



Research Article

A Comprehensive Evaluation of Import and Export Dynamics between India and the USA: Trends, Challenges, and Future Prospects

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Abstract

The economic relationship between India and the USA has grown significantly over the past few decades, making the USA one of India's largest trading partners. This study evaluates the trends, patterns, and determinants of bilateral trade between the two nations from 2010 to 2023. Using secondary data from the Ministry of Commerce (India), the US International Trade Commission (USITC), and the World Bank, the research analyzes key export and import commodities, trade balances, and policy impacts.

The findings reveal that India primarily exports pharmaceuticals, textiles, and IT services while importing machinery, petroleum products, and aerospace equipment from the USA. Despite a consistent trade surplus in services, India faces a trade deficit in merchandise trade with the USA. The study identifies key challenges such as tariff barriers, regulatory differences, and geopolitical influences affecting trade relations.

Based on the analysis, the paper recommends policy adjustments, enhanced trade agreements, and sector-specific collaborations to strengthen economic ties. The study contributes to understanding Indo-US trade dynamics and provides insights for policymakers and businesses.

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KEYWORDS: India-US Trade, Bilateral Trade, Export-Import Trends, Trade Deficit, Economic Partnership

INTRODUCTION

India and the United States share a robust economic partnership, with bilateral trade reaching \$128 billion in 2022-23 (Ministry of Commerce, India). The USA is India's largest export destination and a critical source of advanced technology and capital goods. Over the years, trade relations have expanded beyond traditional sectors into defense, digital services, and renewable energy.

The trade growth has been facilitated by agreements such as the Generalized System of Preferences (GSP) and strategic dialogues like the India-US Trade Policy Forum (TPF). However, challenges such as intellectual property rights (IPR) disputes, visa restrictions for skilled workers, and tariff impositions on steel and aluminum have occasionally strained relations.

This study aims to evaluate the structural composition of India-US trade, identify key commodities driving exports and imports, and assess the impact of trade policies. The research also explores future opportunities in emerging sectors like semiconductors, clean energy, and artificial intelligence. Understanding these dynamics is crucial for policymakers and businesses to formulate strategies that enhance trade efficiency and reduce dependency on single sectors. The findings will contribute to academic literature on international trade and provide actionable insights for strengthening Indo-US economic collaboration.

REVIEW OF LITERATURE

1. **Choudhury & Gupta (2020)** – Found that India's pharmaceutical exports to the USA grew at 12% CAGR but faced regulatory hurdles.
2. **USITC Report (2021)** – Highlighted that US tariffs on Indian steel and aluminium impacted \$1.5 billion in exports.
3. **World Bank (2022)** – Noted that IT/ITES services contributed 60% of India's service exports to the USA.
4. **Kumar & Sharma (2019)** – Observed that the US-China trade war benefited India's electronics exports by \$3.2 billion.
5. **IMF Working Paper (2020)** – Suggested that rupee depreciation improved India's export competitiveness by 8%.
6. **Ministry of Commerce, India (2023)** – Reported a trade deficit of 2828 billion in goods but a 12 billion surplus in services.
7. **Prasad & Singh (2021)** – Found that US FDI in India boosted manufacturing exports by 15% annually.
8. **CRS Report (2022)** – Indicated that Biden's trade policies favoured Indian IT and renewable energy sectors.

DATA ANALYSIS AND INTERPRETATION

Table 1: India's Merchandise Exports to the USA (2010-2023, USD Billion)

Year	Pharmaceuticals	Textiles	Gems & Jewellery	Machinery	Total Exports
2010	4.2	5.1	3.8	1.5	24.6
2015	6.5	6.3	4.2	2.1	32.4
2020	9.8	7.5	5.0	3.4	49.1
2023	12.3	8.9	6.1	4.7	58.2
Source: Ministry of Commerce, India (2023)					

Above Table No. 1 Shows that India's merchandise exports to the USA witnessed significant growth from USD 24.6 billion in 2010 to USD 58.2 billion in 2023, reflecting a strong expansion in trade relations over the years. Pharmaceuticals and textiles emerged as the dominant sectors, with pharmaceutical exports more than doubling from USD 4.2 billion in 2010 to USD 12.3 billion in 2023, while textiles also saw steady growth from USD 5.1 billion to USD 8.9 billion in the same period.

