** **India (22.4)**, Türkiye (12.6) |
| Singapore | 9.1 | 43.1 | Saudi Arabia (7.6) | China (17.5), Japan and South Korea (12.4), **India (9.3)** |
| **Electrical machinery and equipment (9.1% of total exports)** | | | | |
| US | 31.3 | 15.6 | China (25.8) | Hong Kong (16.9), US (13.6), Vietnam (6.3) |
| UAE | 8.9 | 9.4 | Hong Kong (10.3) | China (66.4), US (4.7), Vietnam (3.6) |
| Netherlands | 7.2 | 11.8 | Taiwan (6.2) | China (29), Hong Kong (18.7), US (10.6) |
| **Machinery and mechanical appliances (7.4% of total exports)** | | | | |
| US | 20.2 | 8.1 | China (20.3) | US (16.3), Hong Kong (6.9), Russia (4.8) |
| Singapore | 5.7 | 11.7 | Germany (9.7) | US (12.6), China (7.6), France (7.2) |
| UAE | 5.1 | 4.4 | US (9) | Saudi Arabia (17), Bahrain (9.8), Iran (7.1) |
| **Pearls, precious stones and precious metals (6.8% of total exports)** | | | | |
| US | 31.1 | 11.5 | Switzerland (13.3) | China (18.4), **India (14.8)**, US (11.4) |

| | Supply Side | | Demand Side | |
|---|---|---|---|---|
| **India's Top Export Destinations** | **Country's share in India's exports of respective product category (%)** | **Share of product category in India's total exports to respective country (%)** | **Leading global exporter in respective product world market (%)** | **Top destinations of leading global exporter in respective Product (%)** |
| UAE | 25 | 19.8 | UAE (11.1) | **India (22.5**), Türkiye (14.8), Hong Kong (13.6) |
| Hong Kong | 17.1 | 77.3 | Hong Kong (9) | China (44.3), Thailand (9.8), US (8.4) |
| **Pharmaceutical Products (5.3% of total exports)** | | | | |
| US | 38 | 11 | Germany (13.7) | US (23.7), Netherlands (7.9), Switzerland (7.2) |
| UK | 3.3 | 5.4 | Switzerland (12.3) | US (32.1), Germany (10.4), Slovenia (7.3) |
| South Africa | 2.9 | 8.2 | US (10.5) | China (10.1), Netherlands (9.2), Japan (8.9) |

Source: ITC TradeMap and India Exim Bank Research

Mineral fuels, mineral oils, and related products accounted for 17.1% of India's total export basket in 2024, making them India's largest export categories. Within this segment, the Netherlands emerged as India's single largest destination, absorbing about one-fifth of India's exports in this category. The trade relationship is particularly concentrated: over three-fifths of India's total exports to the Netherlands consist of mineral fuels and oils, indicating a strong commodity-driven linkage. The UAE (11.6%) and Singapore (9.1%) were the next major destinations, both functioning as important trading and refining hubs in global energy commerce.

Globally, the leading exporters of mineral fuels and oils in 2024 were the US (10.9% of global exports), followed by Russia (8.7%) and Saudi Arabia (7.6%). Their export flows were primarily directed toward major Asian economies such as China, India, Japan, and South Korea, reflecting Asia's position as the world's largest energy-consuming region.

Electrical machinery and equipment constituted 9.1% of India's total export basket in 2024, with the US, UAE, and the Netherlands serving as the top destinations for this category. However, India faces intense competition in global markets from major exporters such as China, Hong Kong, and Taiwan, each of which commands a significantly larger share of the world market for electrical machinery. These economies not only dominate global production networks but also target similar high-demand destinations, particularly the US, which remains one of the world's largest importers of electrical machinery.

India's exports of machinery and mechanical appliances were primarily directed to the US, which accounted for about one-fifth of India's total exports in this category, followed by Singapore and the UAE as important

hubs for regional redistribution. In the global market, India faces strong competition from China, which controls roughly one-fifth of worldwide exports of machinery and mechanical appliances, with Germany and the US also holding significant shares. These leading exporters target many of the same high-demand destinations, particularly the US and several major Asian economies where demand for machinery and mechanical appliances continues to rise.

India holds a strong position in the global pharmaceutical industry, with the US serving as its most significant export market. While India is recognised for its large generics manufacturing base and strong regulatory compliance capabilities, it competes with established leaders such as Germany and Switzerland, both of which maintain sizeable shares in advanced pharmaceutical markets, including the US and other developed economies. To strengthen its global presence, India can further capitalise on its cost-efficient manufacturing ecosystem, expanding into complex generics, biosimilars, and regulated-market opportunities where demand continues to grow.

Overall, India can strengthen its position in global value chains by prioritising technological upgradation, diversifying export destinations, and enhancing value addition across sectors. As global supply chains evolve, countries increasingly seek reliable and cost-efficient partners, an opportunity India is well-placed to capture. By improving product sophistication, investing in innovation-driven manufacturing, and aligning export capabilities with the standards of advanced markets, India can not only deepen its presence in existing destinations but also unlock new, high-potential markets. Strengthening logistics, forging strategic trade agreements, and promoting export-oriented industries will further support India’s ambition to expand its global market share in these critical sectors.

Chapter

# Scope to Increase India's International Trade

India's prospects for expanding its participation in global trade increasingly depend on its competitiveness across products, markets, and integration into value chains. While aggregate export performance has improved over the past decade, a review of product-level indicators such as the Trade Intensity Index (TII), Revealed Comparative Advantage (RCA), and integration into global value chains (GVCs) reveals a heterogeneous picture. India demonstrates strong positioning in several niche categories with high global market shares, yet significant opportunities remain untapped in large global demand pools. This chapter examines the scope for improving India's international trade performance by analysing these competitiveness markers.

During the calendar year 2024, India's merchandise exports totalled US$ 441.7 billion against world imports of US$ 24.2 trillion, implying an overall Indian share of 1.8% in global import demand. At HS 6-digit level, 5,786 products were categorised into four bands based on India's average share in world import demand during 2020-2024 **(Table 3.1)**. The category of products for which India's average export share is less than 1% in world's import demand contains 3,531 products, which represents around 61% of all HS 6-digit lines, and includes products like parts of aeroplanes, helicopters or unmanned aircraft (HS 880730), vaccines for human medicine (HS 300241), machines for reception and transmission of data (HS 851762), and articles of plastics (392690), among others. However, these items together contribute only 9.2% of India's exports (US$ 40.7 billion). In contrast, the same set of products account for a substantial 66.8% of global import demand (US$ 16.21 trillion), where India's presence is extremely limited at just 0.3% as of 2024. This significant mismatch between large global demand alongside India's limited presence highlights the scope for scaling its export categories and a significant potential for medium-term expansion, provided India focuses on strengthening sectoral capabilities, enhancing competitiveness and improving market-access.

The category of products for which India's average export share is between 1% and 5% in world's import demand comprises 1,414 products with India's exports valued at US$ 159.4 billion, including products like smartphones for wireless networks (HS 851713), medicaments for therapeutic or prophylactic purposes (HS 300490), aeroplanes and other powered aircraft of an unladen weight > 15kg (HS 880240) among others. The category of products for which India's average export share is between 5% and 10% in world's import demand contains 374 products contributing US$ 116.1 billion in total exports. This category includes products like medium oils and preparations, of petroleum or bituminous minerals (HS 271019), light oils and preparations, of petroleum or bituminous minerals (HS 271012), heterocyclic compounds with nitrogen hetero-atom(s) only (HS 293399), and tankers (HS 890120), among others. Together, these two categories account for over 62.4% of India's exports. However, these categories represent only 30.2% of the global

import demand. This indicates that India's strongest export performers are concentrated in product segments where world demand is relatively smaller. India could reduce this excess concentration and focus on the other categories of products belonging to India's average share of exports less than 1% in world import demand by deepening its Research and Development (R&D) and technology capabilities, helping MSMEs meet global quality and certification standards, and strengthening specialised product and industry clusters through upgraded infrastructure[26].

Further, India's export share in world demand in the >10% category in 2024 was 17.8%, making them competitive strongholds. Some of the products in this category include, worked diamonds excluding industrial diamonds (HS 710239), semi-milled or wholly milled rice (HS 100630), and articles of jewellery and parts of precious metal other than silver (HS 711319), among others. These products represent only 2.9% of global import demand in 2024.

Overall, India's export mix remains concentrated in product segments with relatively modest global demand, while its presence in large global demand categories remains limited. While India dominates several of these niches, their limited global demand impedes the scope for volume-driven growth, suggesting a focus on value addition, branding, and premiumisation to strengthen its position in broader global market (where the presence is currently low) while also maintaining its competitive edge in these niche segments.

**Table 3.1: India's Export Penetration Across Global Import Markets at HS 6-digit Level (2024)**

| India's export share in the world import (Average % share from 2020 to 2024) | Number of products in HS 6-digit level | India's Export in 2024 (US$ billion) | Share in India's export basket in 2024 (%) | World Import in 2024 (US$ billion) | Share in World's import basket in 2024 (%) | India's export share in world import in 2024 (%) |
|---|---|---|---|---|---|---|
| Less than 1% | 3,531 | 40.7 | 9.2 | 16,206.2 | 66.8 | 0.3 |
| 1% to 5% | 1,414 | 159.4 | 36.1 | 5,743.6 | 23.7 | 2.8 |
| 5% to 10% | 374 | 116.1 | 26.3 | 1,569.6 | 6.5 | 7.4 |
| More than 10% | 467 | 125.5 | 28.4 | 705.3 | 2.9 | 17.8 |
| **Total** | **5,786** | **441.7** | **100** | **24,224.7** | **100** | **1.80** |

Source: ITC Trade Map and India Exim Bank Research

## Trade Intensity Index

The trade intensity index (TII) is used to determine whether the value of trade between two countries is greater or smaller than would be expected on the basis of their importance in world trade. It indicates whether a country exports more, as a percentage, to a partner than the world does on average. It is measured as country i's exports to country j relative to its total exports divided by the world's exports to country j relative to the world's total exports. It is calculated as:

[26] NITI Aayog – Enhancing MSMEs Competitiveness in India, 2025

$$T_{ij} = 100^* (x_{ij}/X_{it})/(x_{wj}/X_{wt})$$

Where,

$x_{ij}$ and $x_{wj}$ are the values of country i's exports and of world exports to country j.

$X_{it}$ and $X_{wt}$ are country i's total exports and total world exports respectively.

Range of Values: 0 to +∞. A value greater than 100 indicates a relationship more intense than the world average for the partner.

### India's Trade Intensity Index with the Rest of the World

India recorded a trade intensity index value greater than 100 with 80 out of its 224 trading partners in 2024, indicating that India trades with these countries more intensively than their share in world trade **(Table 3.2)**. This reflects the presence of strong and specialised commercial ties particularly with major trade partners like the US, UAE, Saudi Arabia, and various other Asian partners. These 80 countries constitute 42.3% of the world GDP and absorb 66.6% of India's exported value in 2024, highlighting that India's current export performance is strongly anchored to a concentrated set of bilateral relationships.

However, India remains commercially under-connected with countries representing the remaining 57.7% of the world GDP. Many of these economies offer substantial untapped potential for trade expansion. Strengthening economic linkages with these under-penetrated markets would help India diversify its export risks, reduce over-dependence on a handful of partners, and position itself more effectively within global demand centres.

**Table 3.2: Trade Intensity Index of India with its Trading Partners (2024)**

| TII | Trading Partners | Share in world GDP in 2024 (%) | Share in India's Export in 2024 (%) |
|---|---|---|---|
| TII>100 | 80 | 42.3 | 66.6 |
| TII<100 | 142 | 57.7 | 33.4 |
| **Total** | **222** | **100** | **100** |

Source: ITC Trade Map and India Exim Bank Research

## Revealed Comparative Advantage Analysis

Analysing the key products where India has comparative advantage and mapping it with global import demand for these products are necessary to increase India's exports to the world. Quantification of comparative advantage helps in identification of products where exports from India have been performing well, and also those where success has been limited, although opportunities are significant.

Revealed Comparative Advantage (RCA) is a measure which have been used extensively to help assess a country's export potential or competitiveness. It helps in identifying categories of exports in which an economy has a comparative advantage by way of comparison of the country's trade scenario with the world scenario. It can also provide useful information about potential trade prospects with new partners. The basic assumption underlying the concept of revealed comparative advantage is that the trade profile reflects the inter-country differences in terms of relative costs as well as non-price aspects.

As per Balassa's (1965) measure, RCA index for country i for commodity j is:

$$RCA_{ij} = (x_{ji}/X_i) / (x_{jw}/X_w)$$

Where,

$x_{ji}$ : Exports of Commodity 'j' from Country 'i'

$X_i$ : Total Exports from Country 'i'

$x_{jw}$: Total Exports of Commodity 'j' from World

$X_w$: Total Exports from World

The RCA index ranges from 0 to infinity, with 1 as the break-even point. That is, an RCA value of less than 1 means that the product does not have a comparative advantage, while a value above 1 indicates that the product has a comparative advantage.

Additionally, Normalised Revealed Comparative Advantage (NRCA) index demonstrates the capability of revealing the extent of comparative advantage that a country has in a commodity with more precision and consistency. NRCA can be defined in the following manner.

$$NRCA_{ij} = (RCA_{ij}-1/ RCA_{ij}+1)$$

NRCA ranges from -1 to 1, with 0 as the breakeven point. That is, an NRCA value of less than 0 and greater than -1, means that the product has no export comparative advantage, while a value above 0 and less than 1, indicates that the product has a comparative advantage. The extent of comparative advantage/disadvantage can be gauged from the proximity of the NRCA values to the extreme data points, viz. +1 and -1.

In the following section of product identification based on competitiveness, the export competitiveness of India has been mapped with respect to the global demand. An overarching analysis has been attempted to identify products from the industries for which India has existing export capabilities to rest of the world. These products are the potential export growth drivers from India to the world and could suitably be targeted. The section also attempts to identify the products where India could focus on, to realise potentially higher values of exports, especially when considering that India already possesses manufacturing capabilities for these products. The objective of the exercise is to construct a product market matrix for products in demand, so that necessary actions and policies can be formulated in the direction to enhance exports of these potential products from India.

**Parameters in Consideration:** The analysis in this section considers two major determinants of India's performance in the world, namely, **the NRCA for products, and Average Annual Growth Rate (AAGR) of world imports**.

