INCLUSIVE FINANCE INDIA REPORT 2025

EDITED BY
Ramesh Srivatsava Arunachalam

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List of Abbreviations

AA	–	Account Aggregator
AB-PMJAY	–	Ayushman Bharat–Pradhan Mantri Jan Arogya Yojana
ACCM	–	Antecedents–Consequents–Mediators–Moderators
AePS	–	Aadhaar-enabled Payments System
AI	–	Artificial Intelligence
API	–	Application Programming Interface
APY	–	Atal Pension Yojana
ATM	–	Automated Teller Machine
BC	–	Business Correspondent
BFSI	–	Banking, Financial Services, and Insurance
BIS	–	Bureau of Indian Standards
BLP	–	Bank Linkage Programme
BMR	–	Benchmark Regulations
BOI	–	Bank of India
BPL	–	Below Poverty Line
BSBD	–	Basic Savings and Bank Deposit
BSBDA	–	Basic Savings Bank Deposit Account
CAGR	–	Compound Annual Growth Rate
CBS	–	Core Banking Solutions
CD	–	Credit–Deposit
CERT-In	–	Indian Computer Emergency Response Team
CFL	–	Centre for Financial Literacy
CGFME	–	Credit Guarantee Fund for Micro Enterprises
CGTMSE	–	Credit Guarantee Fund Trust for Micro and Small Enterprises
CIBIL	–	Credit Information Bureau (India) Limited
CIF	–	Community Investment Fund
CII	–	Confederation of Indian Industry
CLF	–	Cluster Level Federation
CMRC	–	Community Managed Resource Centres
CMS:T	–	Comprehensive Modular Survey: Telecom
CRAR	–	Capital to Risk-weighted Asset Ratio
CRIF	–	Centre for Research in International Finance
CRP	–	Community Resource Persons
CRR	–	Cash Reserve Ratio
CSC-VLE	–	Common Service Centre Village Level Entrepreneurs
CSIRT	–	Cyber Security Incident Response Team
CSIRT-Fin	–	Cyber Security Incident Response Team for Finance
CSR	–	Corporate Social Responsibility
DAY-NRLM	–	Deendayal Antyodaya Yojana–National Rural Livelihoods Mission

DBT – Direct Benefit Transfer
DCS – Digital Crop Survey
DEAF – Deposit Education and Awareness Fund
DFS – Digital Financial Services
DPI – Digital Public Infrastructure
DSCB – Domestic Scheduled Commercial Bank
e-KYC – Electronic Know Your Customer
EMIs – Equated Monthly Installments
EU – European Union
FB – Foreign Banks
FI – Financial Institutions
FIP – Financial Information Provider
FIU – Financial Information User
FLIS – Financial Literacy and Inclusion Survey
FPO – Farmer Producer Organisation
FY – Financial Year
GCC – General Credit Card
GDP – Gross Domestic Product
GDPR – General Data Protection Regulation
GESI – Gender Equality and Social Inclusion
GLP – Gross Loan Portfolio
GNPA – Gross Non-Performing Asset
GoI – Government of India
G2P – Government to Person
GSTN – Goods and Services Tax Network
HiH – Hand in Hand
IFAD – International Fund for Agricultural Development
IFC – International Finance Corporation
IMPS – Immediate Payments System
IoT – Internet of Things
IRDA – Insurance Regulatory and Development Authority
JAM – Jan-Dhan, Aadhaar and Mobile
JLG – Joint Liability Groups
KCC – Kisan Credit Cards
KYC – Know Your Customer
LPG – Liquefied Petroleum Gas
LOKoS – Lok People's Operating System
LOS – Loan Origination System
MEDP – Micro-Enterprise Development Programme
MeitY – Ministry of Electronics and Information Technology
MF – Microfinance
MFI – Microfinance Institution
MFIN – Microfinance Institutions Network
MGNREGA – Mahatma Gandhi National Rural Employment Guarantee Act
MNRL – Mobile Number Revocation List
MoRD – Ministry of Rural Development
MoSPI – Ministry of Statistics and Programme Implementation
MSC – Micro Save Consulting
MSME – Micro, Small and Medium Enterprise
MtM – Mark to Market
MUDRA – Micro Units Development and Refinance Agency

NABARD	–	National Bank for Agriculture and Rural Development
NBFC	–	Non-Banking Financial Company
NCFE	–	National Centre for Financial Education
NEFT	–	National Electronic Funds Transfer
NEO	–	Near-Earth Object
NeGD	–	National e-Governance Division
NFHS	–	National Family Health Survey
NFSA	–	National Food Security Act, 2013
NGO	–	Non-Governmental Organisation
NIRD	–	National Institute of Rural Development and Panchayati Raj
NPA	–	Non-Performing Asset
NPCI	–	National Payments Corporation of India
NPS	–	National Pension System
NRLM	–	National Rural Livelihoods Mission
NULM	–	National Urban Livelihoods Mission
OBC	–	Other Backward Classes
OCEN	–	Open Credit Enablement Network
ONDC	–	Open Network for Digital Commerce
PCR	–	Provision Coverage Ratio
PDS	–	Public Distribution System
PFRDA	–	Pension Fund Regulatory and Development Authority
PMFBY	–	Pradhan Mantri Fasal Bima Yojana
PMJAY	–	Pradhan Mantri Jan Arogya Yojana
PMJDY	–	Pradhan Mantri Jan Dhan Yojana
PMJJBY	–	Pradhan Mantri Jeevan Jyoti Bima Yojana
PMMY	–	Pradhan Mantri MUDRA Yojana
PMSBY	–	Pradhan Mantri Suraksha Bima Yojana
PNB	–	Punjab National Bank
POS	–	Point of Sale
PSB	–	Public Sector Bank
PSL	–	Priority Sector Lending
PVB	–	Private Bank
RBI	–	Reserve Bank of India
REAP	–	Rural Enterprise Acceleration Project
RF	–	Revolving Fund
RRB	–	Regional Rural Bank
RSETI	–	Rural Self-Employment Training Institutes
RTGS	–	Real-Time Gross Settlement
SBI	–	State Bank of India
SC	–	Scheduled Castes
SCBs	–	Scheduled Commercial Banks
SDG	–	Sustainable Development Goals
SEBI	–	Securities and Exchange Board of India
SECC	–	Socio-Economic Caste Census
SFB	–	Small Finance Bank
SHG	–	Self-Help Group
SIDBI	–	Small Industries Development Bank of India
SIEM	–	Security Information and Event Management
SKDRDP	–	Shri Kshethra Dharmasthala Rural Development Project
SLBC	–	State Level Bankers' Committee
SLI	–	Sustainable Livelihoods Initiative

SLR	–	Statutory Liquidity Ratio
SMA	–	Special Mention Account
SOC	–	Security Operations Centers
SOP	–	Standard Operating Procedures
SRLM	–	State Rural Livelihood Missions
SRO	–	Self-Regulatory Organisation
ST	–	Scheduled Tribes
SUI	–	Stand-Up India Scheme
TReDS	–	Trade Receivables Discounting System
UAP	–	Udyam Assist Platform
UCB	–	Urban Cooperative Banks
UGB	–	Utkal Grameen Bank
UIDAI	–	Unique Identification Authority of India
UPI	–	Unified Payments Interface
USRLM	–	Uttarakhand State Rural Livelihoods Mission
UT	–	Union Territories
VO	–	Village Organisation
WASH	–	Water, Sanitation and Hygiene
WWB	–	Women's World Banking
y-oy	–	Year-on-Year

Foreword

The Pradhan Mantri Jan-Dhan Yojana (PMJDY) launched in 2014 by the Hon'ble Prime Minister, is perhaps the most audacious, and ambitious programme globally to bring millions of unserved people in the country within the fold of formal finance. As per the World Bank's Global Findex Database Report, 2025 India has 89% of the adult population having bank accounts, making it among the most financially included country among the developing economies. PMJDY indeed brought tectonic and transformative shifts in the financial inclusion landscape, bringing true and tangible gains to millions at the bottom of the pyramid, giving them access to a host of financial services; easily standing out as among the most impactful programmes of the NDA Government.

This is the 11th year of the ambitious Pradhan Mantri Jan Dhan Yojana (PMJDY) with 570.8 million bank accounts opened as of November 2025 and over ₹ 2.74 trillion in deposits. The ground-breaking progress on leveraging DPI has enabled 'account inclusion' to evolve into 'payment inclusion' by helping to overcome the barrier of physical access and reducing transaction costs. The role of technology platforms and fintech to support this mission through tech-led tools is already evident from the multiple models being developed and tested. In October 2025 alone, UPI facilitated an astounding 20.7 billion transactions, with transaction values exceeding ₹27.28 trillion. Credit deepening improved, with SHG–Bank credit outstanding exceeding ₹10 trillion and cumulative Direct Benefit Transfers surpassing ₹30 trillion. Now is the time for financial institutions to optimise and leverage this base to design and deliver relevant financial products and services through partnerships and move the needle from inclusion towards financial resilience and well-being of customers.

The world's largest programme for promoting women's access to finance – the Self-Help Group (SHG) movement in India continues to grow and evolve with 14.33 million SHGs comprising 171 million rural households and 8.49 million SHGs credit linked groups across the country. Both the National Bank for Agriculture and Rural Development (NABARD) and the National Rural Livelihoods Mission (NRLM) need to be commended for this spectacular achievement. However, a deeper analysis reflects significant regional disparities persist in loan sizes, savings mobilisation, and enterprise outcomes, with southern and eastern states continuing to dominate the major performance metrics. While SHGs excel at inclusion and stability, their ability to support enterprise thrive remains uneven. This tension reinforces the need for cohesive and collective mechanisms that build resilience with a focus on skilling, business and marketing acumen, and value-chain linkages to enable upward mobility.

India's GDP growth of 7.8% year-on-year at the very start of the fiscal year 2025-26 underscores strengthening of its macroeconomic fundamentals, GST rationalisation and continued policy support for ease of doing business for industries. The micro, small, and medium enterprises (MSMEs) continue to form the foundation of Country's growth trajectory and solidifying India's industrial and service sector stand. MSMEs contribute 29.6% to GDP, 45.8% to exports in India's economy and employ over 297.84 million people as of September 15, 2025. While national efforts emphasising formalisation and scaling have spurred a surge in online registrations, yet bringing them into financial and regulatory fold with improved access to credit and market remain a make-or-break question to crack. MSMEs face a credit gap of ₹3-3.2 billion, limiting growth and innovation. Public sector banks (PSBs) focus on smaller MSMEs with steady credit flows, while private sector banks emphasize high-value loans. Digital lending platforms, leveraging AI and alternative data, have enhanced credit accessibility, addressing gaps in traditional financing models. MSME inclusion is inseparable from enterprise resilience and graduation.

Moving beyond compliance-driven outreach, the Private Sector Banks have played a transformative role in India's Financial Inclusion Journey within commercially viable, digitally enabled business models. High-quality Mudra lending, superior asset quality, deep penetration of digital payments, and strong performance on priority sector targets collectively challenge the assumption that inclusion and profitability are inherently in tension. Governance discipline, analytics-driven credit assessment, and product diversification are important pillars to scale responsibly, particularly among women entrepreneurs and micro-enterprises.

While women's access to accounts has expanded, gaps persist in usage, credit access, asset ownership, and digital engagement. Patriarchal norms, documentation barriers, limited control over assets, and unequal access to technology are some major constraints to advancing financial inclusion for women. Gender-responsive finance is not a social add-on but an economic necessity, owing to its implications for productivity, household resilience, and intergenerational outcomes.

Formal risk protection has entered the financial lives of informal workers, small farmers, and low-income households and digital infrastructure and low-cost premiums enabled scale at a speed. Continuity, Renewal stress, account balance volatility, limited awareness, and uneven claims experience undermine the durability of coverage of this rick protection mechanisms.

Pradhan Mantri Mudra Yojana, in its tenth year has been recognized as one of the world's largest experiments in credit-led inclusion. Mudra fundamentally altered access to enterprise finance for first-time borrowers, women, and marginalised groups. The scale achieved underscores the depth of unmet demand in India's informal economy. However, limited graduation in one of the crucial concerns and credit alone cannot deliver sustained enterprise transformation without complementary support in skills, markets, and digital capability.

Aadhaar, Jan Dhan, and UPI together have reshaped the relationship between citizens, markets, and the state, enabling real-time payments, targeted transfers, and low-cost service delivery at unprecedented scale. However, dormant accounts, uneven digital literacy, biometric failures, consent deficits, and data governance concerns remain the eye-openers for the limits of infrastructure-led inclusion. Without robust safeguards, grievance redressal, and consent architecture, digital inclusion risks reproducing exclusion in technologically mediated forms are some of the future course of action to be implemented.

Cybersecurity is amongst the foundational pillar of financial inclusion rather than a peripheral technical concern. As millions of first-time users enter digital finance; fraud, identity theft, and platform vulnerabilities disproportionately affect those least equipped to absorb losses. Trust is now the binding constraint on inclusion. Digital finance can scale only to the extent that users believe the system will protect them.

Digital public infrastructure has not only helped in promoting financial inclusion in the country but also has helped reshaping financial inclusion in agriculture and allied livelihoods. Aadhaar-based identification, digitised land records, Direct Benefit Transfers, and platform-based service delivery have altered the institutional interface between farmers, the state, and financial institutions. However, digitalisation introduces new governance risks including data quality gaps, exclusion errors, and opaque algorithmic decision-making that can undermine trust, particularly among small and marginal farmers. Financial inclusion in agriculture cannot rely on infrastructure alone; it requires institutional mechanisms that recognise local realities, safeguard farmer agency, and integrate credit with extension, insurance, and market access.

The Global Findex database is the most comprehensive global source of data on how adults save, borrow, make payments, and manage risk every three years (the recent one being of 2024). The analysis highlights India's rapid expansion in account ownership, improvements in gender inclusion, and the growing role of digital payments, while also drawing attention to persistent gaps in account usage, savings, and access to formal credit. The trend has been increasing (from 2021 to 2024) across all parameters including (a) Account Ownership from 78 to 91%; (b) Gender Gap from 'Near Equal' to 'Small Gap'; (c) Savings and Borrowing Patterns from 23% to Improved; and (d) Digital Payments and Account Usage from 35 to 69%. However, account inactivity persists at levels well above peer economies, digital payment usage lags potential, and a significant share of households remain unable to mobilise emergency funds.

Regional Rural Banks (RRBs) continue to play a crucial role in mobilising rural savings, extending agricultural and small-borrower credit, and supporting local economies. Weak governance, uneven capitalisation, limited technological adoption, and political interference has played their role in constraining their ability to adapt to a rapidly digitising financial system. While proximity remains a strength, it is insufficient in the absence of modern risk management, digital integration, and supervisory discipline. Their

future relevance depends on reform pathways that preserve local trust while embedding these institutions within India's broader digital and prudential framework, ensuring that inclusion at the last mile remains both viable and resilient.

With foundational initiatives like the UPI, the Pradhan Mantri Jan Dhan Yojana, the Unified Lending Interface (ULI), AI-led financial inclusion solutions, robust digital public infrastructure in Agriculture and other allied sectors, India is poised to lead the global narrative on financial inclusion.

The Inclusive Finance India Report continues to provide a comprehensive review of the progress of financial inclusion in the country, tracking performance, highlighting achievements, and flagging gaps and issues that need to be addressed at the levels of both policy and practice. It is a much-awaited annual reference document for policymakers, investors, practitioners, academia, and students, for data trends and insights on various thematic cuts pertaining to financial inclusion. The Report is sponsored by the Gates Foundation, SIDBI, NABARD, SBI, IDFC First Bank and Rabobank Foundation as long-term steadfast supporters. I would like to express my deep gratitude to all sponsors for their unstinted and continued association with this effort, without which it would not have been possible for ACCESS to bring out the Report year after year.

As always, ACCESS has been fortunate to have seasoned sector experts to help write the Report. I would like to thank Ramesh Arunachalam for agreeing to edit the Report for the third successful year along with authoring seven of the thirteen chapters. He has supported all the other Chapter authors with patience, offering suggestions on chapter structure, making editorial comments, and helping to bring the Report together as a cogent cohesive document. I also take this opportunity to thank all the chapter authors, for their diligent efforts and for providing great insights through their analysis and writing of their respective thematic chapters. I would like to thank N Srinivasan (Microfinance – Revisiting the Perilous Past and Digital Public Infrastructure for Agriculture in India); Gaurav Gupta (Banks and The Complexity of Financial Inclusion); Girija Srinivasan and team (Enabling Women's Economic Empowerment through Self-Help Groups (SHG)-Bank Linkages – A Year of Consolidation); Smita Premchander, Anirudh Chakradhar, Soniya Hazarani and team (Gendered Access to Finance in India: Evolution, Status and Recommendations); Anuradha Ray and team (Establishment and Evolution of Regional Rural Banks); and Leora Klapper and Alexandra Norris (Financial Inclusion in India: Measuring Progress from Access to Effective use) for their contributions.

Finally, I would like to thank my small team at the Inclusive Finance Secretariat for providing support in terms of data consolidation and analysis, copy editing, and coordination with the authors and printers, among others. The team, including Akash, Satyan, and Shilpa, has tirelessly worked to bring out a high-quality Report. My sincere gratitude and appreciation to the ACCESS CEO Vipin Sharma for his visionary leadership and his persistence in pushing the team for high standards of quality, and for his technical inputs and thinking through with the editor on this year's Report.

The 20th edition of the Inclusive Finance India Report will be launched at the 22nd Global Inclusive Finance Summit being organised by ACCESS with the Department of Financial Services, Ministry of Finance, Government of India as the Co-host.

I hope the Report will serve the purpose of providing an insightful view of the 'state of the sector' in a ready reckoner form for use by a diversity of stakeholders and help in contributing to the agenda of universal financial inclusion in the country, as also serve as a knowledge document for other markets.

Sudipto Saha
Vice President
(January 2026)

Preface and Overview

PREFACE

India's financial inclusion journey has entered a decisive phase. Over the past decade, the country has achieved a scale of formal financial integration that was once considered unattainable: near-universal bank account ownership, the mass adoption of digital payments, and the incorporation of millions of previously excluded households into formal financial channels. This transformation represents more than administrative reach. It marks a fundamental reordering of how citizens engage with the state, markets, and financial institutions.

However, the scale and pace of this expansion have brought forth a new set of challenges. Access has often advanced faster than financial capability, institutional preparedness, and consumer protection. As a result, critical gaps have emerged—between access and agency, between digital reach and digital trust, and between inclusion as measured and inclusion as experienced. These gaps do not diminish the achievement of the last decade; they redefine the nature of the task that now confronts policymakers, regulators, and financial institutions.

This report is situated squarely within that transition. Its purpose is not to compile schemes or rehearse milestones, but to examine the architecture of financial inclusion itself—its underlying assumptions, its incentive structures, its vulnerabilities, and its capacity to deliver durable outcomes. Drawing on evidence across microfinance, banking, self-help groups (SHGs), micro, small, and medium enterprises (MSMEs), gender, insurance, pensions, digital public infrastructure, agriculture, cybersecurity, digital financial inclusion, regional rural banks (RRBs), and global experience in finance inclusion, the report interrogates whether India's inclusion model is equipped to produce resilience rather than episodic access.

The chapters are deliberately analytical rather than celebratory or prescriptive. They examine how inclusion has unfolded across sectors, who has benefited, where frictions persist, and where unintended consequences have accumulated. In doing so, the report shifts the discourse from numerical coverage to substantive capability, meaningful usage, and institutional trust.

Ultimately, this volume is addressed to decision-makers. It seeks to inform judgment rather than dictate solutions—by situating present outcomes within historical trajectories, institutional constraints, and behavioural realities, and by identifying where recalibration, rather than further expansion alone, has become imperative.

Introduction to the Theme of the Report

The central theme of this report is the transition from extensive financial inclusion to intensive financial inclusion. India has largely resolved the challenge of bringing people into the formal financial system. The more complex and consequential task now lies in enabling individuals, households, and enterprises to use financial services safely, productively, and sustainably over time.

Intensive inclusion demands a different institutional and policy logic. It requires financial products aligned with real income flows and life-cycle risks, institutions capable of managing risk without resorting to exclusion, and digital systems that strengthen agency rather than magnify vulnerability. Above all, it requires recognising that inclusion is not a one-time event, but a continuous process shaped by employment conditions, health shocks, gender norms, geography, and exposure to systemic stress.

Three questions recur throughout the report. First, are financial products genuinely aligned with the economic realities of households and small enterprises, or do they impose rigid structures that generate

fragility? Second, does digitalisation deepen inclusion equitably, or does it replicate earlier exclusions through technological design and access barriers? Third, how resilient is India's inclusion architecture to systemic shocks—whether economic, climatic, or technological?

These questions anchor the analysis that follows. Together, they reposition financial inclusion as a question of quality, resilience, and trust, rather than scale alone.

OVERVIEW OF CHAPTERS

Chapter 1: *'Microfinance – Revisiting the Perilous Past'* by N Srinivasan

Chapter 1 revisits India's microfinance sector at a moment of renewed stress, deliberately situating current developments within the sector's long historical cycle of rapid expansion, governance slippage, correction, and political intervention. While microfinance has remained indispensable for consumption smoothing and short-term livelihood support, the chapter documents how weak borrower selection, tolerance of multiple lending, and rising loan sizes reintroduced systemic fragilities. The sharp contraction in disbursements, declining borrower base, rising portfolio stress, and state-level allocations illustrate how quickly scale-driven inclusion can reverse when prudential discipline weakens.

Importantly, the chapter does not frame the recent downturn as a failure of microfinance per se, but as evidence of unresolved structural tensions between growth incentives and borrower protection. The analysis highlights how regulatory forbearance on pricing, combined with aggressive balance-sheet expansion, eroded resilience at precisely the moment when macroeconomic stress intensified. By anchoring its assessment in portfolio quality, geographic concentration, and borrower-level leverage, the chapter reinforces a core theme of the report: inclusion without governance is inherently unstable, and resilience cannot be built on volume alone.

Chapter 2: *'Banks and the Complexity of Financial Inclusion'* by Gaurav Gupta

Chapter 2 treats banking-led financial inclusion as a classic "problem", characterised by non-linear progress, trade-offs, and outcomes that resist simple measurement. While India's banking system has delivered near-universal account access and eliminated the gender gap in ownership, the chapter demonstrates that access has not automatically translated into empowerment, financial health, or resilience. Persistent account inactivity, uneven usage, and shallow engagement underscore the limits of scheme-led expansion when capability and trust lag behind coverage.

The chapter's contribution lies in its analytical framework, which evaluates banking inclusion through the interaction of antecedents, mediators, moderators, and outcomes. This approach exposes the inadequacy of headline indices and supply-side metrics, and instead foregrounds behavioural response, institutional capacity, and social trust. By doing so, the chapter reframes banks not as either villains or saviours, but as institutions operating within complex political, regulatory, and behavioural constraints. Financial inclusion, it argues, advances not in straight lines, but through iterative adjustment—often involving reversals that are misread as failure rather than learning.

Chapter 3: *'Enabling Women's Economic Empowerment through Self-Help Groups (SHG)-Bank linkages – A Year of Consolidation'* by Girija Srinivasan

Chapter 3 examines the SHG–bank linkage programme as one of India's most institutionally durable inclusion mechanisms. Unlike individualised credit models, SHGs embed financial services within collective discipline, social accountability, and livelihood convergence. The chapter documents the programme's extraordinary reach, robust repayment performance, and deep integration with the National Rural Livelihoods Mission (NRLM), positioning SHGs as more than credit conduits—as platforms for economic participation and state engagement.

At the same time, the analysis does not romanticise the model. Significant regional disparities persist in loan sizes, savings mobilisation, and enterprise outcomes, with southern and eastern states continuing to dominate performance metrics. The chapter highlights a central tension: while SHGs excel at inclusion and stability, their ability to support enterprise scaling remains uneven. This tension reinforces the report's broader argument that institutional form matters—collective mechanisms can deliver resilience, but require complementary market, skill, and value-chain linkages to enable upward mobility.

Chapter 4: *'State of MSME Finance in India'* by Ramesh Srivatsava Arunachalam

Chapter 4 positions MSMEs as the backbone of India's economy and simultaneously one of its most structurally constrained segments. Drawing on extensive data from Udyam and allied platforms, the chapter demonstrates that exclusion in MSME finance is not primarily a data problem, but an institutional one. Despite unprecedented formalisation and visibility, a large proportion of enterprises remain trapped at micro scale, unable to access appropriately structured credit.

The chapter's core argument is that formal lending models remain misaligned with the cash flows, risk profiles, and growth trajectories of MSMEs. The persistent credit gap—particularly acute for medium enterprises, rural firms, and women-led businesses—reflects this misalignment rather than a lack of demand or intent. By mapping the MSME financing ecosystem in its entirety, the chapter argues for a shift from loan-centric approaches to ecosystem-based finance that integrates credit with markets, skills, guarantees, and risk mitigation. MSME inclusion, it concludes, is inseparable from enterprise resilience and graduation.

Chapter 5: *'The Transformative Role of Private Sector Banks in India's Financial Inclusion Journey (2022–25)'* by Ramesh Srivatsava Arunachalam

Chapter 5 examines the transformative role played by private sector banks in redefining financial inclusion between 2022 and 2025. Moving beyond compliance-driven outreach, these institutions embedded inclusion within commercially viable, digitally-enabled business models. High-quality MUDRA lending, superior asset quality, deep penetration of digital payments, and strong performance on priority sector targets collectively challenge the assumption that inclusion and profitability are inherently in tension.

The chapter highlights how governance discipline, analytics-driven credit assessment, and product diversification allowed private banks to scale responsibly, particularly among women entrepreneurs and micro-enterprises. Importantly, it situates this transformation within the broader evolution of India's digital public infrastructure, showing how private institutions leveraged public rails while maintaining accountability. The chapter thus reframes inclusion as a strategic capability rather than a policy obligation, reinforcing the report's emphasis on institutional incentives and design.

Chapter 6: *'Gendered Access to Finance in India: Evolution, Status, and Recommendations'* by Anirudh Chakradhar, Smita Premchander, and Soniya Hazarani

Chapter 6 applies a gender lens to India's financial inclusion journey, demonstrating that parity in account ownership has not translated into parity in financial agency. While women's access to accounts has expanded dramatically, gaps persist in usage, credit access, asset ownership, and digital engagement. The chapter traces these outcomes to deeply embedded structural constraints—patriarchal norms, documentation barriers, limited control over assets, and unequal access to technology.

By combining historical analysis with current data, the chapter shows that women's financial inclusion cannot be reduced to supply-side interventions alone. Digitalisation, while powerful, introduces new exclusions when digital literacy and device access are uneven. The chapter argues that gender-responsive finance is not a social add-on but an economic necessity, given its implications for productivity, household resilience, and intergenerational outcomes. Inclusion, from this perspective, must be evaluated through agency, not access.

Chapter 7: *'Inclusive Insurance and Pension Systems in 21st Century India: Pathways, Progress, and Challenges'* by Ramesh Srivatsava Arunachalam

Chapter 7 evaluates India's inclusive insurance and pension architecture, recognising its extraordinary success in achieving mass enrolment across life, accident, health, crop insurance, and pensions. For the first time, formal risk protection has entered the financial lives of informal workers, small farmers, and low-income households. Digital infrastructure and low-cost premiums enabled scale at a speed rarely seen globally.

Yet the chapter exposes a critical weakness: continuity. Renewal stress, account balance volatility, limited awareness, and uneven claims experience undermine the durability of coverage. The analysis highlights how

inclusion in risk protection must be judged not by enrolment figures, but by sustained participation and trust in claims settlement. Without addressing continuity and reliability, the chapter warns, the protective promise of insurance and pensions remains fragile—particularly for women and informal workers.

Chapter 8: *'Ten Years of Mudra: A Decade of the Pradhan Mantri Mudra Yojana'* by Ramesh Srivatsava Arunachalam

Chapter 8 offers a decade-long assessment of the Pradhan Mantri Mudra Yojana (PMMY), recognising it as one of the world's largest experiments in credit-led inclusion. By mainstreaming collateral-free microcredit through formal financial institutions, MUDRA fundamentally altered access to enterprise finance for first-time borrowers, women, and marginalised groups. The scale achieved underscores the depth of unmet demand in India's informal economy.

However, the chapter raises a critical concern: limited graduation. While Shishu loans dominate outreach, transition to higher loan categories remains weak, constraining enterprise growth. The chapter argues that credit alone cannot deliver sustained enterprise transformation without complementary support in skills, markets, and digital capability. Mudra's experience thus reinforces a central insight of the report—access must be embedded within pathways for progression if inclusion is to translate into resilience.

Chapter 9: *'Digital Financial Inclusion in India: Infrastructure, Impact, and Imperatives'* by Ramesh Srivatsava Arunachalam

Chapter 9 analyses India's digital financial public infrastructure as a global benchmark in scale, interoperability, and state capacity. Aadhaar, Jan Dhan, and Unified Payments Interface (UPI) together reshaped the relationship between citizens, markets, and the state, enabling real-time payments, targeted transfers, and low-cost service delivery at unprecedented scale. International comparisons underscore the distinctiveness of India's public-rail approach.

At the same time, the chapter foregrounds unresolved vulnerabilities. Dormant accounts, uneven digital literacy, biometric failures, consent deficits, and data governance concerns expose the limits of infrastructure-led inclusion. The analysis emphasises that digital systems amplify both capability and risk. Without robust safeguards, grievance redressal, and consent architecture, digital inclusion risks reproducing exclusion in technologically mediated forms.

Chapter 10: *'The Digital Trust Revolution – India's Cybersecurity Transformation in the Age of Unprecedented Financial Inclusion (2022–25)'* by Ramesh Srivatsava Arunachalam

Chapter 10 situates cybersecurity as a foundational pillar of financial inclusion rather than a peripheral technical concern. As millions of first-time users enter digital finance, fraud, identity theft, and platform vulnerabilities disproportionately affect those least equipped to absorb losses. The chapter documents the scale of cyber incidents and traces India's evolving regulatory and institutional response.

By analysing data protection law, Reserve Bank of India (RBI) directives, CERT-In (Indian Computer Emergency Response Team) protocols, payment security reforms, and public awareness initiatives, the chapter demonstrates how trust is now the binding constraint on inclusion. Digital finance can scale only to the extent that users believe the system will protect them. Cybersecurity, in this framing, becomes invisible infrastructure—essential for sustaining confidence, usage, and resilience in an increasingly digital financial ecosystem.

Chapter 11: *'Digital Public Infrastructure for Agriculture (AgriStack) in India: A Comprehensive Analysis of Transformation, Progress, and Future Pathways'* by Ramesh Srivatsava Arunachalam and Narasimhan Srinivasan

Chapter 11 examines how India's digital public infrastructure is fundamentally reshaping financial inclusion in agriculture and allied livelihoods. Agriculture has long posed the most complex inclusion challenge due to fragmented landholdings, informal tenancy, income volatility, and exposure to climatic shocks. The chapter demonstrates how digital systems—particularly Aadhaar-based identification, digitised land records, Direct Benefit Transfers (DBTs), and platform-based service delivery—have altered the institutional interface between farmers, the state, and financial institutions. These reforms have enabled unprecedented scale in

subsidy delivery, crop insurance enrolment, and credit targeting, reducing leakage and transaction costs while bringing millions of farmers into formal financial workflows.

At the same time, the chapter cautions that digitalisation introduces new governance risks. Data quality gaps, exclusion errors, and opaque algorithmic decision-making can undermine trust, particularly among small and marginal farmers. The chapter highlights how land record inaccuracies, tenancy invisibility, and uneven digital literacy limit the effectiveness of data-driven finance. Financial inclusion in agriculture, it argues, cannot rely on infrastructure alone; it requires institutional mechanisms that recognise local realities, safeguard farmer agency, and integrate credit with extension, insurance, and market access. Inclusion in agriculture must therefore be judged not by enrolment counts, but by the extent to which digital finance enhances resilience against income, price, and climate shocks.

Chapter 12: *'Establishment and Evolution of Regional Rural Banks (RRBs)'* by Anuradha Ray and N Srinivasan

Chapter 12 focuses on cooperative banks and regional rural banks (RRBs) as enduring pillars of last-mile financial inclusion. These institutions occupy a distinctive position within India's financial architecture, combining geographic proximity, social familiarity, and historical trust. The chapter demonstrates how cooperative banks and RRBs continue to play a critical role in mobilising rural savings, extending agricultural and small-borrower credit, and supporting local economies—particularly in regions underserved by commercial banking networks.

However, the chapter also presents a sober assessment of the constraints facing these institutions. Weak governance, uneven capitalisation, limited technological capability, and exposure to political interference have constrained their ability to adapt to a rapidly digitising financial system. While proximity remains a strength, it is insufficient in the absence of modern risk management, digital integration, and supervisory discipline. The chapter argues that cooperative banks and RRBs are not relics of an older system, but neither can they survive unchanged. Their future relevance depends on reform pathways that preserve local trust while embedding these institutions within India's broader digital and prudential framework, ensuring that inclusion at the last mile remains both viable and resilient.

Chapter 13: *'Financial Inclusion in India: Measuring Progress from Access to Effective Use'* by Leora Klapper and Alexandra Norris

Chapter 13 shifts the analytical lens from supply-side achievement to demand-side experience, using longitudinal evidence to assess whether access has translated into effective financial use, resilience, and confidence. Drawing on Global Findex data, the chapter confirms India's extraordinary success in expanding account ownership—eliminating gender and rural–urban gaps and narrowing income disparities. Government-led digitisation of wages, pensions, and transfers emerges as a critical driver of both access and activation, embedding accounts into everyday financial life for millions of households.

Yet the chapter underscores that meaningful inclusion remains incomplete. Account inactivity persists at levels well above peer economies, digital payment usage lags potential, and a significant share of households remain unable to mobilise emergency funds. Women, poorer households, and those with limited access to digital devices continue to face structural barriers to regular and autonomous use. The chapter's central argument is that inclusion must ultimately be measured by capability rather than coverage: the ability to use financial services reliably to manage shocks, smooth consumption, and plan for the future. Without sustained engagement, trust, and relevance, access risks becoming a static achievement rather than a dynamic foundation for financial resilience.

A summary of this and the 13 chapters is given in table below.

Chapter	Primary Focus	Core Analytical Lens	Central Insight
Preface and Overview	Reframing India's financial inclusion journey	Transition from access to resilience, capability, and trust	India has achieved scale; the defining challenge now is converting access into durable financial capability through better design, governance, and institutional alignment

Chapter	Primary Focus	Core Analytical Lens	Central Insight
Chapter 1: Microfinance – Revisiting the Perilous Past	Cycles of expansion and stress in microcredit	Governance, borrower protection, and systemic risk	Inclusion driven by volume without prudential discipline repeatedly generates fragility; resilience depends on borrower-level safeguards and institutional incentives
Chapter 2: Banks and the Complexity of Financial Inclusion	Banking-led inclusion as a complex system	Behavioural response, trust, and institutional capacity	Universal access does not ensure empowerment; inclusion advances through iterative adjustment, not linear expansion
Chapter 3: Enabling Women's Economic Empowerment through Self-Help Groups (SHG)-Bank linkages – A Year of Consolidation	Collective financial inclusion	Social discipline and institutional durability	SHGs deliver stability and repayment strength, but require complementary market and skill linkages to enable enterprise graduation
Chapter 4: State of MSME Finance in India	Structural constraints in enterprise finance	Cash-flow alignment and ecosystem finance	MSME exclusion reflects institutional misalignment, not lack of data; finance must integrate markets, skills, and risk mitigation
Chapter 5: The Transformative Role of Private Sector Banks in India's Financial Inclusion Journey (2022–25)	Commercially viable inclusion models	Governance discipline and analytics	Inclusion and profitability are not in conflict when institutions align incentives, technology, and accountability
Chapter 6: Gendered Access to Finance in India: Evolution, Status, and Recommendations	Gendered outcomes in inclusion	Agency versus formal equality	Account ownership parity masks deep gaps in control, usage, and asset access; inclusion must be measured through agency
Chapter 7: Inclusive Insurance and Pension Systems in 21st Century India: Pathways, Progress, and Challenges	Mass risk-protection systems	Continuity, renewal, and trust	Enrolment without sustained participation weakens protection; inclusion in insurance depends on reliability and claims confidence
Chapter 8: Ten Years of Mudra: A Decade of the Pradhan Mantri Mudra Yojana	Credit-led enterprise inclusion	Graduation and enterprise pathways	Scale has expanded access, but limited progression constrains impact; credit must connect to skills and markets
Chapter 9: Digital Financial Inclusion in India: Infrastructure, Impact, and Imperatives	Public digital rails	Capability amplification and systemic risk	Digital systems magnify both inclusion and exclusion; safeguards and consent architecture determine outcomes
Chapter 10: The Digital Trust Revolution – India's Cybersecurity Transformation in the Age of Unprecedented Financial Inclusion (2022–25)	Trust in digital finance	User protection and institutional response	Cybersecurity is foundational to inclusion; without trust, digital finance cannot sustain usage or confidence
Chapter 11: Digital Public Infrastructure for Agriculture (AgriStack) in India: A Comprehensive Analysis of Transformation, Progress, and Future Pathways	Rural and farm-sector inclusion	Data quality, governance, and resilience	Digital infrastructure reshapes rural finance but must reflect local realities to enhance resilience against shocks

Chapter	Primary Focus	Core Analytical Lens	Central Insight
Chapter 12: Financial Inclusion in India: Measuring Progress from Access to Effective Use	From access to effective use	Demand-side capability and confidence	Inclusion must be judged by regular use and shock-management ability, not account ownership alone
Chapter 13: Establishment and Evolution of Regional Rural Banks (RRBs)	Last-mile financial institutions	Proximity versus modernisation	Local trust remains a strength, but future relevance depends on governance reform and digital integration

DISCUSSION, KEY LESSONS, AND THE PATH FORWARD

Viewed in its entirety, this report documents one of the most ambitious and consequential financial inclusion transformations undertaken anywhere in the world. India has succeeded in building a system of extraordinary reach—one that has brought formal finance into the daily lives of households, workers, farmers, and enterprises at unprecedented scale. The task now before policymakers and institutions is not to rethink inclusion itself, but to consolidate and deepen these gains, ensuring that access matures into sustained capability and resilience.

A central lesson emerging from the chapters is that India's inclusion architecture is no longer in an expansionary phase alone, but in a phase of institutional consolidation. Across microfinance, banking, SHGs, MSMEs, insurance, and digital payments, the system has demonstrated an ability to learn, adapt, and correct course. Periods of stress—whether from borrower overextension, inactivity, or digital risk—have generated regulatory, supervisory, and design responses that strengthen the system over time. This capacity for self-correction is a major asset. It suggests that inclusion in India is not a fragile construct, but an evolving institutional ecosystem.

Another important insight is the growing recognition that product design and institutional fit are now central levers of progress. The experience across sectors shows that when financial services align with real income flows, enterprise lifecycles, and household needs, engagement deepens naturally. Where alignment has improved—through flexible credit, digitally-enabled payments, or targeted transfers—usage and trust have followed. This creates a powerful opportunity: future gains in inclusion can be achieved not by expanding coverage, but by refining design, sequencing, and delivery.

Digitalisation stands out as one of India's most enduring strengths. The country's digital public infrastructure has created a foundation upon which both public and private institutions can innovate responsibly and at scale. Importantly, the chapters show that India is already moving from access-led digitisation to trust-led digitisation—through stronger data protection, cybersecurity frameworks, payment safeguards, and grievance mechanisms. Far from undermining inclusion, this focus on trust enhances it by reinforcing user confidence and long-term participation. Digital systems, when governed well, become multipliers of inclusion rather than sources of vulnerability.

The report also highlights how inclusion has become more nuanced and differentiated, particularly across gender, livelihoods, and enterprise size. Rather than treating these differences as shortcomings, the chapters reveal them as opportunities for more tailored, effective policy and product responses. Gender-responsive finance, ecosystem-based MSME support, and digitally-enabled agricultural services all demonstrate how inclusion can evolve from uniform provision to targeted empowerment. This shift marks a maturation of the inclusion agenda—one that recognises diversity as a strength rather than a constraint.

Perhaps the most encouraging insight is the growing alignment between access, usage, and confidence. Demand-side evidence shows that accounts are increasingly integrated into everyday financial life through wages, transfers, payments, and savings. While gaps remain, trends point toward greater regularity, familiarity, and purpose in financial engagement. Inclusion is gradually becoming less transactional and more relational—anchored in trust, habit, and relevance.

Looking ahead, India's financial inclusion journey is well-positioned to enter its next phase. The foundations are firmly in place: near-universal access, robust digital infrastructure, adaptive institutions, and a policy ecosystem capable of learning and course correction. The opportunity now is to build on this foundation by prioritising depth over breadth, resilience over speed, and capability over simple access.

The path forward is therefore one of refinement rather than reinvention. By strengthening governance incentives, continuing to improve product alignment, embedding trust into digital systems, and responding thoughtfully to diverse user needs, India can ensure that financial inclusion not only endures, but delivers lasting economic and social value. The next chapter of inclusion will be defined not by how many are reached, but by how well the system supports them over time—and on that measure, India has both the capacity and the momentum to succeed.

ACKNOWLEDGEMENTS

As this year's report comes to its conclusion, it invites reflection on the many hands and minds that have shaped its making. This work stands as the outcome of sustained collaboration, shared conviction, and thoughtful engagement across authors, institutions and disciplines.

My foremost gratitude is reserved for dear Vipin, with whom I share a professional association of nearly three decades. His enduring leadership in the development and inclusive finance ecosystem continues to command deep admiration. I am equally indebted to dear Sudipto. Their decision to entrust me with the responsibility of editing this important publication was both an honour and a privilege. Their confidence, counsel, and clarity of purpose provided steady guidance throughout the journey, and for that I remain profoundly thankful.

I would also like to acknowledge dear Akash, Satyan, Shilpa, and the entire ACCESS team. Their commitment, intellectual rigour, and collective spirit have been evident at every stage of this endeavour. This report reflects not only their technical expertise, but also the care and integrity with which the work was undertaken. Collaborating with such a dedicated and thoughtful team has been deeply rewarding.

To the contributing authors, I extend my sincere appreciation. Each contribution enriched the report with insight, perspective, and depth, strengthening its analytical foundation. Engaging with your work has been both a privilege and a learning experience, and I am grateful for the generosity with which your knowledge and experience were shared.

My appreciation also extends to the many organisations, practitioners, and stakeholders who participated in consultations and discussions. Their willingness to share data, lived experience, and practical wisdom was essential in grounding the report in reality and relevance. Without this openness, the narrative would have remained incomplete.

Finally, to the readers—your engagement gives this work its meaning. It is my hope that the report informs, provokes reflection, and encourages constructive dialogue, contributing to more thoughtful action in the pursuit of inclusive finance.

CLOSING REFLECTIONS

India's journey towards financial inclusion continues to unfold as a story of innovation, resilience, and collective endeavour. The progress achieved thus far reflects what becomes possible when vision is matched with institutional commitment and sustained effort. As the ecosystem evolves, the role of policymakers, practitioners, and innovators will remain central. This report seeks to honour that shared journey—capturing both what has been accomplished and what remains to be done—while reaffirming a simple truth: that meaningful inclusion strengthens dignity, expands opportunity, and anchors empowerment.

Warm regards,

Ramesh Srivatsava Arunachalam

Microfinance Under Microscope

N Srinivasan

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1.1. MICROFINANCE - REVISITING THE PERILOUS PAST

In last year's assessment of the sector it was observed that "some MFIs are less than diligent in borrower selection, disregard debt and income levels and are party to multiple loans. Pricing of loans is a concern for RBI, which feels that some MFIs have abused the freedom on interest rates to set rates at much higher levels than warranted". While the awareness of these problems increased significantly across the sector, the impact of past lending practices began to surface during the year. The rising defaults, increased stress levels among customers, persistent pursuit of recoveries, and stray extreme events created an environment in which state governments intervened in ways that resonated with public sentiment but hindered business operations. At the time of drafting this chapter, there are early signs of normalcy returning, but with a very slow momentum.

The outreach and portfolio numbers clearly indicate the shocks experienced during the year and the consequent risk-reduction measures adopted by the sector. Reducing credit exposure, improving communication with customers, and focusing on recovery became the norm rather than planning for expansion and growth. Microfinance sector (comprising all players, both profit and non-profit, banks and others) had 13% less clients[1] at the end of the year compared to the previous year (Table 1.1). Despite adding 12.9 million new clients during the year, there was erosion in the customer base on account of attrition of a larger number of existing clients. The sector had 140 million accounts on its books, representing 83 million unique clients, marking a 5% reduction in the borrower base compared to the previous year. The reduced activity in the sector is reflected in the lower number of loans per borrower, with number of loans per unique borrower declining from 1.85 in the financial year (FY) 2024 to 1.69 in FY 2025. Loan portfolio outstanding declined by 14% which is a drastic fall when seen in the context of 26% growth last year. Disbursements fell by 27%, one of the sharpest contractions in recent times.

