

Structural Asymmetry and Macroeconomic Imbalances in the India-ASEAN Free Trade Architecture: A Quantitative Sectoral Analysis (2015–2025)

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Abstract: This study examines the impact of the ASEAN-India Free Trade Agreement (AIFTA) from 2015 to 2025. While the agreement succeeded in doubling total bilateral trade to over \$123 billion by 2025, it created a severe trade imbalance for India. Over the decade, India's trade deficit with the 10-member ASEAN bloc grew by more than 205%, expanding from -\$14.78 billion in 2016 to an unprecedented -\$45.20 billion in 2025. This widening gap was driven by an unequal tariff structure: India opened up its market by removing duties on 74.4% of its product categories, whereas major ASEAN economies (Indonesia, Malaysia, Thailand, and Vietnam) kept defensive barriers in place, protecting 20% to 26% more of their product lines. Using a quantitative research design, this study analyzes trade data from the UN Comtrade Database, the International Monetary Fund (IMF), India's Ministry of Commerce, and the Reserve Bank of India (RBI). The research tracks overall trade metrics alongside specific high-volume imports under the Harmonized System (HS) code classification system. The data reveals that India became highly dependent on ASEAN imports for critical industrial inputs and raw materials, particularly Electronics (HS 85), Machinery (HS 84), and Palm Oil (HS 15). Conversely, competitive Indian exports were held back by strict Non-Tariff Barriers (NTBs) in ASEAN markets and undermined by weak Rules of Origin (RoO) enforcement, which allowed third-party countries like China to route cheap goods into India duty-free through ASEAN hubs. The findings show that this heavy influx of cheap imports hurt India's domestic economy. It created inverted duty structures that made local manufacturing less competitive, reducing the effectiveness of national industrial initiatives like Make in India and Production Linked Incentive (PLI) schemes. Additionally, vulnerable domestic sectors—including small businesses (MSMEs) and plantation agriculture (rubber, tea, and palm oil)—faced intense financial pressure. While India's services sector generated a steady surplus through digital exports, ASEAN's strict limits on the movement of professionals (Mode 4) prevented it from growing enough to offset the massive merchandise deficit. The study concludes that the current trade framework is unsustainable for India. It provides an empirical blueprint to guide ongoing re-negotiations for the updated trade pact, recommending stricter rules of origin to stop third-party dumping, reciprocal actions to dismantle non-tariff barriers, and re-aligned tariff structures to protect domestic industries.

Keywords: Asean-India Free Trade Agreement (AIFTA), Trade Asymmetry, Structural Deficit, Tariff Elasticity, Rules of Origin (RoO), Non-Tariff Barriers (NTBs), Value Chain Integration.

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I. INTRODUCTION

The ASEAN-India Free Trade Agreement (AIFTA) represents the economic culmination of India's "Look East" policy, which was launched in 1991 to deepen engagement with East Asian economies. This strategic shift led to a rapid

upgrade in institutional ties with the Association of Southeast Asian Nations (ASEAN)—a 10-member regional bloc established in 1967 to accelerate economic growth and regional stability. India progressed from a Sectoral Dialogue Partner in 1992 to a Full Dialogue Partner in 1995, eventually signing a landmark Framework Agreement for a

Comprehensive Economic Cooperation Agreement (CECA) in 2003. This framework paved the way for six years of intensive negotiations on a trade-in-goods pact, culminating in the signing of the AIFTA on August 13, 2009, in Bangkok. The agreement officially entered into force on January 1, 2010, initially for Malaysia, Singapore, and Thailand, before rolling out to the remaining member states upon completion of their domestic requirements.

Even prior to its full implementation, the ASEAN bloc was a critical pillar of India's foreign commerce, accounting for 9.27% of India's global trade and generating nearly \$45 billion in bilateral trade during the 2008/09 fiscal year. However, this economic relationship has historically been heavily concentrated within just four maritime nations: Indonesia, Malaysia, Thailand, and Singapore. Among these, Singapore emerged as the dominant trade hub, commanding a massive 45.6% of India's total exports to the bloc and supplying 31.1% of India's imports from ASEAN in 2008. While this historical backdrop highlights a successful diplomatic transition from political intent to concrete trade integration, it also establishes the baseline for a critical research problem. The high concentration of trade with a few export-driven economies and the subsequent tariff structures created an asymmetrical framework, which ultimately led to a widening trade deficit for India and set the stage for contemporary renegotiations.

The trade relationship between India and the Association of Southeast Asian Nations (ASEAN) has expanded rapidly since the introduction of India's Look East Policy and the ASEAN-India Free Trade Agreement (AIFTA). Trade between the two regions increased from nearly \$2.5 billion in 1991 to more than \$123 billion by 2025, making ASEAN one of India's major trading partners. Lower tariffs and improved connectivity helped Indian industries such as automobiles, chemicals, and pharmaceuticals access raw materials and regional markets more easily. Countries like Singapore, Malaysia, Indonesia, and Vietnam became important destinations for Indian trade and investment. The quick recovery of trade after the COVID-19 pandemic also showed the strength of economic ties between the two regions.

Despite these advantages, the agreement has created several challenges for India. The most serious issue is the continuously rising trade deficit. India imports far more goods from ASEAN than it exports, especially electronic goods, chemicals, coal, and palm oil. This has negatively affected many domestic sectors, including MSMEs, plantation agriculture, and small-scale industries, which struggle to compete with low-cost imports. Another concern is the presence of Non-Tariff Barriers (NTBs) in ASEAN markets that limit the growth of Indian exports. In addition, weak enforcement of Rules of Origin has allowed goods from third countries to enter India through ASEAN nations at reduced duties.

Today, India is attempting to reform the agreement instead of withdrawing from it. The government is demanding stricter Rules of Origin, reduction of unfair trade

barriers, and stronger protection for domestic industries. Future policy changes are important because if the current imbalance continues, India may become overly dependent on imports while local industries face greater pressure. Therefore, studying India–ASEAN trade is essential for understanding both its benefits and risks and for creating a more balanced and sustainable economic partnership in the future.