On the basis of these three considerations, a four-quadrant matrix is prepared for product identification. The four quadrants imply the following:

**Product Champions (Product Import AAGR > World Import AAGR; Positive NRCA)**: These products have the maximum potential, as world import demand for these products has shown robust AAGR over the period 2015-24, while India's exports of these products to world are also competitive, reflected in positive NRCA

values for such products. These are the products with maximum export potential and India needs to further expand its exports of these products in order to take advantage of its competitive position and achieve a greater market share.

**Underachievers (Product Import AAGR > World Import AAGR; Negative NRCA):** India does not have competitiveness in these products although their global import demand has grown in significantly over the period under consideration. India can strive towards building capacities and capabilities in these identified products.

**Winners in Declining Sectors (Product Import AAGR < World Import AAGR; Positive NRCA):** India has competitiveness in these products, even though global import AAGR for these products has been declining. These products may not have much demand in the future, and hence, scarce resources from these sectors could be diverted to other sectors where demand expectations are positive.

**Lagging in Declining Sectors (Product Import AAGR < World Import AAGR; Negative NRCA):** India does not have competitiveness in these products, and these sectors have also registered weak global import demand during the period under consideration.

## India's Revealed Comparative Advantage with the Rest of the World

At HS 2-digit level, 46 products out of India's export basket of 97 products have RCA value greater than 1, indicating that, India is relatively more specialised in those products than the world average. Some of the products here include mineral fuels, oils and products of their distillation (HS 27), pearls, precious stones and metals (HS 71), pharmaceutical products (HS 30), organic chemicals (HS 29), among others. Together, they account for 67% of the India's export basket in 2024 and nearly 40.6% of the world demand.

On the other hand, 51 products in India's export basket have an RCA value below 1, indicating that India is relatively less specialised in these categories compared to the global export structure. This includes products like electrical machinery and equipment (HS 85), machinery and mechanical appliances (HS 84), vehicles other than railway or tramway rolling stock (HS 87), plastics and articles (HS 39), among others. These products collectively account for 33% of India's export basket in 2024 yet correspond to a much larger 59.4% share in world import demand, highlighting significant untapped potential **(Table 3.3)**. Despite their large global market size, India's share in world imports for these commodities remains modest at around 1%, underscoring the need for deeper competitiveness, capability-building, and strategic market penetration to leverage opportunities in these high-demand segments.

**Table 3.3: Revealed Comparative Advantage of India's Exports in 2024 at HS 2-digit level**

| RCA | Commodities | Share in World Import in 2024 (%) | Share of India's Export in World Import in 2024 (%) | Share in India's Export Basket in 2024 (%) |
|---|---|---|---|---|
| RCA>1 | 46 | 40.6 | 3 | 67 |
| RCA<1 | 51 | 59.4 | 1 | 33 |
| **Total** | **97** | **100** | **1.8*** | **100** |

* Note: It is calculated as a ratio of India's total export value for all commodities in 2024 with respect to World's import value for these commodities in 2024

Source: ITC Trade Map and India Exim Bank Research

### India's Revealed Comparative Advantage with the Rest of the World at 6-digit HS level

Following are the considerations in the analysis:

**Time Period:** The time period considered for the analysis is 2015-2024.

**Product Limit:** Only those products at HS 6-digit level with a minimum export value of US$ 10 million from India in 2024 are considered in the analysis. They make up to 98.5% of the total export from India and up to 75.1% of the world demand in 2024.

At HS 6-digit level, India has an RCA value of greater than 1, for 1,251 out of 2,130 products in India's export basket. This accounts for a share of 85.7% with respect to India's export basket in 2024. Further, products with an RCA value below 1, covering 879 HS-6 digit level items, constitute only 14.3% of India's export basket in 2024, despite accounting for a much larger 67.6% share of global import demand **(Table 3.4)**.

**Table 3.4: Revealed Comparative Advantage of India's Exports in 2024 at HS 6-digit level**

| RCA | Commodities | Share in World Import in 2024 (%) | Share of India's Export in World Import in 2024 (%) | Share in India's Export Basket in 2024 (%) |
|---|---|---|---|---|
| RCA>1 | 1,251 | 32.4 | 6.3 | 85.7 |
| RCA<1 | 879 | 67.6 | 0.5 | 14.3 |
| **Total** | **2,130** | **100** | **2.4*** | **100** |

*Note: It is calculated as a ratio of India's total export value for all selected commodities in 2024 with respect to World's import value for these commodities in 2024

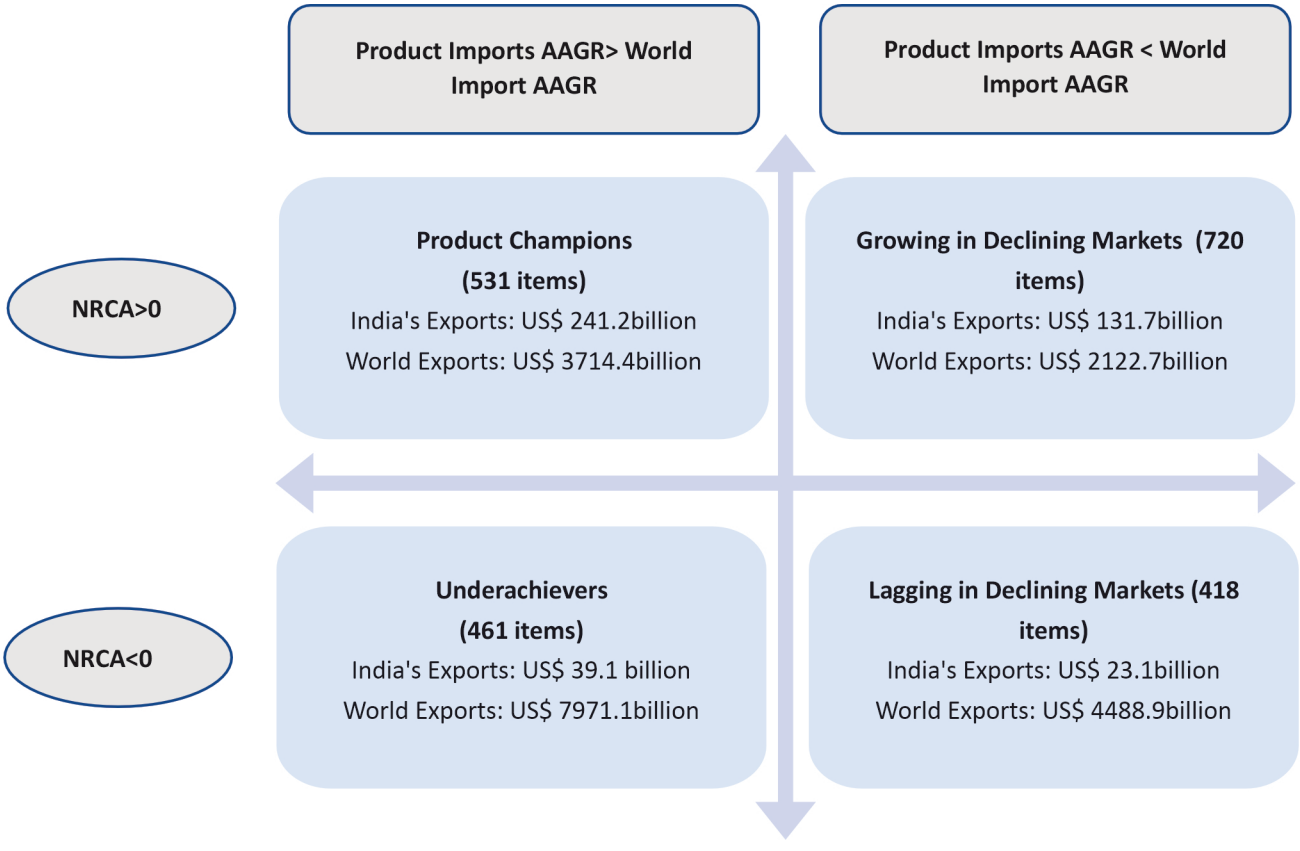
Source: ITC Trade Map and India Exim Bank Research

## Product Identification Based on Competitiveness

To identify the products based on their export competitiveness, a four-quadrant analysis has been undertaken based on the HS Code classifications at 6-digit level, whilst calculating their NRCA and mapping them against the AAGR of global imports for all products. The quadrants are drawn by comparing the overall AAGR of global imports for all products during 2015-2024 to the NRCA of India's exports during the same period. This exercise aims to identify products whose imports over the period 2015-2024 have performed better than the overall average of the world for all products during this period, implying that the share of such products in world import basket has witnessed an increase, a reflection of their rising demand and dynamism.

At 6-digit HS Code, with minimum exports of US$ 10 million from India to the world, 2,130 products have been identified with the total exports from India to the world, amounting to US$ 435 billion (98.5% of India's exports to the world in 2024) while the total global imports in the same products stood at US$ 18,297.1 billion in 2024 (75.1% of global imports in 2024) **(Chart 3.1)**.

**Chart 3.1: Product Identification for Exports from India to the World (2024)**




Source: ITC Trade Map and India Exim Bank Research

Out of the 2130 items at the HS 6-digit level, 531 items fell into the category of the product champions. The combined exports of these items from India to the world were US$ 241.2 billion in 2024, representing approximately 55.4% of India's exports to the world in 2024. Major product champions are provided in **Table 3.5.** Medium oils, and preparations, of petroleum or bituminous minerals (HS 271019) accounts for the highest share in India's exports to the world followed by smartphones, light oils and preparations, pharmaceutical products, and rice, among others. These products are low hanging fruits for India and can be targeted in the short to medium term. Global imports of these product champions amounted to US$ 3714.4 billion in 2024, implying that there remains substantial scope for tapping the global market for these products.

**Table 3.5: List of Major Product Champions from India to the World (HS 6-digit level)**

| HS code | Product | India's Export of Item to the World (US$ billion) | Share in India's Total Exports (%) | Global Imports of the Product (US$ billion) | Share in Global Imports (%) |
|---|---|---|---|---|---|
| 271019 | Medium oils and preparations, of petroleum or bituminous minerals, not containing biodiesel | 50.2 | 11.5 | 548.0 | 3.0 |
| 851713 | Smartphones for wireless networks | 20.5 | 4.7 | 314.0 | 1.7 |

| HS code | Product | India's Export of Item to the World (US$ billion) | Share in India's Total Exports (%) | Global Imports of the Product (US$ billion) | Share in Global Imports (%) |
|---|---|---|---|---|---|
| 271012 | Light oils and preparations, of petroleum or bituminous minerals which >= 90% by volume | 19.9 | 4.6 | 350.4 | 1.9 |
| 300490 | Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes | 17.9 | 4.1 | 420.5 | 2.3 |
| 100630 | Semi-milled or wholly milled rice, whether or not polished or glazed | 11.2 | 3.2 | 30.4 | 0.3 |
| 711319 | Articles of jewellery and parts thereof, of precious metal other than silver | 11.1 | 2.6 | 113.5 | 0.2 |
| 870322 | Motor cars and other motor vehicles principally designed for the transport of <10 persons | 5.0 | 2.6 | 144.3 | 0.6 |
| 841112 | Turbojets of a thrust > 25 kN | 4.6 | 1.4 | 86.2 | 0.5 |
| 760110 | Aluminium, not alloyed, unwrought | 3.6 | 1.2 | 36.7 | 0.8 |
| 020230 | Frozen, boneless meat of bovine animals | 3.6 | 1.1 | 34.4 | 0.5 |
| 293399 | Heterocyclic compounds with nitrogen hetero-atom[s] only | 2.6 | 1.0 | 29.8 | 0.1 |
| 871120 | Motorcycles, including mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 50 $cm^3$ but <= 250 $cm^3$ | 2.6 | 0.8 | 11.1 | 0.5 |
| 690721 | Ceramic flags and paving, hearth or wall tiles, of a water absorption coefficient by weight <= 0,5 % | 1.8 | 0.8 | 12.7 | 0.2 |
| 610910 | T-shirts, singlets and other vests of cotton, knitted or crocheted | 1.7 | 0.8 | 34.2 | 0.2 |

| HS code | Product | India's Export of Item to the World (US$ billion) | Share in India's Total Exports (%) | Global Imports of the Product (US$ billion) | Share in Global Imports (%) |
|---|---|---|---|---|---|
| 170199 | Cane or beet sugar and chemically pure sucrose, in solid form (excl. cane and beet sugar) | 1.7 | 0.6 | 17.7 | 0.2 |

Source: ITC Trade Map and India Exim Bank Research

The total number of products in growing in declining markets category is 720, with India's exports amounting to US$ 131.7 billion and constituting a share of 30.3% in India's exports to the world in 2024. These are the product items in which India has competitive advantage and has attained a significant share in the world's import basket, however, the global import demand for these products has been falling in the last ten years **(Table 3.6)**. India needs to diversify away from this segment of products and move towards the Product Champions and the Underachievers segment.

**Table 3.6: List of Major Products Under Growing in Declining Markets Category from India to the World (HS 6-digit level)**

| HS code | Product | India's Export of Item to the World (US$ billion) | Share in India's Total Exports (%) | Global Imports of the Product (US$ billion) | Share in Global Imports (%) |
|---|---|---|---|---|---|
| 710239 | Diamonds, worked, but not mounted or set (excluding industrial diamonds) | 13.7 | 3.2 | 57.2 | 0.3 |
| 880240 | Aeroplanes and other powered aircraft of an unladen weight > 15.000 kg (excluding helicopters) | 6.0 | 1.4 | 98.8 | 0.5 |
| 030617 | Frozen shrimps and prawns, even smoked, whether in shell or not, excluding cold-water shrimps and prawns | 4.4 | 1.0 | 19.0 | 0.1 |
| 870899 | Parts and accessories, for tractors, motor vehicles for the transport of ten or more persons | 3.6 | 0.8 | 94.9 | 0.5 |
| 890120 | Tankers | 2.1 | 0.5 | 10.9 | 0.1 |
| 270750 | Aromatic hydrocarbon mixtures of which >= 65% by volume, including losses, distils at 250°C | 2.0 | 0.5 | 9.0 | 0.0 |

| HS code | Product | India's Export of Item to the World (US$ billion) | Share in India's Total Exports (%) | Global Imports of the Product (US$ billion) | Share in Global Imports (%) |
|---|---|---|---|---|---|
| 380893 | Herbicides, anti-sprouting products and plant-growth regulators, put up in forms or packings | 1.6 | 0.4 | 14.3 | 0.1 |
| 854143 | Photovoltaic cells assembled in modules or made up into panels | 1.5 | 0.3 | 48.8 | 0.3 |
| 380891 | Insecticides, put up in forms or packings for retail sale or as preparations or articles | 1.4 | 0.3 | 10.3 | 0.1 |
| 710491 | Diamonds, synthetic or reconstructed, worked, whether or not graded but not strung | 1.3 | 0.3 | 2.4 | 0.0 |
| 240120 | Tobacco, partly or wholly stemmed or stripped, otherwise unmanufactured | 1.3 | 0.3 | 12.1 | 0.1 |
| 294200 | Separate chemically defined organic compounds, n.e.s. | 1.3 | 0.3 | 1.3 | 0.0 |
| 848180 | Appliances for pipes, boiler shells, tanks, vats or the like (excluding pressure-reducing valves) | 1.3 | 0.3 | 67.4 | 0.4 |
| 300420 | Medicaments containing antibiotics, put up in measured doses "including those for transdermal administration" | 1.2 | 0.3 | 16.8 | 0.1 |
| 711311 | Articles of jewellery and parts thereof, of silver, whether or not plated or clad with other precious metal | 1.2 | 0.3 | 8.5 | 0.0 |

Source: ITC Trade Map and India Exim Bank Research

This was followed by underachievers with 461 items, with India's exports worth US$ 39.1 billion to the world. They constitute a share of 9% in India's total exports. These are the product items in which import demand in the global market are rising, but exports from India are currently not competitive **(Table 3.7).** Global imports of these products stood at US$ 7,971.1 billion in 2024, presenting significant opportunities for exporters. There is a need for capacity creation in these product categories, through an appropriate incentive framework for attracting investments in the country.