Microfinance (MF) loans accounted for about 2.7% of non-food bank credit in March 2024, declining to 2.09% in March 2025 (Table 1.2).[3] The ratio of microfinance loans to non-food bank credit was less than 0.25% about 11 years back.

Table 1.1. The Broad Microfinance Sector[2]

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024- 25	FY25 growth over FY24
Outreach - loan a/cs mn	96	110	112	124	137	161	140	-13%
Outreach-unique clients mn	56	63	60	61	73	87	83	-5%
Loan Outstanding in ₹ bn	1,885	2,342	2,538	2,898	3,523	4,427	3,812	-14%
Amount disbursed in ₹ bn	2,075	2,411	1,733	2,586	3,311	3,879	2,841	-27%
PAR 30+ days %	1.05	1.77	7.12	8.35	3.47	2.85	6.2	195%
Unique to total clients ratio	1.71	1.75	1.87	2.03	1.88	1.85	1.69	

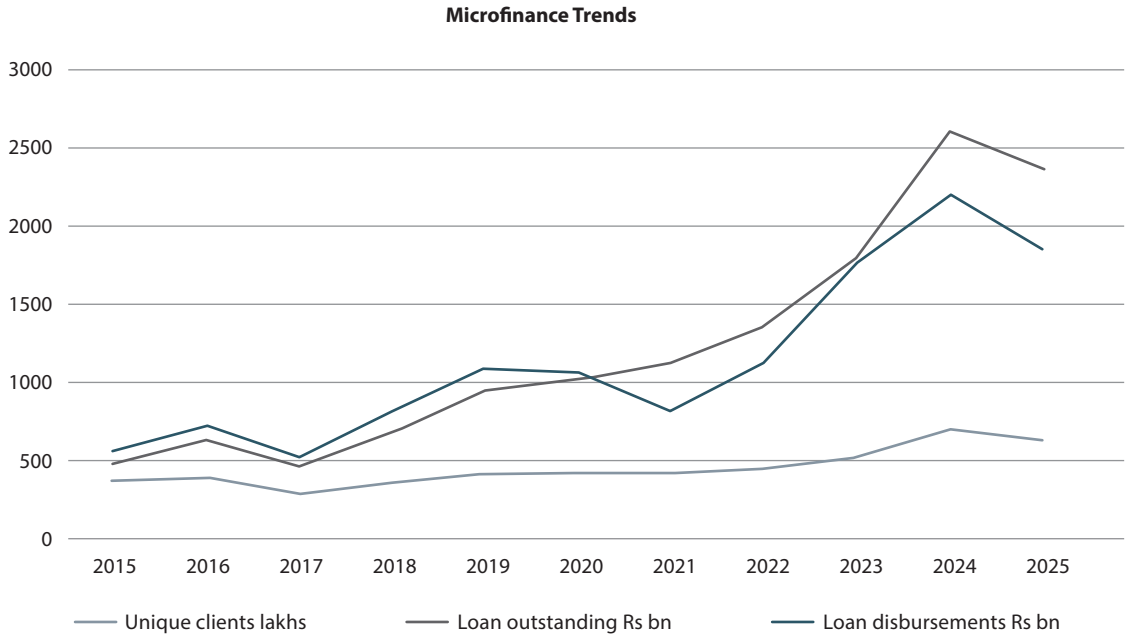


Figure 1.1. Trends in Business[5]

Table 1.2. MF Loans in Macro-credit Context[4]

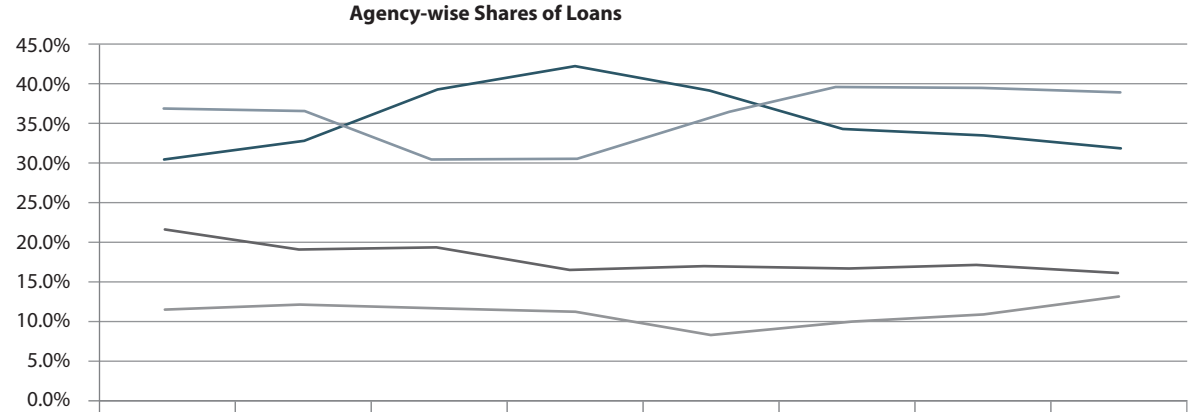
	2023	2024	2025
Non-food bank credit ₹ Trillion	136.55	164.74	182.07
MF loans ₹ Trillion	3.52	4.43	3.81
Share of MF loans to bank credit	2.57%	2.69%	2.09%

Member lending institution or MLIs (entities in microfinance sector other than banks) have been able to increase their loan portfolio over the last ten years. Annual loan disbursements, a bellwether of sector performance, clearly reflect the impact of demonetisation and COVID, as disbursements declined in absolute terms (Figure 1.1). The fall in clientele is not as sharp in 2025 compared to disbursements and portfolio outstanding. The loan outstanding at the individual borrower level has been increasing over time and is higher in FY 2025 compared to the previous year despite the overall reduction in gross loan portfolio (GLP).

1.1.1. Institutional Shares

Microfinance institutions (MFIs) were almost the exclusive lenders in microfinance space till about fifteen years back. Then non-banking financial companies (NBFCs) entered the scene, followed by banks. Most small finance banks (SFBs) had a legacy portfolio of microfinance loans and with the Reserve Bank of India (RBI) requiring them to continue to focus on priority sector, they continued to lend to microfinance clients. Today all institutional forms are engaged in lending to microfinance clients on account of the segment's high profitability despite the regular and episodic failures. The share of banks in MF loans declined further during 2024-25 (Figure 1.2). NBFCs increased their share during the year. The trend data shows that banks have been reducing their share of MF loans post-Covid, with MFIs increasing their share till FY 2023. The last two years saw MFIs reducing their share of MF loans. Apart from direct loans, both banks and NBFCs have indirect exposure to the microfinance sector in the form of wholesale loans to MFIs. The direct exposures of banks and NBFCs are also through the business correspondent (BC) route.

After the Andhra Pradesh crisis in 2010-11 the MF sector had shown continuous and consistent growth in new client acquisition and unique customer base (Figure 1.3), except for the demonetisation year (FY 2017). Even the COVID pandemic did not affect the sector much; growth just stagnated for a year (FY 2020) before resuming strident growth. During FY 2024, the sector built on the momentum achieved in the previous year and reported impressive growth rates in unique clients. FY 2025 witnessed the sharpest decline after 2017 in unique clients. In a mature sector with large profitable and well capitalised institutions, such a drastic fall in client base highlights the



	2018	2019	2020	2021	2022	2023	2024	2025
Banks	30.4%	32.8%	39.4%	42.0%	39.0%	34.1%	33.2%	32.0%
SFBs	21.3%	18.8%	19.1%	16.4%	17.0%	16.6%	16.9%	16.0%
MFIs	36.8%	36.3%	30.1%	30.6%	36.0%	39.6%	39.2%	39.0%
Others	11.5%	12.2%	11.5%	11.0%	8.0%	9.7%	10.8%	13.0%

Figure 1.2. Institutional Shares in MF Market[6]

vulnerabilities of doing business at the bottom of the pyramid. The contraction in clientele (and also loans) while reducing risk-exposure of lenders, will impact livelihoods at the bottom of the pyramid with capital flight away from tiny enterprises and income generating activities. The costs of reacquiring the lost clients in later years will also be a significant factor.

1.1.2. Increasing Loan Size

Even while the GLP is declining as MLIs seek to limit credit exposure, the share of loans with higher average size has increased. The smaller loans have a lesser share of overall portfolio (Table 1.3).

The data shows that loans above ₹50,000 had increased their share by 8.1%; the sharpest increase was in the above ₹0.1 million category, where the

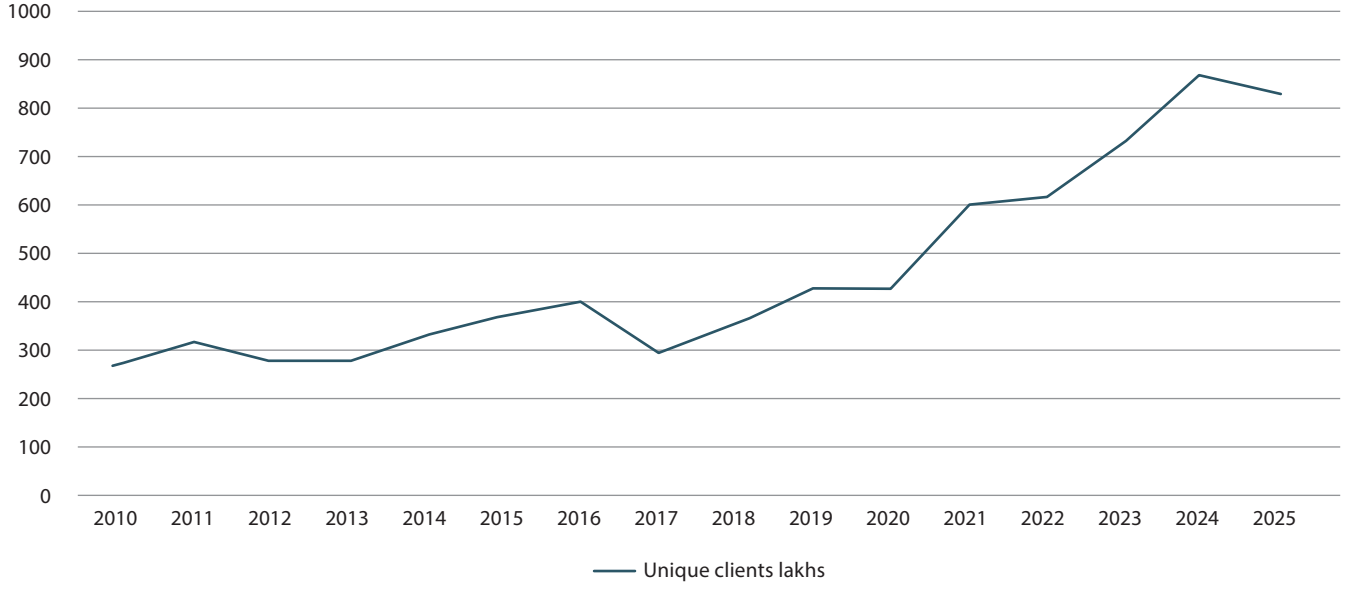


Figure 1.3. MFI Performance over the Years[7]

Table 1.3. Increasing Loan Size[8]

	Loan size-wise share of GLP			
	₹ < 50 K	₹ 50-80 K	₹ 80 - 100 k	₹ > 100 K
March-24	57.60%	29%	8.90%	4.50%
March-25	49.50%	32.60%	10.70%	7.20%

portfolio share went up from 4.5% to 7.2%. In the face of reduced disbursements, the MFIs seem to value the loyal customers. This explains the larger loans associated with the loan cycles. A further reason for the shift towards larger loans is the need to fully conform to the two-lender discipline which makes MFIs provide larger loans obviating the need for multiple loans in the hands of the borrower.

1.1.3. Performance of MFIs[9]

MFIs increased their branches by 2212, about 9% during FY 2025.[10] There was a net increase in staff employed by all MFIs by 13%, taking the number of staff to 254,000.[11] FY 2025 witnessed 57% attrition in staff; new recruitment was about 71% of staff strength in March High attrition rates combined with elevated levels of new hiring result insubstantial training costs and also leads to an erosion of institutional memory when dealing with customers. Staff attrition, which seems to be very high in the frontline posts, causes client attrition too.

In terms of business performance, MFI had a very weak year, in-line with the overall industry trends. The number of loan accounts declined by 1% and the grass loan portfolio decreased by 21% in FY 2025 (Table1.4). Average loan ticket size fell by 6%. Income generating loans decline by 3% to 91%. While women clients were 95% in FY 2024, the ratio fell to 92% in FY 2025. The declining loan ticket size over the last three years does not augur well in the light of increasing investment and operating costs of income generating activities. While reducing high debt burden in the hands of customers is a legitimate measure in customer protection, smaller (and inadequate) loans that fail to achieve investment completion, can result in future default.

1.2. FINANCIAL PERFORMANCE

There was deterioration in profitability across the sector. About 25% of MLIs reported losses during the year. Return on Assets fell from 4.2% in FY 2024 to a negative (-) 1.7% in FY 2025 (Table 1.5). While all the costs – financial, operating, and risk costs increased, yield fell by almost 1.6%. Margin declined by about 2.6% on the top of an estimated 5% increase in credit costs and impacted profitability.

Table 1.5. Select Indicators of Financial Performance[13]

Indicator	FY2024	FY2025
Operating cost	6.51	7.09
Financial cost	11.27	11.5
Yield	20.76	19.18
Margin	9.56	7.99
ROA	4.2	-1.71
OSS	122	104

The numbers in Table 1.5 are heavily influenced by the large MFIs which have been less impacted by the sector developments. The smaller MFIs have faced multiple challenges in operating costs, finance costs, and raising equity. With 2.9% to 3.65% disadvantage

Table 1.6. Return on Equity (ROE) and Return on Assets (ROA) – MFI size-wise distribution[13]

Size of MFI	Margin %	Yield %	Fin cost %
Small (₹ < 100 cr GLP)	5.01	18.21	13.94
Medium (₹ 101 to 500 cr GLP)	0.41	14.83	14.69
Large (₹ 501 to 2,000 cr GLP)	6.73	19.21	12.95
Very Large (₹ 2,000+ cr GLP)	8.56	19.42	11.04

Table 1.4. Select Indicators of MFIs[12]

Indicator	2025	2024	2023	FY2025 growth rate
Number of loan accounts in million	62.7	63.6	53.6	-1%
Gross loan portfolio ₹billion	1,484	1,870	1,396	-21%
Average loan ticket size ₹	38,005	40,464	43,200	-6%
Women client %	92	95	95	-
Income generation loan %[i]	91	94		-

Table 1.7. Risk Cost Trends[14]

FY2021	FY2022	FY2023	FY2024	FY2025
4.7%	3.8%	2.7%	2.6%	7.7%

in finance costs (Table 1.6), the smaller MFIs have to compete in the same market for customers and pricing their loans near the levels that larger entities offer with their economies of scale.

Credit costs in FY 2025 almost tripled compared to the previous year, following two years of relatively stable levels (Table 1.7). The high risks costs cannot be easily absorbed by small and medium MFIs (with up to ₹20,000 million business) with their thin margins.

1.2.1. Leading MLIs

The leaderboard of MFIs has seen some small changes in FY 2025. L&T finance, a NBFC, continued to be largest in terms of clients with CA Grameen to the second spot (Table 1.8). Credit Access Grameen continued to be the largest in terms of GLP. Muthoot Microfinance and Satin entered the top five list of client base. Satin also entered the top five lists in terms of GLP.

1.2.2. Customer Outreach and Leverage

The loan accounts to unique clients ratio peaked at 2.03 in the year following COVID, enabled by the liquidity support measures of RBI and Government of India (GOI), as well as the restructuring of old loans. This meant that on an average each microfinance customer had two loans. Over the last four years micro lenders had worked to reduce multiple loans in the hands of customers and brought down the ratio to 1.85 in FY 2024. FY 2025 saw a significant reduction in the ratio to 1.69 which is the lowest level in the last seven years (Figure 1.4).

Borrowers taking loans from multiple institutions and later struggling to service the equated monthly instalment (EMIs) had been a persistent problem. The RBI regulations and the Sector Code of Conduct had brought in a measure of discipline among lenders to restrict the number of loans to two across all types of lenders (apart from ensuring that the total loan amount remained within servicing capacity of the borrower). But the means of verification—the reference data with credit information companies—had infirmities arising

Table 1.8. Top Five MLIs by Clients and GLP[15]

Name of MLI	Clients Mn		Name of MLI	GLP ₹bn	
	2024	2025		2024	2025
L&T finance	5.9	6.1	CA Grameen	267	259
CA Grameen	4.9	4.7	L&T finance	248	258
Muthoot	New entry	3.4	Muthoot	122	124
Satin	New entry	3.3	Satin	New entry	113
Fusion	3.8	3.2	IIFL Samasta	142	111

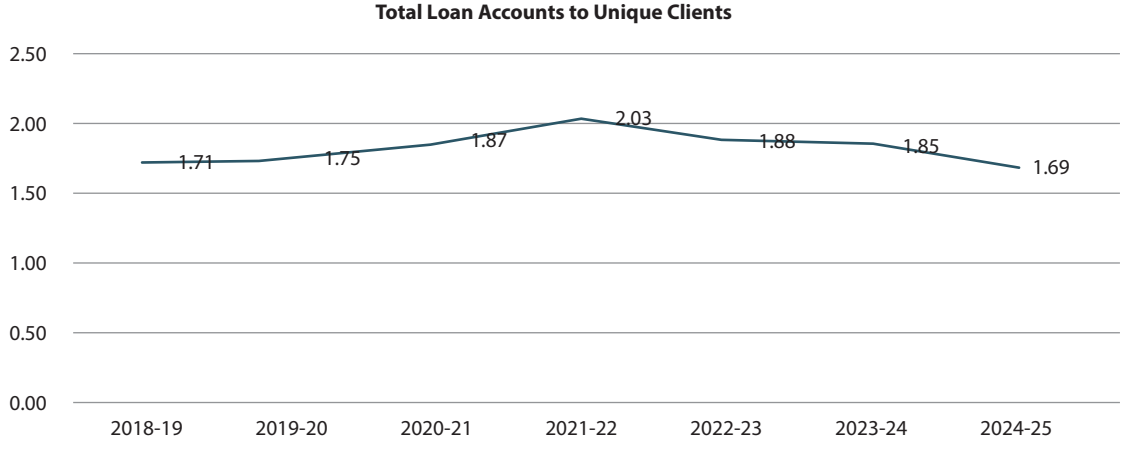


Figure 1.4. Loan Accounts to Unique Clients Ratio[16]

Table 1.9. Distribution of Customers as per Number of Lender Relationships (%)[17]

	March 2024	March 2025
1 lender	74.77	76.0
2 lenders	14.39	14.49
3 lenders	5.91	5.62
4 lenders	2.61	2.28
5 lenders and more	2.32	1.60

from time-lags in submission of loan sanction data as also the gap between updates. When the business is in a rapid growth mode, the verification of number of loans at individual level tends to fail more often, compared to periods when MFIs tend to limit credit exposure. By March 2025, only 8.90% of unique customers had more than two loans, compared to March 2024 when 10.84% of customers had more than two loans (Table 1.9).

The average loan per borrower has been steadily increasing over the years—from about ₹13,000 in 2015 to ₹38,000 in 2025. The loan size had increased by 180% even when the increase in Consumer Price Index (CPI) is about 56% over the same period (Figure 1.5). While loan size should ensure investment completion, whether the rapid rise in average loans is based on increased costs of establishing livelihoods or on the need to optimise operational costs in the hands of MFIs is a question that needs examination.

1.3. GEOGRAPHICAL SPREAD

Rural Microfinance loans were 80% of total loans; an increase of 3% from FY 2024. Across regions, southern and eastern regions continued to lead with shares of 30% and 28% of customers (Figure 1.6). In terms of portfolio, south had a more than proportionate GLP share of 36%, followed by East with a less than proportionate 26% share. Northeastern region doubled its market share of loans, increasing from 1% in FY 2024 to 2% in FY 2025. Western region continued to underperform relative to its potential of economic activity level, population and presence of financial institutions network.

Bihar continued to have the highest share of loans followed by Tamil Nadu (Table 1.10). All the five states in the leaderboard experienced a reduction in absolute levels of business as well customers. Arunachal Pradesh with 29% and Meghalaya with 9% increase in GLP were the two states to record a positive growth rate.

Bihar continues to lead in share of loans. The top five states remain the same as in the last year with some changes to their position. Karnataka coming in to the fourth place, pushing down West Bengal to the fifth place. The top five states accounted for 57.3% of total microfinance loans outstanding in the country. This increasing share of top states indicates higher concentration of credit in fewer geographies, but this has to be also viewed in the context of degrowth in loans outstanding during FY 2025.

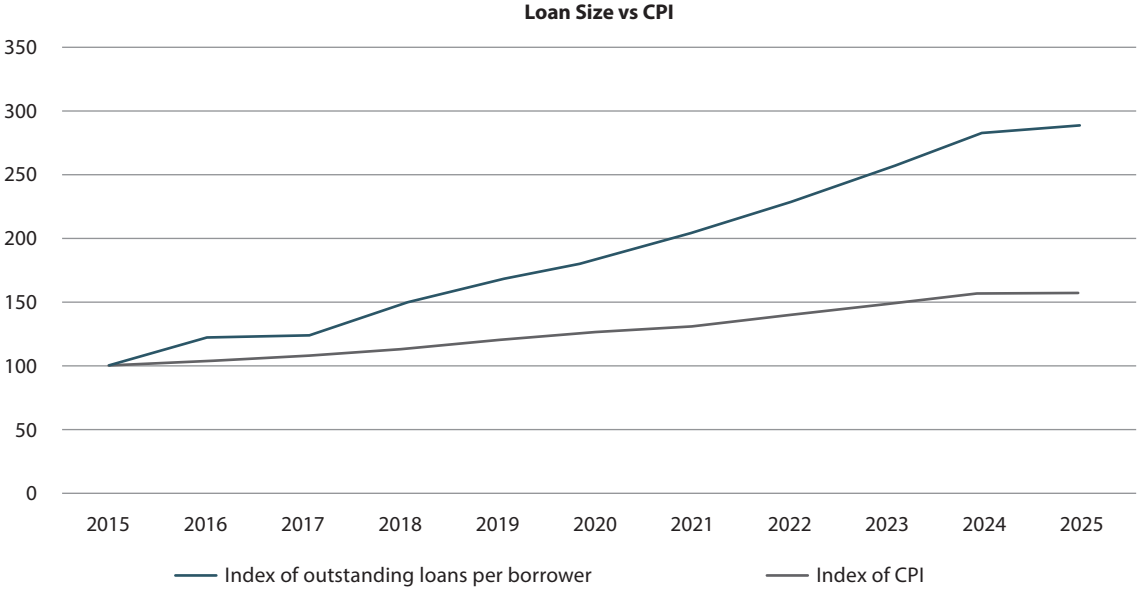


Figure 1.5. Rapid Increase in Loan Size[18]

Table1.10. Top Five States by Microfinance Portfolio[20]

State	Loan Outstanding (in ₹ billion)	Share of total portfolio	YoY growth rate %
Bihar	577.12	15.1	-12.4
Tamil Nadu	468.33	12.3	-19.6
Uttar Pradesh	417.74	11.0	-9.8
West Bengal	367.30	9.6	-8.9
Karnataka	353.51	9.3	-16.9

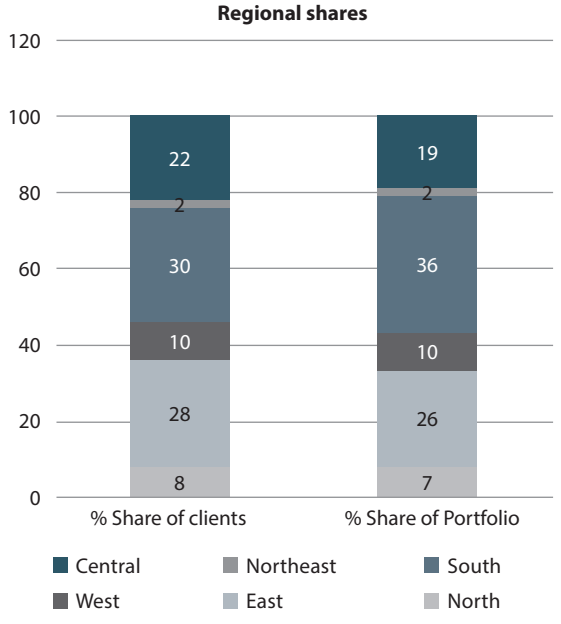


Figure 1.6. Regional Shares in Customer Base and GLP (%)[19]

Credit penetration ratios were calculated across the different states (Table: 1.11). The credit penetration ratios are computed by comparing the proportion of national population in a state with proportion of microfinance loans outstanding in the state. A ratio of more than one means that the state has a greater concentration of clients or credit compared to the rest of the country. Very high numbers might indicate vulnerabilities on account of excessive coverage of people and high levels of debt. Low numbers in ratio may indicate (1) a large market space is available in the state both for client acquisition and credit expansion; (2) the environment in the state is not attractive to MFIs in comparison with other states; and (3) the state has credit discipline issues and/or high cost of operations, making MFIs hesitant to enter.

Tamil Nadu continued to have high penetration ratio in terms of credit with much higher level of credit compared to the country average. Credit penetration ratio of Tamil Nadu after stagnating for the last three years increased sharply in FY 2025. Bihar too registered a sharp increase in credit penetration ratio compared to last year. Concentration risk potential is high where credit penetration is high and lenders should exercise caution in loan ticket sizes, multiple loans, and absolute loan burden per household in such states. (Please see Annex 1.1 at the end of the chapter for state-wise credit penetration ratios).

Telengana and Andhra Pradesh registered significant increases in credit penetration ratios. In Telengana, the client penetration ratio increased from 0.32 to 1.16 and in Andhra Pradesh from 0.18 to 0.77 within the space of one year.

Table1.11. High Penetration States – credit[21]

State/UT	Credit penetration ratio				
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Tamil Nadu	2.17	2.11	2.11	2.09	2.23
Tripura	4.13	2.72	1.92	1.66	1.66
Orissa	1.74	1.69	1.65	1.63	1.63
Karnataka	1.69	1.68	1.75	1.83	1.91
Bihar	1.29	1.36	1.45	1.53	1.65

Table1.12. Andhra Pradesh and Telengana Rapid Build-up of Business and PAR[22]

	Credit penetration ratio 2024	Credit penetration ratio 2025
Andhra Pradesh	0.27	0.50
Telengana	0.39	0.55

As noted in the previous year's report: while resumption of MFI led microfinance in these two states after 14 years is a positive development, the rapidity of business growth is a cause for concern. The scars left by Andhra Pradesh crisis are starting to fade; but the MFIs should take a nuanced and calibrated approach to saturation. Given the high levels of credit flows through SHGs in these two states, which reach almost the same households as MFI loans, MFIs should be circumspect in rapid expansion.

The data on portfolio at risk from these two states indicates that the feared vulnerabilities are real. Against a national Average PAR 30+ of 18.8% (including 180+ dues as well), Andhra Pradesh reported PAR of 32.7 % and Telengana reported 20.4%.

According to, Bharat Microfinance Report 2025 "the top 25 districts by loan outstanding included 11 districts from Bihar, 6 from West Bengal, 3 from Tamil Nadu, 3 from Karnataka, and one each from Maharashtra and Uttar Pradesh." All 25 districts had a portfolio of more than ₹20,000 million each. The top ten districts (Table 1.13) accounted for 9% of the total loan outstanding (up from 8.5% last year) in the country and the top 25 districts accounted for 18% share in country's loan portfolio.

Table1.13. Top 10 Districts in Loan Portfolio[23]

State	District	Loan Outstanding (₹ in Million) 2024	Loan outstanding (₹ in Million) 2025
West Bengal	Murshidabad	44,390	42,390
Bihar	East Champaran	42,690	38,550
Bihar	Muzaffarpur	42,460	36,810
Bihar	Samastipur	42,430	36,550
West Bengal	North 24 Parganas	36,070	31,540
Karnataka	Mysuru	39,540	30,810
Bihar	Madhubani	36,140	30,360
Karnataka	Belgaum	31,520	28,670
Bihar	Darbhanga	31,560	27,150
Tamil Nadu	Cuddalore	33,410	27,030

1.4. QUALITY OF LOAN PORTFOLIO AND RISKS

The improving trend of portfolio quality was rudely disrupted during the year (Table 1.14). The sector Portfolio at Risk (30 days and above) shot up from 11.7 to 18.8%. This was despite a write off of about ₹70.46 billion during the year on account of PAR 180+ dues. MFIs, which regularly write off PAR 180+ dues had PAR 30+ at 84%.

Portfolio at Risk at sector level measured by loans past due (PAR 30 to 179 days) increased sharply from 2.16% in March 23 to 6.2 % in March 2023. MFIs had higher level of (PAR 30 to 179 days) at 6.7% and increase of 290% over FY 2024. PAR 180+ days was at a high of 12.6% for the sector; but the MFIs had a much lower 1.7% under this category, on account of regular write-offs and settlements.

Table1.14. PAR Comparison between Sector and MFIs[24]

	2023	2024	2025
PAR 30+ days (Sector)	2.16	2.1	6.2
PAR 30 + days (MFIs only)	1.6	1.7	6.7
PAR 90+ days (sector)	1.06	0.9	3.5
PAR 90+ days (MFIs only)	0.93	0.77	4.05
PAR 180+ (sector)	9.10	9.6	12.6
PAR 180+ (MFIs only)	2.03	1.53	1.7

The distribution of states with highest delinquency levels (Table 1.15) is across all the regions. At the country level, the PAR 30+ is 18.8%. These eleven states in the following table (Table 1.15) have more than 20% of GLP as PAR. Andhra Pradesh, where microfinance operations commenced after a log gap (post AP crisis) has rapidly scaled up business as also non-performing

Table1.15. States with High PAR[25]

State	PAR 30-179 %	PAR 180+ %	PAR total %
Andhra Pradesh	4.9	27.8	32.7
Assam	1	29.7	30.7
Punjab	2.4	28.2	30.6
Odisha	8.5	17.4	25.9
Delhi	3.5	21.3	24.8
Kerala	4.8	19	23.8
Jharkhand	7	14.8	21.8
Rajasthan	5.9	15.7	21.6
Madhya Pradesh	5.6	15.6	21.2
Gujarat	7.6	13.5	21.1
Telengana	2.2	18.2	20.4

asset (NPAs). With a GLP of ₹73.2 billion, its PAR at 32.7 % seems very high. Telengana which is similar to Andhra Pradesh, too figures in the list; of its GLP of about ₹ 57 billion, 20.4 % is at risk. None of the top five states by GLP size figure in this list. Some of the states such as Assam and Punjab report very low levels of PAR 30 - 179, but very high levels of PAR 180.

1.5. SOURCES OF FINANCE FOR MFIS

Of the total resources, equity formed a healthy 30%, an increase of 6.4% over the previous year (Table 1.16). MLIs were able to raise equity to the tune of ₹1,855 crores during FY 2025, which was 28% lesser than the FY 2024's performance. Svatantra Microfinance (₹ 8,300 Million), Svamaan Financial Services (₹ 2,140 Millions) and Pahal Financial Services (₹ 1,470 Millions) were the top three equity raising entities. Five microfinance companies are listed in the stock exchanges with the total capitalisation of ₹ 287.19 billion (Table 1.16).

Table1.16. Market Capitalisation of Listed MFIs[26]

Name	Market capitalisation ₹billion
Credit Access Grameen	204.58
Muthoot Microfin	29.82
Spandana Spoorthy	21.09
Fusion Finance	15.90
Satin Creditcare	15.80
Total	287.19

The resource profile showed a reduction in borrowed resources and a rise in owned funds (Table 1.17). The higher equity levels provide the base from which business growth can be rapidly generated; but the distribution of equity funds is not even across all classes of MFIs. The smaller MFIs are still starved of equity funds.

Table1.17. Resource Profile of NBFC MFIs[27]

Fund source	2025 (Million)	2024 (Million)	2023 (Million)
Equity funds	370,300	344,350	247,770
Borrowing OS	858,770	1,114,520	889,840
Equity as % of total resources	30%	23.6%	21.8%

1.5.1. Borrowings

Debt received by MLIs declined sharply (by 45%) from ₹ 1,053 billion in FY 2023-24 to ₹ 580 billion in FY 2024-25. Of borrowings, about 74% was in the form of loans. Non-convertible debentures brought in 9% of lendable resources. Banks were the dominant funding source for MFIs, though their share in FY 2025 declined to 52% from 60 % in the previous year (Figure 1.7). All India development financial institutions such as National Bank for Agriculture and Rural Development (NABARD), Small Industries Development Bank of India (SIDBI), and Micro Units Development and Refinance Agency Ltd (MUDRA) accounted for 11% and NBFCs 9% of borrowings of MFIs.

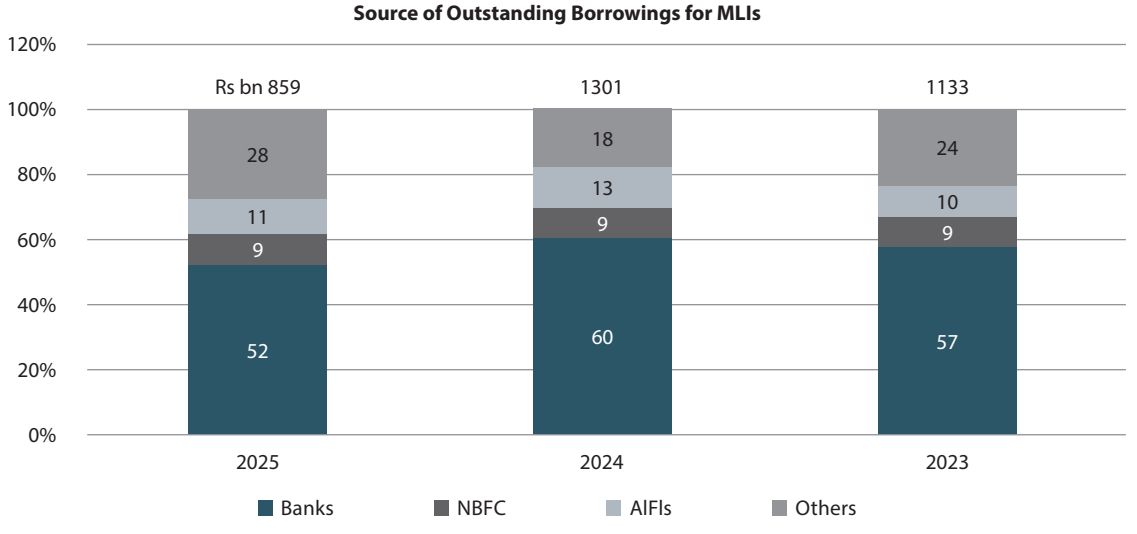


Figure 1.7. Borrowings of MFIs by Source[28]

1.5.2. Regulation

RBI had been continuously monitoring the operations and market conduct of microfinance institutions. Periodic advisories in the form of senior executive interviews and public speeches have been issued from time to time. In October 2024, RBI had restricted two microfinance institutions from contacting fresh business on account of their unfair practices and usurious pricing. After the two MFIs instituted remedial measures and provided credible assurances to comply with the guardrails and RBI regulations in letter and spirit, the restrictions were lifted in early 2025. The actions of RBI demonstrated to the sector that it is keeping a close watch and is willing to take prompt regulatory action.

In January 2025, RBI issued detailed clarifications on its regulations of April 2022. The risk weight on microfinance loans (in the form of consumer credit) was reduced to 100% from 125%. In June 2025, RBI, conceding the pleas of the sector, reduced the qualifying assets norm to 60% of total assets (from 75%); offering space for MFIs to diversify in to other types of loans and derisk the concentration of assets in microfinance. The two self-regulatory organisation (SROs) have been playing a stellar role in monitoring developments, analysing data, processing complaints and grievances, and issuing general as well member-specific advisories. During the current year (FY 2026), two states enacted legislation to control the activities under the microfinance label. Both SROs took up the matters with the concerned state governments and as a result the governments explained that any registered entity with RBI will be exempt from provisions of the statutes concerned. However the fact that the governments took note of coercive practices in recovery ostensibly by other institutions not registered as MFIs, gave a boost to borrowers unwilling to service loans to delay and deny repayments. The impact of the new statutes had been more severe in Karnataka than in Tamil Nadu.

RBI and GoI should closely look in to the jurisdictional overlap between centre and states in financial services. Political economy considerations are best avoided in regulation of trans-India services in finance. The AP legislation, similarly seeking to regulate microfinance, caused considerable losses all around and denial of access to finance for underserved people for a long time. When RBI is functional as an active regulator, the need for state level control through machinery that is not familiar with nuances of financial services is not justified.

1.6. CONCLUSION

The past year witnessed some mergers within SFB and MFI space. Entry of new and established players in the microfinance market is likely to shake up the sector. An active merger and acquisition practice in microfinance sector seems a necessity. The tendency of loanable funds to vanish at the first mention of defaults and risks in any corner of the country needs to be dealt with.

With several small and medium MFIs facing a shortage of quality funding, their financial costs become very high, making it difficult to price loans appropriately for end borrowers. The recent relaxations in qualifying asset thresholds while welcome should not be seen as creation of space for an adventuristic foray into unsuitable loan types that can impact asset liability management.

The customer fatigue with group loan models is real. Technology solutions are available to offer individual loans at lower operating costs. As loan sizes continue to increase—and are likely to rise further with a shift towards individual lending—the central bank should permit MFIs to accept available assets or collateral substitutes, at least for loans exceeding ₹1,00,000.

As in case of agriculture and self-help group (SHG) lending, microfinance requires a wholesale fund mechanism for MFIs, which are not allowed to take deposits. The wholesale fund can be operated as a refinance facility only for MFIs, with viable interest costs that will relieve borrowers of high interest burden and make their livelihoods more profitable.

APPENDIX A.1.1

Client Penetration, Credit Penetration Ratios[29]

States/Union Territories	Credit Penetration Ratio 2025	Credit Penetration Ratio 2024
Andaman and Nicobar	0.16	0.15
Andhra Pradesh	0.50	0.27
Arunachal Pradesh	0.24	0.14
Assam	0.72	0.62
Bihar	1.65	1.53
Chandigarh	0.14	0.14
Chhattisgarh	0.79	0.69
Dadra and Nagar Haveli	0.08	0.06
Delhi	0.10	0.12
Goa	0.36	0.38
Gujarat	0.55	0.56
Haryana	0.62	0.65
Himachal Pradesh	0.08	0.07
Jammu and Kashmir	0.02	0.02
Jharkhand	1.02	0.98
Karnataka	1.91	1.83
Kerala	1.15	1.22
Lakshadweep	0.00	0.00
Madhya Pradesh	0.91	0.88
Maharashtra	0.85	0.80
Manipur	0.09	0.00
Meghalaya	0.15	0.10
Mizoram	0.33	0.28
Nagaland	0.11	0.08
Odisha	1.63	1.63
Puducherry	1.77	1.53
Punjab	0.52	0.56
Rajasthan	0.67	0.68
Sikkim	0.69	0.61
Tamil Nadu	2.23	2.09
Telangana	0.55	0.39
Tripura	1.90	1.66
Uttar Pradesh	0.64	0.60
Uttarakhand	0.55	0.53
West Bengal	1.35	1.20

ENDNOTES

1 All data in this section is sourced from Bharat Microfinance Reports of different years.

2 Data from, different issues of Bharat Microfinance Report, Microfinance Institutions Network (MFIN) Micrometer.

3 Base data from the Reserve Bank of India (RBI) and Bharat Microfinance Report 2025; calculations by the author.

4 Bank Credit Data from RBI bulletins of different years, MF outstanding from benchmark regulation (BMR) 2025.

5 Data from different issues of Sa-Dhan Bharat Microfinance Report – the latest being 2025.

6 Source of data – Sa-Dhan Bharat Microfinance Report 2025 – October 2025

7 Data from Sa-Dhan reports of several years, the latest report is that of 2025.

8 Excerpted from Microlend – Quarterly publication – Centre for Research in International Finance (CRIF) Highmark March 2025.

9 The data used in this section is drawn from Bharat Microfinance Report 2025 and from Micrometer Synopsis Q4 FY 2025 – MFIN. 2025

10 Cited from Bharat Microfinance Report 2025

11 Cited from Bharat Microfinance Report 2025, Sadhan October 2025

12 Compiled by author from different sources

13 Data from Bharat Microfinance Report 2025, October 2025 Sadhan

14 Source: Credit Rating Information Services of India Limited (CRISIL) Ratings estimates July 2025 (https://www.crisilratings.com/en/home/newsroom/press-releases/2025/07/microfinance-institutions-face-an-extended-road-to-recovery.html)

15 Data from Bharat Microfinance Report 2025, October 2025 Sadhan

16 Authors calculations based on data from BMR different years, SaDhan

17 Source: Microlend – Quarterly publication – Centre for Research in International Finance (CRIF) Highmark March 2025.

18 The data on loan size is from BMR 2025, SaDhan. The CPI data is from Ministry of Statistics and Programme Implementation (MoSPI), Government of India (GoI) website. The numbers in both cases have been indexed with 2015 being the base year taken at 100.

19 Data from Bharat Microfinance Report 2025 – Sadhan October 2025

20 Data from Bharat Microfinance Report 2025, October 2025 Sadhan

21 Authors' calculations – Population data (2024 estimates) from Unique Identification Authority of India (UIDAI), credit data from BMR 2025

22 Data from Bharat Microfinance Report 2025 – Sadhan October 2025

23 Data from Bharat Microfinance Report 2025 – Sadhan October 2025

24 Data from Bharat Microfinance Report 2025 – Sadhan October 2025

25 Source: Bharat Microfinance Report 2025 – States with PAR 30+ above 20% level are included in the table.

26 Source: NSE data base of listed companies

27 Data sourced BMR 2025- SaDhan

28 Data from BMR 2025, Sadhan October 2025

29 Data on population from UIDAI projections, Loan data from Bharat Microfinance Reports of Sadhan 2025

Banks and the Complexity of Financial Inclusion

Gaurav Gupta

"All professions are conspiracies against the laity"

– George Bernard Shaw, The Doctor's Dilemma, 1906

2

2.1. INTRODUCTION

Banking has always been under scrutiny—faulted both for action and inaction on financial inclusion. To some skeptics, particularly those who prioritise redistribution over expanding the economic pie, banks look like extractive institutions. Believers, on the other hand, are convinced that banks have the magic wand that can maximise their profits and alleviate global poverty simultaneously. The truth, however, lies somewhere between the two extreme positions and reality is more nuanced than a short chapter like this can fully capture. Nonetheless, this chapter attempts to show that progress in financial inclusion is rarely linear; two steps forward and two steps backward can also mean a lot of progress over time.

India's progress in banking system-led financial inclusion in the last decade or so has been nothing short of remarkable. From a mere 35% bank account ownership among people aged 15 and above, the country has not only achieved near universal access to bank accounts but also entirely eliminated the gender gap on this front. However, what lies under the hood is a complex web of challenges that place financial inclusion in the category of what are called in the public policy world 'wicked problems' (Rittel and Webber 1973).

Here's a critical question at the heart of characterization of financial inclusion as a wicked problem: Has this dramatic expansion in access truly translated into meaningful financial empowerment for India's most vulnerable populations? Has it improved financial resilience, financial health and financial well-being. Unfortunately, outside the domain of academic research, the supply-side narrative has not been able to articulate this aspect as well as one would have expected. The Reserve Bank of India's (RBI's) Financial Inclusion Index is, at best, a very basic tool that misses the mark by a huge margin when it comes to these three alternative measures of success of financial inclusion.

In any case, with what is available, various data points discussed in this chapter point to troubling paradoxes. While 89% of adults today have bank accounts, 16% of these remain inactive—evidence that access alone does not ensure genuine financial inclusion (Klapper *et al*. 2025). Seen in perspective, however, this is a significant leap forward from 2021, when 35% of accounts were inactive, as reported by the Global Findex Survey of 2021.

Rittel and Webber introduced the term 'wicked problems' to draw attention to the complexities and challenges of addressing planning and social policy problems. Unlike the 'tame' problems of mathematics and chess, the 'wicked problems' of planning lack clarity in both their aims and solutions. In addition to these challenges of articulation and internal logic, they are subject to real-world constraints that prevent multiple and risk-free attempts at solving.[1]

The chapters on banking and financial inclusion in the previous two editions adopted a measured approach in examining the progress of financial inclusion and the role of banks. This chapter, however, takes the conversation a step further. What follows in the rest of the chapter is a simple framework that would be of use not just to policy makers and bankers but also to think tanks and funders in this space. The banking sector's performance on the financial inclusion front is evaluated using a four-part framework that includes drivers of financial inclusion (antecedents), outcomes (consequents), mechanisms through which drivers translate to outcomes (mediators), and when and for whom the drivers to outcomes relationships hold (moderators).

Collectively and, more formally, this is known as the Antecedents-Consequents-Mediators-Moderators (ACCM) framework.

