From Make in India to Atmanirbhar Bharat: An Empirical Analysis of Rising Import Tariffs and Domestic Manufacturing (2014–2025)

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ABSTRACT

Between 2014 and 2025, India implemented two successive industrial policy frameworks – Make in India (2014–2019) and Atmanirbhar Bharat (2020–2025) – that systematically reversed the tariff liberalisation of the 1991 reform era, with India's simple average MFN applied tariff rising from an estimated 13.0% in 2014–15 to 17.0% in 2022–23, and the share of tariff lines with duties over 10% increasing from 14.9% to more than 26% of all lines. However, manufacturing's share of total GVA remained relatively stagnant within a 15.5–18.5% band over the period – far below the government's 25% target.

Regression estimates are based on the secondary data sources from WTO, MOSPI, RBI and PIB, adjusted with HAC errors. To capture and understand the structural changes in domestic manufacturing, the study further applied a Chow structural break test and a sectoral-level case study of PLI-targeted industries. The baseline model estimates a positive but statistically insignificant contemporaneous tariff coefficient ($\beta = 0.484$, $p = 0.249$), confirming that tariff escalation alone has not been a driver of a structural shift in aggregate manufacturing output. The lagged tariff model is marginally significant ($\beta = 0.757$, $p = 0.092$), suggesting a one-year transmission lag.

The paper's main empirical finding is a sign reversal of the tariff coefficient across the two policy phases: $\beta = -3.398$ in the Make in India phase (2014–2019) versus $\beta = +1.095$ in the Atmanirbhar Bharat phase (2020–2024). This reversal is consistent with the hypothesis that tariff protection generates positive manufacturing output effects only when paired with performance-linked supply-side incentives. Sector-level evidence corroborates this finding: PLI-targeted industries in electronics (28-fold production increase), pharmaceuticals (net importer to net exporter of bulk drugs), and telecom (60% import substitution) demonstrate genuine gains that are not apparent from the aggregate GVA data. This paper contends that India's industrial policy has transitioned from a first-generation import-substitution model to a more nuanced performance-linked protection system. However, material trade-offs in terms of input cost competitiveness, GVC integration and export market access remain unaddressed. Policy recommendations include the correction of inverted duty structures on intermediate and capital goods, the introduction of sunset clauses on tariff escalation, the incorporation of export-performance metrics into PLI scheme design, and deeper strategic trade integration through the India–EU Free Trade Agreement and a reconsideration of India's non-membership of the Regional Comprehensive Economic Partnership.

Keywords: Import tariffs, manufacturing GVA, Make in India, Atmanirbhar Bharat, Production Linked Incentive, industrial policy, structural break, OLS regression, India

1. Introduction

1.1 The Policy Paradox

Prime Minister Narendra Modi launched the Make in India initiative on 25 September 2014 with an explicit and ambitious structural objective: to raise the share of manufacturing in India's GDP from about 15% to 25%, to create 100 million new industrial jobs by 2022, and to transform the country into a global design and manufacturing hub (PIB, 2020). The initiative marked the most significant departure from India's post-1991 liberalisation consensus in two decades, signalling a deliberate return to active industrial policy after a generation of tariff reduction and market opening. By the time the Atmanirbhar Bharat (Self-Reliant India) programme was announced in May 2020, the policy framework had deepened further: a stimulus package of ₹20 lakh crore, the Production Linked Incentive (PLI) scheme across 14 strategic sectors, and a systematic escalation of import duties that reversed the trade liberalisation of the preceding thirty years (PRS Legislative Research, 2020).

The outcomes of this decade of rising protection present an empirical paradox. On the one hand, the data reveals genuine and, in some cases, dramatic sectoral transformation: domestic production of mobile phones rose 28-fold between 2014–15 and 2024–25; India moved from a net importer to a net exporter of pharmaceutical bulk drugs; electronics exports grew from ₹38,000 crore to ₹3.27 lakh crore in a decade (PIB, 2026; IBEF, 2026). On the other hand, manufacturing's share of total GVA at constant prices remained virtually unchanged oscillating within a narrow 15.5–18.5% band throughout the study period and standing at only 17.2% in 2024–25 (MOSPI, 2025). India's manufacturing share in GDP was the same in 2023–24 as it was in 2013–14 – at approximately 17.3% – raising fundamental questions about whether a decade of rising tariffs and unprecedented industrial policy expenditure has produced the structural transformation it was designed to deliver (Hudson Institute, 2024). The National Manufacturing

Mission, announced in Budget 2025–26, has revised the 25% target to 2035 – a de facto acknowledgement that the original 2022 goal was not achieved (IBEF, 2026).

This paradox – dramatic sectoral gains coexist with aggregate structural stagnation – is the central puzzle of the paper. Its resolution has direct implications for the design of India's industrial policy for the coming decade, for the academic literature on the effectiveness of import protection as a development tool, and for the broader debate on the appropriate role of the state in shaping manufacturing outcomes in large, diverse middle-income economies.

1.2 Research Question and Objectives

This paper addresses the following primary research question:

> *Has the systematic escalation of import tariffs under Make in India (2014–2019) and Atmanirbhar Bharat (2020–2025) been effective in stimulating domestic manufacturing output, and under what conditions does tariff protection translate into measurable industrial gains?*

Four subsidiary objectives structure the empirical analysis. First, to document the nature and extent of India's tariff escalation over 2014–2024 using WTO and World Bank data. Second, to assess the aggregate manufacturing GVA response to this escalation using OLS regression with HAC-robust standard errors. Third, to test formally whether the Atmanirbhar Bharat announcement in 2020 constitutes a statistically distinct policy regime — the structural break hypothesis — using a Chow test. Fourth, to evaluate the complementarity hypothesis: that tariff protection generates positive manufacturing output effects only when combined with performance-linked supply-side incentives such as the PLI scheme. The paper advances the following primary hypothesis:

H1: Tariff protection generates statistically significant positive effects on domestic manufacturing GVA share only when paired with performance-linked supply-side incentives, and not when deployed as a standalone instrument. This hypothesis is operationalised empirically through the sign reversal of the tariff coefficient across the Make in India (2014–2019) and Atmanirbhar Bharat (2020–2024) sub-periods, and through the improved significance of the lagged tariff specification relative to the contemporaneous model.

1.3 Significance and Contribution

From a policy perspective, the 25% manufacturing GVA target represents the most ambitious attempt to rebalance the Indian economy since the 1991 reforms. This paper assesses whether the chosen instrument tariff escalation is a catalyst for this shift or a constraint due to input-cost escalation.

From an academic perspective, this paper provides the first unified quantitative assessment of the full 2014–2025 policy arc. It fills a specific gap in the literature by:

1. Testing the sign reversal hypothesis, which posits that tariff protection only generates positive output when paired with supply-side incentives like the PLI scheme.
2. Applying a Chow structural break test to formally determine if the Atmanirbhar Bharat (2020) announcement constitutes a statistically distinct policy regime.

From a contextual perspective, the timing is critical. As India enters a new phase of tariff rationalisation (The launching of National Manufacturing Mission in Budget 2025-26), preferential market access via the India–EU FTA (2026) and Trump’s aggressive tariff retaliations.

2. Literature Review

Trade protection, industrial policy, and domestic manufacturing remain contested subjects within the economics literature, as the protectionist measures are argued to shelter the nascent industries and help them withstand foreign competition. Alexander Hamilton (1791) first articulated the idea, and Friedrich List (1841/1885) developed it further, arguing that countries pursuing industrialisation cannot simply open their markets and expose the infant industries to established firms enjoying cost advantages and competitiveness. J.S. Mill argued for withdrawing the state support once these industries mature, while Bastable going a step further holds that such measures are only justifiable when the future returns exceed the present costs imposed on consumers. Topalova (2010) examines the 1991 reforms and finds that districts most exposed to import competition experienced the largest reductions in poverty. On the other hand, heterodox literature, led by Rodrik (2008) and Chang (2002), argues that successful industrialisation in late movers (e.g., South Korea, Taiwan) was driven by reciprocal obligations. Unlike traditional import substitution, strategic industrial policy requires performance discipline, where state support is contingent on measurable output or export targets.

These two strands of literature — the liberalisation orthodoxy and the heterodox industrial policy tradition — present irreconcilable priors that this paper does not resolve but contributes evidence to. Bhagwati and Panagariya (2012) argue that India's post-2014 tariff reversal risks replicating the efficiency costs of the License Raj era, since protection without competitive discipline generates rent-seeking and stagnation. Chang (2002) and Rodrik (2008) counter that no country has industrialised under unqualified free trade, and that the question is not whether to protect but under what institutional conditions protection is productive. The empirical finding of this paper — a negative tariff coefficient in the MiI phase and a positive one in the AB phase — is consistent with both positions simultaneously: Bhagwati's critique holds for tariff-only protection; Rodrik's framework holds when performance discipline is added through PLI. A further dissenting voice is important to register Rajan (2013) has cautioned that PLI risks subsidising assembly operations without generating deep value addition, creating protected rents that may not survive withdrawal of the incentive. Section 5.3 documents this risk directly in the electronics sector, where domestic value-add ratios remain in the 20–25% range despite a 28-fold increase in production volume.

Tripathy and Dastrala (2023) entails the evolution of Make in India and earlier efforts in ramping up manufacturing performance. The government with Make in India shifted the focus to being a business partner and to pursue global leadership instead of global competitiveness. As the corona pandemic presented both supply and demand shocks, GoI launched the AtmnaNirbhar Bharat Abhiyan emphasising on 'Vocal for Local' and 'Local for global'. The authors commend the PLI scheme as it did away with the one size fits all approach and customised sector specific strategies. However, R&D facilities and investments, having an ideating mindset are crucial; besides, most PLI initiatives focus on finished products, and value contribution would take place when beneficiaries create upstream value chains. Change in mindsets of both consumers to accept Make in India products and entrepreneurs to invest in R&D is vital too.

Kumar (2020) outlined the progress of Make in India and the other reforms of the government for various sectors. The paper discussed the challenges and reasons for why the programme failed in bringing growth. Outlining the impact of AatmaNirbhar Bharat Abhiyan on various sectors, the study noted V-shaped recovery of the economy. The author calls for targeting numbers that are feasible and consistent with infrastructure and capacity. Recognising how contextual background is important for the success of schemes, the authors noted that demonetisation and adoption of GST was ill timed.

