India's Skills Landscape

A Sub-national Competitiveness Analysis

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India's Skill Landscape: A Sub-national Competitiveness Analysis

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About ACI

The Asia Competitiveness Institute (ACI) was established in August 2006 as a Research Centre at the Lee Kuan Yew School of Public Policy (LKYSPP), National University of Singapore (NUS). It aims to build the intellectual leadership and network for understanding and developing competitiveness in the Asia region. ACI seeks to contribute to the enhancement of inclusive growth, living standards, and institutional governance through competitiveness research on sub-national economies in Asia. It identifies mitigating issues and challenges for potential public policy interventions through close collaboration with regional governments, business corporations, policy think-tanks, and academics. ACI's three key research pillars include (I) Sub-national economies level competitiveness analysis; (II) The development of digital economy and its implications in 16 Asia economies; and (III) Singapore's long-term growth strategies and public policy analysis.

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Analytical inputs to initiate policies for policy-makers and business leaders in Asia
Capacity building to enable others through improvement in productivity and efficiency
Intellectual leadership to create pragmatic models of competitiveness and inclusive growth

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- ACI's mission is to establish our niche as a leading policy think-tank by identifying development trends, opportunities, and challenges among Asian economies and business corporations.
- ACI endeavours to articulate sound recommendations, promote discussion, and shape research agenda in the arena of public policy amongst Asian governments.
- ACI undertakes evidence-based analysis of public policy issues and decisions, in order to provide assessment of their effectiveness as well as economic and societal impact.

Preface

The twenty-first century is marked by rapid technological development. Technologies such as artificial intelligence, quantum computing, advanced robotics, and the semiconductor chips that power them are actively reshaping how economies produce, trade, and compete. However, this technological surge is not evenly shared. It is reorganising global value chains, sharpening geopolitical competition, and redefining what it means to be "skilled" in the modern economy. In this new landscape, the question facing governments is not whether change will come, but whether their institutions, industries, and workforces can evolve quickly enough to keep pace.

For India, this moment carries particular weight. As one of the fastest-growing major economies and home to one of the world's largest youth populations, the country stands at a decisive juncture. The promise of a demographic dividend is real — but it is not automatic. Growth must translate into meaningful, productive employment opportunities if it is to be socially and economically sustainable. India's push to strengthen manufacturing, deepen its presence in emerging industries, and leverage its digital infrastructure strengths reflects an awareness of this challenge. Yet structural gaps remain, especially in productivity and workforce preparedness. The task ahead is to align technological transformation with broad-based, skill-intensive employment so that India's economic rise is both competitive and inclusive.

The distinctive contribution of the Asia Competitiveness Institute's (ACI) research on India's sub-national competitiveness lies in its deliberate and sustained focus on the diversity and heterogeneity across the country's 36 sub-national economies. This year's edition takes a focused and systematic look at India's skills ecosystem. By integrating the comprehensive O*NET skills taxonomy with Indian occupational data, it maps the distribution of domain-specific skill pools across the country's sub-national economies. It then turns to India's high-growth industries and identifies which sub-national economies possess the critical knowledge bases needed to sustain and scale these sectors. Policymakers will find in this volume a set of grounded insights that can inform a more coherent, context-sensitive, and forward-looking policy design.

I am confident that this volume will meaningfully advance the discourse on India's competitiveness by offering a comprehensive and nuanced understanding of the country's rich sub-national heterogeneity.

Professor Paul Cheung
Director, Asia Competitiveness Institute
Lee Kuan Yew School of Public Policy
National University of Singapore

Contents

Executive Summary

A defining feature of the twenty-first century is the rapid diffusion of advanced technologies that are reshaping production systems and global value chains. As production systems become more digital and knowledge-intensive, the very meaning of "skilled labour" is evolving. For governments and firms alike, workforce upgrading is no longer a peripheral concern; it is a core determinant of productivity, resilience, and long-term competitiveness. These global shifts are especially consequential for India. As one of the world's fastest-growing large economies and home to one of the largest youth populations, India's demographic dividend depends critically on its ability to generate productive, skill-intensive employment. Yet technological change also heightens the risk of skill mismatches and educated unemployment if labour market transformation lags behind aspirations. Ensuring that young workers are absorbed into high-value sectors therefore requires not only job creation, but also close alignment between the knowledge embedded in the workforce and the capabilities demanded by emerging industries.

Seen in this broader context, India's economic transformation over the past three decades has involved more than shifts in output composition and trade integration; it has also entailed deep changes in the capabilities embedded within its workforce. As economies become increasingly technology-intensive and integrated into global value chains, competitive advantage rests less on factor endowments alone and more on knowledge, skills, and adaptability (Acemoglu & Autor, 2011; OECD, 2013). Skills thus move from the margins of social policy to the centre of structural transformation and long-term productivity growth. Crucially, however, this transformation is not spatially uniform. In a country as large and diverse as India, states differ markedly in industrial structures, institutional capacity, education systems, urbanisation trajectories, and labour market composition. Because economic upgrading is path-dependent—regions tend to diversify into activities proximate to their existing capabilities (Hausmann & Hidalgo, 2014)—understanding how knowledge-intensive employment is distributed across states thus becomes essential. It is this sub-national distribution of embedded knowledge that ultimately shapes India's long-run competitiveness and its prospects for moving into higher-value economic activities.

Chapter 1 summarises India's macroeconomic performance, which remained steady in 2025. GDP growth is projected to moderate marginally by 0.3 percentage points to 6.7 %. While merchandise exports faced headwinds from tariff pressures and a weaker external environment, resilient domestic demand — supported by rising real incomes, monetary policy easing, and moderating inflation — helped sustain growth momentum. On the external front, Foreign Direct Investment inflows declined relative to the previous year, reflecting heightened global uncertainty. Imports increased even as export growth remained subdued. Nevertheless, the Current Account Deficit (CAD) narrowed further, aided by resilient services exports and steady remittance inflows. Fiscal consolidation continued along the announced glide path, with improvements in the fiscal deficit reinforcing macroeconomic stability.

In this book, India's Skills Landscape: A Sub-national Competitiveness Analysis, we undertake a comprehensive competitiveness assessment of the 36 sub-national economies and the five regions of India.

Chapter 2's results show that Maharashtra remains the most competitive economy, supported by its strong performance in openness to trade and services, attractiveness to foreign investors, institutional quality, financial deepening, and physical infrastructure. The state records particularly high scores in institutions, governance and leadership, as well as financial deepening and business efficiency. However, Maharashtra exhibits scope for improvement in technological infrastructure and in standard of living, education, and social stability indicators. Its productivity performance, while positive, remains modest relative to its overall competitiveness profile. Next, Assam ranks the lowest in sub-national competitiveness largely due to limited financial deepening, weaker labour market flexibility, and subpar technological infrastructure, along with below-median performance in government policies and fiscal sustainability. The state also faces challenges in openness to trade and services and in attracting foreign investment.

Chapter 3 results show that the Western, Southern, and Northern regions perform relatively well in macroeconomic stability, though their underlying strengths differ. The Southern region leads in regional economic vibrancy, while the Western region outperforms in openness to trade and services and in attractiveness to foreign investors. The Northern region records moderate outcomes in these dimensions, even as the Eastern and North Eastern regions lag behind. The Northern region stands out in government policies and institutional stability, recording the strongest performance in institutions, governance, and leadership. The Western region demonstrates robust productivity performance, while the Southern and Northern regions exhibit strengths in financial deepening and labour market flexibility. Notably, the North Eastern region emerges as a positive outlier in standard of living, education, social stability, and technological infrastructure. However, physical infrastructure remains a persistent constraint for the region.

Chapter 4, the yearly thematic chapter, provides a deep dive into the sub-national variation in skilled labour. It moves India's skills discourse beyond conventional measures of educational attainment and broad occupational aggregates by developing a knowledge-based framework to analyse skill levels. Drawing on a harmonised occupation–knowledge matrix that maps U.S. O*NET knowledge intensities to Indian PLFS occupational data, the analysis systematically evaluates how knowledge-intensive employment is distributed across states, how these patterns have evolved over time, and how they align with India's high-growth industrial priorities.

