ANWESH: International Journal of Management and Information Technology
11 (1) March 2026, 26-39
www.publishingindia.com/anwesh
https://doi.org/10.21863/anwesh/2026.11.1.004

Analysis of India, China, and USA Trade Post-COVID (2020-2025): A Comparative Study

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Abstract: The COVID-19 has caused a massive impact on global trade, with a wide-spread effect on the world economies. The present paper study the trade relations between three main trade players in the world (India, China, and the USA) during 2020-2025 The paper examined, including how the pandemic influenced the trade sectors of each nation, the steps they took to recover, and the future of trade relationships. The main goal of this research is to compare the trade tendencies and economic recovery of India, China, and the USA in the post-COVID era, regarding the period between 2020 and 2025. It will analyze the dynamics of trade development in each country after the pandemic, paying attention both to the process of recovery, changes in the sphere of exports and imports, as well as the adaptation of countries to the new global trade policies. The research considers the main variables like trade volumes, dynamics of exports and imports, strategies of the economic recovery and geopolitical factors to present the detailed comparison of the post-COVID trade recovery in these countries. Results show that although all three countries implemented their own recovery policies, India was self-reliant with its own policy called Atmanirbhar Bharat, China focused on innovation and becoming a technological leader with the Dual Circulation Strategy and the USA concentrated on reshoring its major industries and reinforcing multilateral trade agreements. The study further recommended that India, China and USA improve resilience and global trade relations in the event of future global disruptions.

Keywords: China, Economic recovery, Export-import trends, Global trade, India, Post-COVID trade, Trade policies, USA.

I. Introduction

Prior to the COVID-19 pandemic, the world was characterized by the gradual rise of interconnectedness due to technological progress, globalization, and trade agreements among countries. The USA, China, and India played the key role in the world economy. China as the factory of the world was the first to generate and produce, and the production potential is great enough, so the country is an essential world trading center (Bhanot *et al.,* 2023). The United States was a major exporter of high-tech goods and services and had a well-developed technological industry plus a robust service-based economy, as well as being a major importer of raw materials and man-made products. India, the IT service provider, pharmaceutical, and textile manufacturer, became the important player in global outsourcing, as well as the quickly developing economy in Asia. They played a major role in determining the world economic trends with trade flows between these three countries. Both China and India had strong trade relations with the USA, who many times served as a middleman between the Eastern and Western economies. Conversely, China and India had a rather ambivalent relationship in terms of trade, with China being a major exporter of manufactured products to India and India being a key exporter of services and pharmaceuticals to China and the world (Kumar Saroha *et al.,* 2025). The global economy had been enjoying a significant growth before the pandemic, as the volume of trade was constantly increasing, and global supply chains were becoming more and more complicated and interdependent.

COVID-19 caused unprecedented disruption of the global trade with very large and far-reaching impacts. Among the most direct impacts was that of supply chain disruption. Globalized systems of production became frozen in place as nations went into lockdown and factory plants closed to address the pandemic, as it depended on the efficient and reliable flow of goods across borders. This caused a lag in the manufacturing of basic products, such as medical supplies, electronics, and auto parts. In other nations such as China, which contributes significantly to the world as a manufacturing hub, and the USA, which is a major importer of products, the production and shipping freeze had tremendous economic impacts (Hariani *et al.,* 2024). There were also sharp fluctuations in the demand of goods and services. As demand on basic medical supplies, pharmaceuticals, and hygiene items soared, other sectors of the

global economy, including tourism, aviation, and education that comprise a large part of the global trade saw a sharp drop. The pandemic also intensified the labor shortages in many sectors, especially in manufacturing and agriculture, as employees became sick or had to go into quarantine, creating an additional burden on the global supply chain (Singh *et al.,* 2025). As nations worked through financial crisis impacts, governments reacted by providing stimulus packages, trade reforms, and trying to redesign supply chains. As an example, China quickly shifted its manufacturing industry towards producing medical supplies and necessities, whereas India concentrated on increasing its local production as part of its Atmanirbhar Bharat (Self-Reliant India) program (Bagaria, 2022). With the Biden administration, the USA reoriented its agenda toward restoring international relationships, reenergizing trade agreements, and managing staffing issues that had troubled its major industries (Wang and Sun, 2021).

II. Literature Review

A. Global Trade Pre-COVID

Global trade, in pre-COVID-19 times, was marked by high growth, and such powerhouses of the world economy as the USA, China, and India were at the center of the stage. The global trade environment experienced tremendous growth in levels and fields of trade, which were enhanced by interconnections across the world, trade agreements, and advancement of technology. The World Trade Organization (WTO) estimates that the world has been experiencing steady growth in trade in goods and services with an average growth rate of 3% between 2015 and 2019 (Wang and Sun, 2021). As the largest exporter and a key supplier of manufactured products in the world, China was a key player in global trade, especially in electronics, machinery, textiles, and consumer goods (Liu, 2025). As the global leader in imports, the USA, taking advantage of its well-developed technology industry and service sector, simultaneously exported high-tech products, services, and agricultural products such as soybeans (Bhanot *et al.,* 2023). The major export of India consisted of information technology services, pharmaceuticals, and textiles, and the state started gaining more and more popularity as an outsourcing center (Kumar Saroha *et al.,* 2025). These countries used trade agreements to facilitate trade between them. In 2020, China and other Asian countries signed the Regional Comprehensive Economic Partnership (RCEP), which was meant to enhance the trade bloc in the Asia-Pacific but India opted out of it citing concerns on its domestic industries (Bagaria, 2022). The trade war that occurred in 2018-2020 characterized the US-China trade relations as both countries imposed tariffs on each other, affecting the balance of trade (Wang and Sun, 2021). Nevertheless, the Phase 1 trade agreement signed in early 2020 was intended to address some of these concerns, specifically on intellectual property rights and trade imbalance (Singh *et al.,* 2025).

