Journal of Regional Economics and Development, Volume 3, Number 2, 2026, *Page*: 1-15

External Sector Dynamics in India: The Role of Trade Policy and Capital Inflows

P.A. Naidu, Anurag Vikram Singh*

Central University of Andhra Pradesh

*Correspondence: P. A. Naidu
Email:
anuragvikramsingh2009@gmail.com

Received: 28-12-2025
Accepted: 28-01-2026
Published: 28-02-2026

Abstract: This study examines the long-run dynamics of India's trade balance over the period 1960–2022 using a qualitative and graphical time-series approach. The analysis focuses on trade balance as a percentage of GDP and its structural relationship with exports, imports, foreign direct investment (FDI), tariff rates, and annual tariff changes. Through trend analysis and graphical interpretation, the study identifies major regime shifts associated with trade liberalization and economic reforms, particularly after 1991.The findings indicate that India has experienced persistent trade deficits throughout most of the sample period. Although export intensity increased significantly following liberalization, import growth often outpaced exports, contributing to widening deficits during high-growth phases. The sharp decline in tariff rates and rising FDI inflows reflect increasing global integration, but these developments have also been associated with greater external vulnerability. The study highlights the structural transformation of India's external sector and underscores the macroeconomic and policy factors shaping its trade balance dynamics.

Keywords: Trade Balance, Trade Liberalization, Foreign Direct Investment, Tariff Policy, External Sector Dynamics

Introduction

The trade balance constitutes one of the most critical indicators of macroeconomic performance and external sector sustainability. It reflects the net difference between exports and imports and serves as a key measure of a country's competitiveness, structural transformation, and integration into the global economy. For emerging economies such as India, the behavior of the trade balance assumes heightened importance due to its implications for foreign exchange reserves, exchange rate stability, capital flows, inflation dynamics, and long-run growth prospects. Over the past six decades, India has undergone profound structural and policy transformations, transitioning from a relatively closed, import-substitution-based economy to an increasingly liberalized and globally integrated economic system. Despite this transformation, persistent trade deficits have remained a defining feature of India's external sector, raising important questions regarding the macroeconomic and policy determinants of trade balance dynamics.

The theoretical foundations of trade balance analysis are rooted in classical and modern international macroeconomic frameworks. The elasticity approach emphasizes the

responsiveness of exports and imports to relative price changes, with the Marshall–Lerner condition suggesting that currency depreciation improves trade balance if the sum of export and import demand elasticities exceeds unity (Alexander, 1952). Complementing this view, the absorption approach argues that trade balance is determined by the relationship between national income and domestic expenditure, implying that reductions in absorption relative to output can improve external balance (Aizenman & Noy, 2006). The monetary approach further posits that trade imbalances are fundamentally linked to monetary disequilibrium, highlighting the interaction between money supply, domestic prices, and external flows (Bahnami et al, 2004). These theoretical paradigms collectively underscore that trade balance outcomes are influenced by structural competitiveness, macroeconomic stability, capital movements, and policy interventions. Beyond exchange rate and income effects, empirical research increasingly emphasizes the role of capital flows, particularly foreign direct investment (FDI), in shaping trade performance. FDI can influence trade balance through multiple channels. On the one hand, it may enhance export capacity via technology transfer, productivity improvements, and integration into global value chains (Dash, 2009). On the other hand, FDI may stimulate imports, especially of intermediate goods, capital equipment, and proprietary technologies, potentially worsening trade deficits in the short run (Dornbusch, 2014). The net effect of FDI on trade balance therefore remains theoretically ambiguous and empirically contingent on sectoral composition and structural characteristics. Cross-country studies have documented strong two-way linkages between FDI and trade flows (Borensztein, et al, 1998), suggesting that capital mobility and trade integration are mutually reinforcing processes.

Trade policy, particularly tariff structures, represents another central determinant of trade balance dynamics. Traditional protectionist arguments maintain that higher tariffs reduce imports and can temporarily improve trade balance by shielding domestic industries (Helpman & Krugman, 1985). However, long-run evidence from trade liberalization episodes suggests that reduced tariff barriers enhance export competitiveness, productivity, and economic growth (Johnson, 1976). Empirical work by Wacziarg and Welch (Johnson, 1976) demonstrates that trade openness is positively associated with sustained growth performance, while structural reforms significantly alter trade patterns. In the Indian context, the 1991 economic reforms marked a watershed moment characterized by drastic tariff rationalization, removal of quantitative restrictions, and progressive integration into the multilateral trading system (Krugman & Obstfeld, 2009). These reforms significantly increased trade openness, with measurable impacts on export performance and import penetration (Krugman, 1980). The Indian external sector experience provides a particularly compelling case for empirical investigation. During the pre-liberalization era (1960s–1980s), high tariff barriers and inward-looking policies limited trade integration. Despite protectionist measures, trade deficits persisted due to structural import dependence on oil, capital goods, and technology-intensive inputs. The macroeconomic crisis of 1991 triggered comprehensive reforms aimed at stabilizing the economy and enhancing competitiveness. Subsequent decades witnessed substantial increases in both exports and imports as shares of GDP, reflecting deeper integration into global markets. Nevertheless, the widening trade

deficits during the mid-2000s and post-global financial crisis period underscore the complexity of external sector dynamics.