At the national level, three broad findings emerge. First, knowledge-intensive employment is geographically concentrated within a relatively small group of states. Across the ten major knowledge domains, top positions are consistently occupied by Tamil Nadu, Maharashtra, Haryana, Kerala, and Delhi. Southern and Western states appear frequently among the leaders, reflecting diversified economic structures and stronger formal-sector footprints. Second, competitiveness patterns differ meaningfully by metric. While raw employment counts are dominated by larger states such as Maharashtra and

Uttar Pradesh, location quotients (LQ) reveal relative specialisation, sometimes elevating smaller states or Union Territories with concentrated knowledge niches. The Empirical Bayes–smoothed LQ provides a more stable ranking by filtering small-base volatility and highlights persistent structural leaders rather than statistical outliers. Third, the distribution of knowledge is domain-specific rather than uniform. Kerala performs strongly in service-oriented domains such as Health Services and Business and Management; Tamil Nadu and Gujarat stand out in Manufacturing and Production and Engineering and Technology; Haryana emerges prominently in Education and Training, Law and Public Safety, and Mathematics and Science; while Delhi performs strongly in Communications and formal-service knowledge groups.

The analysis also identifies catch-up patterns over time. Gujarat and Punjab demonstrate marked upward mobility in Manufacturing and Production, while Haryana records substantial gains across Education and Training, Health Services, and Mathematics and Science between 2017 and 2023. These movements reflect both rising employment scale and increasing relative concentration, suggesting structural shifts rather than temporary fluctuations.

To deepen the policy relevance of these findings, the chapter links knowledge distributions to the seven high-growth industries identified in previous policy analyses (MSDE-NCAER, 2025). Using a two-step filtering framework that combines knowledge intensity and occupational prevalence, the analysis identifies a consolidated set of knowledge categories that are critical for the seven high-growth industries. These include Administrative, Computers and Electronics, Design, Education and Training, Engineering and Technology, Mathematics, Mechanical, Production and Processing, Public Safety and Security, and Sales and Marketing. This enables an assessment of whether state-level knowledge endowments are aligned with India's forward-looking industrial strategy.

The results reveal differentiated alignment. Delhi, Maharashtra, Kerala, and Tamil Nadu rank in the top tier across multiple critical knowledge categories, positioning them as broadly capable of supporting high-growth industries. In contrast, states such as Uttar Pradesh, Madhya Pradesh, Odisha, and Bihar rank lower across several domains, indicating scope for capability enhancement. At a more granular level, Telangana, Karnataka, Tamil Nadu, and Maharashtra lead in Computers and Electronics; Goa, Tamil Nadu, and Maharashtra perform strongly in Engineering and Technology; Gujarat, Tamil Nadu, Kerala, and Goa stand out in Mechanical knowledge; and Delhi, Kerala, Tamil Nadu, and Puducherry excel in Production and Processing. These patterns underscore that India's industrial geography is increasingly shaped by differentiated knowledge ecosystems rather than uniform labour abundance.

Taken together, the findings suggest that India's skills landscape is both concentrated and specialised. A core group of states combines scale and intensity across multiple knowledge domains, while others exhibit niche strengths or remain structurally underrepresented in critical areas. This heterogeneity implies that national skilling strategies must be complemented by state-specific diagnostics that recognise existing comparative advantages and target domain-specific capability gaps.

Acknowledgements

Since 2000, the Asia Competitiveness Institute (ACI) at the Lee Kuan Yew School of Public Policy (LKYSPP), National University of Singapore (NUS) has been conducting the annual analysis of India's competitiveness at the sub-national and regional levels. This year's publication titled *"India's Skills Landscape: A Sub-national Competitiveness Analysis"* was authored and edited by Riddhimaa Gupta, Parag Dass, Mukund Kishore, and Dr. Arpita Khanna.

This book is the latest addition to our studies on regional and sub-national competitiveness. Our study accounts for India's regional heterogeneity in assessing the country's strengths and weaknesses. We do this by considering relevant factors that support the sustained development of the regions and sub-national economies over time. Our assessment at the sub-national level serves as a guide to creating informed and targeted policies. From employing Shapley weight to drive robustness into our study to running what-if simulations that consider likely scenarios of improvements in a sub-national economy that is languishing, our analysis is holistic and comprehensive. In this edition, we use a harmonised occupation–knowledge matrix to examine how knowledge-intensive employment is distributed across sub-national economies, alongside a knowledge domain-level breakdown and an assessment of alignment with high-growth industries.

This book would not have come to fruition without the constant support and endless dedication of our research and administrative colleagues. We extend our gratitude to ACI Director Professor Paul Cheung for his valuable contributions towards this publication. Further, we take this opportunity to thank the administrative team - Cai Jiao Tracy, Po Lai Yin Lyne, Dewi Jelina Ayu Binte Johari, and Nur Atiqah Binte Rahmat, and the research staff - Amadira Gianina, Adam Bin Romzi, Dr. Banh Thi Hang, Dr. Bian Tingbin, Chew Zhe Lin, Goh Yuh Xian, Huang Yijia, Dr. Liang Zixuan, Lian Huiyuan, Lu Miranda, Lu Weilin, Ma Qi Xiang, Dr. Nguyen Tran Bao Phuong, Dr. Song Yunlong, Tran Thi Ngoc My, Yan Bowen, and Dr. Yi Xin.

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List of Figures and Tables

Figures

Tables

List of Abbreviations

ACI	Asia Competitiveness Institute
ADB	Asian Development Bank
ASI	Annual Survey of Industries
ASEAN	Association of Southeast Asian Nations
BE	Budget Estimates
BLS	U.S. Bureau of Labor Statistics
BRAP	Business Reform Action Plan
CAG	Comptroller and Auditor General
CAGR	Compound Annual Growth Rate
CAD	Current Account Deficit
CFPI	Consumer Food Price Index
CII	Confederation of Indian Industry
CMIE	Centre for Monitoring Indian Economy
CPI	Consumer Price Index
DGFT	Directorate General of Foreign Trade
DPIIT	Department for Promotion of Industry and Internal Trade
EMDE	Emerging Markets and Developing Economies
EPI	Export Preparedness Index
FBMC	Financial, Businesses and Manpower Conditions
FDI	Foreign Direct Investment
FY	Fiscal Year
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GFCE	Government Final Consumption Expenditure
GFCF	Gross Fixed Capital Formation
GIS	Government and Institutional Setting
GRDP	Gross Regional Domestic Product
GSDP	Gross State Domestic Product
GST	Goods and Services Tax
GVA	Gross Value Added
IBEF	India Brand Equity Foundation
IIP	Index of Industrial Production
ILO	International Labour Organization
IMD	International Institute for Management Development
IMF	International Monetary Fund
ISIC	International Standard Industrial Classification
IIT	Indian Institute of Technology
IQR	Interquartile Range
IT/ITeS	Information Technology/Information Technology-enabled Services

ITIs	Industrial Training Institutes
LKYSPP	Lee Kuan Yew School of Public Policy
LQ	Location Quotient
MoSPI	Ministry of Statistics and Programme Implementation
MPR	Monetary Policy Report
MS	Macroeconomic Stability
MSDE	Ministry of Skill Development and Entrepreneurship
NCAER	National Council of Applied Economic Research
NCO	National Classification of Occupations
NCR	National Capital Region
NIC	National Industrial Classification
NID	National Institute of Design
NIFT	National Institute of Fashion Technology
NITI	National Institution for Transforming India
NSO	National Statistical Office
NUS	National University of Singapore
O*NET	Occupational Information Network
OECD	Organisation for Economic Co-operation and Development
PFCE	Private Final Consumption Expenditure
PGI	Performance Grading Index
PIB	Press Information Bureau
PLFS	Periodic Labour Force Survey
PLI	Production-Linked Incentives
PSUs	Public Sector Undertakings
QLID	Quality of Life and Infrastructure Development
RBI	Reserve Bank of India
RE	Revised Estimates
rGVA	regional Gross Value Added
SGST	State Goods and Services Tax
SOC	Standard Occupational Classification
SRE	Security Related Expenditure
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
US	United States
WCY	World Competitiveness Yearbook
WEF	World Economic Forum
WEO	World Economic Outlook

Chapter 1
Introduction

Parag Dass, Riddhimaa Gupta, Mukund Kishore

1.1 Introduction and Motivation

A defining feature of the twenty first century is the rapid diffusion of advanced technologies: artificial intelligence (AI), quantum computing, advanced robotics, and the semiconductor chips that enable them. These technologies are reshaping production systems and global value chains, but their gains are unevenly distributed across countries, with important economic and geopolitical spillovers (UNCTAD, 2021; Aiyar et al., 2023). Access to advanced semiconductor manufacturing capacity, for instance, has become a strategic concern in great-power competition and industrial policy (Haramboure et al., 2023). In this context, the very meaning of "skilled labour" is shifting. Industry 4.0 production systems increasingly demand digital, technical, and problem-solving competencies, while routine tasks face automation risks (World Economic Forum, 2023; International Labour Organization, 2021). Governments and firms are therefore under pressure to upgrade workforce capabilities rapidly to sustain competitiveness in high-growth sectors.