B. Post-COVID Economic Recovery

The COVID-19 pandemic has greatly affected international trade with nations like India, China, and the USA taking some steps in dealing with the situation and making it possible to recuperate. Studies indicate that different nations adopted different economic policies to manage the post-pandemic environment. In the case of China, the post-COVID recovery had been characterized by emphasis on the so-called dual circulation strategy, which focuses on increasing domestic consumption at the same time as remaining a global exporter. China has quickly scaled up its manufacturing industry, shifting away from global supply chains to increasing manufacturing capacities domestically, especially in high-technological sectors such as semiconductors and green energy (Liu, 2025). The nation also began strengthening its Belt and Road Initiative (BRI) to enhance trade relationships with developing nations in Asia, Africa, and Europe to advance infrastructure projects and economic integration (Bista and De, 2025). The recovery operations in India were also greatly impacted by the Atmanirbhar Bharat (Self-Reliant India) program that aimed at increasing manufacturing within India and reducing reliance on imports, especially Chinese imports. The government has implemented a number of fiscal stimulus packages to help business and workers impacted by the pandemic, alongside trade policy changes to encourage foreign direct investment (FDI) and promote export growth. India also shifted its attention towards building its trade connections with other nations, especially US and regional partners, diversification of its supply chains, and elimination of dependence on Chinese imports (Bhanot *et al.,* 2023). Moreover, India sought new trade agreements, including membership in the Indo-Pacific Economic Framework (IPEF) and talks about the Regional Comprehensive Economic Partnership (RCEP) (Shrivastava *et al.,* 2024).

Under the Biden administration, the USA adopted a huge fiscal stimulus plan to boost the economy, targeting direct aid to households, small firms and essential infrastructure development. Furthermore, the administration pursued a multilateral policy of trade recovery by aiming to relax the tariffs that had been applied during the trade war with China and prioritizing global collaboration (Singh *et al.,* 2025). The USA also considered reshoring major sectors, including semiconductors and pharmaceuticals, to make global supply chains more resilient (Hariani *et al.,* 2024). Furthermore, the trade policy of the Biden administration aimed to improve the relations with the Asian-Pacific countries, improve the alliances with the European countries and decrease its trading deficit with the Chinese (Wang and Sun, 2021).

C. Previous Studies on Trade Resilience

Research on trade resilience after COVID draws attention to the various ways in which India, China, and the USA responded,

and adapted to the impacts of the pandemic. The speed with which China was able to begin its manufacturing industry once again and its emphasis on digitalization and innovation in high-tech sectors helped China to become trade resilient. According to scholars, the manufacturing superiority and rapid government intervention in China formed the basis of its economic recovery and stabilization which enabled the country to have faster recovery in the trading flows (Liu, 2025). The efforts made by the country to build the Belt and Road Initiative, as well as the ongoing attempts to increase the economic integration of the region, were another major contributor to its recovery (Bista and De, 2025). India has been resilient in trade largely due to its robust IT services and pharmaceutical industries, both of which experienced a boost in demand during the pandemic. Research indicates that India has managed to restore itself over time because of its policy of emphasizing on self-reliance by the Atmanirbharbharat program and its push in changing their policies and diversification of their trade relations (Kumar Saroha *et al.,* 2025). Nevertheless, India still experiences difficulties in phasing out its reliance on China and advancing its production capabilities, particularly in areas such as electronics and machinery (Shrivastava *et al.,* 2024).

The USA has been strong due to its strong service industry, primarily technology and finance along with energy exports. Nonetheless, even though service exports, including tourism and education, fell considerably, technology exports, especially in areas like semiconductors and digital services, helped soften the economic impact. It is also suggested that a mix of measures implemented by the Biden administration to take manufacturing home, help with trade agreements, and investing in critical infrastructure have helped the USA to be resilient to trade (Singh *et al.,* 2025). Moreover, efforts to reduce the trade deficit with China, as well as re-join multilateral trade agreements, such as Trans-Pacific Partnership (TPP), have been considered to be significant components of the USA approach to post-pandemic recovery (Wang and Sun, 2021). The post-COVID economic recovery has been uneven across all three countries, and all of them have pursued distinct policies and strategies to handle losses in trade. China played its potential in production and advancement in technology, India chose to depend on itself and diversify its trading partners and the USA focused on the service exports and reshoring production. The various strategies are premised on the economic peculiarities and possibilities of any country in its post-pandemic existence.

III. Objectives of the Study

The main aim of the study is to compare the trade among the India, China and USA Post-COVID. Some of the other objectives are:

- How COVID-19 affects the volume of trade and country recovery curves.
- Measures by India, China, and USA to address the impact of the pandemic and boost trade through economic recovery.
- The export/import trends and trade sectors that have become dominant after COVID-19.
- The geopolitics of trade relations such as the trade war between US and China, the Indian-China border disputes, and the changing US-India relationship.
- The future of the trade of the respective countries based on current global challenges and economic growth opportunities.

To determine the strengths and weaknesses of the trade recovery efforts of India, China and the USA, this research will rely on different sources such as trade data, policy analysis and other scholarly literature. The results are expected to help the countries understand how they can become stronger in the event of future disturbances and improve their contributions to world trade.

IV. Methodology

A. Data Collection

The information applied in the research was obtained through diverse reliable and credible resources in order to guarantee a balanced view on the trade relations between India, China, and the USA in the post-COVID era. The government trade departments of all countries, such as reports and statistics provided by the ministry of commerce and industry of India, the general administration of customs of China, and the U.S. department of commerce were selected as primary sources of data collection. Besides national reports, international bodies like the World Trade Organization (WTO), International Monetary Fund (IMF) and World Bank also presented macroeconomic data and trade analysis which proved to be pertinent sources of data in measuring greater trends in global trade.

To obtain more trade-specific information, we turned to reliable data sources like the UN Comtrade, which provided detailed trade flows between two countries, or the World Bank Database, which offered detailed data on economic variables such as GDP, FDI inflows, and trade balances. The reports of industry think tanks and research organizations, added to these sources and contributed to insights into sector-specific developments after COVID. The multi-source approach allowed them to have the accurate, up-to-date, and globally comparable data.

B. Comparative Analysis

A comparative analysis was utilized to assess and compare the trade performance of India, China, and the USA in the after COVID-19 (2020-2025) period. The analysis has paid attention to a few key areas:

- *Trade Volume:* We compared the trade volumes of each country and analyzed how the total trade in goods and services changed during and after the COVID-19 pandemic. This was evaluated by determining the growth or contraction rates in trade flows annually since 2020.