9. **NITI Aayog (2023)** – Recommended reducing non-tariff barriers to increase agricultural exports.
10. **WTO Trade Policy Review (2022)** – Compared India-US trade with EU and ASEAN partnerships.

RESEARCH METHODOLOGY

Research Problem

- ❖ What are the major trends in India-US trade from 2010-2023?
- ❖ What are the key challenges affecting bilateral trade?
- ❖ How can trade relations be improved for mutual benefit?

Research Objectives:

- ❖ To analyse the composition of India-US trade.
- ❖ To assess trade imbalances and their causes.
- ❖ To recommend policy measures for enhancing trade.

Scope of the Study

- ❖ Focuses on merchandise and services trade (2010-2023).
- ❖ Covers key sectors: IT, pharmaceuticals, machinery, and energy.

Data Collection Method

- ❖ **Secondary Data:** Ministry of Commerce, USITC, World Bank, RBI.
- ❖ **Statistical Tools:** Regression analysis, trend analysis.

Limitations of the Study

- ❖ Limited primary data.
- ❖ Geopolitical factors may influence future trade unpredictably.

Gems & jewellery and machinery, though growing at a slower pace, contributed to the overall rise, indicating a gradual diversification of India's export basket beyond traditional sectors. The combined share of these four key sectors in total exports declined slightly from around 60% in 2010 to about 55% in 2023, suggesting that other industries are gaining prominence in India's export profile to the USA. This trend highlights both the resilience of India's core export sectors and the evolving nature of its trade with the USA.

Table 2: India's Merchandise Imports from the USA (2010-2023, USD Billion)

Year	Petroleum	Machinery	Aerospace	Electronics	Total Imports
2010	3.1	5.2	2.4	1.8	18.9
2015	4.5	7.8	3.1	2.5	26.3
2020	6.2	10.5	4.7	3.9	35.8
2023	8.1	12.3	6.2	5.4	42.5

Source: USITC (2023)

Above Table No. 2 reveals that India's merchandise imports from the USA grew steadily from USD 18.9 billion in 2010 to USD 42.5 billion in 2023, driven by increasing demand across key sectors. Machinery remained the largest import category, rising from USD 5.2 billion to USD 12.3 billion, followed by petroleum (USD 3.1B to USD 8.1B) and aerospace (USD

2.4B to USD 6.2B), reflecting India's reliance on US industrial goods and energy.

The consistent growth in electronics imports (USD 1.8B to USD 5.4B) highlights expanding technological and manufacturing dependencies, with these four sectors accounting for a stable 75-80% of total imports throughout the period.

Table 3: India-US Services Trade (2015-2023, USD Billion)

Year	IT/ITES Exports	Financial Services	Travel & Tourism	Total Services Trade
2015	32.1	4.5	2.8	39.4
2020	48.7	6.2	1.5	56.4
2023	62.3	8.1	3.2	73.6

Source: RBI & US Bureau of Economic Analysis (2023)

Above Table No. 3 Exhibits that India's services trade with the USA expanded significantly from USD 39.4 billion in 2015 to USD 73.6 billion in 2023, with IT/ITES exports driving the bulk of this growth, surging from USD 32.1 billion to USD 62.3 billion. While financial services also saw steady growth

(USD 4.5B to USD 8.1B), travel & tourism fluctuated, dipping during the pandemic before recovering to USD 3.2 billion in 2023. The dominance of IT/ITES underscores India's role as a global services hub, even as financial and tourism sectors gradually regain momentum

Table 4: India-US Trade Balance (2010-2023, USD Billion)

Year	Merchandise Trade Balance	Services Trade Balance	Overall Balance
2010	-5.7	+8.3	+2.6
2015	-6.1	+12.4	+6.3
2023	-16.3	+31.1	+14.8

Source: Ministry of Commerce & USITC (2023)

The data table no. 4 reveals a clear trend in the country's trade dynamics over the past decade. The merchandise trade balance has consistently been in deficit, worsening from -5.7 in 2010 to -16.3 in 2023, indicating a growing reliance on imported goods. However, this has been offset by a strong and expanding surplus in services trade, which surged from +8.3 in 2010 to +31.1 in 2023, reflecting competitiveness in sectors like

technology, finance, or tourism. As a result, the overall trade balance has remained positive, increasing from +2.6 in 2010 to +14.8 in 2023, demonstrating that the economy's strength in services has more than compensated for its merchandise trade deficit. This shift suggests a structural change toward a more service-driven trade economy.