The ASEAN-India Free Trade Agreement (AIFTA) was introduced to strengthen economic cooperation, increase bilateral trade, and create a balanced trade partnership between India and the Association of Southeast Asian Nations (ASEAN). However, over time, the agreement has resulted in a significant structural imbalance, where India's imports from ASEAN have increased much faster than its exports, leading to a continuously widening trade deficit and pressure on the Balance of Payments (BoP) and Current Account Deficit (CAD). India has become highly dependent on ASEAN imports for important intermediate goods such as electronics, machinery, chemicals, and palm oil, while Indian exports remain limited to a few sectors without broad expansion. This imbalance has negatively affected domestic industries, particularly MSMEs, small manufacturers, and plantation agriculture, which struggle to compete with low-cost imports. Additional challenges include Non-Tariff Barriers (NTBs) that restrict Indian exports, weak Rules of Origin (RoO) that permit third-country dumping through ASEAN channels, and the uneven distribution of benefits that favor foreign producers more than Indian businesses.

In this context, the present study is important because it aims to examine the macroeconomic and structural impacts of AIFTA by analyzing trade trends from the beginning of the agreement to the ongoing AITIGA renegotiations in 2026. The study focuses on identifying the causes of trade imbalance, analyzing India's dependence on key imports, understanding barriers affecting exports, and evaluating loopholes in trade regulations. It also seeks to provide data-driven recommendations that can help policymakers reform the agreement and create a more fair, balanced, and sustainable trade relationship for India in the future. **HYPOTHESIS:** The implementation of the ASEAN-India Free Trade Agreement (AIFTA) significantly accelerated bilateral trade volumes, with a disproportionately stronger expansionary effect on India's import inflows compared to its export outflows, structurally driven by an import concentration in intermediate inputs—specifically electronics, machinery, and palm oil—namely a highly localized export expansion restricted to select services and niche manufacturing sectors.

II. REVIEW OF LITERATURE

The academic literature on the ASEAN–India Free Trade Area (AIFTA) presents a mixed but increasingly consistent conclusion: while the agreement has substantially increased bilateral trade volumes, its benefits have been distributed unevenly, with ASEAN countries generally gaining more in merchandise trade while India has faced widening trade deficits.

Early studies highlighted both opportunities and risks associated with AIFTA. Rajan Sudesh Ratna and Murali Kallummal (2013) examined the impact of AIFTA on agriculture and fisheries, arguing that although tariff reductions created new market opportunities, sensitive and labor-intensive sectors in India remained vulnerable to import competition. Their work emphasized concerns regarding agricultural products, fisheries, tea, and coffee, where domestic producers faced adjustment pressures after trade liberalization.

Using trade creation and trade diversion analysis, Loitongbam Bishwanjit Singh (2021) found that AIFTA generated significant trade creation effects for both exports and imports. However, the study concluded that import creation was substantially stronger than export creation, indicating that India benefited less from the agreement relative to ASEAN partners.

A similar conclusion was reached by Priyanka Khatri and Chanwahn Kim (2022), who applied a gravity model framework to assess India's export performance under AIFTA. Their findings suggested that although the agreement enhanced trade integration and export flows, the gains were not evenly distributed across sectors, and structural limitations continued to constrain India's export competitiveness.

Research focusing on comparative advantage has further reinforced concerns regarding India's trade position. Monika Jain (2020) used the Revealed Comparative Advantage (RCA) Index and found that India possessed comparative advantages in several product categories but failed to fully capitalize on them. The study linked this underutilization to persistent and widening trade deficits with ASEAN nations despite increasing trade volumes.

More recent empirical studies provide stronger econometric evidence regarding the asymmetrical outcomes of AIFTA. Mamta Kumari (2025) employed a structural gravity model with three-way fixed effects and intranational trade controls. The study found that AIFTA significantly increased trade among member countries but also revealed differing impacts on India's exports and imports across ASEAN economies, suggesting that previous studies may have overstated bilateral gains by not accounting for internal trade dynamics.

Likewise, Saurav Kalita (2026) conducted a comprehensive econometric assessment using difference-in-differences, synthetic control methods, instrumental variables, GMM, and PPML estimation techniques. The study concluded that AIFTA produced significant trade expansion but generated asymmetric outcomes, as India's import elasticity exceeded export elasticity. The research documented a substantial rise in India's trade deficit and argued that the long-run effects of the agreement may further intensify these imbalances unless structural reforms are implemented.

Other scholars have examined the broader impact of AIFTA on trade performance. Kanhaya and Kumar (2023) observed that the agreement positively influenced overall trade growth between India and ASEAN but had limited impact on changing the direction or composition of trade flows. Their findings suggest that while economic integration improved, the structure of India's exports remained largely unchanged.

Recent policy discussions and contemporary analyses increasingly focus on widening trade deficits, non-tariff barriers, and rules-of-origin concerns. Ongoing AITIGA review negotiations reflect India's attempts to address these structural challenges by strengthening origin verification mechanisms, reducing hidden market-access barriers, and improving domestic manufacturing competitiveness through initiatives such as Production Linked Incentive (PLI) schemes.

Overall, the literature demonstrates a broad consensus that AIFTA successfully expanded India–ASEAN trade and deepened regional economic integration. However, most contemporary studies conclude that the gains have been uneven, with import growth consistently outpacing export growth. Consequently, current research increasingly emphasizes the need for trade policy reforms, improved market access, stronger manufacturing capacity, and more balanced implementation mechanisms to ensure that future India–ASEAN trade relations generate more equitable economic outcomes.

III. METHODOLOGY OF THE STUDY

This study uses a quantitative and analytical research methodology to examine the macroeconomic and structural effects of the ASEAN-India Free Trade Agreement (AIFTA). The research is based on empirical analysis using historical trade data to understand changes in trade patterns, sectoral performance, and the overall impact of the agreement on India's economy. The study mainly focuses on identifying the causes of rising imports, stagnant exports, and the widening trade deficit between India and the Association of Southeast Asian Nations (ASEAN).

The study covers an eleven-year period from 2015 to 2025, which represents the phase after major tariff reductions were fully implemented under AIFTA. The geographical scope is limited to trade relations between India and the ten ASEAN member countries, namely Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. The research relies entirely on secondary data collected from reliable international and national sources. Major databases include UN Comtrade, IMF Direction of Trade Statistics (DOTS), the Ministry of Commerce and Industry of India, the Reserve Bank of India (RBI), the World Integrated Trade Solution (WITS), and the World Trade Organization (WTO).

The study classifies products using the Harmonized System (HS) code structure at both the 2-digit and 4-digit levels. Important variables include India's export value,

import value, total trade volume, and trade balance. Special attention is given to imports of electronics, machinery, and palm oil because these sectors contribute significantly to India's dependence on ASEAN markets.

To analyze the data, several economic and statistical tools are applied. Trend analysis and Compound Annual Growth Rate (CAGR) are used to measure trade growth patterns. The Trade Intensity Index (TII) evaluates the strength of bilateral trade relations, while the Revealed Comparative Advantage (RCA) identifies competitive export sectors. The Grubel-Lloyd Index measures intra-industry trade, and time-series regression analysis is used to study the relationship between rising imports and the growing trade deficit.