Several empirical studies have specifically analyzed India's trade balance behavior using time-series econometric approaches. Dash (Lipsey, 2002) finds that export expansion contributes positively to trade balance adjustment, whereas import growth exerts persistent downward pressure. Pradhan (Marshall, 1923) reports mixed evidence regarding the role of FDI in promoting export-led growth in India. Studies employing autoregressive distributed lag (ARDL) and cointegration frameworks identify long-run equilibrium relationships between trade balance, income growth, exchange rates, and openness indicators (Narayan, 2005). Furthermore, the presence of structural breaks associated with policy reforms has been documented as a critical factor influencing trade series properties (Panagariya, 2004). These findings highlight the importance of incorporating structural transformation and policy shifts in empirical modeling.

Recent global developments further reinforce the need to revisit trade balance determinants. The 2008 global financial crisis exposed vulnerabilities in trade-dependent economies, while the COVID-19 pandemic disrupted global supply chains and altered trade patterns (Perron, 1989). In addition, contemporary trade is increasingly characterized by global value chains and intermediate goods trade, complicating traditional interpretations of bilateral trade statistics (Pradhan, 2010). These structural changes imply that understanding trade balance requires a multidimensional framework that integrates exports, imports, capital flows, and trade policy variables. Despite extensive literature, several gaps remain. First, many studies focus on shorter time horizons, limiting the ability to capture long-run structural evolution. Second, the combined interaction of exports, imports, FDI, and tariff policy within a unified empirical framework spanning six decades remains underexplored for India. Third, graphical structural analysis integrated with formal econometric estimation can provide deeper insights into policy transitions and macroeconomic adjustments.

This study seeks to address these gaps by conducting a comprehensive analysis of the determinants of India's trade balance over the period 1960–2022. By integrating long-run time-series data on exports, imports, FDI inflows, and tariff measures within an econometric framework, the study aims to evaluate the magnitude and direction of macroeconomic and policy influences on external balance. The contribution lies not only in empirical estimation but also in situating the analysis within established theoretical paradigms and structural reform contexts. Through this integrated approach, the paper provides a nuanced understanding of India's external sector transformation and the forces shaping its persistent trade balance dynamics.

Methodology

The primary objective of this study is to examine the long-run structural behavior of India's trade balance and its associated macroeconomic and policy determinants over the period 1960–2022. Rather than employing econometric estimation techniques, the study

adopts a qualitative and graphical analytical approach to understand how exports, imports, foreign direct investment (FDI), and tariff policy have evolved over time and how these variables are structurally related to trade balance dynamics. The central aim is to identify long-term trends, regime shifts, cyclical fluctuations, and policy-induced structural breaks that have shaped India's external sector across more than six decades of economic transformation. Particular emphasis is placed on examining the structural impact of the 1991 economic reforms, the liberalization of trade policy, the rise in FDI inflows, and the increasing integration of India into the global economy.

The trade balance, defined as the difference between exports and imports and expressed as a percentage of GDP, serves as the principal variable of analysis. Formally, trade balance is represented as $TB_t = X_t - M_t$, where TB_t denotes trade balance as a percentage of GDP, X_t represents exports as a percentage of GDP, and M_t represents imports as a percentage of GDP at time ttt. In addition to exports and imports, the study incorporates foreign direct investment inflows (as a percentage of GDP), the applied weighted mean tariff rate (all products), and the annual change in tariff rate. All variables are expressed relative to GDP to ensure comparability over time and to capture structural shifts independent of overall economic expansion.

The methodological framework is based on long-run time-series graphical analysis. Trend lines, moving averages, and fitted polynomial and exponential curves are employed to identify underlying structural patterns in each variable. The graphical approach allows for visual examination of key phases in India's economic history, including the protectionist pre-reform era, the liberalization phase of the early 1990s, the high-growth and global integration period of the 2000s, and the subsequent adjustments during global economic shocks. By analyzing the trajectory and co-movement of variables, the study evaluates whether export growth has outpaced import expansion, whether tariff reductions coincide with increased trade openness, and whether rising FDI inflows correspond with changes in trade balance behavior.

This qualitative analytical strategy enables identification of structural relationships without imposing restrictive econometric assumptions. The focus is on interpreting patterns, identifying turning points, and understanding policy-induced shifts rather than estimating causal parameters. Through systematic graphical comparison of each determinant with trade balance movements, the study constructs a coherent narrative of India's external sector transformation. The integrated examination of exports, imports, FDI, and tariff policy provides a comprehensive descriptive assessment of the macroeconomic forces influencing India's persistent trade deficits over the long run.

Result and Discussion

This section presents the empirical findings derived from the annual time-series dataset covering the period 1960–2022, capturing more than six decades of structural transformation in India's external sector. The descriptive patterns of the variables reveal significant shifts in trade dynamics, policy orientation, and capital flows over time. In the

early decades (1960s–1980s), India's trade structure was characterized by relatively low export and import shares of GDP, minimal FDI inflows, and a largely protectionist tariff regime. The trade balance during this period remained persistently negative, though moderate in magnitude, reflecting constrained trade integration and limited capital mobility. A structural break becomes evident in the early 1990s following economic liberalization, where tariff rates declined sharply, FDI inflows increased, and both exports and imports expanded as a share of GDP. Post-2000, the data indicate deeper integration into global markets, with export and import ratios rising substantially and trade deficits widening in several years, particularly during periods of global economic volatility such as the 2008 financial crisis and the post-2010 import surge. The graphical analysis suggests that export expansion is generally associated with improvements in the trade balance, whereas higher import intensity exerts downward pressure. FDI inflows exhibit a more complex relationship, potentially reflecting both export-enhancing and import-intensive channels of foreign capital. Meanwhile, tariff measures demonstrate a long-run declining trend, consistent with progressive trade liberalization, though short-run fluctuations indicate episodic policy adjustments. Overall, the data display substantial temporal variation, structural transformation, and policy evolution, providing a robust empirical foundation for econometric examination of the determinants of India's trade balance.