Why does this matter for policymakers? It matters because understanding financial inclusion through the lens of the ACMM framework reveals that simply launching schemes is insufficient-success and the real impact depends on complex interactions between technology adoption, social trust, institutional capacity, and user behaviour.

2.2. THE RELATIVE IMPORTANCE OF BANKS

Although their influence has gradually declined, banks continue to play an important role in the Indian economy. Deposits with banks continue to be the single most important tool for saving by households. From a share of over 50% in annual saving in financial assets by households, banks' share dipped to 34% in financial year (FY) 2023 but significantly increased to more than 40% in FY 2024 as per the National Accounts Statistics released in 2025 (Figure 2.1).[2] Households save 50% or more in the form of physical assets.

When it comes to financial inclusion in India, the state and the banks are joined at the hip. Banks with the largest physical network and the highest market share of deposits and credit are owned by the Government of India. Given their size and vast network, the nationalised banks (henceforth referred to as banks) have been subjected to state-directed lending for decades. They have also played a large role in government-to-citizen transfers. Banks via their investments in statutory liquidity ratio (SLR) eligible bonds have also provided much-needed funding for the budgetary deficits.

Within the broader category of scheduled banks, however, the share of public sector banks (PSB) has been shrinking gradually. From a 61% share in overall credit in the financial year ending March 2017, their share has shrunk to around 52% by March 2025 (Figure 2.2). This is concerning given the outsized contribution of public sector banks in driving the financial inclusion agenda in India. The private sector banks have only a small presence in the rural areas (excluding semi-urban). What bodes well for financial inclusion at the grass-roots level is the increasing share of scheduled cooperative banks in the financial years ending March 2024 and March 2025.

However, as was highlighted in a chapter on the same theme in last year's edition, market share is not the only yardstick with which the contribution of PSBs can be assessed. Important contributions by PSBs are also visible in their contribution towards operationalisation of the lead bank scheme as well as that of running the rural self-employment training institutes (RSETI) in India.

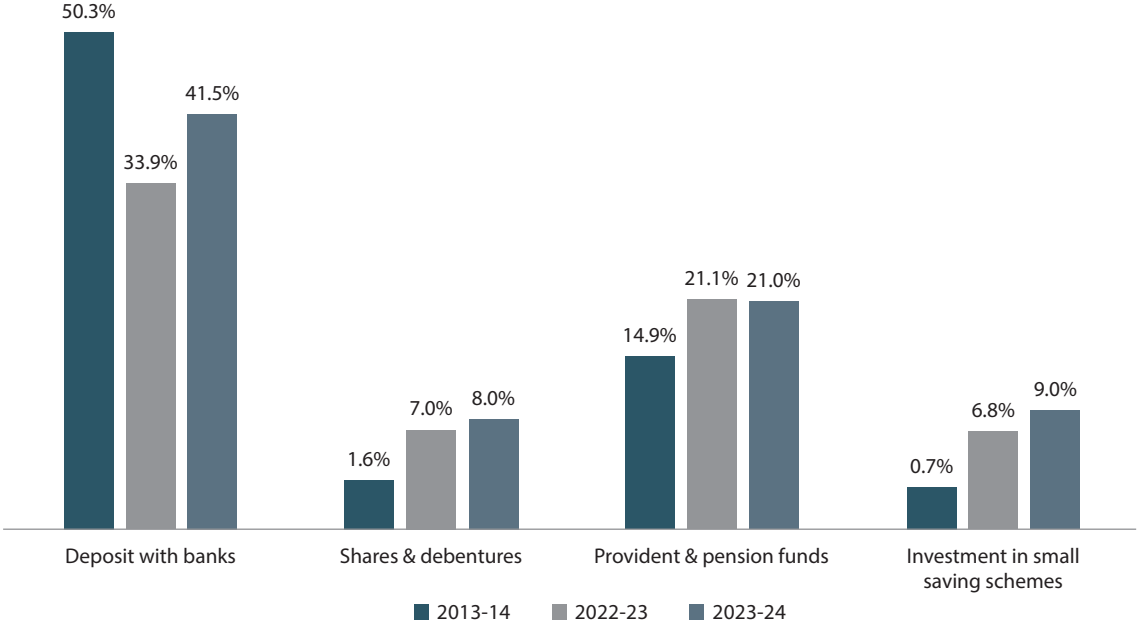


Figure 2.1. Percentage Share in Annual Financial Saving by Households

Source: Statement 5.3, National Accounts Statistics, 2025.

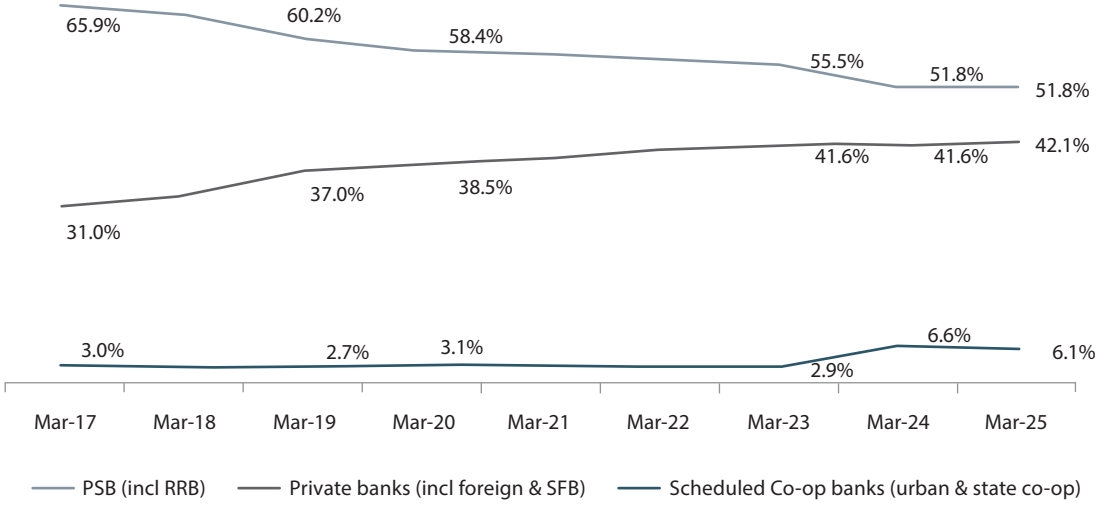


Figure 2.2. Share in Credit of Scheduled Banks

Source: Statistical tables relating to banks in India (Other tables, Table No 01. Bank Group-Wise Business of Scheduled Banks in India), RBI's Database on Indian Economy

The lead bank scheme has been in operation in India since 1969 and all State Level Bankers' Committees (SLBC) are led by PSBs. SLBC convenor banks are responsible for coordinating banking activities in their respective states in line with the developmental priorities of the state/ nation. They also act as important coordinators between the banking system as well as government and non-governmental actors. RSETIs are discussed briefly later in this chapter.

2.3. THE DRIVERS OF FINANCIAL INCLUSION

Financial inclusion's role as a development lever is underscored by its designation as an enabler for 7 out of the 17 United Nation's Sustainable Development Goals (SDG)—no poverty (SDG 1), zero hunger (SDG 2), good health and well-being (SDG 3), gender equality (SDG 5), decent work and economic growth (SDG 8), industry, innovation and infrastructure (SDG 9), and reduced inequalities (SDG 10). However, in a country as diverse as India, financial inclusion remains a complex challenge. A large share of the workforce in India is engaged in precarious or informal employment, leaving them without employer-provided insurance or retirement savings. For most, government schemes—where available—are the only source of social protection. Yet, with limited purchasing power, the capacity to buy financial products and services that could strengthen resilience and well-being remains severely constrained.

2.4. THE JAM TRINITY

The government under the umbrella of the JAM trinity (with JAM standing for Jan Dhan, Aadhaar, and Mobile) has ensured the right policy impetus, and availability of the necessary digital public goods infrastructure to leverage the increasing penetration of mobile phones in the country. The JAM trinity rests on three components: (a) a no-frills/zero-balance bank account in the form of Pradhan Mantri Jan Dhan Yojana (PMJDY) accounts, (b) a unique biometric identifier for all citizens in the form of an Aadhaar card since 2009, and (c) increasing level of mobile or smartphone penetration in the country. While there are still gaps in access for the marginalised sections of society, slightly more than 1.4 billion Aadhaar cards have been issued as of September 2025 indicating near-universal coverage.[3] There are no official estimates as such, but various estimates indicate that mobile (both smartphone and feature phone) and smartphone penetration in India was 1.2 billion and 600 million respectively in 2022. As a part of the 80th round of the National Sample Survey (NSS), the Comprehensive Modular Survey: Telecom (CMS: T) was conducted from January to March, 2025. The results indicate that in India, approximately 85.5% of households possessed at least one smartphone. Around 86.3% households in India have access to internet within the household premises.[4] The estimates by Global Findex Survey, 2025 indicate that nearly 2/3rd of the population above the age of 15 owns a mobile phone (Figure 2.3).

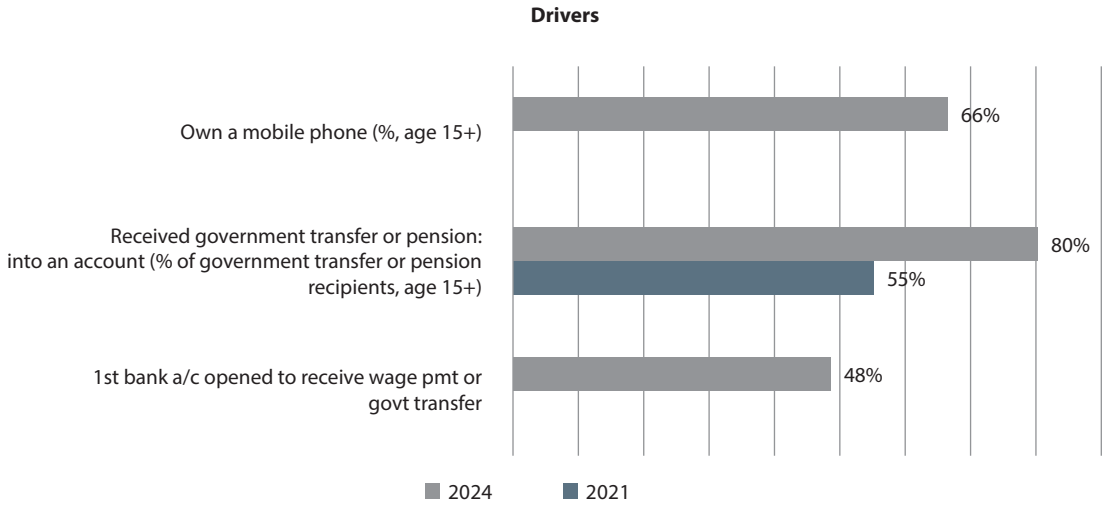


Figure 2.3. Drivers of Financial Inclusion
Source: Global Findex Survey, 2025

2.5. THE DBT REVOLUTION

Nearly half of those who opened a bank account in India did so to receive a transfer payment from the government or to receive wages. Within those who receive a pension or any other transfer from the government, 80% received these in an account in 2024 up from 55% in 2021 (Figure 2.3). Direct Benefit Transfers (DBTs), government-to-citizens, have averaged more than ₹ 2.5 trillion between 2018–19 and 2024–25 (Figure 2.4). This has provided the proverbial fuel to enable activity in these basic accounts.

2.6. THE NATIONAL PAYMENTS CORPORATION OF INDIA (NPCI) LED PAYMENTS TECHNOLOGY REVOLUTION

India's ability to leverage its innovation and technology ecosystem, and to entrust the NPCI rather than traditional banks with driving key infrastructure, was central to achieving transformational change. Importantly, this change was delivered on a massive scale. NPCI and a vast ecosystem of so-called financial technology firms (fintech) have been critical enablers. Without the

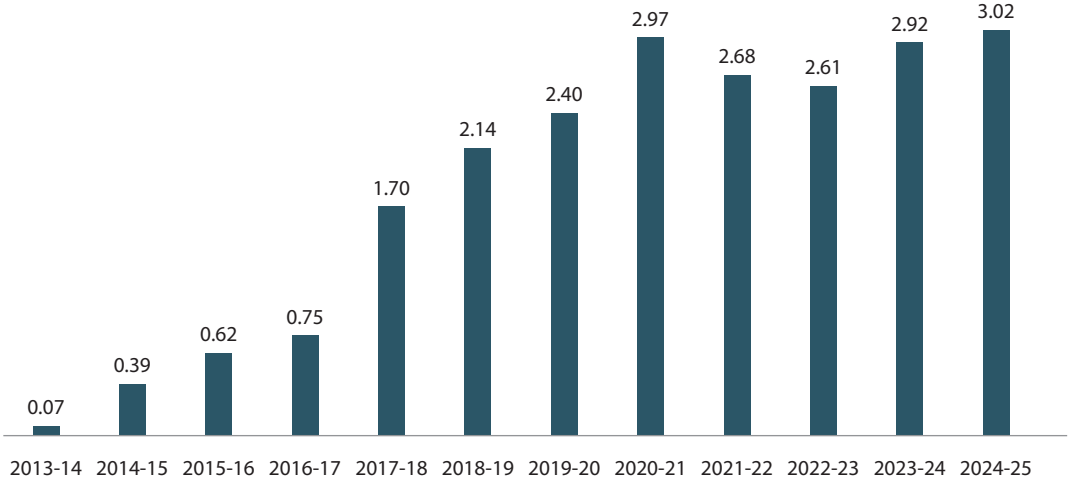


Figure 2.4. Annual Government-to-Citizen Payments (₹ Trillion)
Source: https://dbtbharat.gov.in/

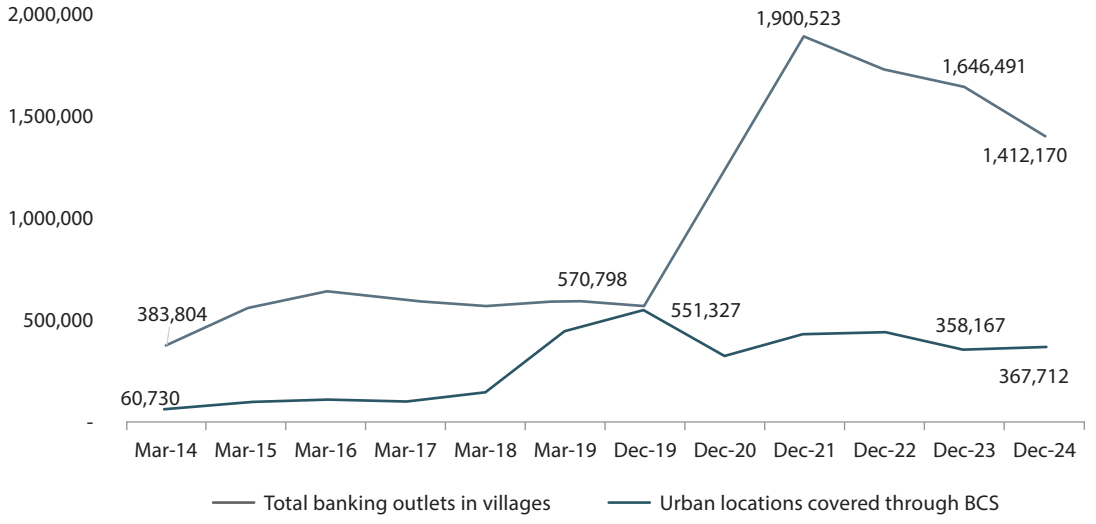


Figure 2.5. Banking Outlets in Villages and Urban Locations
Source: RBI Annual Report, Financial Inclusion Plan (various editions)

NPCI acting as an ecosystem enabler over the last few years, it is hard to imagine if banks could have provided the leadership and the mind space required to innovate in delivering basic services to the unbanked (excluded). Instant money transfers via Unified Payments Interface (UPI) account for the biggest chunk of volumes in the payments space. UPI payments can also be made via feature phones and do not necessarily need a smartphone.

Handheld micro-ATMs are used by banking correspondents (BC) to provide basic banking services at a hyper-local level. Figure 2.5 shows how rapidly the overall banking outlets have increased in both rural and urban locations. Year-on-year data on these outlets is noisy. However, over a long period from March 2014 to December 2024, banking outlets in villages rural and urban areas have grown at annualised rates of 13% and 18%, respectively. An expected rationalisation has taken place between the calendar years 2023 and 2024 given that a large number of BC outlets have been unviable for ground-level operators.

2.7. THE CREDIT TRIANGLE (MUDRA, SHG-BLP, KCC)[5]

Kisan Credit Cards (KCCs) for farmers distribute slightly less than half the agricultural credit. Regional rural banks (RRBs) and co-operative banks play a significant role in their delivery. KCC as a medium of delivering agricultural credit has been in existence since 1998. The total number of operative KCCs in India as of the end of March 2024 were 77.2 million growing at annualised rate of 1.8% since March 2018. Cooperative banks had a 43% share in operative KCCs but only 21% share in credit outstanding as of March 2024. Total outstanding on operative KCCs was ₹ 9.8 trillion (44% of all agricultural credit) as of March 2024 having grown at a compound annual growth rate (CAGR) of 6.6% from ₹ 6.7 trillion in March 2018 (56% of all agricultural credit).[6] Scheduled commercial banks (SCBs) had the highest share of credit via KCCs at 59% in March 2024. The per-card credit was the lowest for co-operative banks at ₹ 63,091 followed

Table 2.1. Key Statistics on KCC, 2018–24

	Coop. Banks	RRBs	SCBs	Total
Operative KCCs- Mar18 (mn)	33.5	12.2	23.5	69.2
Operative KCCs- Mar24 (mn)	32.9	14.5	29.8	77.2
CAGR (Mar18-Mar24)	-0.3%	3.0%	4.0%	1.8%
Operative KCCs- Mar24 (% share)	43%	19%	39%	100%
Amount o/s – Mar18 (INR tn)	1.2	1.1	4.3	6.7

	Coop. Banks	RRBs	SCBs	Total
Amount o/s – Mar24 (INR tn)	2.1	2.0	5.7	9.8
CAGR (Mar18–Mar24)	8.9%	9.7%	4.9%	6.6%
Amount o/s – Mar24 (% share)	21%	20%	59%	100%
Mar24 Amount o/s per operative KCC (INR)	63,091	136,222	192,854	126,915
CAGR (Mar18–Mar24)	9.2%	6.6%	0.9%	4.7%

Source: RBI Trends and Progress in Banking Report, December 2024

by RRBs at ₹ 136,222 and SCBs at ₹192,854 in March 2024 (Table 2.1). Between March 2018 and March 2024, per-card credit grew 4.7% overall- 9.2% for co-operative banks, 6.6% for RRBs, and 0.9% for SCBs. Clearly, co-operative banks and RRBs play a significant role in the delivery of credit via KCCs in rural areas.

In addition to KCCs, general credit cards (GCC) are issued by banks to facilitate the ease of access to credit for artisans and others in non-farm occupations in rural areas. As of December 2024, 2.2 million GCCs were in operation with a total outstanding of ₹ 363 billion. This is a significant drop from 5.5 million GCCs with a total outstanding of ₹ 537 billion as of December 2023.[7] No explanation is available for such a significant drop in any of RBI's publications, namely RBI's Trends and Progress in Banking Report and RBI's Annual Report.

2.8. THE OUTCOMES AND PERSISTENT CHALLENGES

Overall, there were 720 million basic saving bank deposits accounts (BSBDA) as of December 2024 with an aggregate savings balance of ₹3 trillion. These balances have mainly been sustained by DBT rather than voluntary deposits into the accounts by account holders as evidenced by annual inward transfers via Aadhar Payment Bridge System (ABPS) in 2024-25 to the tune of ₹5.5 trillion, a mere ₹23.6 billion of Aadhar Enabled Payment System (AePS) cash deposits and ₹2.96 trillion of AePS cash withdrawals. Pradhan Mantri Jan Dhan Yojana (PMJDY) accounts, though a subset of BSBDA accounts, contribute to a significant majority of the savings balances.

The growth in opening new no-frills PMJDY accounts has been slowing down as it achieves near saturation at 566 million accounts with savings balances of ₹2.7 trillion as of 24 September 2025. Nearly 80% of these accounts are in rural areas and more than 50% accounts belong to women. By 2021–2024, the gender gap in account ownership had been closed, with men and women equally likely to report having an account. According to the World Bank's Global Findex Survey (2025), as a percentage of those aged 15+, a higher percentage of women (18%) had inactive accounts compared with men (11%) as per the World Bank's Global Findex Survey 2025. As of 2024, only 30% women had access to a debit card compared with 45% men. This gap has persisted between 2021 and 2024 rounds of the Findex survey.

To summarise, the key achievements include a surge in account ownership, the elimination of the gender gap (Figure 2.6), a steady build-up of average balances in BSBDA accounts (Figure 2.7), and significant progress in expanding village-level banking coverage alongside India's global leadership in digital payments.

Yet, a minuscule 0.6%, and decreasing over time, share of BSBDA accounts had an overdraft facility as of December 2024 (RBI Annual Report 2024-25). With an average balance per overdraft account of ₹1,218 and savings balance per account of ₹4,232 (increasing over time), the credit deposit ratio based on overall balances was 0.2% (Figure 2.7).

These numbers, however, do not reveal the entire story. What do these impressive statistics actually mean for a farmer in Chambal or a domestic worker in Delhi?

While it may not qualify to be labelled an 'inactive accounts crisis', 16% of bank accounts record no transactions. This figure is not just a statistic—it reflects millions who entered the formal financial system but found little relevance in it for their daily lives. Why is this the case? The Global Findex survey 2025 offers some insights (Figures 2.8 and 2.9).[8] A large majority of those without accounts either lack access to mobile phones, struggle to use them even when available, or continue to receive wages and payments in cash—reducing the perceived need for a bank account.

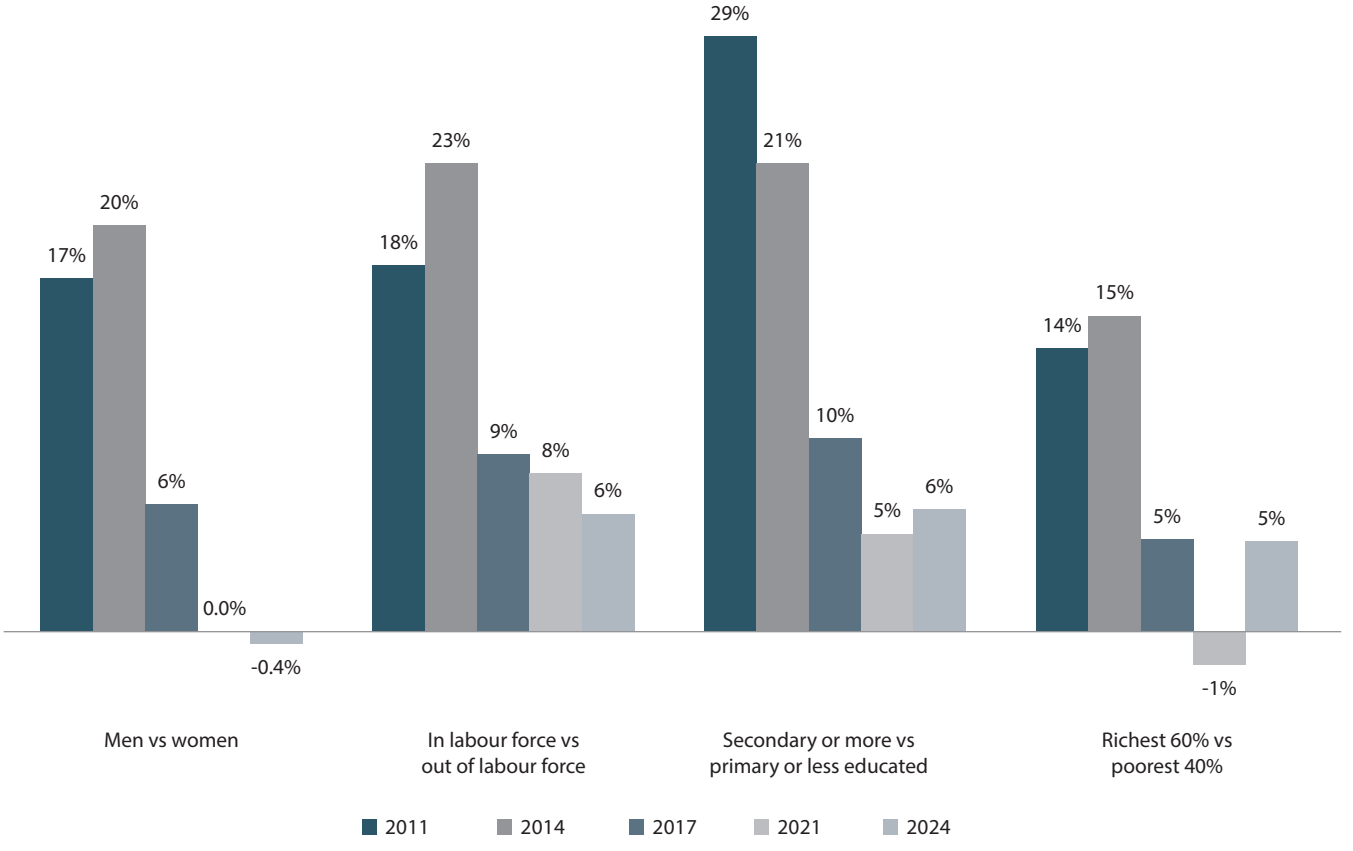


Figure 2.6. Gaps in Account Ownership

Source: Global Findex Survey, 2025

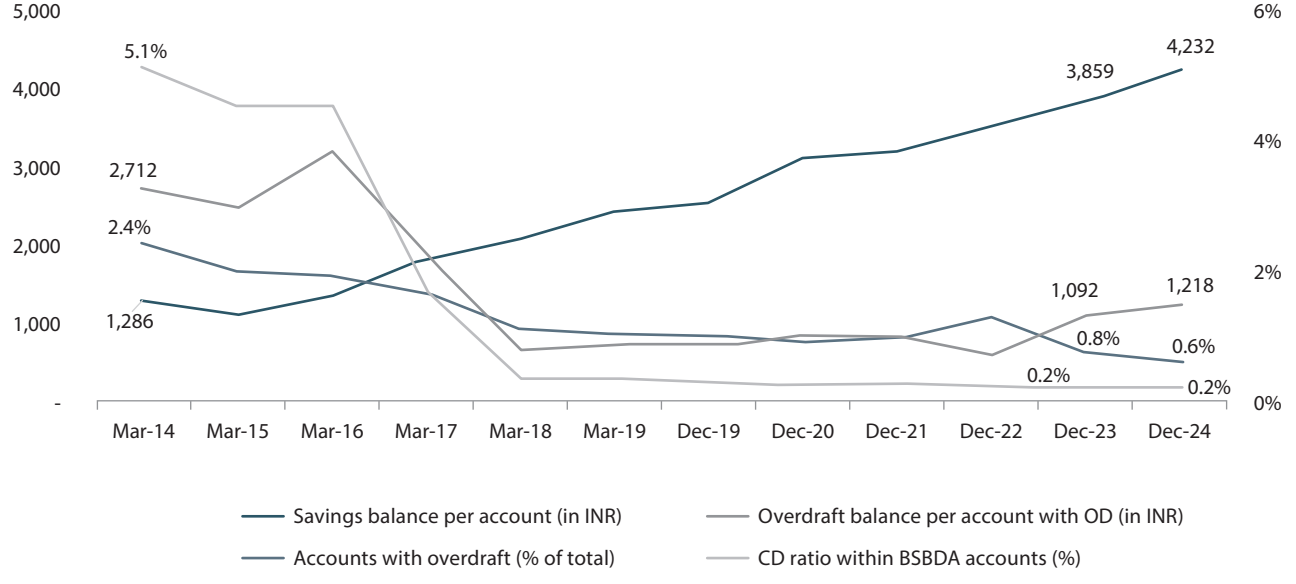


Figure 2.7. BSBDA Accounts

Source: RBI Annual Report, various editions

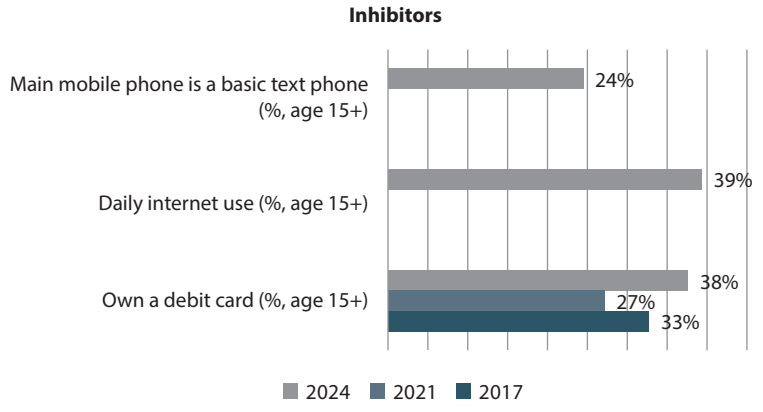


Figure 2.8. Inhibitors—Set 1

Source: Global Findex Survey, 2025

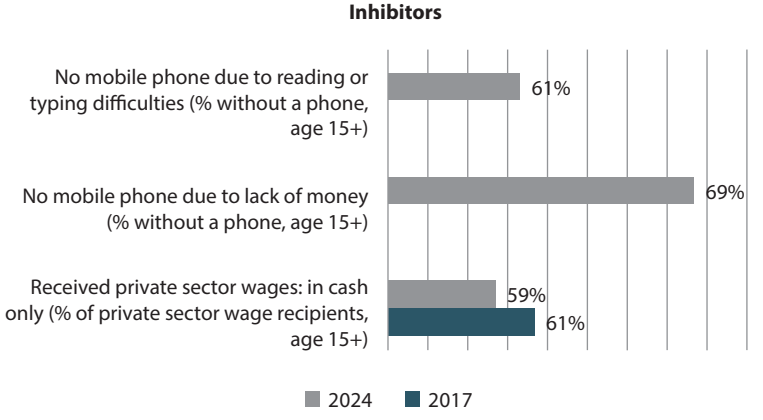


Figure 2.9. Inhibitors—Set 2

Source: Global Findex Survey, 2025

Banking products do not always align with the needs of their (potential) users. For instance, the basic savings accounts do not meet the liquidity needs of irregular income households. There is a well-documented trust deficit and many users report feeling intimidated by the banking processes. In fact, as has been discussed later (Table 2.2), the surge in access to bank accounts via PMJDY has almost exclusively been led by the PSBs whose already overburdened infrastructure and branch network is not welcoming of low-revenue generating customers. Several cost barriers inhibit the usage of bank accounts. Despite the zero-balance features of PMJDY accounts, non-pecuniary transaction costs i.e., time taken to visit and get work done in a bank branch deter usage.

PSBs and RRBs have 78% and 19% share of PMJDY account holders with private banks (PVBs) contributing only 3%. However, when it comes to issuance of RuPay Debit Cards that help in ease of transactions against these accounts, PSBs have a share of 86% and RRBs have a share of only 10% of all such cards issued in the country. Looked at in another way, 77% PMJDY account holders with PSBs have been issued cards but only 36% PMJDY account holders with RRBs have been issued debit cards. Given these realities, using an account typically requires a trip to a crowded bank branch—an option that is both inconvenient and costly, as it forces many to forgo a portion of their daily income. The wickedness angle: *The push for digital payments improved efficiency but created new exclusions for digitally illiterate populations.*

Table 2.2. Share of Banks in PMJDY Accounts and RuPay Debit Card Issuance*

	Share in accts.	Share in RuPay cards	% of accts. with RuPay	Deposit/ acct. (₹)	Share in accts.	Share in RuPay	Relative contribution to RuPay issuance & PMJDY accts.
Public Sector Banks	78%	86%	77%	4,771	78%	86%	1.11
Regional Rural Banks	19%	10%	36%	4,756	19%	10%	0.53
Private Sector Banks	3%	4%	81%	4,126	3%	4%	1.17
Rural Cooperative Banks	0%	0%	0%	0	0%	0%	–
Grand Total	**100%**	**100%**	**69%**	**4,731**	**100%**	**100%**	**1.00**

Bank Name / Type	Share in accts.	Share in RuPay cards	% of accts. with RuPay	Deposit/ acct. (₹)	Share in accts.	Share in RuPay	Relative contribution to RuPay issuance & PMJDY accts.
State Bank of India	27%	34%	87%	4,330	35%	40%	1.14
Bank of Baroda	12%	15%	92%	5,641	15%	18%	1.20
Punjab National Bank	10%	10%	74%	4,597	13%	12%	0.97

Bank Name / Type	Share in accts.	Share in RuPay cards	% of accts. with RuPay	Deposit/ acct. (₹)	Share in accts.	Share in RuPay	Relative contribution to RuPay issuance & PMJDY accts.
Union Bank of India	6%	4%	42%	4,120	8%	4%	0.55
Bank Of India	5%	7%	88%	5,473	7%	8%	1.15
Indian Bank	4%	4%	58%	5,018	6%	4%	0.75
Canara Bank	4%	4%	64%	6,758	5%	4%	0.83
Central Bank of India	3%	3%	61%	4,279	4%	3%	0.79
UCO Bank	3%	2%	40%	3,834	4%	2%	0.52
Indian Overseas Bank	3%	2%	90%	4,242	2%	2%	1.18
Bank of Maharashtra	2%	2%	58%	5,516	2%	1%	0.76
Punjab & Sind Bank	1%	1%	64%	2,052	1%	1%	0.84
PSB sub-total	**78%**	**86%**	**77%**	**4,771**	**100%**	**100%**	**1.00**

RRB(s) led by	Share in accts.	Share in RuPay cards	% of accts. with RuPay	Deposit/ acct. (₹)	Share in accts.	Share in RuPay	Relative contribution to RuPay issuance & PMJDY accts.
Punjab National Bank	5.2%	2.1%	28%	3,619	27%	21%	0.78
Bank of Baroda	4.3%	2.6%	42%	6,299	23%	27%	1.16
State Bank of India	4.2%	2.0%	32%	4,966	22%	20%	0.89
Canara Bank	1.4%	0.8%	39%	5,876	8%	8%	1.08
Bank of India	1.3%	0.9%	48%	2,868	7%	9%	1.32
Indian Overseas Bank	0.8%	0.5%	41%	4,692	4%	5%	1.14
Bank of Maharashtra	0.7%	0.4%	39%	5,310	4%	4%	1.06
Union Bank of India	0.7%	0.5%	47%	3,917	4%	5%	1.29
Indian Bank	0.2%	0.1%	30%	1,563	1%	1%	0.83
Jammu & Kashmir Bank	0.1%	0.1%	56%	5,328	0%	1%	1.54
RRB sub-total	**19%**	**10%**	**36%**	**4,756**	**100%**	**100%**	**1.00**

Source: https://pmjdy.gov.in/BankwiseLatest
(Note: * The table has been shown in 3 panels. The top panel shows numbers by overall bank categories, the middle panel pertains to PSBs while the last panel pertains to RRBs but the numbers are not shown at each RRB level. Instead they have been shown at the level of sponsor PSB.)

Despite the several livelihood-linked lending schemes in existence such as Micro Units Development and Refinance Agency Ltd. (MUDRA) for micro, small and medium enterprises (MSMEs), PM-Svanidhi for street vendors, KCCs for farmers and the Self-Help Group Bank-linkage Programme (SHG-BLP) for women, there exists a credit access gap. Data from NABARD All-India Rural Financial Inclusion Survey (NAFIS) 2024 (in line with the slightly older All-India Debt and Investment Survey 2019) data reveals that almost 25% of borrowing households still depend on informal sources.[9] This suggests formal credit products remain inaccessible and/or inappropriate for many.

In nominal terms, overall credit from the banking sector increased at a CAGR of 10.7% over the period March 2014 (₹61,232 billion) to March 2025 (₹187,869 billion) as shown in Figure 2.10. The growth in real terms, however, was 4.7%. Data from the Global Findex Survey reveal that while the percentage of population borrowing from formal institutions is low, the latent demand for credit is high. It is manifested in the percentage of those who reported borrowing any money at 63% (Figure 2.11). This has gone up significantly from 42% in the 2017 round of the survey.

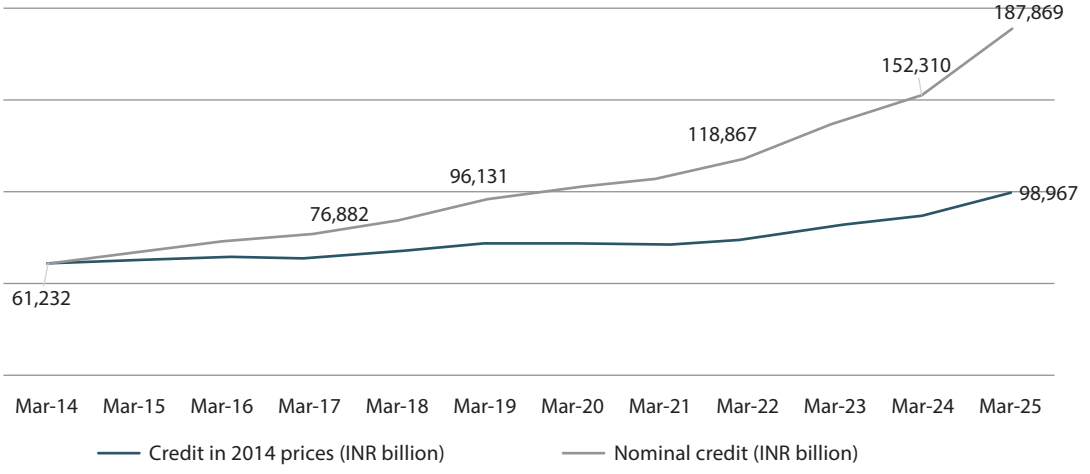


Figure 2.10. Supply of Credit—Real and Nominal

Source: RBI Database of Indian Economy, Quarterly BSR-1 (Table 1.6)

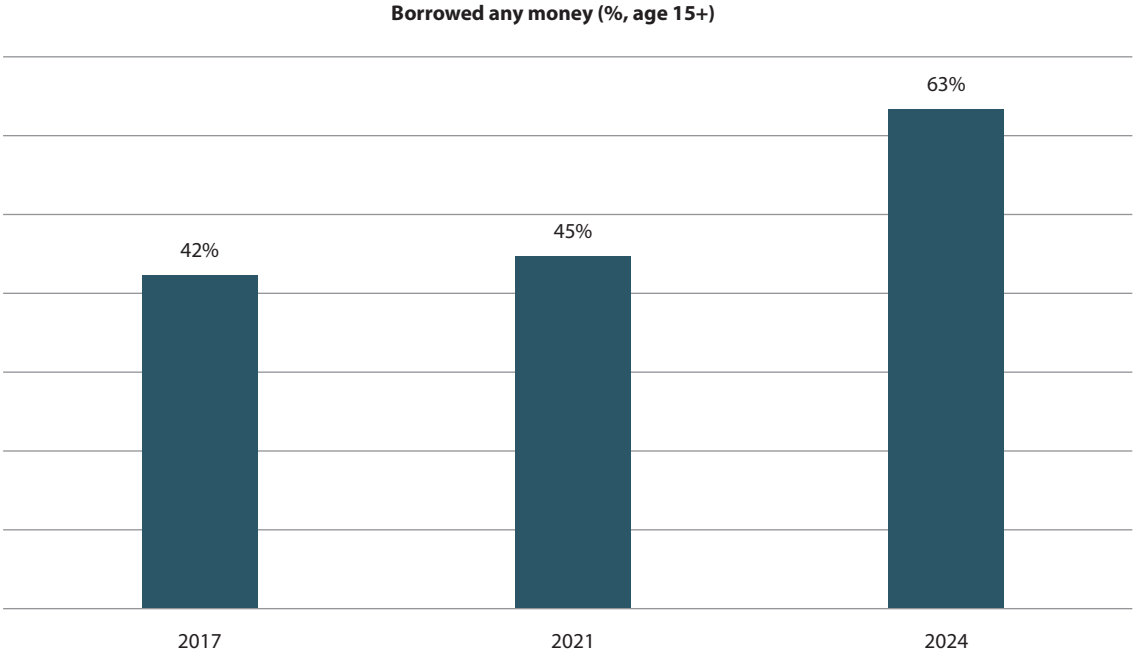


Figure 2.11. Demand for Credit

Source: Global Findex Survey, various rounds

The elimination of the gender gap in account ownership represents a genuine achievement. PMJDY's focus on women (more than 50% of accounts are held by women) combined with MUDRA's ~40% women borrowers (for FY ending March 2024) shows intentional gender inclusion. However, the Global Findex data reveal insights that deserve attention. Women are more likely to have inactive accounts (18% vs 11% for men). Debit card ownership shows a 15 percentage-point gender gap. Although the gap has widened over the last two years, the share of women borrowers relative to men has narrowed considerably since 2014 (Figure 2.12). The per account borrowing has also been increasing for both men and women though per capita borrowing for women is still 49% lower (Figure 2.13).

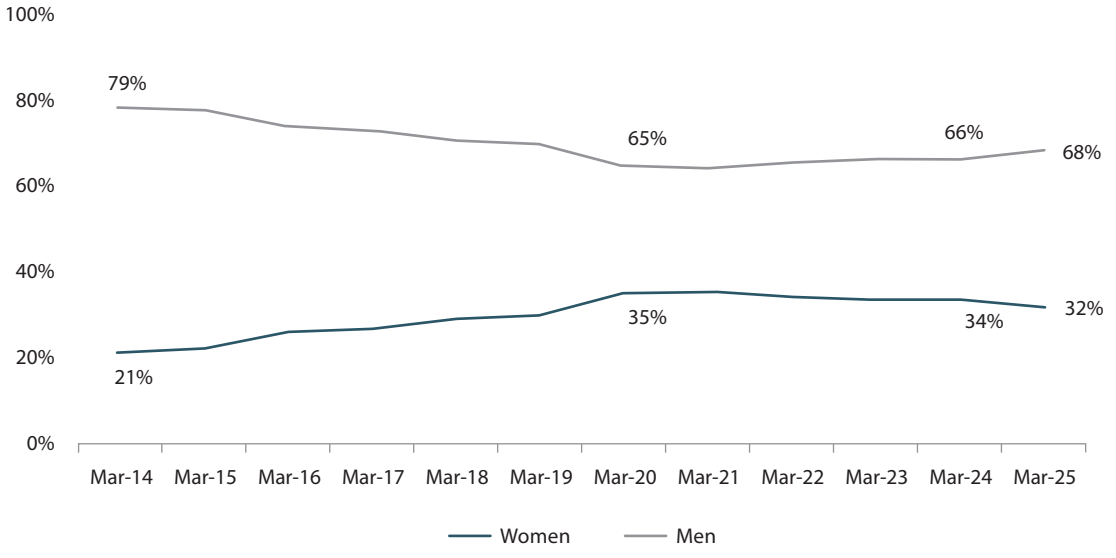


Figure 2.12. Borrower Accounts by Gender
Source: RBI Database of Indian Economy, Quarterly BSR-1 (Table 1.6)

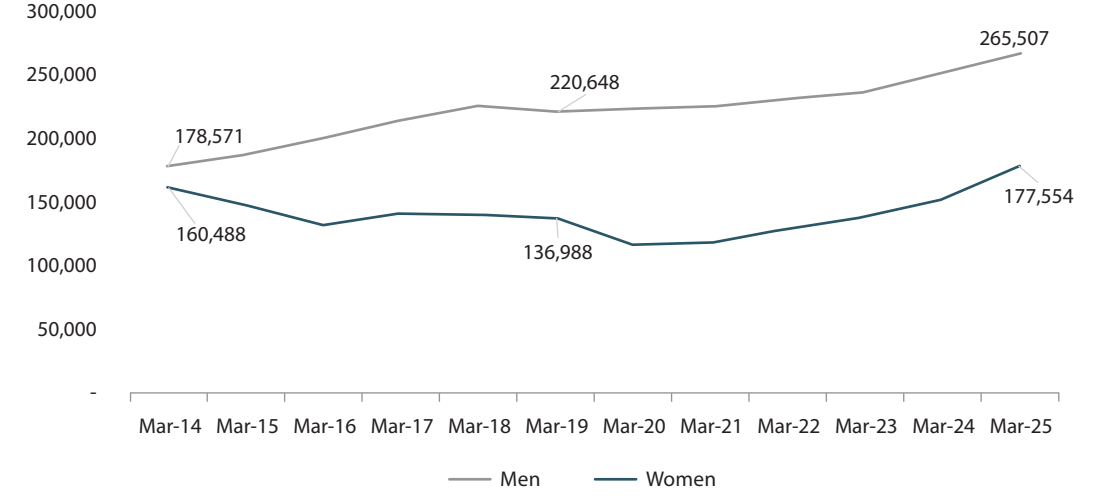


Figure 2.13. Average Borrowing Per Borrower Account—by Gender
Source: RBI Database of Indian Economy, Quarterly BSR-1 (Old edition, Table 1.6/ New edition Table 1.11)

2.9. LIVELIHOODS LINKAGE OF FINANCIAL INCLUSION

Financial inclusion has been an integral element of the National Rural Livelihoods Mission (NRLM) and has seen reasonable success in driving savings followed by access to bank credit via the SHG-BLP.