**Table 3.7: List of Major Underachievers from India to the World (HS 6-digit level)**

| HS code | Product | India's Export of Item to the World (US$ billion) | Share in India's Total Exports (%) | Global Imports of the Product (US$ billion) | Share in Global Imports (%) |
|---|---|---|---|---|---|
| 260111 | Non-agglomerated iron ores and concentrates (excluding roasted iron pyrites) | 1.8 | 0.4 | 166.0 | 0.9 |
| 850440 | Static converters | 1.6 | 0.4 | 97.1 | 0.5 |
| 880730 | Parts of aeroplanes, helicopters or unmanned aircraft, n.e.s. (excluding those for gliders) | 1.1 | 0.3 | 73.5 | 0.4 |
| 732690 | Articles of iron or steel, n.e.s. (excluding cast articles or articles of iron or steel wire) | 1.0 | 0.2 | 58.8 | 0.3 |
| 730890 | Structures and parts of structures, of iron or steel, n.e.s. (excluding bridges and bridge-sections) | 1.0 | 0.2 | 47.1 | 0.3 |
| 851762 | Machines for the reception, conversion and transmission or regeneration of voice, images or other data | 0.9 | 0.2 | 224.6 | 1.2 |
| 392690 | Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (excluding goods of 9619) | 0.9 | 0.2 | 83.6 | 0.5 |
| 210690 | Food preparations, n.e.s. | 0.8 | 0.2 | 64.1 | 0.4 |
| 853710 | Boards, cabinets and similar combinations of apparatus for electric control or the distribution of electricity | 0.7 | 0.2 | 86.6 | 0.5 |
| 854449 | Electric conductors, for a voltage <= 1.000 V, insulated, not fitted with connectors, n.e.s. | 0.6 | 0.1 | 38.5 | 0.2 |
| 847989 | Machines and mechanical appliances, n.e.s. | 0.6 | 0.1 | 53.6 | 0.3 |
| 847150 | Processing units for automatic data-processing machines | 0.5 | 0.1 | 159.1 | 0.9 |

| HS code | Product | India's Export of Item to the World (US$ billion) | Share in India's Total Exports (%) | Global Imports of the Product (US$ billion) | Share in Global Imports (%) |
|---|---|---|---|---|---|
| 842952 | Self-propelled mechanical shovels, excavators and shovel loaders, with a 360° revolving superstructure | 0.5 | 0.1 | 29.7 | 0.2 |
| 901839 | Needles, catheters, cannulae and the like, used in medical, surgical, dental or veterinary sciences | 0.5 | 0.1 | 41.1 | 0.2 |
| 330499 | Beauty or make-up preparations and preparations for the care of the skin (other than medicaments) | 0.5 | 0.1 | 59.3 | 0.3 |

Source: ITC Trade Map and India Exim Bank Research

Exports from India to the world under lagging in declining market category stood at US$ 23.1 billion or 5.3% of India's total exports in 2024. The significant range of exports under the category of declining sectors highlight the need for diversification to other sectors as well as industries, which have greater scope for exports in the future. If the scarce resources are not diverted, then excess of supply to these sectors facing limited global demand, would result in further fall in their prices in the future. Thus, a significant shift needs to be made from the declining sectors to the product champions in the short run and underachievers in the medium to the long run, to make efficient utilisation of resources and further enhance exports from India to the world.

Chapter

# 4 India's GVC Positioning amid Evolving Supply Chain Realignment

World trade, investment and production are increasingly organised around global value chains (GVCs). A value chain is the full range of activities that firms engage in to bring a product to the market, from conception to final use[27]. Such activities range from design, production, marketing, logistics and distribution to support the final customer. The importance of GVCs in international trade has increased significantly over time.

Modern-day GVCs describe the increasingly fragmented and internationally distributed structure of modern production, where different stages of creating a product or service are carried out across multiple countries. Since no single economy performs the entire production process, industries today are organised around specialised tasks rather than complete products, with countries participating at different points in the chain depending on their capabilities, resources, and strategic advantages. At the upstream stages of the value chain lie knowledge encompassing intensive activities such as research, design, engineering, and product development. These functions determine a product's concept, technological sophistication, and market positioning. As production moves midstream, manufacturing and assembly take place with activities that rely on efficient production systems, reliable intermediate inputs, skilled labour, and established supplier networks. The downstream stages consist of logistics, branding, marketing, distribution, retailing, and after-sales services, which ensure that products reach consumers efficiently and that customer support is maintained.

## Data and Methodology

To analyse Gross Value Added (GVA), the Organisation for Economic Co-operation and Development (OECD)-World Trade Organisation (WTO) Trade in Value added (TiVA) statistics has been used extensively in the evolving value chain literature. The Trade in Value Added (TiVA) database is a collection of measures that can provide insights into global production networks and supply chains, beyond what is possible with conventional trade statistics. The latest 2025 edition of TiVA covers 80 economies (including all OECD, the EU and G20 countries and most East and Southeast Asian economies) as well as regional aggregates. Indicators are available for 50 industries for years up to 2022. The indicators are derived from the 2025 version of OECD's Inter-Country Input-Output (ICIO) Database.

The TiVA initiative addresses the double counting, implicit in current gross flows of trade, and instead, measures flows related to the value that is added by a country in the production of any good or service that is exported. For example, Country A exports US$ 100 worth goods produced entirely within Country A

[27] OECD Study - Interconnected Economies: Benefiting from Global Value Chains

to Country B that further processes them before exporting them to Country C, where they are consumed. Country B adds value of US$ 10 to the goods and so exports goods worth US$ 110 to Country C. Conventional measures of trade would show total global exports of US$ 210, but only US$ 110 of value-addition has been generated in their production. Conventional measures also show that Country C has a trade deficit of US$ 110 with Country B, and no trade at all with Country A, even though Country A is the chief beneficiary of Country C's consumption. The estimation of trade in value added terms shows the decomposition of gross exports into their domestic and foreign value added contents[28].

The domestic value added (DVA) content of exports is composed of the following three elements:

**Domestic value added sent to consumer economy** corresponds to the domestic value added embodied either in final or intermediate goods or services that are directly consumed by the importing economy. For instance, India's value added in exports of petro products consumed by other economies.

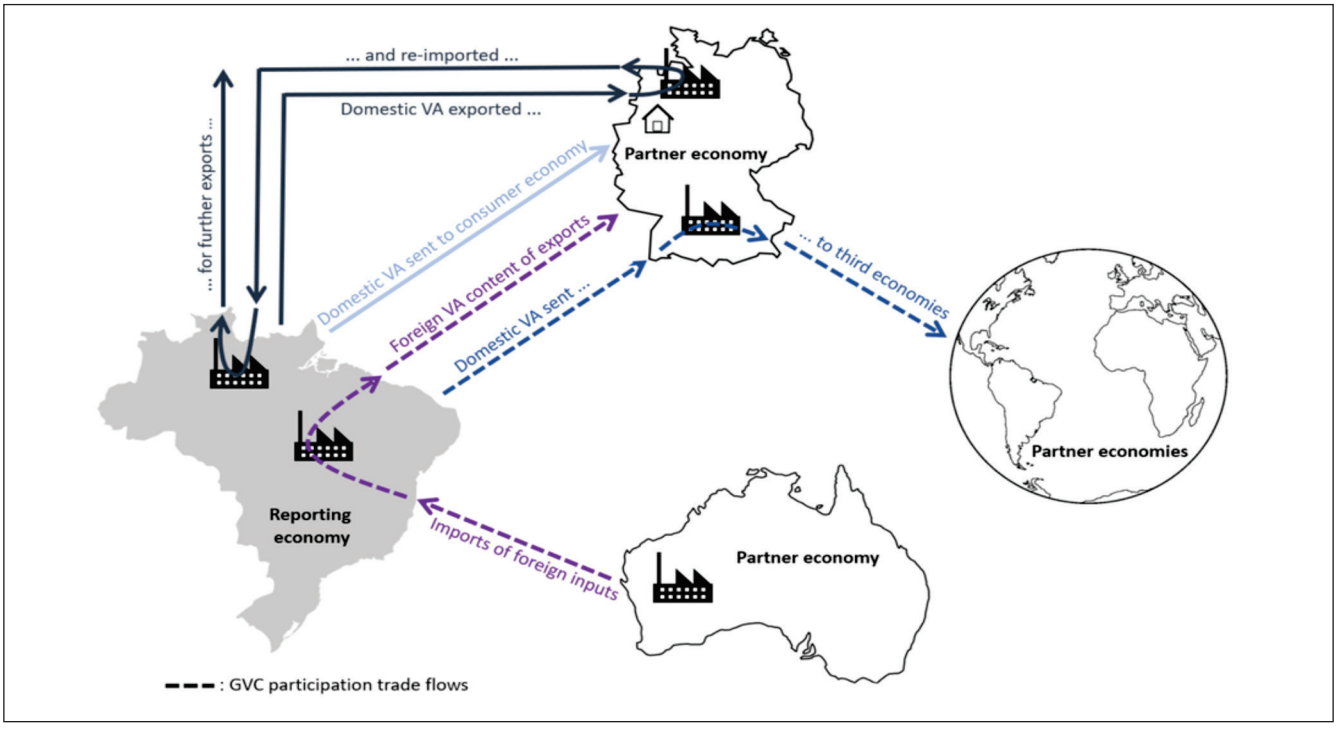
**Domestic value added sent to third economies** represents the domestic value added contained in intermediates (goods or services) exported to a partner economy that re-exports them to a third economy as embodied in other products. This represents the multiple value added exchanges taking place among GVCs and corresponds to the "Forward GVC linkages". For instance, India exports cotton to Bangladesh, and Bangladesh produces garments using the cotton and then further exports it to other European and Asian countries.

**Domestic value added re-imported in the economy** refers to the domestic value added of exported intermediates or inputs, that is sent back to the economy of origin as embodied in other intermediates and used to produce exports. Such value added round-trip between two (or more) economies highlights the domestic value added content present in an economy's imports. For instance, India exports iron ore to China and China uses iron ore to make steel and exports it back to India. Further this steel is used in production of other machinery and engineering goods, which is again exported by India.

The foreign value added (FVA) content of exports corresponds to the value added of inputs that were imported, in order to produce intermediate or final goods or services to be exported. It corresponds to the "Backward GVC linkages". For instance, smartphone assembly lines in China, wherein it imports major components of the smartphone, assembles it and then exports it to the world. In this case, these components are foreign value added content of exports for China.

[28] WTO Country Profile Explanatory Note- Trade in Value Added and Global Value Chains

**Exhibit 1: Value Added Components of Gross Exports and Related GVC Trade Flows**




Source: Adapted from Trade in Value Added and Global Value Chains, WTO Note

There are two broad categories of GVCs. These can broadly be categorised as:

**Backward Linkages:** A country can integrate with the world through imports of intermediates. This is called backward linkages. It is calculated as share of foreign value added content of gross exports. This parameter shows the dependence of a country on foreign inputs for their exports. A higher value of this indicator implies growing integration with the world economy through the import of intermediates.

**Forward Linkages:** A country can also link with GVCs by exporting inputs to the other economies, which is termed as forward linkages. It is calculated as domestic value added embodied in foreign exports as a share of gross exports. In this study parameters, namely, 'Domestic value added embodied in foreign exports', and 'Domestic value added in gross exports of intermediate products' are employed to analyse the forward linkage of economies in the GVCs[29] in the following sections.

## Parameters used in the Study for Forward Linkages in GVC

In the OECD TiVA database, two indicators are commonly employed to assess forward linkages in global value chains:

i. Domestic value added embodied in foreign exports, as a percent of total gross exports of the source country, and

ii. Domestic value added in exports of intermediate products as a share of total gross exports of the source country.

[29] OECD Explanatory Note - Guide to OECD Trade in Value Added (TiVA) Indicators, 2025 edition

The first indicator measures the extent to which a country's domestic value added, embedded in its exports, is subsequently used in other countries' exports. In other words, it captures the contribution of the home country's industries to the export performance of foreign economies.

The second indicator reflects the share of a country's gross exports that consists of domestic value added in intermediate products destined for further processing in partner economies. This value added may ultimately be absorbed either in the partner country's final demand or in its re-exports following additional processing.

However, industry-level data for the first indicator, DVA embodied in foreign exports, is not available on the OECD TiVA portal. Owing to this data constraint, the study uses the first indicator to evaluate forward linkages at country level and second indicator, i.e., DVA in exports of intermediate products as a share of total gross exports, to evaluate forward linkages at the industry level. It is important to note that this alternative measure may provide a more comprehensive representation of forward linkages. Unlike the first indicator, it captures not only the value added that feeds into foreign exports but also the domestic value added embedded in intermediate exports that is ultimately consumed within partner economies.

Apart from these, below indicators are also used in the following sections to study the positioning of India among other economies.

**Domestic Value Added Content of Gross Exports:** This indicator represents domestic value added content in exports, that is, how much a country adds value domestically, as exports could also include inputs imported from abroad. A higher value of this indicator would imply that domestic production is adding higher value to the exports and indicative of country's focus on manufacturing and skill development.