Foreign Direct Investment (FDI) as a Percentage of GDP

Figure 1 illustrates the annual trajectory of Foreign Direct Investment (FDI) inflows as a percentage of GDP in India over the period 1960–2022. The graphical pattern reveals a clear structural transformation in the role of foreign capital in the Indian economy. During the pre-liberalization era (1960s–1980s), FDI inflows remained negligible, largely below 0.1 percent of GDP, reflecting the restrictive industrial licensing regime and inward-looking trade policies. A noticeable upward shift emerges in the early 1990s, coinciding with economic liberalization and the adoption of market-oriented reforms. Post-reform years exhibit a sustained rise in FDI inflows, with particularly sharp increases during the mid-2000s, where FDI crossed 3 percent of GDP, reflecting enhanced investor confidence, integration into global capital markets, and policy reforms aimed at improving the investment climate. However, the series also displays cyclical volatility, especially around global economic disturbances such as the 2008 financial crisis and subsequent external shocks.

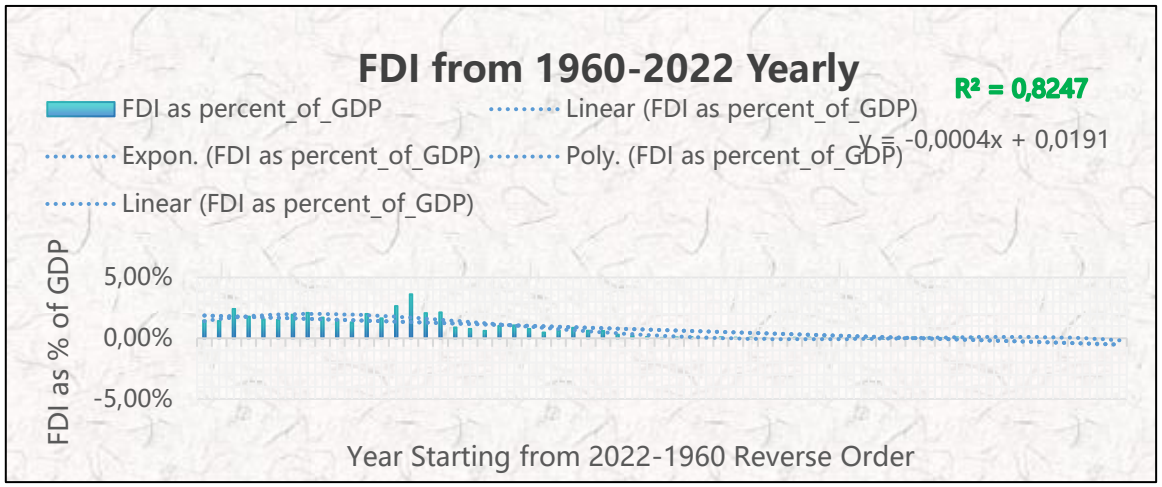

Figure 1. Foreign Direct Investment (FDI) as a Percentage of GDP in India (1960–2022)
Source: World Development Indicators (World Bank), 2023; Author's calculations.

The fitted linear and polynomial trend lines indicate an overall positive long-run movement in FDI intensity relative to GDP, despite short-run fluctuations. The relatively high R^2 value (0.8247) suggests a strong underlying time-related structural progression in FDI inflows. Overall, the graph captures India's transition from a capital-scarce, controlled economy to a more globally integrated investment destination, highlighting the growing macroeconomic significance of foreign capital in shaping external sector dynamics.

Exports as a Percentage of GDP

Figure 2 presents the annual evolution of India's exports as a percentage of GDP over the period 1960–2022, capturing the long-run transformation of the country's trade orientation. In the early decades (1960s–1980s), export intensity remained relatively low, generally below 8 percent of GDP, reflecting a predominantly inward-looking development strategy characterized by import substitution and limited global integration. A gradual expansion becomes evident during the late 1980s, followed by a pronounced structural acceleration after the 1991 economic reforms. Post-liberalization, export intensity increased substantially, crossing 20 percent of GDP in the 2000s and peaking around the mid-2000s, indicative of enhanced trade openness, diversification of export baskets, and integration into global value chains.

The fitted trend curves displayed in the figure suggest a strong systematic pattern in export performance over time. The exponential specification shown in the graph can be represented as

$$X_t = 0.2754\, e^{-0.035t}$$

where XtX_tXt denotes exports as a percentage of GDP and t represents the time index (in reverse chronological order as plotted). The high coefficient of determination $R^2 = 0.9458$ indicates that the time trend explains a substantial proportion of variation in export intensity, highlighting the presence of a strong structural trajectory. Although short-

run fluctuations are visible particularly during periods of global financial instability such as 2008–09 and the pandemic-related contraction in 2020 the overall pattern reflects a sustained upward structural shift when viewed chronologically.