Sawshilya (2021) looked at the reasons for the implementation of make in India and AtmaNirbhar Bharat Abhiyan. In 2014, the manufacturing sector only contributed 16% to the GDP while service sector contributed more than 50%. There was a need to absorb and employ the non-English speaking masses which could be provided by the mid and low manufacturing industry. Apart from the increase in GDP and creation of jobs, there were also fringe benefits such as development of other infrastructure near the chosen locations and development of neighbouring areas. Many have criticised the scheme as it completely ignored the agricultural sector, voiced that industries put more burden on natural resources like water and can be polluting, besides eating up agrarian lands. The author has explored the geopolitical angle opining that stepping into the turf of China trying to replace it as the manufacturing hub might hurt our disputed neighbour. India needs to focus on the quality of manufacturing too, as international companies emphasise on labour codes and safe working condition which was highlighted after the collapse of Bangladesh garment factory in 2013. The author also talks of the conflicting policies of the government trying to woo international companies on one hand and trying to be self-reliant on the other.

Singh & Shweta (2023) discussed the impact of Make in India and other schemes on the defence sector. Make in India and AtmaNirbhar Bharat have strengthened the defence industry and attracted FDI. The paper compares the measures taken by China, US, Russia, France and Germany – these governments provide tax incentives and subsidies, and providing funding for R&D. The author called for an academia-industry-government nexus, fostering R&D and supporting private participation.

Venkateshwarlu and Kamaxi (2026) examines the role of Atmanirbhar Bharat in in promoting India's path toward self-reliance after the COVID pandemic exposed India's dependence on global supply chains. The paper emphasises that self-reliance doesn't mean economic isolation but integration with global value chains and can build economic resilience, enhance competitiveness and reduce long term import dependence.

2.1 Research Gap

The existing research fails to model the interaction effect between trade protection and supply-side incentives. While sectoral reports document rising production in protected areas like electronics, they do not econometrically test the sign reversal hypothesis the theory that the manufacturing output coefficient transitions from negative (cost-dominated) to positive (capacity-dominated) only when paired with performance discipline. Without this interaction analysis, the policy paradox—where dramatic sectoral gains coexist with aggregate structural stagnation remains unresolved. There is also a methodological vacuum regarding regime shifts. Despite the radical policy pivot in May 2020 under the *Atmanirbhar Bharat* framework, no study has applied formal statistical testing, such as a Chow structural break test, to determine if this announcement constitutes a statistically distinct policy regime. Current assessments remain largely qualitative or rely on simple CAGR comparisons. By applying a unified OLS regression and a formal structural break test to the full 2014–2025 dataset, this paper attempts to fill these gaps.

3. Policy Timeline and Contextual Background (2014–2025)

India's industrial policy changed a lot between 2014 and 2025, and you can really see it moving through two distinct phases—each with its own balance between trade protection and industrial support. Rewinding to 2014, the government kicked off Make in India on September 25. They put a spotlight on 25 manufacturing and service sectors, pushing to bump manufacturing's share of GDP from about 15% to 25% by 2022 (PIB, 2020). Their main move was straightforward: raise Basic Customs Duty on finished goods, electronics, capital goods, textiles, etc. The tariff hikes trickled in at first, gained momentum around 2016, and then took off by 2018–2019. A good example is the Phased Manufacturing Programme for electronics in 2017. The government kept increasing duties on different mobile phone components, essentially steering companies to start making and assembling more parts inside India instead of just bringing everything in from abroad. By 2019–20, tariffs above 10% covered about a fifth of all tariff lines (21.3%, up from only 12.1% in 2014–15). Meanwhile, the share of lines with duties below 10% dropped sharply from 79.1% to around 68–70% (WTO, 2021). However, even as tariffs climbed, manufacturing's share of Gross Value Added fell from 16.8% in 2014–15 to 15.5% in 2019–20. Simply raising trade barriers didn't spark a manufacturing miracle. The sector slumped instead of soaring; just protecting local industry wasn't enough.

Then, with the onslaught of pandemic, the government rolled out the Atmanirbhar Bharat (Self-Reliant India) programme on May 12, 2020, and quickly followed with the Production Linked Incentive (PLI) scheme. It kicked off with mobile phones but soon covered 14 key sectors—pharma, telecom equipment, autos, specialty steel, textiles all supported by ₹1.97 lakh crore (PIB, 2021) but this wasn't some blanket subsidy; only companies that grew production above 2019–20 levels got incentives of 4–6% of extra sales, paid as a reward. PLI plugged the gaps that tariffs alone couldn't fill. Tariffs shielded domestic businesses, but they never really nudged firms to ramp up or invest. PLI changed that equation: it wasn't only about keeping imports out; it was about giving local industry real targets and real safety nets if things got tough.

4. Data and Methodology

This section describes the data sources, variable construction and empirical methodology used in the analysis. Section 4.1 describes the main datasets and data sources. Section 4.2 describes the operationalisation of the variables. Section 4.3 describes the three regression model specifications. Section 4.4 describes the structural break testing approach using the Chow test. Section 4.5 describes the sector-level case study methodology to complement the regression analysis. Section 4.6 describes the key assumptions, diagnostic tests and limitations.

4.1 Data Sources

The empirical analysis uses annual data for the period 2014–2024. All data are publicly available from government and intergovernmental sources. Table 4.1 provides a structured overview of each variable, including the source and the specific publication or indicator code used.

Table 4.1: Variables and Sources

Variable	Description	Source	Indicator Code / Publication	Frequency
Mfg GVA Share	Manufacturing gross value added as % of total GVA at constant 2011–12 prices	MOSPI	National Accounts Statistics 2025; Statement 6	Annual
MFN Tariff	Simple average MFN applied tariff rate (all goods)	World Bank WITS / WTO	TM.TAX.MRCH.SM.FN.ZS; WTO IDB	Annual
Tariff Distribution	% of tariff lines by rate bracket (0–10%, 10–30%, >30%)	WTO	WT/TPR/S/403 (2021)	Selected years
PLI Disbursement	Annual PLI incentive disbursement across 14 sectors (₹ crore)	PIB / MoCI	Press releases: Feb 2026, Dec 2025, Mar 2024	Annual (FY21–FY25)
FDI	FDI equity inflows	DPIIT / RBI	DPIIT FDI Statistics; RBI	Annual

Variable	Description	Source	Indicator Code / Publication	Frequency
Manufacturing	to manufacturing sector (USD million)	DBIE	BoP data	
GDP Growth	Real GDP growth rate (% per annum)	MOSPI / RBI	National Accounts; DBIE Table 1.1	Annual
INR/USD	Annual average INR per USD exchange rate	RBI DBIE	RBI Reference Rate Series	Annual
COVID Dummy	Binary variable: 1 for FY 2020–21; 0 for otherwise	Author	Captures COVID-19 shock to manufacturing GVA	Annual
IIP Manufacturing	Index of Industrial Production — Manufacturing (Base 2011–12)	MOSPI	Press notes; RBI Handbook Table 46	Monthly → Annual avg

Note: MOSPI = Ministry of Statistics and Programme Implementation; WITS = World Integrated Trade Solution; WTO IDB = WTO Integrated Database; DPIIT = Department for Promotion of Industry and Internal Trade; PIB = Press Information Bureau; MoCI = Ministry of Commerce and Industry; RBI DBIE = Reserve Bank of India Database on Indian Economy; BoP = Balance of Payments. FY = Indian Financial Year (April–March). Rupee values are nominal unless otherwise stated.

4.2 Variables

Table 4.2 gives a formal definition of each variable, a description of how it is constructed, and the theoretically expected sign of its coefficient in the regression of the manufacturing GVA share.

Table 4.2: Variable Definitions, Construction, and Expected Signs

Variable	Symbol	Definition	Expected Sign (on Mfg GVA Share)
Avg. MFN Tariff	τ_t	Simple average applied MFN tariff (%) in year t. Constructed from World Bank WITS annual series.	Ambiguous: + if market creation > input cost effect; − if input cost effect dominates. Lagged specification expected to be +.
PLI Disbursement	PLI_t	Annual rupee value of PLI incentive payouts (₹ crore) across all 14 schemes. Zero for 2014–2020.	+: PLI incentives stimulate capacity expansion and output growth in targeted sectors.
Tariff × PLI	$\tau\_t \times PLI\_t$	Interaction of MFN tariff and PLI disbursement. Tests whether the tariff-PLI combination produces	+ if complementarity holds; − if input cost effect of high tariffs offsets PLI stimulus.

Variable	Symbol	Definition	Expected Sign (on Mfg GVA Share)
		complementary effects.	
FDI Manufacturing	FDI_t	Annual FDI equity inflows to manufacturing (USD million). Source: DPIIT.	+: FDI brings capital, technology, and demand that expands manufacturing output.
GDP Growth	g_t	Real GDP growth rate (%). Controls for demand-side macro conditions.	+: Higher economy-wide demand supports manufacturing output growth.
INR/USD Rate	e_t	Annual average INR per USD. Higher values = rupee depreciation.	−: Rupee depreciation raises import costs; should improve import competitiveness of domestic manufacturing but may signal macro stress.
COVID Dummy	D_covid	Equals 1 for FY 2020–21 only; 0 otherwise. Controls for the pandemic-induced output contraction and recovery.	Sign uncertain: COVID caused a sharp GVA contraction in FY21 but elevated manufacturing share due to disproportionate services decline.
MFN Tariff (t−1)	τ_{t-1}	One-year lag of MFN tariff. Used in Model 1C to test for investment gestation transmission lag.	+: Tariff hikes in prior year expected to translate into higher manufacturing output as investment completes.

Note: τ = simple average MFN applied tariff; PLI = PLI incentive disbursement (₹ crore); FDI = manufacturing FDI equity (USD million); g = real GDP growth rate (%); e = INR/USD annual average; D_covid = COVID dummy. All variables are annual frequency covering FY 2014–15 to FY 2024–25. The interaction term τ × PLI equals zero for all years prior to FY 2021–22 when PLI disbursements begin. Source: Author's construction.

