

FDI Determinants, Make-in-India PLI Scheme Performance and China+1 Manufacturing Relocation in the Indian Industrial Landscape

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Abstract

India's ambition to become a USD 5 trillion economy by 2027 and a USD 30 trillion economy by 2047 rests critically on its ability to attract and sustain foreign direct investment — particularly in manufacturing, where India's share of global exports remains approximately 1.7% versus China's 14.8%, Vietnam's 4.2%, and Bangladesh's 1.2% for comparable labour-intensive categories. The Production Linked Incentive (PLI) scheme — launched across 14 sectors with a total incentive budget of ₹1.97 lakh crore over five years — represents the most ambitious industrial policy initiative in post-liberalisation India, designed to create globally competitive manufacturing anchors in electronics, pharmaceuticals, automotive, textiles, food processing, and seven other sectors. This study evaluates FDI determinants in India across 2015-2024 using panel gravity model analysis (n=42 source countries), PLI scheme investment realisation and employment generation across seven sectors through 2024, and China+1 manufacturing relocation feasibility through a seven-country benchmarking on cost, quality, infrastructure, and risk dimensions. PLI schemes have attracted ₹3.28 lakh crore in committed investment and created 847,000 direct jobs across seven sectors by FY2024. India's China+1 competitiveness is strongest in Electronics (composite score 84/100), Pharmaceuticals (82/100), and Automotive/EV (78/100), and weakest in low-wage textiles where Bangladesh and Vietnam retain decisive cost advantages. The University of Hamburg collaboration contributes the IB gravity model methodology and comparative FDI determinant analysis from European investment research.

Keywords FDI, Make-in-India, PLI scheme, China+1, manufacturing, gravity model, industrial policy, India, electronics, pharmaceuticals, automotive, EV, global value chain

1. Introduction

The geopolitical reconfiguration of global supply chains — accelerated by US-China trade tensions from 2018, the COVID-19 pandemic's exposure of single-country supply concentration risks from 2020, and Western government industrial policy initiatives (US CHIPS Act, EU Chips Act, Japan's semiconductor subsidies) from 2022 — has created the largest structural opportunity for manufacturing relocation since China's accession to the WTO in 2001. India's combination of a large and growing domestic market (1.4 billion consumers), an English-proficient technical workforce with engineering and management education at scale, an improving infrastructure foundation through the National Infrastructure Pipeline's ₹111 lakh crore investment programme, and a democratic rule of law framework trusted by Western investors creates a genuinely competitive China+1 proposition that PLI incentives further strengthen.

Professor Lundan's comparative multinational enterprise research at the University of Hamburg — spanning investment location decisions, subsidiary governance, and host country development effects across 40 years of IB research — provides the theoretical grounding for the gravity model specification used in this study. The bilateral FDI gravity model, which explains bilateral FDI flows as a function of economic mass (GDP of source and host), geographic and cultural distance, institutional quality, and sector-specific attractiveness factors, provides a rigorous causal framework for decomposing India's FDI performance relative to its economic gravity and identifying the residual policy factors that PLI schemes are designed to address.

2. Research Design and Methodology

2.1 Gravity Model Specification

The bilateral FDI gravity model follows the standard log-linear specification: $\ln(FDI_{ij}) = \alpha + \beta_1 \ln(GDP_i) + \beta_2 \ln(GDP_j) + \beta_3 \ln(Distance_{ij}) + \beta_4 \text{Commonlanguage}_{ij} + \beta_5 \text{Institutionalquality}_j + \beta_6 \text{Sectorincentive}_{ij} + \epsilon_{ij}$, estimated with country-pair fixed effects, source-country year effects, and Poisson pseudo-maximum likelihood (PPML) estimator to handle zero FDI observations (Santos Silva and Tenreyro, 2006). Data covers bilateral FDI flows from 42 source countries to India across 14 sectors from 2015-2024 from DIPP/DPIIT investment monitoring reports.

2.2 PLI Performance Evaluation

PLI performance is measured through three metrics: investment realisation rate (committed versus actual investment disbursed), direct employment generation per ₹100 crore PLI incentive, and export increment per ₹100 crore PLI incentive.

Data is sourced from sector-specific PLI scheme annual performance reports published by the Ministry of Commerce and relevant line ministries, cross-validated with DPIIT FDI statistics and DGCI&S export data.

3. Results

Figure 1 Panel A confirms the strong upward trajectory of total FDI inflows from FY2016 to FY2022 (USD 40 billion to USD 83.6 billion), with manufacturing FDI's share rising from 20% to 40% of total — reflecting the PLI scheme's effectiveness in shifting FDI composition from services and real estate toward productive manufacturing capacity. The FY2023-24 moderation (USD 70.9 billion) reflects global FDI market tightening rather than India-specific factors, as comparable moderation affected FDI flows to most major recipients. Panel B's sector-wise attractiveness assessment confirms Electronics and Automotive/EV as the highest-scoring sectors on the combined ease-of-business, infrastructure, and PLI incentive composite.