While financial inclusion is also a component of the National Urban Livelihoods Mission (NULM), its outcomes have been less successful. This is partly attributable to the much smaller budgets allocated to NULM compared with those for NRLM. Local municipal bodies were envisaged to play a key role in poverty alleviation in urban areas. Yet, their limited budgets and underwhelming performance—even in delivering core civic services—have constrained their effectiveness. The RSETI are institutions established to impart skill training and upgradation for rural youth living below poverty line (BPL), with aim of mitigating the unemployment problem in the country. These are promoted and managed by banks with active cooperation from state governments. The

lead bank in each district takes the responsibility for setting up and managing RSETIs. The Government of India provides a one-time grant assistance, up to a maximum of ₹10 million for meeting the expenditure on construction of building and other infrastructure. After successful completion of the training, RSETIs provide credit-linkage assistance from banks for candidates to start their own entrepreneurial ventures.

Each RSETI offers ~40 different skill development programmes and skills, on average, to almost 700 candidates annually. The programmes are of short duration ranging from 1 to 6 weeks and fall into the following categories: agricultural programmes (e.g., agriculture and allied activities), product programmes (e.g., dress designing, incense sticks manufacturing etc.), process programmes (e.g., two-wheeler repairs, radio/TV repairs, beautician course etc.), general programmes (skill development for women), and other programmes (related to other sectors like leather, construction, hospitality, and any other sector depending on local requirements).

These training programmes are decided by the local RSETI based on local resource situation and potential demand for various products and services. At the same time, a uniform standardised curriculum has been developed and circulated across the institutes. Soft skills training with a focus on developing an entrepreneurial mindset is integral to all the programmes offered by RSETIs.

As of December 2023, 591 RSETIs were operational across 577 districts in the country. More recent numbers are not available from any official source. According to data from the Ministry of Rural Development's online dashboard, more than 5.5 million candidates had been trained through RSETIs nationwide by the end of FY 2025. Of these, 4 million (72.5%) have been settled mainly in self-employment. A large proportion of these candidates have also been linked to bank finance. Based on the available data, 1 million had been cumulatively trained between 2009 and 2014 and the year-wise numbers for the years after that are in Figure 2.14. The rate of annual growth slowed down during the Covid-affected years 2020–21 and 2021–22 but picked up thereafter (Figure 2.14).

The RSETI settlement rate of 70% is encouraging, but the absolute numbers of settled and trained participants highlight the need for a scale up of this initiative.

The Pradhan Mantri Mudra Yojana (PMMY), launched in 2015, aims to provide collateral-free loans up to ₹1 million to MSMEs through member lending institutions (MLIs): banks, non-banking financial companies (NBFCs), and microfinance institutions (MFI). It must be noted that the overdraft facilities of ₹5,000 extended to individuals under the PMJDY savings accounts are also reported under this scheme. MLIs receive extended protection through the Credit Guarantee Fund for Micro Enterprises (CGFME). Loans are provided under three categories: Shishu loans up to ₹50,000, Kishore loans from ₹50,000 to ₹ 0.5 million, and Tarun loans from ₹0.5 to 1 million. A new category of higher value loans, Tarun plus (from ₹1 million to ₹2 million), was launched in October 2024.[10]

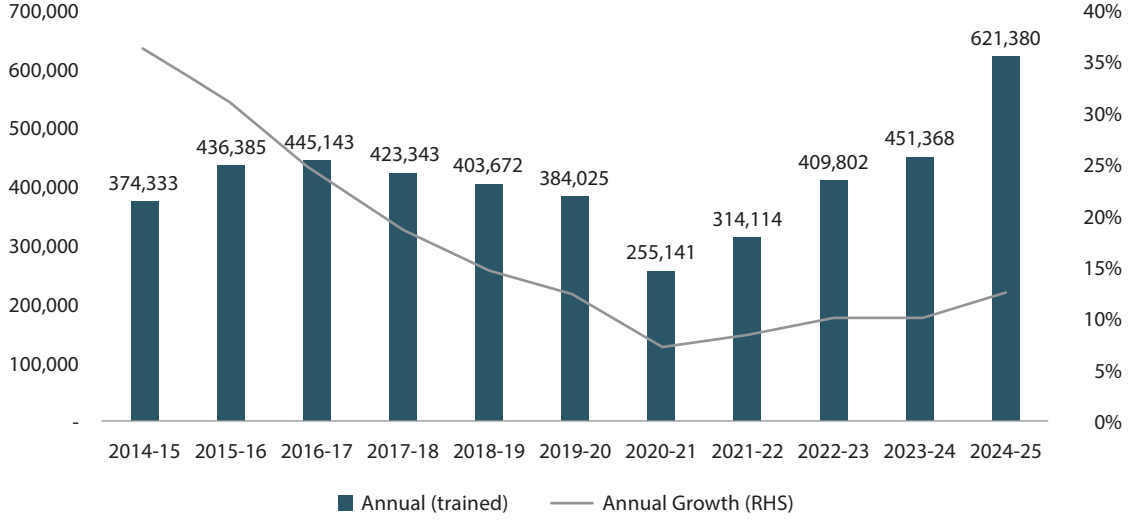


Figure 2.14. Yearly RSETI Candidates Trained

Source: RSETI dashboard (available here- https://dashboard.dord.gov.in/dashboardnew/rseti.aspx)

The share of overall bank credit of the category that could be a proxy for income-generation loans, including credit to MSMEs and large industries (non-agriculture, non-personal, non-financial, and non-all others) dropped from 61.6% in March 2014 to 41.3% in March 2025. During this time, overall credit growth in the economy was 10.7%, while growth for this category was 6.8%. A further segregation by the size of the sanctioned limits shows that distribution of credit is skewed towards larger borrowers (Table 2.3).

The cumulative annual growth rate of credit for smaller borrowers with limits up to ₹1 million—coinciding with the MUDRA loan limit—was 7.1% over this period. Their share in outstanding credit increased from 3.87% in March 2014 to 6.36% in March 2025. In comparison, credit growth for agriculture and personal loans was 11.4% and 17.5%, respectively. These numbers indicate that the MUDRA scheme has been marginally helpful but has not substantially increased the availability of credit to productive enterprises at the low/subsistence levels.

Table 2.3. Credit-limit-wise Share of Income Generating Loans, 2014–25

Credit-limit	Mar-14	Sep-23	Mar-25
>1bn	41.3%	38.8%	37.7%
>250 to 1bn	21.9%	12.2%	12.3%
>40 to 250mn	17.5%	17.5%	18.8%
>10 to 40mn	7.2%	10.5%	10.9%
>5 to 10mn	2.8%	4.6%	4.6%
>2.5 to 5mn	2.5%	5.1%	5.0%
>1 to 2.5mn	3.0%	4.4%	4.2%
>0.5 to 1mn	1.6%	2.9%	2.8%
>0.2 to 0.5mn	1.3%	1.6%	1.6%
>25k to 0.2mn	0.8%	2.2%	1.9%
up to 25k	0.09%	0.19%	0.13%
Total (25k to 1mn)	**3.87%**	**6.89%**	**6.36%**

Source: Author's calculations based on RBI Basic Statistical Returns, Table 3.4

What makes financial inclusion a wicked problem is the persistence of vulnerabilities despite the numerous initiatives that have been put in place over time as well as at any given point in time.

The Global Findex survey throws light on some of those vulnerabilities (Figure 2.15). Survey findings highlight that for nearly 60% of respondents, their own savings, borrowing, support from friends and family, or sale of assets would sustain them for no more than one month in the event of an emergency. For 1/3rd of respondents, the most pressing financial issue is the ability to pay for monthly expenses. Nearly 1/3rd have borrowed from friends and family. Strikingly, in the 2024 round, only 12% said they could rely on their savings to cope with an emergency within the next 30 days. Borrowing for health and medical expenses emerged as the most frequently cited reason in 2024, with nearly 31% of respondents reporting borrowing for this purpose. Captured only in the 2024 round, merely 7% respondents reported saving for old age.

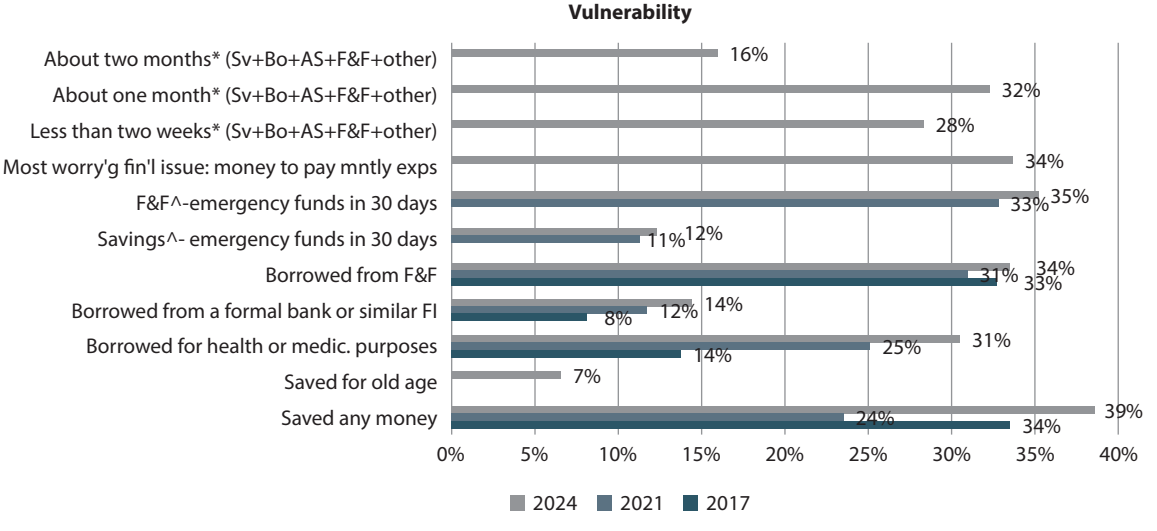


Figure 2.15. Persisting Vulnerabilities

Source: Global Findex Survey, 2025

Regional disparities and the other India: while national averages paint a rosy picture, state and district-wise variations remain stark. Of the 700+ districts in the country, 198 have high flow of priority sector lending (PSL) credit i.e., above ₹42,000 per capita. On the other hand, 196 districts have low flow of PSL credit i.e., below ₹9,000 per capita.[11] Clearly, progress remains uneven across the country.

A critical question then is: are we creating two Indias—one that is rapidly digitalising and another that remains excluded from this transformation?

2.10. THE MECHANISMS THAT MAKE IT WORK

Understanding mediators i.e., the mechanisms that make policies work, is crucial for policy replication and scaling. Mediators that enabled India's financial inclusion transformation could be put in the following three categories.

2.10.1. Technology Mediators

The UPI ecosystem: More than just a payment system, UPI became a platform for financial innovation. The architecture enabled zero merchant discount rates (subsidised by the government), interoperability across all banks and payment apps and APIs that enabled fintech innovation.

Aadhaar integration: Reduced know your customer (KYC) costs from USD 12 cents to 6 cents per account, making opening of low (or no-) balance accounts feasible for banks.[12]

Mobile infrastructure: The India Stack created world-leading digital financial infrastructure which is now getting emulated or used with India's help by other countries.

2.10.2. Institutional Mediators

Banking correspondents (BC): There are nearly 160,000 branches all over India but with the BC model in place, there are many more banking points for the masses to engage with the banking system. There were over 1.4 million BC points in villages and slightly less than 370,000 BC points in urban locations by December 2024. But again, highlighting the wicked nature of this policy problem, BC viability remains challenging, with high turnover rates. Total BCs in villages reached a peak of 1.9 million in December 2021 but rationalisation owing to viability issues brought down the numbers to 1.4 million by December 2024.

Partnership models: Public-private partnerships, especially in payments and fintech, created innovation while maintaining inclusion focus.

Regulatory sandbox: RBI's regulatory sandbox approach allowed controlled experimentation with new financial products.

2.10.3. Social Mediators

Trust building: The government's credibility, especially the Prime Minister's personal brand, was crucial for initial adoption.

Financial literacy: While often overlooked, financial literacy programs mediated the relationship between access and usage. States with stronger literacy programs showed higher account activity rates. Only a quarter of the adult population qualifies to be called financially literate.[13] As per the RBI's Annual Report (2025), 2,421 Centre for Financial Literacy (CFL) are operational across the country as of the end of March 2024/ March 2025 (vs 1,464 as of the end of March 2023). These numbers were achieved against a target to have 1 CFL in each block by March 2024 as per the National Strategy for Financial Inclusion (2019–24).

Social Networks: SHGs and community-based programs leveraged existing social capital to drive financial inclusion.

2.11. THE ENABLING AND CONSTRAINING FACTORS

The enabling and constraining factors i.e., the moderators, determine when and for whom policies work. Understanding these is crucial for addressing the wicked problem nature of financial inclusion.

2.11.1. Enabling Moderators

Political will: Sustained commitment across government changes ensured policy continuity. The fact that major schemes survived political transitions demonstrates institutional embedding.

Regulatory support: RBI's evolution from conservative to innovation-friendly regulation (while maintaining prudential oversight) enabled rapid scaling. In fact, RBI has transitioned to more of an enabler over the years.

Technology readiness: Mobile internet costs fortuitously fell just as financial inclusion efforts accelerated.

2.11.2. Constraining Moderators

Digital divide: Despite mobile penetration, smartphone access and digital literacy remain limiting factors, especially for older adults and women.

Infrastructure gaps: Poor internet connectivity in rural areas constrains digital financial service usage.

Socio-cultural barriers: Trust in informal systems, resistance to formal documentation, and social norms around women's financial autonomy continue to constrain inclusion.

Income volatility: For households with irregular incomes, formal financial products designed for regular salary earners remain inadequate.

2.12. CONCLUDING THOUGHTS ON THE WAY FORWARD

To summarise the discussion so far, financial inclusion's wicked problem characteristics manifest in several contradictions:

1. **The access-usage paradox:** While opening accounts is easy, making them useful is hard. The 16% inactive account rate, heavy reliance on non-bank/informal sources of borrowing and customs such as payment of wages (or other non-governmental transfers) in cash reflects this fundamental challenge. India leads in digital payments globally, yet cash remains dominant for daily transactions, especially among the poor.
   Why is it wicked? Each intervention to increase usage (digital payments, credit products, insurance) creates new exclusions and complications. There is no one-size-fits-all solution.
   The critical question then is: Are we measuring financial inclusion or just government efficiency in benefit transfer?
2. **The digital divide dilemma:** Digital solutions increase efficiency and reduce costs but exclude digitally-illiterate populations.
   Why is it wicked? Purely physical solutions are expensive and unsustainable, but purely digital solutions exclude many who need inclusion the most.
   What does this tell us? Formal access doesn't automatically translate to effective usage, especially for women facing social and economic constraints.
3. **The security-convenience trade-off:** Making financial services secure (KYC, authentication, fraud prevention) adds friction that deters usage, especially among vulnerable populations.
   Why is it wicked? Reducing security increases fraud risk, which ultimately hurts the same vulnerable populations one is trying to help.
   The contradiction then is that we may have solved the reach/access problem but not the alignment with what is in the best interests of the masses problem.
4. **The scale-personalisation trade-off:** Mass financial inclusion requires standardised products, but vulnerable populations need customised solutions.
   Why is it wicked? Customisation is expensive and complex, but standardisation often does not meet actual needs, leading to low usage.
5. **The viability-access trade-off:** This trade-off has been central to addressing the financial inclusion challenge in India for decades now. Small finance banks (SFBs) that were specifically given licenses for catering to the small (low-income) depositor and borrower and carried higher PSL targets are pitching (in some cases successfully) for conversion to full-scale universal banks. While this contributes to mission drift, it is considered necessary by the incumbents for their viability.

Two developments of note have taken place in FY25/FY26 that merit discussion. First, RBI through its June 2025 circular has reduced the overall PSL targets for SFBs from 75% to 60% (Table 2.4). The targets for urban cooperative banks (UCBs) that were mandated to increase from 60% to 75% have also now been retained at 60%. This measure concerning UCBs and, more importantly, for SFBs will contribute to focus away from the poor and those recently included in the formal financial system. Second, to increase the flow of PSL credit to underserved districts, RBI has made a noteworthy change with respect to the weightage of PSL exposures of banks. With effect from FY2024–25, to incentivise the flow of credit to low-PSL districts and balance regional disparities, RBI will give a higher weightage in low-PSL flow districts of 125% and lower weightage in high-PSL districts at of 90%. Low-PSL is defined as per capita PSL less than ₹9,000 and high-PSL is defined as per capita PSL more than ₹42,000.[14,15]

As described by Rittel and Webber in their paper, wicked problems have ten important characteristics:

1. They do not have a definitive formulation.
2. They do not have a 'stopping rule'. In other words, these problems lack an inherent logic that signals when they are solved.
3. Their solutions are not true or false, only good or bad.
4. There is no way to test the solution to a wicked problem.
5. They cannot be studied through trial and error. Their solutions are irreversible so, as Rittel and Webber put it, 'every trial counts'.
6. There is no end to the number of solutions or approaches to a wicked problem.
7. All wicked problems are essentially unique.
8. Wicked problems can always be described as the symptom of other problems.

Table 2.4. Revised PSL Targets of Banks 2025 Onwards

	Commercial Banks	SFB	RRB	UCB
Priority sector adv to total adv.	40%	60%	75%	60%
Direct agri adv to total adv.	18%	18%	18%	-
Small & marginal farmers (within agri)	10%	10%	10%	-
Micro-enterprises	7.5%	7.5%	7.5%	7.5%
Weaker section adv to total adv.	12%	12%	15%	12%

Source: RBI (revision of PSL Guidelines notifications of March and June 2025)

9. The way a wicked problem is described determines its possible solutions.
10. Planners, that is those who present solutions to these problems, have no right to be wrong. Unlike mathematicians, "planners are liable for the consequences of the solutions they generate; the effects can matter a great deal to the people who are touched by those actions."

Clearly, as the ACCM framework applied in this chapter shows, financial inclusion lies in the category of wicked problems with the above-mentioned characteristics.

The ultimate test for the wicked problem that financial inclusion is, can be articulated this way: Will a woman in a tribal hamlet in Jharkhand, a migrant waste-picker worker from Murshidabad in Bengaluru, or a small farmer in Keonjhar in Assam find formal financial services more useful than informal alternatives? Until the answer is yes for all of them, the journey continues.

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ENDNOTES

1 https://www.stonybrook.edu/commcms/wicked-problem/about/What-is-a-wicked-problem

2 https://www.mospi.gov.in/publication/national-accounts-statistics-2025

3 https://uidai.gov.in/aadhaar_dashboard/india.php

4 https://www.pib.gov.in/PressReleasePage.aspx?PRID=2132330

5 Please note that the progress under Micro Units Development & Refinance Agency Ltd (MUDRA) scheme has been discussed in a separate full chapter in this report and not discussed here.

6 The total amount of agricultural credit in Table 2.4 differs between the RBI's old version and new version of Database on Indian Economy (DBIE) (is higher). Consequently, the share of credit disbursed via Kisan Credit Cards (KCCs) is lower than that reported in the last year's chapter on the same theme.

7 Past year numbers (for 2023 as well as other years) are again at significant variance from those reported in last year's version of RBI's Trends and Banking in India Report/ RBI's Annual Report.

8 Please note that the survey was done in 2024 and report released in 2025.

9 https://www.nabard.org/auth/writereaddata/tender/2102255939NAFIS%202021-22%20Report%20Final.pdf

10 https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2069170

11 https://rbi.org.in/scripts/FS_Notification.aspx?Id=12799&fn=2754&Mode=0

12 https://www.indiabudget.gov.in/budget2024-25/economicsurvey/doc/eschapter/echap02.pdf

13 Financial Literacy and Inclusion Survey (FLIS) of 75,000 respondents across India conducted by the National Centre for Financial Education (NCFE) in 2018-19.

14 https://rbi.org.in/Scripts/NotificationUser.aspx?Id=12799&Mode=0

15 https://rbi.org.in/Scripts/NotificationUser.aspx?Id=12875&Mode=0

Enabling Women's Economic Empowerment through Self-Help Groups (SHG)-Bank linkages – A Year of Consolidation

Girija Srinivasan

3

3.1. INTRODUCTION

The self-help group (SHG)-Bank Linkage Programme (BLP) has consolidated its reach to 171 million rural households through 14.33 million SHGs, significantly deepening financial inclusion through substantial credit flow and aligning itself with the larger goal of sustainable livelihoods. Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY NRLM) dominates as the major programme with 74% of the SHGs being mobilised/ affiliated under the programme. SHGs now serve not just as savings-and-credit groups but as entry points for diversified livelihood interventions: enterprise promotion, value-chain projects, and convergence with entitlement and social welfare schemes. The continued credit flow to groups and also enterprises is complemented by a robust repayment discipline: the Non-performing asset (NPA) rate for SHG loans remains low at 1.74%.

3.2. PROGRESS IN SHG BANK LINKAGE PROGRAMME IN FY

According to National Bank for Agriculture and Rural Development (NABARD)[2], as of 31 March 2025, 171 million rural households have been mobilised into 14.3 million SHGs with savings linkage with financial institutions, of which 0.84 million have credit linkage. As compared to the financial year (FY) 2024, in FY 25, savings of SHGs with the banks have increased by 10% (₹714.33 billion savings), though there is a marginal decrease of 1% in the number of groups with savings accounts. In FY25, ₹1,960 billion of loans were disbursed to 5.08 million SHGs under the SHG–Bank Linkage Programme. As compared to FY 24, the total quantum of loans disbursed has reduced by 0.5% and the number of groups that received credit during the year registered a decline of 1%. Outstanding bank credit to SHGs has crossed ₹3,042.59 billion, registering a healthy 17% year-on-year (y-o-y) growth. The number of SHGs with outstanding loans has risen by 10%, touching 8.49 million. NPAs are at 1.7% registering a 15% decline over the previous year.

The savings at the financial institutions is either idle cash safely deposited at the banks or the savings kept as lien for higher bank loans at the insistence of banks. Average savings per SHG increased across all regions, with the southern region reporting the highest average savings at ₹75,978 per SHG, while the northern region recorded the lowest at ₹18,656 per SHG. High average savings of groups at banks in the southern region is due to the insistence of banks.

The southern and eastern regions continued to dominate credit disbursements under the programme. However, the southern region's share has shown a gradual decline in recent years, indicating a shift to other regions. Despite this positive shift, a significant regional disparity persists. The average loan amount accessed by SHGs in the northern, eastern, and central regions—ranging

from ₹206,000 to ₹354,000—remains significantly lower than the southern region's average of ₹579,000. This disparity underscores the need for targeted interventions to boost livelihood diversification and enhance income-generating opportunities in these geographies.

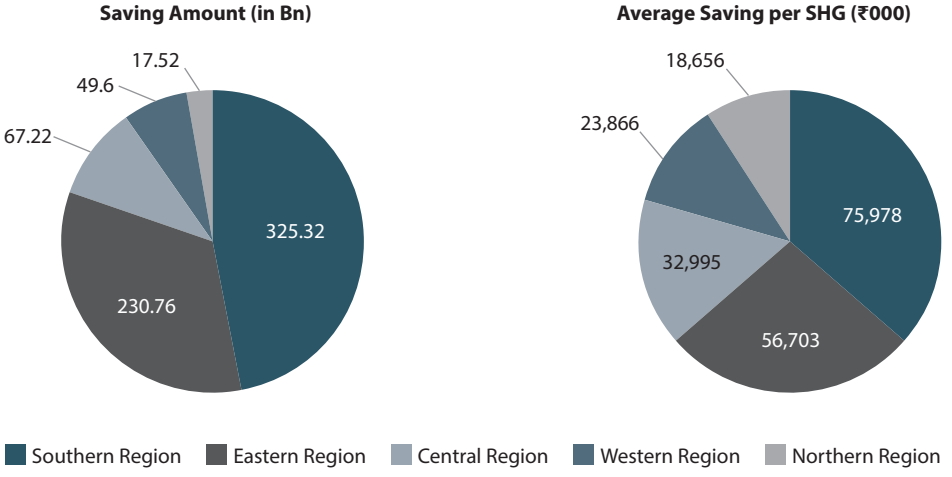


Figure 3.1. Region-wise Progress of Saving Linkage of SHG with Banks during FY 2024–25
Source: Bharat Micro Finance Report, Sa-Dhan, 2025

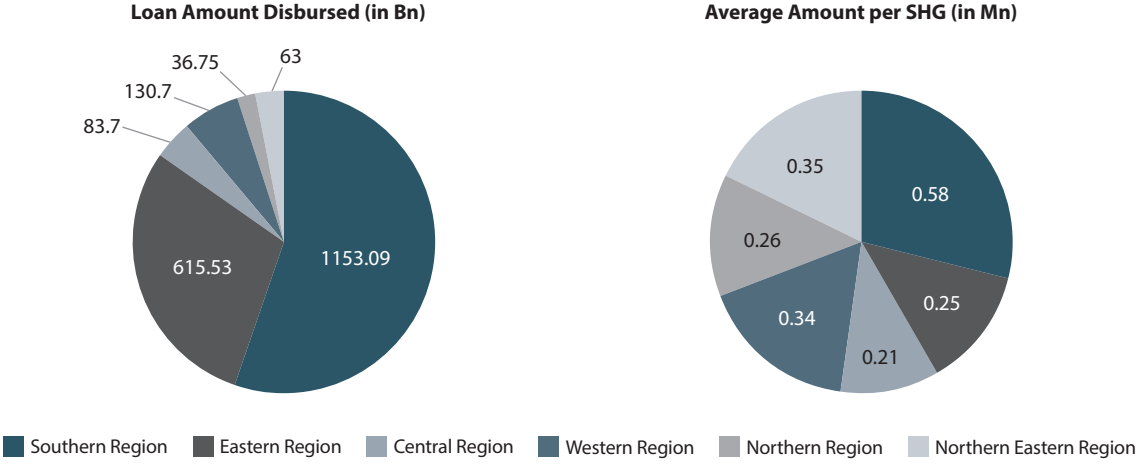


Figure 3.2. Region-wise Loan Amount Disbursed to SHGs during FY 2024–25
Source: Bharat Micro Finance Report, Sa-Dhan, 2025

Table 3.1. Key Statistics under SHG-BLP

		2025	2024	Change
1	Total number of SHGs saving-linked with banks (in million)	14.33	14.42	-0.91
	Percentage of National Rural Livelihoods Mission/National Urban Livelihoods Mission (NRLM/NULM) Groups	74%	64%	10%
2	Total saving amount of SHGs linked with banks (in ₹ billion.)	7.14	6.50	6.34
3	Total number of SHGs with loan outstanding (in million)	8.49	77.42	7.52
4	Total loan amount outstanding (in ₹ billion)	3,042.59	2,596.64	4,459.5

		2025	2024	Change
5	Total number of SHGs credit linked during FY2024-25 (in million)	5.557	5.482	0.075
6	Total Amount disbursed during FY2024-25 (in ₹ billion)	2,082.83	2,092.86	-10.03
7	Non-performing asset (NPA%)	1.74%	2.05%	-0.31%

Source: Bharat Micro finance report, 2025, Sa-Dhan

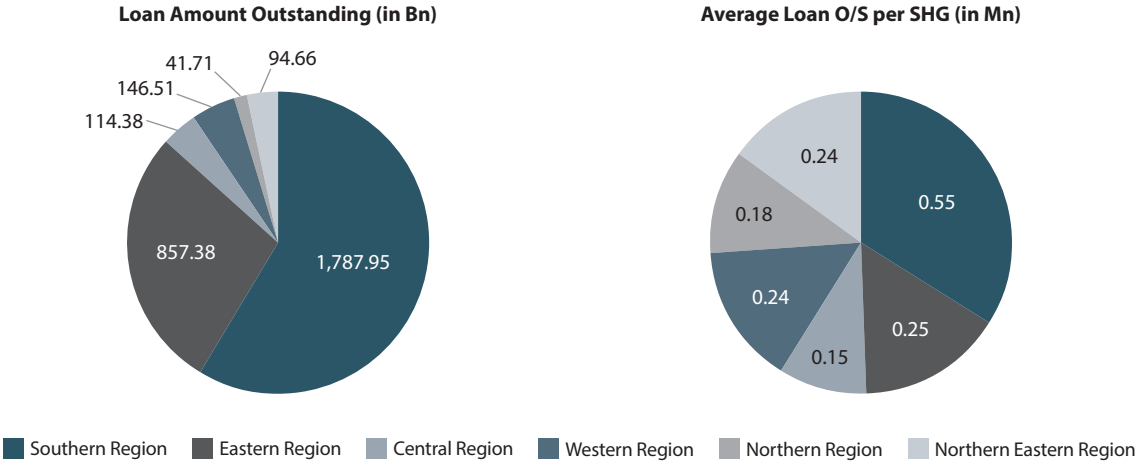


Figure 3.3. Region-wise Loan Outstanding with SHGs as on 31 March 2025
Source: Bharat Micro Finance Report, Sa-Dhan, 2025

The non-performing assets (NPAs) in SHG loan portfolios had reduced to 1.74% nationwide, reflecting continued improvement in loan quality. This positive trend was visible across all regions, including the southern region, which also experienced a decline in the absolute value of NPAs. The southern (1.59%) and north-eastern (1.71%) regions performed better than the national average, maintaining comparatively lower NPA levels. In contrast, the central region continued to report the highest incidence of NPAs relative to its outstanding loans. Among lending institutions, commercial banks and regional rural banks (RRBs) demonstrated strong repayment performance, whereas cooperative banks, despite their relatively small share in SHG lending, recorded comparatively higher NPA ratios.

3.3. NATIONAL RURAL LIVELIHOOD MISSION (NRLM)

The Ministry of Rural Development (MoRD), Government of India (GoI), launched the National Rural Livelihood Mission (NRLM) in 2010 to address rural poverty by enabling access to financial services and promoting sustainable livelihoods. Renamed Deendayal Antyodaya Yojana–NRLM (DAY-NRLM) in 2016, it is a centrally-sponsored scheme jointly funded by the central and state governments. Implementation is carried out through the State Rural Livelihood Missions (SRLMs), while the Department of Rural Development in MoRD oversees policy formulation, monitoring, evaluation, and fund disbursement. The core objective of the NRLM is to achieve universal financial inclusion, providing basic banking services to all poor households. However, the financial inclusion expanded beyond SHG-bank linkage to include digital transactions, insurance, and enterprise finance.

Outreach: The outreach of the mission has steadily increased over the last five years. While all the 745 districts have been covered, the coverage of blocks have steadily increased to 7,617 blocks. With the adoption of saturation approach of including poor and vulnerable women in SHGs, about 102.92 million women have been mobilised into 9.17 million SHGs. The overall objective of DAY-NRLM of covering 100 million rural households into SHGs is already achieved with extensive outreach among the schedule caste/scheduled tribes (SC/ST), landless, and remote households (refer Table 3.1 for outreach details). NRLM has become the largest financial inclusion and livelihoods initiative in the world.

Federated structures: The SHGs have been federated into 511,400 village level organisations and 33,398 cluster lever federations. Both the federations play a vital role in ensuring institutional functioning and sustainability of the SHGs apart from facilitating financial services to members. With support from SRLMs and National Institute of Rural Development and Panchayati Raj (NIRD), NRLM has developed standard operating procedures (SOPs) for both primary and secondary level federations of SHGs. These SOPs serve as a comprehensive framework, ensuring that all federations and SRLM staff follow consistent processes across states and regions; clear guidance on services and products helps federations cater effectively to members' needs; with robust systems in place, federations can function independently and remain viable in the long term.

The efforts during the year have focused on registration of CLFs. SRLMs have preferred cooperative as a legal form for registering the CLFs. As cooperatives, CLFs can engage directly in business activities (procurement, aggregation, input supply, marketing, credit intermediation, etc.). Surplus and profit can be shared among members or ploughed back. Cooperatives are recognised as business entities with easier access to NABARD support, institutional credit, priority sector lending (PSL) and also government schemes. Since CLFs are engaged in revolving CIF as loans to SHGs, being a cooperative gives them legitimacy.

Community investment funds (CIF): The NRLM provides financial assistance to SHGs in the form of a revolving fund (RF) which is a grant to well-functioning SHGs CIFs to federations for extending loans to SHGs. To strengthen the financial foundation of SHGs and enable them to leverage additional funds, the RF is provided as a corpus to well-performing groups. This not only enhances their institutional and financial management capacity but also helps them build a credible credit history before approaching banks. When banks assess SHGs for creditworthiness, the RF is treated as part of their financial resources. Cumulatively, 5.39 million SHGs have received ₹84.92 billion as revolving fund.

Similarly, CIF is routed through village and CLFs to SHG members. Federations use the CIF to extend loans to SHGs or finance collective socio-economic initiatives. These dedicated funds play a dual role: they meet SHG members' demand for low-cost credit and simultaneously generate interest income for community institutions, which supports essential functions like maintaining bookkeepers, auditors, and other cadres. Cumulatively 3.87 million SHGs have received ₹290 billion in form of CIF.

Since the RF and CIF are treated as assured financial support for SHGs rather than demand-based allocations, their effective utilisation has often been an issue. This challenge is more visible in federations located in areas where livelihoods are seasonal. Although data on fund disbursement

Table 3.2. Outreach under DAY-NRLM

	As on March 2021	As on March 2022	As on March 2023	As on March 2024	As on March 2025
Districts under implementation	743	745	745	745	745
Blocks under implementation	6,984	7,054	7,132	7,161	7,617
Total SHGs formed	6,853,221	7,530,697	8,304,833	8,505,894	9,175,483
Total members	73,083,897	79,914,258	87,239,100	89,095,902	102,920,576
Total village organisation (VO) Formed	403,152	446,660	486,570	491,577	511,400
Total cluster level federation (CLF) Formed	24,172	28,222	31,160	31,407	33,398
Number of SHGs provided revolving fund (RF)	2,946,261	3,503,369	4,216,905	4,730,188	5,392,713
Amount of RF disbursed to SHG (in million)	413,06.4	49,793	61,409.3	71,396.3	84,924.4
Number of SHGs provided community investment funds (CIF)	1,732,052	2,316,728	2,726,697	3,178,339	3,873,969
Amount of CIF disbursed to SHG (in million)	112,149.9	155,067	190,335.9	232,481.6	290,097.9

Source: MIS data base of NRLM

exists, detailed information on loan utilisation, portfolio quality, and idle balances are limited. Small-sample studies that examined repayment have flagged areas of concern. The loan management system has to be robust with limited idle funds and excellent loan recovery. NRLM, especially the financial inclusion vertical, will have to ensure proper management and oversight of these funds. While Lok People, OS Operating System (LOKoS) as a Management Information System (MIS) tracks the fund utilisation, nuanced data on performance of CIF is not yet available. Moreover, the SRLMs and CLFs need in depth training on loan management. There is potential to pilot developmental loans such as housing repair, education, energy, and sanitation in well-performing CLFs.

Managing CIFs effectively requires strong organisational capacity. Without robust monitoring and timely corrective action, repayment delays and defaults can build up. Weak oversight of these processes risks rising delinquencies, which could compromise both the sustainability of CIF resources and the financial viability of CLF. Therefore, SRLM management, along with district and block-level units, must rigorously track loan recovery and fund performance.

Financial linkages of SHGs under NRLM: The Reserve Bank of India (RBI issues a master circular every year for financing of SHGs under NRLM, consolidating all current instructions, guidelines, and clarifications relating to financing by banks. Apart from providing clear operational guidelines—loan amounts per cycle, repayment periods, margin requirements, interest subvention claim process etc.—the circular makes it easier for SRLMs to negotiate with banks, since all norms are formally documented. The guidelines for financing SHGs happen to be very detailed enabling higher amount of loan with successive cycles.

The guidelines for 2024–25 mention the financing mechanisms for SHGs and also the members. Under member financing, banks are advised to (a) finance entrepreneurs up to ₹1 million of select mature and well-performing SHGs; (b) one woman in every SHG under DAY-NRLM may be provided a loan up to ₹0.1 million under the MUDRA Scheme; (c) provide minimum overdraft (OD) facility of ₹5,000 to every woman SHG member having account under the Pradhan Mantri Jan Dhan Yojana (PMJDY). To facilitate women SHG members getting a better price for their produce through collectivisation/aggregation/value addition, banks are also advised to extend loans to well-performing producers groups/producers organisations under DAY-NRLM for their commercial activities as per their lending policy.

SHG financing in FY 2025: The year 2024–25 saw consolidation in bank linkages under NRLM amidst overall challenges being faced in the microfinance sector. The microfinance sector saw 14% shrinkage in gross loan portfolio during 2024–25 and portfolio at risk also almost tripled from 2% to 6%.[3] However, under SHG-bank linkage programme disbursements decreased marginally at ₹1,975,000 billion with 5.55 million SHGs receiving loans during the year as compared to 2023–24 performance of 5.67 million SHGs receiving loans of ₹2,091,000 billion. While there was a marginal decline of 5.58% in disbursement of loan amount to SHGs, there were significant qualitative improvements, including better credit linkages in smaller states and reduced NPAs. The mission has successfully contained the spread of NPAs from the microfinance sector to the SHG lending programme, thus addressing a major concern. NPA has fallen from 1.50% in FY 2023–24 to 1.46% in FY 2024–25. Refer Table 3.2 for data on SHG bank linakge. The achievement of bank linkages with low NPA is commendable considering the significant challenges and crisis that the microfinance sector faced during the year.

Table 3.3. Progress of SHG–Bank Linkage under DAY-NRLM in Last Three Years

	2022–23	2023–24	2024-25
Number of SHGs credit linked (in millions)	5.167	5.668	5.556
Y-O-Y % Growth		9.70%	-1.98%
Credit disbursed during the year (₹ in million)	1,579,586.2	2,091,704.8	1,975,024.2
Y-O-Y % Growth		32.42%	-5.58%
Average loan disbursed per SHG (in ₹)	305,678	369,020	355,455
Number of SHG loan outstanding accounts (in million)	7.657	8.307	8.721
Loan outstanding as at end of FY (₹ in million)	1,965,748.7	2,607,666.1	2,967,769.6
Y-O-Y % growth		32.66%	13.81%
Average loan outstanding per SHG (in ₹)	256,715	313,916	340,288
Gross amount of NPA (in billion)	3,581.23	3,910.59	4,323.28
NPA as % of loan outstanding	1.82%	1.50%	1.46%

Source: MIS data base of NRLM

Performance of states: Southern states have been the forerunners of SHG movement in the country; however the eastern states of West Bengal, Bihar, and Odisha are registering high growth in number of SHGs that received loans during the year (refer Table 3.4 below).

Table 3.4. Top Five States in Number of Groups that were Credit Linked in 2024–25

Name of state	Number of SHGs that received credit	State share in total SHGs credit linked
West Bengal	910,870	16.38
Andhra Pradesh	778,702	14.01
Bihar	768,255	13.83
Karnataka	569,474	10.25
Odisha	411,041	7.40

Loan disbursements: A noteworthy achievement is West Bengal now ranks second in the country in terms of loan disbursement. However, the southern states still dominate in terms of quantum of loans disbursed. Though Bihar and Odisha rank among top five in terms of number of SHGs, they rank lower at 6 and 7 in terms of amount of loans which is primarily due to low average loan size resulting from limited loan absorption capacity of the group members. The top five states in terms of loan disbursements during 2024–25 are (refer Table 3.5 below).

Table 3.5. Top Five States in Loan Disbursement

Name of state	Number of SHGs that received credit	Total amount disbursed (₹ in million)	State share in % of loans disbursed
Andhra Pradesh	778,702.00	431,398.04	21.84
West Bengal	910,870.00	260,930.69	13.21
Telangana	297,332.00	207,148.22	10.49
Karnataka	569,474.00	206,022.36	10.43
Tamil Nadu	243,655.00	182,130.07	9.22

Andhra Pradesh's proactive focus on livelihood diversification and enterprise promotion is showing better loan utilisation, even though the state faced 33% less disbursements as compared to last year. However, in Tamil Nadu and Telengana both group quality, and efforts to strengthen livelihoods are of concern. Karnataka is a weak performer among the southern states, with issues spanning quality of mobilisation, human resources, and an ecosystem that has made it difficult to enhance credit. The ground-level support in terms of cadre of community resource persons also is weak in Karnataka which has resulted in 27% less loan disbursement during the year.

Loan disbursements in Haryana, Himachal Pradesh, and Punjab have been growing steadily though their high dependence on a single bank—Jammu and Kashmir Bank—is of concern. Punjab SRLM has been working on improving the quality of the groups by restructuring the groups and retraining them. The NPA is high at 9.72% which has to be contained. In Uttarkhand, SHG bank linkage doubled during last year and has registered 27% growth in FY 2024–25. Micro Save Consulting assisted the Uttarakhand State Rural Livelihoods Mission (USRLM) to strengthen SHG linkage with banks. MSC, with funding support from Gates Foundation, conducted awareness and capacity building camps with SHGs to address knowledge gaps, facilitated coordination with SRLM teams, and worked with banks to simplify processes and resolve documentation-related challenges. Uttar Pradesh is gradually improving after several years of weak group mobilisation. Banks in Banks in the state are increasingly willing to finance high-quality SHGs, but they remain cautious due to concerns over potential defaults.

Maharashtra's share in loan disbursement has been steadily growing from 3.78% in FY 2023–24 to 5.45% in FY 2024–25. The portfolio quality has also improved with NPA coming down from 4.08% to 2.32% during the same period.

North-eastern states have registered quantum jump in loan disbursements in the last five years—from ₹10.477 billion in FY 2021 to ₹68,835 billion in FY 2025. During FY 2025, as also in the previous years, Assam has a lion's share of 85% of loans disbursed in the region. But other states like Arunachal, Nagaland, Manipur, Meghalaya, Mizoram, and Sikkim have shown multi-fold jump in loan disbursement in the last five years. The credit linkages in Meghalaya, Nagaland, and Sikkim have been increasing every year over the past five years. Mizoram has faced a decline in loan performance in the past two years due to inadequate human resources. However, Nagaland and Arunachal Pradesh continue to struggle with paucity of bank branches in rural areas which affects bank linkages and loan disbursements. Banks could try alternative models involving CLFs. Assam and Tripura are experiencing deeper bank linkages and repeat lending, the enabling factors being stronger

federation capacity and Bank Sakhi network. The traditional village councils, such as those in Nagaland and Mizoram, could be leveraged to improve credit management but closer collaboration with these councils need to be prioritised by the SRLMs.

The position of NPA is given in Table 3.6 below; Sikkim and Assam have overall low NPA rates of less than 1%. Manipur has the highest NPA at 4.52% being affected by riots for the past two years. Manipur Rural Bank, the principal lender to SHGs in the state, is facing high NPAs. Given the scale of stress, a special regulatory dispensation from the RBI for asset classification and repayment rescheduling will likely be necessary. Meghalaya also has high NPA at 4.5%; NPAs tend to be higher in few districts especially in the Garo Hills region due to difficult terrain, communal issues, and a lack of SRLM staff from the Garo community. Despite many challenges, SRLMs worked with the banks to manage repayments. However, there is a need for continued monitoring of NPA hotspots.

Disbursement of interest subvention: Interest subvention on loans to SHGs is an effective mechanism to make credit available at affordable interest rate and ensure prompt repayment by SHG members. During the year, the interest subvention scheme has been extended to all the district in the country and also the amount of loan eligible for interest subvention has been extended up to ₹0.5 million.[4] The disbursement for the calendar year has been ₹53,770 million and cumulatively ₹179,094 million of interest subvention have been released. Cumulatively Andhra Pradesh (35%), West Bengal (14%), Telengana (13%), Bihar (10%), and Odisha (7%) are the top five states in receipt of interest subvention.

Challenges in functioning of SHGs: An area of concern has been the fall in attendance rates in SHG meetings in southern states and also in Maharashtra where the SHG movement and growth have been accomplished much earlier. There are ground reports that members find even monthly meetings time consuming and prefer to send the savings and loan repayments to the leaders rather than personally attending the meetings. Unified Payments Interface (UPI) and other app-based payments are also gaining ground making meetings redundant. This can weaken the social collateral; opportunity for peer learning can be lost and increased risk of federation resources are under utilised or misallocated without strong SHG demand and discipline.

Moreover, institution building teams in the states largely focusing on federations strengthening, the attention to SHGs has come down. While federation capacity is essential for scaling and managing larger funds and enterprise initiatives, SHG-level handholding and monitoring is equally important to ensure that the foundation on which those federations are built on are intact. Adopting a two-track approach of continuing federation strengthening while restoring systematic and frequent quality engagement with individual SHGs, is very much needed in creating a connect between higher-level institutional ambitions and everyday member needs. More over, SRLMs will need to reallocate staff time and targets so that CRPs/ Bank Sakhis and federation cadres spend a defined minimum proportion of time on SHG coaching.