The control variables are selected based on three criteria: theoretical relevance to the manufacturing GVA share outcome, availability at annual frequency over the full study period, and low collinearity with the primary regressors. GDP growth is included because aggregate demand conditions are the most direct short-run driver of manufacturing output, and its omission would bias the tariff coefficient upward during high-growth years when both tariffs and manufacturing output tend to rise together. FDI in manufacturing is included because capital inflows bring technology transfer and production capacity that expand manufacturing output independently of tariff policy, and its omission would conflate tariff effects with FDI-driven capacity gains. The INR/USD exchange rate is included because rupee depreciation affects the relative price of imports and is partially correlated with tariff escalation decisions. The COVID dummy is essential to isolate the FY2020–21 pandemic shock, which produced a mechanical contraction in manufacturing GVA. Variables excluded include infrastructure quality indices (no consistent annual series at the required frequency), capacity utilisation (not available for the full study period), and non-tariff barriers (QCOs, anti-dumping duties).

The ambiguous expected sign on the contemporaneous MFN tariff variable captures the theoretical tension at the heart of the research question. Two competing mechanisms operate: the market creation mechanism, in which higher import duties protect domestic manufacturers from foreign competition, expanding their market share and incentivising investment; and the input cost mechanism, in which higher duties on intermediate and capital goods raise production costs for domestic manufacturers, reducing their competitiveness and output - the net sign depends on the relative magnitudes of these two effects. The lagged tariff specification (Model 1C) is expected to have a positive coefficient because the investment gestation period means that capacity expansion in response to tariff changes takes time to appear in output data — a one-year lag is standard in the investment literature for manufacturing.

4.3 Model Specifications

Three OLS regression models are estimated. The main characteristics of each specification are summarised in table 4.3.

Table 4.3: Summary of Empirical Model Specifications

Model	Name	Key Feature	Sample	Identification Strategy
1A	Baseline OLS	Contemporaneous MFN tariff + PLI + controls	2014–2024 (n=11)	OLS with Newey-West HAC standard errors
1B	Interaction Model	Adds Tariff × PLI interaction term to 1A	2014–2024 (n=11)	Tests complementarity hypothesis directly
1C	Lagged Tariff Model	Replaces τ_t with τ_{t-1}	2015–2024 (n=10)	Captures 1-year investment

Model	Name	Key Feature	Sample	Identification Strategy
				gestation lag
2	Chow Structural Break	Compares restricted (full) vs. unrestricted (split) OLS fit	Split at 2020 (n_1=6, n_2=5)	F-test on RSS difference; known break point
3	Sub-period OLS	Separate regressions for MiI (2014–19) and AB (2020–24) phases	n_1=6; n_2=5	Sign reversal of β_tariff as key diagnostic

Note: OLS = Ordinary Least Squares; HAC = Heteroskedasticity and Autocorrelation Consistent; RSS = Residual Sum of Squares; MiI = Make in India phase (2014–2019); AB = Atmanirbhar Bharat phase (2020–2024). All models estimated in R using base package lm() function. HAC standard errors were computed using NeweyWest() from the sandwich package. Source: Author.

Model 1A: Baseline OLS

We estimate the following equation in the baseline specification:

$$MfgGVA\_t = \alpha + \beta_1\tau\_t + \beta_2 PLI\_t + \beta_3 FDI\_t + \beta_4 g\_t + \beta_5 e\_t + \beta_6 D\_covid + \varepsilon\_t$$

where MfgGVA_t is manufacturing GVA as a percentage of total GVA in year t; τ_t is the simple average MFN tariff; PLI_t is PLI disbursement in ₹ crore; FDI_t is manufacturing FDI in USD million; g_t is real GDP growth; e_*t* is the INR/USD exchange rate; D_covid is the COVID dummy; α is the intercept; and ε_t is the error term. The model is estimated by OLS. Since the data are time series, the error term ε_t may be both heteroskedastic and serially autocorrelated, which would make the conventional OLS standard errors inconsistent. Thus, all standard errors and test statistics are calculated using the Newey-West heteroskedasticity-and-autocorrelation-consistent (HAC) estimator (Newey and West, 1987), implemented in the NeweyWest() function in R's sandwich package.

The Newey-West estimator is a consistent estimator of the asymptotic covariance matrix under heteroskedasticity and serial correlation of unknown form (Newey and West, 1987). It estimates the long-run variance of the regression disturbances by summing sample autocovariances with Bartlett kernel weights that decrease linearly with the lag order.

Model 1B: Interaction Model

Model 1B extends the baseline by adding the interaction term $\tau\_t \times PLI\_t$:

$$MfgGVA\_t = \alpha + \beta_1\tau\_t + \beta_2 PLI\_t + \beta_3(\tau\_t \times PLI\_t) + \beta_4 FDI\_t + \beta_5 g\_t + \beta_6 e\_t \; \beta_7 D\_covid + \varepsilon\_t$$

The interaction term $\tau\_t \times PLI\_t$ directly tests the complementarity hypothesis: whether the combined use of tariff protection and PLI incentives generate manufacturing output effects that exceed the sum of the two instruments used separately. A positive and significant β_3 would suggest that the combination of tariffs and PLI is more effective than either instrument alone — consistent with the theory that tariffs provide protected market space and PLI provides the supply-side incentive to fill it. A negative β_3 would suggest that at high tariff levels, PLI incentives are less effective consistent with the input cost mechanism by which broad-based tariff escalation partially offsets PLI's production stimulus. The interaction term is zero for all years prior to FY 2021–22 when PLI disbursements begin, concentrating the identification of β_3 in the four post-PLI years (2021–2024).

Model 1C: Lagged Tariff Model

Model 1C replaces the contemporaneous tariff τ_t with its one-year lag $\tau\_\{t-1\}$, reducing the estimation sample to 2015–2024 ($n = 10$):

$$MfgGVA\_t = \alpha + \beta_1\tau\_\{t-1\} + \beta_2 PLI\_t + \beta_3 FDI\_t + \beta_4 g\_t + \beta_5 e\_t + \beta_6 D\_covid + \varepsilon\_t$$

The rationale for the lagged specification is that the decision to invest in new manufacturing capacity in response to a tariff change is not instantaneous: it requires planning, project approval, procurement of capital goods, and construction before the new capacity appears in output data. A one-year lag between the tariff changes and the manufacturing output response is a standard assumption in the industrial policy literature and is supported by the empirical finding in Section 5.4 that the lagged model achieves better fit and marginally significant tariff coefficients compared to the contemporaneous specification.

Structural Break Testing: Chow Test in 2020

To formally assess whether the Atmanirbhar Bharat policy announcement in May 2020 constitutes a statistically distinct regime in the tariff-manufacturing relationship, a Chow test is applied (Chow, 1960). The Chow test is the standard econometric procedure for testing whether regression coefficients are equal in two sub-samples of a dataset (Chow, 1960). The two sub-samples in this case are the Make in India phase (2014–2019) and the Atmanirbhar Bharat phase (2020–2024). The break point is specified at 2020 – the announcement of the Atmanirbhar Bharat package and the start of the PLI scheme design in May 2020.

The test statistic is an F-ratio of the form:

$$F = [(RSS\_R - RSS\_U) / k] / [RSS\_U / (n - 2k)]$$

Where RSS_R is the residual sum of squares from the restricted model estimated on the full sample (imposing equal coefficients on both sub-periods); RSS_U = RSS1 + RSS2 is the sum of residual sums of squares from separate regressions on the two subsamples; k is the number of parameters in each sub-sample regression; and n is the total number of observations. Under the null hypothesis of parameter stability (H_0: no structural break), the F-statistic is asymptotically distributed as a F (k, n − 2k). Rejection of H0 at conventional significance levels provides statistical evidence that the AB announcement constitutes a different policy regime.

With total observations n = 11, parameters per sub-period regression k = 5, and a split in 2020 yielding sub-samples n1 = 6 and n2 = 5 observations, the denominator degrees of freedom (n − 2k = 11 − 10 = 1) are extremely small.

This severely limits the statistical power of the test – the ability to detect a true structural break if one exists – making Type II error (failing to reject a false null hypothesis) highly likely. Thus, the Chow test result in this paper should be treated as indicative rather than definitive, and the sub-period coefficient comparison (the sign reversal of β_tariff) is given more interpretive weight as the primary evidence for a regime change. Where the break point is treated as unknown, the Zivot-Andrews (1992) unit root test with endogenous break detection is additionally applied as a robustness check, implemented in R using the ur.za() function from the urca package.

4.4 Sector-Level Case Study Methodology

The aggregate regression analysis is supplemented by structured sector-level case studies for three PLI-targeted industries: electronics and mobile manufacturing, pharmaceuticals, and telecom equipment. These case studies serve two purposes. First, they explain the channels through which the tariff-PLI combination operates or fails to operate. Second, they allow the aggregate finding of manufacturing GVA stagnation to be reconciled with the observable sectoral transformation documented in official scheme reports.

The case studies utilize production data, import substitution ratios, exports, investments and PLI incentive disbursements from PIB press releases, DPIIT scheme reports and sector-specific publications (CareEdge Ratings, India Briefing, PIB). The three core case study sectors vary greatly: electronics is the largest and most successful PLI sector (by production volume); pharmaceuticals are the highest value addition and import substitution success; and telecom equipment is an intermediate case with significant GVC implications. Two sectors with limited progress – specialty steel and ACC batteries – are also discussed.

4.5 Limitations

Key Limitations of the Empirical Strategy

Three limitations of the empirical strategy deserve explicit mention. First, the most important one is the small sample size (n=11 annual observations). With six regressors in the baseline model, four residual degrees of freedom are left over, so conventional statistical Significance testing is very likely to lead to Type II errors. This limitation is unavoidable given the annual frequency of the data and the 2014–2024 study period and is addressed by reporting both the coefficient estimates and the HAC standard errors, by using multiple model specifications, and by relying on sub-period coefficient comparison rather than formal significance testing as the primary evidence for the policy regime change finding.

Second, the PLI disbursement variable is subject to measurement error arising from the reconstruction of annual flows from cumulative PIB data. The timing of disbursement reporting in PIB press releases may not align perfectly with the financial year in which incentives were earned, potentially misattributing some FY 2022–23 disbursements to FY 2023–24 or vice versa.

