

India–US Trade Relations: An Empirical Analysis of Bilateral Dynamics and Policy Implications (2012–2022)

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ABSTRACT

This paper provides a decadal review of India–U.S. trade relations from 2012 to 2022, focusing on trends in exports, imports, and trade balance. Using official government data and a quantitative framework, the analysis divides the period into pre-COVID (2012–2019) and post-COVID (2019–2022) phases to capture both long-term structural dynamics and the impact of global disruption. Results show that India consistently maintained a trade surplus, driven by labor-intensive and resource-based exports such as textiles and pharmaceuticals, while the U.S. dominated in capital- and technology-intensive goods. The COVID-19 shock temporarily reduced trade volumes in 2020, but recovery was rapid, with 2021–2022 reflecting renewed momentum and diversification. The study concludes that bilateral trade is structurally resilient and strategically significant, supported by complementary advantages and reinforced by global supply-chain shifts. These findings underline the importance of the India–U.S. partnership as a stabilizing force in global economic relations.

INTRODUCTION

Over the past decade, globalization has deepened economic interdependence, with international trade serving as a critical driver of growth and development. Grounded in the principle of *comparative advantage*, countries specialize in the production of goods and services where they are relatively more efficient and trade for others, thereby increasing overall welfare. Yet, the distribution of these gains is uneven, often reinforcing structural differences across economies.

The United States, as the world's largest economy, plays a central role in shaping global trade patterns. Its comparative strengths lie in capital- and technology-intensive sectors, supported by advanced infrastructure and innovation capacity. India, in contrast, has maintained an edge in labor-intensive goods and resource-based exports. This asymmetry creates a natural basis for exchange, but also underscores the distinct production structures and development trajectories of the two economies.

The India–U.S. trade relationship has assumed increasing importance, both economically and strategically. For India, the U.S. has consistently been one of its largest export destinations, while for the U.S., India represents a rapidly growing market and a key partner in global supply-chain diversification. Over the period 2012–2022, bilateral trade expanded significantly, though it was periodically shaped by domestic political transitions, global economic volatility, and external shocks such as the COVID-19 pandemic.

To capture these dynamics, this study provides a decadal review of India–U.S. trade relations using official government trade data and quantitative methods. The analysis is structured into two phases: the pre-COVID period (2012–2019), which reflects structural growth and policy-driven shifts, and the post-COVID period (2019–2022), which highlights disruption, recovery, and emerging trade patterns.

The objective of the study is twofold: first, to analyse trends in exports, imports, and trade balance across the decade; and second, to draw implications for the resilience and future trajectory of the bilateral trade partnership. By integrating economic theory, empirical evidence, and real-world policy developments, the paper seeks to present a comprehensive view of India–U.S. trade relations and to contribute insights relevant to both academic analysis and policy-making.

LITERATURE REVIEW

The India–U.S. trade relationship has been extensively studied in both academic and policy literature, reflecting its growing importance in the global economy. Researchers have examined the long-term growth trajectory of bilateral trade, the structural asymmetries that shape trade flows, and the impact of political and policy shifts on the partnership. More recently, attention has also been directed toward the resilience of this relationship in the face of global disruptions such as the COVID-19 pandemic. The following review synthesizes these strands of literature and situates the present study within this body of work.

Global Perspectives on India-U.S. Trade:

India’s international trade and foreign policy have undergone a significant transformation since the liberalization reforms of 1991. The opening of the economy to global markets created new opportunities for trade integration, with the United States emerging as one of India’s most important economic partners. Over the past two decades, the bilateral relationship has expanded beyond trade in goods to encompass services, investment, and strategic cooperation, making it a subject of increasing academic and policy attention.

Growth Trajectory of Bilateral Trade:

Several studies highlight the upward trajectory of India–U.S. bilateral trade. Sharma and Kakkar (2020) emphasize the resilience of this relationship, noting consistent double-digit growth in goods trade during the 2010s, while Singh (2017) projects further expansion driven by trade complementarity and declining transaction costs. Reports by the Congressional Research Service (CRS, 2022) identify the U.S. as India’s largest merchandise export destination and its third-largest import supplier, underscoring the mutual dependence of the two economies.

Comparative Advantage and Trade Balance:

At the same time, scholars point to structural asymmetries in the relationship. India’s comparative advantage in labor-intensive exports contrasts with the U.S.’s dominance in capital- and technology-intensive sectors. This divergence shapes the composition of trade flows and explains the persistent trade surplus enjoyed by India.