These global dynamics are particularly salient for India. India has been among the fastest-growing large economies in recent years, with medium-term growth projections in the range of 6–7 % (International Monetary Fund, 2024). At the same time, it possesses one of the world's largest youth cohorts, creating the prospect of a demographic dividend, conditional on productive employment absorption (United Nations, 2022; World Bank, 2024). As young people exit education and training systems across rural, urban, and rapidly urbanising India, demand for stable, higher-wage employment is rising. Yet technological change also heightens the risk of skill mismatches and educated unemployment if job creation lags behind aspirations (International Labour Organization, 2022).

Structurally, India remains a lower-middle-income economy with a large workforce engaged in agriculture, which still employs over 40 % of workers while contributing a far smaller share of GDP: around 15–20 % in recent years (World Bank, 2024; Government of India, 2024). This underscores the productivity gap between sectors. In response, the government has pursued demand-side industrial strategies such as Make in India

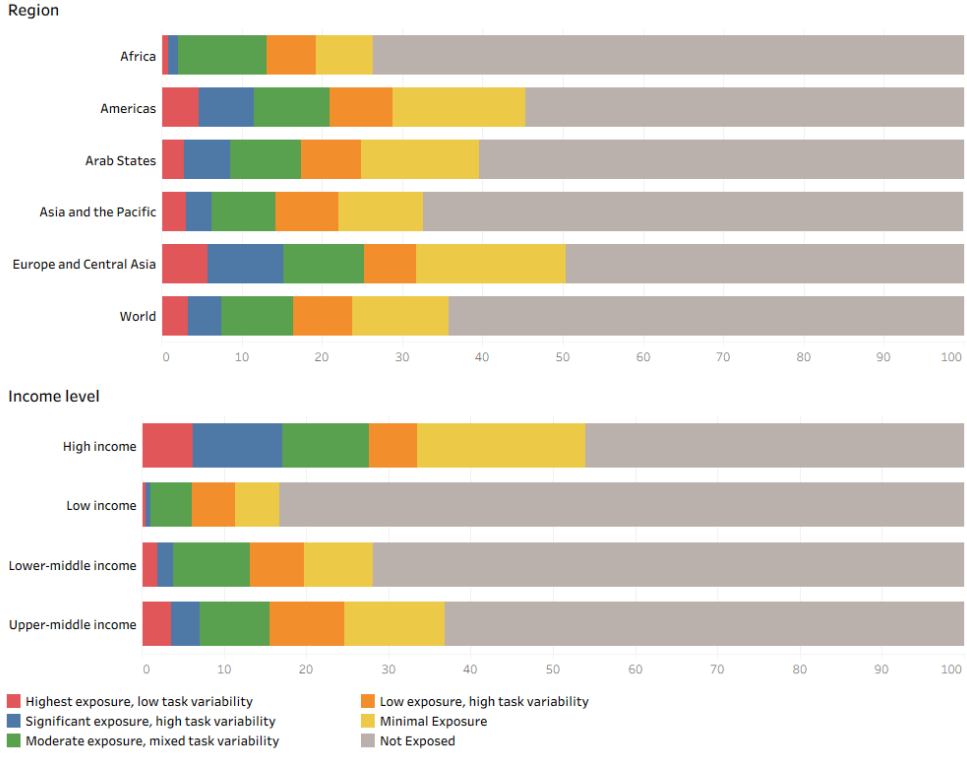


Figure 1.1: AI disruption across employment types by Region and Income Level (Gmyrek et al., 2025)

(launched 2014) and the Production-Linked Incentive (PLI) schemes announced from 2020 onward to expand domestic manufacturing capacity in electronics, pharmaceuticals, automotive technologies, and renewable energy (Department for Promotion of Industry and Internal Trade, 2014; Ministry of Finance, 2021). Simultaneously, India has leveraged its globally competitive IT and digital services sector as a growth engine (NASSCOM, 2023).

Since the mid-2010s, and especially after 2020, India has consolidated a demand-side industrial policy toolkit aimed at crowding in private investment in high-growth, skill-intensive sectors. The centrepiece is the Production-Linked Incentive (PLI) programme, announced in Budget 2021–22 with an outlay of Rs. 1.97 lakh crore across 13 sectors, including electronics, automobiles and auto components, advanced chemistry cell batteries, solar PV modules, pharmaceuticals, and textiles (Ministry of Finance, 2021). By tying fiscal support to incremental output and scale thresholds, PLIs represent a shift toward performance-linked subsidies intended to anchor large investments, deepen domestic supply chains, and boost exports. Trade and export facilitation reforms complement this strategy. The Foreign Trade Policy (FTP) 2023 emphasises export promotion through process simplification, district-level export hubs, and support for e-commerce exporters, while remission schemes such as RoDTEP aim to stimulate firms to export through improved cost competitiveness, particularly in labour-intensive manufacturing (Directorate General of Foreign Trade, 2023). Targeted consumer incentives are being used to build domestic "learning markets" in emerging sectors. A good example here are green transition incentives. Electric vehicle (EV) support schemes and the PM Surya Ghar: Muft Bijli Yojana (2024) for rooftop solar aim to stimulate manufacturing ecosystems and associated services, generating skilled employment in renewable energy (Cabinet Committee on Economic Affairs, 2024).

However, demand-side industrial policy interventions alone cannot ensure broad-based employment gains in technologically dynamic industries. Sustained job creation in modern sectors requires complementary supply-side interventions: modernisation of capital, upgrading of quality infrastructure, and large-scale workforce upskilling. This will ensure that current and incoming labour can productively participate in emerging value chains (World Bank, 2024; International Labour Organization, 2021). The central development challenge for India, therefore, lies in aligning rapid technological change with inclusive, skill-intensive employment growth.

India's supply-side industrial strategy since 2015 has progressed towards this goal. Skill India (2015) created an umbrella framework for large-scale vocational and technical training reform (Government of India, 2015). Its flagship programme, PMKVY, has certified millions of candidates across successive phases, while institutional reform initiatives such as SANKALP (2018) and STRIVE have aimed to strengthen quality assurance and industry linkages within the skilling ecosystem (Ministry of Skill Development and Entrepreneurship, 2018; World Bank, 2017). The recent approval of PM SETU (2026) to modernise 1,000 Industrial Training Institutes (ITIs) focuses on upgrading infrastructure for vocational and technical training (Ministry of Skill Development and Entrepreneur-

ship, 2026). Apprenticeship expansion under the National Apprenticeship Promotion Scheme subsidises stipends and training costs (Ministry of Skill Development and Entrepreneurship, 2025). Policies also focus on capital modernisation, technology upgrading, and developing infrastructure and logistics. Programmes such as TUFS/ATUFS in textiles, Electronics Manufacturing Clusters (EMC 2.0), and bulk drug and medical device parks aim to upgrade plant and machinery, provide shared facilities, and meet global quality standards (Ministry of Textiles, 2016; Ministry of Electronics and Information Technology, 2020). These cluster-based interventions are designed to raise productivity and support higher-skilled employment within manufacturing ecosystems. Innovation initiatives such as iDEX (2018) promote high-skill entrepreneurship and R&D in defence and advanced manufacturing sectors (Ministry of Defence, 2018). Connectivity and administrative initiatives such as PM Gati Shakti (2021) and the National Logistics Policy (2022) seek to reduce transaction costs, improve coordination across ministries, and improve overall ease of doing business (Government of India, 2021; Government of India, 2022). The nationwide implementation of the four Labour Codes (effective 21 November 2025) consolidates 29 central labour laws to streamline compliance and facilitate formal hiring at scale (Ministry of Labour and Employment, 2025).

