



INDIA'S STARTUP ECOSYSTEM AND ITS IMPACT ON EMPLOYMENT AND ENTREPRENEURSHIP

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Abstract

This study evaluates the structural evolution of India's startup ecosystem from the launch of the Startup India initiative in January 2016 through December 31, 2023. Drawing upon administrative data from the Department for Promotion of Industry and Internal Trade (DPIIT), national economic surveys, and spatial microdata on Indian enterprise entry, we examine how state interventions, private risk capital, and regional factor endowments have reshaped entrepreneurial formation and labour absorption. By the close of 2023, official startup recognitions reached 117,254 enterprises, generating over 12.42 lakh direct, self-reported positions across more than 80% of the country's administrative districts. Our analysis highlights a process of spatial decentralisation, with Tier-II and Tier-III cities accounting for approximately 48% to 51% of recognised entities. However, the landscape continues to exhibit structural sector concentration, as information technology, healthcare, and commercial services dominate formal labour demand. Furthermore, macroeconomic shifts between 2021 and 2023—marked by a 53% drop in venture capital inflows during the 2023 funding contraction—underscore the sensitivity of early-stage employment to global liquidity cycles. We synthesise these empirical trends to assess whether tech-enabled entrepreneurship can provide a sustainable vehicle for absorbing India's structural labour surplus.

Keywords

Startup Economics, Direct Employment, Spatial Agglomeration, Entrepreneurship, Regional Factor Markets, Labour Allocation, India Economy

Introduction

The primary challenge of economic development in emerging market economies involves reallocating labour from low-productivity subsistence activities to high-productivity formal sectors. In India, this imperative is heightened by demographic conditions: approximately 12 million individuals enter the working-age population every year, while traditional formal manufacturing and public sector institutions face structural limits in their labour absorption capacities. Historically, the Indian economy has maintained a dual labour market structure, where an organised sector employing less than 10% of the total workforce operates alongside a large, unorganised informal economy.

To address these employment bottlenecks and foster high-value domestic innovation, the



Government of India launched the Startup India initiative on January 16, 2016. The program introduced regulatory streamlining, seed funding, tax exemptions, and state-backed incubator support to catalyse new business formation. Between 2016 and 2023, the startup ecosystem expanded from a localised urban hub phenomenon into a nationally recognised economic sector spanning all 28 States and 8 Union Territories.

From an economic perspective, startups differ fundamentally from traditional micro, small, and medium enterprises (MSMEs). While conventional small businesses typically replicate established operational models with modest growth ceilings, technology-enabled startups are designed to scale rapidly under conditions of market uncertainty. This capacity for fast growth offers the potential for non-linear job creation and technological adoption across traditional sectors.

Evaluating the macroeconomic contribution of this ecosystem requires examining several underlying dynamics:

The spatial distribution of new venture entry must be evaluated against standard agglomeration theory to determine whether capital, skilled labour, and entrepreneurship remain bound to primary metropolitan centres or effectively diffuse into regional economies. Additionally, the qualitative nature of startup-generated employment requires scrutiny to distinguish stable, high-productivity formal jobs from precarious, platform-based gig employment. Finally, the vulnerability of early-stage enterprise survival to international monetary policy and private equity cycles must be assessed, particularly in light of the funding contraction observed during 2022 and 2023. This report investigates these questions using empirical data collected strictly through December 31, 2023.

Statement of the Problem

Despite sustained economic growth, India faces an ongoing structural challenge: the formal economy has generated insufficient high-productivity industrial and service jobs relative to the rapid expansion of its working-age population. Consequently, a large proportion of the labour force remains underemployed within low-yield agricultural pursuits or informal micro-enterprises.

Although the growth in DPIIT-recognized startups—expanding from approximately 502 entities in 2016 to 117,254 by late 2023—demonstrates a strong entrepreneurial response, the extent to which these ventures provide a durable solution to macro-level labour absorption remains a subject of economic debate.

Three central problems require rigorous empirical examination:

First, startup employment figures rely on self-reported direct job creation metrics. It is essential to determine whether these figures represent a net expansion of formal employment or reflect temporary, platform-mediated roles subject to rapid business turnover.

Second, despite explicit policy efforts to democratize entrepreneurship across regions, market forces naturally cluster high-value talent, supplier networks, and risk capital within major tier-one urban hubs. The degree to which Tier-II and Tier-III cities participate in value creation requires detailed spatial assessment.

Third, early-stage technology ventures exhibit high structural failure rates. The global "funding winter" of 2022–2023 exposed many ventures to cash-flow constraints, raising questions about the



stability of employment generated by capital-dependent business models.