**Domestic Value Added in Foreign Final Demand**: This captures the value added that industries export both directly, through exports of final goods or services and, indirectly via exports of intermediates that reach foreign final consumers. Additionally, it can be considered as a measure of an industry's reliance on foreign final demand. Further, this indicator also provides important insights into a country's positioning within global value chains. For instance, an economy with a high domestic value-added share in foreign final demand typically specialises in the final stages of production and therefore interacts more directly with end consumers. In the previous example of smartphone value chain, China undertakes the product's final assembly and hence records a high domestic value added share in foreign final demand because the assembled smartphones are sold directly to consumers abroad. Yet, China's domestic value-added share in gross exports remains relatively low, since assembly activities generate limited value added compared to the total export value of the finished product.

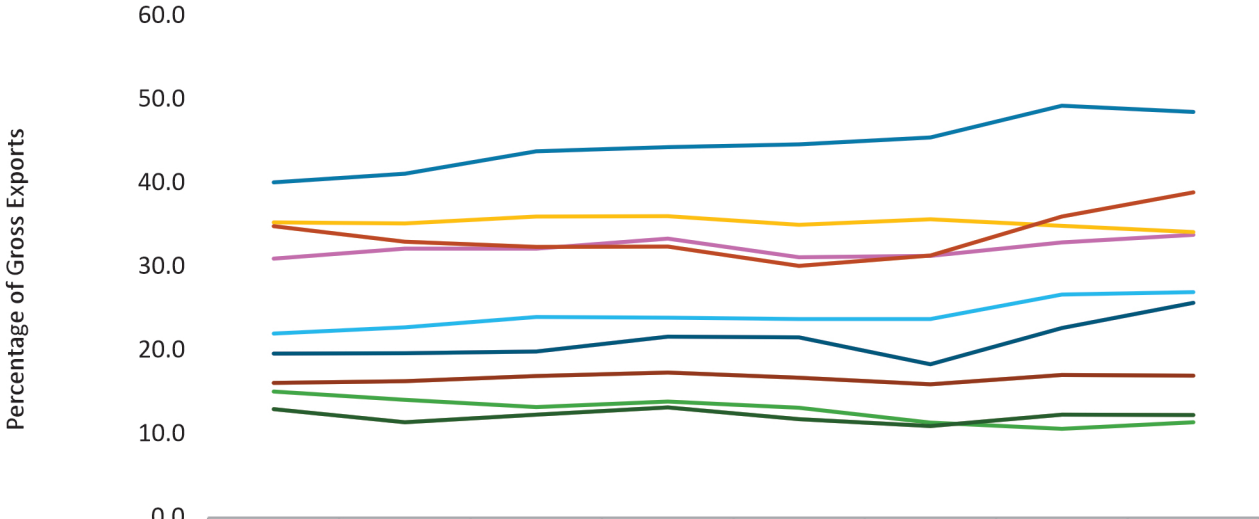
## India's Position in the Global Value Chain

Economies participate in GVCs both as users of foreign inputs and as suppliers of intermediate goods and services that can be used in other economies' exports[30]. Using FVA content of gross exports as a parameter to measure the extent of India's participation in the GVCs through backward linkages, **Chart 4.1** shows that India's FVA content in gross exports remains relatively low compared to several other Asian economies. Between 2015 and 2022, India's FVA share fluctuated between 19.6% and 25.7%, which is below economies that rely heavily on imported intermediates such as Vietnam (48.5%), Thailand (38.9%), Malaysia (34.2%), and Mexico (33.8%).

[30] OECD Study - Interconnected Economies: Benefiting from Global Value Chains

This limited backward integration indicates that India still sources a substantial portion of its inputs domestically and participates in GVCs at a relatively upstream level or early stage. In contrast, economies such as Vietnam and Malaysia exhibit far higher dependence on imported intermediates, enabling them to integrate deeply into global production networks in electronics, machinery, and apparel.

**Chart 4.1: Foreign Value Added Content as a Share of Gross Exports**




| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|
| Mexico | 31.0 | 32.2 | 32.2 | 33.4 | 31.2 | 31.3 | 32.9 | 33.8 |
| Bangladesh | 15.1 | 14.1 | 13.2 | 13.9 | 13.1 | 11.4 | 10.6 | 11.4 |
| China | 16.1 | 16.3 | 17.0 | 17.4 | 16.7 | 15.9 | 17.0 | 17.0 |
| India | 19.6 | 19.7 | 19.9 | 21.6 | 21.6 | 18.4 | 22.7 | 25.7 |
| Indonesia | 13.0 | 11.4 | 12.3 | 13.2 | 11.8 | 10.9 | 12.3 | 12.3 |
| Malaysia | 35.3 | 35.2 | 36.0 | 36.0 | 35.0 | 35.7 | 34.9 | 34.2 |
| Philippines | 22.0 | 22.8 | 24.0 | 23.9 | 23.8 | 23.8 | 26.7 | 27.0 |
| Thailand | 34.9 | 33.0 | 32.4 | 32.4 | 30.1 | 31.3 | 36.0 | 38.9 |
| Vietnam | 40.1 | 41.1 | 43.8 | 44.3 | 44.6 | 45.5 | 49.3 | 48.5 |

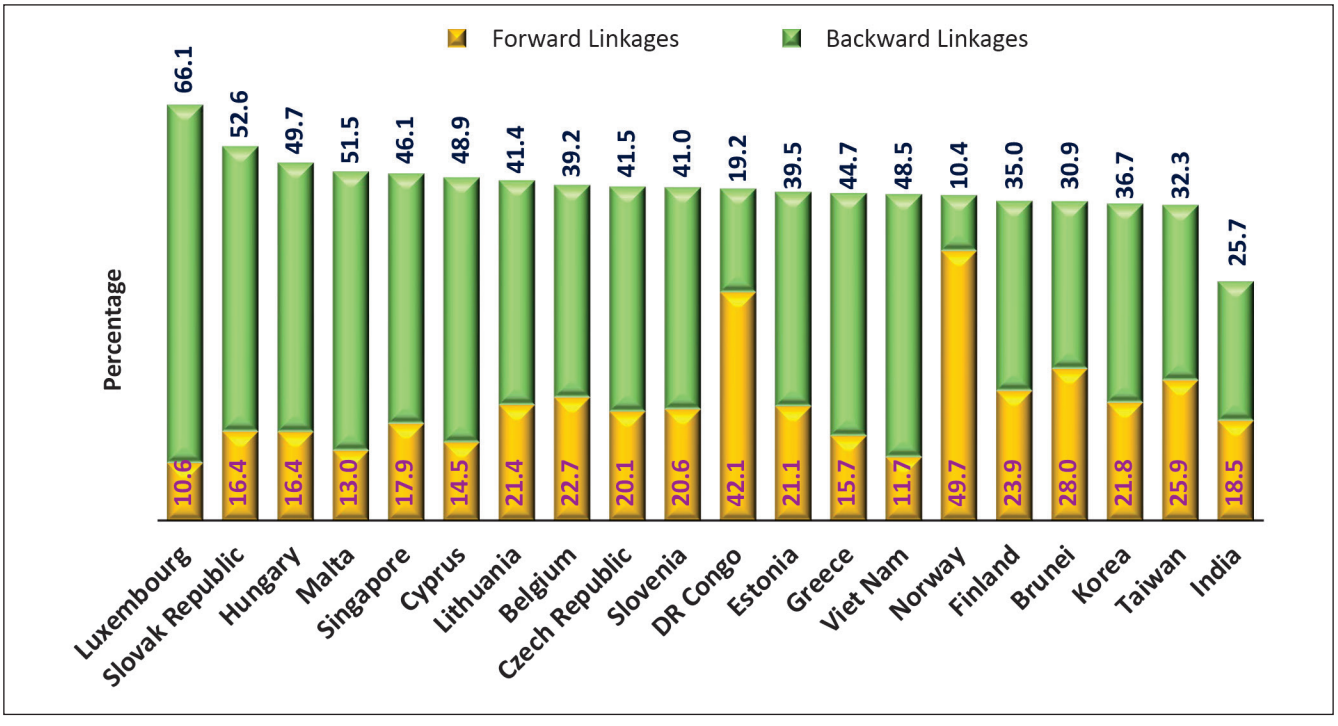
Source: OECD TiVA Database, 2025 and India Exim Bank Research

Top 20 economies sorted according to their GVC participation, and is calculated as the sum of backward linkages and forward linkages[31] alongside India's GVC participation are shown in **Chart 4.2**. Smaller, open economies like Luxembourg, Slovak Republic and Hungary exhibit very high backward linkages indicating that these economies are highly dependent on imported intermediates. These economies tend to source more inputs from abroad and supply more inputs for use in the global production networks. Central and Eastern European countries like Czech Republic, Slovenia, Estonia are deeply embedded in regional production networks and combine high backward participation (strong reliance on imported intermediates) with strong forward shares (meaningful upstream supply into partners' exports). Vietnam shows a downstream or assembly profile reflecting heavy import content of exports with comparatively modest upstream supply, which is typical

[31] Domestic value added embodied in foreign exports as a share of gross exports parameter from OECD database is used to analyse forward linkage here.

for economies specialising in assembly within "Factory Asia"[32]. India's GVC participation (ranked 68th among the economies studied) remains limited relative to peer economies, reflected in a backward participation rate of roughly 25.7% and a forward participation rate of 18.5%. The comparatively low foreign content of India's exports (lower backward participation) is consistent with OECD (2013)[33] findings that large economies tend to internalise a bigger share of the value chain domestically. At the same time, India's forward share indicates a meaningful upstream role, supplying intermediates that partner economies embed in their exports, though the combined index still trails small, trade-intensive economies. The analysis also reveals that in the cases of economies like the US, the UK and Japan, forward linkages are stronger than the backward linkages. In addition, some of the economies, including Russia, Norway, Saudi Arabia, Kazakhstan among others have high forward linkages as their main exports are natural resources (crude oil) and hence, a high portion of domestic value added is being used in other countries' exports.

**Chart 4.2: GVC Participation across Select Economies and India (2022)**




Source: OECD TiVA Database, 2025 and India Exim Bank Research

The ratio of forward and backward linkages[34] is studied to determine whether these economies depend on greater foreign inputs for production (lower value of ratio) or is increasingly becoming a supplier of inputs (higher value of the ratio). A ratio greater than one implies that a country's 'domestic value added embodied in foreign exports as a share of gross exports' is higher than its 'foreign value added content as a share of gross exports'. **Table 4.1** shows that this ratio remains less than one for India as of 2022, implying India is a net importer of intermediates. Further, none of the top 20 countries in terms of GVC participation have a ratio greater than one. This implies that the major participants in GVCs have stronger backward linkages than forward linkages. It is also to be noted that the world's major exporting countries such as China, the

[32] Factory Asia model is used to signify multinational enterprises (MNEs) using the country as a final assembly base due to its cost competitiveness and strategic trade agreements.
[33] OECD Study - Interconnected Economies: Benefiting from Global Value Chains
[34] WTO WP - Measuring Value in Global Value Chains

US, Japan, and Germany, among others, do not make it to the list of top 20 participants in GVCs, reflecting the fact that the departure from traditional trade analysis (based on gross exports and imports) provides interesting insights about value chain production.

**Table 4.1: Ratio of Forward to Backward Linkages for India**

| Country | Ratio of Forward linkage to Backward Linkage |
|---|---|
| Luxembourg | 0.16 |
| Slovak Republic | 0.31 |
| Hungary | 0.33 |
| Malta | 0.25 |
| Singapore | 0.39 |
| Cyprus | 0.30 |
| Lithuania | 0.52 |
| Belgium | 0.58 |
| Czech Republic | 0.48 |
| Slovenia | 0.50 |
| DR Congo | 2.20 |
| Estonia | 0.53 |
| Greece | 0.35 |
| Vietnam | 0.24 |
| Norway | 4.80 |
| Finland | 0.68 |
| Brunei | 0.91 |
| Korea | 0.59 |
| Taiwan | 0.80 |
| **India** | **0.72** |

Source: OECD TiVA Database, 2025 and India Exim Bank Research

## Industry-Specific GVC Opportunities for India under 'China-Plus-One'

In recent years, the "China-Plus-One" strategy has gained prominence among multinational firms and global buyers. The strategy refers to the diversification of production bases beyond China to reduce supply chain risks arising from rising labour costs, geopolitical tensions, and supply disruptions. Events such as the US-China Trade War and the COVID-19 Pandemic further exposed the vulnerabilities associated with heavy dependence on a single manufacturing hub, encouraging businesses and economies to explore alternative production locations.

Given its large domestic market, expanding manufacturing base, and policy initiatives such as Make in India and the Production Linked Incentive Scheme initiated in the last decade, India has emerged as a potential beneficiary of this realignment of global supply chains. However, the extent to which India can capitalise on these shifts depends on its participation and positioning within global value chains. To evaluate India's potential within the 'China-Plus-One' framework, this study examines the top export products of China, identified using

global trade data. These products represent sectors where China maintains a dominant presence in global manufacturing and trade. These sectors are highly integrated into global value chains, involving complex production networks spanning multiple countries. Components may be produced in one country, assembled in another, and exported to final markets elsewhere. By analysing these sectors, the study seeks to identify whether India can expand its role in these value chains and capture a larger share of global exports.

Top products with a share of more than 4% in the total exports from China to rest of the world are listed in **Table 4.2.** The GVC participation of India in comparison to the top 10 exporters in each category are studied further.

**Table 4.2: Top Products Exported from China to the World in 2024**

| HS Code | Description | Export Value in 2024 (US$ billion) | Share in China's Total Export Value in 2024 (%) | Global Import Value in 2024 (US$ billion) | Share in Global Import Value in 2024 (%) |
|---|---|---|---|---|---|
| 85 | Electrical machinery and electronic equipment | 928.0 | 26.0 | 3,810.2 | 24.4 |
| 84 | Machinery and mechanical appliances | 568.3 | 15.9 | 2,906.3 | 19.6 |
| 87 | Vehicles other than railway or tramway rolling stock, and its parts and accessories | 216.1 | 6.0 | 1,886.3 | 11.5 |
| 39 | Plastics and its articles | 141.3 | 4.0 | 738.9 | 19.1 |

Source: ITC Trade Map and India Exim Bank Research

## GVC analysis for Electrical and Electronics Industry

### *India's Trade Scenario*

India's electrical industry has witnessed a substantial expansion in export performance over the past decade, driven by strong growth in specific high-demand product categories and gradual diversification within the sector. Between 2015 and 2024, India's exports of key electrical products increased from US$ 7.9 billion in 2015 to US$ 40.2 billion in 2024, reflecting a robust CAGR of 19.7%.