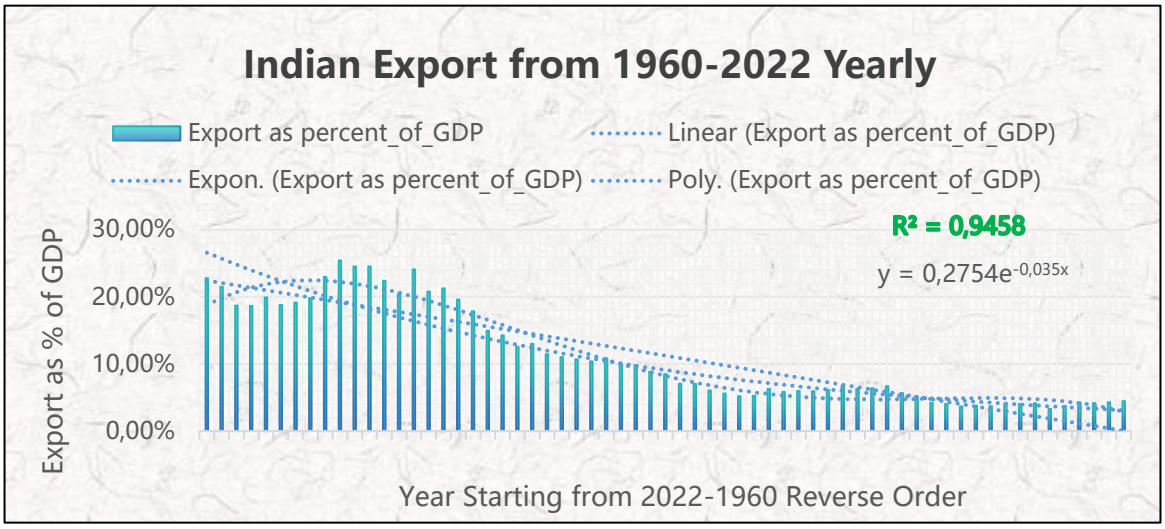

Figure 2. India's Exports as a Percentage of GDP (1960–2022)
Source: World Development Indicators (World Bank), 2023; Author's calculations.

From a macroeconomic perspective, the expansion in export intensity is critical because the trade balance is fundamentally linked to export and import dynamics through the identity

$$TB_t = X_t - M_t$$

where TB_t denotes trade balance as a percentage of GDP and M_t represents imports as a percentage of GDP. Thus, sustained growth in X_t, ceteris paribus, contributes positively to improvements in the external balance. The graphical evidence therefore underscores the increasing role of exports as a central driver of India's external sector performance, particularly in the post-reform era characterized by trade liberalization and outward-oriented growth strategies.

Imports as a Percentage of GDP

Figure 3 illustrates the annual evolution of India's imports as a percentage of GDP over the period 1960–2022, highlighting the progressive deepening of trade integration and the changing structure of domestic demand. In the early decades (1960s–1980s), import intensity remained moderate, largely within the range of 5–9 percent of GDP, reflecting a controlled trade regime under the import substitution strategy. However, a gradual upward movement becomes evident toward the late 1980s, followed by a pronounced acceleration after the 1991 economic reforms. Trade liberalization, reduction in quantitative restrictions, and tariff rationalization significantly expanded import penetration in the economy. The import-to-GDP ratio peaked above 30 percent during the late 2000s, particularly around the

global commodity boom and rapid domestic growth phase, indicating increased dependence on intermediate goods, capital goods, and energy imports.

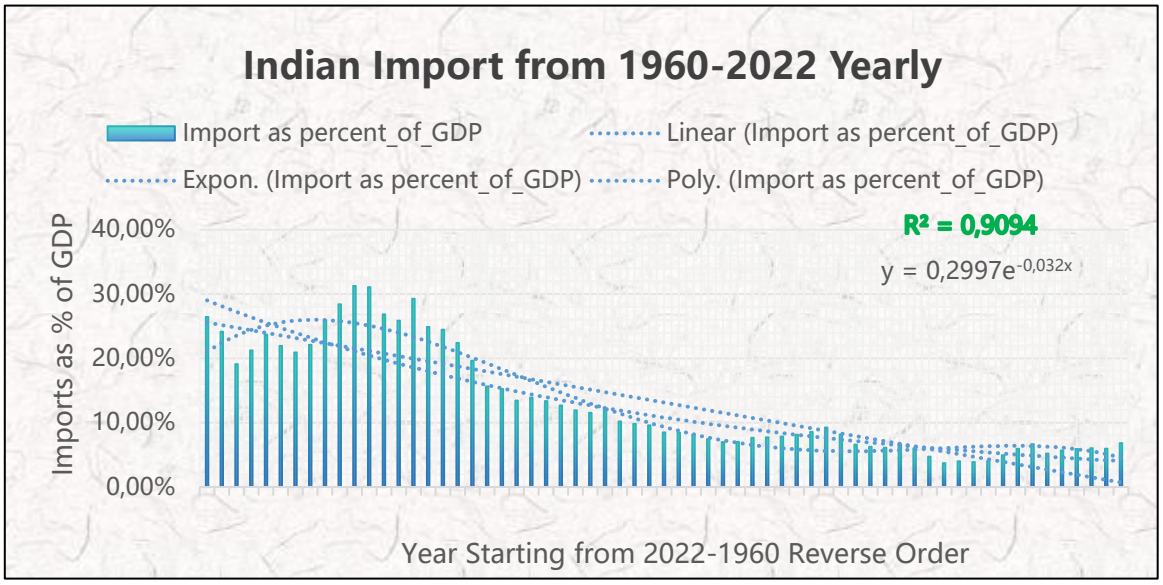

Figure 3. India's Imports as a Percentage of GDP (1960–2022)
Source: World Development Indicators (World Bank), 2023; Author's calculations.