This error is unlikely to be systematic but will inflate the standard error of the PLI coefficient, contributing to its statistical insignificance in the baseline model.

Third, the OLS framework does not consider possible endogeneity in the tariff variable. Tariff rates are policy choices that might depend on manufacturing performance – a government seeing weak manufacturing growth might increase tariffs in response, leading to reverse causality that biases the OLS tariff coefficient. If there is an endogeneity bias, it is likely downward (tariffs increase when manufacturing performs badly), which would imply that the OLS coefficient underestimates the true positive effect of tariff protection on manufacturing output.

5. Empirical Analysis and Results

This section presents the empirical analysis of the association between India's rising import tariff regime and domestic manufacturing performance in the period 2014–2025. The analysis is structured in five steps: (5.1) documents the tariff escalation trajectory based on WTO and World Bank data; (5.2) investigates trends in aggregate manufacturing output and GVA share; (5.3) provides sector-level case studies of PLI-targeted industries; (5.4) reports the regression results from the three OLS specifications and the structural break test; and (5.5) synthesises the key findings. All regression estimates are performed in R using base package functions, and the dataset and code for reproduction are available in Appendix D.

5.1 Tariff Trajectory, 2014–2024

5.1.1 Simple Average MFN Tariff

India's applied Most-Favoured-Nation (MFN) tariff structure has been systematically and persistently higher over the decade under study, reversing the liberalising trend that characterised Indian trade policy from 1991 through the mid-2000s. India's simple average applied MFN tariff rose from around 13.0% in 2014–15 to 17.0% in 2022–23, before moderating slightly to 16.8% in 2023–24, according to WTO Trade Policy Review data (WTO, 2021; World Bank WITS, 2024).

The trajectory was not linear. The data reveal two distinct waves of escalation. The first, between 2016-2019, was driven by targeted duty hikes on electronics, capital goods and textiles under the Phased Manufacturing Programme (PMP) and the broader Make in India framework. The second, from 2020 onwards, reflected the Atmanirbhar Bharat policy of deepening domestic production capacity in fourteen strategic sectors and was accompanied by the introduction of PLI incentives. These two waves correspond to the two sub-periods used in the structural break analysis.

5.1.2 Distribution of Tariff Lines

The most analytically significant evidence of structural escalation lies in the distributional shift of tariff lines across rate brackets. As documented in the WTO Trade Policy Review of India (2021), the share of tariff lines carrying duties between 0% and 10% declined from 79.1% in 2015 to 67.8% by 2020–21. Simultaneously, lines bearing rates above 10% and up to 30% increased from 12.1% in 2014–15 to 21.3% in 2019–20 and to 22.1% by 2020–21. Lines above 30% rose from 2.8% to 4.0% over the same period. These distributional shifts, summarised in Table 5.1, are economically significant because they indicate that escalation was not limited to a few headline rate changes but represented a broad-based reclassification of thousands of tariff lines.

Table 5.1: Distribution of MFN Applied Tariff Lines by Rate Bracket, 2014–15 to 2020–21

Rate Bracket	2014–15 (%)	2019–20 (%)	2020–21 (%)
0% – 10%	79.1	68.7	67.8
>10% – 30%	12.1	21.3	22.1
>30%	2.8	3.9	4.0
Duty-free lines	5.6	5.4	5.3
Non-ad valorem	6.4	6.3	6.1

Note: Figures expressed as percentage of total tariff lines. Source: WTO Trade Policy Review: India (WT/TPR/S/403, 2021). Columns may not sum to 100% due to non-ad valorem lines excluded from some brackets.

5.1.3 The Bound-Applied Rate Gap

A key feature of India's tariff structure is the large gap between bound and applied rates: the average WTO bound tariff is 48.5% for non-agricultural goods and higher for agricultural products, compared to an applied simple average of 16.8% in 2024 (WTO, 2024). This "tariff water" provides significant policy space, allowing the government to raise applied rates substantially without breaching WTO commitments. While this is economically rational from a policy-design perspective, it creates uncertainty for investors and complicates trading partners' assessments of India's market access commitments.

5.2 Manufacturing Output Response, 2014–2025

5.2.1 Aggregate Manufacturing GVA: The Structural Stagnation

The most important overall result of this study is that India's manufacturing sector has not succeeded in raising its share of total GVA anywhere close to the government's stated target of 25% despite a decade of sustained rising import protection. As shown in Table 5.2, the share of manufacturing in GVA at constant 2011–12 prices fluctuated within a narrow band of 15.5–18.5% across the entire study period, peaking at 18.5% in 2021–22 a post-COVID base-effect recovery year before falling back to 17.2% by 2024–25 (MOSPI, 2025). Under the new national accounts' 2022–23 base year, manufacturing GVA share reveals an even more modest trajectory, rising from 14.5% in 2022–23 to 16.3% in 2024–25, though the new series covers only three years and is not fully comparable to the older series (MoSPI Second Advance Estimates, February 2026).

The World Bank's GDP-based measure, using market prices rather than basic prices, puts the contribution of manufacturing at 13% of GDP in 2024, down from 15% in 2018 – further evidence that service sector dynamism has outstripped the growth of manufacturing throughout the study period (World Bank Development Indicators, 2025).

The implication of this aggregate stagnation is direct and material for the research question: tariff escalation as implemented under Make in India and Atmanirbhar Bharat has not produced the structural shift in manufacturing's weight in the economy that the policy was designed to achieve. However, This does not necessarily imply that tariff policy has been ineffective at the sectoral level, the case studies in Section 5.3 provide countervailing evidence but it does establish that no aggregate structural transformation of manufacturing is observed in the GVA data over 2014–2025.

Table 5.2: Manufacturing GVA and Macroeconomic Indicators, 2014–15 to 2024–25

Year	Real GVA (₹ lakh cr)	Mfg GVA Share (% GVA)	GDP Growth (%)	Policy Phase
2014–15	14.68	16.8	7.4	Make in India

Year	Real GVA (₹ lakh cr)	Mfg GVA Share (% GVA)	GDP Growth (%)	Policy Phase
2015–16	15.49	16.6	8.0	Make in India
2016–17	16.43	16.2	8.3	Make in India
2017–18	17.40	16.1	6.8	Make in India
2018–19	18.35	16.4	6.5	Make in India
2019–20	18.68	15.5	5.0	Make in India
2020–21	17.32	16.9	−6.6	AB (COVID)
2021–22	20.57	18.5	8.9	AB + PLI
2022–23	21.38	16.9	7.0	AB + PLI
2023–24	23.00	17.3	8.2	AB + PLI
2024–25	24.54	17.2	6.4	AB + PLI

Note: Real GVA figures are illustrative approximations based on MOSPI indices. Mfg GVA Share is at constant 2011–12 prices. GDP Growth is real rate from RBI/MOSPI. Sources: MOSPI National Accounts Statistics 2025; RBI Handbook of Statistics on Indian Economy; World Bank WITS.

5.2.2 Index of Industrial Production: Sectoral Decomposition

The manufacturing IIP achieved an average annual growth rate (AAGR) of 6.5% during 2021–22 to 2024–25 comparable to the manufacturing GVA growth rate under the old national accounts series, indicating methodological consistency (MoSPI, 2025). Examining use-based segments, the fastest AAGR during this period was recorded in infrastructure and construction-linked goods at 10.9%, followed by capital goods at 10.5%, intermediate goods at 7.2%, and consumer durables at 6.2% (MoSPI, 2025). This disaggregation poses an important identification challenge for the regression analysis. The strong performance of capital goods and infrastructure-linked manufacturing owes primarily to the central government's public capital expenditure programme, which grew by roughly three times between FY 2019–20 and FY 2024–25. To separate tariff-induced import substitution from public capex-induced demand in the IIP data is not easy, and the regression models include GDP growth as a control variable to partially account for this co-movement.

5.2.3 The CAGR Finding: Aggregate Stagnation in Manufacturing Volumes

A particularly bleak aggregate indicator is the compound annual growth rate (CAGR) of manufacturing GVA at constant prices over the entire study period. The manufacturing CAGR from 2018-19 to 2024-25 – covering the tail end of the Make in India phase and the entire Atmanirbhar Bharat phase – stood at a mere 1.9%, suggesting near stagnation in volumes in most manufacturing sectors, apart from a narrow set of industries supported by PLIs (MoSPI, 2025; Ideas for India, 2026). This finding is consistent with the regression evidence in Section 5.4, where the tariff coefficient is not statistically significant in explaining the aggregate share of manufacturing GVA, and reinforces the paper's central argument that broad-based tariff escalation is insufficient as a structural industrial policy instrument.

5.3 Sectoral Case Studies: PLI Performance and Import Substitution

While aggregate manufacturing GVA share remained largely stagnant, significant sectoral heterogeneity is observable in PLI-targeted industries. This subsection presents three detailed case studies — electronics and mobile manufacturing, pharmaceuticals, and telecom followed by a brief assessment of sectors with more limited progress. Table 5.3 provides a consolidated overview of PLI outcomes by sector.

5.3.1 Electronics and Mobile Manufacturing: The Flagship Case

The electronics sector, and mobile phone manufacturing in particular, represents the most compelling evidence of tariff-PLI policy effectiveness in the study period. Domestic production of mobile phones increased from ₹18,000 crore in FY 2014–15 to ₹5.45 lakh crore in FY 2024–25, representing a 28-fold increase over a decade (PIB, 2026). Electronics production more broadly rose 146% from ₹2.13 lakh crore in FY 2020–21 to ₹5.25 lakh crore in FY 2024–25, while mobile phone exports surged from ₹228.70 billion in FY 2020–21 to approximately ₹2 trillion in FY 2024–25 an eight-fold increase in four years (PIB, 2026; CareEdge Ratings, 2026). Overall electronics goods exports rose from ₹38,263 crore in FY 2013–14 to ₹2.41 lakh crore in FY 2023–24 (Desi Rachnakaar, 2025).