As shown in **Table 4.3**, growth has been driven by telephone sets (HS 8517), which dominated the sector with 55% share in 2024. Exports in this category surged from US$ 0.8 billion in 2015 to US$ 22.1 billion in 2024, reflecting a momentum supported by large-scale smartphone manufacturing and strong global demand. Other categories show steady but moderate growth, indicating a diversified base. Electrical transformers (HS 8504) and insulated wire and cable (HS 8544) expanded at CAGRs of 11.3% and 13.1%, respectively, reflecting India's traditional engineering capabilities and stable international demand. Meanwhile, semiconductor devices (HS 8541) posted a high 28.4% CAGR, signalling early signs of India's movement into upstream electronics value chains as global companies diversify supply sources. Additionally, the US was the largest export destination for electrical machinery and equipment (HS 85) with 31.3% of the total product exports in 2024, this was followed by UAE (8.9%), Netherlands (7.2%), the UK (5.3%) and Italy (4.2%) in 2024.

**Table 4.3: Key Electrical Products Exported from India in 2024**

| HS Code | Description | Exported Value in 2015 (US$ billion) | Exported Value in 2019 (US$ billion) | Exported Value in 2024 (US$ billion) | CAGR from 2015 to 2024 (%) | Share in total product exports in 2024 (%) |
|---|---|---|---|---|---|---|
| 8517 | Telephone sets, including smartphones and other telephones for cellular networks | 0.8 | 4.3 | 22.1 | 44.8 | 55.0 |
| 8504 | Electrical transformers | 1.2 | 1.9 | 3.0 | 11.3 | 7.5 |
| 8544 | Insulated wire, cable | 0.7 | 1.1 | 2.2 | 13.1 | 5.5 |
| 8541 | Semiconductor devices | 0.2 | 0.4 | 1.8 | 28.4 | 4.5 |
| 8503 | Parts for electrics motors and generators use | 0.3 | 0.7 | 1.3 | 18.6 | 3.2 |
| | Others | 4.8 | 6.6 | 9.8 | 8.2 | 24.3 |
| | **Total** | **7.9** | **14.9** | **40.2** | **19.7** | **100.0** |

Source: ITC Trade Map and India Exim Bank Research

GVCs in electronics rely on high volumes of imported intermediates (backward linkage) and on upstream inputs like chips, tooling, and design services that are embodied in partners' exports (forward linkage). The OECD TiVA framework measures these as the foreign value added share in a country's exports (backward linkage) and domestic value added in exports of intermediate products as a share of total gross exports (forward linkage).

Among the top 10 exporting economies as shown in **Chart 4.3**, two participation models are visible. Vietnam, Mexico, Malaysia and Singapore display very high backward shares (roughly 47% to 56%), consistent with import-intensive assembly platforms tightly integrated with multinational EMS/ODM[35] networks. In contrast, the US, Taiwan, Korea and Germany exhibit high forward relative to backward shares, reflecting upstream specialisation in semiconductors, equipment, Intellectual Property (IP) and advanced components. China remains balanced at scale, whereas India shows a hybrid profile, similar to China's participation, with backward participation at around 40% and forward participation around 35%, consistent with an economy moving into deeper component and design ecosystems.

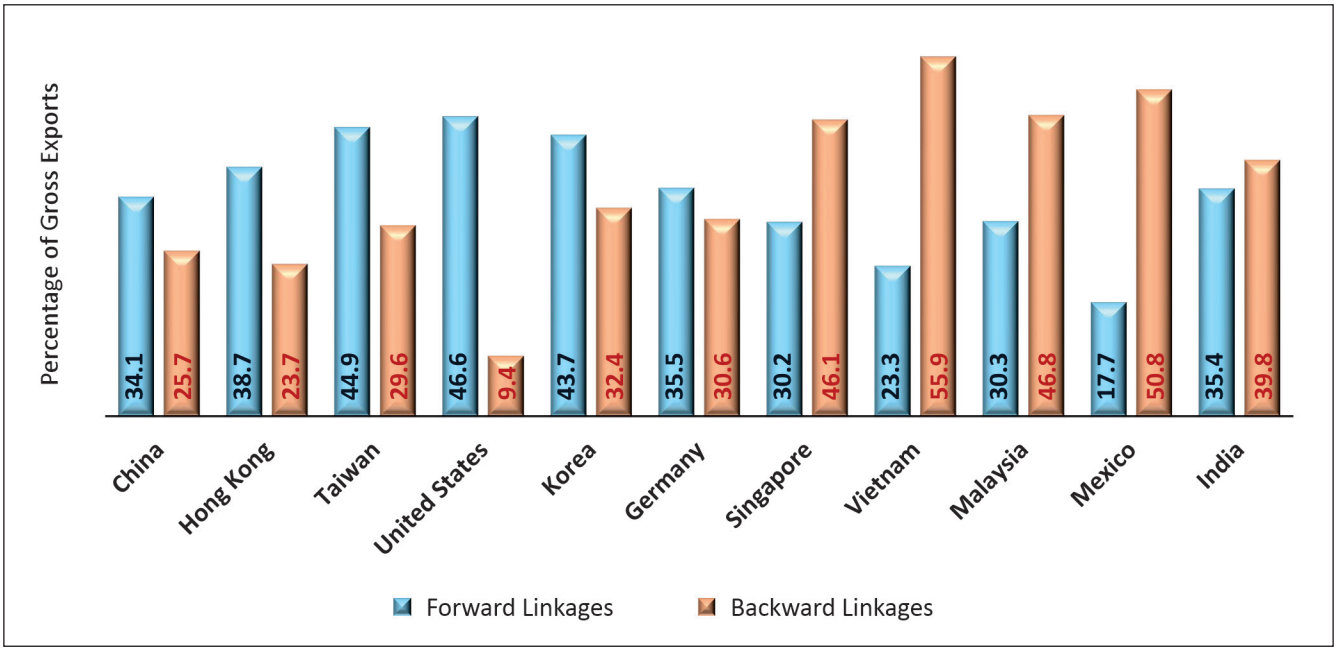
The China-Plus-One reconfiguration is already redirecting parts of smartphone and IT-hardware value chains toward India, Vietnam and Mexico. India's recent export surge has been driven by PLI-enabled smartphone assembly and the expansion of global contract manufacturers. However, this growth remains heavily assembly-led, with limited domestic value addition and high import dependence for critical components. To address this gap, India could prioritise deepening component ecosystems (like ATMP/OSAT, optics, passives, substrates[36]), improving logistics efficiency and streamlining standards compliance, and building upstream capabilities (design, embedded software and specialty materials). Strengthening these segments could reduce import dependence, improve supply chain resilience, and increase domestic value capture over time[37].

[35] Electronics Manufacturing Services (EMS) and Original Design Manufacturing (ODM)

[36] ATMP/OSAT (Assembly, Test, Marking, and Packaging) is the final, critical stage of the semiconductor value chain, transforming silicon wafers into usable chips.

[37] PIB release from Ministry of Electronics and IT - Strengthening India's position as a Global Hub for Electronics Manufacturing

**Chart 4.3: GVCs in Electrical and Electronics Industry, 2022 (as percent of gross exports)**




Note: Code 26_27, Manufacture of computer, electronic and optical products; manufacture of electrical equipment (ISIC Rev. 4 26, 27) used for analysis

Source: OECD TiVA Database, 2025 and India Exim Bank Research

**Table 4.4** compares countries on three indicators of GVC participation, namely forward linkages, DVA in gross exports, and DVA embodied in foreign final demand. Countries such as China, US, South Korea, Taiwan, and India show higher forward linkages and higher domestic value added in their exports, indicating that these economies primarily function as suppliers of intermediate goods within global production networks. However, their lower DVA in foreign final demand suggests that much of their domestic value is used by partner countries for further processing rather than directly reaching end-consumers, placing them at the upstream or earlier stages of the value chain.

In contrast, economies like Vietnam, Malaysia, Mexico, and Singapore exhibit low forward linkages and lower DVA in gross exports, reflecting heavy dependence on imported intermediates. Yet, their very high DVA in foreign final demand indicates that these countries export mainly final goods, often under assembly-heavy models such as CMT (Cut, Make, Trim). This positions them at the downstream end of the value chain, where domestic value flows directly to consumers abroad even if the domestic content is relatively low.

**Table 4.4: Electrical Equipment and Electronics Industry in GVCs, 2022**

| Country | Forward Linkages (%) | Domestic value added in gross exports (%) | Domestic value added in foreign final demand (%) |
|---|---|---|---|
| China | 34.1 | 74.3 | 45.0 |
| Hong Kong | 38.7 | 76.3 | 14.2 |
| Taiwan | 44.9 | 70.4 | 80.8 |
| US | 46.6 | 90.6 | 22.0 |
| Korea | 43.7 | 67.6 | 67.1 |

| Country | Forward Linkages (%) | Domestic value added in gross exports (%) | Domestic value added in foreign final demand (%) |
|---|---|---|---|
| Germany | 35.5 | 69.4 | 76.2 |
| Singapore | 30.2 | 53.9 | 92.4 |
| Vietnam | 23.3 | 44.1 | 90.3 |
| Malaysia | 30.3 | 53.2 | 85.7 |
| Mexico | 17.7 | 49.2 | 78.2 |
| **India** | **35.4** | **60.2** | **35.9** |

Source: OECD TiVA Database, 2025 and India Exim Bank Research

## GVC Analysis of Machinery and Mechanical Equipment

### *India's Trade Scenario*

India's exports of mechanical products have grown steadily, rising from US$ 13.2 billion in 2015 to US$ 32.5 billion in 2024, at a CAGR of 10.5% as discussed in **Table 4.5**. Growth is broad-based, with the most dynamic category being turbojets and gas turbines (HS 8411), which expanded at a strong 44% CAGR, reflecting India's increased role in supplying specialised components and assembled units for global aviation and power applications.

Other machinery categories like taps and valves (HS 8481), transmission shafts and crankshafts (HS 8483), internal combustion engine parts (HS 8409), and pumps (HS 8413), show moderate but consistent expansion (6% to 13% CAGR between 2015 and 2024). This indicates strong demand from global infrastructure, automotive, energy, and industrial engineering supply chains, where India typically occupies a mid-chain role, supplying precision components rather than final branded machinery.

**Table 4.5: Key Mechanical Products Exported from India in 2024**

| HS Code | Product Description | Exported Value in 2015 (US$ billion) | Exported Value in 2019 (US$ billion) | Exported Value in 2024 (US$ billion) | CAGR from 2015 to 2024 (%) | Share in total product exports in 2024 (%) |
|---|---|---|---|---|---|---|
| 8411 | Turbojets, turbo propellers and other gas turbines | 0.2 | 3.6 | 5.1 | 44.0 | 15.6 |
| 8481 | Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks | 1.2 | 1.5 | 2.4 | 8.3 | 7.3 |
| 8483 | Transmission shafts, including camshafts and crankshafts, and cranks | 0.7 | 1.2 | 2.1 | 13.1 | 6.5 |
| 8409 | Parts suitable for use solely or principally with internal combustion piston engine | 0.9 | 1.1 | 1.6 | 6.2 | 5.0 |

| HS Code | Product Description | Exported Value in 2015 (US$ billion) | Exported Value in 2019 (US$ billion) | Exported Value in 2024 (US$ billion) | CAGR from 2015 to 2024 (%) | Share in total product exports in 2024 (%) |
|---|---|---|---|---|---|---|
| 8413 | Pumps for liquids, whether or not fitted with a measuring device (excluding ceramic pumps) | 0.7 | 1.0 | 1.5 | 8.5 | 4.6 |
| | Others | 9.5 | 12.9 | 19.9 | 8.5 | 61.1 |
| | **Total** | **13.2** | **21.3** | **32.5** | **10.5** | **100.0** |

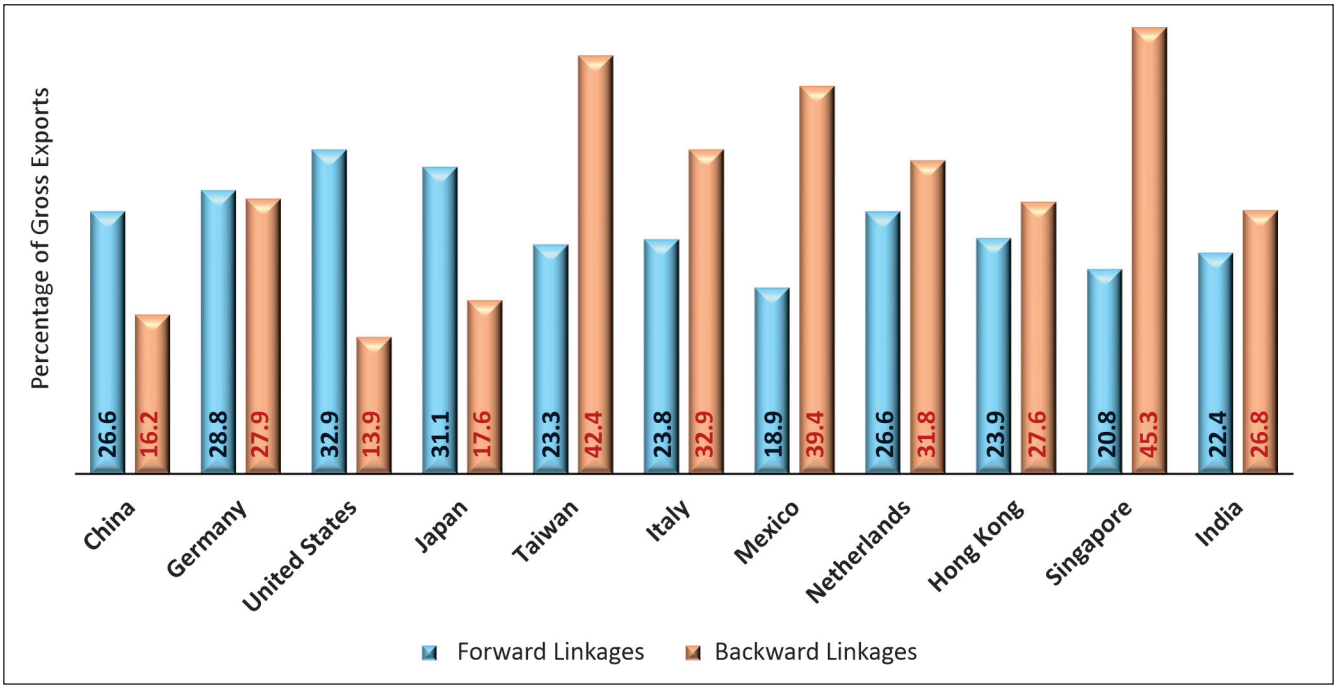
Source: ITC Trade Map and India Exim Bank Research

GVC participation in the machinery industry reflects a clear division between countries that operate as upstream suppliers of high-technology components and those positioned as downstream assembly hubs **(Chart 4.4)**. Countries such as Germany, Japan, Taiwan, and the US exhibit higher forward linkages, reflecting their role as upstream suppliers of precision machinery, components and capital goods used by partner countries in further production. Their forward-leaning profiles indicate strong technological capabilities and deep integration at the input-providing stages of global value chains.