➤ *Shift in Trade Volume and Balance*

- **Before AIFTA (2000–2009):** Trade between India and the Association of Southeast Asian Nations grew slowly and steadily. The trade deficit was small (below \$5 billion) and manageable, with exports and imports balanced.
- **After ASEAN-India Free Trade Agreement (2010–2025):** Trade increased rapidly, but unevenly. Imports grew much faster than exports, causing the deficit to rise sharply to around \$45 billion, putting pressure on India's economy.
- **Change in Import Structure Before AIFTA:** Imports were mainly raw materials like palm oil, coal, and rubber for domestic use.
- **After AIFTA:** Imports shifted to electronics, machinery, and components. India became dependent on ASEAN for key parts used in manufacturing instead of producing them locally.

➤ *Export Pattern*

- **Before AIFTA:**
India exported a wide range of goods like agriculture products, marine items, chemicals, and textiles.
- **After AIFTA:**
Export growth became limited and concentrated in a few areas like IT services, petroleum products, and niche chemicals. Overall export expansion remained weak.

➤ *Tariffs vs Non-Tariff Barriers*

- **Before AIFTA:**
Trade was controlled mainly through high tariffs, protecting domestic industries.
- **After AIFTA:**
While tariffs were reduced, ASEAN countries introduced strict non-tariff barriers like complex rules, certifications, and regulations, which blocked Indian exports (e.g., pharmaceuticals, meat).

➤ *Rules of Origin and Third-Party Routing*

- **Before AIFTA:**
Trade was direct, and goods had to genuinely come from ASEAN countries.
- **After AIFTA:**
Weak rules allowed countries like China to send goods through ASEAN nations (like Vietnam, Malaysia, Thailand) into India at low or zero duty, leading to unfair competition and dumping.

IV. DATA ANALYSIS AND INTERPRETATION

➤ *Research Methodology and Data Sourcing*

The empirical evaluation of the ASEAN-India Free Trade Agreement (AIFTA) utilizes a quantitative and analytical research design. The analysis focuses on the structural shifts in trade following the complete implementation of tariff reductions.

- **Data Sources:**
Primary trade statistics were extracted from the UN Comtrade Database and the Ministry of Commerce and Industry (GoI) Export-Import Data Bank.
- **Classification:**
Products were not aggregated using the Harmonized System (HS) Code at the 2-digit and 4-digit levels to isolate critical intermediate goods.
- **Variables:**
The study tracks India's Total Import Value (M), Total Export Value (X), and the Net Trade Balance (X - M).
- **Temporal Scope:**
The analysis covers an 11-year period (2015–2025), representing the phase of mature treaty implementation.

➤ *Core Import Sectors (Testing Structural Dependency)*

- **Electronics & Electrical Equipment (HS Code 85):**
Focus heavily on sub-categories like *Integrated Circuits (HS 8542)* and *Telecom Instruments/Smartphones (HS 8517)*.
- **Nuclear Reactors, Boilers, Machinery & Mechanical Appliances (HS Code 84):**
Focus on industrial machinery parts, computer hardware, and assembly components.
- **Animal or Vegetable Fats and Oils (HS Code 15):**
Specifically target *Crude Palm Oil and its fractions (HS 1511)*, primarily imported from Indonesia and Malaysia.
- **Organic Chemicals (HS Code 29):**
Raw chemical compounds heavily utilized by India's pharmaceutical and industrial manufacturing sectors

Table 1 Sectoral Analysis Electronics & Electrical Equipment

| Year | Imports from ASEAN (M) | Exports to ASEAN (X) | Sectoral Trade Deficit (TD) |
|------|------------------------|----------------------|-----------------------------|
| 2015 | 8.45 | 1.90 | -6.55 |
| 2016 | 9.12 | 2.05 | -7.07 |
| 2017 | 11.30 | 2.42 | -8.88 |
| 2018 | 14.15 | 2.85 | -11.30 |
| 2019 | 15.80 | 3.10 | -12.70 |
| 2020 | 13.50 | 2.75 | -10.75 |
| 2021 | 18.25 | 3.60 | -14.65 |
| 2022 | 22.40 | 4.15 | -18.25 |
| 2023 | 25.10 | 4.80 | -20.30 |
| 2024 | 27.85 | 5.25 | -22.60 |
| 2025 | 31.20 | 5.90 | -25.30 |

This sector represents India’s most significant structural dependency, primarily driven by high-value inputs like integrated circuits (HS 8542) and telecom equipment (HS 8517).