While each state in the country has been following their own strategy in institutions building under the overall ambit of the mission, it will be important to study the trend and challenges being

Table 3.6. NPA Status in North-Eastern States

	2023-24		2024-25	
State	**NPA Amount in million**	**% of NPA**	**NPA Amount in million**	**% of NPA**
Arunachal Pradesh	11.363	2.03	1,238	2.24
Assam	504.841	0.88	6,548.36	0.80
Manipur	26.849	5.48	3,117.7	4.52
Meghalaya	155.247	7.81	12,359.5	4.50
Mizoram	30.643	4.19	3,565.5	4.12
Nagaland	11.092	1.23	1,310.7	1.12
Sikkim	2.692	0.59	267.3	0.48
Tripura	126.663	2.91	12,865	2.12

faced in southern states to draw lessons and also fine tune implementation strategy to ensure that SHGs and federations are member responsive, continue to function well, and members are benefitting. With the next phase of NRLM being on the anvil, the mission should hold a wider consultation, especially among SHG members in different age groups and different occupations, on the different services they need in the next phase.

Financial literacy: SRLMs provide financial literacy training to SHGs on savings, credit, insurance, pensions, and micro-investment planning. A pool of 2058 master trainers and 42,035 FL CRPs has been created for imparting training on financial literacy. At present, 20 SRLMs are registered with RBI. The RBI approved proposals from 14 SRLMs and released funds under the Deposit Education and Awareness Fund (DEAF) Scheme for a pilot initiative. All 14 SRLMs successfully completed the pilot. In addition, 13 SRLMs have submitted large-scale proposals worth ₹1350 million, covering 227 districts, 1,004 blocks, and 1,632 CLFs. This support from RBI is expected to significantly strengthen the financial service delivery network and enhance the functioning of SAKSHAM centres, envisioned as one-stop solutions for financial services.

Training initiatives have reached a large number of SHG women across rural areas, often through the community-based cadres such as CRPs, Bank Sakhis, Vitta Sakhis. Using SHG members as trainers builds trust and ensures contextual relevance. Basic understanding of savings, credit, repayment discipline, and government financial schemes have improved. Many trainings now include UPI, mobile banking, and digital transactions. However, refresher courses are needed leading to better retention and practice. Content needs more emphasis on enterprise finance, risk management, or investment planning henceforth. NRLM is developing three modules for enterprise financing. There is also the need to move beyond financial literacy to more comprehensive financial counseling. SRLMs track number of trainings held and participants covered but need to assess behavioural changes (increased savings, improved digital usage, better credit management) more often.

Social protection: SHG members and rural households face a wide and complex range of risks and vulnerabilities. These include lifecycle risks such as mortality, health, accident, disability, and old age; economic risks such as income insecurity, assets risk, and financial shocks; and climate and disaster-induced risks like earthquakes, floods, droughts, and extreme heat.

Life and accident insurance: SRLMs have enabled insurance coverage for SHG members, and as of 31 March 2025, 61.9 million women have been covered under life insurance (PMJJBY)[5] and 78.5 crore women benefiting from accident insurance (PMSBY)[6]—both being government-subsidised schemes. However, the insured amount is limited – ₹0.2 million under both the schemes and there is scope to offer further products to offer adequate coverage. Considering the SHG membership of 102.92 million women under NRLM, the insurance outreach is impressive—62% members being covered under life insurance and 79% under accident insurance; West Bengal, Bihar, and Andhra Pradesh have performed well with each having a share of about 10% in national outreach in insurance. A separate cadre of Bima sakhis[7] are generating awareness of members about insurance as a risk management product, enrolling members for insurance and also pursuing for payouts. VOs and federations actively assist in filing insurance claims. To address claim settlement challenges, a dedicated portal has been launched where banks share relevant data, including claim settlements. However, the timely settlement of claims is a significant challenge being faced.

Health insurance: 82.79 million SHG members are also being covered under Pradhan Mantri Jan Arogya Yojana (PMJAY[8]) a health insurance scheme which is free for poor and vulnerable households as per Socio-Economic Caste Census (SECC) 2011 data. SHG federations help members check eligibility, generate Ayushman cards, and access hospitals, making PMJAY an important safety net for SHG women and their families. Some challenges still remain; hospital empanelment density varies by state and also in rural areas and exclusion of outpatient care results in considerable expenditure for poor households.

Enterprise Financing: Since last three years, NRLM has been focusing on financing individual women entrepreneurs. The Graduation Model of NRLM represents a strategic shift in how credit is delivered to women entrepreneurs whose credit requirements go beyond the traditional SHG lending model. Among the 100 million SHG members under NRLM, it is estimated that more than 10 million run well-established enterprises with long operating track records. These entrepreneurs require enterprise credit products—such as term loans, working capital, and cash credit—which go well beyond what SHGs are structured to provide. These entrepreneurs are constrained by the credit ceiling of SHGs and face challenges in scaling their enterprises due to the lack of timely, adequate, and customised financial products. The model identifies

mature entrepreneurs with strong repayment histories and viable businesses and supports them through a structured process to access loans from banks ranging from ₹75,000 up to ₹0.1 million, depending on business need.

NRLM has framed standard operating procedures (SOPs), facilitated introduction of dedicated bank products by PSB, RRB, and cooperative banks, created a vast network of Vitta Sakhis for last-mile support, and invested in capacity building of all stakeholders. With support from the World Bank and IFC, NRLM and SRLMs have rolled out this ambitious model on the ground; rapidly scaling up loan mobilisation, forging partnerships with a diverse range of banks and ensuring a steady rise in loan disbursements.

The SOP specifies (a) eligibility criteria; vintage of SHG of two years; Vintage of member as two years, never had overdue for more than 60 days in last 12 months, Credit Information Bureau (India) Limited (CIBIL) score of 650 and above, ₹0.20 million per annum sales turnover as a qualifying parameter to be eligible for microenterprise loans; (b) detailed loan documentation procedures; (c) clear roles of different personnel in SRLMs; and (d) processes to be followed. This is the guiding document that is also used for training.

While 12 public-sector banks and about 8 RRBs have come up with dedicated products individual enterprise loans to SHG member, PSB[9] are lagging behind in such initiative. RBI's guidance on individual loans to SHG members and the introduction of dedicated loan products by banks are beginning to yield results.

SRLMs have created a cadre of Vitta Sakhis for enterprise financing. Vitta Sakhis consist of Bank Sakhis from the financial inclusion vertical and community resource persons (CRPs) from the non-farm vertical. Their main role is to identify entrepreneurs, assist with loan applications, ensure documentation completion, submission of applications, and follow up with banks. Bank Sakhis are skilled in interacting with banks and handling banking procedures but have limited expertise in enterprise-related aspects. On the other hand, the non-farm team has stronger knowledge of enterprises but less familiarity with banking processes. This creates a natural capacity gap between the two groups which needs to be bridged.

As per data shared by NRLM (see Table 3.7 below), 560,367 women have received enterprise loans of value ₹57.954 billion during last three years. These loans have demonstrated outstanding portfolio quality, with NPAs remaining negligible. This underscores both the strong credit discipline of women SHG members and the effectiveness of NRLM's support framework. Women entrepreneurs making prompt repayment of credit to financial institutions are also provided 2% interest subvention as a one-time measure to incentivise good repayment behaviour.

In enterprise financing, Andhra Pradesh leads both in terms of number of accounts and quantum of loans disbursed, followed by Maharashtra. Tamil Nadu has a high average loan size leading to its third place in disbursement though Karnataka ranks third in total of number of accounts. Assam and Gujarat rank fifth and sixth, surprisingly above other mature states like Telengana and Kerala.

As most of the bank products were launched in the past year, a significant acceleration in disbursements is expected in the coming years. By supporting the shift from small, informal group-based credit to structured, tailored enterprise finance, the Graduation Model is positioned to catalyse the next phase of growth for rural women entrepreneurs.

Table 3.7. Women Enterprises Financing

State	Number of entrepreneurs	Amount of loan	State share in number of entrepreneurs	State share in amount of loan	Average loan size
Andhra Pradesh	102,590	1,508.83	18.31	26.03	147,074
Maharashtra	76,195	807.94	13.6	13.94	106,036
Tamil Nadu	36,486	655.81	6.51	11.32	179,743
Karnataka	36,773	377.76	6.56	6.52	102,728
Assam	28,119	327.74	5.02	5.66	116,555
Gujarat	25,863	337.05	4.62	5.82	130,321
Total	560,367	5,795.41			103,422

World Bank/IFC commissioned an assessment study on women enterprise financing under the NRLM. The study was conducted by Prime M2i Consulting Pvt Ltd (M2i) in February 2025. The key findings of the study are:

The major objectives of the study were:

(a) assess the uptake and the efficiency and effectiveness of micro-enterprise loans by women entrepreneurs; (b) analyse the extent to which SOP was followed by field functionaries; (c) assess the repayment performance. M2i study covered four states. 241 entrepreneurs who received loans and 23 who did not receive loans were surveyed.

Role of banks: Lending remains concentrated among a few banks, limiting financial diversification. Participation of private sector banks has been limited on account of several factors ranging from relatively higher interest rates to lower penetration in rural markets to pre-existing relationships and comfort of women cadres and entrepreneurs with public sector banks and RRBs.

Public sector banks have predominantly offered term loans, while RRBs and cooperative banks have also extended cash credit facilities to women entrepreneurs. However, private banks have still not developed specialised enterprise credit products for individual loans to SHG members. Loan tenures are generally long, ranging from 12 to 84 months, ensuring affordable equated monthly instalments (EMIs). Interest rates remain relatively low, averaging between 8%-12% per annum, making enterprise loans significantly more affordable than microfinance institution (MFI) loans.

At the branch level, there are gaps in bankers' understanding of NRLM's loan products, RBI guidelines, and also SRLM's internal vetting processes. This has led to inconsistent documentation requirements, lack of standardisation in loan assessment, and excessive caution in approving individual loans.

Low approval rates: While enterprise loan disbursements are showing increasing trend, application-to-disbursement conversion rates remain low, hovering around 30-35%. This is mainly because of factors like risk aversion of personnel at bank branch level, lack of formal loan application tracking system, and still limited capacity of Vitta Sakhis to identify right kind of enterprises and generate high quality loan proposals. Bankers have also highlighted poor quality of loan applications as an issue, with many lacking sufficient business details or financial records. Additionally, certain regions "blacklisted" by banks due to high NPAs further limit access to credit even for good SHG members.

Loan size: A key concern is the small loan sizes, with a majority of loans remaining under ₹0.1 million. The proportion of total loans below ₹0.1 million was 65% in Maharashtra, 51% in Madhya Pradesh, 83% in Rajasthan, and 80% in Tamil Nadu. 48.8% of the loans disbursed in Tamil Nadu are less than ₹50,000. This small loan sizes are mainly due to the banks' risk aversion (low correlation observed between business sales and loan amount); influence of subsidy based loan schemes, and also Vitta Sakhis' inability to identify and mobilise applications for larger businesses. The field level discussions with entrepreneurs, SRLM officials, Vitta Sakhis and SHG members shows that there is enough demand for larger loans i.e., upwards of ₹75,000 for businesses among SHG members.

Type of businesses financed: Most businesses receiving loans were well-established, with an average operational history of nine years. Enterprises engaged in trading and service sectors dominate, although some states, like Tamil Nadu, have a higher presence of agri-allied and small-scale manufacturing businesses. The data suggests that In the study sample, 50% enterprises had monthly sales of less than or equal to ₹50,000. Business size varies significantly across states, with Rajasthan and Madhya Pradesh hosting enterprises with higher average monthly sales compared to Maharashtra and Tamil Nadu. The study notes that while 86% of businesses are either fully or partially managed by women, larger enterprises, mostly with monthly sales of over ₹75,000, tend to involve male family members. This can be considered as one of the major achievements of enterprises finance initiative.

High repayment: Enterprise loan portfolio with individual SHG members shows significantly better repayment rates than other microenterprise schemes and also SHG-bank linkage programme.

Bankers widely acknowledged that individual loans to SHG members have far superior portfolio quality than MUDRA loans, with most banks reporting zero NPAs in this segment compared to over 4% NPAs in other enterprise loans.

First formal loan for women: 91% of the women entrepreneurs claimed that the business loans they got from the banks, with support from SRLMs, was the first time they ever got a formal loan for business. Prior to that most had been borrowing mainly from the SHGs. 49% of the entrepreneurs mentioned that if they had not received the bank loan, it would have been difficult for them to invest in business activity, while 51% mentioned they would have tried to borrow from another source mainly SHG or in some cases MFI or moneylender.

Lack of formalisation: Despite operating for several years, most businesses lack formalisation, with limited access to business bank accounts, digital transactions, GST registration, or formal bookkeeping. Only 42% of entrepreneurs have separate bank accounts for business transactions, while just 10% hold a business PAN, and 5% are registered under GST. The low level of financial for formalisation remains a key challenge for loan eligibility and financial sustainability.

Role of Vitta Sakhis: Vitta Sakhis, grassroots facilitators supporting enterprise financing, are playing a critical role in identifying eligible borrowers, assisting with documentation, liaising with banks, and following up on repayments. Additionally, the quality of training provided to Vitta Sakhis and field-level staff is inconsistent, impacting the effectiveness of enterprise financing interventions. Many Vitta Sakhis struggle with the technical aspects of business assessment, in filling loan applications properly and in post-disbursement monitoring. The study recommends formalising Vitta Sakhis' roles with structured training, certification programs, and clarity on financial incentives.

Thus, the study has identified few key barriers, including the absence of an online loan tracking system, operational challenges, bankers' risk aversion, capacity issues of Vitta Sakhis, etc. To address these issues, the study provides certain recommendations. Bankers especially branch staff require targeted orientation programmes to build awareness about NRLM loan products, streamlining documentation requirements, and improving engagement with SRLMs. Strengthening coordination between financial inclusion and enterprise promotion teams within SRLMs can further improve loan targeting and repayment monitoring. Additionally, introducing structured training and certification programs for Vitta Sakhis and creating a dedicated mentorship framework can significantly enhance the efficiency of enterprise finance under NRLM. The study estimates a market size of over ₹3,000 billion for individual loans with SHG members.

Technical assistance to NRLM and SRLMs in enterprise promotion: NRLM and SRLMs have engaged technical service providers to enable enterprise promotion through capacity building of SRLM staff and also cadres. Two such examples of Micro Save and Sa-Dhan are given below.

Micro Save Consulting (MSC) launched a pilot initiative in Bihar in collaboration with Jeevika (Bihar Rural Livelihoods Promotion Society) to break the cycle of small loans that fail to support business growth and offer a tailored financing model that would enable women to scale their businesses. The pilot took a holistic approach through a simplified loan application process, business development support and ensuring that loans were disbursed quickly. MSC's model adopts the following key activities:

- **Identification of the need:** Vitta Sakhis were trained to understand the entrepreneurs' specific financing needs, which made it easier for them to identify who required larger loans for business growth.
- **Selecting the financial institution:** Once they identified the need, Vitta Sakhis worked with women entrepreneurs to help them approach the right financial institutions. Vitta Sakhis helped them understand the available options, interest rates, repayment terms, and eligibility criteria and ensured that the women made informed decisions about where to apply for loans.
- **Application for credit and navigation through the loan process:** The loan application process for rural women is often daunting, with complicated paperwork and eligibility requirements. MSC simplified this by providing dedicated support and helping women understand and navigate the loan application process.

- **Streamlining of credit appraisal:** SRLM collaborated with banks to simplify documentation, leveraged alternative data such as SHG transaction histories, business cash flow analysis, and stock estimation, while adopting a more holistic evaluation approach. MSC also provided training to bank staff to increase awareness of the unique challenges faced by these entrepreneurs and conducted their pre-eligibility tests for the loan to help reduce perceived risks for lenders.

Additionally, the pilot also provided crucial non-financial support to women entrepreneurs. It enhanced digital and financial literacy, guided them on marketing and branding strategies, helped with business registrations, and offered advice on account management. The pilot also saw a dramatic increase in digital engagement. Building on the pilot's success in Bihar, MSC has now expanded the initiative to Uttarakhand and Uttar Pradesh. About 113,000 enterprise loans worth more than ₹8,500 million have been sanctioned to women entrepreneurs across the three states. These loans enabled numerous women to buy materials in bulk, lock in better prices, make capital investments, and scale their business. As per a dipstick survey by MSC in Bihar, on an average, entrepreneurs saw a 54% increase in their monthly revenue and a 66% increase in their monthly profits.

Sa-Dhan: Supported by the Gates Foundation, Sa-dhan is partnering with NRLM and SRLMs in four states (Assam, West Bengal, Chhattisgarh, and Jharkhand) in providing training to Vitta sakhis and women entrepreneurs. The major focus of the partnership is capacity building of Vitta Sakhis and building their capacity to facilitate enterprise financing. While Assam and West Bengal are performing well in enterprise financing, Chhatisgarh and Jharkhand need more support. While the target is 12-15 applications per month, Vitasakis are currently sourcing only 2-6 applications monthly, with higher success rates in Assam and West Bengal. The rejection rate was noted to be high due to incomplete applications, missing documentation, and poor credit scores, though training has improved application quality. Branch-level awareness and manpower shortages are causing delays in enterprise financing approvals, with Bank of India showing better conversion rates compared to other banks.

To summarise, enterprise loans under NRLM has eased access to business finance for women-led enterprises and helped them graduate from small-ticket size group loans from SHGs to individual loans from formal financial institutions. There is a need for an online loan application tracking system that can provide information on applications submitted (bank and branch detail), status of application etc. NRLM is already working to develop such a solution along with 'Jan Samarth[10]' portal for this. State governments have waived stamp duty for SHG lending; similar waiver under enterprise financing will encourage women entrepreneurs.

Greater effort is required in the states to bring a larger number of banks into the enterprise financing ecosystem in a meaningful way. Stronger engagement is needed not only in terms of quick turnaround at branch level, but also in increasing the volume of credit extended, simplifying processes that suit the needs of women entrepreneurs and also developing composite loan-term loan and working capital. Branch staff is not well versed in sanctioning such loans. Bank procedures for financing equipment are complex requiring three quotations, release of funds directly to dealer, etc., which the women find cumbersome. Additionally, capacity building for bank officials, stronger partnerships with SRLMs, and use of digital platforms like Jan Samarth can help scale up credit flow. Broader and deeper bank involvement in enterprise financing is needed under NRLM to reach its full potential.

A key question being discussed among stakeholders is whether individual financing will disturb the SHGs and whether entrepreneurs will exit SHGs. At present, there is no indication of member seeing bank loans as substitute to SHGs as they see bank loans complementing the SHG credit. How many members will continue to receive further loans from banks will depend on the growth and further credit needs of the enterprises, willingness of the banks to sanction working capital loans, and availability of larger credit from CLFs. Furthermore, members see SHGs as more than financial services institution and hence there is little likelihood of members leaving SHGs as a result of access to individual loan.

The women entrepreneurs targeted so far have established enterprises. With minimal training and capacity building, they have accessed the enterprise loan. However, transitioning millions of women from basic livelihood activities to full-fledged entrepreneurship require a more structured and comprehensive interventions. Such a programme must go beyond providing credit and savings support, and focus on enterprise development training, technology adoption, market linkages, mentoring, and access to enterprise-specific finance. It should include graduation pathways that help women

shift from subsistence-level activities to growth-oriented enterprises, supported by dedicated funds, incubation services, and partnerships with private sector and financial institutions. External technical agencies alone cannot achieve significant scale and ensuring dedicated well-capacitated manpower at block-level which will support households will be critical for scaling up. Without a structured approach, most women will remain confined to low-scale, low-return livelihood activities, limiting their potential to generate sustainable income and create jobs.

3.4. TOWARDS THE NEXT PHASE OF NRLM: A STRATEGIC DIRECTION

The NRLM has played a transformative role in mobilising rural households, strengthening women-led community institutions, and expanding access to formal finance. Over the past decade, the mission has helped shape one of the world's largest community-based financial inclusion programmes. While the achievements are significant—ranging from social mobilisation to large-scale bank linkages—the next phase of NRLM offers an opportunity to consolidate the progress made so far and create sustainable, higher-order outcomes for rural women and their communities. The emphasis now must shift from mobilisation and access to finance toward deepening of financial services, market-linked livelihoods, institutional sustainability, and long-term resilience.

The next phase of NRLM should prioritise the transition from small, fragmented income-generating activities to viable and scalable livelihood enterprises. Many SHGs have reached a level of maturity that enables them to progress into producer groups, cooperatives, and formal rural enterprises. To support this transition, NRLM can expand value-chain strengthening activities, develop rural processing and marketing infrastructure, and facilitate partnerships with private sector actors, e-commerce platforms, and government procurement systems. A stronger push toward branding, certification, packaging, and aggregation will help rural producers gain better market visibility and price realisation.

To underpin this shift, credit access must evolve. Group-based credit has been foundational in helping SHG members build trust, develop savings discipline, and establish credit history with formal banking institutions. In the next phase, group credit should be strengthened through improved risk-based lending models, smoother digital processing, and flexible repayment structures aligned with cash flow cycles. As groups mature and women gain confidence in growing their livelihoods/enterprises, enterprise credit will become a critical enabler of growth. The mission can support this transition by facilitating a host of business development services including formalisation, accounts keeping, business planning, reaching farther markets, branding, packaging, credit linkages etc. Financial and business literacy trainings will need to cater to the enterprise growth. Larger, structured loan products tailored to business needs, such as working capital financing, machinery and equipment loans, and sector-specific investment packages will need to further evolve. Partnerships with not only banks but also with NBFCs, small finance banks, and digital lenders can help address the increasing capital needs of SHGs, producer groups, and microenterprises. With appropriate financial education, risk mitigation tools, and credit guarantees, enterprise credit can catalyse scalable rural entrepreneurship and transition rural households from subsistence activities to profitable enterprises.

Rural livelihoods are increasingly vulnerable to climate change, economic shocks, and market disruptions. The next phase should promote diversified, climate-resilient livelihood models, including sustainable agriculture, livestock development, forestry-based livelihoods, and green sectors. Insurance, risk-mitigation tools, and stronger savings mechanisms should be layered into livelihoods to protect households from uncertainty.

NRLM has demonstrated strong outreach among marginalised communities, particularly women, SC/ST groups, and households in remote areas. However, the next phase must ensure that participation translates into tangible improvements in income, assets, and well-being. Tailored approaches—especially for landless families, persons with disabilities, and migrant households—can ensure that no group remains excluded from the benefits of rural development and enterprise growth. Strengthening linkages between SHGs and social protection programmes (such as pensions, insurance, health entitlements, and safety nets) will help build a more robust ecosystem of security and support.

Sustainable livelihood and enterprise outcomes depend on strong, autonomous community institutions. As SHGs mature into federations and enterprise-oriented structures, there is a growing need to professionalise governance systems, financial management, record-keeping, and leadership development. Investments in digital tools—such as accounting software, MIS platforms—can significantly improve transparency, efficiency, and member confidence. Over time, the aim should

be to reduce dependence on external facilitation and establish federations as self-sustaining local institutions capable of accessing finance, managing enterprises, and supporting member needs independently.

A key consideration for the next phase will be the availability of high-quality technical assistance to build capacities of NRLM and SRLMs to spearhead the next level of growth. The phase 1 built on the experience of and models created by civil society organisations and also the state programmes in southern states. Many of these have not moved to next level of growth to offer technical assistance for the next phase. Fresh scouting and sourcing of TA will have to be undertaken not only within the country but also elsewhere.

As NRLM evolves, measurement must move beyond outputs—such as the number of SHGs formed or loans disbursed—to focus on outcomes like income growth, livelihood stability, resilience, and women's agency. Strengthening monitoring and evaluation systems, promoting evidence-based learning, and documenting scalable best practices will help refine implementation strategies and ensure accountability at all levels.

3.5. KEY INITIATIVES BY OTHER DEVELOPMENT AGENCIES

Mahila Arthik Vikas Mahamandal (MAVIM) in Maharashtra has formed 0.163 million SHGs with 2.05 million women as members. These SHGs have been federated into 248 community managed resource centers (CMRCs) who are now nurturing, monitoring and mentoring the SHGs. ICICI bank is the major lender to the SHGs; through a business facilitator MoU with the CMRCs the bank has been sourcing SHG loans since 2011. CMRCs not only facilitate loans but also undertake close monitoring of the loans. The repayment track record of SHGs has been excellent at 99% with 0.05% NPA for last 15 years. The bank pays a commission of 2% of the loan amount as commission which is paving way for the financial sustainability of the CMRCs. Such business facilitator relationship has been forged with Bank of India, Bank of Maharashtra, HDFC Bank, Bank of Baroda, Saraswat Bank, SBI, Union Bank, IDBI, Samunnati Finance, and few DCCBs. Currently 15 banks are lending to SHGs and ICICI Bank has the lion's share of around 61% of the ₹14.54 billion loan disbursed in FY 25.

MAVIM is implementing Maharashtra Rural Women's Enterprise Development Project—Nav Tejaswini, funded by the International Fund for Agricultural Development (IFAD) and GoM which has focused on enterprise financing. With persistent work with the State Level Banker's Committee (SLBC) and also financing banks, MAVIM has facilitated a microenterprise loan for graduating women and a total of 2,445 ME loans amounting to ₹302 million have been facilitated in last three years. The average loan size has been ₹0.125 million and the loans were largely utilised for agriculture, livestock, food processing, and retail activities with slow diversification into service sector. Considering the vintage of SHGs, many women with microenterprises, long-term financing relationship with banks, and excellent track record of SHG members in repayment of loans, the potential for loans for microenterprises is high; however many members are also borrowing from MFIs and other sources which mutes the off take of enterprise loans. While SHGs have demonstrated exceptional repayment discipline and the group structure provides a collective security and peer accountability that banks recognise, this assurance is often missing when women apply directly for individual loans. Added to this are issues like limited credit histories, low awareness of the CIBIL system and gaps in financial and business management skills. Banks are thus cautious in offering higher-ticket, collateral-free loans. MAVIM considers these as transitional barriers. With sustained handholding, better tracking of individual's performance in SHG, and stronger market support, the confidence of bankers is improving in enterprise loans.

PRAYAAS, a project implemented by MAVIM in collaboration with the Small Industries Development Bank of India (SIDBI) and Women's World Banking in FY 2025 extends collateral-free loans ranging from ₹50,000 to ₹200,000 to women entrepreneurs through business facilitation by CMRCs. In FY 2024–25, under PRAYAAS SIDBI disbursed ₹31.5 million to 262 women entrepreneurs, with an average ticket size of ₹0.12 million. PRAYAAS not only expands access to timely credit but also strengthens CMRCs' capacity in identifying and facilitating loans to women entrepreneurs and also monitoring of enterprises and repayments.

NABARD's Micro-Enterprise Development Programme; Introduced in 2006–07, the Micro-Enterprise Development Programme (MEDP) is NABARD's flagship skill development initiative designed to train and upgrade the capacities of SHG members for setting up microenterprises across farm and non-farm sectors. To expand outreach and improve implementation, the programme was revised

in FY 2023–24, allowing additional institutions—including start-ups, corporates, companies, SHG federations, producer organisations, PACs, marketing federations, and NABARD subsidiaries—to serve as project implementing agencies (PIAs).

Under MEDP, each training batch runs for 15 days and covers 30 participants, with financial support of up to ₹0.15 million per programme. In FY 2023–24, a total of 171 MEDPs were conducted, benefitting 4,825 SHG members, with grant support amounting to ₹24.7 million to strengthen livelihood-oriented skills. As of 31 March 2025, the programme has cumulatively trained 0.623 million SHG participants through 20,993 MEDPs, supported by total grant assistance of ₹631.7 million.[11]

Women's World Banking (WWB) has conducted extensive research to understand women's needs, particularly in the informal economy, where lack of digital and credit records make it difficult for women to access affordable loans. The research also showed the varied needs of women in SHGs, while some are comfortable with small, productive loans; others seek higher amounts for business growth but face affordability issues with high-interest rates. WWB has partnered with SIDBI to create replicable models under PRAYAAS to ensure women entrepreneurs get access to affordable credit to grow and scale their businesses. Partnering with SRLMs in Bihar and Maharashtra and MAVIM, WWB is building the capacity of 21 CLFs (community managed resource centres in the case of MAVIM) especially the Vitta Sakhis to identify women entrepreneurs, screen them for their potential, and facilitate loans from financial institutions. Federations are provided capacity building to help improve loan approval rates. The federations act as business facilitator sourcing loans for financial institutions (FI) and monitor the loan utilisation ensuring prompt repayments. CLFs provide a 5% first loss guarantee. For being a business facilitator, the federations earn 2% of loan amount as commission thus earning an income that contributes to financial sustainability. This is a scalable model with adequate risk sharing between CLFs and FIs for financial institutions to have comfort to lend to individual women.

Hand in Hand (HiH) India has mobilised 5,239,673 of women into 563,603 SHGs across several states, with core interventions that combines social mobilisation, savings and credit, entrepreneurship training, and market linkages. HiH and Shri Kshethra Dharmasthala Rural Development Project (SKDRDP) Karnataka are probably the largest mobilisers of SHGs among civil society players. These SHGs have been utilised as platforms for establishing 5,562,810 family-based enterprises, 138,989 women owned microenterprises, and business initiatives that enhance income and agency women. Thus, beyond simply forming SHGs, HiH India tracks broader outcomes and scaling: through their integrated poverty alleviation approach, HiH has created 10.35 million jobs through their various livelihoods and enterprise programmes. Their model emphasises sustainability: many of the jobs and businesses supported are reported to be sustained over multi-year periods. HiH also works closely with SRLMs in select states in capacity building of staff and federations apart from training SHG members on livelihoods.

Micro Save Consulting with funding support from Bill Gates Foundation is providing technical assistance to Rural Enterprise Acceleration Project (REAP), (implemented in all 95 blocks of 13 districts of the state) in ensuring that the SHG financing eco system is performing optimally. REAP is financed by IFAD under the Rural Development Department of Uttarakhand and UPSRLM is one of the implementing partners of REAP. With their technical assistance the number of SHG-bank linkage accounts has grown significantly—from 31,374 SHGs that have loan outstanding (55% of eligible SHGs) in March 2023 to 55,312 SHGs (80%) that have a bank loan outstanding as of September 2025. During FY2025, 11,903 SHGs have been linked with banks, with ₹1,168.08 million disbursed in loans with an average loan size of ₹98,124 per SHG. The programme has maintained a low NPA of 1.81% against an overall outstanding of ₹31,43.58 million, reflecting the discipline of SHGs and the robustness of the model.

As on date, 1,880 SHG members have accessed enterprise loans worth ₹169.9 million. In addition, a cumulative 45,529 loans have been disbursed through internal lending worth ₹2,913.7 million, reflecting the strength of community-driven finance. With community cadre such as Bank Sakhi and Vitta Sakhi playing a main role to reach last mile across Uttarakhand, REAP has been playing a catalyst role to improve the sustainable financial inclusion. These loans are fuelling growth across agriculture, livestock, petty trade, handicrafts, and services, with agriculture and livestock together accounting over 65% of the portfolio.

Building digital eco system: The project has established a robust network of 3,226 active digital touchpoints covering nearly half (46.8%) of the state's viable villages. With MSC TA, REAP has worked to strengthen the interface between bankers and SHGs. This has been achieved through MoUs

with leading banks such as State Bank of India (SBI), Punjan National Bank (PNB), Utkal Grameen Bank (UGB), and Bank of India (BOI), as well as with nine corporate BCs (Integra, Sanjeevni, Starfin, CSC, Aviral Technology, Fino Vision, and FIA Global). Banking correspondent (BC) Sakhis are facilitating a wide range of financial activities—including opening SHG accounts (both group and individual), establishing credit linkages, ensuring regular loan repayments, improving loan utilisation, and supporting NPA recovery. The strength of this digital ecosystem rests on three key pillars:

1. Bank BC Sakhis (387): Acting as banking correspondents, they provide essential financial services at the grassroots level. Their presence has grown more than 13-fold since 2023, ensuring doorstep access to banking.
2. Digi Pay Sakhis (2,041): The largest cohort representing 63% of the network, Digi Pay Sakhis bring cashless transactions to even the most remote SHG households. They are bridging critical gaps in areas where the formal banking system is still limited.
3. Common Service Centre Village Level Entrepreneurs (CSC-VLEs) (798): CSC-VLEs have seen exponential growth, offering not just financial services but also e-governance, health, and education solutions, making them vital hubs for holistic digital access.

Together, these pillars have built a resilient, community-driven digital infrastructure that is transforming how rural Uttarakhand transacts, saves, and connects with the formal banking. Importantly, the deployment of Bank Sakhis and Digi Pay Sakhis has also created sustainable livelihoods, enabling each woman to earn ₹6,000–8,000 per month by delivering these services, reinforcing the cycle of empowerment and inclusion.

3.6. IMPACT ASSESSMENT OF NATIONAL RURAL LIVELIHOOD PROJECT/NATIONAL RURAL ECONOMIC TRANSFORMATION PROJECT (NRLP/NRETP)

World Bank funded NRLP/NRETP played a catalytic role in shaping the design and national scale-up of NRLM. NRLP initiated in July 2011 helped the DAY-NRLM launch and scale up by providing skilled technical assistance and additional pro-poor resources for intensive livelihood investments in 13 states with the highest poverty rates. NRETP which is additional financing to NRLP marked a clear shift in focus from building institutions to intensifying livelihood support.[12] Together, NRLP and NRETP reflected a phased strategy, first empowering women through collectives, then catalysing economic transformation. The project closure report of World Bank[13] has included key outcomes and impacts of the project. The principal source of data comes from the impact evaluations (IEs) conducted in a two-year household panel survey administered in 2019 and 2024, which covered 27,257 households and 23,273 households, respectively.

The 2024 IE also helped assess: (i) impact of the NRETP in relation to non-NRETP blocks; and (ii) medium-term impact of NRLP/NRLM using the variations in difference methodology applied to the early and late blocks. The 2024 IE evaluated the impact on income of households receiving support under NRETP relative to those receiving support from only NRLM. They key outcomes/ impacts are;

(a) The impact on real household income was significant. The analysis found a statistically significant increase in real household income of 25% a real annual household income difference of ₹ 15,600 for NRETP households relative to non-NRETP households. It needs to be emphasised that the analysis only allowed for the impact of NRETP relative to non-NRETP households, although the latter were benefiting from NRLM participation and therefore not a pure control group, and therefore this is a conservative estimate.

(b) By the close of the project, 91.6% of those households having high-cost loans (defined as loans with a monthly interest rate of 4% or higher) at the 2019 baseline, no longer had such loans.

(c) In the 2019 IE, there was also a significant observed benefit of federating with respect to the use and size of loans received, with 15% and 24% of SHGs federated into VOs and CLFs, respectively, using loans for productive purposes (i.e., not consumption), against 13% for non-federated SHGs. The average loan amounts were also higher in SHGs federated into CLFs - ₹7,474 compared with ₹3,401 in non-federated SHGs. Furthermore, households federated and linked to VOs reported higher expenditure and a higher value of productive assets. By the project's close there was near universal federalisation, so observing the benefits of federalisation was not possible at the end line.

(d) The impact evaluations reveal that the accumulation of productive assets occurred primarily during NRETP, which focused on livelihood activities. In the 2024 survey, 37.2% of SHG member households participating in NRETP reported a 30% or greater increase in the number of distinct productive assets.

(e) The 2024 survey found that 77.6% of SHGs had supported members in accessing government schemes, an increase from 39.6% in 2019. The federations also improved access and the delivery of benefits to poor households from government schemes.

The impact analysis reveals that over the long term, DAY-NRLM resulted in a shift towards intensification of livelihood activities rather than diversification. This intensification is evident from increased per-capita income, reduced reliance on casual incomes, and a focus on a narrower range of livelihood activities at the household level. These unintended effects indicate that to remain effective and pertinent in the next phase of economic development for beneficiary households, DAY-NRLM should place a greater emphasis on market-relevant skilling, micro-entrepreneurship, and capacity building rather than a one-size-fits-all approach of providing access to credit, social capital, and poor-centric institutions. Furthermore, the convergence effects of DAY-NRLM with other development programmes emphasise the need to strengthen community institutions and establish SHG federations. These federations can work collectively to advocate for access to rights, and entitlement to public services and various development programmes, thus maximising the programme's impact on empowering the poor.

3.7. CONCLUSIONS

The SHG-Bank Linkage Programme has now reached a stage where it is operating on auto-pilot mode, requiring minimal external intervention. Community institutions and banks have developed the necessary systems, trust, and capacity to manage financial transactions independently. This self-sustaining mechanism ensures smooth credit flow, strengthens financial inclusion and empowers women-led SHGs to access and utilise banking services effectively. Community institutions will need to ensure repayment of loans by members and uphold high credit discipline on not only bank loans but also loans from federations and SHGs. This requires regular repayment monitoring, transparent record-keeping, peer accountability, and timely follow-up with members. Federations can also play a proactive role by offering guidance, providing repayment support in times of crisis, and negotiating flexible solutions with banks when needed. A strong track record of repayment will not only safeguard the credibility of SHGs but also open doors to larger credit lines and enterprise opportunities for members.

In southern states and also in Maharashtra where SHGs are two decades and more old, there are reports of members not attending meetings regularly. With member fatigue setting in, an important question arises: what will be the future role of SHGs? As SHGs mature, many members have already met their initial financial needs and are now looking for higher-value opportunities. The role of SHGs need to therefore evolve from being primarily savings-and-credit groups and federations to becoming platforms for enterprise promotion, livelihood diversification, social security access, and digital integration. They could also link members to markets, government schemes, and social services. The future lies in repositioning SHGs and federations as agents of economic and social transformation, beyond financial intermediation.

A critical challenge is how to make SHGs and federations more responsive to member needs. As members' aspirations evolve, these institutions must shift from a promoter-driven to a demand-driven model. As younger women enter SHG ecosystem, federations need to respond to their needs for enterprise development, market linkages, and higher This can be achieved by:

(a) Regular need assessment through participatory planning and member feedback mechanisms.

(b) Customised financial products (credit, savings, insurance) tailored to life-cycle needs such as education, health, housing, and enterprise.

(c) Capacity building and skilling aligned with emerging livelihood opportunities and local market demands.

(d) Stronger digital integration to provide real-time access to services, information, and grievance redressal.

(e) Decentralised decision-making within federations to ensure grassroots voices guide priorities.

By adapting to members' changing social and economic aspirations, SHGs and federations can remain relevant, trusted, and impactful institutions in the long run.

NRLM, in the last fifteen years, has successfully laid the foundation for a women-led rural development ecosystem. The next phase must build on this momentum to create sustainable community institutions, resilient livelihoods, market-ready enterprises, and deepening of financial services. By combining social mobilisation with enterprise development, digital integration, climate resilience, adaptable credit systems, and stronger market linkages, NRLM can accelerate long-term rural economic transformation movement.

ENDNOTES

1 The author is thankful for the data analysis support from Satyan

2 The Annual Report of NABARD 2024–25.

3 Microfinance credit quality dips in FY25; NPAs rise to ₹55,000 crore, https://www.business-standard.com/amp/finance/news/microfinance-portfolio-quality-dips-par-npas-rise-fy25-mfin-125061101166_1.html?utm_source=chatgpt.com seen on 1 September 2025

4 Reserve Bank of India has issued new guidelines on interest subvention for FY2024–25 for public sector banks and private banks. NABARD has issued guidelines for RRBs and cooperative banks.

5 ₹2 lakh cover; premium ₹436/year; bank-account is auto-debited; 18–50 year old are covered. NRLM instiutions (SHGs/VOs/CLFs, Bank Sakhis/Bhima sakhis) mobilise enrollments

6 ₹2 lakh accidental death/total disability; premium ₹20/yearr; 18–70 years are covered; auto-debit of bank account.

7 MoRD and Life Insurance Corporation of India (LIC) are scaling Bima Sakhi—trained SHG women who act as local insurance facilitators (LIC commissioned channel) to drive awareness, enrollments, servicing and claims for Pradhan Mantri Jeevan Jyoti Bima Yojana/Pradhan Mantri Suraksha Bima Yojana (PMJJBY/PMSBY) and select LIC products. A national MoU has been signed to expand this model. All Gram Panchayats will be covered by Bima Sakhis.

8 Cashless hospitalisation cover up to ₹5 lakh/family/year for eligible poor and vulnerable households; NRLM helps members check eligibility and access.

9 Private sector banks typically offer unsecured loans at interest rates ranging between 14% to 18%, which are significantly higher than the 9%–12% range offered by public sector banks and RRBs. A majority of SHGs and SHG members maintain their primary savings accounts with public sector banks or RRBs. This pre-existing relationship influences loan application decisions, especially since most banks require applicants to hold accounts with them.

10 Government of India digital portal launched under the Department of Financial Services (DFS), Ministry of Finance, to provide end-to-end credit-linked schemes online.

11 Sa-Dhan, Bharat Microfinance Report, 2025, https://www.sa-dhan.net/wp-content/uploads/2025/10/Bharat-Microfinance-Report_FY_2024-25_compressed.pdf. Seen on 20 November 2025

12 Building on the strong foundation of social capital created under National River Linking Project (NRLP), under National Rural Economic Transformation Project (NRETP), NRLM rolled out deeper, market-linked interventions. NRETP leveraged investments made in community institutions under NRLP and NRLM and allocated most of its budget to investments producer groups, producer enterprises, non-agricultural enterprises, and special programs such as integrated farming clusters.

13 World Bank, 2025, Implementation Completion and Results Report, for the National Rural Livelihoods Project, Report No: ICR00006686, 30 May 302025.

State of MSME Finance in India

Ramesh Srivatsava Arunachalam

4

4.1. THE CENTRAL ROLE OF MSMES IN INDIA'S ECONOMY

Micro, Small, and Medium Enterprises (MSMEs) form the backbone of India's economy, driving employment, innovation, entrepreneurship, and inclusive growth and prosperity. They provide essential linkages between large-scale industry and local economies, contributing significantly to both domestic production and exports. As of 15 September 2025, MSMEs collectively employ over 297.84 million individuals, making them the second-largest source of employment after agriculture.[1] Their contributions go far beyond employment , accounting for nearly 30% of India's gross domestic product (GDP) and more than 45% of exports,[2] highlighting their vital role in strengthening economic resilience, fostering innovation, and narrowing regional disparities.

Table 4.1. MSME Gross Value Added (GVA) (Percentage Share) in All India GDP

Year	Percentage
2014–15	29.72
2015–16	29.48
2016–17	29.25
2017–18	29.69
2018–19	30.5
2019–20	30.48
2020–21	27.27
2021–22	29.64
2022–23	30.25
2023–24	29.60

Source: Government of India, Growth in MSME Sector, Lok Sabha Unstarred Question No. 3398, https://sansad.in/getFile/loksabhaquestions/annex/184/AU3398_YOhtC4.pdf?source=pqals

Table 4.2. Export of MSME Products (Percentage Share) in All India Export

Year	Percentage
2019–20	49.75
2020–21	49.35
2021–22	45.03
2022–23	43.59
2023–24	45.73
2024–25 (upto May 2024)	45.79

Source: Press Information Bureau (PIB), Celebrating MSMEs on National Small Industry Day 2024, https://static.pib.gov.in/WriteReadData/specificdocs/documents/2024/aug/doc2024829382601.pdf

The Udyam Registration Portal and the Udyam Assist Platform (UAP) together provide unprecedented insights into the MSME ecosystem. As of 15 September 2025,[3] India has 68,314,308 registered MSMEs. Micro-enterprises form the overwhelming majority, accounting for 99.17% of all registrations (67,745,888 enterprises), followed by small enterprises at 0.70% (480,727 enterprises), and medium enterprises at 0.05% (36,088 enterprises). This stark skew toward micro-enterprises highlights the highly fragmented, grassroots-driven nature of India's entrepreneurial landscape. Collectively, the sector employs employ over 297.84 million people, reaffirming its position as a key driver of livelihoods and local economic development.

The Udyam platform[4] alone accounts for 40,542,184 registered MSMEs, employing 264.19

million workers. In addition, the UAP has formalised 27.77 million informal micro-enterprises, extending benefits to 40.54 million individuals. The integration of UAP demonstrates the government's intent to formalise the informal sector, extend financial access, and enable more MSMEs to leverage credit and incentive schemes. This dual-platform approach not only broadens the reach of formalisation but also provides granular data to policymakers, enabling more targeted interventions. The surge in registrations signifies progress toward formalising India's entrepreneurial base—an essential step toward enhancing productivity, strengthening compliance, and enabling scalability.

MSMEs are no longer a peripheral economic segment; they are the backbone of India's growth narrative. Their vast scale, diversity, and employment intensity render MSMEs indispensable to advancing national priorities like Make in India, Atmanirbhar Bharat, and export-led growth. However, the overwhelming dominance of micro-enterprises underscores a structural challenge: most firms continue to operate at a small scale, with limited formality and financial capacity. Bridging this divide requires tailored credit solutions, targeted cluster-based development policies, and stronger linkages to digital and global value chains. The sector's resilience during pandemic shocks demonstrates its adaptability and reinforces its potential to propel India's journey toward becoming a $5-trillion economy.