Given the central role of workforce skills in India's development trajectory, this edition of the ACI India Competitiveness Report provides a detailed assessment of sub-national skills ecosystems using a novel application of the O*NET knowledge taxonomy to Indian occupational data. Moving beyond conventional measures that rely primarily on years of education or broad skill-level classifications, the study maps the distribution of domain-specific knowledge pools across states and union territories. It further links these skill profiles to India's identified high-growth industries, highlighting which sub-national economies possess the critical knowledge bases required to sustain and scale high-growth sectors.

This naturally raises the question: why now? The urgency of this analysis stems from a critical concern in India's development journey. Notwithstanding the expansion of both demand- and supply-side industrial interventions, unemployment, particularly youth unemployment, remains a structural concern in India. This is especially troubling given the country's demographic dividend: a large and increasingly educated young workforce whose economic potential depends on timely and productive labour market absorption. Youth unemployment rates have consistently exceeded overall unemployment rates, and graduate unemployment is substantially higher than that of less educated cohorts (Institute for Human Development and International Labour Organization, 2023; Government of India, various years). The literature attributes these patterns to several interacting factors: capital and productivity driven growth with limited labour absorption, services-led expansion without large-scale manufacturing job creation, MSME scaling constraints and the "missing middle", persistent informality and regulatory frictions, agrarian distress and slow structural transformation, and macroeconomic shocks such as demonetisation and GST (World Bank, 2022). This highlights the central policy challenge for the Indian economy: ensuring that industrial expansion translates into sustained, broad-based em-

ployment gains, particularly for young entrants to the labour force.

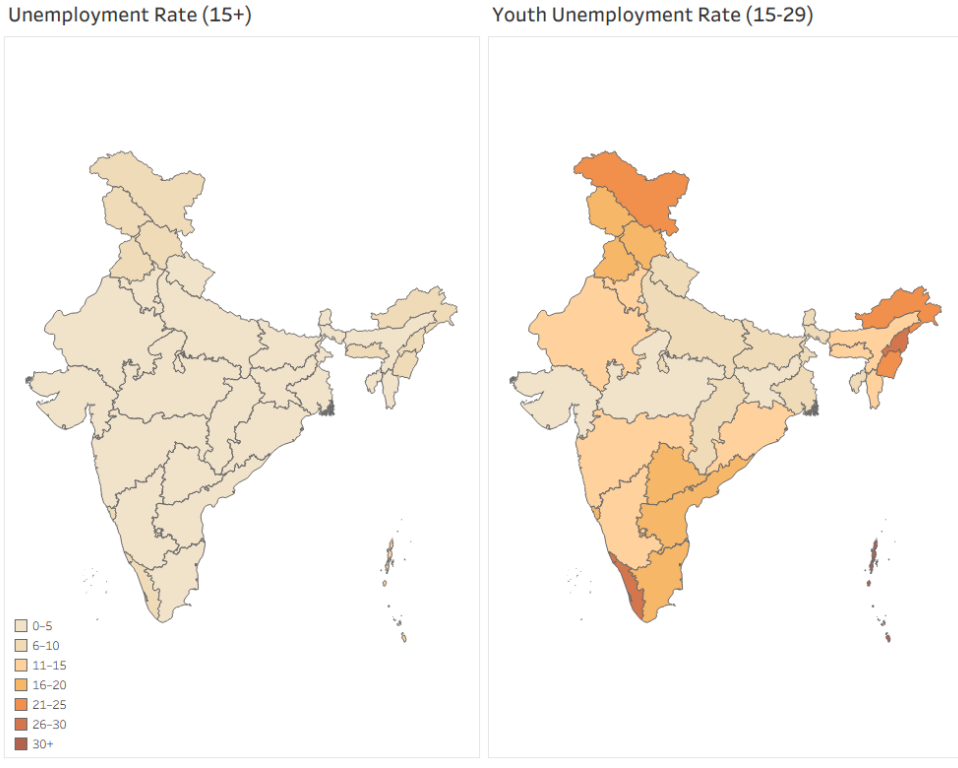


Figure 1.2: Concerning Youth Unemployment Rates of Indian States (2023-24) (Government of India, various years)

Given the brief discussion of the developments surrounding India's employment ecosystem and the importance of skills development to make the most of its demographic dividend in its development trajectory, the following section provides an overview of recent developments in India's macroeconomic landscape before the chapter concludes with an outline of the book's upcoming chapters.

1.2 A Macroeconomic Overview of India's Economy

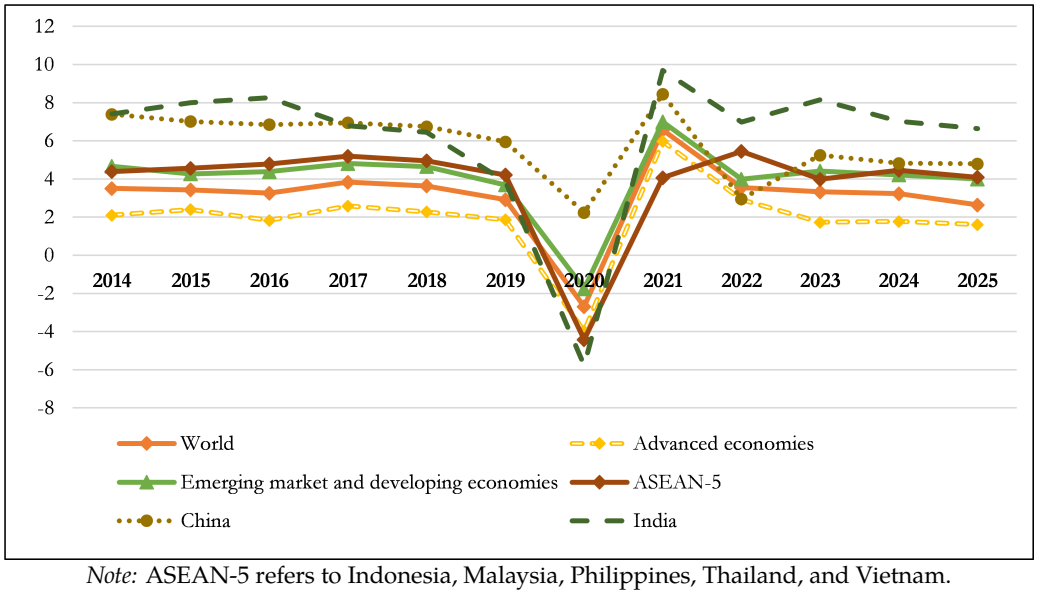
This section provides an overview of India's GDP growth, reviews quarterly performance, and examines both demand- and supply-side drivers of growth. It concludes with an assessment of financial stability and the external sector to present a more holistic picture.

To start off, Figure 1.3 illustrates India's real GDP growth compared to China and ASEAN-5, while also highlighting trends in global growth, Advanced Economies, and emerging market and developing economies. Global growth for 2025 was projected to be

2.6% [1] as per the latest available data, a 0.6 %age point decline compared to the 2024 figure of 3.2%. This moderation was attributed largely to rising tariffs and heightened global policy uncertainty. Given the projected softening in the global economy, most economies also saw downward revisions to their GDP growth projections, though to varying degrees. China appeared relatively more resilient, while other groupings such as Advanced Economies, Emerging Market Economies, and the ASEAN-5 were projected to experience modest downward shifts in the range of 0.2 to 0.4 %age points. The Indian economy was no different; its GDP growth was projected to be 6.7%, an approximately 0.3 %age point drop from 7% in 2024. India's growth was supported by rising real incomes, monetary policy easing, and strong public capital spending, even though tariffs weighed on exports (OECD, 2025).