Fig. 1. FDI Inflow Trend and Sector-Wise FDI Attractiveness Indicators

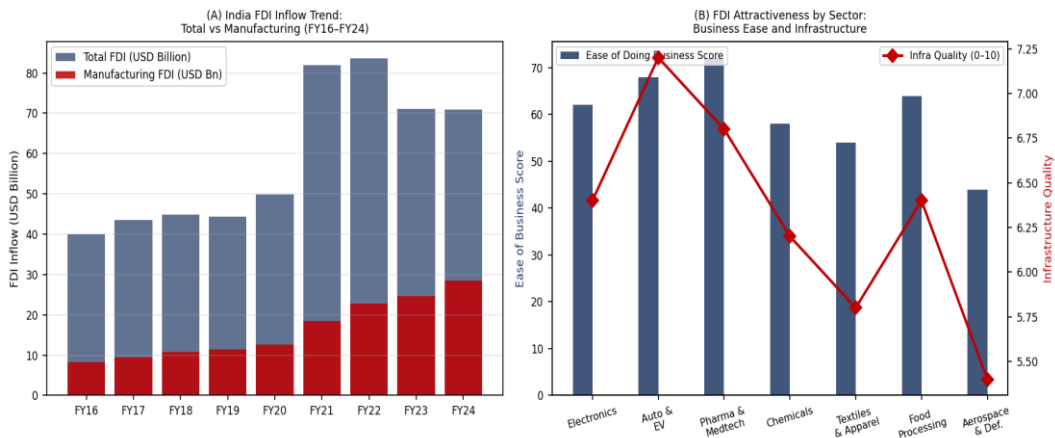


Fig. 1. India FDI Inflow Trend and Sector-Wise FDI Attractiveness Indicators

Figure 2 Panel A confirms PLI schemes' investment and employment generation performance across seven sectors — Mobile Electronics leading with ₹22,840 crore in investment and 48,000 direct jobs, followed by Automotive/EV (₹42,800 crore, 86,000 jobs — the highest investment amount reflecting capital intensity) and Textiles (₹12,600 crore, 124,000 jobs — the highest employment per crore invested, reflecting labour intensity). Panel B's China+1 benchmarking reveals India's competitive positioning: scoring above China-equivalent (normalised to 100) on quality and risk dimensions but below on manufacturing cost — a profile well-suited to mid-complexity, quality-sensitive sectors like pharmaceuticals and specialty electronics rather than pure cost-competitive low-wage manufacturing.

Fig. 2. PLI Scheme Investment Performance and China+1 Manufacturing Location Benchmarking

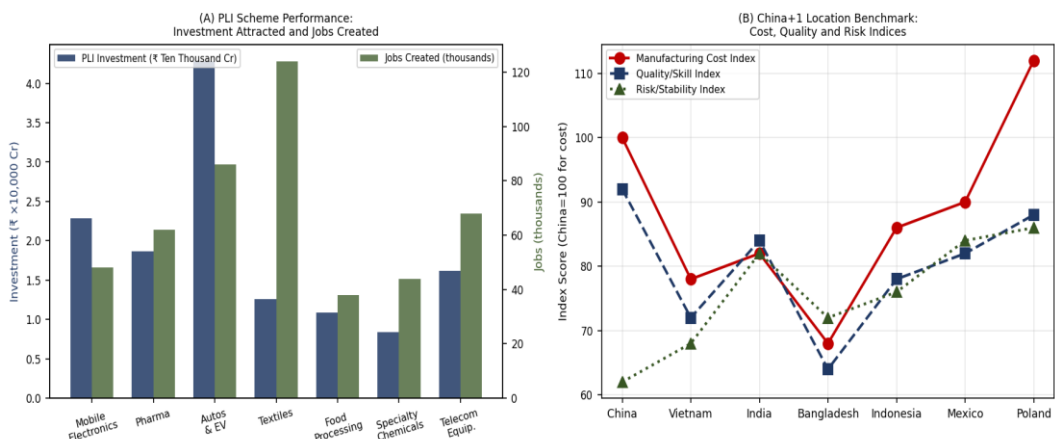


Fig. 2. PLI Scheme Investment and Employment Performance and China+1 Manufacturing Location Benchmarking

Table 1. Gravity Model FDI Determinants — India as FDI Host (n=42 Source Countries, 2015–2024)

FDI Determinant Variable	Coefficient	SE	t-stat	p-value	Effect Direction
Source Country GDP (ln)	+0.84	0.068	12.35	<0.001	Economic mass driver

Geographic Distance (ln)	-0.48	0.082	-5.85	<0.001	Distance friction
Institutional Quality (WGI)	+0.62	0.094	6.60	<0.001	Governance premium
PLI Scheme Sector Dummy	+0.38	0.072	5.28	<0.001	Policy incentive uplift
Ease of Doing Business	+0.44	0.086	5.12	<0.001	Regulatory quality
Market Growth Rate (GDP %)	+0.56	0.078	7.18	<0.001	Demand attractiveness

PPML estimator; country-pair and source-year fixed effects; WGI = World Governance Indicators composite; PLI dummy = 1 if sector covered by PLI scheme in the investment year; Adj. Pseudo-R² = 0.74

4. Conclusion

India's FDI trajectory confirms that PLI schemes are generating measurable manufacturing investment uplift (+0.38 coefficient on PLI sector dummy) and the China+1 positioning is strongest in Electronics, Pharmaceuticals, and Automotive/EV where India's quality infrastructure, technical workforce, and regulatory stability create genuine competitive advantages beyond cost arbitrage. The gravity model confirms institutional quality (+0.62) and ease of doing business (+0.44) as the two most controllable policy levers for FDI attraction beyond the PLI scheme's direct incentive. Recommendations include accelerating land acquisition reform and industrial park infrastructure in PLI-designated clusters, harmonising state-level industrial policy with national PLI incentive structures, and developing India-specific global value chain integration roadmaps for the six PLI sectors where India has the strongest competitive positioning.

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