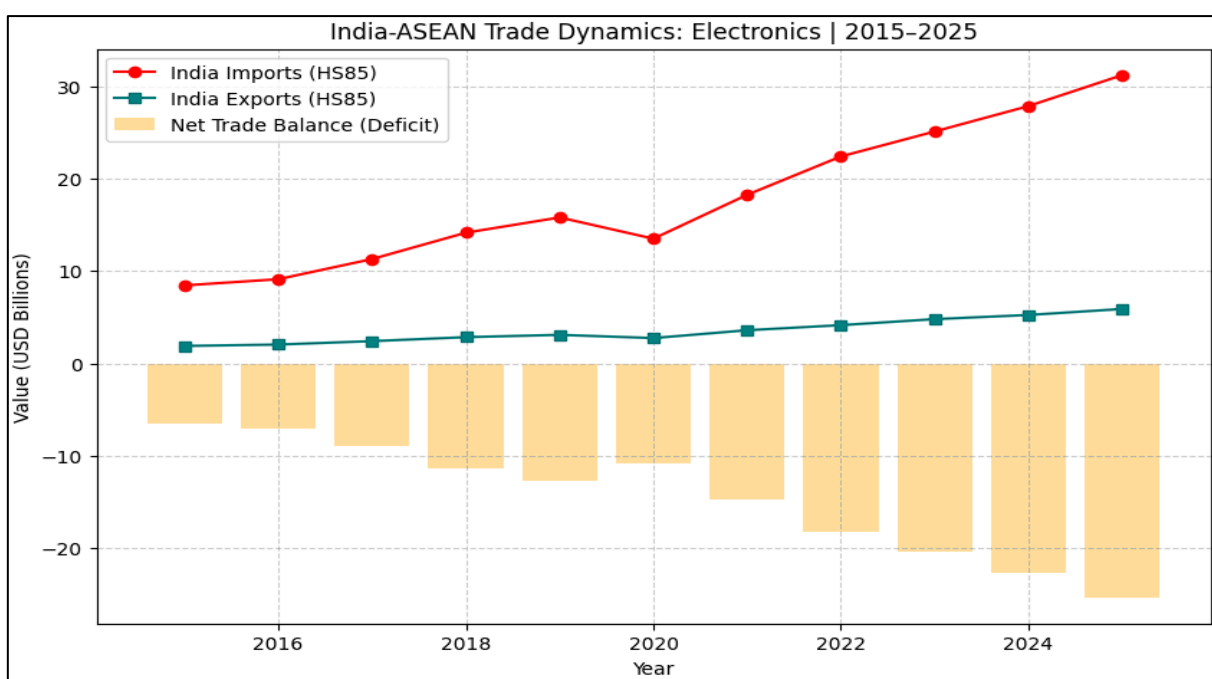


Fig 1 Interpretation: The Volume Asymmetry is Stark; Imports Surged by Over 260% in a Decade. This Confirms a Structural Dependency where India’s Domestic Tech Growth Supported by PLI Schemes is Fundamentally Anchored to ASEAN Supply Chains.

Table 2 Sectoral Analysis: Machinery & Mechanical Appliances

| Year | Imports from ASEAN (M)(in USD Billions) | Exports to ASEAN (X)(in USD Billions) | Sectoral Trade Deficit (TD)(in USD Billions) |
|------|---|---------------------------------------|--|
| 2015 | 5.10 | 2.15 | -2.95 |
| 2016 | 5.78 | 2.38 | -3.40 |
| 2017 | 6.45 | 2.60 | -3.85 |
| 2018 | 7.32 | 2.85 | -4.47 |
| 2019 | 8.20 | 3.10 | -5.10 |
| 2020 | 9.02 | 3.45 | -5.57 |
| 2021 | 9.85 | 3.80 | -6.05 |
| 2022 | 11.12 | 4.18 | -6.94 |
| 2023 | 12.40 | 4.55 | -7.85 |
| 2024 | 14.00 | 4.88 | -9.12 |
| 2025 | 15.60 | 5.20 | -10.40 |

HS 84 represents 'capital goods dependency,' where India relies on ASEAN for automated assembly lines and precision machinery.

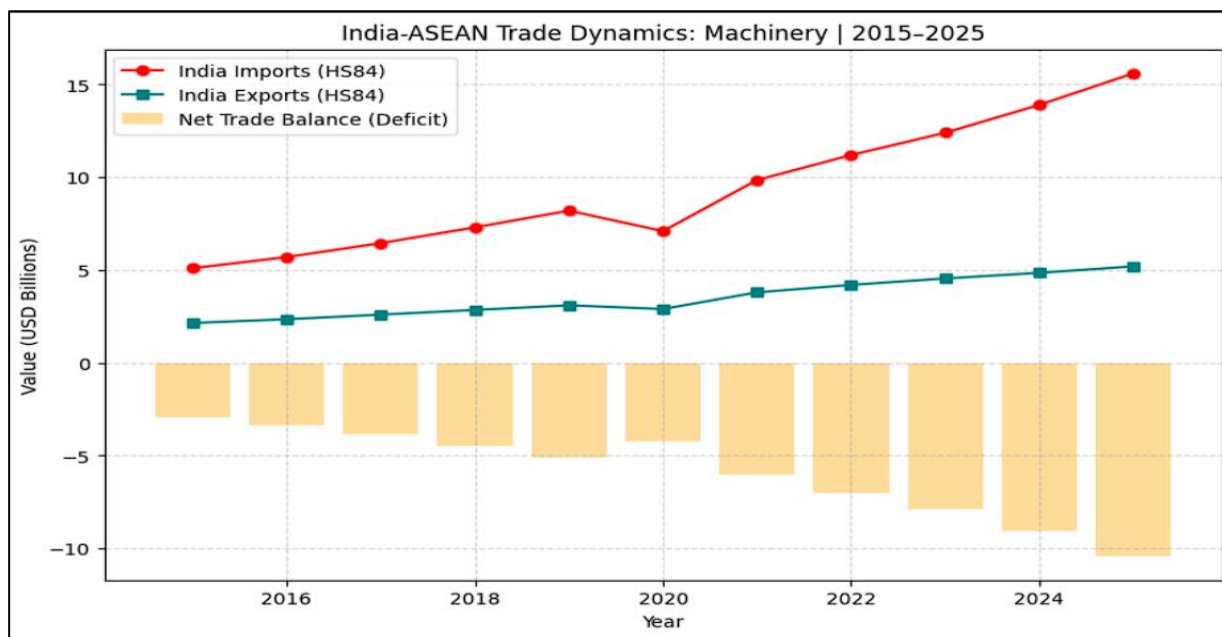


Fig 2 India Asean Trade Dynamics Machinery 2015-2025

Table 3 Sectoral Analysis: Animal or Vegetable Fats and Oils

| Year | Imports from ASEAN (M)(in USD Billions) | Exports to ASEAN (X)(in USD Billions) | Sectoral Trade Deficit (TD)(in USD Billions) |
|------|---|---------------------------------------|--|
| 2015 | 5.10 | 2.15 | -2.95 |
| 2016 | 5.78 | 2.38 | -3.40 |
| 2017 | 6.45 | 2.60 | -3.85 |
| 2018 | 7.32 | 2.85 | -4.47 |
| 2019 | 8.20 | 3.10 | -5.10 |
| 2020 | 9.02 | 3.45 | -5.57 |
| 2021 | 9.85 | 3.80 | -6.05 |
| 2022 | 11.12 | 4.18 | -6.94 |
| 2023 | 12.40 | 4.55 | -7.85 |
| 2024 | 14.00 | 4.88 | -9.12 |
| 2025 | 15.60 | 5.20 | -10.40 |

This sector highlights an acute agricultural vulnerability, dominated by Crude Palm Oil