The fitted exponential trend line presented in the figure can be expressed as

$$M_t = 0.2997\, e^{-0.032t}$$

where M_t denotes imports as a percentage of GDP and t represents the time index (in reverse order as plotted). The relatively high coefficient of determination, $R^2 = 0.9094$, indicates a strong underlying structural pattern in import behavior over time. Although short-term fluctuations are visible especially during global crises such as 2008–09 and the pandemic-related contraction in 2020 the long-run trajectory reflects sustained import expansion in the post-reform era.

From a macroeconomic accounting perspective, imports play a critical role in determining the external balance through the identity

$$TB_t = X_t - M_t$$

implying that, ceteris paribus, increases in M_t exert downward pressure on the trade balance. The graphical evidence suggests that periods of rapid import growth often coincide with widening trade deficits, particularly during high-growth phases driven by domestic investment and consumption demand. Overall, the figure captures the structural transformation of India from a relatively closed economy to a highly import-integrated emerging market economy, where external demand and domestic absorption dynamics increasingly shape trade balance outcomes.

Applied Weighted Mean Tariff Rate (All Products)

Figure 4 depicts the evolution of India's applied weighted mean tariff rate (all products) over the period 1960–2022, capturing the long-run transformation in trade policy orientation. The graphical pattern reveals a clear regime shift in tariff policy. During the pre-reform era, particularly the late 1980s and early 1990s, tariff rates were exceptionally high, with a sharp spike reaching above 50 percent around 1990, reflecting a strongly protectionist trade regime under the import substitution framework. These elevated tariff levels were designed to shield domestic industries from foreign competition but simultaneously constrained export competitiveness and trade integration.

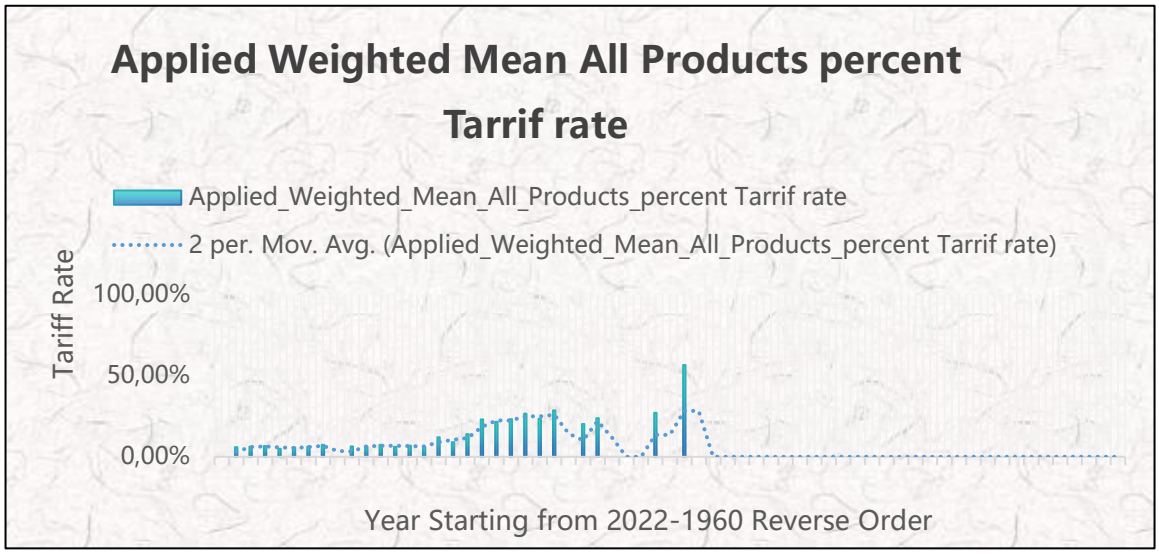

Figure 4. Applied Weighted Mean Tariff Rate (All Products) in India (1960–2022)
Source: World Development Indicators (World Bank), 2023; Author's calculations.

Following the 1991 economic reforms, a dramatic and sustained downward adjustment in tariff rates becomes evident. The moving average line illustrates a persistent decline throughout the 1990s and early 2000s, signaling a structural policy shift toward liberalization, global integration, and WTO-aligned trade practices. By the mid-2000s, tariff rates had been reduced substantially to single-digit levels, and in recent years they have remained relatively low and stable, reflecting a more open trade regime. Short-run fluctuations are visible, indicating episodic policy adjustments and sector-specific tariff changes; however, the dominant trend is clearly downward.

From a theoretical standpoint, tariff policy directly influences trade flows through its effect on import prices and domestic competitiveness. Higher tariff rates increase the domestic price of imported goods, potentially reducing imports (M_t) and temporarily improving the trade balance (TB_t). Conversely, tariff reductions may stimulate import growth but can also enhance export competitiveness by lowering input costs. Thus, the observed long-run decline in tariff rates corresponds with India's transition from a protected economy to an outward-oriented, globally integrated trade structure. Overall, the figure strongly supports the presence of a structural trade policy transformation that likely

plays a significant role in shaping the dynamics of India's trade balance over the study period.