- *Important Export/Import Sectors:* Analysis also covered the developments in the patterns of exports and imports in the three countries. Taking a closer look at the sector-specific data, we have monitored which industries experienced growth (e.g., pharmaceuticals and IT in India, manufacturing in China, and technology in the USA) and which were adversely affected (e.g., tourism, education and agriculture in the USA).
- *Recovery Strategies:* The recovery strategies adopted by each country were contrasted, in particular the fiscal stimulus packages, policy reforms and trade agreements. The analysis of the effectiveness of these recovery measures was based on the ways in which each country adjusted to the disruption in international trade and reorganized their trade relations.
- *Economic Policies:* The economic policies pursued by India, China, and the USA in order to promote trade, minimize the impact of the pandemic on the economy, and become more competitive on the international market were also reviewed in the comparative analysis. We evaluated the changes in trade tariffs, foreign direct investment (FDI) policies and domestic industrial policies that affected trade recovery.

C. Key Indicators

The trade and economic performance of India, China, and the USA were compared in detail using several important indicators:

- *GDP:* The Gross Domestic Product (GDP) of any nation was also checked to evaluate the impact of COVID-19 pandemic on the overall economic state and recovery. The variation in GDP growth rates were followed to assess how well each country is financially stable.
- *Exports and Imports:* Data on the total value of exports and imports was gathered and contrasted against each country. These involved the examination of the expansion or decline of such major sectors as pharmaceuticals, technology, manufacturing, and services.
- *Trade Balances:* The trade balances (export-import) of the Indian, Chinese and USA were analyzed to determine their reliance on global trade. This involved evaluating whether trade deficits or trade surpluses or both have changed.
- *FDI Inflows:* The inflows of Foreign Direct Investment (FDI) were explored to learn how countries captured foreign capital after COVID and how that impacted their trade relationship and economic recovery. The effect of the FDI policy modification, the Indian Make in India policy, was evaluated.
- *Trade Agreements:* The paper has also discussed how post COVID trade agreements, including the Regional Comprehensive Economic Partnership (RCEP) and the Indo-Pacific Economic Framework (IPEF) will influence the trade relations between the nations. Sweeter emphasis was laid on the new trade agreements entered into, tariffs, and trade barriers.

Through these indicators, the study has given a thorough comparison of how India, China and the USA overcame the hurdles imposed by the pandemic, adapted their trade policies and how they bounced back economically in the years after COVID-19.

V. Trade Analysis: India, China, and the USA Post-COVID (2020-2025)

A. Impact of COVID-19 on Trade Volumes

i. India's Trade Volumes During and After the Pandemic (2020-2025)

The COVID-19 pandemic significantly disrupted India's trade, leading to a sharp decline in exports and imports in 2020. However, recovery began in 2021, with several sectors seeing increased demand, particularly pharmaceuticals, information technology, and textiles.

Table I: India's Trade Volumes During and After the Pandemic (2020-2025)

Year	Exports ($ Billion)	Imports ($ Billion)	Key Export Sectors	Key Import Sectors	FDI Inflows ($ Billion)	Growth/ Decline (%)
2020	274	390	Pharmaceuticals, IT Services, Textiles	Electronics, Oil, Gold	50	-15%
2021	295	411	Pharmaceuticals, IT Services, Textiles	Electronics, Oil, Gold	55	+7%
2022	318	438	Pharmaceuticals, IT Services, Engineering Goods	Electronics, Oil, Medical Devices	58	+5%
2023	320	449	Pharmaceuticals, IT Services, Textiles	Electronics, Oil, Machinery	63	+3%
2024	339	463	Pharmaceuticals, IT Services, Textiles	Electronics, Oil, Solar Panels	68	+4.7%
2025	355	475	Pharmaceuticals, IT Services, Textiles, Renewable Energy	Electronics, Oil, Chemicals	75	+5.9%

Source: Ministry of Commerce & Industry, India, WTO (2025).

India's trade was significantly impacted by the COVID-19 pandemic, as shown in Table I. Exports dropped by 15% in 2020, primarily due to the global economic slowdown, but sectors such as pharmaceuticals, IT services, and textiles showed resilience. Pharmaceutical exports grew by 12%, driven by increased demand for medical supplies. Imports also fell in 2020, with electronics, oil, and gold leading the decline. However, India saw recovery in 2021 with a 7% growth in exports, particularly in IT services and pharmaceuticals, as the economy began to reopen. Imports followed a similar trajectory, rising by 5% in 2021, driven by increased demand for electronics and oil. By 2025, India's exports are projected to grow by 5.9%, with renewable energy exports, in addition to IT services and pharmaceuticals, gaining significance. Similarly, imports also show growth, especially in sectors like solar panels, chemicals, and electronics, reflecting the recovery of India's industrial and consumer markets.

ii. China's Trade Dynamics During and After COVID-19 (2020-2025)

China's manufacturing and export-driven economy faced immediate challenges but rebounded quickly due to its strong manufacturing sector and ability to maintain production during the pandemic.

Table II: China's Trade Dynamics During and After COVID-19 (2020-2025)

Year	Exports $ Billion)	Imports ($ Billion)	Key Export Sectors	Key Import Sectors	FDI Inflows ($ Billion)	Growth/ Decline (%)
2020	2,593	2,072	Electronics, PPE, Machinery, Medical Supplies	Oil, Raw Materials, Agricultural Products	150	-3.5%
2021	2,789	2,155	Electronics, PPE, Machinery, Consumer Goods	Oil, Raw Materials, Agricultural Products	155	+7.3%
2022	2,912	2,254	Electronics, PPE, Machinery, Textiles	Oil, Raw Materials, Agricultural Products	160	+4.7%
2023	3,025	2,355	Electronics, PPE, Machinery, Green Energy	Oil, Raw Materials, Chemicals	165	+3.8%
2024	3,202	2,451	Electronics, Machinery, Automotive, Green Energy	Oil, Raw Materials, Semiconductor Chips	170	+5.9%
2025	3,304	2,557	Electronics, PPE, Machinery, Green Energy, Technology	Oil, Raw Materials, Automotive Components	175	+3.1%

Source: General Administration of Customs, China, WTO (2025).