The entire MSME ecosystem in India is diagrammed in Figure 4.1.

4.2. CREDIT GAP IN INDIAN MSME SECTOR

4.2.1. Addressable Credit Gap in the MSME Sector

According to the latest *Understanding Indian MSME Sector: Progress and Challenges* report (SIDBI & CRISIL, May 2025),India's MSME sector faces an addressable credit gap of ₹30,000 billion—equivalent to ~9.1% of the country's financial year (FY) 2024–25 nominal GDP ₹330,680 billion. Total financing demand for MSMEs is estimated at ₹123,000 billion, with debt needs at ₹64,000 billion based on a 3:1 debt-to-equity ratio.[5]

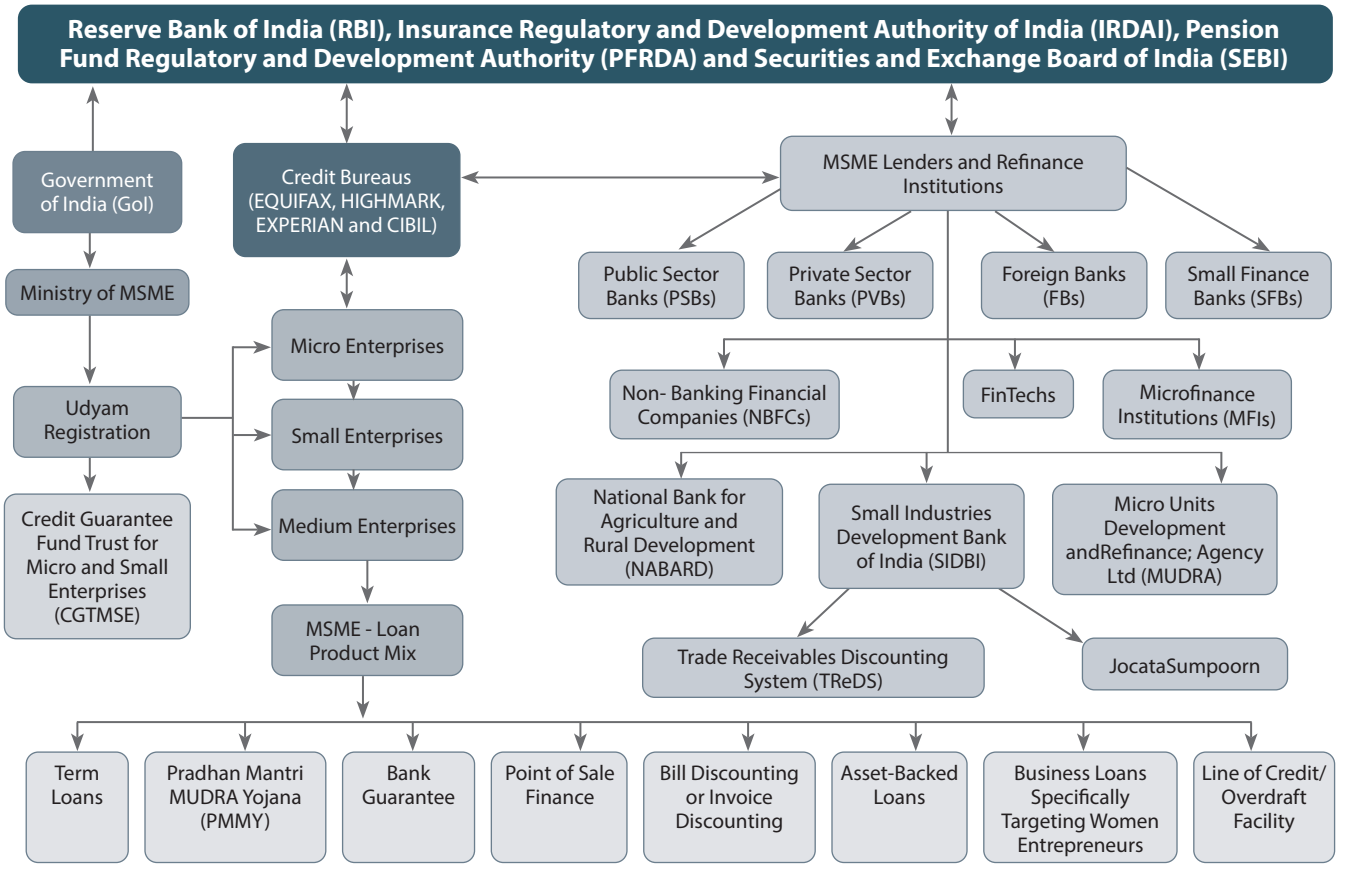


Figure 4.1. Strategic Context of MSME Ecosystem – SME Financing Stakeholder Diagram

While ₹64,000 billion of this debt demand is considered addressable in the near term, banks and non-banking financial companies (NBFCs) currently provide only ₹34,000 billion of this requirement—creating a sizable financing gap that constrains competitiveness and scalability.[6] Historical studies, including NITI Aayog's *PMMY Impact Assessment* (2023) and the Parliamentary Standing Committee on Finance's 2022 report,[7] pegged this gap at ₹20,000–25,000 billion, underscoring that despite the growth in formal credit, financial inclusion has not kept pace with MSME expansion.

SIDBI's analysis highlights[8] sharp disparities in credit access. Medium enterprises face the highest percentage gap (~29%) as they require large-scale capital for expansion, while trading MSMEs show the steepest sectoral gap (~33%), followed by services (~27%) and manufacturing (~20%). Regionally, rural MSMEs are more credit-starved (~32% gap) than urban enterprises (~20%), reflecting lower institutional density and industrial penetration. Gender disparities remain pronounced: women-led MSMEs face an estimated financing gap of~35%nearly twice that of male-owned enterprises, compelling many to rely on informal lenders charging high interest rates. Despite the financing gap, portfolio quality is improving; delinquency levels (90+ DPD) dropped to 1.8% in March 2025—nearly half of pre-pandemic levels—signalling stronger underwriting practices. Adoption of digital payments has surged (90% of MSMEs), but only 18% of enterprises have accessed digital lending, showing untapped opportunities for tech-driven credit inclusion.

Bridging India's ₹30,000 billion credit gap is a strategic economic priority. SIDBI recommends expanding credit guarantee schemes, promoting cash-flow-based lending through the Account Aggregator framework, and designing gender- and geography-specific financing models to ensure fair and inclusive access.[9] Without urgent action, India risks entrenching a two-speed MSME economy: one segment thriving with institutional capital and another locked in informal finance cycles, undermining job creation and long-term economic resilience.

Table 4.3. MSME Credit Gap – Key Insights

Metric	Estimate
Total Financing Demand	₹123,000 billion
Addressable Debt Demand	₹64,000 billion
Formal Credit Supply	₹34,000 billion
Addressable Credit Gap	₹30,000 billion (≈9.1% of GDP)
Gap by Size	Medium ~29%
Gap by Sector	Trading ~33%, Services ~27%, Manufacturing ~20%
Rural vs Urban Gap	~32% vs ~20%
Women-owned MSMEs	~35% gap
Digital Lending Adoption	~18% vs ~90% using digital payments

Source: SIDBI, 'Understanding Indian MSME Sector Progress and Challenges', and Ministry of Statistics and Programme Implementation (MoSPI), Government of India, 'Press Note on Provisional Estimates of Annual GDP 2024–25'.

Table 4.4. Credit Flowing to the MSME Sector across SCBs (number of accounts in millions, the amount outstanding in ₹ billion)

Bank Groups	Items	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Public Sector Banks (PSBs)	No. of accounts	11.30 (1.76)	11.08 (-1.90)	15.08 (36.05)	15.00 (-0.7)	13.90 (-7.4)	14.4 (4.2)
	Amount Outstanding	8,800.33 (1.79)	8,933.15 (1.51)	9,086.59 (1.72)	9,558.60 (5.2)	10,849.53 (13.5)	12,226.87 (11.3)
Private Sector Banks (PVBs)	No. of accounts	20.53 (38.42)	27.06 (31.81)	26.68 (-1.41)	11.30 (-57.7)	7.30 (-35.2)	11.00 (50.2)
	Amount Outstanding	5,636.78 (37.23)	6,469.88 (14.78)	7,920.42 (22.42)	9,698.44 (22.4)	10,898.33 (12.4)	14,023.24 (28.7)

Bank Groups	Items	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Foreign Banks (FBs)	No. of accounts	0.24 (9.14)	0.27 (14.17)	0.26 (-5.11)	0.21 (-19.0)	0.20 (-26.3)	0.30 (72.9)
	Amount Outstanding	669.39 (36.94)	732.79 (9.47)	832.24 (13.57)	853.52 (2.6)	853.49 (0.0)	1,002.61 (17.5)
All Scheduled Commercial Banks (SCBs)	No. of accounts	32.07 (22.61)	38.42 (19.80)	42.02 (9.37)	26.50 (-37.0)	21.30 (-19.4)	25.70 (20.5)
	Amount Outstanding	15,106.51 (14.08)	16,135.82 (6.81)	17,839.25 (10.56)	20,110.57 (12.7)	22,601.35 (12.4)	27,252.72 (20.6)

Note: The figures in brackets indicate growth rates, year on year (y-o-y).
Source: RBI, 'Report on Trend and Progress of Banking in India 2022-23 and 2023-24'.

4.3. CREDIT FLOW TO THE MSME SECTOR FROM SCBS

4.3.1. Credit Flow to the MSME Sector from SCBs

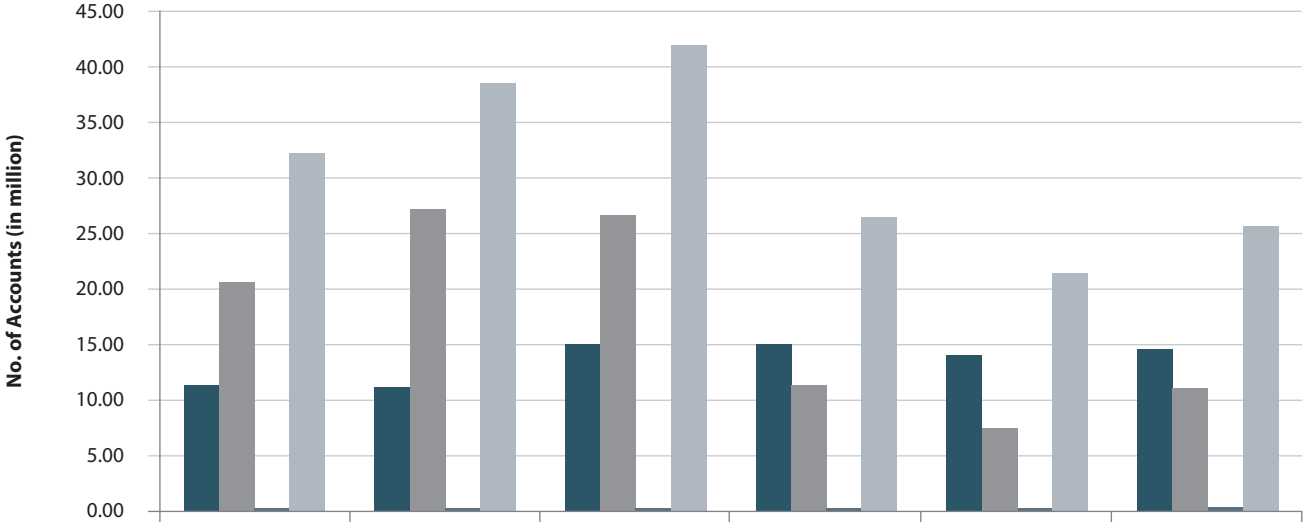
India's MSME credit landscape has undergone a remarkable transformation over the past five years, reshaped by evolving bank strategies, rapid digitalisation, and targeted policy interventions. Outstanding MSME credit from SCBs rose 80%, from ₹15,106 billion in FY 2018–19 to ₹27,252 billion in FY 2023–24, demonstrating the sector's resilience and its central role in India's economic recovery. However, this growth has come with notable consolidation: MSME loan accounts peaked at 42 million in FY 2020–21 amid pandemic-era liquidity measures, but fell sharply to 25.7 million by FY 2023–24, underscoring tighter credit filters and a structural pivot towards fewer, larger loans.

Public Sector Banks (PSBs) continue to anchor MSME financing, steadily expanding their loan book from ₹8,800 billion to ₹12,226 billion during the review period while keeping account numbers relatively stable. This highlights their dual mandate—driving financial inclusion and sustaining sector-wide liquidity—despite market volatility. In contrast, Private Sector Banks (PVBs) pursued an aggressive growth trajectory early on, increasing MSME loan accounts from 20.5 million in FY 2018–19 to 27 million in FY 2019–20, before sharply reducing exposure. By FY 2023–24, PVB accounts had halved, yet their outstanding MSME portfolio nearly doubled to ₹14,023 billion, underscoring a pivot to high-value, creditworthy borrowers supported by advanced risk assessment tools and digital lending platforms. Foreign Banks (FBs) retained a niche role, selectively serving high-quality, export-oriented MSMEs, with credit volumes rising modestly to ₹1,002 billion despite fewer accounts.

Figures 4.2 and 4.3 highlight this strategic segmentation: PSBs anchor inclusive MSME lending, PVBs focus on efficiency and profitability, and FBs cater to niche global clients. Together, these approaches have created a dual-speed MSME credit market—one stream prioritising small-ticket, inclusion-driven financing, while the other channels capital into growth-ready enterprises. While reallocation of capital has helped stabilise bank portfolios, it also risks leaving smaller, informal MSMEs underserved.

Table 4.5. Key Trends and Strategic Insights

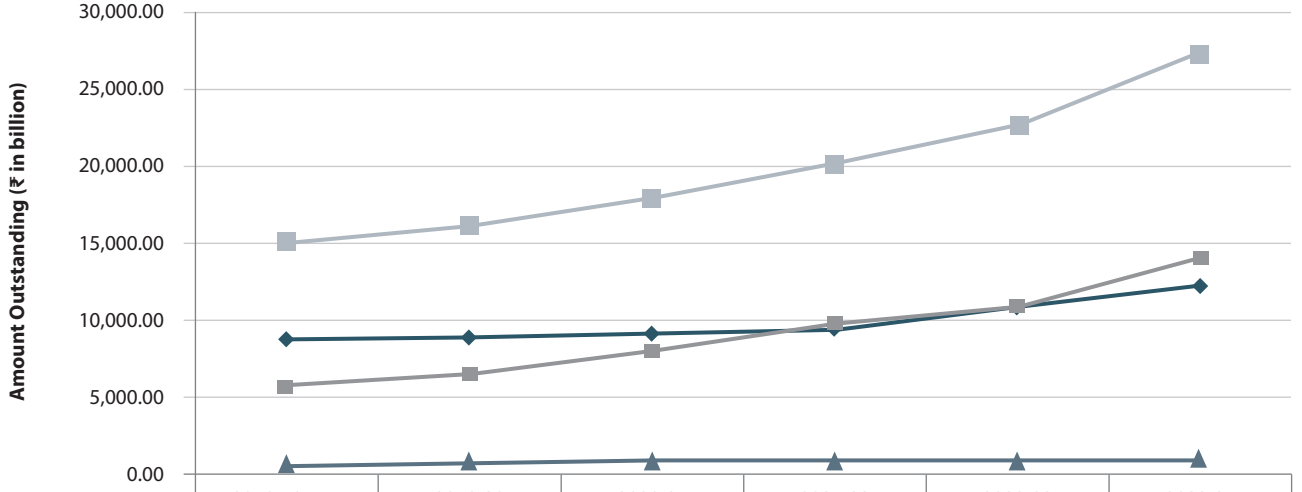
Trend	What It Shows
Credit Growth Outpaces Accounts	• MSME credit rose 80% in five years, while accounts fell 39% from the 2020–21 peak, showing consolidation.
PSBs as Stability Drivers	• PSBs maintained account volumes and grew credit steadily, acting as a credit lifeline for smaller MSMEs.
PVBs Focus on High-Value Clients	• PVB portfolios nearly doubled with fewer accounts, reflecting risk-managed, tech-driven lending.
FBs' Specialised Role	• FBs serve export-linked, low-risk MSMEs, keeping a small but strategic footprint.
Structural Access Gaps Emerging	• Smaller MSMEs face tighter access; informal borrowing is rising, creating systemic vulnerability.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
PSBs	11.30	11.08	15.08	14.97	13.90	14.40
PVBs	20.53	27.06	26.68	11.29	7.30	11.00
FBs	0.24	0.27	0.26	0.21	0.20	0.30
All SCBs	32.07	38.42	42.02	26.47	21.30	25.70

Figure 4.2. Credit Flowing to the MSME Sector across SCBs–(Number of Accounts (in millions)

Source: RBI, 'Report on Trend and Progress of Banking in India 2022–23 and 2023–24'.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
PSBs	8,800.33	8,933.15	9,086.59	9,558.60	10,849.53	12,226.87
PVBs	5,636.78	6,469.88	7,920.42	9,698.44	10,898.33	14,023.24
FBs	669.39	732.79	832.24	853.52	853.49	1,002.61
All SCBs	15,106.51	16,135.82	17,839.25	20,110.57	2,2601.35	27,252.72

Figure 4.3. Credit Flowing to the MSME Sector across SCBs–Amount Outstanding (₹ in billion)

Source: RBI, 'Report on Trend and Progress of Banking in India 2022–23 and 2023–24'.

The effect of COVID-19 pandemic is especially evident. In FY 2020–21,MSME loan accounts surged under schemes like the Emergency Credit Line Guarantee Scheme (ECLGS), which injected vital liquidity to keep enterprises afloat. However, the subsequent contraction that followed reflects stricter credit norms and higher eligibility thresholds, forcing many micro-enterprises toward into informal markets where interest rates can exceed 40–60%. This highlights the importance of rebalancing credit access to prevent a widening financing gap, especially for enterprises transitioning into the formal economy.

Looking ahead, India's MSME lending landscape requires a multi-pronged strategy. PSBs remain vital for financial grassroots access, but their long-term viability depends on sustained risk-sharing mechanisms and targeted incentives. PVBs, with their focus on larger, digitally-profiled borrowers, can broaden outreach by adopting innovative micro-credit and cash-flow-based lending models. FBs, with their expertise in cross-border finance, are well placed to enhance the global competitiveness of high-potential MSMEs. The integration of digital lending platforms, Account Aggregator frameworks, and credit guarantee schemes offers a path to build a credit ecosystem that is not only profitable and risk-managed but also deeply inclusive.

4.4. BANK CREDIT TO MSME SEGMENTS

4.4.1. Bank Credit to MSMEs: Consolidation, Formalisation, and Growth (FY 2018–19 to FY 2024–25)

India's MSME credit landscape has undergone a decisive transformation over the past six years, reflecting both robust growth and strategic shifts in bank lending behaviour. Total MSME bank credit more than doubled, rising from ₹14,945 billion in FY 2018–19 to ₹31,300 billion in FY 2024–25.[10] Micro-enterprise lending grew from ₹6,591 billion to ₹15,100 billion, while medium enterprises saw an unprecedented surge from ₹1,974 billion to ₹6,300 billion, making them the fastest-growing segment.[11] Small enterprises also experienced steady gains, climbing to ₹9,900 billion in FY 2024–25.[12] The data suggest that banks are not merely expanding their MSME portfolios but are actively allocating larger ticket sizes to creditworthy and growth-oriented enterprises—reflecting their confidence in the sector's capacity to propel economic expansion.

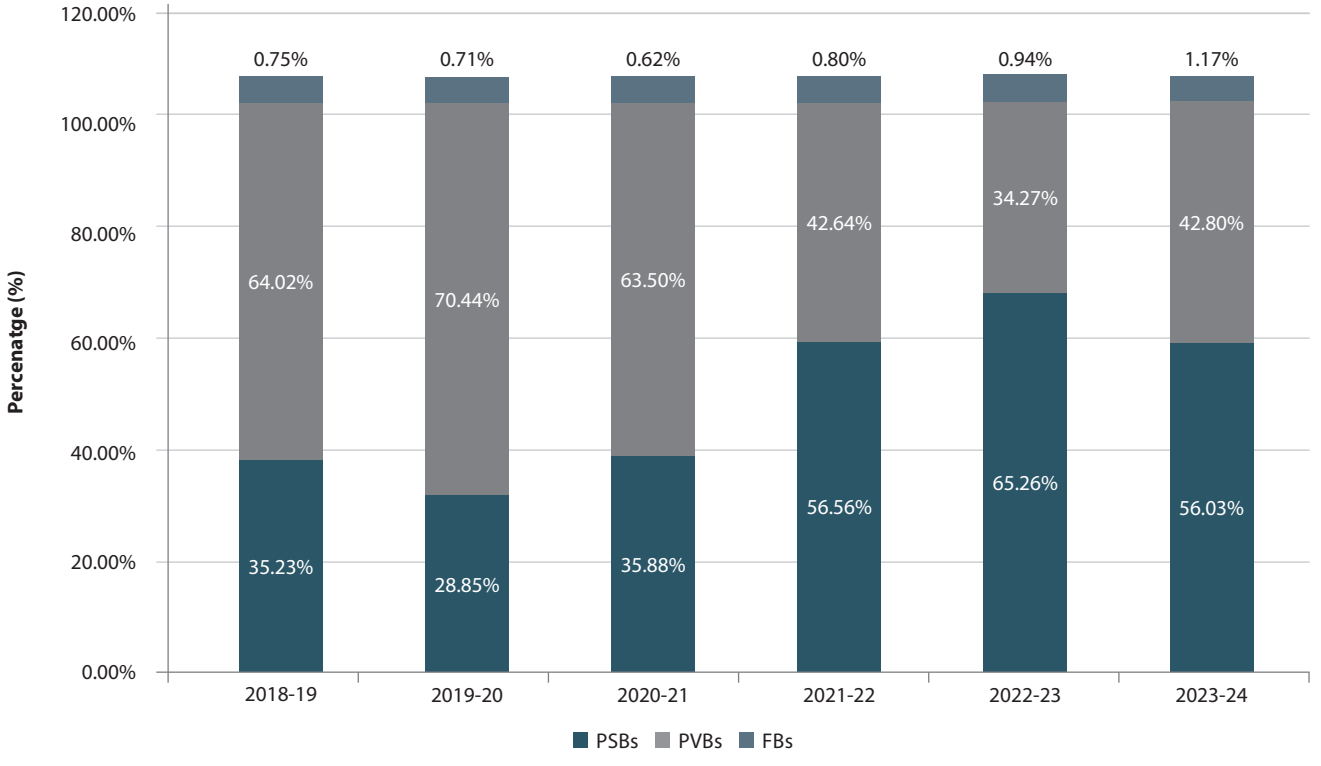
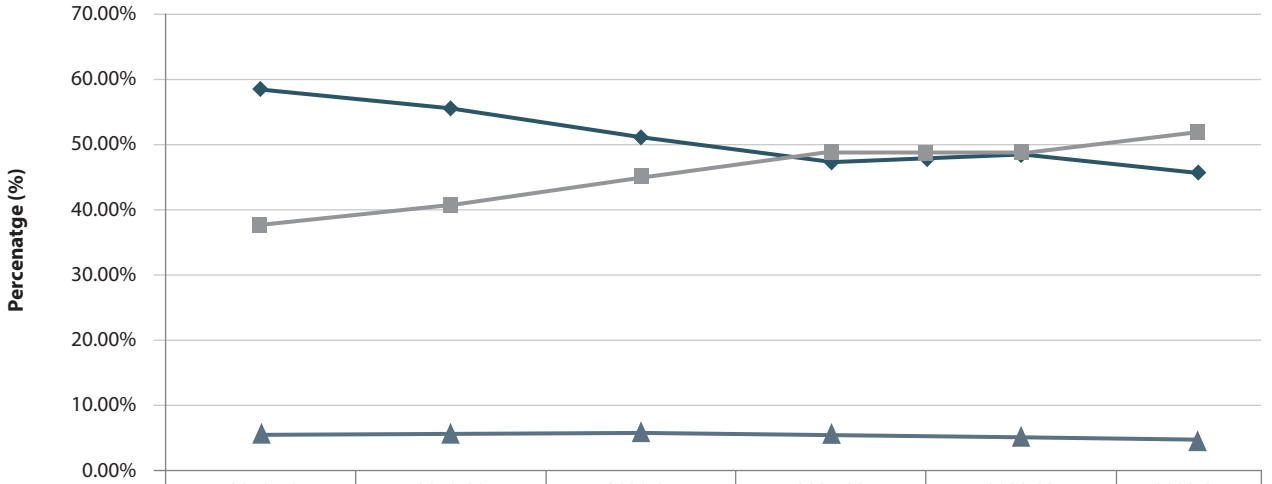


Figure 4.4. SCB Lending to MSMEs in India across Years –Number of Accounts (all figures are year-wise percentages)

Source: RBI, 'Report on Trend and Progress of Banking in India 2022–23 and 2023–24'.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
PSBs	58.26%	55.36%	50.94%	47.53%	48.00%	44.86%
PVBs	37.31%	40.10%	44.40%	48.23%	48.22%	51.46%
FBs	4.43%	4.54%	4.67%	4.24%	3.78%	3.68%

Figure 4.5. SCB lending to MSMEs in India across Years – Amount Outstanding (all figures are year-wise percentages)
Source: RBI, 'Report on Trend and Progress of Banking in India 2022–23 and 2023–24'.

Account-level trends reveal a striking shift in lending structure. MSME loan accounts, which peaked at 42.3 million in December 2020 due to emergency credit measures during the pandemic, have since declined sharply to 24.53 million in FY 2024–25.[13] This 42% contraction from the pandemic peak signals a deliberate strategy of portfolio consolidation and formalisation, as banks focus on enterprises that meet stricter compliance norms and exhibit stronger repayment capacity. Medium enterprises have maintained stable account numbers, rising modestly from 0.26 million to 0.40 million, thereby serving as reliable anchors within banks' MSME portfolios. The combination of rising total credit volumes and falling account numbers underscores a fundamental recalibration of risk appetite in the MSME sector.

This transformation signals a maturing MSME credit market. Policymakers have supported this growth trajectory through schemes like the Pradhan Mantri Mudra Yojana (PMMY), expanded guarantee frameworks, and the push for digital formalisation, creating the confidence required for larger loan exposures. However, this consolidation also underscores the risk of excluding smaller and informal enterprises, which may struggle to access formal finance under increasingly stringent credit norms. Moving forward, a dual strategy is needed: one that sustains high-value, growth-oriented lending, while simultaneously broadening access through cash-flow-based lending models, digitally enabled micro-credit, and tailored financial products to ensure that India's smallest enterprises remain integral to its economic fabric.

Table 4.6. MSME Credit Transformation at a Glance (FY 2018–19 → FY 2024–25)

Indicator	FY 2018–19	FY 2024–25	Shift
Total MSME Outstanding Credit	₹14,945 billion	₹31,300 billion	↑ 110% – Lending volumes doubled
Micro-Enterprise Outstanding Credit	₹6,591 billion	₹15,100 billion	↑ 129% – Strong grassroots focus
Medium-Enterprise Outstanding Credit	₹1,974 billion	₹6,300 billion	↑ 219% – Fastest growth segment
Total MSME Loan Accounts	28.12 million	24.53 million	↓ 13% overall
Peak MSME Accounts (December 2020)	–	42.30 million	↓ 42% from peak (post-COVID)
Average Loan Size per MSME Account	₹0.53 million	₹1.27 million	↑ 139% – Consolidation trend

Source: Data from RBI Annual Report 2018–18 to 2024–25

MSME lending in India has entered a new phase of scale and selectivity. While credit volumes have more than doubled, the number of loan accounts has dropped sharply from pandemic highs, reflecting a lending ecosystem that is increasingly concentrated, compliance-driven, and digitally formalised. Larger loan sizes per account signal banks' confidence in enterprises positioned for scale and export potential, but this trend also emphasises the urgency of innovative financial solutions to ensure micro and small enterprises remain well-integrated into the formal credit pipeline.

Table 4.7. Bank Credit to MSMEs for Number of Accounts (in million)

Types of Enterprises	2018-19	Dec-20	2020-21	2021-22	2022-23	2023-24	2024-25*
Micro	25.56	39.45	38.79	23.96	19.44	23.19	22.58
Small	2.30	2.32	2.78	2.19	1.57	2.13	1.55
Medium	0.26	0.53	0.44	0.32	0.32	0.38	0.40
MSMEs	28.12	42.30	42.02	26.47	21.33	25.7	24.53

Source: RBI, 'Annual Reports 2019–20, 2020–21, 2021–22, 2022–23, 2023–24 and 2024–25'.
Note: * Data are provisional.

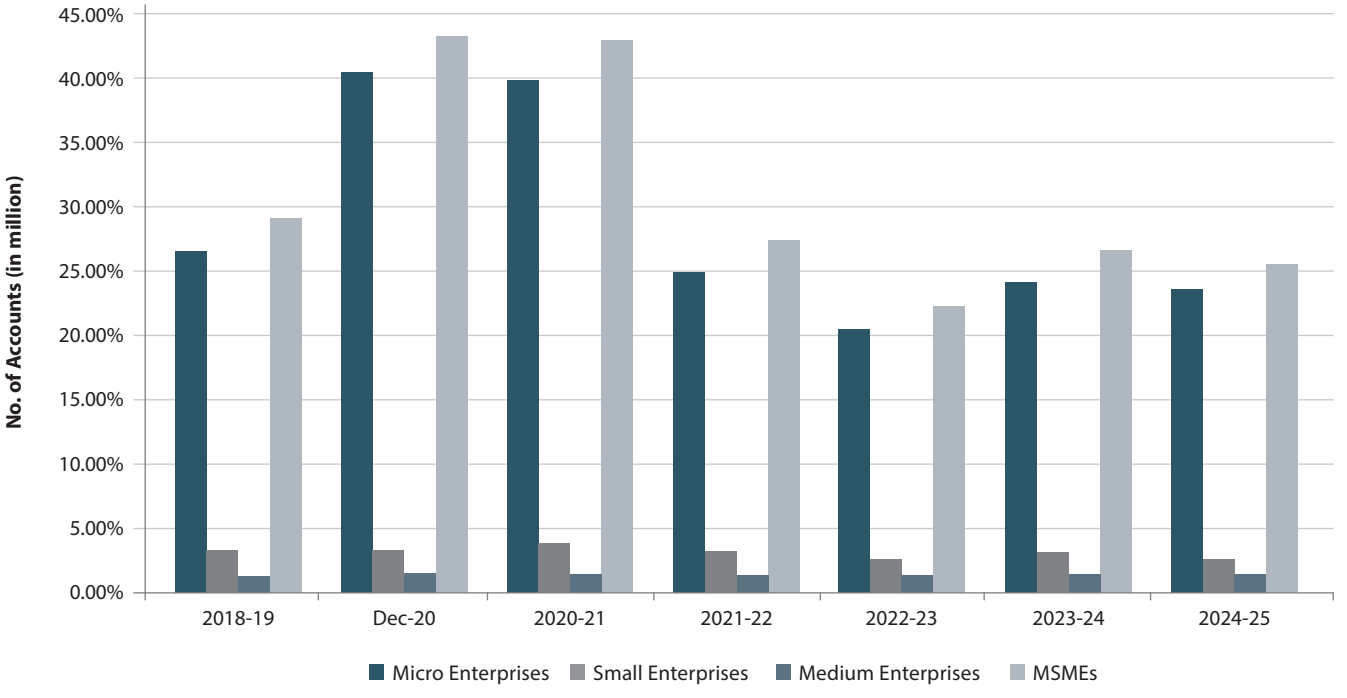


Figure 4.6. Bank Credit to MSME Segments for Number of Accounts (in millions)
Source: RBI, "Annual Reports 2019–20, 2020–21, 2021–22, 2022–23, 2023–24 and 2024–25'.

Table 4.8. Bank Credit to MSMEs for Amount Outstanding (₹ in billion)

Types of Enterprises	2018-19	Dec-20	2020-21	2021-22	2022-23	2023-24	2024-25*
Micro	6,591.02	7,631.09	8,210.28	8,826.94	10,500.00	13,300.00	15,100.00
Small	6,380.31	6,522.92	6,629.98	7,222.74	7,500.00	8,600.00	9,900.00
Medium	1,974.19	2,709.24	2,998.98	4,060.89	4,600.00	5,300.00	6,300.00
MSMEs	14,945.52	16,863.25	17,839.24	20,110.57	22,600.00	27,200.00	31,300.00

Source: RBI, 'Annual Reports 2019–20, 2020–21, 2021–22, 2022–23, 2023–24 and 2024–25'.
Note: * Data are provisional.

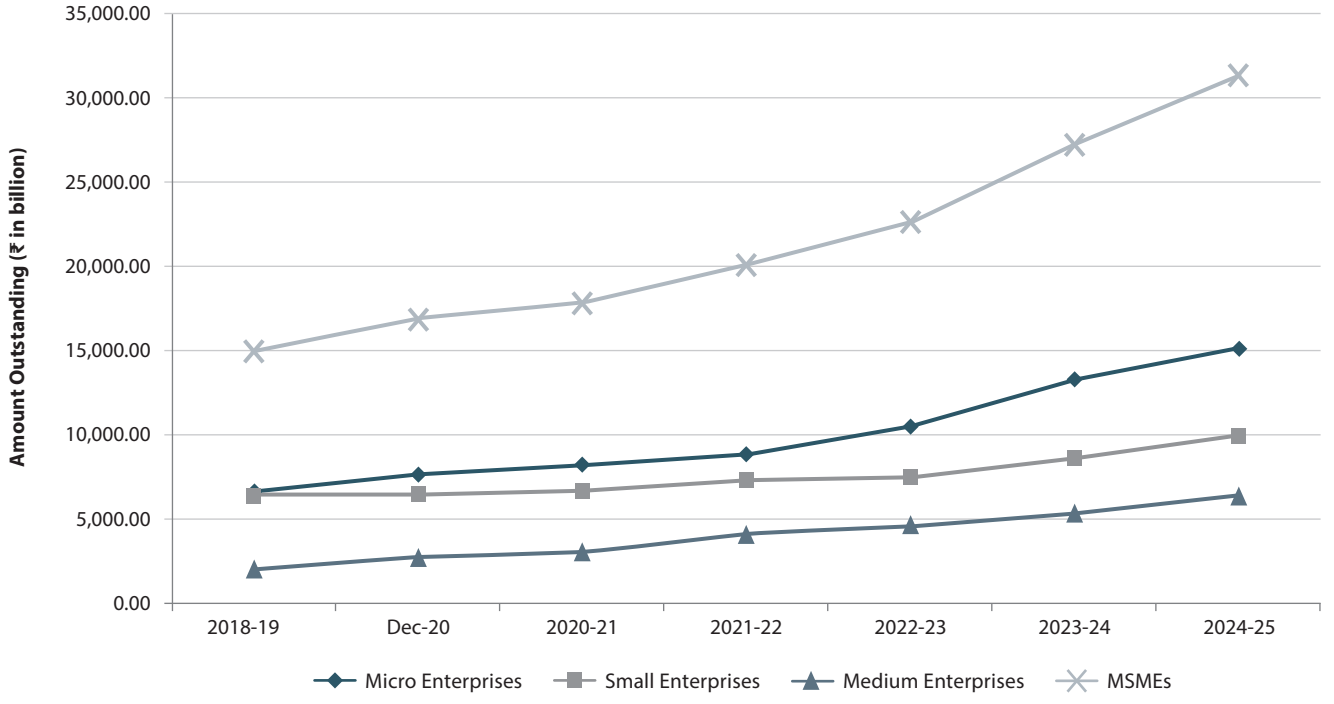


Figure 4.8. Bank Credit to MSME Segments for Amount Outstanding (₹ in billion)
Source: RBI, 'Annual Reports 2019–20, 2020–21, 2021–22, 2022–23, 2023–24 and 2024-25'.

4.5. MSME ASSET QUALITY ANALYSIS

4.5.1. MSME Asset Quality Profile: 2021–25 Trends and Insights

The asset quality of India's MSME lending portfolio has undergone a remarkable transformation over the past four years, reflecting both systemic recovery and targeted regulatory support. In March 2021, MSME loans carried a gross non-performing asset (GNPA) ratio of 10.8%, underscoring the lingering impact of pandemic-era disruptions. By March 2023, this ratio had fallen sharply to 6.8%, and further improvements were seen through FY 2024–25, with GNPA declining to 4.5% in March 2024 and an estimated 3.6% by March 2025.[14] This sustained reduction signals not only stronger repayment behaviour among MSMEs but also banks' success in implementing risk-mitigating measures, such as ECLGS and more granular credit assessments.

Special Mention Account (SMA) data further supports this narrative of resilience. SMA-2 accounts, representing loans overdue by 60–90 days—a critical early-warning category—dropped from 2.2% in March 2021 to 1.7% in September 2023, before settling near 0.8% by March 2025.[15] Similarly, the share of "subprime" borrowers—those with lower credit scores or inconsistent repayment records—fell from 33.5% in June 2022 to 23.3% in March 2025, demonstrating a significant shift in the creditworthiness of MSME borrowers. This progress reflects the combined effect of digital formalisation initiatives like the Udyam Registration system, improved underwriting practices, and stronger financial literacy among MSME owners.

These trends point to a sector that is not only recovering from earlier shocks but is also structurally strengthening. Banks and policymakers have successfully balanced credit growth with portfolio quality, leveraging targeted interventions and risk-sharing mechanisms to improve borrower performance. This dynamic creates a virtuous cycle: improved asset quality reduces provisioning needs and risk weights for lenders, thereby expanding their capacity to extend more credit to MSMEs without compromising profitability. Looking ahead, sustaining this momentum will require continuous investment in data-driven credit assessment models, the development of robust early-warning frameworks, and targeted policy support tailored to high-potential MSME clusters. With MSMEs contributing nearly 30% of India's GDP and over 45% of exports, this improvement in financial resilience is a critical pillar of India's economic stability and growth trajectory.

Table 4.9. MSME Asset Quality Profile of Scheduled Commercial Banks (SCBs), FY 2021–25

Metric/Category	March 2021	March 2022	September 2023	March 2024	March 2025*
GNPA (Gross NPA)	10.8%	≈ 9.3%	4.7%	4.5%	3.6%
SMA-2 (60–90 days overdue)	~2.2%	~2.2%	1.7%	–	~0.8%

*Latest 2024–25 data from RBI and IBEF reports; "–" indicates unavailable category-level disclosures.

Data on total advances outstanding-funded, gross NPAs and Gross NPA ratio, of SCBs in MSME sector is provided below.

4.6 MSME FINANCING BY SFBS

4.6.1. SFBs and MSME Lending: Growth, Diversification, and Portfolio Recalibration

4.7. PRADHAN MANTRI MUDRA YOJANA (PMMY) AND MUDRA

4.7.1. PMMY: A Decade of Inclusive Growth and Entrepreneurship

Since its launch in March 2015, PMMY has become a foundational pillar of India's MSME financing ecosystem, sanctioning 523.69 million loans worth ₹33,650 billion as of 21 March 2025.[16] Its tiered loan framework—Shishu (up to ₹50,000), Kishore (₹50,001–₹5,00,000), Tarun (₹5,00,001–₹10,00,000), and Tarun Plus (₹10,00,001–₹20,00,000)—enables micro-entrepreneurs to progressively access larger capital, creating a structured credit ladder. Over the decade, average loan sizes have tripled, from ₹38,000 in FY2016 to ₹0.10 million in FY 2025, illustrating a maturing entrepreneurial landscape.[17] The State Bank of India (SBI) estimates total MSME lending has grown from ₹8,510 billion in FY 2014 to ₹27,250 billion in FY2024, with FY2025 projected to cross ₹30,000 billion. This trajectory highlights PMMY's systemic impact in shifting entrepreneurship from survival to scale.

The programme's inclusivity is unparalleled: 68–71% of all loan accounts belong to women entrepreneurs, with a 13% compound annual growth rate (CAGR) in per-woman loan disbursement.[18] Additionally, 50% of Mudra borrowers are from scheduled caste/scheduled tribes/other backward castes (SC/ST/OBC) communities and 11% belong to minority groups, showing its role as a financial equaliser. Among states, Tamil Nadu leads with ₹3,230 billion in disbursements, followed by Uttar Pradesh, Karnataka, West Bengal, and Bihar, while Jammu & Kashmir tops union territories (UTs) with ₹458.15 billion disbursed. These numbers demonstrate PMMY's penetration across diverse geographies—from high-growth industrial hubs to remote regions—fuelling local enterprise and employment.

Table 4.10. Total MSME Advances and Gross NPAs (amount in ₹ billion)

Period, as on	Total MSME Advances (Funded)	Gross NPAs	Gross NPA (%)
31-03-2020	16,978.36	1,872.55	11%
31-03-2024	28,045.11	1,252.17	4%

Table 4.11. SFBs as Inclusive Growth Engines

Metric	2018	2023	2024	Key Insight
Total Advances (₹ billion)	467.55	1,778.87	2,261.48	• 4x growth in total lending in just six years.
MSME Advances (₹ billion)	144.94	432.27	612.86	• MSME lending tripled, demonstrating resilience.
MSME Share of Total Advances (%)	31.0%	24.3%	27.1%	• Share fell due to portfolio diversification.
Portfolio Strategy	MSME-focused	Diversified	Balanced	• Shift from high MSME concentration to stability.
Development Impact	Rural-centric	Nationwide	Inclusive Scaling	• SFBs remain pillars of financial inclusion.

Source: Data from RBI, 'Report on Trend and Progress of Banking in India 2018–19, 2019–20, 2020–21, 2021–22 2022–23 and 2023–24'.

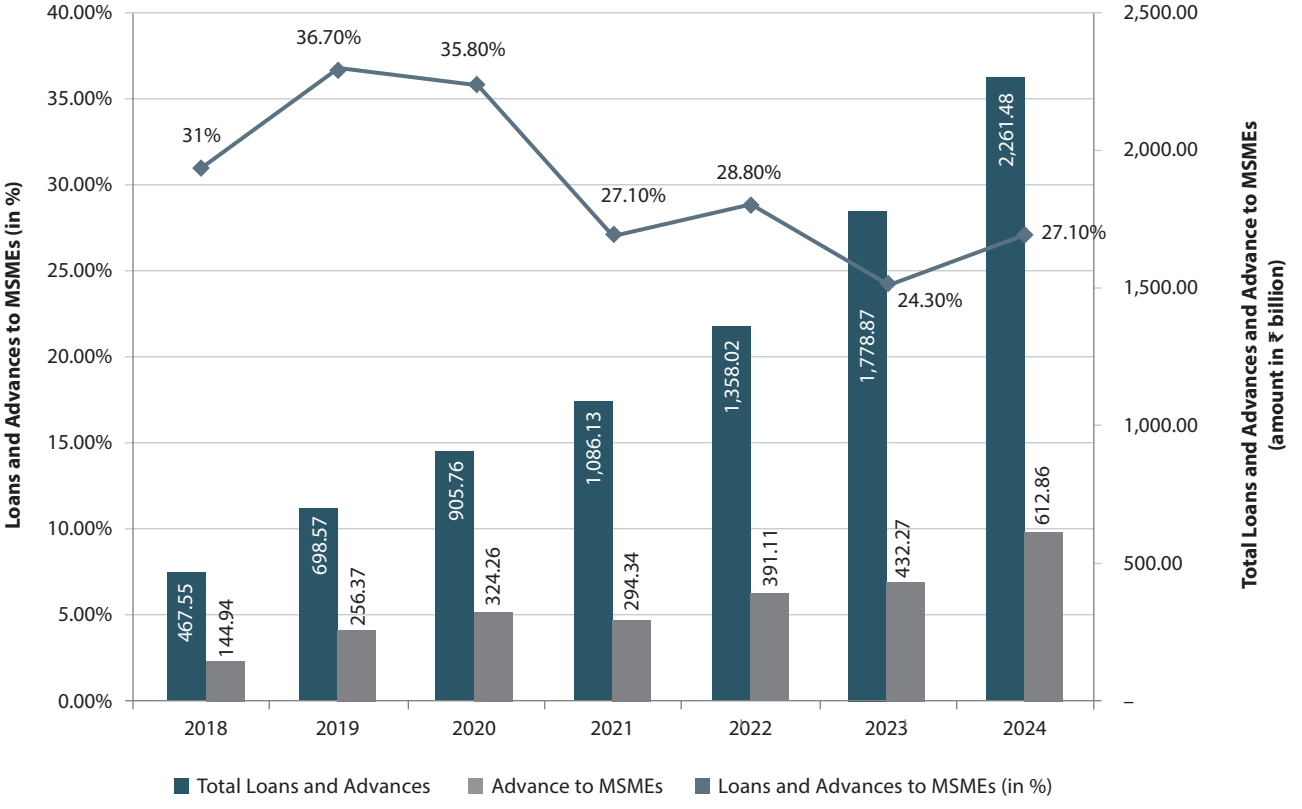


Figure 4.9. Loans and Advances to MSMEs (all figures are % of total SFB advance) and Total Loans and Advances and Advance to MSMEs by SFBs (in ₹billion)

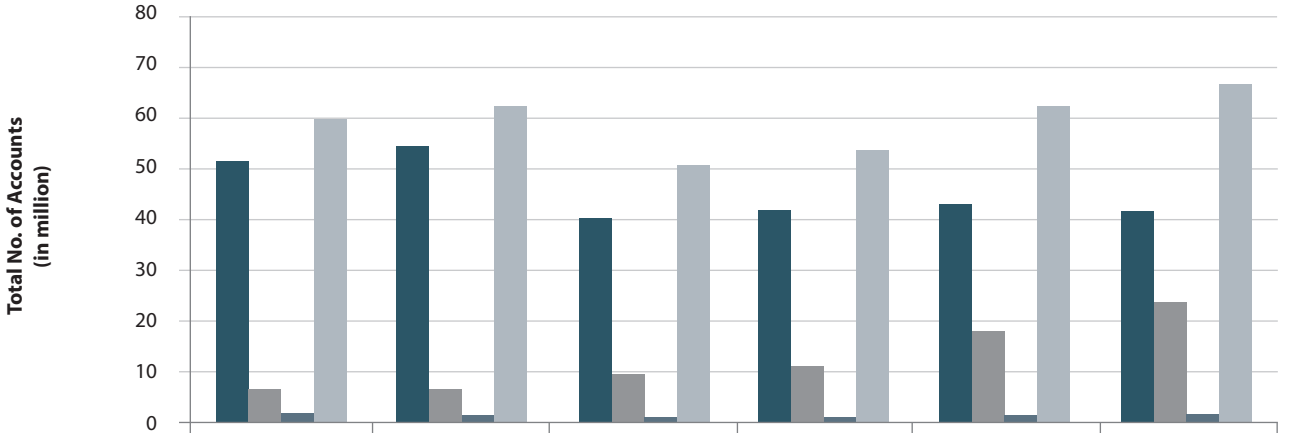
Source: RBI, 'Report on Trend and Progress of Banking in India 2018–19, 2019–20, 2020–21, 2021–22 2022–23 and 2023–24'.