Annual Change in Applied Tariff Rate

Figure 5 illustrates the annual percentage change in India's applied tariff rate over the period 1960–2022, capturing the short-run volatility and policy adjustments in trade protection. Unlike the level of tariff rates, which reflects long-run policy stance, the annual change series highlights the intensity and direction of reform episodes. The graph shows relatively minor fluctuations during the 1960s–1980s, indicating a largely stable and protectionist regime with limited year-to-year policy adjustments. However, a pronounced structural break becomes evident around the early 1990s, where extremely large positive and negative spikes appear, corresponding to the sweeping trade liberalization reforms initiated in 1991. The sharp negative change reflects substantial tariff reductions, marking India's transition from a high-protection framework to a more outward-oriented trade policy regime.

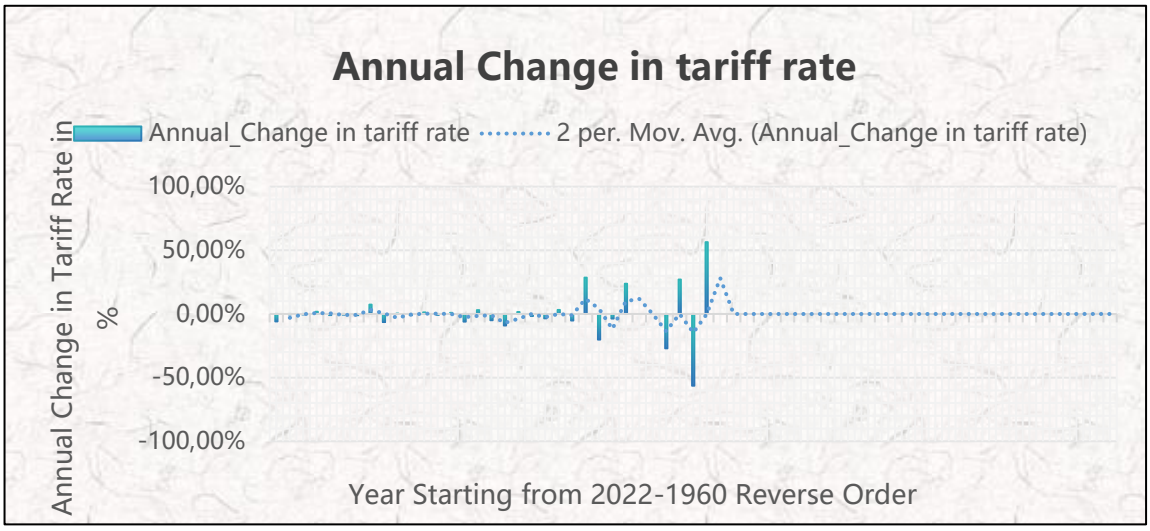

Figure 5. Annual Change in Applied Tariff Rate in India (1960–2022)
Source: World Development Indicators (World Bank), 2023; Author's calculations.

The volatility observed during the reform period indicates rapid tariff rationalization and restructuring, consistent with macroeconomic stabilization and WTO-aligned liberalization commitments. Post-2000, the annual changes become comparatively moderate, suggesting policy stabilization and incremental adjustments rather than abrupt structural shifts. From a theoretical perspective, changes in tariff rates directly influence import prices and domestic competitiveness. A negative annual change (tariff reduction) can stimulate import growth and potentially widen the trade deficit in the short run, whereas positive adjustments may temporarily restrict imports and affect domestic price structures.

Overall, the figure reflects three distinct phases: (i) a stable protectionist era prior to 1991, (ii) a high-volatility liberalization phase during the early reform years, and (iii) a relatively stable, low-volatility post-reform regime. The pronounced spikes during the reform period provide strong graphical evidence of a structural transformation in India's trade policy, which is likely to have significant implications for trade balance dynamics examined in the subsequent econometric analysis.

Trade Balance as a Percentage of GDP

Figure 6 presents the trajectory of India's trade balance as a percentage of GDP over 1960–2022 and serves as the central dependent variable of this study.