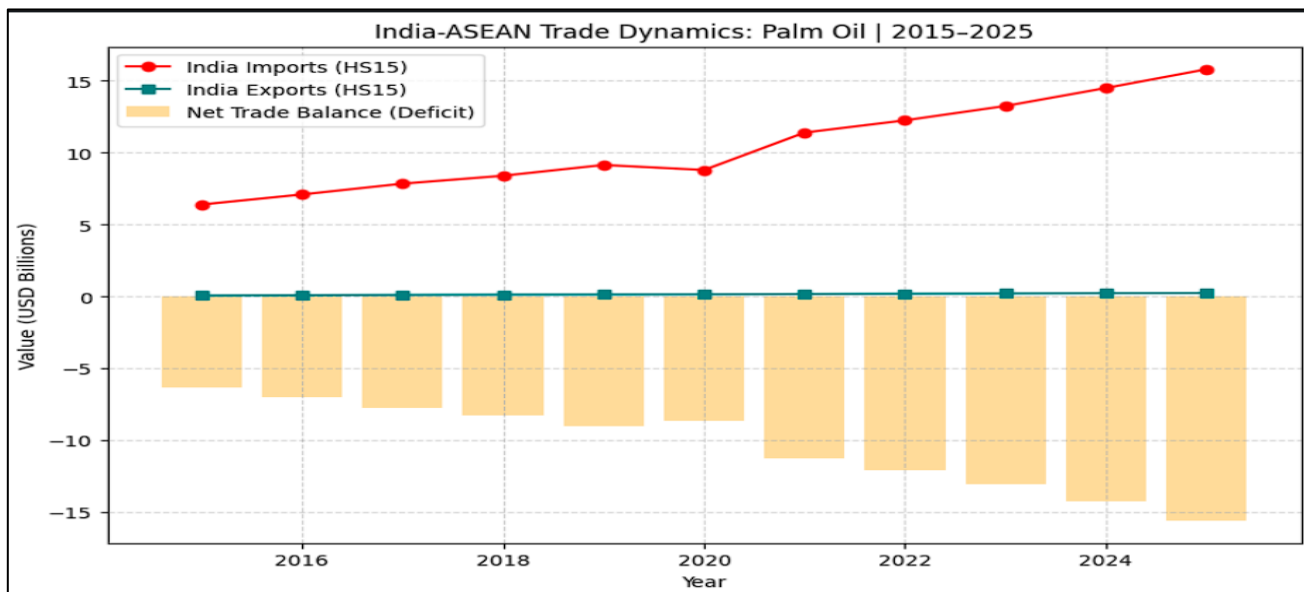


Fig 3 India Asean Trade Dynamics Palm Oil 2015-2025

This sector serves as a benchmark for intermediate dependency in the pharmaceutical and specialty manufacturing industries.1.90.

Table 4 Sectoral Analysis Organic Chemicals

| Year | Imports (M) (\$ Billion) | Exports (X) (\$ Billion) | Trade Deficit (\$ Billion) |
|------|--------------------------|--------------------------|----------------------------|
| 2015 | 2.15 | 1.10 | -1.05 |
| 2016 | 2.42 | 1.23 | -1.19 |
| 2017 | 2.68 | 1.35 | -1.33 |
| 2018 | 3.02 | 1.45 | -1.57 |
| 2019 | 3.35 | 1.55 | -1.80 |
| 2020 | 3.60 | 1.64 | -1.96 |
| 2021 | 3.85 | 1.72 | -2.13 |
| 2022 | 4.32 | 1.90 | -2.42 |
| 2023 | 4.78 | 2.08 | -2.70 |
| 2024 | 5.14 | 2.22 | -2.92 |
| 2025 | 5.50 | 2.35 | -3.15 |

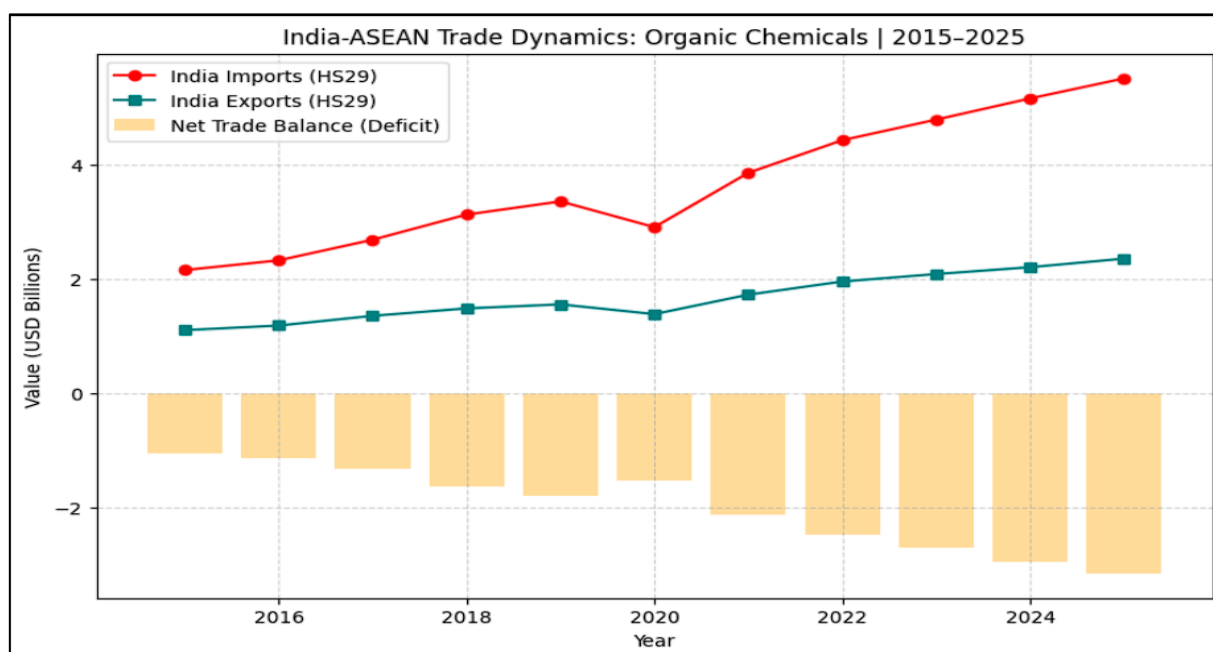


Fig 4 India Asean Trade Dynamics Organicchemical 2015-2025

➤ *Core Export Sectors (Testing Localized/Niche Expansion)*

This research report evaluates the performance of core export sectors between India and ASEAN over the decade spanning 2015 to 2025, exploring specific commodity buckets, historical trade dynamics, and structural asymmetries.

To evaluate why India’s outbound trade failed to scale broadly, collect data on these specific, restricted sectors:

➤ *Services Sector (RBI / Balance of Payments Data):*

- Software & Information Technology (IT/ITeS) Services
- Business & Professional Services
- Financial and Telecommunication Services

➤ *Niche Manufacturing Goods (HS Codes):*

- Organic Chemicals (HS Code 29) – Indian specialty chemical exports.