In contrast, economies like Mexico, Singapore, and Taiwan show very high backward linkages, signalling heavy dependence on imported intermediate machinery components for assembly, processing, or re-export. This pattern aligns with their position as assembly or processing oriented hubs, where value creation is driven by imported inputs embedded in final or near-final machinery shipments.

India, with moderate forward linkages (22.4%) and elevated backward linkages (26.8%), reflects a mid-chain position, import-dependent for specialised parts yet increasingly supplying components to global machinery networks. This intermediate profile suggests that strengthening domestic component ecosystems could raise India’s forward linkages, while improving technological depth would reduce reliance on imported machinery inputs over time.

**Chart 4.4: GVCs in Machinery and Mechanical Equipment, 2022 (as percent of gross exports)**




Note: Code C28, Manufacture of machinery and equipment n.e.c (ISIC Rev. 4, 28) used for analysis

Source: OECD TiVA Database, 2025 and India Exim Bank Research

The US and Japan exhibit **(Table 4.6)** higher forward linkages (around 33% and 31%) and very high DVA in gross exports (>82%) but lower DVA in foreign final demand (around 25% to 45%), underscoring upstream, input-supplier roles in precision machinery and capital goods. Germany has a balanced domestic content with substantial reach to final markets. By contrast, Mexico, France, Belgium, Canada, and Spain show lower forward linkages (around 19% to 24%) yet high DVA in foreign final demand (around 65% to 90%), consistent with assembly and export platforms whose shipments flow directly to end consumers abroad. China mirrors an earlier-chain, input-oriented role despite very high domestic content (83.8%). India is in mid-chain, growing domestic engineering content, but much of India's value is still embodied in partners' exports rather than sold as Indian-made finished machinery, pointing to the need to deepen component ecosystems and expand downstream capabilities.

**Table 4.6: Machinery and Mechanical Equipment Industry in GVC, 2022**

| Country | Forward Linkages (%) | Domestic value added in gross exports (%) | Domestic value added in foreign final demand (%) |
|---|---|---|---|
| Germany | 28.8 | 72.1 | 63.1 |
| China | 26.6 | 83.8 | 21.7 |
| Mexico | 18.9 | 60.6 | 85.4 |
| Japan | 31.1 | 82.4 | 45.4 |
| US | 32.9 | 86.1 | 25.2 |
| Korea | 24.5 | 65.8 | 43.3 |
| Spain | 24.2 | 66.0 | 66.3 |
| Belgium | 22.4 | 56.4 | 90.4 |

| Country | Forward Linkages (%) | Domestic value added in gross exports (%) | Domestic value added in foreign final demand (%) |
|---|---|---|---|
| Canada | 21.3 | 66.3 | 65.1 |
| France | 23.3 | 65.7 | 82.4 |
| **India** | **22.4** | **73.2** | **28.1** |

Source: OECD TiVA Database, 2025 and India Exim Bank Research

## GVC Analysis for Motor Vehicle and Transport Equipment Industry

### *India's trade Scenario*

India's automotive exports have grown steadily from US$ 14.1 billion in 2015 to US$ 22.1 billion in 2024, expanding at a CAGR of 5.1% as shown in **Table 4.7**. The largest segment is parts and accessories (HS 8708), which accounts for 34.1% of total auto exports, reflecting India's strong role as a component supplier in global automotive value chains. Exports of motor cars (HS 8703) have remained stable at around US$ 7 billion, while motorcycles (HS 8711) show healthy growth (6.6% CAGR) as India continues to be a leading global producer. The US accounted for 12.1% of the total product exports (HS 87) in 2024, followed by Mexico (8.6%), Saudi Arabia (7%), South Africa (6.7%), the UAE (4.4%) during the same year.

**Table 4.7: Key Automotive Products Exported from India in 2024**

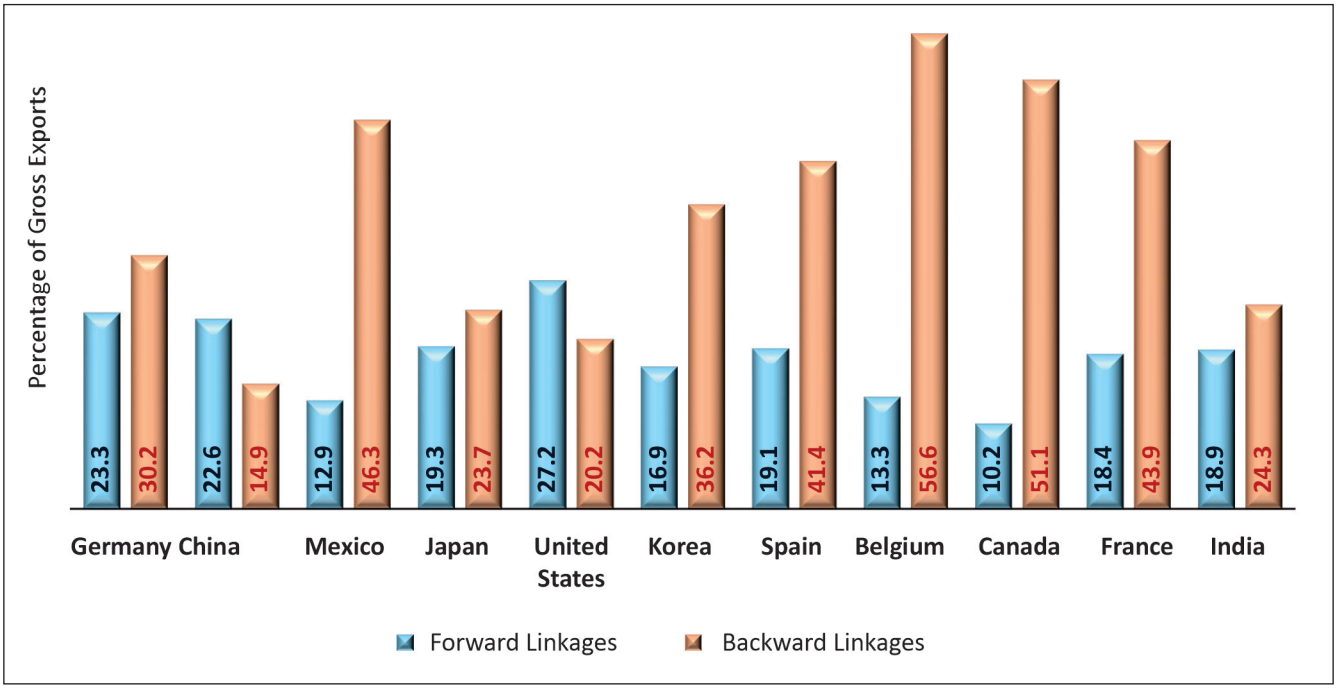
| HS Code | Product Description | Exported Value in 2015 (US$ billion) | Exported Value in 2019 (US$ billion) | Exported Value in 2024 (US$ billion) | CAGR from 2015 to 2024 (%) | Share in total product exports in 2024 (%) |
|---|---|---|---|---|---|---|
| 8708 | Parts and accessories for tractors, motor vehicles for the transport of ten or more persons | 3.9 | 5.0 | 7.5 | 7.6 | 34.1 |
| 8703 | Motor cars and other motor vehicles principally designed for the transport of persons | 5.4 | 7.0 | 7.0 | 2.9 | 31.6 |
| 8711 | Motorcycles | 1.8 | 2.1 | 3.2 | 6.6 | 14.3 |
| 8704 | Motor vehicles for the transport of goods | 0.8 | 1.0 | 1.4 | 6.8 | 6.4 |
| 8701 | Tractors | 1.0 | 0.8 | 1.1 | 1.4 | 5.1 |
| | Others | 1.2 | 1.5 | 1.9 | 4.8 | 8.5 |
| | **Total** | **14.1** | **17.4** | **22.1** | **5.1** | **100.0** |

Source: ITC Trade Map and India Exim Bank Research

Germany, Japan and the US display high forward linkages **(Chart 4.5)**, signalling upstream strengths in precision components, tooling and capital equipment that are embodied in partners' exports. In contrast, Mexico, Spain, Belgium, Canada and France show high backward linkages, indicating assembly or processing-led roles that rely on imported intermediates and re-export to final markets. China appears more balanced but backward-leaning, consistent with large-scale assembly anchored by broad supplier networks, while India sits mid-chain with moderate forward and backward linkages, supplying engineered parts yet still dependent

on imported high-specification inputs, particularly in emerging electric vehicle (EV) markets, to meet safety standards, performance requirements, and technological advancements. India's path to deeper value capture is to scale domestic component ecosystems (including EV or advanced modules) and build downstream capabilities so a larger share of Indian value reaches foreign final demand[38].

**Chart 4.5: GVCs in Motor Vehicle and Transport Equipment, 2022 (as percent of gross exports)**




Note: Code C29, Manufacture of motor vehicles, trailers and semi-trailers (ISIC Rev. 4, 29) used for analysis

Source: OECD TiVA Database, 2025 and India Exim Bank Research

The US and China together exhibit higher forward linkages **(Table 4.8)** with low final-demand reach, indicating upstream or input-supplier roles where domestic value is mostly re-exported by partners. Germany and Japan are more balanced, with strong domestic content and substantial connection to end markets, consistent with sophisticated machinery and auto ecosystems. By contrast, Mexico, Belgium, Canada and Spain show lower forward linkages but high DVA in foreign final demand, typical of assembly or export platforms that rely on imported intermediates and ship finished goods to consumers abroad. Korea occupied the mid-chain, while India mirrors an earlier-chain, input-oriented profile with high domestic content and moderate forward linkages, but limited direct reach to foreign consumers, pointing to the need to deepen component ecosystems and expand downstream and branding to lift final-demand penetration.

[38] PIB release - Automotive Industry: Powering India's Participation in Global Value Chains (GVCs)

**Table 4.8: Motor Vehicle and Transport Equipment Industry in GVC, 2022**

| Country | Forward Linkages (%) | Domestic value added in gross exports (%) | Domestic value added in foreign final demand (%) |
|---|---|---|---|
| Germany | 23.3 | 69.8 | 56.0 |
| China | 22.6 | 85.1 | 17.6 |
| Mexico | 12.9 | 53.7 | 75.7 |
| Japan | 19.3 | 76.3 | 59.5 |
| US | 27.2 | 79.8 | 13.2 |
| Korea | 16.9 | 63.8 | 50.1 |
| Spain | 19.1 | 58.6 | 66.4 |
| Belgium | 13.3 | 43.4 | 75.2 |
| Canada | 10.2 | 48.9 | 70.0 |
| France | 18.4 | 56.1 | 60.4 |
| **India** | **18.9** | **75.7** | **15.7** |

Source: OECD TiVA Database, 2025 and India Exim Bank Research

## GVC Analysis for Plastics and its Articles

### *India's Trade Scenario*

India's plastics exports rose from US$ 5 billion (2015) to US$ 8.1 billion (2024), a 5.5% CAGR, with growth led by plates, sheets and films (HS 3920) and articles for packaging (HS 3923), reflecting steady demand of CAGR 7% and 8.5% during the period of study.

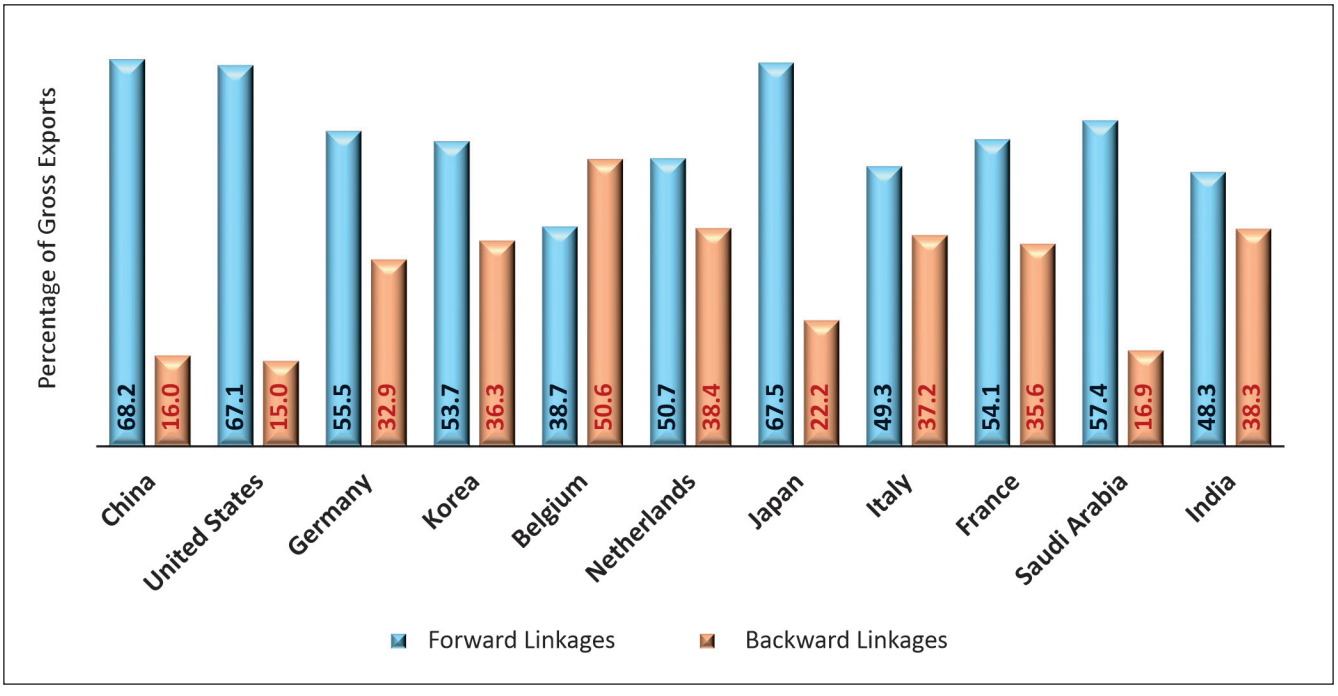
**Table 4.9: Key Plastic Products Exported from India in 2024**

| HS Code | Product Description | Exported Value in 2015 (US$ billion) | Exported Value in 2019 (US$ billion) | Exported Value in 2024 (US$ billion) | CAGR from 2015 to 2024 (%) | Share in total product exports in 2024 (%) |
|---|---|---|---|---|---|---|
| 3920 | Plates, sheets, film, foil and strip, of non-cellular plastics | 0.8 | 1.0 | 1.4 | 7.0 | 17.2 |
| 3923 | Articles for the conveyance or packaging of goods, of plastics | 0.5 | 0.9 | 1.1 | 8.5 | 14.1 |
| 3926 | Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s. | 0.6 | 0.6 | 0.9 | 4.9 | 10.9 |
| 3907 | Polyacetals, other polyethers and epoxide resins, in primary forms | 0.7 | 1.2 | 0.8 | 0.9 | 9.9 |
| 3901 | Polymers of ethylene, in primary forms | 0.2 | 1.1 | 0.6 | 13.4 | 7.1 |
| | Others | 2.2 | 2.5 | 3.3 | 4.6 | 40.8 |
| | **Total** | **5.0** | **7.4** | **8.1** | **5.5** | **100.0** |

Source: ITC Trade Map, and India Exim Bank Research

**Chart 4.6** contrasts forward and backward linkages across major plastics exporters. China, Italy, the US, Japan, France and Saudi Arabia show very high forward linkages (around 49% to 68%), signalling strong upstream roles as suppliers of polymers, compounds and intermediate plastic materials that are embodied in partners' exports. In contrast, Belgium, the Netherlands, South Korea and India display higher backward linkages (around 32% to 38%), indicating greater reliance on imported resins or intermediates for processing and conversion before re-export. India's mix (forward linkage of 48% and backward linkage of 38%) suggests a mid-chain profile, a growing converter or exporter of films, packaging and plastic articles, yet still dependent on imported feedstocks.