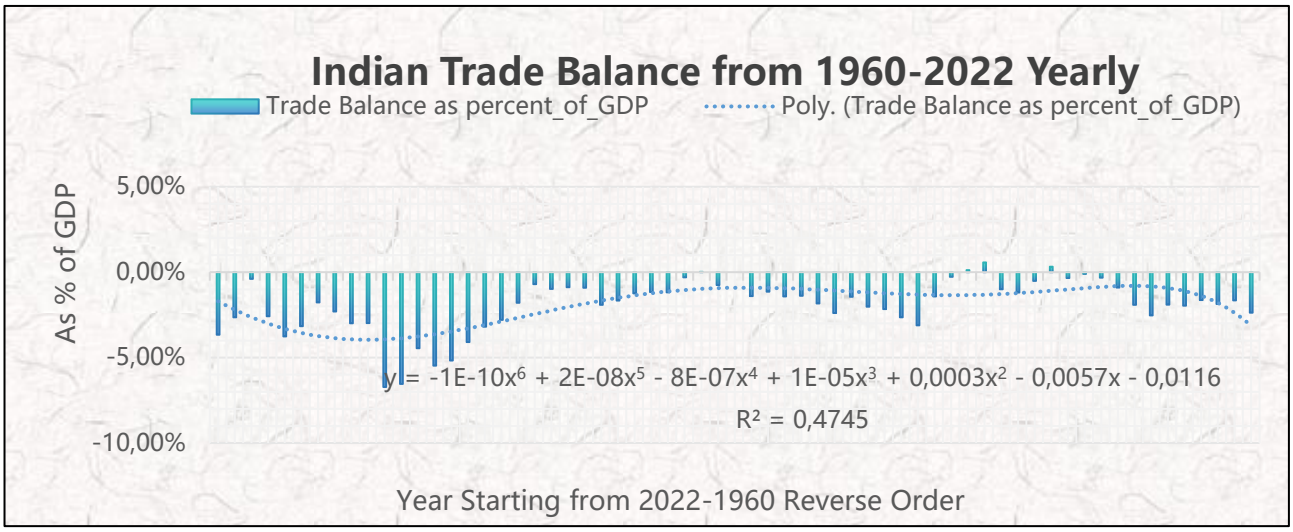

Figure 6. India's Trade Balance as a Percentage of GDP (1960–2022)
Source: World Development Indicators (World Bank), 2023; Author's calculations.

The trade balance is formally defined as $TB_t = X_t - M_t$, where TB_t denotes the trade balance as a percentage of GDP, X_t represents exports as a percentage of GDP, and M_t denotes imports as a percentage of GDP at time ttt. This identity establishes that the dynamics observed in the previous figures—exports, imports, FDI inflows, tariff levels, and tariff changes—are structurally interconnected through their influence on X_t and M_t, and consequently on TB_t.

The graphical pattern reveals that India has predominantly experienced persistent trade deficits throughout the sample period. In the pre-liberalization era, although both exports and imports were relatively low as shares of GDP, imports consistently exceeded exports, resulting in moderate but sustained deficits. This corresponds with the earlier figures showing high tariff protection and limited FDI inflows, reflecting an inward-looking development strategy. Despite protectionist measures, the trade balance did not turn positive, suggesting structural import dependence, particularly for capital goods and energy.

A clear structural shift emerges in the early 1990s, aligning with the sharp reduction in tariff rates and heightened volatility in annual tariff changes observed in Figures 4 and 5. Trade liberalization led to significant expansion in both exports and imports. However, as seen in the export and import figures, the magnitude of import growth often outpaced export expansion during high-growth phases, especially in the 2000s. This divergence explains the pronounced widening of the trade deficit between 2008 and 2012, when imports exceeded 30 percent of GDP while exports, though rising, remained comparatively lower. Thus, the graphical evidence supports the theoretical identity that increases in M_t relative to X_t exert downward pressure on TB_t.

Furthermore, the rise in FDI inflows during the post-reform period, as illustrated in the FDI graph, may have had dual effects on the trade balance. While FDI can stimulate export capacity through technology transfer and integration into global value chains, it may simultaneously increase import intensity due to capital goods and intermediate input requirements. The persistent deficit observed in the trade balance graph suggests that the import-enhancing channel may have been dominant during certain phases of rapid growth.

The polynomial trend line in Figure 6 reflects the non-linear and cyclical behavior of the trade balance, with an $R^2 = 0.4745$, indicating that time alone explains only a moderate portion of the variation. This moderate explanatory power reinforces the necessity of examining the combined influence of exports, imports, FDI inflows, and tariff policy through econometric estimation rather than relying solely on temporal trends.

Overall, when interpreted alongside the previously discussed figures, the trade balance graph synthesizes the structural transformation of India's external sector: from a protected, low-integration economy with moderate deficits to a globally integrated economy characterized by higher trade volumes, greater capital mobility, tariff liberalization, and structurally persistent though fluctuating trade deficits. This integrated graphical evidence provides a coherent foundation for the subsequent econometric analysis of the determinants of India's trade balance.

Conclusion

Future research should extend the present analysis by employing advanced econometric techniques to quantify the causal relationships between trade balance, tariff policy, foreign direct investment (FDI), and other macroeconomic variables. Empirical models such as Vector Autoregression (VAR), ARDL cointegration frameworks, or structural econometric models could provide deeper insights into the dynamic interactions among these variables and help identify the magnitude of policy impacts on India's external sector. Additionally, future studies may incorporate sectoral-level trade data and global value chain participation to better understand how different industries contribute to trade deficits or export competitiveness. From a practical policy perspective, the findings suggest the need for strategies aimed at strengthening export diversification, promoting domestic production of critical intermediate and capital goods, and reducing structural import dependence—particularly in energy and high-technology sectors. Policies that encourage

technology transfer through FDI, improve logistics infrastructure, and enhance the competitiveness of Indian manufacturing could help narrow persistent trade imbalances while maintaining the benefits of trade openness.