Objectives of the Study

This study analyses the empirical performance of India's startup economy before 2024. The specific research objectives are:

- To quantify the growth trajectory of DPIIT-recognized startups and evaluate their aggregate direct job creation from 2016 through December 31, 2023.
- To examine the geographic distribution of startup formation across States, Union Territories, and urban tiers, evaluating the balance between primary metropolitan hubs and emerging Tier-II/III ecosystems.
- To analyse the sectoral distribution of startup activity, identifying key employment-generating industries and assessing the operational characteristics of domains such as IT services, healthcare, and agritech.
- To evaluate gender inclusivity in enterprise leadership by tracking the proportion of women-led startups across the study period.
- To examine the impact of venture capital cycles and public funding interventions on ecosystem stability and job creation.

Methodology

This study uses a secondary quantitative research design based on administrative data, national economic surveys, and empirical publications. The time frame is bounded strictly between January 1, 2016, and December 31, 2023.

Data was collected and integrated across three primary channels:

Administrative dataset releases from the Department for Promotion of Industry and Internal Trade (DPIIT) and official Ministry of Commerce and Industry parliamentary updates provide core counts of recognised startups, state-level distributions, self-reported direct employment metrics, and gender representation figures. Direct employment metrics reflect baseline self-reported figures submitted by enterprises during official recognition and subsequent compliance filings.

National macroeconomic reports, including the Economic Survey of India (2022–23) and Periodic Labour Force Survey (PLFS) releases, offer comparative benchmarks regarding formal workforce growth, informal labour shares, and regional economic indicators.

Empirical baselines from World Bank Policy Research Working Papers by Ghani, Kerr, and O'Connell provide spatial entry models grounded in NSSO unorganised enterprise surveys and Annual Survey of Industries microdata. These serve as benchmark comparisons for evaluating recent geographical entry patterns.

Analytical methods include compound annual growth rate (CAGR) determinations, spatial concentration ratios, state-level distribution mappings, and cross-sectoral job creation comparisons. Methodological cautions regarding administrative datasets have been incorporated: self-reported direct employment figures reflect initial enterprise workforce declarations, which may not capture real-time attrition or continuous firm downsizing following funding contractions.

Study of startup expansion, direct employment creation, regional distribution, and capital



flows :

Enterprise Recognition and Direct Job Creation Trajectory (2016–2023)

The table below traces the growth of DPIIT-recognized startups alongside corresponding self-reported direct job creation from the launch of the Startup India initiative through December 31, 2023.

Year	Annual Recognised Startups (Net Addition)	Cumulative Recognised Startups	Self-Reported Direct Jobs Created (Annual)	Cumulative Direct Jobs Created
2016	502	502	306	306
2017	5,000+	5,500+	51,980	52,286
2018	8,500+	14,000+	1,00,646	1,52,932
2019	13,798	27,798	1,63,463	3,16,395
2020	19,371	47,169	1,81,404	4,97,799
2021	26,330	73,499	2,10,545	7,08,344
2022	34,779	1,08,278	2,74,685	9,83,029
2023	8,976+ (<i>DPIIT recognised total: 1,17,254</i>)	1,17,254	3,91,943	13,74,972 (<i>Official Dec 2023 baseline: >12.42 Lakh</i>)

Sources: Data synthesised from DPIIT Press Information Bureau Releases (PRID 2002100, 2042116) and Economic Survey 2022–23. Baseline totals reflect official press releases through Dec 31, 2023.



Regional Distribution Across Selected States (2019–2023)

The geographic distribution of DPIIT-recognized startups across key industrial and emerging states demonstrates expanding participation outside traditional metropolitan hubs.

State / Union Territory	Recognised Startups (2019)	Recognised Startups (2021)	Recognised Startups (2022)	Recognised Startups (2023)	Regional Trajectory & Dominant Sectors
Maharashtra	~3,100	~3,800	4,813	5,816	Commercial Capital Hub, FinTech, D2C, Logistics
Gujarat	565	1,655	2,262	3,291	Industrial Tech, Chemicals, Agri-processing
Delhi (NCR)	1,302	2,129	2,548	3,150	Consumer Internet, FinTech, EdTech
Karnataka	~1,800	~2,200	2,568	3,036	Enterprise Software, DeepTech, AI, SaaS
Tamil Nadu	~900	~1,400	1,811	2,816	SaaS, DeepTech, Hardware, Auto Tech
Haryana	658	1,036	1,327	1,740	B2B Enterprise, Logistics, Auto Component Tech
Bihar	137	374	517	811	AgriTech, Rural E-Commerce, Micro-Logistics
Andhra Pradesh	161	286	382	586	AquaTech, Renewable Energy, IT Services



Assam	62	181	282	362	Agri-processing, Handloom E- Commerce, Regional Supply Chain
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Sources: Compiled from DPIIT State-wise Annexures, Ministry of Commerce and Industry (PRID 2002100, 2043805).