Policy and Political Influences:

Other research emphasizes the influence of domestic political transitions. The Modi government’s focus on self-reliance and trade reforms after 2014, combined with shifting

U.S. trade policies under successive administrations, created both opportunities and frictions in bilateral trade.

Resilience and Global Shocks:

The COVID-19 pandemic represents a further point of departure in the literature. Studies suggest that global supply-chain disruptions, combined with rising geopolitical tensions, accelerated a shift toward diversification of trade partners. For India, this has reinforced the strategic importance of the U.S. as an export market, while for the U.S., India has gained relevance as an alternative to China in critical supply chains.

Contribution of This Study:

Overall, the literature establishes that India–U.S. trade relations are marked by long-term growth, structural imbalances, and evolving strategic importance. However, there is still limited analysis of the pandemic’s medium-term effects on bilateral trade flows. This study contributes by providing a decadal review of 2012–2022, combining pre- and post-COVID analysis to assess both continuity and change in the relationship.

RESEARCH OBJECTIVES

The primary objective of this study is to conduct a decadal review of India–U.S. trade relations over the period 2012–2022, with particular emphasis on the dynamics of exports, imports, and the trade balance. By analysing official trade data, the research seeks to identify structural trends, evaluate the impact of political and policy developments, and assess the resilience of bilateral trade in the face of global disruptions such as the COVID-19 pandemic.

The specific objectives are to:

1. Examine year-on-year trends in exports, imports, and trade balance between India and the United States.
2. Compare the pre-COVID (2012–2019) and post-COVID (2019–2022) phases to highlight continuity and change.
3. Assess the composition of trade flows in terms of comparative advantages.
4. Draw implications for the future trajectory of the bilateral trade partnership.

METHODOLOGY

This study employs a **quantitative, time-series design** to evaluate India–U.S. trade relations during 2012–2022. The methodology is structured into four subsections: *Study Design*, *Data Sources*, *Analytical Approach*, and *Limitations*. Together, these ensure that the analysis remains systematic, transparent, and relevant for both academic and policy-oriented evaluation.

Study Design:

Quantitative, time-series framework examining annual exports, imports, and trade balance. The decade divided into two phases to capture both structural continuity and external disruption:

- **Pre-COVID (2012–2019):** long-term trajectory of bilateral trade before the pandemic.
- **Post-COVID (2019–2022):** short-term disruption and recovery patterns.

This design highlights both the stability of trade relations and the adaptability of flows under global shocks, allowing economic patterns to be linked with broader policy and geopolitical contexts.

Data Sources:

- **Primary source:** Ministry of Commerce and Industry, Government of India (Trade Statistics Division), providing annual bilateral trade data.
- **Cross-verification:** U.S. Congressional Research Service (CRS) and Office of the U.S. Trade Representative (USTR) to ensure reliability and comparability.
- Data compiled into structured tables and visualized through charts for clarity.
- Exclusive reliance on government-issued and internationally recognized sources enhances accuracy and credibility, making the dataset robust for academic and professional review.

Analytical Approach:

The analysis integrates descriptive statistics, comparative evaluation, and visual representation. Year-on-year growth rates are calculated to measure the dynamics of exports and imports, while phase-wise comparisons highlight structural continuity alongside COVID-related disruptions. Graphical tools, such as line and bar charts, are used to illustrate patterns, enabling both quantitative precision and clear communication.

To extend the analysis beyond trend measurement, the study applies a comparative advantage lens. Trade composition is examined to demonstrate India's relative strength in labor-intensive and resource-based exports, contrasted with the United States' specialization in capital- and technology-intensive goods. This framework connects numerical evidence with economic theory, ensuring that findings are not only data-driven but also theoretically grounded and policy-relevant.

Limitations:

As the study relies entirely on secondary data, differences in reporting methodologies across Indian and U.S. sources may lead to minor discrepancies. The aggregate nature of the data restricts deeper product- or sector-level insights, limiting granularity in interpretation. The post-COVID phase (2019–2022) captures only immediate impacts rather than long-term structural transformation, while provisional datasets beyond 2022 are excluded to preserve reliability.

Despite these constraints, triangulation across multiple credible sources strengthens validity, and the decade-long horizon ensures that results emphasize structural patterns rather than short-term volatility. Acknowledging these limitations enhances transparency and reinforces the robustness of the study's conclusions for both academic inquiry and professional application.