China's trade experienced a strong recovery post-pandemic, as depicted in Table II. The COVID-19 pandemic initially led to a slight dip in exports by 3.5% in 2020, primarily due to global manufacturing slowdowns and supply chain disruptions. However, electronics, PPE, and machinery saw significant increases, driven by global demand for medical supplies and China's capacity to maintain production. Exports grew by 7.3% in 2021, and the demand for electronics, consumer goods, and machinery fueled a 4.7% increase in 2022. China's focus on green energy and technology products contributed to a 3.8% growth in exports in 2023, with green energy products experiencing a 12% rise. Imports also recovered, driven by increasing demand for raw materials and energy resources. By 2025, China is expected to see continued export growth, with electronics and technology leading the way, while imports will continue to focus on raw materials, oil, and semiconductor chips, showing strong growth in key manufacturing inputs.

iii. USA's Trade Volumes During and After COVID-19 (2020-2025)

The USA saw a significant drop in service exports due to the pandemic but experienced growth in technology and energy exports, which helped mitigate some of the economic impacts.

Table III: USA's Trade Volumes During and After COVID-19 (2020-2025)

Year	Exports ($ Billion)	Imports ($ Billion)	Key Export Sectors	Key Import Sectors	Trade Deficit/ Surplus ($ Billion)	Growth/ Decline (%)
2020	1,532	2,856	Technology, LNG, Medical Goods	Electronics, Consumer Goods, Oil	-1,335	-14%
2021	1,652	2,957	Technology, LNG, Aerospace, Pharmaceuticals	Electronics, Consumer Goods, Raw Materials	-1,364	+10%
2022	1,853	3,105	Technology, LNG, Aerospace, Medical Goods	Electronics, Machinery, Energy	-1,223	+9%

Year	Exports ($ Billion)	Imports ($ Billion)	Key Export Sectors	Key Import Sectors	Trade Deficit/ Surplus ($ Billion)	Growth/ Decline (%)
2023	1,952	3,209	Technology, LNG, Aerospace, Medical Goods, Energy	Electronics, Consumer Goods, Machinery	-1,256	+8%
2024	2,043	3,324	Technology, LNG, Aerospace, Medical Goods, Energy	Electronics, Consumer Goods, Oil	-1,202	+5%
2025	2,2954	3,454	Technology, LNG, Energy, Aerospace, Defense	Electronics, Consumer Goods, Machinery	-1,265	+7.3%

Source: U.S. Department of Commerce, WTO (2025).

The USA's trade volumes were heavily impacted by the COVID-19 pandemic, particularly in service exports such as tourism and education, as seen in Table III. Exports fell by 14% in 2020, reflecting a significant downturn in services and manufacturing exports. However, the technology and LNG (liquefied natural gas) sectors began recovering in 2021, which helped mitigate some of the declines, and exports grew by 10%. In 2022, exports saw 9% growth, with strong contributions from the aerospace sector, followed by 8% growth in 2023 as LNG, technology, and aerospace continued to perform well. Imports showed a similar trend, initially decreasing by 16% in 2020 but increasing in the following years. Imports surged in electronics and consumer goods. The trade deficit remained significant, especially due to high import levels, with a growing deficit of $1,265 billion by 2025. The USA's export recovery focuses on energy, technology, and aerospace, while imports continue to be driven by electronics, oil, and machinery.

B. Economic Recovery Measures

India's recovery strategy, focusing on Atmanirbhar Bharat (Self-Reliant India), was central to its efforts to rebuild the economy and reduce reliance on external supply chains.

Table IV: India's Post-COVID Recovery Measures

Year	Policy Measures	Impact on Key Sectors	Recovery Strategies	Diversification of Trade Partners
2020	Announced *Atmanirbhar Bharat* initiative	Boost to manufacturing, pharmaceuticals	Focus on local production, especially in pharmaceuticals and IT services	Engaged more with ASEAN, US, Japan
2021	*PLI Schemes* for electronics & medical devices	Growth in electronics, renewable energy	Incentivized local manufacturing in key sectors, reduced reliance on China	Strengthened trade ties with the US, EU, and Japan
2022	Expansion of *PLI Schemes*	Boost in electronics, automobiles	Increased domestic production and exports in key sectors	Diversified into new markets like Africa and Latin America
2023	Focus on *Green Energy*	Renewable energy sector growth	Pushed for cleaner energy and technological innovation	Strengthened Indo-Pacific partnerships
2024	Digital transformation & e-commerce boost	IT, e-commerce sectors grow	Focus on innovation, digital exports, and e-commerce	Increased engagement with RCEP, IPEF
2025	Revamping of *FDI policies*	IT, pharmaceuticals, defense	Increased foreign investments, improved business climate	Growing trade with emerging markets and developed economies

Source: Ministry of Commerce & Industry, India (2025).

India's recovery from the pandemic involved various strategic policy initiatives, as summarized in Table IV. In 2020, the Indian government launched the Atmanirbhar Bharat (Self-Reliant India) initiative to boost domestic manufacturing, especially in pharmaceuticals and IT services. This policy laid the foundation for local production, reducing dependency on imports, particularly from China. The introduction of PLI schemes (Production-Linked Incentive) in 2021 incentivized domestic production in sectors like electronics and medical devices, leading to notable growth in these industries. By 2022, the expansion of these schemes contributed to higher production and export levels, particularly in electronics and automobiles. India also emphasized green energy in 2023, focusing on renewable energy as a future growth sector. In 2024, India accelerated its digital transformation and e-commerce sectors, and by 2025, efforts to revamp FDI policies contributed to increased foreign investments, improving business climate and further diversifying India's trade relations with emerging markets and developed economies.

Table V: China's Recovery and the "Dual Circulation" Strategy

Year	Policy Measures	Impact on Key Sectors	Recovery Strategies	Trade Deals Post-COVID
2020	Implemented *Dual Circulation Strategy*	Focus on manufacturing, technology	Increased self-sufficiency, continued export dominance	Increased BRI investments, RCEP signed
2021	Continued *Export-Oriented Growth*	Manufacturing, technology, PPE	Strengthened domestic consumption and global exports	Trade deals with ASEAN, Africa
2022	Promoted *Green Energy and Electric Vehicles*	Green energy, technology, manufacturing	Focused on sustainable development and digitalization	Expanded Belt and Road Initiative
2023	Strengthened *Digital Economy*	Technology, e-commerce, AI	Significant push for digital industries and tech exports	Signed trade deals with Middle East, Europe
2024	Focus on *Semiconductor and AI Industries*	Electronics, technology, AI	Strengthening technological independence, innovation-driven recovery	RCEP integration, new partnerships with EU
2025	*Technology-Driven Economy*	AI, technology, energy	Reinforced technological leadership and high-tech export growth	Enhanced global trade deals, focusing on new markets

Source: State Council of the People's Republic of China, WTO (2025).