This study examined the long-run structural evolution of India's trade balance over the period 1960–2022 through a qualitative and graphical analytical framework. By systematically analyzing the trajectories of exports, imports, foreign direct investment (FDI), tariff levels, and annual tariff changes, the study provides an integrated understanding of the macroeconomic and policy forces shaping India's external sector across more than six decades of economic transformation. The graphical evidence reveals that India's trade balance has remained predominantly negative throughout the sample period, with only brief episodes of marginal surplus. During the pre-liberalization era, despite relatively low trade intensity, structural import dependence resulted in persistent deficits. The 1991 economic reforms marked a clear structural turning point characterized by substantial tariff reductions, increased FDI inflows, and rapid expansion of both exports and imports. However, although export intensity increased significantly in the post-reform period, import growth frequently outpaced export expansion, particularly during high-growth phases in the 2000s. This divergence contributed to widening trade deficits, especially during periods of strong domestic demand and global commodity price volatility. The analysis further suggests that tariff liberalization played a decisive role in reshaping trade dynamics. The pronounced decline in applied tariff rates after the early 1990s corresponds with increased trade openness and deeper integration into global markets. Nonetheless, lower tariffs, while enhancing competitiveness and export potential, also facilitated higher import penetration. Similarly, the rise in FDI inflows appears to reflect India's growing integration into global capital markets. While FDI may have supported export capacity and technological upgrading, its relationship with trade balance remains complex, potentially involving both export-enhancing and import-intensive channels. Overall, the graphical and structural patterns highlight three broad phases in India's external sector evolution: a protectionist and inward-oriented period prior to 1991; a liberalization and rapid integration phase during the 1990s and 2000s; and a more globally interconnected yet structurally deficit-prone regime in recent decades. The moderate explanatory power of simple time trends in the trade balance graph indicates that external imbalances are shaped by multiple interacting macroeconomic and policy variables rather than by linear temporal progression alone. The findings underscore that persistent trade deficits in India are not merely cyclical phenomena but reflect deeper structural features of the economy, including import dependence for capital goods and energy, evolving consumption patterns, and integration into global value chains. While trade liberalization and FDI inflows have strengthened economic openness and growth potential, they have also contributed to heightened exposure to external shocks. Future research may extend this descriptive analysis through formal econometric modeling to quantify the magnitude and statistical significance of these relationships. Nonetheless, the present study provides a comprehensive long-run structural assessment that enhances understanding of India's external sector transformation and the underlying factors influencing its trade balance

dynamics.

References

Alexander, S. S. (1952). Effects of a devaluation on a trade balance. *IMF Staff Papers, 2*(2), 263–278. https://doi.org/10.2307/3866218

Aizenman, J., & Noy, I. (2006). FDI and trade—Two-way linkages? *The Quarterly Review of Economics and Finance, 46*(3), 317–337. https://doi.org/10.1016/j.qref.2006.02.004

Bahmani-Oskooee, M., & Ratha, A. (2004). The J-curve: A literature review. *Applied Economics, 36*(13), 1377–1398. https://doi.org/10.1080/0003684042000201794

Baldwin, R., & Weder di Mauro, B. (2020). *Economics in the time of COVID-19*. CEPR Press.

Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics, 45*(1), 115–135. https://doi.org/10.1016/S0022-1996(97)00033-0

Dash, R. K. (2009). Reforms and trade balance in India: An empirical analysis. *Journal of Economic Integration, 24*(4), 728–756. https://doi.org/10.11130/jei.2009.24.4.728

Dornbusch, R., Fischer, S., & Startz, R. (2014). *Macroeconomics* (12th ed.). McGraw-Hill Education.

Helpman, E., & Krugman, P. (1985). *Market structure and foreign trade: Increasing returns, imperfect competition, and the international economy*. MIT Press.

Johnson, H. G. (1976). *The monetary approach to the balance of payments*. University of Toronto Press.

Johnson, R. C., & Noguera, G. (2012). Accounting for intermediates: Production sharing and trade in value added. *Journal of International Economics, 86*(2), 224–236. https://doi.org/10.1016/j.jinteco.2011.10.003

Krugman, P., & Obstfeld, M. (2009). *International economics: Theory and policy* (8th ed.). Pearson Education.

Krugman, P. R. (1980). Scale economies, product differentiation, and the pattern of trade. *American Economic Review, 70*(5), 950–959.

Lipsey, R. E. (2002). Home and host country effects of FDI. *NBER Working Paper No. 9293*. https://doi.org/10.3386/w9293

Marshall, A. (1923). *Money, credit and commerce*. Macmillan.

Narayan, P. K., & Narayan, S. (2005). Estimating income and price elasticities of imports for Fiji in a cointegration framework. *Economic Modelling, 22*(3), 423–438. https://doi.org/10.1016/j.econmod.2004.06.004

Panagariya, A. (2004). India in the 1980s and 1990s: A triumph of reforms. *IMF Working Paper*. https://doi.org/10.5089/9781451856583.001

Perron, P. (1989). The great crash, the oil price shock, and the unit root hypothesis. *Econometrica, 57*(6), 1361–1401. https://doi.org/10.2307/1913712

Pradhan, R. P. (2010). The FDI-led growth hypothesis in India: An empirical investigation. *International Journal of Economic Research, 1*(3), 1–10.

Rodrik, D. (2001). The global governance of trade as if development really mattered. United Nations Development Programme.

Sachs, J. D., & Warner, A. (1995). Economic reform and the process of global integration. *Brookings Papers on Economic Activity, 1995*(1), 1–118. https://doi.org/10.2307/2534573

Samuelson, P. A. (1948). International trade and the equalization of factor prices. *Economic Journal, 58*(230), 163–184.

Topalova, P. (2007). Trade liberalization, poverty, and inequality: Evidence from Indian districts. *Review of Economics and Statistics, 89*(1), 1–14. https://doi.org/10.1162/rest.89.1.1

Wacziarg, R., & Welch, K. H. (2008). Trade liberalization and growth: New evidence. *World Bank Economic Review, 22*(2), 187–231. https://doi.org/10.1093/wber/lhn007

World Bank. (2022). *World development indicators*. World Bank.

World Trade Organization. (2021). *World trade statistical review*. WTO.