RESULTS AND FINDINGS

Phase I: Pre-COVID Analysis (2012–2019)

The pre-COVID period was characterized by steady growth in India–U.S. trade, reflecting structural complementarities between the two economies. During this phase, India’s exports to the U.S. consistently exceeded its imports, resulting in a sustained trade surplus.

Table 1: India–U.S. Trade (2012–2019, USD billions):

Year	Exports	Imports	Trade Balance	Export Growth %	Import Growth %
2012	36.2	23.5	12.7	—	—
2013	39.1	22.5	16.6	8.01	-4.26
2014	42.4	21.8	20.6	8.44	-3.11
2015	40.3	21.8	18.5	-4.95	0.00
2016	42.2	22.3	19.9	4.71	2.29
2017	47.8	26.6	21.2	13.27	19.28
2018	52.4	35.5	16.9	9.62	33.46
2019	53.1	35.8	17.3	1.34	0.85

Export Trends:

Exports from India to the U.S. grew steadily across most years, driven primarily by textiles, pharmaceuticals, and precious metals. This performance highlights India’s comparative advantage in labor-intensive and resource-based industries. The growth trajectory also reflects India’s integration into global value chains, particularly in services and manufacturing.

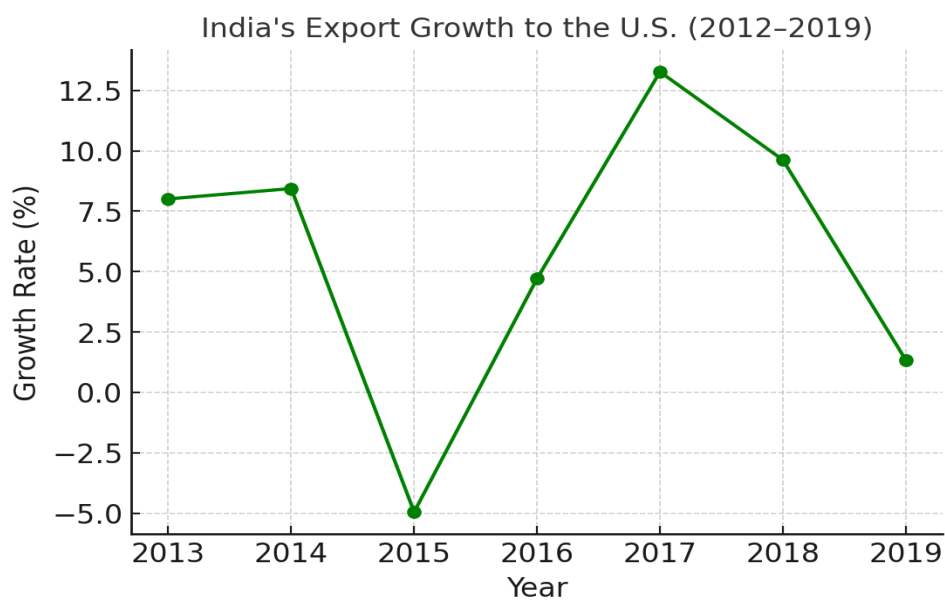


Figure 1: India's Export Growth to the U.S. (2012–2019, % YoY):

Import Trends:

U.S. exports to India rose during this period, concentrated in capital-intensive and high-technology goods such as machinery, electronics, and aircraft. While the rate of growth in imports was lower than exports, their increasing share points to India's reliance on advanced U.S. technologies and capital goods to support its domestic development agenda.

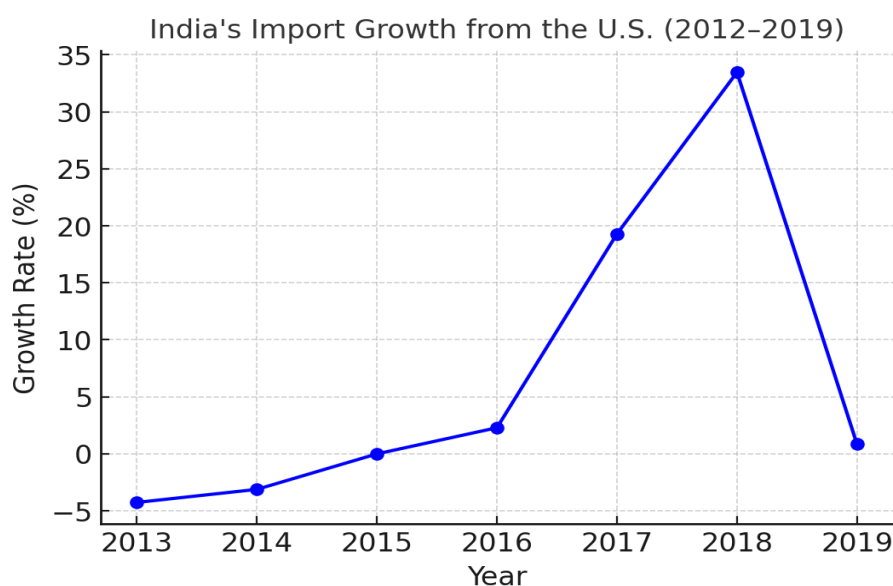


Figure 2: India's Import Growth from the U.S. (2012–2019, % YoY):