FY2025-26 started with a stronger growth, led by industry and services, and underpinned by resilient domestic demand and firmer investment, even as agriculture remained subdued and mining was a drag. Meanwhile, unusually low food inflation and improving net exports helped keep macro conditions supportive.

Figure 1.3: India's Real GDP Growth in Perspective (%)



Note: ASEAN-5 refers to Indonesia, Malaysia, Philippines, Thailand, and Vietnam.
Source: ACI based on data from International Monetary Fund (IMF), World Economic Outlook (WEO).

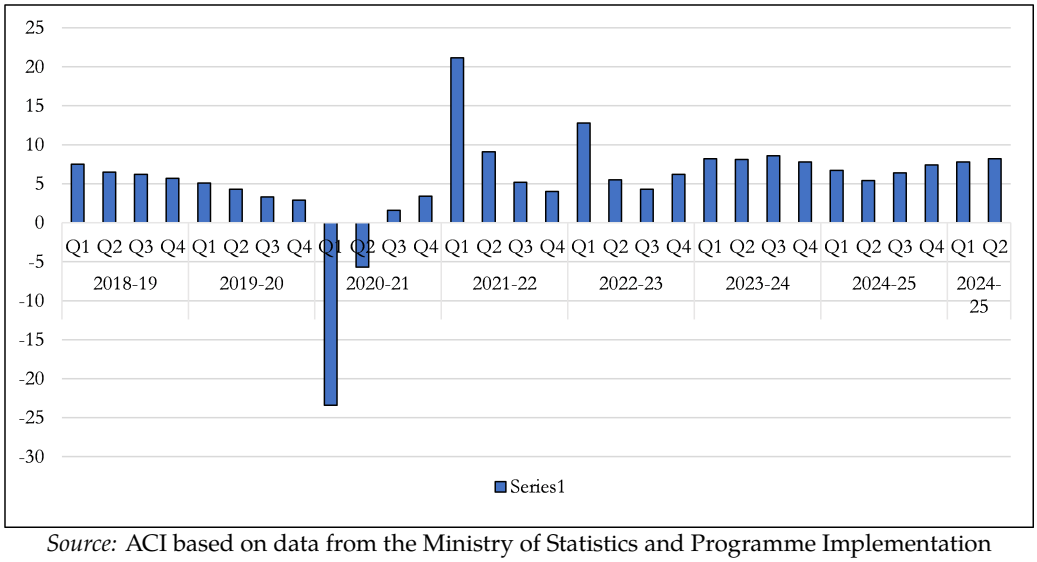
Quarterly estimates of real GDP growth for Q1 and Q2 of FY2025-26 strengthened and returned to FY2023-24 levels after relatively modest growth in FY2024-25 during the same two quarters. The buoyancy is primarily due to stronger sectoral growth in industry and services, which lifts overall output growth even when some components remain uneven.

[1]However, recent World Economic Outlook reports have suggested upward revisions, keeping growth largely steady at 3.1%.

The secondary sector grew 8.2% in Q1 and 9.3% in Q2, with manufacturing accelerating from 10.1% in Q1 to 11.7% in Q2. In both quarters, Private Final Consumption Expenditure (PFCE) remained buoyant, alongside Gross Fixed Capital Formation (GFCF) (MoSPI, Government of India, 2025a) (MoSPI, Government of India, 2025b). The primary sector contributed relatively little to the rebound: it grew by 1.7% in Q1 and 1.2% in Q2 in real terms. The mining sector, on the other hand, was a drag in both quarters, contracting the most in real terms (-10.1% in Q1, -4.3% in Q2). Monetary policy statements from the RBI also note that the growth in Q2 was "underpinned by resilient domestic demand" despite global trade and policy uncertainty (RBI, 2026).

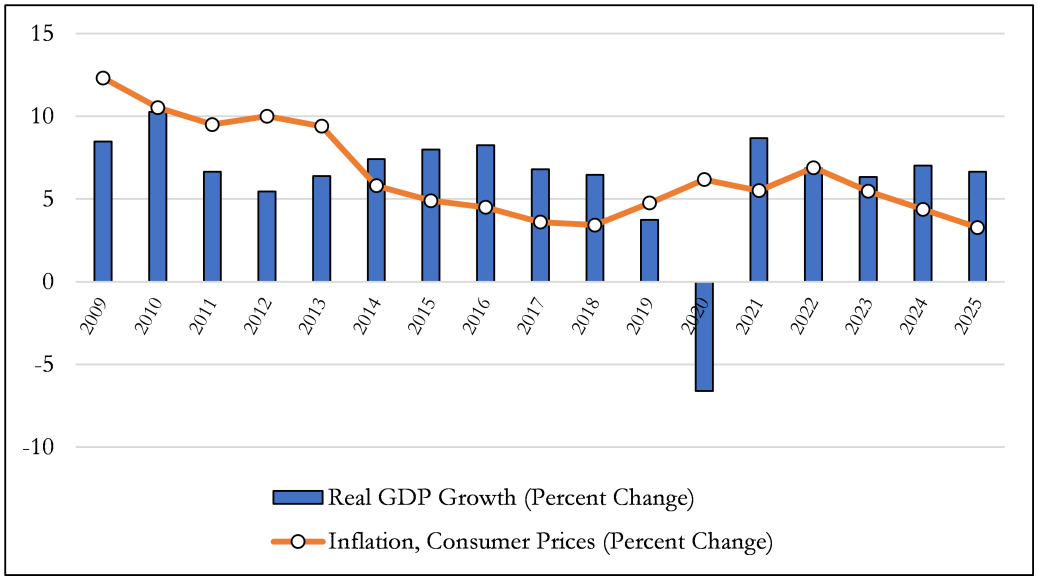
As for inflation, the RBI documents an unusually low inflation environment. Headline CPI inflation fell below the lower tolerance level for consecutive months, before ticking up modestly in December. Year-on-year food-price deflation has persisted for several months, with declines in cereals, pulses, spices, and vegetables pulling down the food component and, by extension, the headline figure (RBI state of the economy). IMF also characterised India's disinflation as being driven by subdued food prices, noting a "marked decline" in 2025 and projected a return towards target levels thereafter (IMF, 2026).

Figure 1.4: Quarterly Real GDP Growth (Change over Same Quarter Previous Year) (%)



Source: ACI based on data from the Ministry of Statistics and Programme Implementation (MoSPI).

Figure 1.5: Annual Real GDP Growth and Inflation (%)



Source: ACI based on data from IMF, WEO.

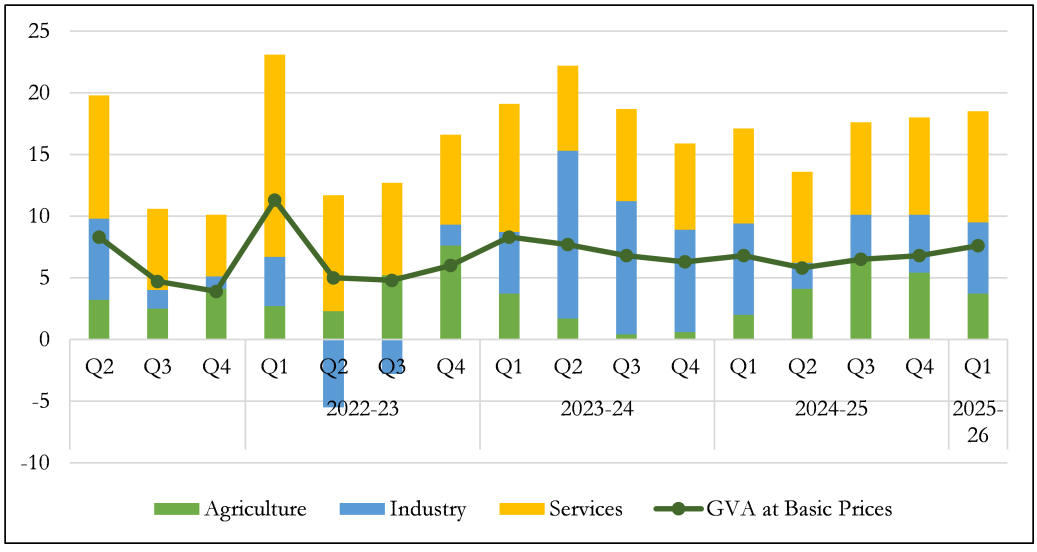
Next, we examine supply-side and demand-side factors to ascertain the key drivers of growth outcomes.