Institutional performance under PMMY reflects a well-coordinated ecosystem: PSBs anchor the scheme with rural outreach and high-volume Shishu and Tarun lending, while PVBs lead in Kishore loans through tech-enabled speed and flexibility. SFBs focus on micro-entrepreneurs in rural and tier-2/3 markets, and NBFCs/MFIs expand reach to niche and underserved segments with high-touch models. Together, these institutions have transformed PMMY into a nationwide growth engine, driving formalisation, self-reliance, and job creation.

Table 4.12. PMMY at a Glance (as of 21 March 2025)

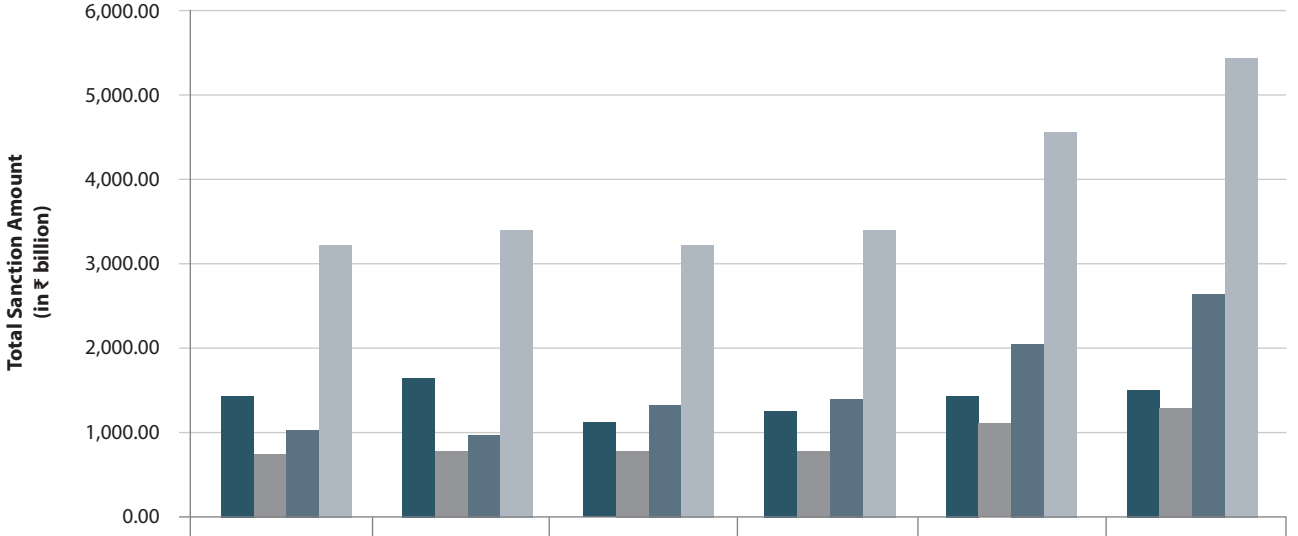
Metric	Value
Total Loan Accounts	523.69 million
Total Sanctioned Amount	₹33,650 billion
Average Loan Size (FY 2025)	₹0.10 million
Women Borrowers	68–71%
SC/ST/OBC Borrowers	50%
Minority Borrowers	11%
Top State	Tamil Nadu – ₹3,230 billion
Top Union Territory	J&K – ₹458.15 billion

Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2119954



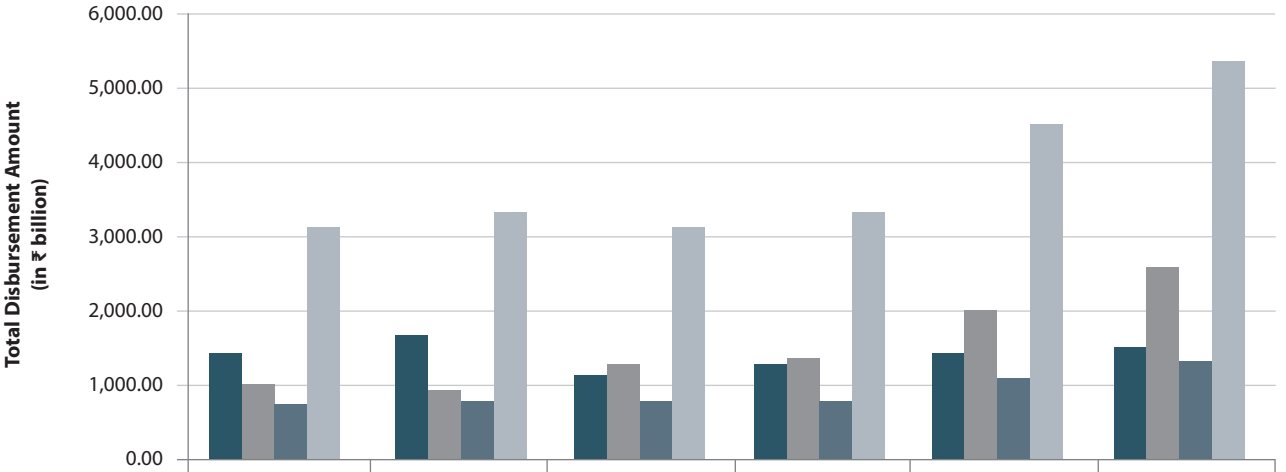
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu Loan	51.51	54.48	40.18	41.72	43.08	41.63
Kishore Loans	6.61	6.47	9.49	11.09	17.92	23.63
Tarun Loans	1.76	1.29	1.07	0.99	1.32	1.52
Total	59.88	62.24	50.74	53.8	62.32	66.78

Figure 4.10. PMMY Total Number of Accounts from 2018–19 to 2023–24
Source: PMMY Bank Wise Performance 2018–19, 2019–20, 2020–21, 2021–22, 2022–23 and 2023–24



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu Loan	1,423.44	1,635.28	1,099.53	1,247.47	1,427.66	1,489.37
Tarun Loans	749.69	783.55	792.90	767.19	1,097.65	1,297.91
Kishore Loans	1,043.78	955.75	1,325.16	1,376.44	2,040.07	2,622.85
Total	3,216.91	3,374.58	3,217.59	3,391.10	4,565.38	5,410.13

Figure 4.11. PMMY Total Sanction Amount (in ₹ billion) from 2018–19 to 2023–24
Source: PMMY Bank Wise Performance 2018–19, 2019–20, 2020–21, 2021–22, 2022–23 and 2023–24



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu Loan	1,396.51	1,627.83	1,086.37	1,239.69	1,416.10	1,477.85
Kishore Loans	998.59	914.23	1,272.39	1,333.89	2,009.37	2,570.94
Tarun Loans	722.70	754.71	758.78	740.44	1,078.77	1,274.79
Total	3,117.80	3,296.77	3,117.54	3,314.02	4,504.24	5,323.58

Figure 4.12. PMMY Total Disbursement Amount (in ₹ billion) from 2018–19 to 2023–24
Source: PMMY Bank Wise Performance 2018–19, 2019–20, 2020–21, 2021–22, 2022–23 and 2023–24

4.8. SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA (SIDBI) AND MSMES

4.8.1. SIDBI: Scaling MSME Finance and Driving Innovation

SIDBI[19] has cemented its position as India's principal financial institution for MSMEs, serving as a catalyst for credit expansion, digital innovation, and entrepreneurial growth. Over the past five years, SIDBI's role has expanded well beyond refinancing, evolving into a strategic anchor for MSME financing that blends direct lending, institutional partnerships, and technology-driven services. As of 31st December 2024, SIDBI's overall loan portfolio reached an unprecedented ₹4.62 trillion, representing a nearly threefold increase from ₹1.56 trillion in March 2021, demonstrating its capacity to respond to India's rapidly diversifying MSME sector.[20]

4.8.2. Scaling Refinance and Institutional Partnerships

SIDBI's core strength lies in its ability to channel liquidity through financial institutions to MSMEs across India. Its refinance to banks portfolio grew from ₹1.31 trillion in March 2021 to ₹2.98 trillion in March 2023, and further to ₹3.63 trillion in March 2024, reflecting a 177% increase over three years.[21] This surge, achieved through partnerships with 49 scheduled commercial banks, underscores SIDBI's role as a systemic enabler of MSME credit. Refinance support to NBFCs—a critical link for last-mile lending to smaller and riskier borrowers—also rose sharply, expanding from ₹112.92 billion in March 2021 to ₹552.05 billion in December 2024, an almost fivefold growth. Its targeted support for MFIs demonstrates commitment to rural entrepreneurship: disbursements increased from ₹25.83 billion in March 2021 to ₹87.71 billion in December 2024, ensuring rural and low-income entrepreneurs remain financially included.

This institutional approach has enabled SIDBI to de-risk the MSME financing ecosystem by harnessing the reach of banks, the agility of NBFCs, and the local networks of MFIs. The bank's diversification strategy further ensures credit penetration even in geographies and sectors where traditional lenders have limited presence.

4.8.3. Expanding Direct Credit and Digital Transformation

Direct lending has become an equally important lever for SIDBI, with outstanding loans increasing from ₹115.81 billion in March 2021 to ₹315.66 billion in December 2024—a 173% rise. SIDBI has adopted cash-flow-based lending models powered by real-

time data from Goods and Services Tax Network (GSTN), Udyam Registration, and other public platforms, reducing collateral requirements and improving access for first-generation entrepreneurs. Initiatives like Quick Bank Loans Under an Hour and blockchain-based security systems underscore SIDBI's commitment to transparency and speed, instilling confidence in MSMEs in transitioning to fully digital credit ecosystems.

Digital platforms supported by SIDBI—such as TReDS for invoice discounting, Udyamimitra for loan matchmaking, and Jocata Sumpoorn for MSME health assessment—illustrate its leadership in building an integrated financial infrastructure. Notably, the Jocata Sumpoorn Index, which measures MSME sector health, registered 0.59 in July 2025, up from 0.58 in June,[22] signalling cautious expansion amid subdued fast-moving consumer goods (FMCG), automotive, and core industry growth. This real-time metric demonstrates SIDBI's ability to combine financing with intelligence, enabling policymakers and lenders to respond proactively to sectoral stress.

4.8.4. Financing Innovation and MSME Resilience

SIDBI's focus extends beyond traditional MSMEs, with initiatives like the Fund of Funds for Startups (FFS) and SLF-3 to support fintech and digital finance entities. These initiatives have catalysed venture capital investments, expanded financing channels for innovative enterprises, and fostered stronger linkages between startups and MSMEs. Agricultural MSMEs, particularly those vulnerable to erratic monsoons and climate risk, have benefited from SIDBI's rural finance strategies, helping them stabilise cash flows and strengthen resilience. Seasonal demand surges—evident in two-wheeler and tractor sales during festive months—are now better financed through SIDBI's emphasis on cash-flow projections rather than traditional collateral, ensuring MSMEs can respond dynamically to market cycles.

SIDBI's scaling impact is clear in aggregate numbers: total sanctions surged from ₹966.62 billion in March 2021 to ₹3.01 trillion by March 2024, while total disbursements rose from ₹960.29 billion to ₹2.94 trillion in the same period.[23] This tripling of operations reflects both the growing demand for MSME credit and SIDBI's capacity to meet that demand through policy alignment, digitalisation, and institutional partnerships.

4.8.5. Strategic Implications

SIDBI's trajectory reflects the shift in MSME financing from a fragmented, collateral-driven model to a data-driven, technology-enabled ecosystem. Its multi-channel approach—refinancing banks, empowering NBFCs, supporting MFIs, and extending direct credit—demonstrates a scalable blueprint for inclusive growth. Through digital intelligence tools like the Jocata Sumpoorn Index, SIDBI is shaping a predictive financing architecture that can anticipate sectoral distress and unlock capital where it is most needed. By funding over ₹4.62 trillion in outstanding credit, SIDBI not only bridges India's MSME financing gap but also strengthens the sector's ability to weather economic cycles, fuel exports, and sustain job creation.

SIDBI's expanding portfolio, its deep integration with India's financial infrastructure, and its bold investments in digital innovation firmly establish it as the nerve centre of India's MSME ecosystem. In a sector contributing 30% of GDP and over 45% of exports, SIDBI's evolution marks a decisive shift towards a digitally-enabled, resilience-driven MSME growth model that is integral to India's economic ambitions.

Table 4.13. Core Operations at A Glance by SIDBI (in ₹ billion)

	March 2021			March 2022			March 2023			March 2024			2025 (As on 31.12.2024)
	Sanction	Disbursement	Outstanding	Sanction	Disbursement	Outstanding	Sanction	Disbursement	Outstanding	Sanction	Disbursement	Outstanding	Outstanding
Direct Credit	47.46	40.07	115.81	67.6	56.73	141.87	87.8	65	184.09	161.83	124.76	268.26	315.66
Refinance to Banks	816.37	816.37	1,316.64	1,227.81	1,223.35	1,668.32	2,420.54	2,420.54	2,981.73	2,432.11	2,432.11	3,631.01	3,698.09
Refinance to NBFC	75.62	78.02	112.92	131.78	126.77	179.35	220.37	229.8	334.15	330.25	324.2	552.05	539.33
Refinance to MFI	27.17	25.83	16.72	41.78	28.93	31.18	41.2	38.12	49	87.65	61.72	87.71	65.54
Total	966.62	960.29	1,562.09	1,468.97	1,435.78	2,020.72	2,769.91	2,753.46	3,548.97	3,011.84	2,942.79	4,539.03	4,618.62

Source: SIDBI Annual Report 2021–22, 2022–23, 2023–24 and Ministry of Finance Annual Report 2024–25

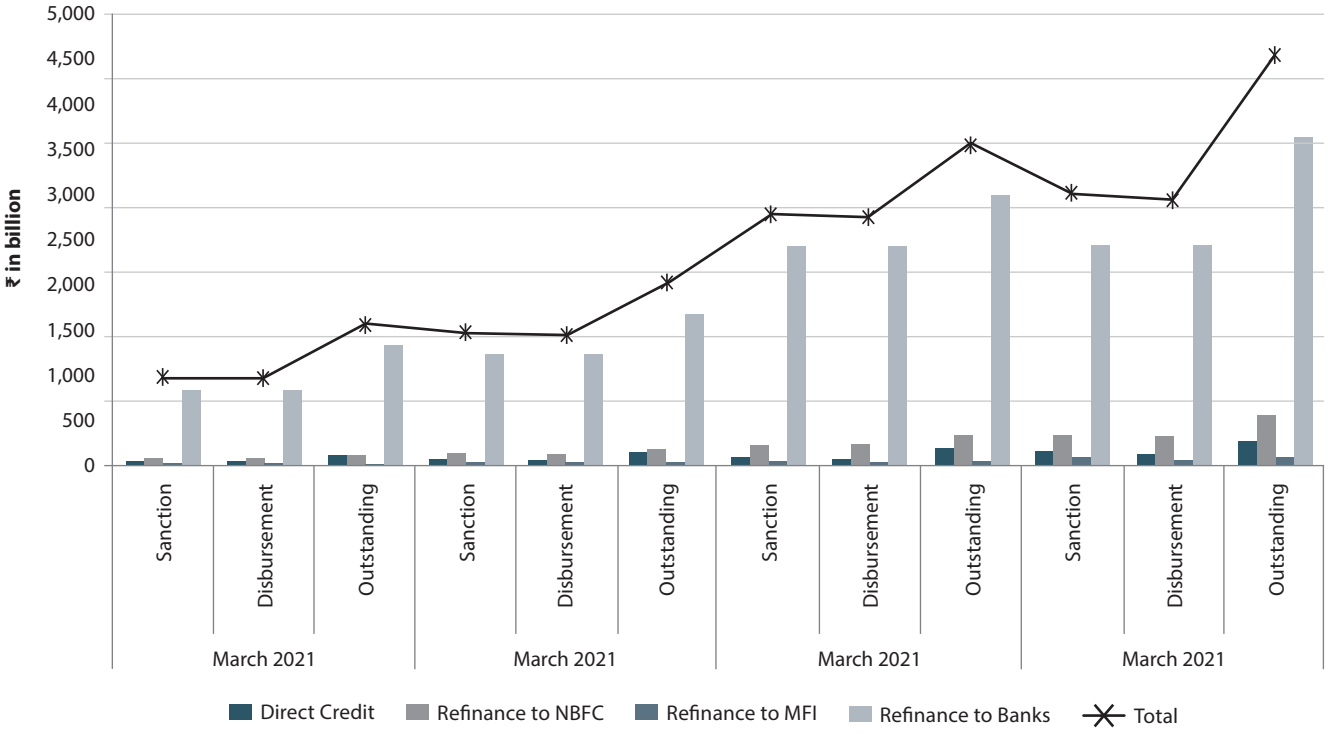


Figure 4.13. Core Operations at a Glance by SIDBI (in ₹ billion)
Source: SIDBI Annual Report 2021–22, 2022–23 and 2023–24

4.9. THE CREDIT GUARANTEE FUND TRUST FOR MICRO AND SMALL ENTERPRISES (CGTMSE) DATA ANALYSIS

4.9.1. CGTMSE: Scaling Collateral-Free Credit and Regional Inclusion

CGTMSE has become a backbone of India's MSME financing ecosystem, offering collateral-free credit guarantees that encourage banks and NBFCs to lend to first-generation entrepreneurs, micro units, and enterprises in underserved geographies. As of 31st May 2025, the scheme has cumulatively approved 11.86 million guarantees covering ₹9.80 trillion in sanctioned loans, demonstrating its scale and systemic importance.[24] What started as a policy tool to address credit hesitancy among lenders has evolved into a sophisticated platform integrated with the Udyam Registration portal, digitised workflows, and public credit infrastructure, accelerating access to working capital and term loans for MSMEs nationwide.

A regional lens on CGTMSE utilisation reveals both economic concentration and inclusive outreach. Uttar Pradesh leads the nation with 1,496,917 guarantees and sanctioned amounts

Table 4.14. CGTMSE Total Number of Guarantees and Amount Approved

Financial Year	No. of Guarantees (in million)	Amount Approved (in ₹ billion)
2020–21	5.19	2,656.03
2021–22	5.91	3,217.75
2022–23	7.07	4,265.56
2023–24	8.80	6,293.64
2024–25 (Up to December 31, 2024)	10.16	8,076.88

Source: Government of India, 'Ministry of MSME Annual Report 2024–25', https://msme.gov.in/sites/default/files/MSME-ANNUAL-REPORT-2024-25-ENGLISH.pdf

crossing ₹1.00 trillion, signalling its emergence as a manufacturing and trading powerhouse. Maharashtra follows with 961,944 guarantees and ₹1.19 trillion sanctioned—despite fewer guarantees than Uttar Pradesh, Maharashtra's higher loan values reflect its capital-intensive MSME base. Tamil Nadu and Karnataka rank third and fourth, with approved guarantees worth ₹742.57 billion and ₹752.39 billion, highlighting the dynamism of southern states, which together account for nearly a quarter of the total sanctioned credit under CGTMSE. Gujarat, with ₹815.55 billion in guarantees, rounds out the top five, reflecting its strong MSME industrial clusters.

At the other end of the spectrum, Ladakh, Lakshadweep, and the Andaman and Nicobar Islands have smaller absolute numbers (2,276,589, and 5,735 guarantees, respectively), yet their inclusion demonstrates the scheme's national footprint. Northeastern states like Arunachal Pradesh (₹12.92 billion), Meghalaya (₹14.79 billion), and Nagaland (₹11.70 billion) have also witnessed significant penetration relative to their MSME populations, reflecting targeted outreach efforts. This diversity underscores CGTMSE's dual function: driving large-scale credit volumes in industrialised hubs while serving as a financial equaliser in underbanked regions.

CGTMSE's expansion has been dramatic over the last five years, with guarantees approved rising from 5.19 million in FY 2020–21 (₹2.65 trillion) to 10.16 million by December 2024 (₹8.07 trillion), representing a 204% increase in sanctioned credit volume.[25] The scheme's throughput grew most rapidly in FY 2023–24, with 8.80 million guarantees and ₹6.29 trillion sanctioned—nearly double FY 2022–23's figures. The data suggests CGTMSE has become a counter-cyclical instrument: post-demonetisation and during COVID-19, guarantee volumes surged, cushioning MSMEs from liquidity shocks. By FY 2022–23, a drop in the claims ratios indicated improving repayment behaviour, demonstrating CGTMSE's maturation from a crisis-response tool into a structured growth driver.

While Uttar Pradesh dominates in volume, Maharashtra leads in sanctioned value, reflecting regional industrial characteristics: Maharashtra's MSMEs tend toward capital-intensive sectors such as automotive components and electronics, while Uttar Pradesh has a high density of micro-enterprises in leather, handicrafts, and food processing. Southern states like Tamil Nadu and Karnataka excel in technology, textiles, and manufacturing clusters, leveraging CGTMSE guarantees to support export-oriented MSMEs. Meanwhile, Gujarat's leadership in engineering and chemicals is mirrored in its high sanctioned amounts.

Beyond top-performing states, CGTMSE's inclusivity is striking. Smaller Union Territories like Lakshadweep (₹0.2 billion approved) and Andaman and Nicobar Islands (₹5.98 billion approved) benefit from the same guarantee cover as industrial hubs, supporting micro-businesses often overlooked by formal lending channels. Northeastern states such as Assam (₹200.98 billion) and Arunachal Pradesh (₹12.92 billion) show rising participation, aided by digital processing that reduces geographic constraints.

4.10. TRADE RECEIVABLES DISCOUNTING SYSTEM (TREDS)DATA ANALYSIS

4.10.1. TReDS: Driving Liquidity and Financial Inclusion for MSMEs

TReDS, launched by RBI in 2014 and operational since 2017 through three licensed exchanges, has rapidly evolved into a transformative tool for MSME financing. By enabling MSMEs to discount invoices raised against corporates, government entities, and PSUs, TReDS has created a transparent, collateral-free pathway to working capital. This innovation addresses a critical gap in India's MSME ecosystem, where delayed payments and lack of collateral historically constrained growth, particularly for smaller enterprises. The platform has become a key pillar of India's digital financial infrastructure, combining regulatory oversight with fintech-driven efficiency to unlock liquidity at scale.

Data from Table 4.15 demonstrates TReDS's meteoric rise between FY 2018–19 and FY 2023–24. In just five years, invoices uploaded on the platform increased seventeen-fold, from 251,695 to 4.4 million, while the total invoice value uploaded jumped from ₹67 billion to ₹1,513.43 billion. During this period, invoices financed also grew dramatically, from 232,098 to over 4.1 million, with the financed amount escalating from ₹58.54 billion to ₹1,382.41 billion—a near 24-fold increase. This trajectory reflects the platform's growing acceptance among corporates and financiers, as well as its ability to meet the liquidity needs of MSMEs across supply chains. The conversion ratio of uploaded to financed invoices consistently remained above 93%, underscoring TReDS's operational efficiency and the trust it has built among participants.

Table 4.16 further illustrates this growth through annual throughput trends, revealing an

Table 4.15. MSME Financing Through TReDS – Year on Year Progress

Financial Year	Invoices Uploaded	Amount Uploaded (₹ billion)	Invoices Financed	Amount Financed (₹ billion)
2018–19	251,695	67.00	232,098	58.54
2019–20	530,077	130.88	477,969	111.66
2020–21	861,560	196.70	786,555	170.80
2021–22	1,733,553	441.12	1,640,824	403.09
2022–23	2,724,872	839.55	2,558,531	766.45
2023–24	4,404,148	1,513.43	4,158,554	1,382.41

Source: RBI, Report on Trend and Progress of Banking in India 2022–23 and 2023-24.

Table 4.16. Growth of Annual through put Processed on the TReDS Platforms[26]

Financial Year	Total Amount Financed (₹ billion)	Y-o-Y Growth Rate
2017–18	9.5	
2018–19	58.5	518%
2019–20	110.0	88%
2020–21	170.0	55%
2021–22	400.0	135%
2022–23	765.0	91%
2023–24	1,380.0	80%
2024–25	2,330.0	69%

Source: Data from https://www.rxil.in/wp-content/uploads/2025/05/trade-receivables-impact-assessment-report-2025.pdf

exceptional expansion from ₹9.5 billion financed in FY 2017–18 to a projected ₹2,330 billion in FY 2024–25.[27] Year-over-year growth rates peaked at 518% in FY 2018–19, stabilising at a robust 69–91% range over the following years. The pandemic period catalysed further adoption: in FY 2021–22, throughput surged to ₹400 billion, more than doubling from the previous year, as MSMEs leveraged TReDS to navigate post-COVID recovery. By FY 2022–23, financing volumes nearly doubled again to ₹765 billion, and by FY 2023–24 crossed ₹1.38 trillion, reflecting compounding growth and an expanding network of corporates, financiers, and MSMEs using the platform.

The TReDS story represents more than just numerical growth; it signals a paradigm shift in MSME financing. By formalising trade receivables and integrating seamlessly with supply chains, TReDS fosters a virtuous cycle of trust: corporates benefit from improved supplier relationships, financiers gain access to validated transaction data, and MSMEs unlock collateral-free liquidity. Its digital-first design has enhanced transparency, curtailed payment delays, and enabled even micro-enterprises to access formal credit, strengthening their role in India's economic ecosystem. Against the backdrop of a ₹30,000-billion MSME credit gap, platforms like TReDS are critical in bridging financing asymmetries and fostering financial inclusion.

With over ₹2.3 trillion projected financing in FY 2024–25, TReDS is poised to become a flagship element of India's digital financial architecture, complementing initiatives such as the Account Aggregator framework, GSTN integration, and UPI-enabled payments. By embedding liquidity solutions directly within supply chains, TReDS not only mitigates systemic risks from delayed receivables but also empowers MSMEs to invest, grow, and innovate. Its trajectory demonstrates the power of regulatory foresight and fintech scalability, offering a blueprint for how digitally enabled marketplaces can reshape MSME financing in emerging economies.

5.11.DIGITAL LENDING

5.11.1. Digital Lending to MSMEs in India, 2025

In 2025, digital lending is no longer an emerging experiment but a critical pillar of MSME financing. Yet only 18% of MSMEs have accessed digital loans despite 90% reporting acceptance of digital payments, signalling readiness for a broader financial transformation.[28] The MSME credit gap, estimated at ₹30,000 billion or roughly 24% of total demand, remains a significant barrier, with women-led enterprises facing a 35% gap and the service sector facing 27% gap.[29] Addressing this requires more than digitalisation: credit systems must be rooted in value chains, where financing is built

around trade linkages, supplier relationships, and e-commerce ecosystems, thereby improving loan underwriting and ensuring funds flow to businesses deeply integrated into productive networks.

Value chain–anchored digital lending integrates fintech innovation with rich transaction data, lenders to assess risk beyond conventional credit scores. By leveraging e-commerce records, GST filings, and UPI transaction trails, these platforms are creating a dynamic infrastructure for inclusive finance.[30] Initiatives like GST SAHAY and the Udyam Assist Portal illustrate this shift, offering instant collateral-free credit based on verified invoices and registration data.[31] Fintech lenders such as Indifi, Capital Float, and Vayana Network partner with banks and NBFCs to deliver working capital at speed and scale, creating value chain ecosystems where credit, logistics, and market access are seamlessly integrated. This convergence of policy, technology, and market linkages is redefining MSME lending models and lowering entry barriers for informal micro-enterprises, women-led entrepreneurs, and rural entrepreneurs.

By embedding finance within supply and distribution networks, digital lending becomes a growth enabler rather than a stopgap solution.[32] Value chain financing reduces default risk, promotes transparency, and aligns lenders' incentives with MSMEs' business cycles. With projections suggesting a 22% CAGR for digital lending, potentially reaching $1.3 trillion by 2030,[33] India's financial ecosystem is entering a phase where credit is accessible regardless of geography, traditional collateral, or bank branch presence. Anchoring this transformation in value chains ensures that MSMEs—already central to India's employment and exports—can grow sustainably, scale faster, and drive inclusive economic growth.

4.12. DISCUSSION

4.12.1. Key Insights on MSME Credit and Policy Trends in India (2024–25)

India's MSME sector has emerged as a critical engine of economic growth, propelled by rapid credit expansion, digital innovation, and evolving state and central policies. While MSME lending has outpaced retail credit growth, a significant ₹30,000 billion credit gap persists, especially for micro and nano enterprises. Formalisation through platforms like Udyam and Udyam Assist has improved visibility, but adoption of digital lending tools remains limited. State-led schemes, credit guarantees, and behavioural incentive-based programs are bridging inclusion gaps, while skill-building and technology adoption remain essential for competitiveness.

Table 4.17. MSME Credit and Policy Highlights (2024–25)

Theme	Key Trend	Implications
Credit Growth	MSME lending grew 14.1% YoY (May 2025), surpassing retail loan growth; MSMEs hold ₹14,300 billion in bank credit (17.7% of total).[34]	Indicates rising lender confidence, though micro and nano enterprises remain underserved, requiring rural outreach.
Asset Quality	MSME non-performing assets (NPAs) fell to 3.6% in March 2025 from 4.5%, supported by restructuring, guarantees, and data-led lending.[35]	Stronger portfolio quality invites private investment; early-warning systems remain critical.
Credit Gap	India's MSME credit gap is ₹30,000 billion (~24% of demand), part of a global $5.7 trillion small and medium enterprises (SME) gap.[36]	Calls for alternative scoring models, digital lending infrastructure, and bold financing reforms.
Formalisation vs. Lending	68 million plus MSMEs registered on Udyam; digital lending adoption only 18%.[37]	Reflects strong registration outreach but a need for seamless credit integration.
State Innovations	Tamil Nadu, Kerala, and Rajasthan launched high-value loans; Rajasthan raised ceilings to ₹20 million.[38]	State-led policy innovations accelerate growth and support niche industries.
Guarantees & Inclusion	CGTMSE, PM SVANidhi, and step-up loans target women, rural, and nano entrepreneurs; SVANidhi disbursed 9.6 million loans.[39]	Guarantees reduce risk perception, behavioural incentives strengthen repayment culture.
Technology & Skills	1/3 of MSMEs use energy-efficient machinery; tech adoption is slow, skills gaps remain.[40]	Critical for India's "Viksit Bharat 2047" goals and global competitiveness.
Nano Enterprises	Nano firms remain unclassified but Udyam Assist formalised 27.7 million + informal units.[41]	Recognising nano firms in policy frameworks could unlock millions of entrepreneurs.

Source: SIDBI Annual Report 2021–22, 2022–23, 2023–24 and Ministry of Finance Annual Report 2024–25

This summary underscores the evolving dynamics of India's MSME financing ecosystem. Rapid credit growth, stronger asset quality, and nationwide formalisation initiatives highlight significant progress. However, persistent inequities in access to formal finance—especially for micro and nano businesses—underscore the need for precisely targeted interventions. Programs like CGTMSE and SVANidhi are proving that guarantees and behavioural nudges can de-risk lending, while state-level schemes demonstrate the potential of decentralised policy innovation.

The ₹30,000 billion credit gap is a critical bottleneck, reflecting systemic constraints in traditional lending models. Digital lending, alternative credit scoring, and Udyam-based integration are key levers for scaling inclusion. Moreover, skills and technology adoption must be prioritised to prepare MSMEs for global competition and support India's ambition to remain a $4 trillion+ economy. By aligning policy innovation, fintech expansion, and risk-sharing mechanisms, India can fully unlock the sector's full entrepreneurial potential, driving job creation and economic resilience. Appendix A4.1 captures 25 key lessons from India's MSME finance journey.

APPENDIX A.4.1

Summary Lessons from MSME Financing in India

Lessons From MSME Financing in India

Lesson # and Title	Key Points
Lesson 1: MSME Credit Growth Surpasses Retail Lending	• Lending MSMEs expanded by 14.1% year-on-year, compared to 11.7% for retail. Outstanding MSME credit now stands at ₹14,300 billion (17.7% of total bank lending). This reflects increasing confidence in the sector and underscores the need to deepen outreach in rural areas.
Lesson 2: Asset Quality Strengthens Lending Confidence	• NPAs in MSME portfolios declined to 3.6% (from 4.5% a year earlier). Improved repayment behaviour, restructuring schemes, and digital credit monitoring are driving healthier balance sheets.
Lesson 3: Global Credit Gap Highlights India's Deficit	• The global SME credit gap is estimated at USD 5.7 trillion. India accounts for a ₹30,000 billion shortfall (~24% of demand), particularly affecting micro and service-oriented firms. Expanding alternate credit scoring and digital finance is vital.
Lesson 4: Formal Credit Access Remains Uneven	• Formal credit penetration among micro and small firms is still below 25%. Limited financial literacy, procedural complexities, and low awareness of support schemes constrain access.
Lesson 5: Credit Guarantee Mechanisms De-Risk Lending	• The CGTMSE facilitates collateral-free lending up to ₹0.1 billion. Such instruments are pivotal for expanding access to higher-risk and first-generation entrepreneurs.
Lesson 6: Fintech Non-Bank Lenders Broaden Financial Inclusion	• Fintech NBFCs disbursed 0.109 billion small-ticket loans worth ₹1,060 billion in FY 2025. Mobile-first platforms, AI-driven scoring, and electronic KYC have accelerated credit delivery.
Lesson 7: State-Level Programmes Showcase Effective Innovation	• Tamil Nadu disbursed ₹54.9 billion in loans and ₹21.33 billion in subsidies to 66,000 entrepreneurs in four years. State-designed interventions, when integrated with mentoring and marketing support, yield superior outcomes.
Lesson 8: Enhanced Loan Ceilings Facilitate Enterprise Scaling	• Rajasthan's Vishwakarma scheme permits loans up to ₹0.02 billion, enabling MSMEs to expand capacity without losing access to policy benefits. This reflects a shift towards growth-oriented credit design.
Lesson 9: Targeted Schemes Advance Equity and Inclusion	• Programmes prioritising women, SC/ST and artisan entrepreneurs reduce borrowing costs and improve repayment. Such initiatives strengthen repayment culture and market diversity.
Lesson 10: Revised MSME Definitions Expand Eligibility	• The April 2025 revision raised turnover thresholds to ₹0.1billion (micro), ₹1 billion (small) and ₹5 billion (medium). This prevents premature graduation from benefits and aligns India with international practice.

Lessons From MSME Financing in India	
Lesson # and Title	**Key Points**
Lesson 11: Priority Sector Lending Anchors Credit Flow	• Banks are targeting more than 50% of their loan portfolios to Retail–Agriculture–MSME (RAM) segments by FY 2026, ensuring steady credit flows to priority sectors.
Lesson 12: Blended Finance Strengthens Entrepreneurial Viability	• The Prime Minister's Employment Generation Programme (PMEGP) combines loan finance with subsidies, reducing capital costs. This hybrid model has proven effective in rural and artisan sectors.
Lesson 13: Capital Expenditure Loans Modernise Industry	• Kerala Finance Corporation (KFC) Machinery Loan Scheme enables MSMEs to access collateral-free loans up to ₹50 million for technology upgrades, supporting productivity and export competitiveness.
Lesson 14: Credit Guarantee Funds Encourage Risk Appetite	• Funds such as CGTMSE reduce lender hesitation by sharing risks of unsecured MSME loans, particularly for first-generation entrepreneurs. Streamlined claims can further enhance uptake.
Lesson 15: Nano Enterprises Represent the Frontier of Inclusion	• Street vendors, hawkers, and home-based producers benefit from initiatives like PM SVANidhi and Udyam Assist. Tailored products such as step-up loans can accelerate formalisation.
Lesson 16: Udyam Assist Institutionalises Digital Identity	• Over 27 million informal enterprises are now registered, providing an official identity and enabling data-driven credit assessments. Integration with GST-lite invoicing will strengthen transparency.
Lesson 17: Formalisation Momentum Outpaces Delivery Capacity	• Udyam registrations have surpassed 68 million enterprises. However, administrative mechanisms for ensuring access to finance and schemes lag behind this rapid growth.
Lesson 18: Digital Lending Adoption Remains Limited	• Although 90% of MSMEs accept digital payments, only 18% have used digital lending platforms. Greater integration of lending with payment systems is needed.
Lesson 19: Real-Time Data Enables Responsive Policy	• Live dashboards provide district-level registration and financing data, allowing policymakers to identify underserved areas and enable predictive interventions.
Lesson 20: Behavioural Incentives Reinforce Repayment	• PM SVANidhi has disbursed over 9.6 million loans, linking repayment performance with rewards such as cashbacks and credit upgrades. This fosters a strong repayment culture.
Lesson 21: Public Procurement Expands Market Access	• The Government eMarketplace (GeM) mandates that 25% of procurement be sourced from MSMEs, enhancing predictability and transparency in demand.
Lesson 22: Sustainability Becomes Integral to Competitiveness	• One-third of MSMEs use energy-efficient machinery and one-fifth deploy renewable energy solutions. Access to green finance and ESG-linked credit is increasingly vital.
Lesson 23: Skills and Technology Deficits Constrain Growth	• MSMEs face skill shortages and outdated technology, especially in textiles, auto-components and hospitality. Targeted skill-building and technology grants are needed.
Lesson 24: One-Size-Fits-All Policy Limits Impact	• MSMEs are highly diverse, from nano vendors to exporters. Segmented, data-driven policy frameworks improve efficiency and inclusiveness of support.
Lesson 25: Nano Enterprises Require Explicit Policy Recognition	• Nano firms sit between informal self-employment and micro-enterprises. Dedicated recognition would enable simpler tax, insurance, and credit mechanisms tailored to their needs.

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The Transformative Role of Private Sector Banks in India's Financial Inclusion Journey (2022–25)

Ramesh Srivatsava Arunachalam

5

5.1. INTRODUCTION

Between 2022 and 2025, India's private sector banks fundamentally transformed the architecture of financial inclusion. What began as an effort to expand reach evolved into a structural redefinition of banking for low-income households, women entrepreneurs, and micro and nano enterprises. Institutions such as HDFC Bank, ICICI Bank, Axis Bank, Federal Bank, IDFC First Bank, and Bandhan Bank went beyond the conventional goals of account opening or credit disbursal. They infused purpose into policy by strategically leveraging Mudra finance, nurturing microfinance networks, engineering innovative savings and insurance products, and embedding digital infrastructure at every operational level. This period marked the emergence of a new paradigm— one in which inclusive banking became inseparable from innovation, resilience, and tangible empowerment in the world's largest democracy.

The results were unprecedented in both scale and quality. In the financial year (FY) 2024 alone, private sector banks disbursed over ₹5,000 billion under the Pradhan Mantri Mudra Yojana (PMMY), establishing themselves as dominant drivers of micro-enterprise credit. Their prudence in credit governance was evident in the remarkably low non-performing asset (NPA) ratio of just 0.95%, compared to 3.4% in public sector banks. Women entrepreneurs spearheaded this shift, constituting nearly 68% of all Mudra loan accounts—a landmark in gender-inclusive finance. The ecosystem also saw a rapid convergence between digital and financial inclusion, with private banks leading the surge in Unified Payments Interface (UPI) transaction volumes, especially across rural and semi-urban regions where digital adoption doubled the urban growth rate.[1]

This structural transformation was reflected in the overall performance of scheduled commercial banks (SCBs) and regional rural banks (RRBs) in meeting priority sector lending (PSL) targets (Table 5.1). Private sector banks consistently outperformed their public counterparts, raising their share of PSL from 40.6% in FY21 to an impressive 48.2% in FY24,[2] while maintaining credit quality and operational efficiency. RRBs, though maintaining high ratios relative to their mandated 75% target, showed slower momentum compared to the digital agility and product diversification seen in private institutions. This convergence of technology, governance, and social purpose redefined the financial inclusion landscape from transactional outreach to transformative engagement.

This chapter chronicles that evolution in depth—unpacking institutional strategies, regional expansions, and digital innovations that positioned private banks as engines of inclusive growth. It explores the integration of credit, savings, insurance, and digital payments into cohesive ecosystems, analyses the operational and regulatory challenges they navigated, and assesses the developmental dividends realised in terms of livelihoods, gender equity, and productivity. Together, these insights reveal how private sector banks not only met policy objectives but also reshaped the very meaning of inclusion—anchoring growth in accountability, data-driven design, and human-centered financial architecture.

Table 5.1. Achievement of PSL Targets (in ₹ billion)

Financial Year	Public Sector Bank	Private Sector Banks	Foreign Banks	Regional Rural Banks
2020–21	24,167.5 (41.06)	14,336.74 (40.62)	1,999.69 (41.02)	2,386.36 (98.61)
2021–22	26,491.8 (42.90)	16,858.06 (43.71)	2,081.07 (42.65)	2,454.81 (89.76)
2022–23	30,360.62 (44.51)	21,018.27 (44.63)	2,196.22 (42.63)	2,698.35 (95.72)
2023–24	34,014.07 (42.78)	26,093.86 (48.20)	2,786.94 (46.08)	2,893.36 (89.86)
2024–25 (As on 30 September 2024)	35,242.41 (42.77)	27,332.04 (45.08)	2,600.9 (42.11)	2,870.97 (84.14)

Source: RBI and Ministry of Finance Annual Report 2024–25.
Note: Figures in parentheses are percentage to adjusted net bank credit (ANBC) or credit equivalent of off-balance sheet exposure (CEOBE), whichever is higher. PSL target for SCBs is 40% whereas target for RRBs is 75%.

5.2. BUILDING THE FOUNDATIONS OF CONTEMPORARY FINANCIAL INCLUSION

The Reserve Bank of India's (RBI's) *National Strategy for Financial Inclusion 2019–2024* offered the policy framework within which this transformation unfolded. Initially defined as providing access to financial services at affordable cost, inclusion by 2024 had come to mean usage, quality, and measurable impact on people's lives.[3] This redefinition coincided with the rapid strengthening of India's digital public infrastructure. Aadhaar-based authentication, UPI, and the Account Aggregator framework gave banks the tools to extend services to the remotest villages, even where literacy was low and traditional documents were absent. By 2024, India accounted for nearly 46% of all digital transactions globally—a testament to the speed of adoption.[4]

Private sector banks seized this opportunity with agility. Their models were not driven by government mandate alone but by the recognition that serving underserved customers could be commercially viable. The merger of HDFC Limited with HDFC Bank in July 2023 created India's largest private bank, with a customer base of over 120 million.[5] IDFC First Bank pivoted from infrastructure lending to retail inclusion, building a sustainable model that combined profitability with outreach.[6] Throughout this period, private banks consistently demonstrated stronger asset quality than their public sector counterparts. In Mudra lending, where defaults are often a concern, private banks contained non-performing assets (NPAs) at less than 1% in FY24, compared with over 3% in public banks.[7]

5.3. THE MUDRA REVOLUTION AND PRIVATE SECTOR PARTICIPATION

Between 2022 and 2025, PMMY stood at the very heart of India's financial inclusion strategy, with private sector banks driving a quiet revolution in small-enterprise finance. Annual disbursements under the scheme crossed ₹5 lakh crore (₹5,000 billion) in FY24—an unmistakable signal that India's micro and small entrepreneurs were increasingly moving into the fold of formal finance.[8] Private banks played a transformative role, especially in the Kishore and Tarun segments, which cater to enterprises seeking to scale up through loans of up to ₹1 million. These segments aligned perfectly with private banks' competitive strengths—rigorous credit appraisal systems, data-driven risk evaluation, advanced analytics, and digital origination platforms that minimised friction in the credit delivery process.[9]

A clear structural shift was underway. The average loan ticket size almost tripled, climbing from ₹38,000 in FY16 to ₹72,000 in FY23, and further to ₹0.1 million in FY25. This steady escalation signals stronger economies of scale, along with a broadening and deepening of market penetration—both in terms of geographic reach and borrower segments.[10] Borrowers were no longer seeking merely survival capital; they were investing in productivity, capacity expansion, and market access. Even as lending rates varied widely—from as low as 6.96% for low-risk borrowers to as high as 28% in certain microfinance-linked portfolios—private banks managed to preserve strong asset quality through innovative credit-risk frameworks.[11] The use of alternative data sources, psychometric assessments, and behavioural analytics enabled these institutions to underwrite loans for first-time borrowers lacking collateral or

formal credit histories, ensuring inclusion without compromising prudence.