Trade Balance:

Throughout 2012–2019, India maintained a positive trade balance with the U.S., generally in the range of USD 15–20 billion annually. This surplus underscores the asymmetry of the relationship — India as a supplier of consumer and resource-based goods, and the U.S. as a provider of advanced capital goods.

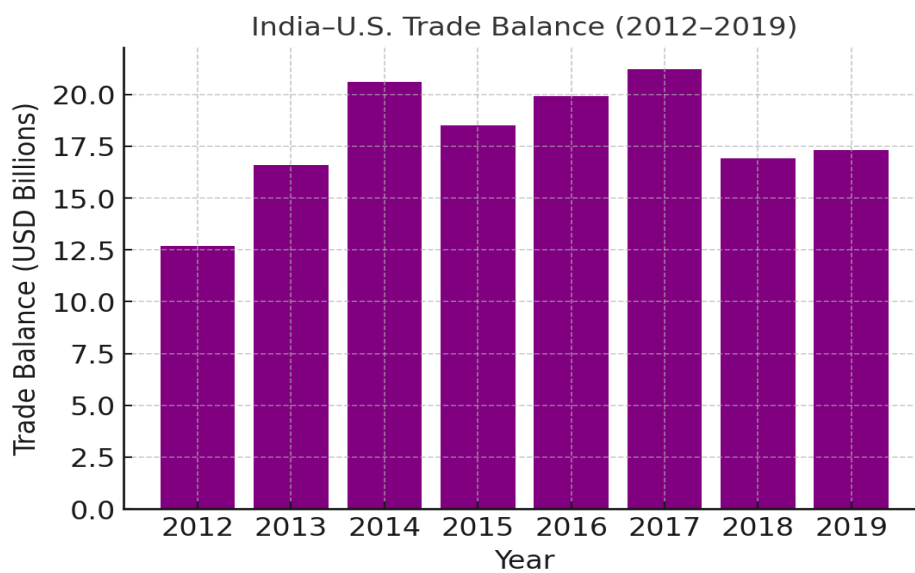


Figure 3: India–U.S. Trade Balance (2012–2019, USD billions):

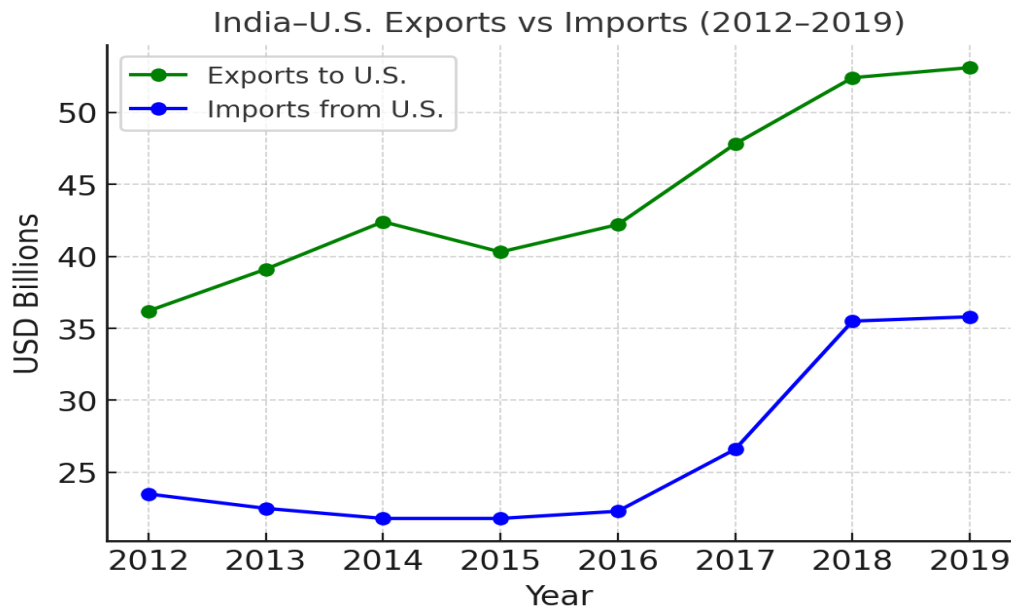


Figure 4: Comparative Exports and Imports (2012–2019, USD billions):