Sectoral Distribution of Direct Job Generation (Pre-2024 Baseline)

Direct employment creation varies across industry domains, reflecting differences in capital intensity and business scaling models.

Sector / Industry Domain	Estimated Direct Jobs (Pre-2024)	Share of Total Startup Employment (%)	Operational Characteristics	Labor
IT Services & Software	~2,04,000 – 2,10,000	~15.2%	High skill requirements; strong labour absorption; export-oriented SaaS	
Healthcare & Life Sciences	~1,47,000 – 1,51,000	~10.9%	Specialised technical workforce; long regulatory timelines; high capital intensity	
Professional & Commercial Services	~94,000 – 96,000	~7.0%	Business-to-business services; moderate skill barriers	
Agriculture & Food Tech	~80,000 – 88,000	~6.2%	Strong rural linkages; addresses supply chain inefficiencies	
Education & EdTech	~65,000 – 72,000	~5.1%	Rapid 2020–2021 expansion followed by structural downsizing	



FinTech & Financial Services	~60,000 – 68,000	~4.8%	High adoption rates (87%); capital intensive; payments focus
Remaining Sectors (50+ Categories)	~5,80,000 – 6,00,000	~50.8%	Long-tail distribution including Hardware, CleanTech, Logistics, D2C

Sources: Synthesised from DPIIT Sectoral Factsheets, PIB Publications, and Agri-startup literature.

Findings

Synthesising administrative data, macroeconomic indicators, and academic literature through December 31, 2023, yields six main findings:

1. **Direct Employment Growth:** The Startup India initiative delivered steady growth in reported direct employment, expanding from 306 jobs in 2016 to an annual generation of 3,91,943 direct jobs in 2023. Total cumulative direct employment reported by recognised startups crossed 12.42 lakh positions by year-end 2023.
2. **Spatial Dispersion to Tier-II/III Cities:** Enterprise creation broadened geographically beyond tier-one metropolitan hubs. Tier-II and Tier-III cities accounted for nearly half (48%–51%) of all DPIIT-recognized startups by late 2023, driven by reduced factor costs, digital infrastructure expansion, and regional policy support.
3. **Sectoral Concentration of Formal Jobs:** Formal labour absorption remains concentrated in specific service domains. IT services (~2.04–2.10 lakh jobs) and Healthcare & Life Sciences (~1.47–1.51 lakh jobs) led direct formal job generation, while agriculture tech entities grew to account for 11% of recognised startups.
4. **Venture Capital Volatility:** Startup expansion remains sensitive to global capital flows. The drop in venture capital funding from \$38 billion in 2021 to below \$13 billion in late 2023 highlighted the structural risks of capital-intensive, burn-rate-dependent scaling models.
5. **Increased Boardroom Gender Diversity:** Representation of female leaders increased significantly, with 47.6% of recognised entities (55,816 startups) reporting at least one woman director by December 31, 2023. However, equity capital allocation to women-led firms continues to lag overall recognition rates.
6. **Factor Market Constraints on Firm Entry:** Consistent with spatial economic literature (Ghani, Kerr, and O'Connell), local workforce education levels and physical infrastructure quality remain the primary determinants governing regional enterprise entry and long-term firm survival.

Conclusion

Between 2016 and 2023, India's startup landscape evolved from a localised urban phenomenon



into an economic sector contributing to direct job creation and regional business formation. By expanding into Tier-II and Tier-III cities and increasing female participation at the corporate directorial level, the ecosystem has broadened the geographic and social base of Indian entrepreneurship.

However, empirical evidence demonstrates that technology-enabled startup creation cannot fully replace broad-based manufacturing expansion and structural factor market reforms. Startups excel at driving productivity gains, modernising service supply chains, and generating high-skilled formal jobs. Yet, their capacity to directly absorb mass semi-skilled labour remains limited relative to traditional light manufacturing. Moreover, the exposure of venture-backed firms to global liquidity cycles underscores the risks of relying on foreign risk capital to sustain long-term employment growth⁴.

To strengthen the contribution of the startup ecosystem to national labour absorption, policy initiatives should prioritise three key areas:

First, deepen physical infrastructure, power grid reliability, and technical incubation capacity in Tier-II and Tier-III districts to convert high firm entry rates into sustainable enterprise survival.

Second, expand domestic institutional risk capital through expanded allocations to domestic fund-of-funds and credit guarantee mechanisms to buffer early-stage ventures against international private equity fluctuations.

Third, realign public incentive structures to encourage deep-tech, hardware, and agri-processing ventures capable of connecting high-technology innovation directly with industrial supply chains and rural labour markets.

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