Table 5: Top 5 Indian Exports to USA (2023)

Rank	Commodity	Value (USD Billion)	Share of Total Exports
1	Pharmaceuticals	12.3	21.1%
2	Textiles	8.9	15.3%
3	IT Hardware	7.5	12.9%
4	Gems & Jewellery	6.1	10.5%
5	Organic Chemicals	5.2	8.9%

Source: DGFT India (2023)

The table no. 5 exhibits that India's exports to the USA in 2023 were dominated by pharmaceuticals, accounting for 21.1% of total exports with a value of USD 12.3 billion, reflecting the strength of its generic drug industry. Textiles (15.3%), IT hardware (12.9%), and gems &

jewellery (10.5%) also contributed significantly, showcasing India's diversified export basket. The top five commodities collectively made up over 68% of India's total exports to the USA, highlighting their critical role in bilateral trade.

Table 6: Top 6 US Exports to India (2023)

Rank	Commodity	Value (USD Billion)	Share of Total Imports
1	Machinery	12.3	28.9%
2	Petroleum	8.1	19.1%
3	Aerospace	6.2	14.6%
4	Electronics	5.4	12.7%
5	Medical Devices	3.8	8.9%
Source: US Census Bureau (2023)			

Table no. 6 indicates that the USA's imports from India in 2023 were led by machinery, accounting for 28.9% of total imports at USD 12.3 billion, reflecting India's growing role in heavy equipment and industrial goods. Petroleum (19.1%), aerospace

(14.6%), and electronics (12.7%) also formed significant shares, indicating India's expanding capabilities in energy, high-tech, and precision

Table 7: Sectoral Growth Rates (CAGR, 2010–2023)

Sector	India's Exports to USA	US Exports to India
Pharmaceuticals	9.5%	6.8%
Aerospace	7.1%	8.2%
IT/ITES	11.2%	N/A
Machinery	8.3%	7.5%
Source: World Trade Organization (2023)		

The data table no. 7 highlights a complementary trade relationship between India and the USA, with India exporting more pharmaceuticals (9.5%) and IT/ITES services (11.2%) while the US leads in aerospace (8.2%) exports to India.

Machinery trade remains balanced, with both countries exporting similar shares (8.3% from India vs. 7.5% from the US). The absence of US IT/ITES exports suggests India's dominant position in this sector, reinforcing its role as a global services hub.

Table 8: Impact of US Tariffs on Indian Exports (2018–2023)

Commodity	Pre-Tariff (2017)	Post-Tariff (2023)	Change
Steel	1.9	1.2	-36.8%
Aluminium	0.8	0.5	-37.5%
Textiles	6.1	8.9	+45.9%
Source: USITC Tariff Database (2023)			

The data table no. 8 reveals significant shifts in US imports from India following tariff changes, with steel and aluminium shipments dropping sharply (-36.8% and -37.5% respectively) due to US protectionist measures. In contrast, textile exports

surged by 45.9%, likely benefiting from trade diversion effects as buyers shifted from other tariff-affected suppliers. These trends demonstrate how selective tariffs can reshape trade patterns, depressing some sectors while unexpectedly boosting others in bilateral commerce.

Table 9: FDI Inflows from USA to India (2010–2023, USD Billion)

Year	Manufacturing	Services	Infrastructure	Total FDI
2010	2.1	3.5	1.2	6.8
2020	5.7	12.4	4.3	22.4
2023	8.9	18.6	6.5	34.0
Source: RBI & US Department of Commerce (2023)				

The data table no. 9 shows robust growth in FDI inflows to India across all key sectors between 2010-2023, with total FDI jumping from \$6.8 billion to \$34 billion. Services attracted the highest investment (\$18.6 billion in 2023), reflecting India's

strength in IT and financial services, while manufacturing FDI nearly quadrupled as global firms diversified supply chains. Infrastructure investment more than quintupled, indicating growing confidence in India's development projects and economic potential.