Policy and Political Influences:

Two structural shifts influenced trade flows during this phase. First, the change of government in India in 2014 introduced policies promoting self-reliance and domestic manufacturing, which indirectly affected trade patterns. Second, shifts in U.S. trade policy, including tariff adjustments and debates over trade deficits, created occasional frictions, though bilateral trade overall continued to expand.

Summary of Phase I:

The pre-COVID decade reinforced the resilience of India–U.S. trade relations, with India benefiting from a sustained surplus and the U.S. consolidating its role as a key supplier of capital and technology-intensive goods. This phase established the structural foundation against which the impact of the COVID-19 pandemic can be assessed in the subsequent period.

Phase II: Post-COVID Analysis (2019–2022)

The COVID-19 pandemic represented a significant disruption to global trade, including India–U.S. relations. However, the data shows that while bilateral trade contracted sharply in 2020, recovery was rapid and resilient, with 2021–2022 recording renewed momentum.

Table 2: India–U.S. Trade (2019–2022, USD billions):

Year	Exports	Imports	Trade Balance	Export Growth %	Import Growth %
2019	53.1	35.8	17.3	—	—
2020	51.6	28.9	22.7	-2.82	-19.27
2021	62.3	34.3	28.0	20.74	18.69
2022	65.0	36.5	28.5	4.33	6.41

Export Trends:

India’s exports to the U.S. fell marginally in 2020 due to supply-chain breakdowns and lockdown restrictions. However, by 2021, they surged to over USD 62 billion, supported by demand for pharmaceuticals, textiles, and IT-enabled services. The upward trajectory continued into 2022, underscoring the resilience of India’s export base.



Figure 5: India’s Export Growth to the U.S. (2019–2022, % YoY)

Import Trends:

U.S. exports to India dropped significantly in 2020 (to USD 28.9 billion) as industrial demand slowed and supply chains faced bottlenecks. By 2021–2022, imports rebounded, especially in high-technology goods and energy products, reflecting India’s post-pandemic recovery.

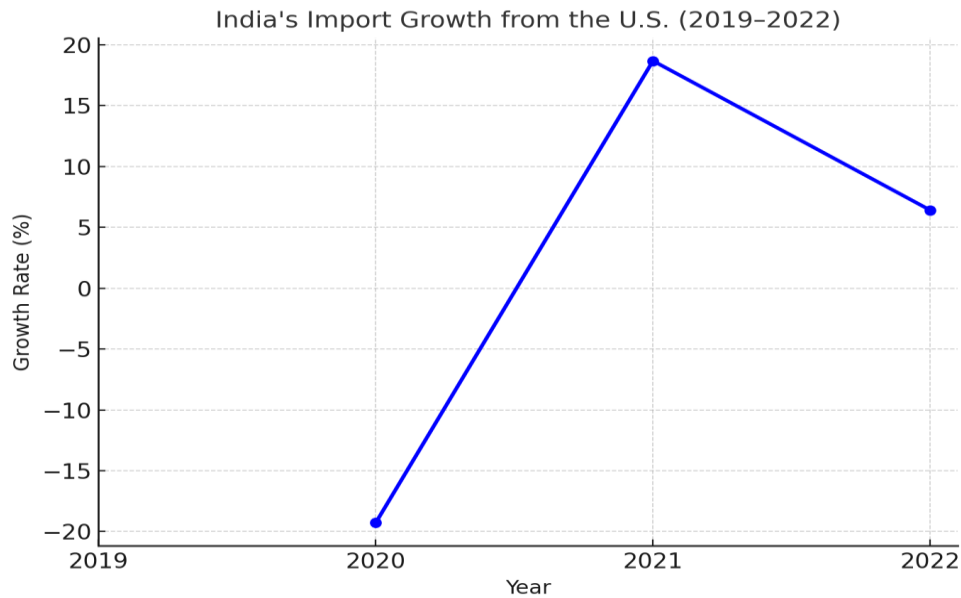


Figure 6: India’s Import Growth from the U.S. (2019–2022, % YoY)

Trade Balance:

Despite the volatility, India consistently maintained a trade surplus with the U.S., peaking in 2021–2022 at nearly USD 28 billion. This suggests that while both exports and imports rebounded, India’s export recovery was more pronounced than its import demand.