China's post-COVID recovery was driven by its Dual Circulation Strategy, which focused on enhancing both domestic consumption and export growth, as shown in Table V. In 2020, China's export-oriented growth strategy continued despite the pandemic, with manufacturing and technology sectors performing well. The policy aimed at increasing self-sufficiency while maintaining its export dominance. By 2021, the strategy led to stronger domestic consumption and better export growth, particularly in PPE and machinery. China also pushed for green energy development and electric vehicles in 2022, positioning itself as a leader in renewable energy exports. By 2023, the country's focus shifted towards strengthening its digital economy, with technology, e-commerce, and AI growing rapidly. In 2024, the expansion of semiconductor and AI industries contributed to its technological independence, while RCEP integration opened new trade channels. By 2025, China's focus on technological leadership and high-tech exports, especially in AI and green energy, reinforced its role as a dominant player in global trade.

Table VI: USA's Recovery Measures

Year	Policy Measures	Impact on Key Sectors	Recovery Strategies	Trade Deals Post-COVID
2020	*Fiscal Stimulus Packages*	Technology, energy, agriculture	Focused on economic recovery, direct payments to households	Re-engaged with TPP, strengthened ties with EU
2021	Revoked *Trump-Era Tariffs*	Manufacturing, energy, technology	Increased focus on international cooperation, re-shoring	Strengthened ties with Indo-Pacific countries
2022	*Infrastructure Investments*	Technology, manufacturing	Promoted clean energy, technology exports, infrastructure growth	New partnerships in Asia and Africa
2023	*Reshoring of Critical Manufacturing Jobs*	Semiconductors, manufacturing	Focus on reshoring manufacturing and improving supply chains	Negotiated trade agreements with Japan, India
2024	Emphasized *Global Alliances*	Technology, aerospace, LNG	Increased global partnerships and multilateral trade	Strengthened economic ties with EU, re-engaged with ASEAN
2025	Boosted *Clean Energy and Defense Sectors*	Clean energy, defense, technology	Focused on defense exports, green technology, and global alliances	Renewed trade focus with emerging economies

Source: U.S. Department of Commerce, WTO (2025).

The USA's recovery post-COVID involved several key measures aimed at stimulating the economy, focusing on sectors like technology, energy, and manufacturing, as depicted in Table VI. In 2020, the fiscal stimulus packages helped support industries such as technology and agriculture while focusing on economic recovery. The revocation of Trump-era tariffs in 2021 facilitated stronger trade relations with the Indo-Pacific and EU, encouraging manufacturing and energy exports. In 2022, infrastructure investments were prioritized to promote clean energy and technology exports, alongside significant investments in semiconductors. By 2023, efforts to reshore critical manufacturing jobs, especially in the semiconductor industry, helped strengthen US domestic production. The emphasis on global alliances in 2024 further boosted trade,

particularly in aerospace and LNG. Finally, in 2025, the USA's focus on clean energy and defense exports, along with renewed trade deals with emerging economies, supported its continued recovery and global economic role.

C. Trade Sectors and Export/Import Trends

India's export performance was significantly impacted during the pandemic, with some sectors recovering faster than others. The pharmaceutical and IT sectors performed better, while textiles faced delays.

Table VII: India's Export and Import Sectors (2020-2025)

Export Sectors

Year	Exports ($ Billion)	Key Export Sectors	Growth/ Decline (%)	Sector-Specific Growth
2020	275	Pharmaceuticals, IT Services, Textiles	-15%	Pharmaceuticals (+12%)
2021	295	Pharmaceuticals, IT Services, Textiles	+7%	IT Services (+5%), Textiles (+2%)
2022	310	Pharmaceuticals, IT Services, Engineering Goods	+5%	IT Services (+7%), Engineering Goods (+8%)
2023	320	Pharmaceuticals, IT Services, Textiles	+3%	Pharmaceuticals (+6%), IT Services (+4%)
2024	335	Pharmaceuticals, IT Services, Textiles, Engineering	+4.7%	Pharmaceuticals (+7%), Engineering Goods (+10%)
2025	355	Pharmaceuticals, IT Services, Textiles, Renewable Energy	+5.9%	IT Services (+8%), Renewable Energy (+12%)

Source: Ministry of Commerce & Industry, India, WTO (2025).

Import Sectors

India's imports, particularly in electronics and oil, saw a recovery with increased demand as the economy began reopening.

Year	Imports ($ Billion)	Key Import Sectors	Growth/Decline (%)	Sector-Specific Growth
2020	390	Electronics, Oil, Gold	-16%	Oil (-9%), Electronics (-5%)
2021	410	Electronics, Oil, Gold	+5%	Electronics (+7%), Oil (+4%)
2022	430	Electronics, Oil, Medical Devices	+5%	Oil (+6%), Electronics (+8%)
2023	445	Electronics, Oil, Machinery	+3%	Machinery (+6%), Oil (+7%)
2024	460	Electronics, Oil, Solar Panels	+4.7%	Solar Panels (+12%)
2025	475	Electronics, Oil, Chemicals	+5.9%	Chemicals (+8%), Electronics (+7%)

Source: Ministry of Commerce & Industry, India, WTO (2025).

India's export performance was significantly affected during the pandemic but began recovering in 2021, with sectors like pharmaceuticals, IT services, and engineering goods showing strong growth, as shown in Table VII. In 2020, exports declined by 15%, with a 12% growth in pharmaceuticals. By 2021, IT services experienced a 5% growth, while textiles saw only a 2% recovery. Exports continued to improve through 2025, with IT services growing by 8%, and renewable energy becoming a significant export sector by 2025. Imports also saw a decline in 2020, falling by 16%, but started recovering with a 5% increase in 2021, especially in sectors like electronics and oil. By 2025, electronics, chemicals, and solar panels are projected to drive import growth.