**Chart 4.6: GVCs in Plastics and its Articles, 2022 (as percent of gross exports)**




Note: Code 22, Manufacture of plastics products (ISIC Rev. 4, 22) used for analysis

Source: OECD TiVA Database, 2025 and India Exim Bank Research

**Table 4.10** shows that countries like China, the US, Japan, France, and Saudi Arabia exhibit very high forward linkages alongside strong domestic value added in gross exports, indicating their role as upstream suppliers of key plastic resins, polymers, and intermediate materials that feed into global manufacturing networks. In contrast, economies such as Belgium, the Netherlands, Korea, and to some extent India, display lower forward linkages but higher domestic value added in foreign final demand, reflecting their positioning as downstream converters and processors that rely significantly on imported feedstock but export a larger share of finished or semi-finished plastic articles directly to end markets abroad.

India's profile, with forward linkages of 48.3% and relatively low DVA in foreign final demand (24.8%), suggests a mid-chain role, where India participates both as a supplier of certain intermediate plastic products and as a converter (takes primary polymers or resins and converts them into semi-finished or finished plastic products) exporting films, sheets, packaging, and moulded goods, yet still relies on imported primary polymers. Strengthening domestic resin capacity, speciality chemical inputs, and high-value plastic processing could help India deepen its GVC integration and move further downstream in the value chain.

**Table 4.10: Plastics and its Articles Industry in GVC, 2022**

| Country | Forward Linkages (%) | Domestic value added in gross exports (%) | Domestic value added in foreign final demand (%) |
|---|---|---|---|
| China | 68.2 | 84.0 | 33.5 |
| US | 67.1 | 85.0 | 16.0 |
| Germany | 55.5 | 67.1 | 60.2 |
| Korea | 53.7 | 63.7 | 49.8 |
| Belgium | 38.7 | 49.4 | 82.7 |
| Netherlands | 50.7 | 61.6 | 72.4 |
| Japan | 67.5 | 77.8 | 39.0 |
| Italy | 49.3 | 62.8 | 54.2 |
| France | 54.1 | 64.4 | 63.5 |
| Saudi Arabia | 57.4 | 83.1 | 47.1 |
| **India** | **48.3** | **61.7** | **24.8** |

Source: OECD TiVA Database, 2025 and India Exim Bank Research

India's integration into global value chains is marked by a consistent mid-chain positioning, where the country contributes meaningfully to domestic value added yet remains dependent on imported intermediates in several sectors.

Strengthening India's GVC participation will therefore require strategies involving deepening of domestic ecosystems (components, materials, tooling, testing) to reduce dependence on imported feedstock and intermediates; and moving further downstream by expanding capabilities in final goods, branding, design, and higher-value product engineering so that a growing share of India's value reaches foreign final consumers. Together, these shifts can enhance India's global competitiveness, elevate its share in world trade, and position the country more firmly along the higher-value segments of global value chains.

Chapter

# Policy Recommendations and Way Forward

## Evolution of India's Trade Dynamics

India's trade dynamics over the decades, reflect a long tradition of innovation and global integration—from ancient Silk Route trade to the post-liberalisation surge that broadened exports beyond spices and textiles to include technology, pharmaceuticals, and advanced engineering goods. In 2024, India's manufactured exports accounted for 67.1% of the total merchandise exports, vis-à-vis the world average of 69.5% during the same year[39]. According to World Bank data, global exports grew 2.5% in 2024, while India's exports expanded by 7.1%, underscoring its rising international competitiveness[40]. This progress is shaped by the diverse economic strengths of India's States and Union Territories, whose varying industrial bases, infrastructure, skills, and institutional capacities determine which sectors scale rapidly, which districts emerge as export hubs, and where key bottlenecks remain.

### *Government of India's Recent Support Initiatives*

In order to improve India's export performance, the Government has implemented several proactive measures to enhance domestic capacities, strengthen exports, diversify supply chains, and improve economic resilience. Key initiatives include the Foreign Trade Policy (2023) and Export Promotion Mission (2025), which aim to integrate India more competitively into global markets, besides the establishment of Export Facilitation Centres (EFCs) and Districts as Exports Hub (DEH) to mentor and support exporters through targeted export promotion activities, among others. Schemes such as the Trade Infrastructure for Export Scheme (TIES), Market Access Initiatives (MAI), Rebate of State and Central Levies and Taxes (RoSCTL), and Remission of Duties and Taxes on Exported Products (RoDTEP) have also been extended across sectors to boost export competitiveness, attract investment, and improve ease of doing business. The Government has also introduced the Trade Connect e-Platform and a common digital platform for Certificate of Origin to streamline information access and link exporters with relevant support channels. It is designed to simplify outreach, improve coordination, and make export-related assistance more accessible for both new and existing exporters. The Indian missions abroad are also actively involved in promoting India's trade, tourism, technology, and investment goals. Regular monitoring of export performance with Commercial Missions abroad, Export Promotion Councils, Commodity Boards/Authorities and Industry Associations is being done, and corrective measures are being taken from time to time.

[39] World Development Indicator, World Bank
[40] Export Surge: India Steps Up on Global Stage (PIB, October 2025)

### *India's Integration with Global Trade*

With regard to the global merchandise trade, China had a 14.6% share of global merchandise exports, while the United States accounted for 8.5% share in 2024, occupying the first and second positions, respectively. In comparison, India's footprint in world merchandise exports has remained virtually unchanged, inching up only marginally from 1.7% in 2014 to 1.8% in 2024[41]. During the same period, India's merchandise trade as a share of its GDP has slipped from 38.5% in 2014 to 29.7% in 2024[42], reflecting a relatively inward shift even as the global economy became more interconnected. These figures highlight how India's export growth has not yet translated into a proportionate rise in global market share, underscoring the need for deeper competitiveness, diversification, and scale in its manufacturing and trade ecosystem.

India's export performance has been affected less by the absence of support schemes and more by structural factors that influence overall competitiveness. Several constraints, such as scale limitations in manufacturing, relatively higher logistics, documentation and transaction costs, and complexities arising from inverted duty structures continue to shape export outcomes. In addition, regulatory burdens, frequent litigation, and India's limited participation in global value chains have constrained the ability of exporters to integrate smoothly into international markets. India's integration with global trade has been losing momentum over the past decade. Import policies that maintain higher tariff and non-tariff barriers, often to protect upstream industries, can also raise input costs for downstream, export-oriented sectors, affecting their ability to compete globally.

**Box 5.1: India's Engagements through Free Trade Agreements**

The evolving global context characterised by heightened volatility, geopolitical tensions, inflationary pressures and supply chain disruptions, require countries to work on a resilient and diversified export strategy. To wade through the current global geo-economic fragmentation, characterised by increased protectionist measures, India is increasingly engaging with partner countries through bilateral free trade agreements. India's external sector has been transforming in the context of a global landscape marked by rising trade policy uncertainty, shifting geopolitical alliances, and a structural shift away from a hyper-globalisation phase.

Globally, trade agreements have proliferated since the early 2000s. As of January 13th, 2026, 380 regional trade agreements (RTAs) were in force. These correspond to 628 notifications from World Trade Organisation (WTO) members, counting goods, services and accessions separately.

Between 2000 and 2025, India concluded 15 new trade agreements with more than 35 countries, along with three preferential trade agreements (PTAs) covering seven countries. Seven of these agreements were signed before 2011, primarily with partners in Southeast and East Asia. Over the past decade, India's foreign trade policy has shifted toward a strategy focused on deeper global integration, broader diversification of trade relationships, and stronger export competitiveness. A major point of inflection came during India's participation in negotiations for the Regional Comprehensive Economic Partnership (RCEP), involving ASEAN members along with Australia, China, Japan, New Zealand, and South Korea. India withdrew from the RCEP talks in November 2019 due to concerns about exposing its dairy sector to greater competition and the possibility of sharp increase in imports. After stepping away from RCEP,

[41] World Development Indicator, World Bank
[42] WTO Stats

India redirected its efforts toward bilateral trade agreements with individual countries or regional blocs, where it could negotiate tariff terms more effectively. India's trade agreements since 2021, have mainly been comprehensive ones that include wider economic cooperation.

India accelerated its trade engagement, finalising eight major pacts: the Comprehensive Economic Cooperation and Partnership Agreement (CECPA) with Mauritius, implemented in April 2021; the Comprehensive Economic Partnership Agreement (CEPA) with the UAE in May 2022; the Economic Cooperation and Trade Agreement (ECTA) with Australia in December 2022; and the Trade and Economic Partnership Agreement (TEPA) with the European Free Trade Association (EFTA) comprising Switzerland, Iceland, Liechtenstein and Norway, which entered into force in October 2025. India recently signed free trade agreement with the UK in July 2025; the trade agreement with Oman signed in December 2025. Additionally, negotiations with New Zealand were concluded in December 2025, and India finalised its trade agreements with the European Union, and the US in January 2026.

## Key Policy Recommendations

### *Strengthening India's Export Basket*

An examination of India's RCA profile indicates that the country holds competitive strength in several product categories that also correspond to sizeable global import demand, with products with RCA>1 accounting for 40.6% of world imports (at HS 2-digit level). Leveraging these strengths while simultaneously nurturing underperforming yet high-potential sectors is critical for enhancing India's export dynamism and positioning the country more strategically within global value chains. In the short to medium run, focusing on product champions which include the products that have exhibited high export competitiveness as well as high global import demand would yield substantial results. The products identified in this category include, petroleum products, smartphones, medicaments, rice, gems and jewellery among others. In addition to product champions, focusing on building export capabilities of the identified underachiever product categories with high global import demand would facilitate higher exports in the medium to long run.

Dedicated focus by the Export Promotion Councils for sector specific export promotion mechanisms, rigorous marketing and branding activities and adequate infrastructural support could provide a huge impetus to the exports. In addition, as global markets increasingly prioritise circularity and low-carbon production, India could benefit from investing more in recycling ecosystems, especially in sectors like textiles, plastics, electronics, and metals. Encouraging exports of recycled materials (e.g., recycled textile waste) not only strengthens India's sustainability profile but also aligns export capabilities with emerging regulatory norms in advanced economies. Global experience demonstrates that sustained export success is closely linked with investment depth in the sectoral ecosystem. As in the case of smartphone manufacturing, strategic investments, both domestic and foreign, drive local supplier development and technological upgrading. Adopting a product-centric investment strategy, offering incentives that are tailored to the unique needs of each product category in which India's RCA is strong or can be improved could help to strengthen the export basket. Besides investments, availability of skilled labour also plays a crucial role in enhancing the export competitiveness of sectors. To ensure the same, investments need to be scaled up in developing high quality skill development centres which map the needs of the industry and accordingly enable continuous skilling of the labour force.

### *Deepening India's GVC Integration*

A China-Plus-One reconfiguration of global production offers India a time-bound opportunity to embed itself more deeply into priority value chains, most notably electronics, machinery, automotive, and plastics/ chemicals, by positioning as a reliable, cost-competitive, and standards-aligned complement to China, rather than a complete substitute. Realising this opportunity requires a coordinated strategy across technology, trade policy, services integration, targeted FDI, and infrastructure that shifts India's role from assembly-weighted participation toward higher domestic value addition in intermediate exports and domestic value embodied in foreign final demand.

Technological upgradation and innovation are vital for upgrading in a China-Plus-One setting, as value capture accrues disproportionately to upstream activities including design, materials science, process engineering, and specialised components. Strengthening intellectual property protection, accelerating patent processing, and improving commercialisation pathways will be pivotal to stimulate private-led investment in R&D and to attract high-technology anchor-tenant MNCs, whose entry typically mobilises global supplier networks and accelerates ecosystem upgrading[43].

Deeper trade agreements for seamless movement of intermediate goods, regulatory alignment, and flexible rules of origin could strengthen integration into GVCs. For India, this entails prioritising mutual recognition of testing, certification, and product-safety standards; adopting predictable rules of origin with diagonal cumulation[44] for efficient sourcing from East Asia and Europe; and incorporating strong provisions on investment, competition, and digital trade. In addition, targeted FDI is likely the fastest route to get embedded in the GVC in this dynamic landscape, as foreign subsidiaries bring capital, process know-how, pre-qualified vendors, and established governance practices that can be diffused through local vendor ecosystems. Incentives should be product and segment specific, linked to supplier development, standards transfer, and export commitments so that foreign investment translates into rising domestic value addition over time. Targeted incentives to develop critical components, such as rare earth permanent magnets and specialised chemical manufacturing, would enable India to integrate more deeply into strategic GVCs by strengthening upstream capabilities, supporting process upgrading, and aligning with global diversification trends.