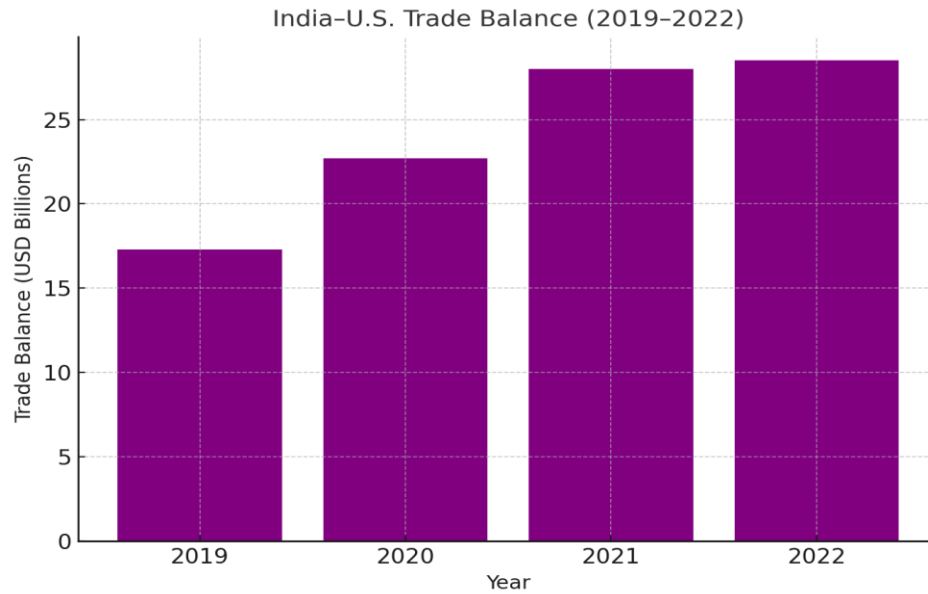


Figure 7: India–U.S. Trade Balance (2019–2022, USD billions)

Overall Trade Dynamics:

Comparing exports and imports together reveals the structural resilience of the relationship.



Figure 8: Comparative Exports and Imports (2019–2022, USD billions)

While imports dipped more steeply than exports during the crisis, both rebounded by 2022, demonstrating the strength of bilateral trade ties.

Summary of Phase II:

The post-COVID years highlight the adaptability of India–U.S. trade relations. Short-term disruptions gave way to a swift recovery, reaffirming the long-term structural complementarities between the two economies. This resilience sets the stage for deeper cooperation in the coming decade.

DISCUSSION

The analysis of India–U.S. trade relations over 2012–2022 highlights both the resilience and evolving nature of the bilateral partnership. Dividing the decade into pre- and post-COVID phases reveals continuity in trade surpluses, adaptability under global disruptions, and the influence of policy and strategic shifts. The following discussion interprets these results in light of broader economic dynamics.

Exports and Imports Dynamics:

The findings confirm much of the existing scholarship. Sharma and Kakkar (2020) emphasized the resilience of bilateral trade, and the data presented here reinforces that point: India consistently maintained a trade surplus, even though the disruptions caused by COVID-19. Similarly, Singh (2017) argued that India’s comparative advantage in labor-intensive exports and the U.S.’s strength in capital- and technology-intensive goods underpin structural complementarities. This study’s results validate those observations across the decade.

Resilience and Adaptability:

The division of the study into pre- and post-COVID phases demonstrates the adaptability of bilateral trade. While overall volumes contracted in 2020, recovery was swift by 2021–2022, particularly in pharmaceuticals and IT-enabled services. This highlights not only the persistence of India’s trade surplus but also its capacity to adjust to external shocks, reinforcing the structural resilience of the relationship.

Policy and Political Influences:

Domestic and international policy changes shaped the dynamics of trade flows. India’s initiatives aimed at self-reliance, such as “Make in India,” influenced import patterns while continuing to accommodate U.S. capital-intensive exports. On the U.S. side, tariff adjustments and debates over deficits introduced occasional frictions. However, the persistence of robust trade volumes despite these shifts indicates that long-term complementarities outweighed short-term policy pressures.

Strategic Significance:

The findings also highlight the strategic dimension of bilateral trade. India’s role as a reliable partner during the post-COVID recovery enhanced its importance in U.S. supply chain diversification efforts, particularly amid shifts in global trade away from China. This

growing alignment underscores that the India–U.S. trade relationship is not only economic but also geopolitical in nature.