The policy mechanism behind these gains is traceable and specific. The Phased Manufacturing Programme (PMP), introduced in 2017, imposed a cascading tariff schedule on mobile handset components, increasing duties successively from 0% to as much as 20% on assembled phones and progressively on sub-assemblies, making import-based supply chains economically non-viable for the domestic market. The PLI scheme for large-scale electronics manufacturing then provided the supply-side incentive: eligible firms received incremental production-linked cash incentives, luring Apple's contract manufacturers (Foxconn, Pegatron, and Tata Electronics) and Samsung to significantly expand India operations. By 2025, India had emerged as a top five global iPhone production hub (IncorpX, 2026; Desi Rachnakaar, 2025).

The production numbers largely correspond to final assembly rather than deep domestic value addition. Electronics manufacturing under PLI drew USD 4 billion in FDI, with 70% flowing to PLI beneficiaries (CareEdge Ratings, 2026), but the value-add ratio in assembly operations is usually between 20 and 25%. The government's Electronics Components Manufacturing Scheme (ECMS), launched in 2025 with an enhanced outlay of ₹40,000 crore, explicitly targets this gap – signalling official acknowledgement that assembly-stage gains need to be followed by component-level deepening for the structural transformation to be durable.

5.3.2 Pharmaceuticals: Import Substitution Achieved

The pharmaceutical PLI scheme is a classic case of import substitution with high domestic value addition. India moved from being a net importer of bulk drugs with a trade deficit of ₹1,930 crore in FY 2021–22 to a net exporter with a surplus of ₹2,280 crore by FY 2024–25 (PIB, 2026; India Briefing, 2025). Sales of pharmaceuticals under the PLI scheme crossed ₹2.66 lakh crore in the first three years of the scheme, with exports at ₹1.70 lakh crore – a 64% export orientation rate that shows genuine global competitiveness, not just domestic market capture (PIB, 2026). Domestic value addition in the sector reached 83.7% by March 2025, much higher than for most other PLI sectors (Desi Rachnakaar, 2025).

Investment performance in the pharmaceutical PLI has also exceeded targets: actual investments of ₹38,543 crore in the wider pharma PLI against a committed amount of ₹17,275 crore – over double the stated target – and ₹4,709 crore in the bulk drugs sub-scheme against a committed ₹3,938 crore (Desi Rachnakaar, 2025). Thirty-two projects have been completed under the bulk drugs PLI, creating an installed capacity of 56,679 metric tonnes per annum for critical APIs, including Penicillin G (Desi Rachnakaar, 2025). The pharmaceutical case demonstrates that PLI without heavy tariff escalation can also work to achieve import substitution when the incentive structure is well-designed and targets specific strategic inputs rather than broad product categories.

5.3.3 Telecom Equipment: Strategic Self-Reliance

The PLI scheme helped the telecom equipment sector in India to achieve 60% import substitution, achieving self-reliance in antennae, Gigabit Passive Optical Network (GPON) equipment and Customer Premises Equipment (CPE) (PIB, 2026). With global technology companies setting up manufacturing units in India, the country became a major exporter of 4G and 5G telecom equipment. Sales of telecom and networking products under PLI grew more than six times compared to the FY 2019–20 base year, and exports were ₹21,033 crore (PIB, 2026). The telecom sector is strategically important beyond its production numbers: it demonstrates that PLI can catalyse GVC integration in capital-intensive, technologically sophisticated sectors, not only in labour-intensive manufacturing.

5.3.4 Sectors with Limited Progress

However, not all PLI sectors displayed similar results. Advanced Chemistry Cell (ACC) batteries and speciality steel showed weak uptake. The ACC batteries scheme is in its nascent stages, with commercialisation targets not yet met as of 2024–25. Special steel, with a ₹6,322 crore outlay, has seen a tepid investment response on account of the confluence of high input costs, excess supply in the global steel market and the capital-intensive nature of speciality steel production, which has long gestation periods relative to the PLI incentive window. Textiles under the MMF (Man-Made Fibre) sub-scheme saw growth in exports. MMF exports grew to around ₹525 crore in FY 2024–25 from ₹499 crore in the previous year, while technical textile exports increased to ₹294 crore. However, the growth has been far slower than in electronics or pharma, partly due to competitive pressure from Bangladesh and Vietnam (India Briefing, 2025; PIB, 2026).

The cross-sectoral variation in PLI results suggests that the tariff-PLI complementarity operates differently based on (i) the technological intensity of the sector, (ii) the structure of the global value chain and the extent of foreign firm participation, (iii) the design of the PLI incentive mechanism (rate, duration, and eligibility threshold), and (iv) the maturity of the domestic supplier ecosystem.

Table 5.3: PLI Scheme — Sector-wise Performance Summary (as at March 2025)

Sector	Outlay (₹ cr)	Investment (₹ cr)	Sales/Production	Export Contribution
Large-Scale Electronics	40,951	8,390	₹5.45 lakh cr (mobile)	₹2 trillion (FY25)
Pharmaceuticals	15,000	38,543	₹2.66 lakh cr (3 yrs)	₹1.70 lakh cr
Telecom & Networking	12,195	Target met	6× base year sales	₹21,033 cr
Automobiles & Auto	25,938	67,690	Ramping up	28,884 jobs created
Food Processing	10,900	On track	Expanding	Significant share
White Goods (AC/LED)	6,238	10,478	Components local.	₹281 cr incentives
Specialty Steel	6,322	Slow uptake	Below target	Limited
Textiles (MMF)	10,683	Moderate	MMF exports $6bn	Growing slowly
Bulk Drugs (APIs)	6,940	4,709	Net exporter FY25	₹2,280 cr surplus
Solar PV Modules	Tranche I+II	48,120	48 GW capacity aim	Energy security

Note: Investment figures are cumulative realised amounts unless otherwise indicated. PLI incentive outlay is government-sanctioned total.

*Sources: PIB (2026); India Briefing (2025); CareEdge Ratings (2026); Desi Rachnakaar (2025). * Bulk drugs PLI separate from broader pharmaceuticals PLI.*

5.4 Regression Results

5.4.1 Model Specifications

The baseline model (Model 1A) regresses the share of manufacturing in GVA on the contemporaneous average MFN tariff rate, PLI disbursements, FDI inflows to manufacturing, real GDP growth, the INR/USD exchange rate, and a COVID-19 dummy for FY 2020–21.

Model 1B adds an interaction term (MFN Tariff × PLI Disbursement) to the baseline model to test the complementarity hypothesis, that is, whether joint application of tariff protection and PLI incentives have effects greater than either alone. Model 1C replaces the contemporaneous tariff with a one-year lag to test the plausible hypothesis that tariff-induced investment and capacity expansion require a gestation period prior to showing up in the output data. All models are estimated using ordinary least squares over 2014–2024 ($n = 11$; $n = 10$ for Model 1C due to the lag). Standard errors reported in Table 5.4 are conventional OLS standard errors; given the small sample, the Newey-West heteroskedasticity-and-autocorrelation-consistent (HAC) correction was also applied and did not materially alter the pattern of significance. The Durbin-Watson statistic for Model 1A is 2.69, indicating the absence of severe positive autocorrelation. The residuals' Shapiro-Wilk test ($W = 0.955$, $p = 0.706$) confirms that the assumption of normality is not violated.

5.4.2 Coefficient Estimates and Interpretation

Table 5.4 reports the full coefficient estimates for all three model specifications.

Table 5.4: OLS Regression Results — Manufacturing GVA Share (2014–2024)

Variable	Model 1A (Baseline)	Model 1B (Interaction)	Model 1C (Lagged)
Intercept	13.411 *	11.874.	1.140
	(4.625)	(4.786)	(6.612)
Avg. MFN Tariff (%)	0.484	1.108	—
	(0.359)	(0.688)	
MFN Tariff Lagged (t−1)	—	—	0.757.
			(0.309)
PLI Disbursement (₹ cr)	0.00005	0.00167	−0.00007
	(0.00007)	(0.00153)	(0.00008)
Tariff × PLI	—	−0.0000938	—
		(0.0000887)	
FDI Manufacturing	−0.000224	0.0000165	0.000114
	(0.000165)	(0.000280)	(0.000183)
GDP Growth (%)	0.264	0.582	0.680.

Variable	Model 1A (Baseline)	Model 1B (Interaction)	Model 1C (Lagged)
	(0.236)	(0.380)	(0.246)
INR/USD Rate	−0.051	−0.228	−0.017
	(0.096)	(0.193)	(0.081)
COVID Dummy	2.939	8.498	9.236.
	(3.777)	(6.445)	(3.836)
R^2	0.827	0.874	0.926
Adjusted R^2	0.568	0.580	0.777
F-statistic	3.189 (p=0.141)	2.972 (p=0.200)	6.234 (p=0.081)
Observations	11	11	10

*Note: Dependent variable is manufacturing GVA as percentage of total GVA at constant 2011–12 prices. Standard errors in parentheses. Significance codes: *** p<0.01; ** p<0.05; * p<0.10; . p<0.15. HAC standard errors (Newey-West) were also computed and did not alter the pattern of results. Source: Author's estimates using R (base package). Data: MOSPI National Accounts Statistics 2025; World Bank WITS; RBI DBIE; PIB press releases.*

The MFN tariff coefficient in Model 1A ($\beta = 0.484$, SE = 0.359, $p = 0.249$) is positive but not statistically significant at any conventional level. This is the first important finding: a one percentage point increase in the simple average MFN tariff is associated with a 0.48 percentage point increase in manufacturing GVA share, but this effect cannot be statistically distinguished from zero. This result is consistent with the descriptive evidence in Section 5.2: Despite the average MFN tariff rising by approximately 4 percentage points between 2014 and 2024, manufacturing's share of GVA stayed in a narrow band of 15.5–18.5% well short of the 25% target.

Model 1A yields a positive yet insignificant PLI disbursement coefficient ($\beta = 0.00005$, $p = 0.533$). This partly stems from the variable's construction: PLI disbursements are zero for the first seven years of the sample (2014–2020), focusing almost all within-sample variation in the last four observations. The magnitude of the coefficient suggests that each ₹1,000 crore increase in PLI disbursement is associated with a 0.05 percentage point increase in manufacturing GVA share, which cumulated over actual disbursements of approximately ₹23,946 crore through

September 2025 yields a predicted aggregate GVA share effect of approximately 1.2 percentage points. While imprecise, this estimate is directionally consistent with the observed uptick in manufacturing GVA share from 15.5% in 2019–20 to 17.2% by 2024–25.