On the supply side (see Figure 1.6), real gross value added (GVA), a measure of aggregate supply, contracted to 6.4% in FY2024-25 from 6.9% in FY2023-24. While GVA growth in the secondary and tertiary sectors continued to outpace the primary sector, their growth rates moderated relative to FY2023-24. In contrast, the primary sector strengthened, expanding by 4.4% in FY2024-25 compared with 2.7% in FY2023-24 (MoSPI, Government of India, 2024).

The first two quarters of FY2025-26 started the year with stronger momentum, with both Q1 and Q2 showing higher GVA growth rates than the same quarters of FY2024-25. In particular, Q2 FY2025-26 improved significantly. (GVA grew at 7.6% and 8.1% in Q1 and Q2 in FY2024-25, respectively).

The increase in growth of GVA in the primary sector has been attributed to record foodgrain output in the Third Advance Estimates (Ministry of Agriculture) (Ministry of Agriculture and Farmers Welfare, Government of India, 2025) as well as an above normal monsoon (Ministry of Earth Sciences, Government of India, 2025) (IMD). Manufacturing GVA growth, on the other hand, was tempered by a deceleration in industrial activity. The deceleration was noted in the headline IIP growth of 3.0% in March 2025 (with manufacturing at 3.0% and mining nearly flat at 0.4%), and the improvement remained uneven across industries, with only 13 of 23 manufacturing groups recording positive growth. Reflecting subdued performance among manufacturing firms, there was a contraction in mining activity and electricity demand softened (RBI, 2026).

Figure 1.6: Supply-Side Contributions to GVA Growth (%)



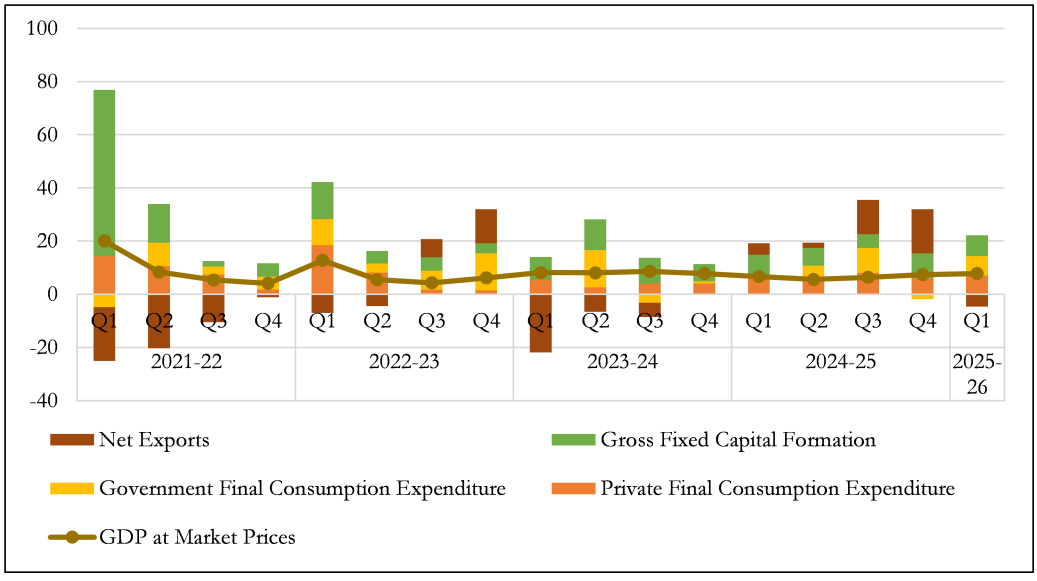
Source: ACI based on data from the Reserve Bank of India (RBI).

Services, a major contributor to overall GVA, decelerated relative to the previous financial year, driven by weaker growth in trade and transport as well as in financial and professional services. This is consistent with broader headwinds facing the tertiary sector.

Regarding the demand side (see Figure 1.7), private final consumption expenditure (PFCE), a major component of aggregate demand, grew by 7.2% in FY2024-25, up from 5.6% in the previous financial year. This was supported by resilient rural demand and improving urban demand. Rural demand, in particular, gained momentum on the back of healthy crop production and improved reservoir levels (ibid.).

In FY2025-26, PFCE growth moderated in Q1 relative to the first quarter of the previous year (to 7%), but strengthened in Q2, exceeding the growth recorded in Q2 of the previous year. (MoSPI, Government of India, 2025b)

Figure 1.7: Demand-Side Contribution to GDP Growth (%)



Source: ACI based on data from RBI.

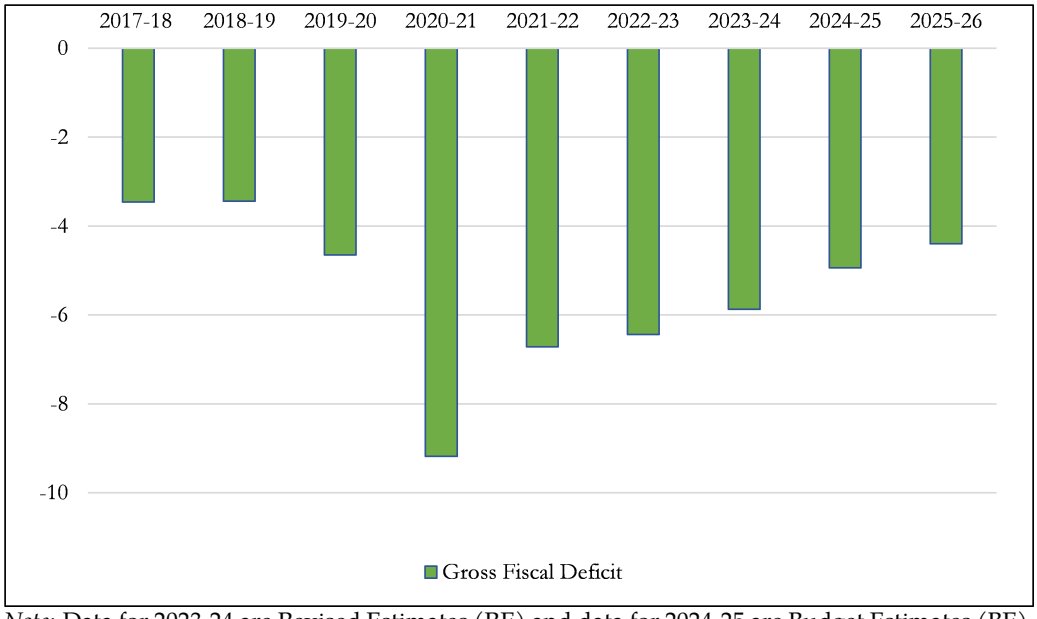
Gross fixed capital formation (GFCF), unlike PFCE, eased from 8.8% to 7.1% in FY2024-25. Investment was supported mainly by public capital expenditure (capex), while private investment remained less dynamic, as noted by the IMF. The public sector has played a major role in the post-pandemic revival of gross fixed investment, while the private corporate sector has lagged, and economic policy uncertainty dampens fresh investment. At the same time, the RBI highlights capacity utilisation as a key trigger for a renewed private capex cycle, with the outlook supported by higher utilisation, healthy corporate and bank balance sheets, and easing financial conditions. In FY2025-26, GFCF growth strengthened in both Q1 and Q2, rising to 7.8% and 7.3%, respectively, compared with 6.7% in Q1 and Q2 of FY2024-25 (MoSPI, Government of India, 2024) (MoSPI, Government of India, 2025b).

Meanwhile, government final consumption expenditure (GFCE) rebounded to grow by 7.4% in real terms in Q1 FY2025-26, after weakness earlier, including a contraction in Q4 FY2024-25. The Ministry of Finance (DEA) linked this improvement to the 20% year-on-year increase in the Centre's revenue expenditure during the quarter (Department of Economic Affairs, Ministry of Finance, Government of India, 2025b).