Synthesis:

Taken together, the findings indicate that India–U.S. trade relations are characterized by stability, adaptability, and strategic relevance. Reinforced by structural complementarities, resilient under global shocks, and increasingly tied to broader geopolitical considerations, the partnership emerges as a cornerstone of long-term global trade realignment.

FUTURE PREDICTIONS

Looking ahead, India–U.S. trade relations are poised to strengthen further, supported by structural complementarities, strategic alignment, and evolving global dynamics. Based on historical trends and emerging indicators, several forward-looking observations can be made:

1. Continued Trade Surplus for India:

India is likely to maintain its trade surplus with the U.S., driven by strong demand for pharmaceuticals, textiles, IT-enabled services, and resource-based exports. While U.S. capital- and technology-intensive exports will continue to grow, India’s comparative advantage in labor-intensive goods ensures a positive trade balance.

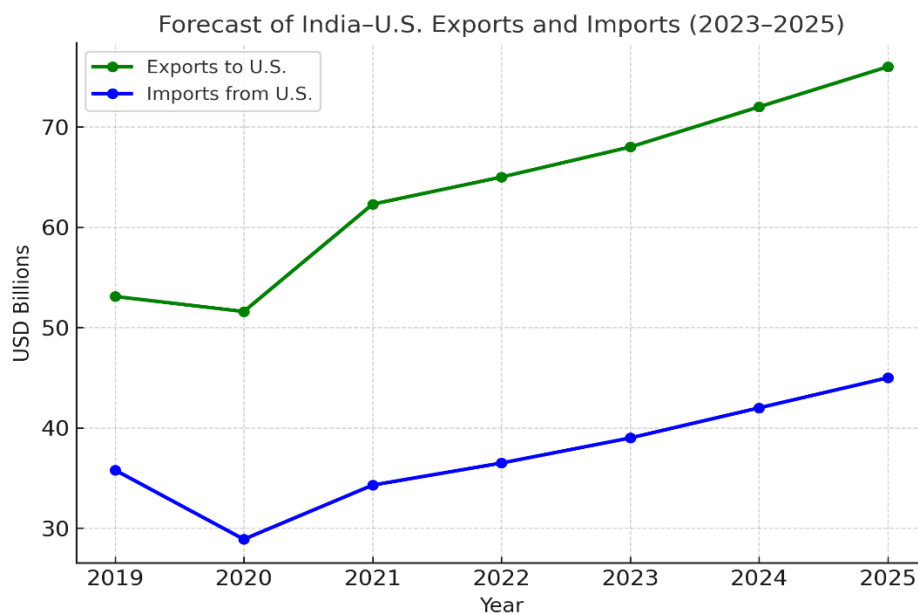


Figure 9: Forecast of India–U.S. Exports and Imports (2023–2025, USD billions)

2. Expansion in Services Trade:

Beyond merchandise trade, services are expected to play a larger role. The U.S. remains the largest market for India’s IT and professional services exports. With increasing digitalization and remote service delivery, this segment is likely to grow faster than goods trade.

3. Supply Chain Diversification:

Geopolitical shifts and post-pandemic lessons have led the U.S. to diversify supply chains away from China. India, with its resource base and skilled labor, stands to benefit significantly as an alternative hub for manufacturing and sourcing.

4. Policy Influence and Strategic Cooperation:

Domestic policies in both countries will shape trade flows. India's focus on "Make in India" and self-reliance may create selective barriers but also opportunities for U.S. investment in Indian industries. Similarly, U.S. trade policy — influenced by strategic competition with China — will likely favor stronger ties with India.

5. Emerging Sectors of Growth:

Future trade expansion is expected in pharmaceuticals, renewable energy technologies, defense equipment, and digital services. India's growing middle class also presents opportunities for U.S. exporters in consumer goods, education, and healthcare.

Summary of Predictions:

India–U.S. trade over the next decade will likely be characterized by continuity in India's trade surplus, rapid expansion in services, and strategic alignment in supply chains. The relationship is expected to evolve from being primarily goods-focused to becoming a broader economic partnership, integrating services, investment, and technology collaboration.