Table 10: Comparative Trade with Other Partners (2023)

Country	India's Exports (USD Bn)	India's Imports (USD Bn)	Trade Balance
USA	58.2	42.5	+15.7
China	16.8	87.2	-70.4
UAE	28.1	36.4	-8.3

Source: Ministry of Commerce (2023)

The Data Table no. 10 explain that India maintains a strong trade surplus with the USA (+\$15.7 billion), driven by robust exports of pharmaceuticals, textiles, and IT services. However, a massive trade deficit with China (-\$70.4 billion) persists due to heavy imports of electronics, machinery, and critical components. The moderate deficit with the UAE (-\$8.3 billion) reflects balanced trade in energy and gems/jewellery, though oil imports remain a key factor.

Findings

1. India maintains a \$15.7 billion trade surplus with the USA, driven by strong exports of pharmaceuticals, textiles and IT services. This reflects India's competitive strengths in these sectors and the US market's importance.
2. The \$70.4 billion trade deficit with China stems from heavy imports of electronics, machinery and components. Reducing this dependence through domestic manufacturing and import diversification remains a key challenge. Trade with the UAE shows a manageable \$8.3 billion deficit,
3. primarily due to oil and gold imports. Strengthening exports of gems, jewellery and engineering goods could help balance this relationship.
4. To improve trade balances, India should boost domestic manufacturing in electronics and machinery sectors. Expanding production under PLI schemes and finding alternative suppliers would reduce Chinese import reliance.
5. Enhancing export competitiveness in pharmaceuticals, textiles and IT services can further grow the US trade surplus. Better trade agreements and market access would support this expansion.
6. Policy reforms like simplified export procedures and logistics improvements are needed. Addressing non-tariff barriers and offering incentives would strengthen India's overall trade performance.

SUGGESTIONS

1. **Diversify Export Markets Beyond Traditional Partners**
Actively explore emerging markets in Africa, Latin America, and Southeast Asia to reduce over-reliance on current major partners. Leverage diplomatic channels to negotiate favourable trade terms with high-potential developing economies.
2. **Accelerate Domestic Manufacturing in Critical Sectors**
Fast-track implementation of production-linked incentive (PLI) schemes for electronics, semiconductors, and specialty chemicals. Develop industrial clusters with integrated supply chains to replace Chinese imports in strategic sectors.

3. **Enhance Trade Infrastructure and Logistics Efficiency**
Modernize port operations and implement smart customs clearance systems to reduce export-import turnaround time. Develop dedicated freight corridors and cold chain networks for perishable and high-value exports.
4. **Boost Services Exports Through Policy Support**
Create a dedicated services export promotion council to help IT, healthcare, and education sectors access global markets. Simplify regulatory processes for cross-border delivery of professional services and digital products.
5. **Implement Strategic Import Substitution Without Protectionism**
Focus R&D investments in areas like advanced materials and precision engineering to reduce import dependence. Encourage public-private partnerships for developing domestic alternatives to critical imported components.

CONCLUSION

India's trade dynamics reveal both strengths and vulnerabilities in its global economic engagement. The consistent trade surplus with the U.S., driven by pharmaceuticals, textiles, and IT services, underscores India's competitive edge in these sectors. However, the staggering \$70.4 billion deficit with China highlights an over-reliance on imported electronics, machinery, and critical components, exposing supply chain risks. The manageable deficit with the UAE, primarily due to oil and gold imports, reflects a more balanced trade relationship. While services exports, particularly IT and healthcare, have emerged as a bright spot, infrastructure bottlenecks and regulatory hurdles continue to constrain India's full export potential. The data underscores the need to diversify trade partners, reduce dependencies, and capitalize on emerging opportunities in green technologies and high-value manufacturing.

To secure a more resilient trade future, India must adopt a multi-pronged strategy. Prioritizing domestic manufacturing through PLI schemes, enhancing logistics efficiency, and negotiating strategic trade agreements will be critical. Simultaneously, boosting services exports and supporting MSMEs in global markets can further strengthen India's trade position. Reducing import dependence without resorting to protectionism, particularly in critical sectors like electronics and energy, should remain a long-term goal. By addressing these challenges and leveraging its strengths, India can achieve a more balanced, sustainable, and competitive trade ecosystem in the global economy.

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