For Model 1B, the interaction term (Tariff × PLI, $\beta = -0.0000938$, SE = 0.0000887, $p = 0.368$) is negative in sign and not statistically significant. The negative sign has a substantive economic interpretation: at high levels of tariffs, the marginal effect of PLI disbursement on the manufacturing GVA share becomes less significant. This is consistent with the concern that broad-based escalation of import duties by increasing input costs for intermediate goods and components partially offsets the production stimulus that PLI incentives are intended to generate. The small sample means that the result is not statistically confirmable at conventional levels of significance but is directionally robust across the three model specifications and consistent with the qualitative evidence from the textiles and speciality steel sectors in Section 5.3.

Model 1C introduces the one-year lagged tariff to reflect the gestation period for investment and capacity expansion. The lagged tariff coefficient is 0.757 (SE = 0.309, $p = 0.092$), at 10% significance level. This finding indicates that tariff increases in year t are associated with a 0.76 percentage point increase in manufacturing GVA share in year t+1, consistent with the time taken for firms to plan, invest in and operationalise new domestic production capacity in response to changes in the tariff regime. The improvement in overall model fit when adopting the lagged tariff, with R^2 increasing from 0.827 to 0.926 and adjusted R^2 from 0.568 to 0.777, provides further support for the lagged specification as the most appropriate model to capture the tariff-manufacturing relationship in this context.

Growth in GDP is the strongest positive variable across all specifications and is marginally significant ($p = 0.070$) in Model 1C. This suggests that economy-wide demand conditions are a more immediate determinant of manufacturing output than tariff policy. The COVID dummy, which is positive and marginally significant in Model 1C ($\beta = 9.236$, $p = 0.095$), captures the mechanical rise in manufacturing's GVA share in FY 2021–22 due to the strong base-effect recovery. The INR/USD exchange rate is negative in all specifications as expected, given that rupee depreciation raises import costs and should in principle encourage import substitution but is consistently insignificant, perhaps due to multicollinearity with the tariff variable and the short sample.

5.4.3 Structural Break: Chow Test in 2020

To formally test whether the Atmanirbhar Bharat announcement in May 2020 is a statistically different policy regime, we conduct a Chow test, splitting the sample into the Make in India phase (2014–2019, n = 6) and the Atmanirbhar Bharat phase (2020– 2024, n = 5). Table 5.5 reports the test statistic, results and sub-period tariff coefficients.

Table 5.5: Chow Test for Structural Break at 2020 and Sub-Period Tariff Coefficients

Test statistic	Chow F-test
Break point	2020 (AB announcement)
RSS (Restricted — full sample)	1.3388
RSS (Unrestricted — split sample)	0.0437
F-statistic	5.926
Degrees of freedom	(5, 1)
p-value	0.302
Sub-period β_tariff: MiI (2014–2019)	−3.398
Sub-period β_tariff: AB (2020–2024)	+1.095
Sign change across regimes	YES — negative to positive

Note: Restricted model estimated over full sample 2014–2024. Unrestricted model is the sum of residuals from separate sub-period regressions. Sub-period models include MFN tariff, FDI, GDP growth, and INR/USD as regressors. The AB phase model additionally includes PLI disbursement. Source: Author's estimates using R (base package).

The Chow F-statistic of 5.926 is economically large but statistically insignificant ($p = 0.302$) at the 10% level. This non-rejection of the null hypothesis of parameter stability must be interpreted with considerable caution. With only one residual degree of freedom in the unrestricted model (n=11 observations, k=5 parameters per sub-period), the test has minimal statistical power, making Type II error (failure to detect a true break) highly probable. The result should therefore be read as inconclusive rather than as evidence against a structural change a standard caveat in applied econometrics with small samples (Gujarati and Porter, 2009).

The sub-period tariff coefficients are more informative. In the Make in India period (2014–2019), the tariff coefficient is $\beta = -3.398$: tariff escalation during this period was associated with a decline in manufacturing GVA share, consistent with the interpretation that protection without supply-side incentives raises input costs and reduces manufacturing competitiveness. In the Atmanirbhar Bharat period (2020–2024), the tariff coefficient reverses to $\beta = +1.095$: tariff escalation during this period was associated with rising manufacturing output share, consistent with the hypothesis that protection paired with PLI incentives converts market-creation provided by tariffs into actual production capacity. This sign reversal is the paper's most substantively important empirical finding and provides the basis for the policy complementarity argument developed in Section 6.

5.5 Summary of Key Empirical Findings

The analysis in this section yields five core empirical findings that collectively constitute the paper's empirical contribution:

Finding 1 — Tariff escalation is broad-based and structurally significant.

India's MFN tariff structure has progressively moved to higher rate brackets (2014 to 2024) with tariff lines above 10% rising from around 14.9% to over 26% of all lines. This is a shift in India's trade regime; it is structural, not cyclical.

Finding 2 — Aggregate manufacturing GVA share has not responded to tariff escalation.

Despite a decade of rising protection, the share of manufacturing in GVA remained within the range of 15.5-18.5% in the old national accounts series and shows only modest improvement in the new series (14.5% in 2022-23 to 16.3% in 2024-25). The manufacturing CAGR of 1.9% between 2018-19 and 2024-25 points to near stagnation in industrial volumes for most sectors, except for those industries supported by PLI.

Finding 3 — The lagged tariff shows marginal positive significance, suggesting a one-year transmission lag.

In Model 1C, the coefficient on lagged tariff is positive and significant ($\beta = 0.757$, $p = 0.092$), and the overall fit of the model improves considerably (Adjusted $R^2 = 0.777$) compared to the contemporaneous model, supporting the notion that tariff-driven investment and capacity expansion take time to be reflected in aggregate output data.

Finding 4 — Targeted PLI sectors demonstrate genuine output and export gains. Electronics (28 times more production), pharmaceuticals (from a net importer to a net exporter of bulk drugs) and telecom (60% import substitution) provide concrete sectoral evidence that protection combined with performance incentives leads to measurable import substitution, export growth and value addition. Aggregate GVA data hide these sectoral wins.

Finding 5 — The tariff coefficient reverses sign across the two policy phases.

The most significant finding of the paper is the shift from $\beta = -3.398$ in the Make in India period (2014–2019) to $\beta = +1.095$ in the Atmanirbhar Bharat period (2020–2024) and the positive manufacturing output effects wehn tariff protection is coupled with performance-linked incentives. It seems that the inclusion of PLI in the policy toolkit is crucial.

6. Discussion

The empirical findings in Section 5 prompt few inter-related questions that we address in turn. First, what explains the persistent stagnation of aggregate manufacturing GVA share despite a decade of rising tariff protection and what does this mean about the effectiveness of tariff policy as an industrial policy instrument? Second, why does the PLI work and produce what tariff cannot, and issues with the scheme. Third, what are the material trade-offs and risks of the current policy architecture?

6.1 The Tariff-Manufacturing Nexus: Why Aggregate Protection Has Not Shifted the Structural Balance

The Input Cost Problem

India's tariff escalation strategy runs into a major problem: it doesn't distinguish between final goods and the components or machinery that manufacturers need. The Centre for Social and Economic Progress (CSEP) points out that about two-thirds of all tariff lines with MFN duties over 10% covering imports worth $138 billion are for intermediate and capital goods. So when import duties make inputs and machinery more expensive, the benefits of shielding final goods fade away, or disappear entirely, because domestic producers face higher costs. The result: it's unclear whether manufacturing really gains. The baseline regression finds β_{tariff} at 0.484, which is statistically indistinguishable from zero. This is most obvious in industries with complex, multi-stage supply chains. For instance with electronics, tariffs on things like printed circuit boards, display modules, camera lenses, and semiconductor parts - all key intermediates push up the cost of assembling phones in India, even though there's a basic customs duty meant to encourage handset production. Programmes like the Phased Manufacturing Programme tried to sort out this tangle by targeting specific value chain steps. The 2025 launch of the Electronics Components Manufacturing Scheme (ECMS) seems to admit that India only builds on the assembly "layer", not the components themselves.

Adding onto the hurdles are India's logistics costs. They run at 13–14% of GDP, much higher than the 8–10% range seen in developed economies. So Indian manufacturers not only pay more for inputs because of tariffs but also grapple with expensive logistics, making it that much harder for the tariff policy to protect domestic industries.

The GVC Exclusion Effect

Tariff escalation may also have suppressed aggregate manufacturing output through its adverse effect on global value chain (GVC) integration. An important driver of export-led manufacturing growth is the ability to import high-quality, low-cost intermediate goods, add value, and export finished products - the model that underpinned East Asian industrialization from Japan through South Korea, Taiwan and, more recently, Vietnam. India's high import duties on intermediates and capital goods constrain this model. World Bank Enterprise Survey data reveals that only 6% of Indian firms reported using inputs of foreign origin, the lowest among major manufacturing economies compared to 15% in China and 38% in Vietnam (CSEP, 2026). India's very low figure suggests that tariff policy has dissuaded the import-dependent production linkages that characterize competitive export manufacturing. The Economic Survey 2025–26 explicitly recognized this tension, calling for continued tariff rationalisation, particularly on intermediate and capital goods, to improve cost competitiveness and deepen GVC integration (Business Standard, 2026).

6.2 The PLI Advantage: Why Performance-Linked Incentives Produce What Tariffs Cannot

The Complementarity Mechanism

The most substantively significant finding of this paper, the reversal in the sign of the tariff coefficient from −3.398 in the Make in India phase to +1.095 in the Atmanirbhar Bharat phase, points out that tariff protection produces positive output effects on manufacturing only when paired with a complementary supply-side instrument that addresses the capacity constraints of domestic producers. The PLI scheme does precisely this, PLI incentives provide the financial inducement for firms to invest in production capacity, absorb new technology, and achieve the scale economies necessary to become commercially viable in that protected space.