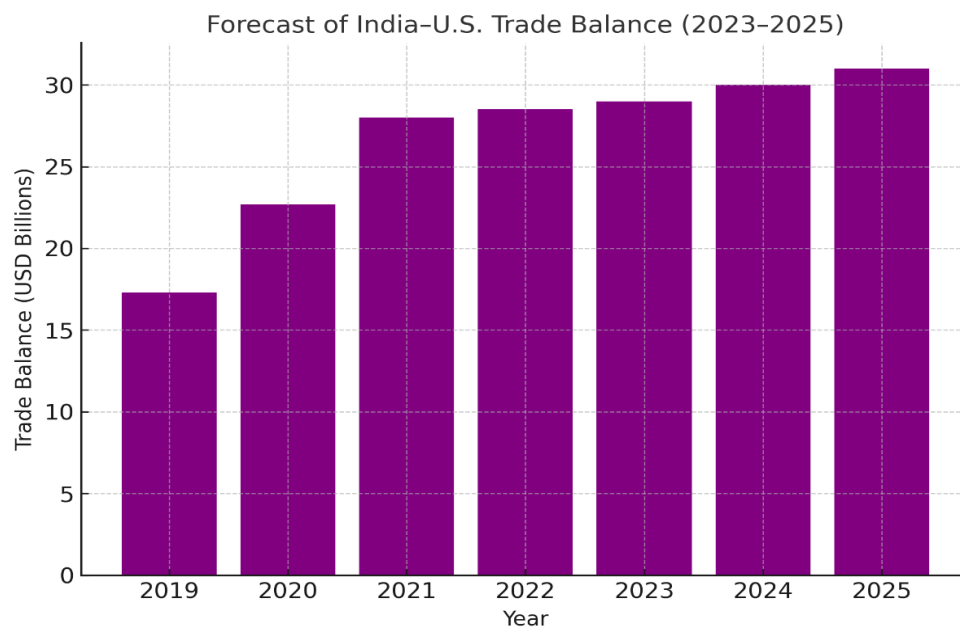


Figure 10: Forecast of India-U.S. Trade Balance (2023-2025, USD billions)

SUMMARY AND CONCLUSION

This study provided a decadal review of India–U.S. trade relations from 2012 to 2022, analysing exports, imports, and trade balance across two phases — pre-COVID (2012–2019) and post-COVID (2019–2022). The findings highlight both continuity and change in the relationship, shaped by structural economic factors, policy decisions, and global disruptions.

During the pre-COVID period, India consistently maintained a trade surplus, supported by labor-intensive and resource-based exports such as textiles, pharmaceuticals, and precious metals. The U.S., in turn, supplied capital-intensive and high-technology goods, reinforcing the complementary nature of the relationship. Political transitions in both countries influenced policy directions, but the overall trajectory remained one of steady growth.

The post-COVID period demonstrated the resilience of bilateral trade. While both exports and imports contracted sharply in 2020, recovery was swift, with 2021–2022 witnessing renewed momentum and diversification. India’s export rebound was stronger than its import demand, resulting in a widening trade surplus. This phase underscored the adaptability of the partnership, even under unprecedented global stress.

Looking ahead, the future of India–U.S. trade relations appears structurally robust. Projections suggest continued Indian surpluses, expansion of services trade, greater integration into diversified supply chains, and growing collaboration in emerging sectors such as pharmaceuticals, renewable energy, defense, and digital services.

In conclusion, the decade under review reaffirms that India–U.S. trade relations are not only economically significant but also strategically important. The complementarities between the two economies provide a strong foundation for future growth, while external shocks such as the COVID-19 pandemic have highlighted their capacity to adapt and recover. As global trade dynamics continue to evolve, the India–U.S. partnership will remain a central pillar of international economic cooperation, with increasing relevance for global stability and growth.

REFERENCES

Congressional Research Service. (2022). *U.S.–India trade relations: Current trends and issues*. Washington, D.C.: CRS.

Ministry of Commerce and Industry, Government of India. (2012–2022). *Export–Import Data Bank (India–U.S. bilateral trade statistics)*. Retrieved from <https://tradestat.commerce.gov.in>

Office of the United States Trade Representative. (2021). *India – U.S. trade relations*. Washington, D.C.: USTR.

Sharma, S. P., & Kakkar, B. (2020). *The future of expanding India–U.S. bilateral relations*. Ph.D. Research Bureau, PHD Chamber of Commerce and Industry.

Singh, R. (2017). *India–U.S. trade: Renewed and resilient relationship*. New Delhi: Indian Council for Research on International Economic Relations (ICRIER).

U.S. Department of State. (2021). *U.S. relations with India*. Retrieved from <https://www.state.gov>

World Bank. (2022). *World development indicators: International trade data*. Washington, D.C.: The World Bank.