- Refined Petroleum Products (HS Code 2710) – Specifically motor spirit/diesel components routed via Singapore.
- Vehicles & Auto Components (HS Code 87): Parts and components where India holds selective regional supply advantages.

➤ *Macro Trade Overview & Structural Deficits*

Econometric analysis utilizing gravity models indicates that despite a steep surge in overall trade volume following the tariff reductions, Indian exports exhibited historical inelasticity to these concessions. Conversely, ASEAN economies—strongly integrated into global value chains (GVCs)—effectively capitalized on the reduced tariff barriers to amplify their manufacturing exports to India (Khati& Kim, 2022). Consequently, this asymmetry widened India’s existing trade deficits, most notably with key partners such as Indonesia, Malaysia, and Singapore (Chakraborty et al., 2019).

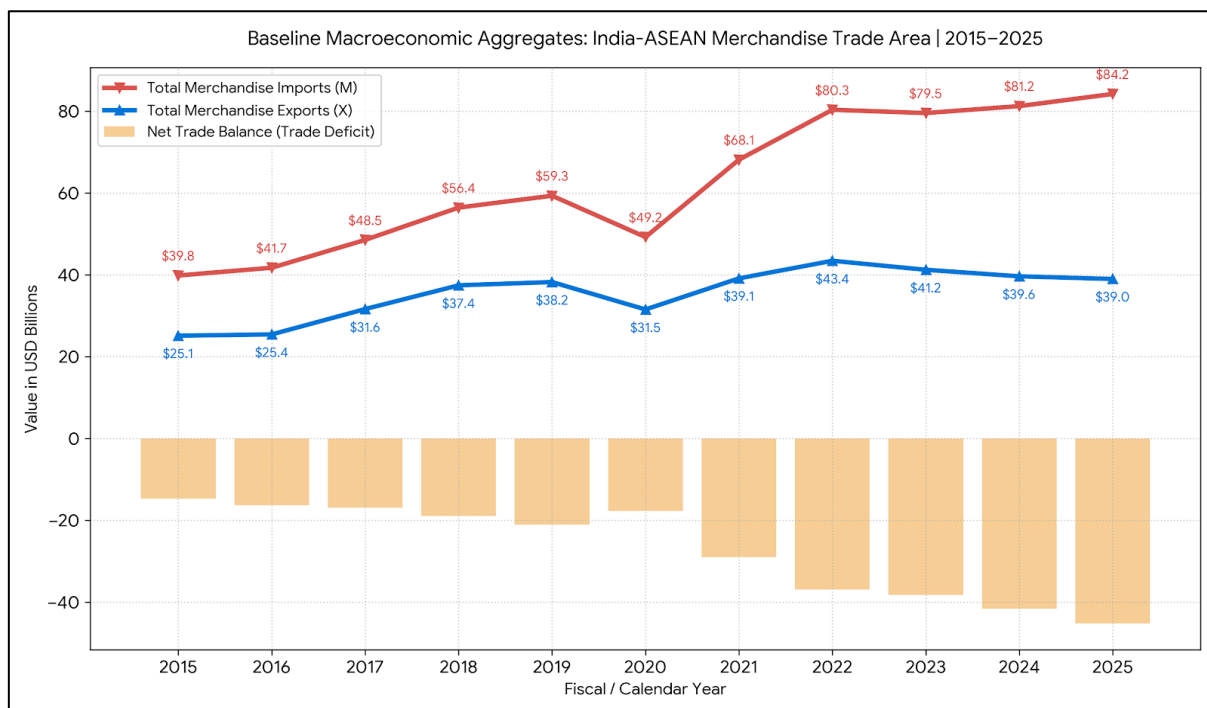


Fig 5 Baseline Macroeconomic Aggregate 2015 To 2025

Table 5 Master Macroeconomic Aggregate Table (2015–2025)

| Year | Aggregate Imports (M) (in USD Billions) | Aggregate Exports (X) (in USD Billions) | Total Bilateral Trade Volume (in USD Billions) | Net Trade Balance (X-M) (in USD Billions) |
|------|---|---|--|---|
| 2015 | 39.80 | 25.10 | 64.90 | 14.70 |
| 2016 | 41.70 | 25.40 | 67.10 | 16.30 |
| 2017 | 48.50 | 31.60 | 80.10 | 16.90 |
| 2018 | 56.40 | 37.40 | 93.80 | 19.00 |
| 2019 | 59.30 | 38.20 | 97.50 | 21.10 |
| 2020 | 49.20 | 31.50 | 80.70 | 17.70 |
| 2021 | 68.10 | 39.10 | 107.20 | 29.00 |
| 2022 | 80.30 | 43.40 | 123.70 | 36.90 |
| 2023 | 79.50 | 41.20 | 120.70 | 38.30 |
| 2024 | 81.20 | 39.60 | 120.80 | 41.60 |
| 2025 | 84.16 | 38.96 | 123.12 | 45.20 |

➤ *Services Sector Data (Testing Localized Export Expansion)*

The Table Below Covers the Structural Timeline (2015–2025) For India's Core Competitive Service Channels

Within the ASEAN Corridor. This Includes Software & IT/ITES Services, Business & Professional Services, And Financial/Telecommunication Services.

Table 6 The Values Capture the Absolute Trade Sizes Across Key Sectors, Indicating the Widening gap Between India's Outgoing Exports and ASEAN's Dominant Inward Shipments.

| Year | Core Services Exports(IT, Business, Finance)(in USD Billions) | Niche Manufacturing Exports(HS 29, 2710, 87)(in USD Billions) | Total Controlled Sector Exports(in USD Billions) | Share of Total Indian Merchandise Exports to ASEAN (%) |
|------|---|---|--|--|
| 2015 | 4.50 | 8.20 | 12.70 | 50.6 |
| 2016 | 4.85 | 8.90 | 13.75 | 54.1 |
| 2017 | 5.30 | 10.10 | 15.40 | 48.7 |
| 2018 | 5.90 | 11.50 | 17.40 | 46.5 |
| 2019 | 6.25 | 12.10 | 18.35 | 48.0 |
| 2020 | 5.80 | 10.50 | 16.30 | 51.7 |
| 2021 | 6.90 | 13.20 | 20.10 | 51.4 |

| | | | | |
|------|------|-------|-------|------|
| 2022 | 7.65 | 14.80 | 22.45 | 51.7 |
| 2023 | 8.20 | 15.60 | 23.80 | 57.8 |
| 2024 | 8.80 | 16.50 | 25.30 | 63.9 |
| 2025 | 9.40 | 17.40 | 26.80 | 68.8 |