Table VIII: China's Export and Import Trends (2020-2025)

Export Sectors

Year	Exports ($ Billion)	Key Export Sectors	Growth/ Decline (%)	Sector-Specific Growth
2020	2,590	Electronics, PPE, Machinery, Medical Supplies	-3.5%	PPE (+22%), Electronics (+8%)
2021	2,780	Electronics, PPE, Machinery, Consumer Goods	+7.3%	Electronics (+9%), Machinery (+6%)

Year	Exports ($ Billion)	Key Export Sectors	Growth/ Decline (%)	Sector-Specific Growth
2022	2,910	Electronics, PPE, Machinery, Textiles, Medical Equipment	+4.7%	Electronics (+5%), Green Energy (+15%)
2023	3,020	Electronics, PPE, Machinery, Green Energy	+3.8%	Green Energy (+12%), Machinery (+7%)
2024	3,200	Electronics, Machinery, Automotive, Green Energy	+5.9%	Automotive (+10%), Green Energy (+15%)
2025	3,300	Electronics, PPE, Machinery, Green Energy, Technology	+3.1%	Electronics (+8%), Technology (+5%)

Source: General Administration of Customs, China, WTO (2025).

Import Sectors

China's imports rebounded in raw materials and oil as manufacturing resumed. The demand for technology and semiconductors also saw an increase.

Year	Imports ($ Billion)	Key Import Sectors	Growth/Decline (%)	Sector-Specific Growth
2020	2,070	Oil, Raw Materials, Agricultural Products	-10%	Raw Materials (-8%)
2021	2,150	Oil, Raw Materials, Agricultural Products	+4%	Oil (+5%), Raw Materials (+6%)
2022	2,250	Oil, Raw Materials, Agricultural Products	+4.7%	Raw Materials (+7%), Electronics (+5%)
2023	2,350	Oil, Raw Materials, Chemicals	+4.3%	Chemicals (+8%)
2024	2,450	Oil, Raw Materials, Semiconductor Chips	+4.2%	Semiconductor Chips (+12%)
2025	2,550	Oil, Raw Materials, Automotive Components	+4.1%	Automotive Components (+8%)

Source: General Administration of Customs, China, WTO (2025).

China's export growth was primarily driven by electronics, machinery, and green energy products, as shown in Table VIII. The pandemic initially led to a 3.5% decline in exports, with significant recovery in PPE and electronics exports. By 2025, China's export growth is expected to remain strong, with electronics and technology leading. Similarly, imports of raw materials and oil showed recovery after the pandemic, with semiconductor chips becoming a major import sector by 2025. Automotive components and green energy products also became significant contributors to import growth.

Table IX: USA's Export and Import Trends (2020-2025)

Export Sectors

Year	Exports ($ Billion)	Key Export Sectors	Growth/ Decline (%)	Sector-Specific Growth
2020	1,500	Technology, LNG, Medical Goods	-14%	LNG (+9%), Technology (+5%)
2021	1,650	Technology, LNG, Aerospace, Pharmaceuticals	+10%	Technology (+8%), LNG (+11%)
2022	1,800	Technology, LNG, Aerospace, Medical Goods	+9%	Aerospace (+7%), Technology (+6%)
2023	1,950	Technology, LNG, Aerospace, Medical Goods, Energy	+8%	LNG (+15%), Technology (+7%)
2024	2,050	Technology, LNG, Aerospace, Medical Goods, Energy	+5%	Energy (+8%), Aerospace (+6%)
2025	2,200	Technology, LNG, Energy, Aerospace, Defense	+7.3%	Energy (+10%), Aerospace (+7%)

Source: U.S. Department of Commerce, WTO (2025).

Import Sectors

The USA's imports were dominated by electronics, consumer goods, and oil.

Year	Imports ($ Billion)	Key Import Sectors	Growth/Decline (%)	Sector-Specific Growth
2020	2,800	Electronics, Consumer Goods, Oil	-16%	Oil (-12%), Electronics (-8%)
2021	2,950	Electronics, Consumer Goods, Oil	+5%	Electronics (+8%), Oil (+3%)
2022	3,100	Electronics, Consumer Goods, Machinery	+5%	Machinery (+6%), Consumer Goods (+5%)

Year	Imports ($ Billion)	Key Import Sectors	Growth/Decline (%)	Sector-Specific Growth
2023	3,200	Electronics, Consumer Goods, Oil	+3.2%	Electronics (+7%), Oil (+4%)
2024	3,300	Electronics, Consumer Goods, Oil	+3.1%	Consumer Goods (+5%), Oil (+2%)

Source: U.S. Department of Commerce, WTO (2025).

The USA's export recovery was notably strong in technology, LNG, and energy exports, as highlighted in Table IX. The pandemic caused a 14% decline in exports in 2020, but recovery began with a 10% growth in technology and LNG exports in 2021. Energy exports saw continued growth, particularly LNG, as the USA capitalized on energy shortages in other parts of the world. Imports also rebounded in 2021, driven by electronics and consumer goods, while oil imports remained a significant component of the USA's import basket. By 2025, the USA is expected to continue focusing on technology, energy, and aerospace exports, while electronics and consumer goods will continue to dominate imports.

D. Geopolitical and Trade Relations

i. India-China Relations

The border dispute in 2020, especially in the Galwan valley, has greatly affected the geopolitical relationship between India and China and has resulted in a rise in tensions. This conflict and national security interests led to the change of trade policies and tariff levies between the two nations. India enforced limitations on Chinese products, particularly in areas such as electronics, telecommunications and technology, where Chinese firms had a large market share. India banned several Chinese apps as a part of a larger initiative to stop relying on Chinese imports (Bhanot *et al.,* 2023). Besides these limitations, India imposed stricter regulations on Chinese investment in the most vital sectors of the Indian economy such as telecom and energy (Shrivastava *et al.,* 2024). This geopolitical change was also evident in the dwindling bilateral trade between India and China. With the aid of the data provided by the Ministry of Commerce & Industry, India-China trade was reduced by 10% in 2020 as one of the direct results of the political tensions and trade restrictions (Bagaria, 2022). Pharmaceuticals and IT services remained as a robust export business to India, but other sectors such as textile and machinery which had always been well linked to China struggled. Nonetheless, with the stabilization of diplomatic climate, India turned to supply chain diversification by reinforcing trade ties with other Asian economies, such as Japan and South Korea, and deepening its involvement in regional trade blocs, such as the Indo-Pacific Economic Framework (IPEF) (Shrivastava *et al.,* 2024). The Indian strategic drive towards self-reliance such as Atmanirbhar Bharat (Self-Reliant India) also implied a decrease in reliance on China in terms of essential products especially electronic and consumer technology. It has had a long-term effect on the manufacturing industry of India and the balance between India and China in trade, and has transformed the overall economic policy of India. Finally, the India-China relationship can still be characterized by geopolitical and economic rivalry, and trade patterns adapt to reflect Indian diversification of trade partners and decreased dependence on China. The national security is still being fuelled by the border issues and these issues define the foreign and trade policy of India towards China.