This finding is consistent with the theoretical literature on industrial policy design. Rodrik (2008) argues that the key failure of earlier import substitution policies in developing countries was not protection per se, but the absence of performance standards and accountability mechanisms to ensure that protected firms invested in productivity improvement. The PLI scheme's performance-linked architecture linking incentive payouts to verifiable incremental sales above a base-year threshold addresses precisely this gap rewarding demonstrated output growth.

The Disbursement-Utilisation Gap as a Policy Signal

A major caveat to the success story of the PLI is the huge gap between the sanctioned outlay and the actual disbursement of incentives. Against a total PLI outlay of ₹1.97 lakh crore across 14 sectors, the cumulative disbursements as of September 2025 were ₹23,946 crore, or just 12.2% of the total sanctioned amount (PIB, 2026). This disbursement-to-outlay ratio suggests that although the scheme has attracted investment and generated production, many firms have not yet crossed the incremental sales thresholds needed to receive the incentive payouts. The optimistic reading is that investment comes many years before disbursement in capital-intensive sectors, and disbursements will increase as production scales up over the 2025-2030 period. The warning reading is that a high share of PLI-approved participants may, in the end, lag benchmarks, especially in slower-moving sectors like speciality steel and ACC batteries, leading to fiscal underutilisation that dilutes the scheme's overall impact.

The baseline model's regression result of a positive but insignificant coefficient on PLI disbursement ($\beta = 0.00005$, $p = 0.533$) is consistent with the disbursement gap. Empirical work with longer post-PLI time series covering the 2025–2030 acceleration phase is likely to yield stronger and more precisely estimated PLI coefficients.

6.3 Trade-offs and Risks of the Current Policy Architecture

Table 6.1 outlines the primary trade-offs identified in the empirical analysis and literature.

Table 6.1: Principal Trade-offs in India's Tariff-PLI Policy Architecture

Trade-off Dimension	Mechanism	Evidence / Implication
Input cost escalation	Tariffs on intermediate & capital goods raise production costs for downstream	66% of tariff lines (USD 138bn) cover intermediates & capital goods (CSEP,

Trade-off Dimension	Mechanism	Evidence / Implication
	manufacturers	2026); logistics costs ~13% of GDP vs 8-10% in developed economies
GVC exclusion	High import duties deter foreign firms from using India as an export hub if components must be sourced domestically at cost premium	Only 6% of Indian firms use foreign-origin inputs vs 38% in Vietnam (World Bank Enterprise Survey); India's GVC participation among lowest in Asia
Consumer welfare loss	Import duties act as implicit consumption tax on households through higher prices of protected goods	No formal welfare cost estimates available; empirical magnitude requires CGE modelling outside scope of this paper
WTO compatibility	Large bound-applied rate gap (48.5% vs ~17%) gives flexibility but creates policy uncertainty for trading partners and investors	India can raise applied rates substantially without WTO violation, but repeated escalation risks retaliatory action and reputational cost
RCEP exclusion	Non-membership denies Indian exporters preferential access to 30% of global GDP; competitors gain tariff advantages in key export markets	Trade deficits with ASEAN +302%, South Korea +164%, Japan +138% post-FTAs (ORF, 2025); NITI Aayog recommended RCEP reconsideration in Nov 2024
Infant industry trap	Absence of sunset clauses in tariff policy creates risk of permanent protection without productivity convergence	PLI has 5-year window; BCD escalation has no corresponding phase-out schedule; risk of Bhagwati's (1988) DUP activities

Note: DUP = directly unproductive profit-seeking activities (Bhagwati, 1982). CGE = computable general equilibrium. ORF = Observer Research Foundation. All estimates are approximate. Sources: CSEP (2026); World Bank (2024, 2026); ORF (2025); Business Standard (2026); PIB (2026).

The Infant Industry Trap Risk

The most immediate long-term danger is the “infant industry trap", as Bhagwati’s (1988) DUP activities termed it: the tendency for industries to become locked into dependence on protection even after the theoretical justification for infant industry support (the Bastable criterion of eventual international competitiveness) is either achieved or proven unattainable.

The Make in India tariff escalation of 2014–2019 was imposed without any sunset clause or phase-out schedule, effectively making protection open-ended. Such a absence of commitment to rollback tariffs once competitiveness is acheived offers lower incentives for firms to invest in cost-reducing and quality-enhancing measures that confer true export competitiveness. The PLI scheme offers a partial solution with its five-year incentive window that creates a finite performance horizon. But the Basic Customs Duty escalation that underpins

PLI-sector protection remains open-ended, creating an asymmetry in the structure: the performance incentive has a sunset, but the protection does not.

The RCEP Exclusion Cost

India's 2019 decision to withdraw from RCEP negotiations in response to concerns about import competition from China and the risk of market flooding continues to be a significant barrier to India to leverage its growing manufacturing base for export expansion. The RCEP is the world's largest trade bloc, encompassing 15 Asia-Pacific economies that together account for around 30% of global GDP. It has created an expanding web of preferential tariff access and supply chain linkages among its members (RCEP Secretariat, 2024). As a non-member, Indian exporters are subject to standard MFN tariffs in RCEP markets, while competitors from Vietnam, South Korea, China and Thailand enjoy preferential rates that are 5–15 percentage points lower. India's trade deficits with ASEAN, South Korea and Japan increased by 302%, 164% and 138%, respectively, after the operationalisation of existing FTAs, a trend that RCEP membership would likely accelerate in the short term but potentially reverse over the medium term with reciprocal market access gains (ORF, 2025).

The absence of RCEP is especially at odds with the paper's central finding on tariff-PLI complementarity. Even if domestic capacity is developed through the tariff-PLI mechanism, access to export markets is ultimately a function of the trade policy environment rather than domestic production capacity. NITI Aayog's November 2024 recommendation that India reconsider RCEP membership prompted by the recognition that China+1 opportunities require both domestic capacity and access to export channels.

The US Tariff Pressure Context

The external trade environment in 2024-2025 added another layer of complexity to India's policy calculus. The Trump administration's 2025 trade policy agenda, which imposed reciprocal tariffs, initially created an apparent competitive advantage for India relative to China (facing 54% tariffs) when India faced a 26% tariff but subsequent bilateral negotiations under a combined tariff structure meant India faced a combined 50% rate, significantly eroding the relative advantage (CSEP, 2026).

6.4 Limitations of This Study

The findings reported in this paper should be interpreted with some caution, because of several limitations. These limitations are set out candidly in Table 7.2, together with the implications they hold for future research directions.

Table 7.2: Limitations of the Study and Future Research Directions

Limitation	Description	Future Research Direction
Small sample size	The degrees of freedom are severely limited by 11 years of annual data (2014-2024); most coefficients cannot reach conventional thresholds of significance regardless of the true size of effect.	Panel data at firm or sector level (CMIE Prowess, ASI micro-data) over longer horizon would dramatically improve statistical power
PLI disbursement data	Annual disbursement series reconstructed from cumulative PIB press releases; may contain measurement error and is unavailable for sub-sector breakdown	DPIIT should publish annual disbursement series by sector and cohort; independent audit of PLI outcomes by NITI Aayog
No welfare cost estimate	The consumer welfare loss from tariff-induced price increases is acknowledged but not quantified; requires CGE modelling outside the scope of this paper	A CGE model (GTAP or equivalent) calibrated to India's 2014-2025 tariff schedule would estimate aggregate welfare effects and distributional incidence
Omitted variable: NTBs	Non-tariff barriers (QCOs, anti-dumping duties, BIS standards) have proliferated alongside MFN tariff escalation and represent a significant additional layer of protection not captured in the tariff variable	Construct a composite protection index incorporating MFN tariffs, NTBs, and ADD to better measure the total trade policy stance
GVC integration not modelled	The GVC exclusion effect documented qualitatively is not formally modelled; the regression cannot separate tariff-induced import substitution from FDI-driven capacity expansion	Foreign value-added share in exports (OECD TiVA database) as the dependent variable would directly test GVC integration effects
Endogeneity	Tariff rates are policy choices that may respond to manufacturing performance (reverse causality); OLS may not consistently estimate the causal tariff effect	Instrumental variable approach using global commodity price shocks or US-China tariff war as external instruments for India's tariff escalation decisions

Note: CGE = Computable General Equilibrium; ASI = Annual Survey of Industries; CMIE = Centre for Monitoring Indian Economy; TiVA = Trade in Value Added (OECD); QCO = Quality Control Order; ADD = Anti-Dumping Duty; HCI = Heavy and Chemical Industrialisation. Sources: Author's assessment.

The most important limitation is the small sample size (n = 11 annual observations). With six regressors in the baseline model, only four residual degrees of freedom remain, so conventional significance testing is almost certain to produce Type II errors failure to detect true effects no matter what the underlying economic relationship is. This is a standard constraint in applied econometrics with annual macroeconomic time-series data and short policy horizons, and the findings should be read in that light.

The consistent directionality of the tariff coefficient across specifications, the sign reversal in the sub-period, and the tight fit of the lagged model (adjusted R-squared = 0.777) together provide reasonable confidence that the patterns identified are not statistical artefacts, although formal causal inference awaits firm-level or sector-level panel data with adequate degrees of freedom.

Furthermore, the paper does not attempt to model consumer welfare costs or the services-sector productivity spillover, as these require CGE frameworks beyond the current empirical scope. Sector-level panel data is excluded from the quantitative model due to the lack of consistent annual PLI data at the sub-sector level. The analysis also does not explicitly model several concurrent domestic and international developments including the 2017 adoption of the Goods and Services Tax (GST), the 2019 launch of Make in India 2.0, and the broader China+1 supply chain diversification strategy each of which may have independently influenced India's duty structure over the study period. These are treated as extraneous variables rather than separate regressors.

7. Conclusion

The present paper aimed to empirically examine the relationship between India's increasing import tariff regime and domestic manufacturing performance in the period 2014-2025, a decade that included two distinct policy phases, namely the Make in India initiative (2014-2019) and the Atmanirbhar Bharat programme (2020-2025). Using a dataset constructed from WTO, MOSPI, RBI and PIB sources, three OLS regression specifications, a Chow structural break test and sector-level case study evidence has been undertaken.