India can maximise China-Plus-One benefits by aligning broad reforms with sector-specific strategies. In electronics, the focus should be on leveraging relocated assembly while building a stronger component and design-testing ecosystem. Machinery offers scope to expand precision subsystems and service-linked exports, while the EV transition in automotive enables movement into higher-value battery, power-electronic and safety-system niches. A National Manufacturing Mission[45] focused on indigenous technology would accelerate India's integration into global value chains by enabling coordinated technological upgradation, strengthening cluster capabilities, and bridging the gap between experiments and large-scale adoption. In plastics and chemicals, upgrading into performance and specialty segments, supported by circularity standards, could strengthen India's role as a key intermediate supplier.

[43] WTO – Global Value Chain Development Report, 2019 and UNCTAD – World Investment Report

[44] Provision under agreements between more than two countries, that allows members to use products originating in the others without the final good losing its originating status. (European Commission, Glossary)

[45] National Manufacturing Mission to cover Small, Medium and Large Industries for Furthering "Make In India" Announced in Union Budget 2025-26 (PIB, February 2025)

### *Exporting Under Trade Uncertainty*

The rapid rise of protectionism and escalating trade disputes has created a challenging environment for Indian exporters, who now face higher tariffs, unpredictable policy shifts, and more complex compliance requirements across global markets. As India strives to expand its export footprint, this uncertainty can delay critical investment, weaken supply-chain efficiency, and reduce the country's competitiveness.

To remain resilient, Indian businesses (especially MSME exporters) should strengthen supply-chain visibility using advanced AI and digital tools, diversify their supplier and customer bases across multiple geographies, and build strong cybersecurity and risk-management frameworks to protect operations in an increasing digital trade ecosystem. Indian exporters must adopt proactive strategies to navigate sudden disruptions in trade policy. Engaging in structured scenario planning will allow firms to anticipate the effects of tariff changes, trade restrictions, or geopolitical tensions on their export operations, and respond quickly with contingency plans.

To strengthen the resilience of India's export ecosystem against abrupt shifts in global trade conditions, policy makers may consider constructing a comprehensive Early Warning System (EWS) anchored on high-frequency indicators (HFIs). The EWS should be designed to detect incipient stress across logistics, demand, and financial channels, enabling timely policy action before adverse effects spreads through exporters and MSMEs. The framework could be constructed in consultation with relevant stakeholders and subject experts, ensuring that it incorporates informed perspectives.

Core indicators for developing the EWS based on HFIs may include port cargo across major Indian gateways, as a measure of logistical activity and external demand; prices of crude oil and petroleum products, and container freight rates. These HFIs are central to understanding real-time pressures on export margins, delivery schedules, and working capital cycles, particularly for MSMEs with limited buffers. Additionally, global shipping transit times on critical maritime routes, such as the Suez Canal or the Strait of Hormuz can be a signal of operational disruptions; export order books and Purchasing Managers' Indices (PMIs) in India, could also provide forward-looking insights into external demand.

Upon threshold breaches, for example, a 20% spike in container prices, or a continued fall in port traffic, the system could automatically escalate the issue for policy review. This can expedite the temporary logistics facilitation, targeted freight or insurance support for time-sensitive sectors and commodities, acceleration of export credit disbursements to ease liquidity constraints. This can also reduce the lags in credit support, safeguard MSME viability, and preserve India's export competitiveness amid evolving global uncertainties.

### *Enhancing the Efficiency of India's Logistics Ecosystem*

The logistics sector is essential to a country's economic growth, ensuring the smooth movement of goods and services across regions. In India's fast-growing economy, logistics forms the foundation of trade and commerce, influencing business competitiveness, sectoral productivity, and overall ease of doing business.

Until recently, India's logistics costs were often overestimated. Commonly cited figures of 13-14% of GDP were based on partial or external data. This led to confusion in policymaking and misperceptions globally. A study titled Assessment of Logistics Cost in India, conducted by the Department for Promotion of Industry and Internal Trade (DPIIT), in collaboration with the National Council of Applied Economic Research (NCAER), has placed India's logistics cost at 7.9% of GDP and 9.1% percent of non-services output for 2023-2024. However,

the sector's high costs stem from challenges such as inadequate infrastructure, fragmented supply networks, regulatory complexities, and gaps in multimodal transport and last-mile delivery inefficiency.

It is important to address certain prominent bottlenecks affecting the logistics sector. First, India's road logistics network carries about 71% of the total cargo, far exceeding railways at 27-28%, while waterways and airways account for only the small remainder. Despite its dominance, road transport is the most expensive option, costing about ₹ 3.8 per tonne per kilometre, followed by waterways and rail. The overdependence on roadways despite the high costs is uneconomical. To improve efficiency and reduce costs, India could expand the use of alternative transport modes and develop multimodal terminals that seamlessly integrate road, rail, waterways, and sea routes for a more balanced and economical logistics system.

Second, despite the rollout of GST, trucks still face delays at some interstate borders due to permit checks and local charges, thereby increasing transit time. The sector also suffers from a shortage of long-distance drivers, raising labour costs and causing downtime. Delays at loading and unloading points, due to inadequate facilities, congestion, or weather, reduce asset utilisation. Further, major inefficiency is the limited availability of backhaul loads, resulting in nearly 40% empty truck runs, which increases costs, fuel use, and emissions. Smaller fleet owners are particularly affected due to limited digital access, leading to further delays and higher operating expenses.

A possible solution is to build a digital app-based ecosystem that connects nation-wide shippers with verified and certified truck drivers in real time. The platform can display empty trucks returning from routes, enabling immediate bookings and reducing empty mileage. Integrated features such as constant GPS monitoring, digital documentation, and built-in freight and theft insurance could enhance safety and transparency. This system would improve drivers' working conditions, ensure timely payments, and increase trip security.

### *Resolving Inverted Duty Challenges with GST Reforms*

An inverted duty structure (IDS) under the Goods and Services Tax arises when the tax rate on inputs is higher than the rate applied to the finished goods. In IDS, businesses end up paying higher taxes for inputs, and thus, the cost of production increases. The higher production costs make the final goods more expensive, thereby affecting the competitive edge in both domestic and international markets. Further, it causes businesses to accumulate excess Input Tax Credit (ITC) that they cannot fully utilise against their output tax liability, leading to working-capital pressures.

In September 2025, the Government of India rolled out a major GST reform package featuring rate rationalisation, a simplified two-slab structure of 5% and 18%, and broad rate reductions across essential, labour-intensive and agriculture-related sectors. The goal is to streamline compliance, correct inverted duty structures, and stimulate demand by lowering costs for consumers. This shift replaces the earlier complex multi-tiered system and is expected to enhance competitiveness while making filing processes more efficient.

A key correction under the package addresses the inverted duty structure in the fertiliser sector. Previously, several key chemical inputs attracted an 18% GST while fertilisers (final product) were taxed at 5%. By reducing GST on major inputs, such as ammonia and sulphuric acid to 5%, the government has significantly lowered production costs and it is expected to save the industry billions in refunds. Similarly, for textiles, the inverted

duty structure in the sector has been corrected with reduction of GST rate on man-made fibre from 18% to 5% and man-made yarn from 12% to 5%[46].

However, the GST reforms have not fully resolved the inverted duty structure across all sectors. In pharmaceuticals, reducing GST on all medicines from 12% to 5% and exempting several lifesaving drugs has improved affordability and access. GST on medical devices and pharma job work services has also been reduced to 5%. Yet GST on key inputs such as Active Pharmaceutical Ingredients (APIs) and Key Starting Materials (KSMs) remain at 18%. With output taxed at 5%, the inversion has widened, leading to greater accumulation of input tax credit and potential working-capital pressure, despite the provision for a 90% provisional ITC refund[47]. Similarly, several packaged foods and consumer goods now fall under the 5% GST slab, but many of their packaging inputs, such as kraft paper, laminates and certain adhesives, remain taxed at higher rates. This mismatch has created numerous small but widespread instances of inverted duty across FMCG supply chains, collectively blocking considerable working capital for manufacturers.

Recent adjustments to the GST system represent meaningful progress toward rationalising India's tax framework. However, the persistence and in some cases widening of the inverted duty structure highlights that significant work still remains. Going forward, India's focus should be on gradually narrowing these rate differentials to minimise distortions. A more balanced, streamlined GST regime, aligned with global best practices would help reduce cost inefficiencies, strengthen domestic manufacturing ecosystems, and ultimately make Indian exports more competitive on the world stage.

### *Carbon-Aligned Competitiveness*

GVCs are increasingly shaped by climate-related trade measures as economies transition towards net-zero pathways. One of the most critical concerns in this transition is carbon leakage, which occurs when stringent climate policies in one jurisdiction lead to the relocation of carbon-intensive production to countries with weaker environmental regulations. Instead of reducing global emissions, such shifts merely displace emissions geographically, often increasing them due to less efficient production methods and higher transportation emissions. For GVCs, EU's Carbon Border Adjustment Mechanism (CBAM) means that embedded carbon intensity, not just price or quality, will increasingly determine market access. For countries like India, which participate across multiple carbon-intensive value chains, CBAM has important implications. First, exporters must track, report, and verify embedded emissions in a manner consistent with EU methodologies. This requires robust MRV (Monitoring, Reporting and Verification) frameworks, accredited testing laboratories, and digital systems for emissions accounting across production stages. Second, Indian industries will need to accelerate adoption of low-carbon technologies such as renewable-based electricity, electric arc furnaces, green hydrogen, carbon capture systems, and waste-heat recovery to remain competitive. Third, upgrading value chains to reduce emissions at the intermediate-goods stage is especially critical, since many of India's export strengths like steel products, aluminium, chemicals, auto components, are upstream in GVCs where CBAM exposure is the highest. Proactive alignment with emerging carbon-accounting norms, accelerated technological upgradation, and strategic international engagement will be central to safeguarding market access and enhancing the resilience of India's GVC participation.

[46] GST Reforms 2025: Relief for Common Man, Boost for Businesses (PIB, Oct 2025)
[47] Impact of GST rate rationalisation on the Pharma sector (EY Report, Sept 2025)

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As part of its endeavour in enriching the knowledge of Indian exporters and thereby to enhance their competitiveness, India Exim Bank periodically conducts research studies. These research studies are broadly categorized into three segments, viz. sector studies, country studies and macro-economic related analysis. These studies are published in the form of Occasional Papers, Working Papers and Special Publications. The research papers that are brought out in the form of Working Papers are done with swift analysis and data collation from various sources. The research papers under the series provide an analytical overview on various trade and investment related issues.

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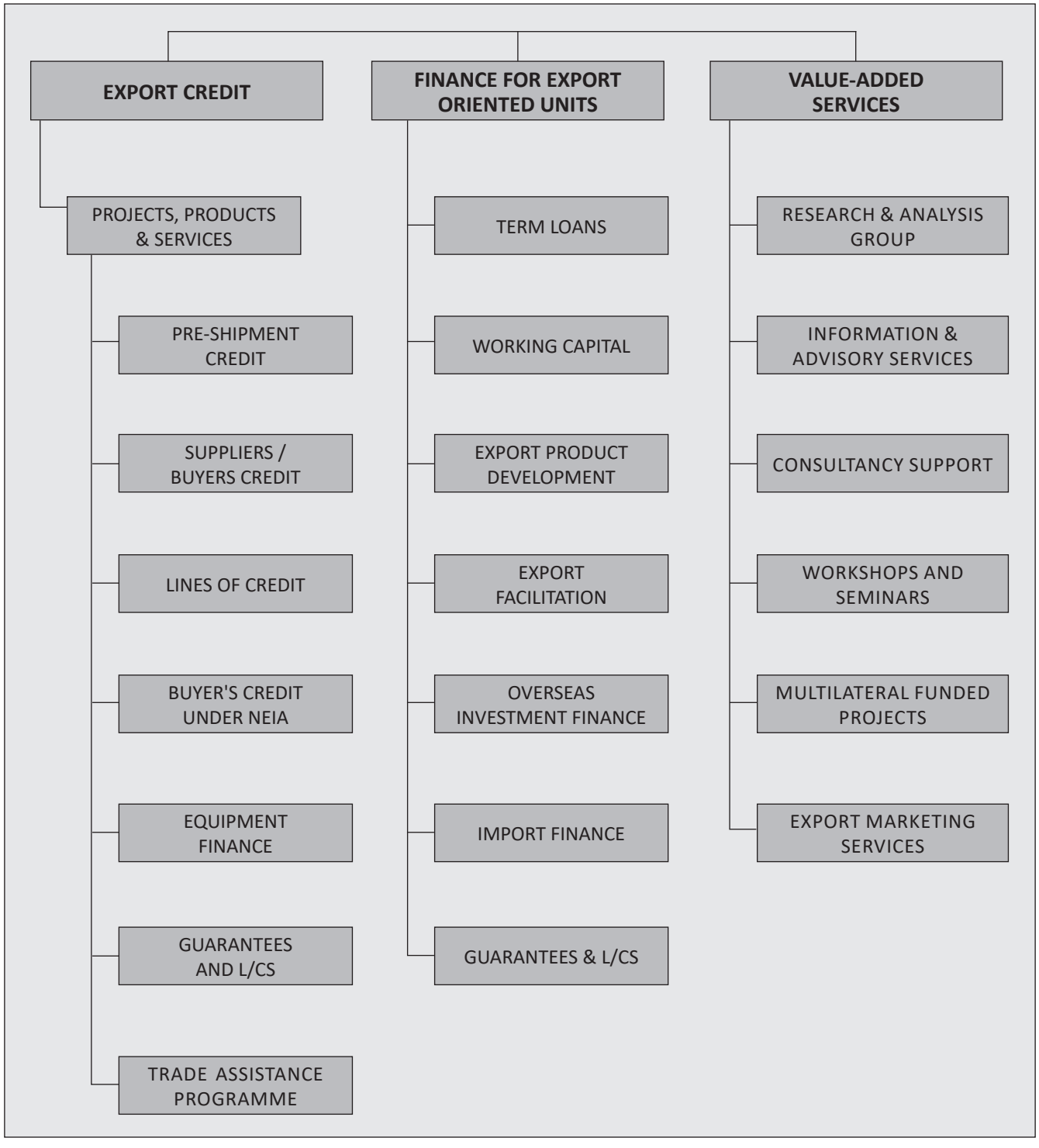

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