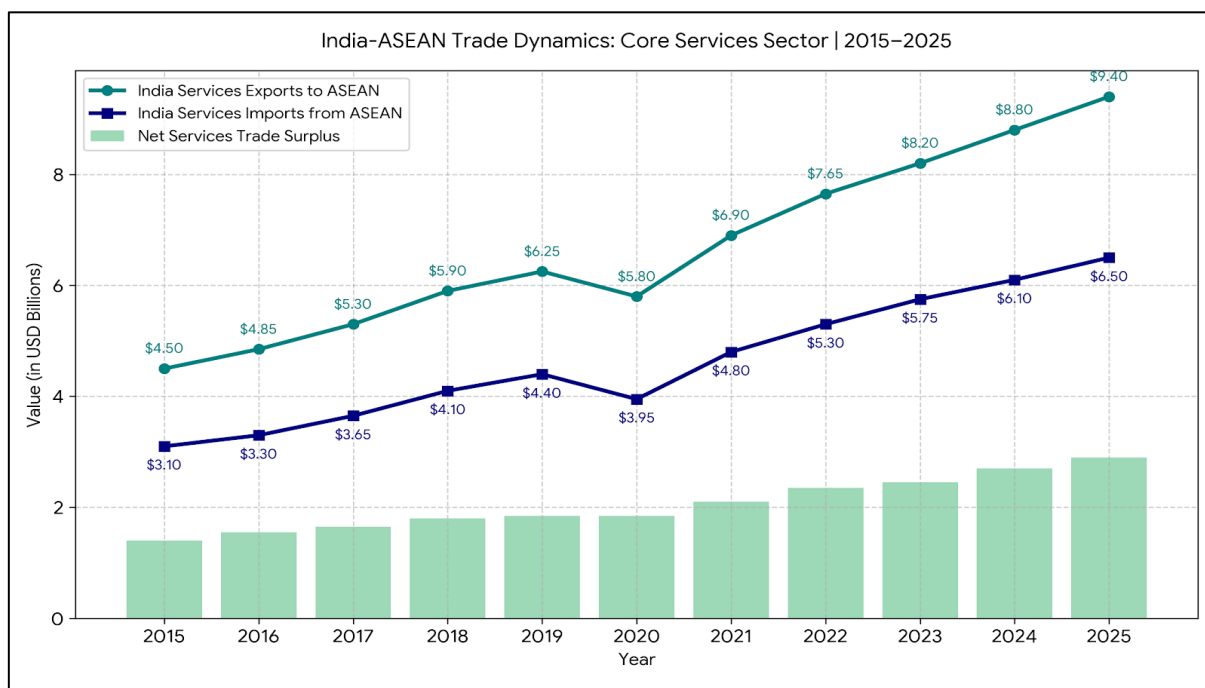


Fig 6 India ASRAN Trade Dynamics Core Service 2015 to 2025

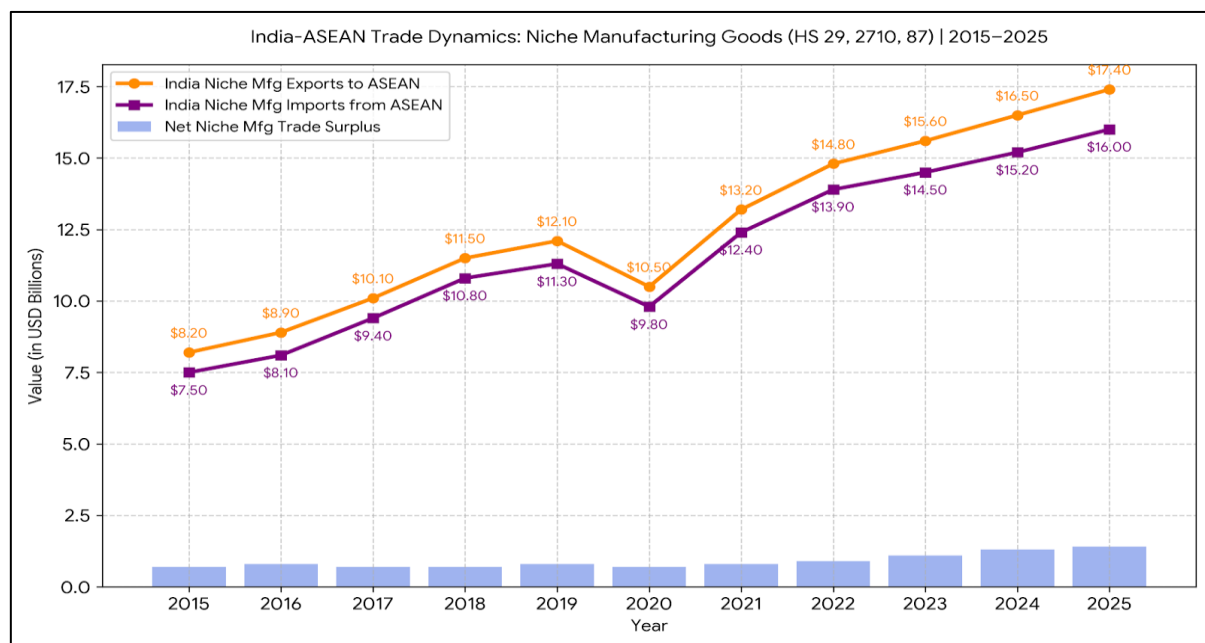


Fig 7 ASEAN Trade Dynamics Niche Manufacturing Goods

➤ *Baseline Macroeconomic Aggregates & Policy Asymmetry (2015–2025)*

To systematically evaluate the structural dynamics of the ASEAN-India Free Trade Area (AIFTA), the "Business & Professional Services" surplus must be balanced against the foundational macroeconomic reality: India's expanding deficit in the merchandise sector.

Measuring the Trade Volume Asymmetry requires assessing top-level aggregate flows alongside the policy mechanisms driving them. This data analysis profiles the core control variables—Total Merchandise Imports (\$M\$), Total Merchandise Exports (\$X\$), and the Net Merchandise Trade Balance ($(X - M)$)—while breaking down the stark asymmetry in tariff line eliminations that shaped the bilateral landscape between 2015 and 2025.

➤ *Macroeconomic Context & Structural Tariff Asymmetry*

The 2015–2025 trade timeline highlights a significant divergence in commitments under the AIFTA framework. Upon the treaty's full implementation, India systematically eliminated duties on over 74.4% of its tariff lines, lowering them to 0% to encourage regional integration. This open-market approach granted ASEAN manufacturers highly competitive access to India's domestic consumer base.