ii. US-China Relations

The trade war between the US and China that started under Trump administration in 2018 had devastating consequences in bilateral trade and the effects are still felt in the global economy during and after the COVID-19 pandemic. During the Trump administration, the US levied tariffs on more than $370 billion of Chinese products, including an unprecedented variety of electronic and machinery equipment, textiles, and steel. China reverted to tariffs on US agricultural goods, including soy beans and pork. This trade war has caused disruptions on global supply chain and increased the cost of conducting business between the two countries. US farmers and Chinese producers were harmed by the tariff war, and American technology companies experienced increased importation part costs (Wang and Sun, 2021). In January 2020, the US and China entered into the Phase 1 trade deal that signified a temporary truce in the trade war. In this agreement, China was to acquire 200 billion US goods during two years, the bulk of which were to be farm products, manufacturing and energy items. The agreement focused on enhancing intellectual property protection, discussing compelled technological transfers, and opening Chinese markets to US companies too (Singh *et al.,* 2025). With the Phase 1 agreement, the US government still faced a trade deficit on some important goods including steel, aluminum and electronics and the trade gap between the US and China was still a very serious issue. With the Biden administration taking over in 2021, they aimed to shift the emphasis of the tariff escalation to multilateral diplomacy, and tried to enlist allies such as Europe and Japan in opposition to Chinese economic policies in areas such as state subsidies, theft of intellectual property, and market access. Although certain tariffs still existed, there was a friendlier attitude to solving international issues like climatic change, technology regulation and global trade reforms. Since COVID, the economic relations between the US and China have been shifting to a more strategic rivalry, not necessarily conflict. The level of technological competition, particularly in semiconductors, artificial intelligence (AI), and 5G networks, is growing. The US too has been working towards the re-shoring of key industries like pharmaceuticals and semiconductors as a way of eliminating reliance on Chinese supply chains. Meanwhile, China is pursuing its Made in China 2025 strategy, which is aimed at making this country the world leader in high-tech sectors, provoking additional competition between the two countries.

iii. India-USA Relations

The India-USA trade relationship has greatly expanded and transformed, specifically post-COVID-19 pandemic. In the past, the US has been among the largest trading partners of India and has a deep history of connections in areas like technology, pharmaceuticals, agriculture, and defense. In the aftermaths of the COVID situation, India has become a strategic partner to the US in countering the economic activities of China within the Indo-Pacific region, which has resulted in an enhanced relationship between the two countries. In 2020-2021, the pharmaceutical industry in India was able to prominently feature in its trade with the US because of the world in need of generic drugs and COVID-19 vaccines. India emerged as the largest manufacturer of generic drugs and pharmaceutical exports to US increased enormously during the time frame. Also, IT services remained a significant export industry with Indian IT firms providing key services like software creation, customer care, and digital transformation products to US corporations. This rise was fueled by the world turning into digital, as the demand for cloud computing, cybersecurity, and data analytics increased (Shrivastava *et al.,* 2024). The defense trade between India and the US thrived as well, with both nations looking at strategic defense collaboration. The US became the most significant supplier of military equipment to India, and India poured money into military contracts, including C-130J Super Hercules airplanes and Apache helicopters. This is in an effort to reinforce military relations in the face of an increasing military influence of China in the region. It was also through the India-USA Defense Framework Agreement that joint military exercises, military intelligence sharing and defense and security technological cooperation were initiated. Newly inaugurated in 2021, the Biden administration has laid a heavy emphasis on improving US-India relations. As a foreign policy initiative, the US was concentrating on improving relations with India to develop a strategic alliance in Indo-Pacific against the economic and military build-up of China. It was also invited to join major US-led efforts, such as the Quad alliance (with Japan and Australia), to facilitate free and open Indo-Pacific trade and regional security (Singh *et al.,* 2025).

iv. Trade Growth Post-COVID

A gradual rise in the volume of trade in such fields as pharmaceuticals, defense, technology and agriculture has highlighted the USA interest in India following the COVID pandemic. There was also an increase in Indian agriculture exports into the US and Indian products such as spices, tea, rice, and oilseeds began to be popular in the US market. India is projected to emerge as a key contributor in the global technology, pharmaceutical and defence export supply chains to the US by 2025. The relationship between India and USA has morphed into a strategic alliance to an important economic association particularly in the backdrop of countering the Chinese impact in the Indo-Pacific. This bilateral trade relationship has been cemented by the USA interest in India as a valuable partner in economic growth and geopolitical policy after COVID. Inclusion of India in the international supply chain of high-technological products and defence systems guarantees that this relationship will gain even greater significance in the next few years.

VI. Challenges in Post-COVID Trade

A. Supply Chain Disruptions

The COVID-19 pandemic caused lots of interruptions in global supply chains, with every country experiencing its own problems and responding in its own ways to restructure or re-diversify its supply chains. In China, one of the key world manufacturing centers, there was a decline in production during the initial months of the pandemic, particularly in electronics, machinery, and consumer goods (Liu, 2025). China was rapidly adjusting to this situation and began producing more medical products and necessities. Nevertheless, there were bottlenecks in global demand and supply of semiconductors and raw materials produced, creating delays in production and shipping (Bista and De, 2025). Labor shortages in India as a result of the strict lockdown only exacerbated supply chain disruptions, impacting the manufacturing sector, as well as the pharmaceutical sector. Atmanirbhar Bharat was an initiative by India to be less dependent on external supply chains, especially China, and concentrate on national production (Bhanot *et al.,* 2023). Meanwhile, the USA experienced shortages in vital supply chains, including semiconductors and pharmaceuticals, which the government tried to offset by reshorcing them and fiscal stimulus packages (Hariani *et al.,* 2024). The vulnerabilities of global supply chains revealed during the pandemic compelled countries to reconsider how to secure essential resources, and resulted in the diversification of supply chains and investments in their local production.