Net exports continued to improve as exports (led by services) grew by 6.3% while imports contracted by 3.7%. This export resilience, despite heightened global trade uncertainty, provided a meaningful boost to demand-side growth. In Q4 FY2024-25, the export share of nominal GDP edged up to 21.4%, while the import share fell to 21.8% (from 23.7% in Q3), largely reflecting softer global commodity prices, particularly crude oil. This helped the government to contain the current account deficit (Department of

Economic Affairs, Ministry of Finance, Government of India, 2025a) (IMF, 2026).

Figure 1.8: Fiscal Balance (% of GDP)



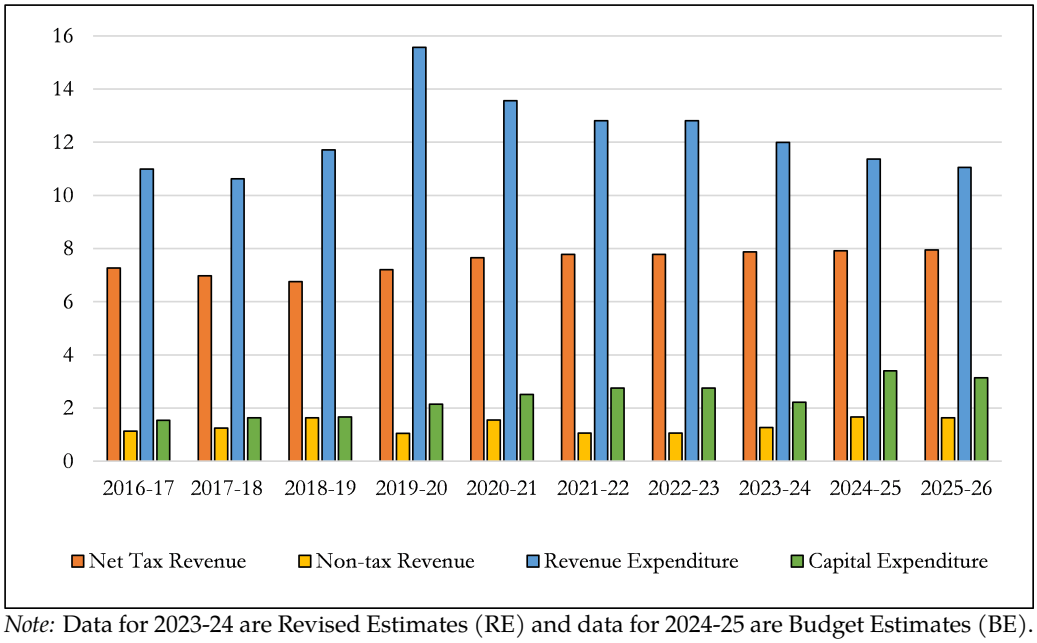
Note: Data for 2023-24 are Revised Estimates (RE) and data for 2024-25 are Budget Estimates (BE).
Source: ACI based on data from RBI.

We now turn to the fiscal performance of the Indian government, outlining recent trends in key fiscal indicators. In line with the fiscal consolidation path announced by Nirmala Sitharaman in 2021, the fiscal deficit has steadily narrowed from 6.4% of GDP in 2022–23 to 5.8% (RE) in 2023–24 and 4.9% (RE) in 2024–25, and is projected to reach the targeted level of 4.4% (BE) in 2025–26 (Figure 1.8). Figure 1.9 presents the composition of the fiscal deficit. Net tax revenue and non-tax revenue are estimated to grow by 11 % and 9.8 %, respectively, over the revised estimates for 2024–25. However, both register a marginal decline as a share of GDP. Growth in net tax revenue remains supported by strong buoyancy in corporation tax and personal income tax collections, although some income tax relief measures provide moderation. Indirect taxes are led by gains in customs and excise duties. On the non-tax side, revenue expansion is driven by higher dividends and profits from public sector enterprises, the Reserve Bank of India, and public sector banks and financial institutions (Reserve Bank of India, 2025).

On the expenditure side, revenue expenditure is projected to rise by 6.7% and capital expenditure by 10.1% relative to the 2024–25 revised estimates, yet both decline more sharply when expressed as a %age of GDP. Within revenue expenditure, interest payments continue to account for a significant share and show an upward trend, while subsidies remain contained, reflecting moderation in food and fertiliser outlays. Capital expenditure increases in nominal terms but stabilises relative to GDP, which may reflect a phase of fiscal consolidation following the earlier expansionary push. In contrast, effec-

tive capital expenditure remains strong, suggesting that the infrastructure emphasis is being sustained through capital grants to states. Overall, the moderation in expenditure relative to GDP alongside steady revenue growth suggests a gradual strengthening of the fiscal position.

Figure 1.9: Key Fiscal Indicators (% of GDP)

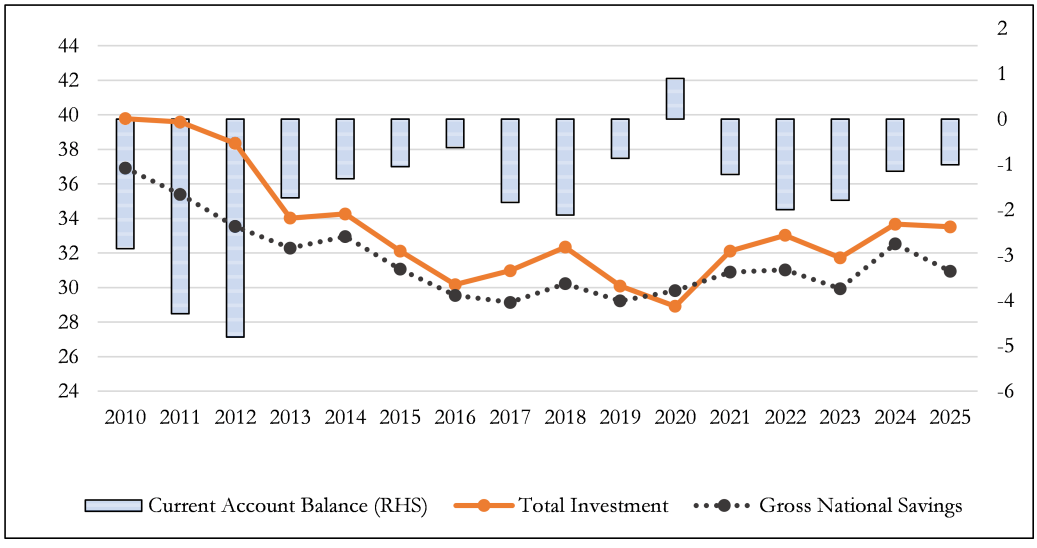


Note: Data for 2023-24 are Revised Estimates (RE) and data for 2024-25 are Budget Estimates (BE).
Source: ACI based on data from RBI.

Now we consider the state of India's investments, savings, and Current Account Deficit (CAD) as illustrated in Figure 1.10. Between 2024 and 2025, India's total investment remained broadly stable, easing marginally from 33.68% to 33.52% of GDP. In contrast, gross national savings declined more noticeably, falling from 32.53% to 30.95% of GDP. India's gross national savings are largely driven by household savings, with a significant share channeled into physical assets, especially real estate, followed by gold. Over the same period, the current account balance registered a modest improvement, narrowing from –1.15% to –1.004% of GDP (IMF, 2026). Even as the economy faces pressure from steep US tariffs, the current account deficit remains manageable, supported by resilient services exports, steady remittance inflows, and a contained trade deficit (The Times of India, 2025).