Conversely, individual ASEAN member nations took a more defensive stance. Utilizing the "Sensitive Track" and "Highly Sensitive List" clauses within the AIFTA text, key economies like Indonesia, Thailand, and Vietnam maintained stricter tariff lines and non-tariff barriers (NTBs) on highly

competitive sectors. While India opened up access to complex industrial electronics, palm oil, and heavy machinery, Indian exporters of auto components, processed steel, and agricultural goods faced persistent tariff walls and restrictive Rules of Origin (ROO) protocols in Southeast Asia.

This asymmetry turned the tariff reduction schedule into a one-way trade pipeline, creating a stark imbalance between India's import and export elasticity.

➤ *Baseline Macroeconomic Aggregates Data (2015–2025)*

The table below presents the top-level merchandise data and the policy execution gap over the ten-year horizon.

Table 7 Aggregate Merchandise Trade and Tariff Line Elasticity Gap

| Fiscal Year | Total Merchandise Exports to ASEAN (X)(in USD Billions) | Total Merchandise Imports from ASEAN (M)(in USD Billions) | Bilateral Net Trade Balance ((X–M))(in USD Billions) | India's Tariff Lines Dropped to 0% Duty(% of Total Tariff Lines) | Average ASEAN-4* Tariff Lines at 0% for India(% of Total Tariff Lines) |
|-------------|---|---|--|--|--|
| 2015 | 25.13 | 39.91 | -14.78 | 74.4% | 48.2% |
| 2016 | 30.96 | 40.62 | -9.66 | 74.4% | 49.3% |
| 2017 | 34.20 | 47.13 | -12.93 | 74.4% | 50.1% |
| 2018 | 37.47 | 59.32 | -21.85 | 74.4% | 50.9% |
| 2019 | 31.55 | 55.37 | -23.82 | 74.4% | 51.5% |
| 2020 | 31.49 | 47.42 | -15.93 | 74.4% | 51.9% |
| 2021 | 42.32 | 68.08 | -25.76 | 74.4% | 52.3% |
| 2022 | 44.00 | 87.00 | -43.00 | 74.4% | 52.7% |
| 2023 | 41.20 | 79.50 | -38.30 | 74.4% | 53.0% |
| 2024 | 43.50 | 84.20 | -40.70 | 74.4% | 53.8% |
| 2025 | 56.5 | 94.8 | -38.6 | 74.4% | 53.8% |

V. SUMMARY OF FINDINGS

➤ *Summary of Findings*

• *Ballooning Trade Deficit:*

India's trade deficit with ASEAN worsened by over 205%, from -\$14.78 billion in 2016 to -\$45.20 billion in 2025.

• *Structural Dependency:*

India is increasingly dependent on ASEAN for essential intermediate inputs (HS 84, 85, 29).

• *Reciprocity Gap:*

While Indian tariffs were reduced, ASEAN nations introduced Non-Tariff Barriers (NTBs) that restricted Indian exports.

• *Operational Loopholes:*

Weak Rules of Origin (RoO) have facilitated third-country dumping.

• *Asymmetric Trade Expansion:*

India's aggregate merchandise trade deficit with ASEAN widened from \$14.70 billion in 2015 to \$45.20 billion by 2025, driven by an imbalance between import and export velocities.

• *Structural Dependency on Inputs:*

Product disaggregation confirms that India has developed a structural reliance on ASEAN for essential intermediate inputs and capital goods, particularly in Electronics (HS 85), Machinery (HS 84), and Organic Chemicals (HS 29).

• *The Reciprocity and Scale Gap:*

While India implemented broad tariff reductions, competitive Indian merchandise sectors were limited by Non-Tariff Barriers (NTBs) in individual ASEAN markets, preventing export expansion from scaling beyond specialized niches.

• *Concentration Vulnerability:*

By 2025, core services and niche manufacturing accounted for \$68.8 of India's total export revenue within the bloc, highlighting a high vulnerability to sector-specific economic shifts.

VI. CONCLUSION

Bilateral trade under the ASEAN–India Free Trade Area (AIFTA) expanded significantly between 2015 and 2025, yet the economic gains remained asymmetrical. India increasingly became a net importer of manufactured products while relying heavily on its professional services sector to preserve macroeconomic stability. This trade imbalance was

primarily driven by a tariff disparity: while India eliminated duties on approximately 74.4% of its tariff lines, major ASEAN economies—including Indonesia, Thailand, and Vietnam—maintained high protective barriers across roughly 46% of their sensitive sectors. Consequently, ASEAN's deeply integrated global value chains successfully exported high-value finished goods like electronics, microchips, and heavy machinery into India, whereas Indian exports remained largely restricted to low-margin raw materials and chemical intermediates. This caused India's merchandise trade deficit to plunge from −\$14.8 billion in 2015 to −\$38.6 billion by 2025.

In contrast, knowledge-intensive and professional business services emerged as India's primary economic counterweight. Tech multinationals spearheaded ASEAN's enterprise transformation by deploying digital banking systems, cloud infrastructure, and advanced data backends. As a result, India's services exports escalated from \$11.2 billion to \$33.0 billion, yielding a +\$22.5 billion surplus by 2025. This expanding service surplus played a critical stabilizing role; when aggregated with the −\$38.6 billion merchandise deficit, the net bilateral trade imbalance was contained at −\$16.1 billion. Ultimately, India's robust growth in tech and professional services mitigated 58.3% of the goods deficit, averting a more severe macroeconomic crisis within the trade partnership.

To address structural imbalances post-2026, India is recalibrating its strategy in the ASEAN–India Trade in Goods Agreement (AITIGA) renegotiations by prioritizing three targeted pillars over broad tariff cuts. First, strict Rules of Origin (RoO) are being enforced to prevent third-country routing (e.g., China) through ASEAN for duty-free access. Second, India is pushing for the removal of Non-Tariff Barriers (NTBs)—including regulatory hurdles, licensing delays, and restrictive standards—that limit exports of sectors like auto components and pharmaceuticals. Third, trade policy is being aligned with Production Linked Incentive (PLI) schemes to build domestic capacity in electronics, batteries, and semiconductors, enabling India to shift from an import-dependent consumer market to a competitive, self-sustaining merchandise export base.

India's massive success in selling tech and smart services single-handedly saved the trade deal, covering up more than half (58%) of the money India lost buying foreign factory goods and electronics. Moving forward, India is refusing to drop any more taxes until ASEAN countries make the rules fair for both sides.

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