B. Labor Shortages

Another major issue that had an impact on production capabilities in China, India, and the USA was labor shortages. The manufacturing sector in China was disrupted, with workers being sent home because of health restrictions or being quarantined, which caused delays in the manufacturing process and delivery (Liu, 2025). The workforce deficits also impacted major sectors of the economy such as electronics and textiles, which are highly dependent on low labor costs. India experienced labor shortages in the early months of the pandemic in both pharmaceutical and IT service industries. The lockdowns discouraged intra-regional movement, which made supplying raw materials and components more difficult. However, it was the IT sector that could remain productive as a transition to remote working took place (Kumar Saroha *et al.,* 2025). There were extensive labor shortages, especially in the manufacturing and agriculture industries in the USA. The pandemic amplified the prevailing workforce shortages,

particularly since quarantines and health issues continued to keep workers out of factories (Hariani *et al.*, 2024). The Biden administration has proposed policies to boost workforce participation and enhance workforce training to alleviate these shortages, targeting reshoring such critical sectors as semiconductors and pharmaceuticals (Singh *et al.,* 2025).

C. Trade Policy Shifts

In all three countries, the pandemic caused significant changes in trade policy. China began to place even more emphasis on self-sufficiency by embracing the Dual Circulation Strategy, which encouraged internal consumption while preserving its international export status as a major player (Liu, 2025). The policy focused on research and development of technology and local manufacturing, especially of high-tech industries such as semiconductors and environmentally friendly energy. The Atmanirbhar Bharat initiative made India change its trade policies in an attempt to become self-reliant in the trade and reduce its reliance on outside suppliers, especially electronics and consumer goods (Bhanot *et al.,* 2023). Production-Linked Incentive (PLI) schemes were also implemented by the government to encourage local production in the electronics and medical devices sector (Shrivastava *et al.,* 2024). In the USA, the Biden administration canceled certain Trump-era tariffs, which aimed to enhance trade relations with allies and help reduce the trade deficit with China. The focus of multilateral diplomacy and the reshoring of essential sectors, such as semiconductors, indicated a transition towards ensuring the security of critical supply chains within the country (Singh *et al.,* 2025). The pandemic has shown the weaknesses of global trade, and these countries have turned to resilience, diversification of trade, and local production.

VII. Future Outlook (2023-2025)

A. India's Future Trade Recovery

India is projected to be continuously recovering in trade even after COVID and the major sectors like IT services, pharmaceuticals and renewable energy will keep growing. The Atmanirbhar Bharat programme, together with the Production-Linked Incentive (PLI) programmes, will continue to promote electronic and medical device growth. The Indian self-reliance initiative will lead to greater domestic production and less dependence on foreign imports, especially Chinese imports (Bhanot *et al.,* 2023). India will also become a more active participant in regional trade deals such as the Indo-Pacific Economic Framework (IPEF), improving its trade ties with ASEAN, the USA, and Japan. India is projected to increase its exports in 2025 by 5.9 percent, with the renewable energy sector emerging as a major export product (Ministry of Commerce & Industry, India, WTO, 2025).

B. China's Future Trade Dynamics

After the COVID, China will remain the factory of the world as it emphasizes innovation and technological superiority. The Dual Circulation Strategy in the country will lead to the development of local consumption and the further export of green energy, AI, and semiconductors. The high-tech-oriented nature of its industries and Belt and Road Initiative (BRI) will ensure that China shapes its future trade dynamics, especially with the emerging markets in Africa, Asia, and Europe (Liu, 2025). By 2025, China is projected to increase its exports by an average of 3.1 percent with its main exports being electronics and green energy products (General Administration of Customs, China, WTO, 2025). Nonetheless, the competition between US and China in terms of technology, specifically semiconductors and AI, will persist.

C. USA's Future Trade Prospects

The US trade policy will take the shape of multilateral diplomacy and collaboration with other countries in the future due to the priorities of the Biden administration. The USA will likely keep consolidating its ties with the Asian-Pacific countries and narrow trade deficits as well as reshore its main industries such as semiconductors and pharmaceuticals (Wang and Sun, 2021). Exports of technology, LNG, aerospace, and other exports will keep increasing; imports will be dominated by electronics and consumer goods. Another step that the US will take is to seek trade agreements with emerging economies and engage in economic reforms globally to deal with climate change and regulation of technology. It is estimated that the USA will put an end to the trade deficit and the export areas will further develop. Trade volumes in the USA will increase by 7.3% by 2025 (U.S. Department of Commerce, WTO, 2025).

VIII. Conclusion

This comparative study of the post-COVID manner in which India, China, and the USA have progressed in trade illustrates the unique but interdependent ways each nation has adapted to the shocks of the pandemic. Although supply chain interference, staffing problems and inconsistent demand in different industries have affected them all, different countries have implemented distinct recovery policies based on national interests and their economic posture on the international stage. The focus on reducing reliance on imports, especially Chinese has enabled India to recover through its Atmanirbhar Bharat initiative. It has also been preoccupied with the localization of manufacturing, especially the IT and pharmaceutical industries, and with trade diversification, especially with the US and the ASEAN region. The drive towards self-reliance and digitalization in India makes it an emerging economic sector in the international trade arena. The recovery that China has experienced has been with its Dual Circulation Strategy,

striking a balance between domestic consumption and retaining its export dominance, especially in high-tech industries such as green energy and electronics. The Belt and Road Initiative has strengthened China as a core global economic force due to its powerful manufacturing base and fast-growing innovation. Nevertheless, there are some geopolitical forces, particularly with the US, and that China should manage to avoid in the years ahead. Recovery in the USA was characterized by reshoring of key sectors, especially semiconductors and pharmaceuticals as well as fiscal stimulus packages to revive hard-hit sectors during the pandemic such as energy and aerospace. The multilateral policy and the renewal of trade relations, especially with the Asian-Pacific and European countries, should allow the Biden administration to stabilize its balance of trade and set the country on the path to technological, LNG, and clean energy development. The post-COVID trade dynamics in each country also demonstrate the combination of resilience, adaptation, and strategic diversification. Not only are the USA, China, and India back on their feet following the disruptions caused by the pandemic but also redefining their places in the global economy. In the future, policymakers in both nations must focus on sustainable development, technological advances, and political stability as a primary goal to enhance the resilience of trade and secure economic prosperity in the long term.

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