In 2024–25, India's merchandise exports increased marginally by 0.1 % year-on-year to US$437.4 billion, reversing the contraction of 3.1 % recorded in 2023–24. Merchandise imports, in contrast, expanded by 6.2 % to US$720.2 billion, following a decline of 5.3 % in the previous year. In 2024–25, export growth was primarily driven by electronics, engineering goods, and pharmaceuticals, with agricultural exports also recording a strong increase. On the import side, gold and electronics accounted for the largest contributions

Figure 1.10: National Savings, Investment and Current Account Deficit (% of GDP)



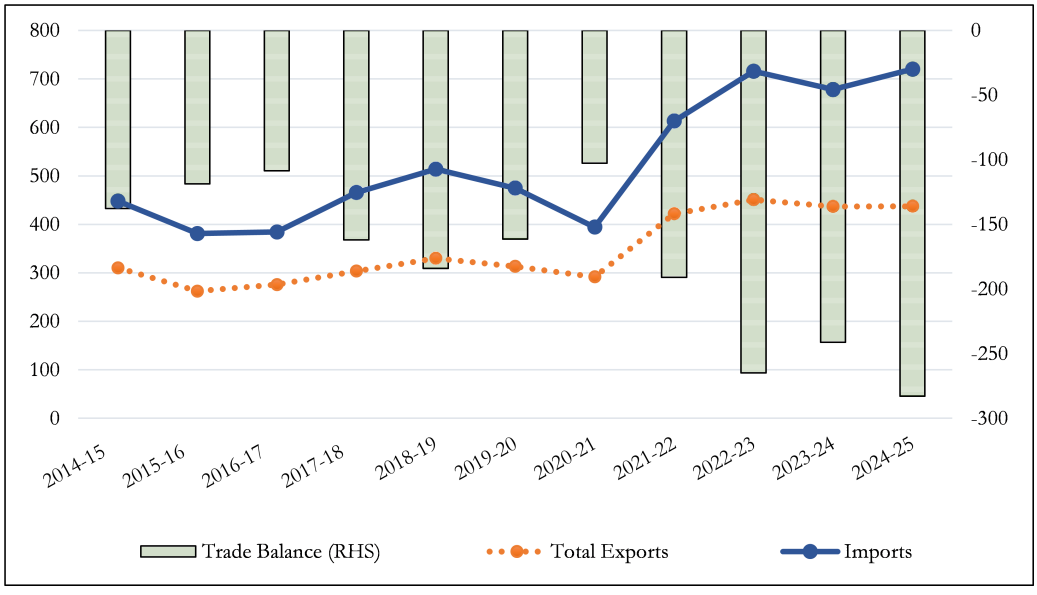
Source: ACI based on data from IMF, WEO.

to import growth, driven by rising international prices and festive demand accumulation, followed by petroleum and machinery, reflecting sustained industrial demand for these goods (RBI Annual Report 2024-25). As imports expanded more strongly than exports, the merchandise trade deficit widened during the year, highlighting India's evolving industrial base and consumer preferences (Figure 1.11).

The Economic Survey 2024-25 underscores the need for sustained structural reform to sustain India's trade momentum. In particular, it highlights the National Logistics Policy as a key lever to strengthen manufacturing depth and export competitiveness by improving infrastructure connectivity and reducing supply chain inefficiencies. Ongoing investments in multimodal logistics hubs, alongside digital trade facilitation initiatives such as the DGFT Trade Facilitation Mobile App, aim to reduce transaction costs, shorten turnaround times, and streamline compliance procedures. Together, these measures seek to improve the ease of exporting and enhance the global competitiveness of Indian firms (Business Standard, 2025).

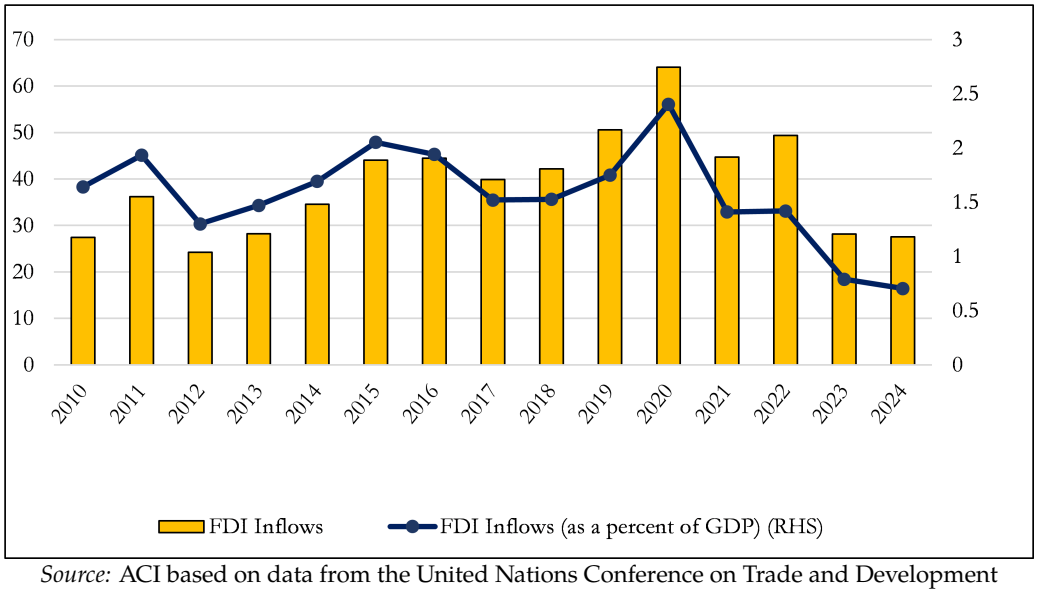
Figure 1.12 shows trends in India's Foreign Direct Investment (FDI) inflows (in US$ terms) and FDI as a %age of GDP from 2010 to 2024. Between 2023 and 2024, FDI inflows declined slightly in absolute terms and also fell as a %age of GDP. This indicates a moderation in foreign investment, both in dollar value and relative to the size of the economy, during the year. The services sector remained the largest recipient of FDI equity in FY 2024–25, accounting for 19% of total inflows, followed by computer software and hardware (16%) and trading (8%). Manufacturing has also gained momentum as a key FDI destination, with inflows growing by 18% in FY 2024–25 to USD 19.04 billion, up from USD 16.12 billion in FY 2023–24 (*India Records USD 81.04 Billion FDI Inflow in FY 2024–25*

Figure 1.11: Export and Import of Merchandise Trade and Trade Balance (US$ Billion)



Source: ACI based on data from RBI.

Figure 1.12: FDI Inflows to India (US$ Billion and % of GDP)



Source: ACI based on data from the United Nations Conference on Trade and Development (UNCTAD).

2025).

India has shown its commitment to being a top destination for FDI by continually

liberalising FDI norms. India is expected to remain an attractive FDI destination due to its continued economic resilience amid global uncertainties and geopolitical headwinds, as it supports the domestic economy through proactive policy reforms that strengthen the evolving business ecosystem, coupled with its large consumer base.

1.3 Roadmap of the Book

This book, *Skills Landscape of the Sub-national Economies of India*, is the thirteenth addition to the ACI's competitiveness analysis of India's sub-national economies. Chapters 2 and 3 analyse competitiveness at the sub-national and regional levels across various indicators distributed under four overarching environments – Macroeconomic Stability; Government and Institutional Setting; Financial, Business and Manpower Conditions; and Quality of Life and Infrastructure Development. The ACI competitiveness framework methodology that governs such analysis is also detailed at the beginning of the chapters.

In Chapter 2, we eliminate subjectivity from weight assignment by relaxing the assumption of equal-weight and employing Shapley values, a key concept in cooperative game theory. Due to its solid theoretical and mathematical foundations, this approach ensures the robustness and objectivity of our research findings. Chapter 2 also discusses the results of a novel analytical tool called the *What-if* simulation analysis. The *What-if* simulation goes over and above the ranking exercise and offers constructive insights about the strengths and weaknesses of each sub-national economy and region by identifying how the sub-national economies can improve their standings if 20 % of their weakest indicators were elevated to the national average, *ceteris paribus*.

In Chapter 3, besides the competitiveness ranking and score analysis, a discussion of the top 20 % of each region's strong and weak indicators is also included.

Lastly, Chapter 4 examines India's sub-national skills landscape through a knowledge-based occupational framework. Rather than relying solely on educational attainment or broad occupational aggregates, we link occupations to their underlying knowledge requirements and estimate the distribution of knowledge-intensive employment across states. By doing so, we shift the analytical focus from who is employed to what knowledge is embedded in employment. The chapter provides a systematic, knowledge-based mapping of India's sub-national skills landscape and links it to sectoral growth priorities.

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