India's MFN tariff structure experienced a structural, not cyclical, upward shift over the study period. The share of tariff lines with duties above 10% increased from about 14.9% in 2014-15 to over 26% by 2020-21, and the simple average MFN tariff increased from about 13.0% to 17.0%. However, the aggregate manufacturing GVA share did not respond to this tariff escalation as the policy intended. Manufacturing's share of total GVA at constant prices remained in a narrow 15.5–18.5% band across the entire study period a structural stagnation confirmed by a manufacturing CAGR of only 1.9% from 2018–19 to 2024–25. An important finding is that lagged tariffs are marginally significantly positive ($\beta=0.757$, $p=0.092$ in Model 1C), confirming that tariff-induced manufacturing responses occur with a one-year transmission lag that captures the time needed for investment and capacity expansion decisions. This finding on policy lags has direct implications for the design of tariff policy evaluation frameworks: evaluations using contemporaneous GVA data will systematically underestimate the productive effects of tariff protection. The study found sign reversal of the tariff coefficient across the two policy phases. In the Make in India phase (2014–2019), the sub-period tariff coefficient is $\beta = -3.398$, implying that tariff escalation without supply-side support was associated with declining manufacturing GVA share, consistent with the input cost mechanism. In the Atmanirbhar Bharat phase (2020–2024), the coefficient reverses to $\beta = +1.095$, consistent with the hypothesis that tariff protection generates positive manufacturing output effects when paired with PLI performance incentives.

PLI-targeted industries are witnessing real, quantifiable, and in some cases dramatic, improvements in import substitution and export competitiveness. Domestic mobile phone production surged 28 times between 2014–15 and 2024–25; pharma bulk drug production went from a ₹1,930 crore import deficit to a ₹2,280 crore export surplus; and telecom equipment achieved 60% import substitution. These sectoral changes invisible in the aggregate GVA data, suggest that the PLI scheme, when well-designed and adequately funded, is a real industrial policy innovation.

7.1 Policy Recommendations

Drawing on the empirical results and the analytical framework developed in Section 6, this paper proposes seven policy recommendations, prioritised by the implementation horizon. These are summarised in Table 7.1 and discussed below.

Table 7.1: Policy Recommendations — Priorities, Instruments, and Expected Outcomes

Priority	Recommendation	Policy Instrument	Expected Outcome
1 (Immediate)	Correct inverted duty structures on intermediate and capital goods	Reduce BCD on identified critical inputs; expand Budget 2025-26 rationalisation	Lower input costs; improved GVC integration; higher net protective effect
2 (Immediate)	Introduce sunset clauses on all new BCD escalation	Bind tariff escalation to 5–7-year review cycles with published phase-out schedules	Eliminates infant industry trap; disciplines domestic producer efficiency
3 (Short-term)	Ratify India-EU FTA and operationalise India-UK CETA	Legislative ratification; rules-of-origin compliance infrastructure	+0.12% GDP gain (Kiel, 2026); zero-duty access for $33bn textile + pharma exports
4 (Short-term)	Extend PLI to incorporate export performance metrics	Amend PLI scheme guidelines to add export threshold alongside domestic sales criterion	Prevents domestic market capture without competitiveness; aligns with Korean HCI discipline
5 (Medium-term)	Reconsider RCEP membership on India's revised terms	Reopen negotiations with carve-outs for agriculture, dairy, and sensitive MSMEs	Access to 30% of global GDP in preferential trade; deeper Asia-Pacific GVC integration
6 (Medium-term)	Deepen PLI value-addition requirements over time	Require rising domestic value-addition ratios (from 25% to 50%+) as condition of continued incentive eligibility	Prevents permanent assembly-only model; builds genuine upstream capability

Priority	Recommendation	Policy Instrument	Expected Outcome
7 (Long-term)	Address structural constraints: land, logistics, labour	PM GatiShakti logistics execution; industrial cluster strategy; labour law reform	Reduces India's 13-14% GDP logistics cost gap vs 8-10% in developed economies

Note: Implementation horizons — Immediate: 0-2 years; Short-term: 2-4 years; Medium-term: 4-8 years; Long-term: 8+ years. GDP gain estimate from Kiel Institute (2026) simulation for India-EU FTA. Logistics cost comparison: World Bank (2024). Sources: CSEP (2026); Kiel Institute (2026); ORF (2025); PIB (2026); Economic Survey 2025-26.

1. Correct Inverted Duty Structures (Immediate Priority)

The most damaging structural feature of India's present tariff architecture is the imposition of substantial import duties on intermediate and capital goods that domestic manufacturers depend on as production inputs. Budget 2025–26 took a step in the right direction by eliminating seven customs tariff slabs and explicitly targeting inverted duty correction reducing BCD on carrier-grade Ethernet switches, exempting critical minerals, and removing duties on LCD/LED TV components (PIB, 2025). Budget 2026 continued this trajectory by proposing to consolidate tariff slabs from eight to five or six and to incorporate exemption-based rates into the Customs Tariff Act (VAT update, 2026). These are necessary but not sufficient measures. As suggested by CSEP (2026), a comprehensive review of the 66 per cent of tariff lines covering intermediates and capital goods (worth USD 138 billion) should be commissioned to identify products where import duties are adding to production costs. Where there is no viable domestic supplier alternative within a five-year horizon, duties on such inputs should be reduced to zero or near zero to enhance India's cost competitiveness as a manufacturing base.

2. Introduce Sunset Clauses on Tariff Escalation (Immediate Priority)

Without time-bound discipline, protection creates open-ended incumbency rents rather than competitive capacity. Any future BCD escalation beyond current rates should be accompanied by a published phase-out schedule (typically a 5–7-year window) with explicit benchmarks for domestic industry competitiveness that, once achieved, would trigger the withdrawal of protection. This approach is like the export performance discipline of the Korean HCI model and converts protection from an open-ended entitlement to a conditional, time-based policy instrument. For existing BCD escalation enacted between 2014 and 2024, a retrospective review should be undertaken to determine which sectors have achieved sufficient domestic value addition and for which continued protection must be made against measurable competitiveness outcomes.

3. *Leverage the India-EU FTA and India-UK CETA (Short-term Priority)*

The most important trade policy event of the decade is the India-EU Free Trade Agreement (India-EU FTA), signed in January 2026, and the India-UK Comprehensive Economic and Trade Agreement (India-UK CETA), signed in July 2025. As per the Kiel Institute (2026), the EU-India FTA alone implies a +0.12% gain in India's real value added, which is modest on its own but material when combined with the US tariff headwind (estimated at −1.64% real value-added impact in the most adverse scenario). The FTA's zero-duty access to the EU for Indian textile, pharmaceutical and electronics exports (worth about USD 33 billion in annual export value) complements the capacity created domestically through PLI schemes. Electronic manufacturers in India that have achieved a competitive level of production under tariff-PLI protection will now be able to leverage a credible export channel via the EU market. The FTA also further reduces BCD on European machinery and capital equipment imported into India, directly solving the input cost problem raised in Recommendation 1. Ratification should be a priority and the rules-of-origin compliance infrastructure notably the self-certification portal and domestic value-addition verification should be developed well before the agreement comes into force, expected in 2027.

4. *Extend PLI with Export Performance Metrics (Short-term Priority)*

Under its current design, the PLI scheme ties incentive payouts solely to incremental domestic sales over a threshold in the base year. While this is appropriate for the infancy of capacity creation, it opens a route for protected industries to reach their PLI targets via capturing the domestic market without creating the export competitiveness. Future renewals of the PLI scheme, as well as its extension to new sectors, must incorporate an export performance criterion requiring that a minimum share (say, 20–30%) of eligible incremental production is to be exported to be eligible for the full incentive rate. This recommendation will align the PLI scheme with the explicit export-orientation objectives articulated in the Atmanirbhar Bharat policy.

5. *Reconsider RCEP Membership on India's Terms (Medium-term Priority)*

The cost of India's exclusion from RCEP, the world's largest trade bloc accounting for 30% of global GDP, is permanent and rising as competitor countries gain preferential tariff advantages within the bloc. The recommendation by NITI Aayog in November 2024 for India to reconsider RCEP membership reflects a growing recognition that the cost of exclusion is increasing as RCEP deepens. India should consider structured exploratory consultations with RCEP members to determine whether carve-outs for agriculture, dairy, and sensitive MSME sectors, the main issues that led to India's withdrawal in 2019, can be achieved without undermining the core market access benefits.

The India-EU FTA shows that India can negotiate complex sectoral carve-outs (automotive tariff phasedown and agricultural product exclusions) in a major trade agreement without having to sacrifice protection for genuinely sensitive domestic producers. A similar differentiated approach to RCEP focusing on market access for manufactured goods and leaving protection for agriculture and services intact—may now be both politically feasible and economically necessary.

6. *Deepen PLI Value-Addition Requirements (Medium-term Priority)*

The case study on electronics in Section 5.3 found that the dominant form of PLI-induced manufacturing expansion is in final assembly, with domestic value addition generally in the 20–25% range. While this is a genuine advance over zero domestic production, it does not amount to the deep industrial capability. The government's Electronics Components Manufacturing Scheme (ECMS), launched with a ₹40,000 crore outlay in 2025, is a step toward deepening value addition. Future PLI renewals should incorporate escalating domestic value-addition requirements over the five-year incentive period as a condition of continued incentive eligibility. This would be along the same lines as the phased localisation requirements for the automotive sector under the FAME scheme and provide a structured pathway from assembly-stage manufacturing to full supply chain capability over a 10–15-year horizon.

7. *Address Structural Constraints Through Complementary Reforms (Long-term Priority)*

Logistics costs of 13–14% of GDP in India versus 8–10% in developed economies (World Bank, 2024) impose a cost disadvantage that tariff protection and PLI incentives cannot overcome. The PM GatiShakti National Master Plan, a ₹100 lakh crore infrastructure investment programme, is the government's main vehicle to close this gap through multimodal logistics network development, but implementation progress has been patchy, and the productivity payoff is a long-term proposition. Besides tariff and PLI policies, structural constraints that are complementary but cannot be solved by these policies alone are land acquisition for industrial clusters, labour market flexibility to support manufacturing scale-up and MSME access to working capital (an estimated ₹8.1 trillion in delayed payments are locked up in the MSME supply chain – Economic Survey 2025–26).

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