Empirical data from the PMMY Bank-Wise Performance (2015–24)[12] underlines this steady and disciplined expansion (Tables 5.2, 5.3, 5.4 and Figures 5.1, 5.2, 5.3). The number of loan accounts in the Shishu category (up to ₹50,000) rose to 17.27 million by FY24, maintaining a strong share in small-ticket lending. However, the real momentum was in the higher-value Kishore loans, which grew sharply to 9.71 million accounts in FY24, posting annual growth of over 41%— a clear indication of private banks' growing emphasis on enterprise expansion and employment generation. Meanwhile, Tarun loans, though smaller in volume, sustained steady year-on-year growth of around 19%, indicating the gradual evolution of micro businesses into more mature small-scale enterprises.

Table 5.2. Shishu, Kishore, Tarun Number of Accounts by Private Sector Commercial Banks (in million)

Bank Type Name	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu	2.67 (8.23)	8.42 (23.07)	9.40 (22.04)	11.23 (21.81)	18.78 (34.47)	15.77 (39.24)	18.89 (45.27)	19.06 (44.24)	17.27 (41.49)
Kishore	0.30 (14.47)	0.30 (11.28)	0.93 (19.93)	1.90 (28.79)	1.91 (29.46)	4.10 (43.19)	5.48 (49.46)	6.84 (38.20)	9.71 (41.10)
Tarun	0.10 (24.57)	0.10 (18.68)	0.13 (15.61)	0.14 (8.10)	0.18 (13.96)	0.18 (16.39)	0.18 (18.08)	0.25 (18.76)	0.29 (18.88)

Source: PMMY Bank Wise Performance 2015–16 to 2023–24.
Note: Figures in the parentheses indicate y-o-y growth rates.

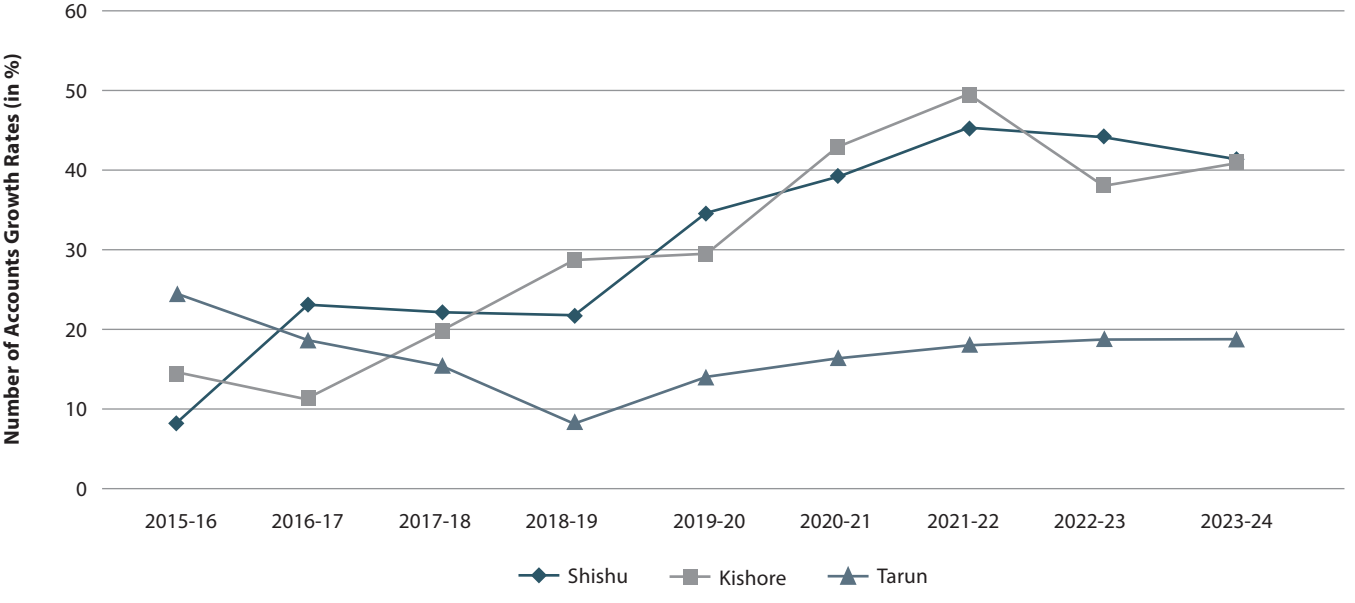

Figure 5.1. Shishu, Kishore, Tarun Number of Accounts Growth Rates by Private Sector Commercial Banks
Source: PMMY Bank Wise Performance 2015–16 to 2023–24.

This growth was matched by an even more striking expansion in loan values. Sanctions and disbursements in the Kishore category surged to nearly ₹930 billion by FY24, growing over 35% year-on-year (y-o-y), while Shishu loans maintained consistent disbursal growth above 40%. The Tarun segment, traditionally smaller but crucial for upward mobility, reached ₹206 billion in sanctioned loans by FY24, reflecting both rising confidence in small entrepreneurs and the success of credit-risk models calibrated for informal-sector borrowers. The data reveals not merely a statistical rise but a structural

reconfiguration of India's enterprise economy, where private sector participation under Mudra has democratised access to finance—anchoring growth, resilience, and opportunity at the base of India's economic pyramid.

Table 5.3. Shishu, Kishore, Tarun Sanction Amount by Private Sector Commercial Banks (In ₹ billion)

Bank Type Name	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Shishu	59.39 (9.57)	247.51 (29.08)	276.87 (26.12)	343.31 (24.12)	578.73 (35.39)	396.69 (36.08)	534.46 (43.11)	600.31 (42.05)	618.37 (41.52)
Kishore	69.87 (17.01)	72.55 (13.55)	130.88 (15.09)	199.27 (19.09)	217.66 (22.77)	433.16 (32.69)	526.52 (38.25)	635.93 (31.17)	928.17 (35.39)
Tarun	71.00 (23.78)	70.21 (16.76)	87.53 (14.36)	97.49 (13.00)	121.34 (15.49)	103.57 (13.06)	115.81 (15.10)	177.76 (16.19)	206.24 (15.89)

Source: PMMY Bank Wise Performance 2015–16 to 2023–24.
Note: Figures in the parentheses indicate y-o-y growth rates.

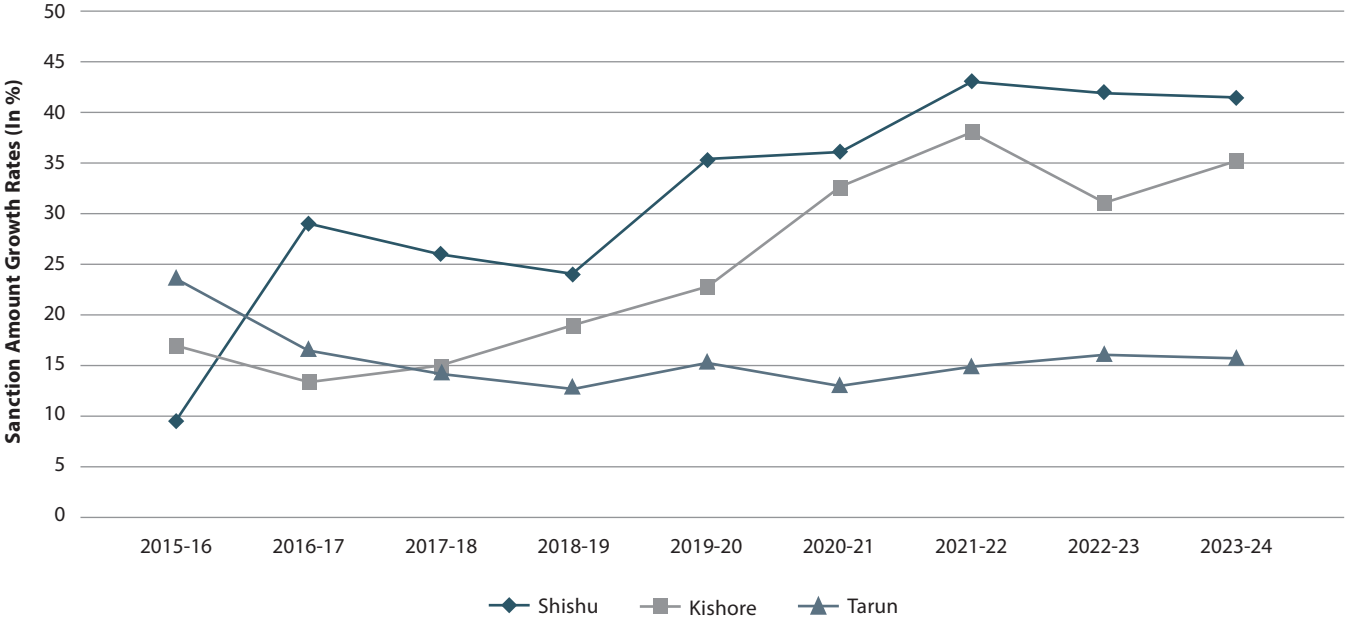

Figure 5.2. Shishu, Kishore, Tarun Sanction Amount Growth Rates by Private Sector Commercial Banks
Source: PMMY Bank Wise Performance 2015–16 to 2023–24

Table 5.4. Shishu, Kishore, Tarun Disbursement Amount by Private Sector Commercial Banks (In ₹ billion)

Bank Type Name	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Shishu	247.29 (29.48)	276.59 (26.54)	342.81 (24.55)	577.98 (35.51)	396.19 (36.47)	534.13 (43.09)	599.48 (42.33)	617.18 (41.76)
Kishore	71.12 (13.93)	129.96 (15.62)	197.76 (19.80)	216.27 (23.66)	432.25 (33.97)	525.61 (39.40)	634.82 (31.59)	926.70 (36.04)
Tarun	69.32 (17.18)	86.21 (14.61)	95.67 (13.24)	119.37 (15.82)	102.42 (13.50)	114.32 (15.44)	176.86 (16.39)	205.23 (16.10)

Source: : PMMY Bank Wise Performance 2015–16 to 2023–24.
Note: Figures in the parentheses indicate y-o-y growth rates.

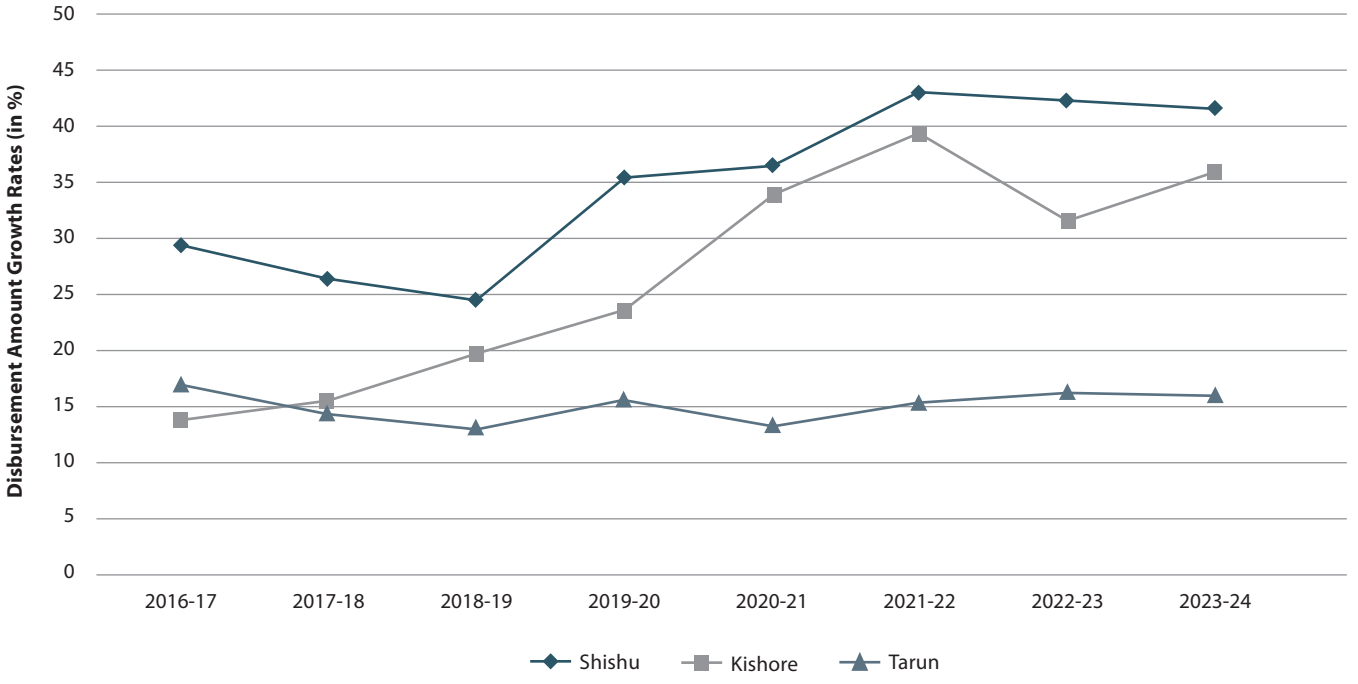

Figure 5.3. Shishu, Kishore, Tarun Disbursement Amount Growth Rates by Private Sector Commercial Banks
Source: PMMY Bank Wise Performance 2015–16 to 2023–24.

5.4. PRIVATE BANKS AND FINANCIAL INCLUSION SCHEME

Despite their growing prominence in digital banking and enterprise credit, private sector banks continue to play a modest role in India's flagship financial inclusion programmes. Their footprint under the Pradhan Mantri Jan Dhan Yojana (PMJDY) remains limited—private banks account for barely three out of every hundred Jan Dhan accounts. Over the last five years, their share in new account openings has also stagnated at around 3%, underscoring the dominance of public sector banks in mass financial outreach. As of 31 March 2025, private sector banks collectively maintained 18.3 million Jan Dhan accounts, compared to a staggering 551.8 million in the public sector. Between March 2020 and March 2025, private banks added just 5.6 million new accounts, while public sector banks opened 168.5 million—a reflection of the asymmetry between commercial efficiency and social banking mandates.[13]

A similar pattern emerges in government-backed insurance and pension schemes, where private sector participation remains strikingly low. Under the Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), private banks were responsible for only 2% of total enrolments, managing about 5.2 million subscribers compared to 237.7 million in the public sector. The disparity is only slightly narrower under the Pradhan Mantri Suraksha Bima Yojana (PMSBY), where private banks accounted for 4% of enrolments—20 million compared to 513 million handled by public institutions. Even in the Atal Pension Yojana (APY), where private banks have traditionally shown greater interest in urban and organised-sector clientele, their contribution remains modest at 11%, with just 0.96 million subscribers vis-à-vis 76 million under public banks as of FY25.[14]

These gaps highlight a structural divide in India's inclusion architecture. Public sector banks continue to serve as the backbone of government-directed social finance, while private banks have preferred to specialise in higher-value credit and digital products aligned with commercial viability. Yet, within this framework, private sector banks have emerged as strong contributors in credit-based inclusion schemes. Under PMMY, private banks sanctioned nearly 24% of all loans, amounting to approximately ₹1,730 billion in FY25—reflecting their strategic focus on micro and small enterprise growth rather than basic account-based inclusion.[15]

The trend is similar under the Stand-Up India initiative, where private banks have sanctioned 23% of total loans as of March 2025, compared to 77% by

public sector counterparts. These figures suggest that while private banks have yet to make a significant mark in mass-deposit or insurance schemes, they are becoming vital players in entrepreneurial and credit-driven inclusion—leveraging analytics, technology, and differentiated service models to complement rather than replicate the public sector's outreach. In the process, they are redefining financial inclusion from a purely social mandate into a sustainable, market-integrated model of financial empowerment.[16]

5.5. PRIVATE SECTOR BANKS AND FINANCIAL INCLUSION: CASE STUDIES

5.5.1. IDFC FIRST Bank: Introduction and Discussion

Introduction: IDFC First Bank represents a new-generation private sector institution that has sought to redefine financial inclusion by blending commercial viability with strong social purpose. Emerging from the merger of IDFC Bank and Capital First, the bank has steadily built a multi-layered approach that combines rural banking, digital microfinance, livelihood lending, and financial literacy. Its inclusion strategy rests on the principle that underserved households and micro-entrepreneurs are not inherently high-risk, but rather require differentiated products, delivery systems, and financial education. The bank's focus areas—priority sector lending, rural and livelihood finance, feature-phone-based microfinance, financial literacy, and social entrepreneurship support—illustrate how technology and responsible banking can converge to deliver impact at scale.

Discussion: The IDFC First model demonstrates a mature evolution of inclusive finance, characterised by integration across lending, capacity building, and digital enablement. PSL, which accounts for nearly 40% of its total portfolio, anchors the inclusion agenda through targeted credit to agriculture, micro-enterprises, and low-income households. Complementing this are livelihood and cattle loans that directly support asset creation among rural families—especially women and small farmers—enhancing income resilience.

A key differentiator has been its technological innovation for the "missing middle." Through partnerships with Sa-Dhan and FinTech intermediaries, the bank pioneered feature-phone-based digital microfinance, extending UPI and wallet access to clients lacking smartphones. This innovation reduces exclusion stemming from device affordability and connectivity barriers. The IDFC First Academy adds another layer by building financial capability through digital courses and gamified learning, reinforcing long-term behavioural change.

Equally notable are its CSR-linked programs—such as the *Catalyst for Impact* initiative and livelihood development collaborations with non-governmental organisations (NGOs) like Pratham—that merge entrepreneurship promotion with inclusion. These interventions have empowered micro-entrepreneurs, particularly women, to start and sustain small businesses through a revolving-fund model. Collectively, these efforts signify a transition from transactional inclusion (opening accounts or disbursing loans) to transformational inclusion that builds human, social, and financial capital simultaneously. The bank's holistic ecosystem thus offers a replicable blueprint for inclusive growth rooted in technology, empathy, and disciplined finance.

5.5.2. HDFC Bank: Introduction and Discussion

Introduction: HDFC Bank, India's largest private sector bank by market capitalisation, has been a frontrunner in embedding financial inclusion within mainstream banking strategy. Over the last decade, its initiatives have moved far beyond regulatory compliance, focusing instead on creating sustainable livelihood ecosystems, rural empowerment, and last-mile access through both digital and physical networks. Its flagship Sustainable Livelihoods Initiative (SLI), extensive *Parivartan* corporate social responsibility (CSR) framework, and collaborations with the Reserve Bank of India (RBI) Innovation Hub demonstrate a comprehensive inclusion strategy that integrates credit access, financial literacy, and community development. The bank's approach underscores how scale, innovation, and partnerships can transform inclusion from a mandate into a measurable mission.

Discussion: HDFC Bank's financial inclusion journey has been driven by both institutional commitment and innovation. The *Sustainable Livelihoods Initiative*—augmented by International Finance Corporation (IFC's) USD 500 million financing—has enabled the bank to significantly expand lending to women in self-help groups (SHGs) and joint liability groups (JLGs). By combining access to microcredit with capacity-building support, the initiative has enabled millions of first-time women borrowers to progress toward financial independence and credit graduation.

Parallelly, the *Parivartan* program, the bank's comprehensive CSR platform, integrates financial inclusion with rural development. It deploys multi-modal outreach—from *Dhanchayat* mobile vans conducting literacy workshops to village-level executives offering banking services through common service centres (CSCs). The initiative's presence in over 50,000 villages, including border and remote regions, underscores HDFC's deep physical footprint and its recognition of inclusion as a tool for national integration.

HDFC Bank's experimentation with digital innovation, through *i Innovate* with the RBI Innovation Hub, extends inclusion to differently-abled individuals by promoting assistive technologies and inclusive fintech solutions. Recognition from the Confederation of Indian Industry (CII) for best practice in financial inclusion affirms the bank's leadership in the field. What distinguishes HDFC's approach is its ability to combine corporate scale, digital innovation, and community partnerships within one unified inclusion architecture. It thereby bridges infrastructure, knowledge, and opportunity gaps while ensuring that inclusion becomes both a business driver and a developmental imperative.

5.5.3. ICICI Bank: Introduction and Discussion

Introduction: ICICI Bank has consistently been one of the most systemically important drivers of financial inclusion in India's private banking sector. Its philosophy emphasises ecosystem-based inclusion, combining extensive SHG linkages, tailored rural products, digital expansion, and CSR-based education and skill programs. By leveraging its early leadership in retail and technology banking, ICICI has created one of the country's broadest inclusion networks—serving women, farmers, traders, and micro-entrepreneurs across multiple states. The bank's strategy merges institutional efficiency with social purpose, using both brick-and-mortar and digital approaches to bridge gaps in financial access.

Discussion: ICICI Bank's inclusion model rests on four reinforcing pillars—group-based lending, digital accessibility, rural outreach, and literacy-linked empowerment. Its SHG–Bank Linkage and JLG programs together serve over 10 million women, many of whom are first-time borrowers transitioning from informal to formal credit. These programs exemplify trust-based financial intermediation that enables women's economic participation while ensuring high repayment discipline.

The bank's role in expanding basic savings bank deposit accounts (BSBDA) and participation in the Jan Dhan Yojana further anchor its inclusion credentials, with over twenty million accounts providing foundational access to the formal system. The establishment of gramin branches and digital banking units (DBUs) in unbanked and aspirational districts reflects an evolving hybrid delivery model that combines digital convenience with human assistance.

Beyond credit and deposits, ICICI's foundation activities extend inclusion into capability building—financial literacy, awareness of government social security schemes, and rural skill development. Its customised ecosystem-based approach—designing solutions for farmers, traders, and rural dealers—illustrates a refined segmentation of the rural economy that enhances product relevance and reduces operational friction. Together, these efforts portray ICICI Bank as an institution that balances digital modernisation with grassroots engagement. The result is a resilient, scalable, and adaptive model of inclusive banking that aligns commercial sustainability with social transformation.

5.5.4. Comparative Synthesis: Private Banks and the Architecture of Financial Inclusion in India

The three banks—IDFC FIRST, HDFC, and ICICI—represent complementary yet distinct paradigms in India's evolving financial inclusion landscape, each shaping a unique pathway from access to empowerment. HDFC Bank embodies the *scale and systems-driven model* of inclusion, leveraging its vast branch and CSR infrastructure to integrate digital tools with physical presence. Its *Parivartan* and SLI programs showcase inclusion as a national development mission, combining access to credit, capacity building, and rural infrastructure in one unified ecosystem. By extending banking to border villages and using common service centres, HDFC transforms inclusion into both a social and territorial integration project.

ICICI Bank, by contrast, represents the ecosystem-segmentation model, where the bank builds inclusion through deep relationships with specific groups—women's collectives, rural entrepreneurs, and micro traders—supported by a wide array of tailored products. Its success with SHGs and JLGs shows how inclusion thrives when built upon community trust and behavioral understanding. The creation of *gramin branches* and DBU further reflects its emphasis on hybrid

delivery models—combining digital accessibility with physical proximity. ICICI's strategy, therefore, exemplifies inclusion through structured ecosystems, where finance becomes an enabler of livelihood transformation rather than a standalone service.

IDFC FIRST Bank represents the *new-generation innovation-led model*—smaller in scale but sharper in design. It focuses on technology-driven inclusion that leverages digital microfinance, feature-phone banking, and behavioural financial literacy. Unlike its larger peers, IDFC First integrates inclusion within its core retail banking framework, making it commercially viable rather than CSR-dependent. Its partnerships with FinTechs and NGOs, the *IDFC FIRST Academy*, and targeted initiatives like *Shwetdhara* and *Water, Sanitation, and Hygiene* (*WASH) financing* position it as a "laboratory of inclusion" where human-centred design and responsible artificial intelligence (AI) principles meet traditional banking. The bank's approach—where feature phone users access UPI and microloans—demonstrates how inclusivity and innovation can coexist even within regulatory and infrastructure constraints.

Across all three institutions, a clear convergence emerges: inclusion is no longer treated as an obligation but as a *strategic differentiator*. Each has moved from transactional inclusion (opening accounts, disbursing loans) to *transformational inclusion* (building financial capability, livelihoods, and resilience). While HDFC scales inclusion through networks and social infrastructure, ICICI deepens it through community ecosystems, and IDFC First reimagines it through technology and human capital. Together, they illustrate the evolution of private banking in India from compliance-driven outreach to *conscious capitalism*—where profitability, purpose, and public good intersect.

The three banks exemplify the diverse architectures of financial inclusion in India's private sector:

- **HDFC Bank** scales inclusion through vast networks and CSR-integrated systems.
- **ICICI Bank** deepens inclusion through community segmentation and hybrid delivery.
- **IDFC First Bank** redefines inclusion through digital equity, innovation, and financial literacy.

Together, they transform inclusion from a regulatory requirement into a strategic lever for sustainable development—bridging the last-mile gap between policy intent and real-world empowerment. Their collective experience demonstrates how technology, trust, and targeted design can coexist to build a financially resilient and socially equitable India.

5.6. ROLE OF PUBLIC SECTOR AND PRIVATE SECTOR BANKS IN VARIOUS GOVERNMENT SCHEMES

Between 2020 and 2025, private sector banks (PVBs) carved out a distinct and complementary role within India's financial inclusion ecosystem—one that differed sharply from the scale-driven outreach model of public sector banks (PSBs). While PSBs remained the principal delivery arms for government-led welfare schemes such as Jan Dhan, Jeevan Jyoti Bima, and APY, private banks redefined participation by focusing on quality, innovation, and sustainability rather than quantity (Table 5.5). Their strategy emphasised digitally-enabled inclusion, risk-based lending, product diversification, and technology-led governance, marking a significant evolution in how inclusion could be achieved through efficiency and intelligence rather than sheer scale.

Private banks' participation in the Pradhan Mantri Jan Dhan Yojana (PMJDY) remained modest—only about 3% of total accounts opened between March 2020 and March 2025—yet their accounts displayed higher balances, active usage, and integration with digital channels such as UPI and mobile banking. For PVBs, Jan Dhan was not merely about numbers but about deepening financial behaviour—linking accounts to micro-insurance, micro-pension, and credit-based products. This approach complemented the PSBs' mass outreach by embedding sustainability into inclusion.[17]

In insurance and pension schemes, private banks demonstrated a selective yet strategic approach. Their enrolments under the Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY) were only 2% and 4% of total subscriptions, respectively, but these were digitally originated, promptly serviced, and renewals were substantially higher compared to the national average. In APY, PVBs contributed around 11% of total subscribers (0.96 million), largely through digitally active, salaried customers in Tier-II and Tier-III cities—demonstrating their strength in connecting formal and semi-formal workforce segments to social security systems.[18]

The real transformation, however, was seen in credit-based inclusion schemes. Under the PMMY scheme, private banks sanctioned 24% of all loans in FY25, amounting to ₹1,730 billion, showing their growing dominance in micro and small enterprise finance. Their participation was concentrated in the Kishore and Tarun categories, catering to enterprises seeking growth capital rather than survival credit.

Table 5.5. Comparative Role of Public and Private Sector Banks in Government Schemes (FY25)

Scheme	Public Sector Banks (PSBs)	Private Sector Banks (PVBs)	Key Differentiator of PVBs
Pradhan Mantri Jan Dhan Yojana (PMJDY)	561.6 million accounts; 97% of total	18.3 million accounts; 3% of total	Higher balance per account; strong digital linkage with UPI and mobile banking
Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)	237.7 million enrolments (98%)	5.2 million enrolments (2%)	Fully digital onboarding; higher renewal and claim processing efficiency
Pradhan Mantri Suraksha Bima Yojana (PMSBY)	513 million enrolments (96%)	20 million enrolments (4%)	Urban focus with seamless e-KYC integration; low claim rejections
Atal Pension Yojana (APY)	76 million subscribers (89%)	0.96 million subscribers (11%)	Focus on semi-formal and salaried segments via digital channels
Pradhan Mantri Mudra Yojana (PMMY)	76% of total loan value	24% of total loan value (₹1,730 billion)	Advanced credit scoring; high growth in Kishore and Tarun categories
Stand-Up India Scheme (SUI)	77% of total loan sanctions	23% of total loan sanctions	Strong support for women and SC/ST entrepreneurship through data-driven origination

Source: Ministry of Finance, RBI, and PIB Press Releases, FY 2024–25

Through advanced credit scoring, alternative data analytics, and psychometric assessments, PVBs built scalable risk models that extended credit even to first-time borrowers lacking formal collateral. Similarly, in the Stand-Up India initiative, PVBs accounted for 23% of total sanctions, positioning themselves as catalysts for women-led and schedules caste/schedules tribe (SC/ST) entrepreneurship.[19]

Unlike PSBs, which focus on mass access and policy-driven mandates, private sector banks have increasingly focused on technology-driven, market-integrated inclusion. Their role has been to convert access into activity—using digital ecosystems, API integration, and financial literacy programs to enhance account usage, savings behaviour, and entrepreneurial participation. By linking financial inclusion with enterprise growth, digital payments, and credit innovation, PVBs have proven that inclusion can be both socially purposeful and commercially sustainable.

In essence, PVBs have not replicated the PSBs outreach model—they have reinvented inclusion through precision, data intelligence, and digital empowerment. Their contribution lies not in the number of accounts opened, but in the quality of engagement, the durability of access, and the creation of new financial behaviours that are reshaping the foundation of inclusive growth in India.

In sum, PVBs did not replicate the mass outreach model of PSBs—they redefined inclusion through innovation. By integrating financial inclusion with technology, risk analytics, and customer-centric design, they transformed government participation from compliance-driven activity into a sustainable, scalable, and intelligent inclusion model—one that links finance to enterprise, access to activity, and banking to empowerment.

5.7. INSTITUTIONAL APPROACHES: BANK-WISE NARRATIVES

HDFC Bank emerged as the scale leader, using its vast branch and automated teller machine (ATM) network, coupled with the resources unlocked by its merger with HDFC Limited. The bank's SLI provided more than credit; it delivered training, market linkages, and long-term support to rural households. Seasonal products such as the Kisan Gold Card recognised the cyclical nature of farm incomes. Its Parivartan CSR programme spread financial literacy to border villages and complemented commercial operations by creating an informed customer base.[20]

ICICI Bank positioned itself as the innovation pioneer. Its ICICI Stack platform integrated payments, loans, savings, and insurance into a single digital ecosystem that could function even on basic feature phones. With a microfinance portfolio of ₹9.6 billion serving 3.5 million clients, the bank expanded through a partnership model that channelled wholesale funds to local microfinance institutions (MFIs), combining ICICI's capital strength with community institutions' last-mile reach. Its foundation ran wide-ranging literacy programmes, ensuring that customers did not simply access accounts but also learned to manage them prudently.[21]

Axis Bank integrated financial inclusion into its overall growth strategy through its Bharat Banking initiative. By 2024, with more than 8,300 branches, the bank had a strong presence in semi-urban and rural India. Business correspondents, including cooperative societies, enabled penetration into areas where traditional branches were unviable. At the same time, Axis embraced digital-first solutions through its "open by Axis" and near-earth object (NEO) platforms, helping young entrepreneurs in rural India adopt digital finance seamlessly.[22]

Federal Bank pursued a regional strategy rooted in community trust. In Kerala and other parts of South India, the bank worked through local agents who spoke the language of their customers, offered micro-insurance with savings products, and developed loan packages targeted at women entrepreneurs. Its ability to align banking with community structures enabled high levels of account usage and repayment discipline.[23]

IDFC First Bank offered perhaps the most dramatic example of transformation. Having once been an infrastructure lender, the bank reinvented itself around retail and inclusion. By 2023, 60% of its rural loan customers were women, repayment rates were 99.7%, and NPAs in this portfolio were minimal. Its subsidiary, IDFC First Bharat, built on the legacy of Grama Vidiyal, a Tamil Nadu NGO, to preserve grassroots authenticity in microfinance delivery. Beyond lending, the bank's initiatives like Ghar Ration during crises showed how commercial banks could blend social purpose with business growth.[24]

Bandhan Bank consolidated its identity as India's foremost microfinance-driven bank. With a presence in 35 states and union territories and more than 6,100 outlets, its group-lending model focused almost exclusively on women. Repayment rates hovered near 98%, even in difficult periods. Yet by 2025, stress in its Emerging Entrepreneurs Business portfolio highlighted the vulnerabilities of concentration in microfinance. Still, Bandhan's example illustrated that it is possible to grow from a grassroots NGO to a universal bank while retaining a clear mission of empowerment.[25]

5.8. INNOVATIONS IN SAVINGS, CREDIT, AND DIGITAL DELIVERY

The years 2022 to 2025 witnessed a quiet revolution in savings products for low-income households. ICICI Bank's Apna Savings Account, with zero-balance requirements and Aadhaar-enabled onboarding, made access possible for those without formal documentation.[26] Axis Bank introduced automated micro-savings features that rounded up small transactions, embedding financial discipline into daily life.[27] Federal Bank created bundled products linking government benefit transfers with savings and micro-insurance, offering liquidity and protection in a single package.[28]

Credit delivery also underwent innovation. HDFC Bank's psychometric assessments enabled lending to first-time borrowers, with portfolio NPAs below 2%.[29] IDFC First Bank used risk-sharing mechanisms, insuring 70% of its MFI book with the *Credit Guarantee Fund for Micro Units*, ensuring both outreach and stability.[30] Bandhan relied on its proven group model where social collateral replaced physical assets, maintaining repayment discipline even at scale.[31]

Digital integration was transformative. ICICI Stack processed millions of rural transactions each month. Axis NEO made sophisticated services accessible in local languages. HDFC Bank distributed smartphones to women in SHGs, accelerating UPI adoption. By 2025, private banks accounted for more than half of India's UPI transaction volume, with rural adoption growing at triple-digit rates annually.[32]

5.9. OPERATIONAL CHALLENGES AND RISK MANAGEMENT

Despite these successes, private banks faced structural obstacles. High service costs in remote areas, difficulties in recruiting locally embedded staff, and infrastructural bottlenecks posed ongoing challenges. Regulatory requirements around know your customer (KYC) renewal and capped microfinance interest rates added further complexity.[33] Over-indebtedness in certain geographies also became a concern, as borrowers took loans from multiple lenders. Private banks responded with stronger credit bureau participation and more responsible lending standards.[34]

To manage risk, banks developed early-warning systems that tracked behavioural indicators such as missed group meetings or declining savings deposits. Biometric authentication and real-time monitoring reduced fraud. Diversification strategies helped reduce concentration risks, although episodes like Bandhan's 2025 stress reminded the sector of its vulnerabilities.[35]

5.10. POSITION DATA AND STATISTICAL ANALYSIS

Quantitative trends underscored these achievements. Private banks increased their share of India's

banking assets from around 35% in 2022 to nearly 40% in 2025.[36] Their rural and semi-urban branches grew by 45% during this period, far outpacing urban expansion.[37] Mudra disbursements by private banks rose from ₹1,200 billion in FY22 to over ₹2,000 billion in FY24, with average ticket sizes climbing from ₹35,000 to ₹45,000. Asset quality remained robust, with NPAs below 1% throughout.[38]

Digital adoption reached unprecedented levels. Micro-ATMs—compact and portable devices enabling basic banking transactions have witnessed a significant surge in adoption. RBI data shows their deployment rising by 18%, from 1.24 million in September 2022 to nearly 1.46 million by 2024, underscoring their growing role in last-mile financial inclusion.[39] UPI transactions through private banks grew at exponential rates, with rural transactions expanding 150% annually. Cloud-based systems lowered customer acquisition costs by 70%, and open application programming interface (APIs) spurred collaborations with FinTechs to design context-specific products.[40]

Women stood out as the largest beneficiaries. They accounted for 68% of Mudra accounts with private banks, repaid loans at rates above 98%, and saw average loan sizes rise from ₹28,000 in 2022 to ₹42,000 in 2025. Their savings balances more than doubled, and regular saving behaviour increased dramatically, offering them resilience and independence.[41]

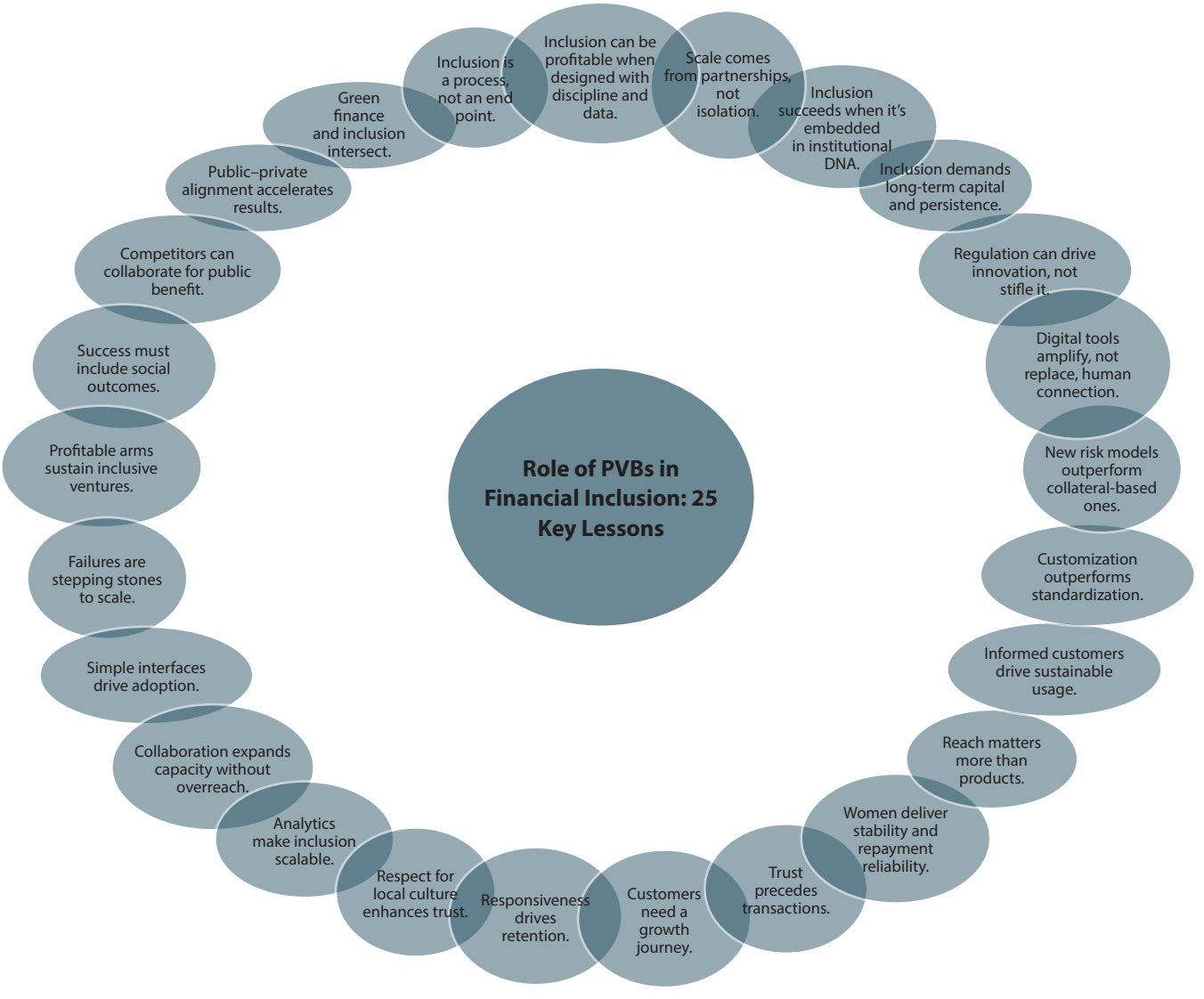

Figure 5.4. Role of PVBs in Financial Inclusion: 25 Key Lesson

5.11. TECHNOLOGY AND INNOVATION LANDSCAPE

Technology remained the defining enabler. Micro-ATMs, cloud-based core banking, and API-driven ecosystems expanded access at scale. AI and machine learning brought previously excluded populations into credit portfolios. HDFC's AI models analysed hundreds of variables to assess repayment capacity, approving 40% more loans while maintaining quality.[42] ICICI's multilingual chatbot processed over one million interactions monthly, resolving 85% without human involvement. Fraud detection systems using machine learning achieved 95% accuracy, protecting vulnerable rural customers.[43]

Banks also experimented with emerging technologies. Axis Bank piloted blockchain-based remittances, reducing processing time from days to minutes and costs by 60%. Federal Bank explored internet of things (IoT)-enabled agricultural lending, using soil and crop sensors to reduce default rates by 30%. While promising, these technologies remained limited in scale due to high costs and regulatory uncertainty.[44]

5.12. THE 25 KEY LESSONS FROM PRIVATE BANKS' FINANCIAL INCLUSION JOURNEY

The 25 key lessons from the role of private sector banks in financial inclusion is summarised in Table 5.6 below.

Private banks' journey from 2022–25 illustrates that inclusion is not about volume but value—about designing systems that are profitable, resilient, and human-centered. By blending data intelligence with empathy, risk innovation with local insight, and competition with cooperation, PVBs proved that financial inclusion can be commercially viable, socially transformative, and technologically scalable—a model now redefining inclusive banking for the future.

Table 5.6. The 25 Key Lessons from Private Banks' Financial Inclusion Journey

No.	Theme/ Focus Area	Core Lesson	Illustrative Examples from PVBs	Strategic Takeaway
1	Commercial Viability of Inclusion	Inclusion can be profitable when designed with discipline and data.	HDFC's SLI; ICICI's microfinance partnerships; IDFC First's 99.7% repayment rural portfolio.	Treat inclusion as sound business, not charity—link profitability with social purpose.
2	Building Ecosystems for Scale	Scale comes from partnerships, not isolation.	Axis's Bharat Banking; Federal's integration of micro-insurance with DBT; FinTech–NGO collaborations.	Ecosystem collaboration multiplies outreach and lowers operating costs.
3	Mission Alignment	Inclusion succeeds when it's embedded in institutional DNA.	HDFC, Axis, ICICI integrating inclusion into KPIs and product design.	Leadership commitment and staff incentives must align with inclusion goals.
4	Patience in Investment	Inclusion demands long-term capital and persistence.	IDFC First's five-year pivot; HDFC's early cross-subsidization.	Patient capital builds durable advantage and community trust.
5	Regulatory Partnership	Regulation can drive innovation, not stifle it.	ICICI's eKYC leadership; Axis's digital co-lending; Federal's RBI-aligned MF model.	Co-create with regulators for simplified, scalable frameworks.
6	Technology as Enabler	Digital tools amplify, not replace, human connection.	HDFC's biometric units; Axis's voice services; ICICI's localised digital platforms.	Blend technology with local presence to sustain trust.
7	Risk Innovation	New risk models outperform collateral-based ones.	Bandhan's social collateral; IDFC's insured MFIs; HDFC's psychometric credit.	Use behavioural analytics and guarantees to manage inclusion portfolios.
8	Local Adaptation	Customisation outperforms standardisation.	Axis's agri-cycle loans; Federal's fishery-linked savings; ICICI's migrant micro-savings.	Localised design ensures adoption and loyalty.
9	Financial Literacy	Informed customers drive sustainable usage.	ICICI's rickshaw-driver programs; HDFC's Dhanchayat films.	Financial literacy is operational infrastructure, not CSR.

No.	Theme/ Focus Area	Core Lesson	Illustrative Examples from PVBs	Strategic Takeaway
10	Distribution Innovation	Reach matters more than products.	HDFC's Bank-on-Wheels; Axis's cooperative-led BCs; ICICI's rural ATMs.	Creative delivery models lower cost and deepen penetration.
11	Women as Anchors	Women deliver stability and repayment reliability.	Bandhan's 98% repayment; HDFC & ICICI's women-focused credit.	Gender inclusion strengthens portfolios and communities.
12	Trust Building	Trust precedes transactions.	Federal's local agents; ICICI's SHG ties; IDFC's relief outreach.	Transparency and fairness transform hesitant users into loyal clients.
13	Graduation Pathways	Customers need a growth journey.	Axis's savings-to-insurance ladder; HDFC's Kisan Card; Bandhan's move to enterprise loans.	Enable progression from microcredit to entrepreneurship.
14	Grievance Redressal	Responsiveness drives retention.	Axis's rural call centers; ICICI's multilingual platforms; Bandhan's village systems.	Accessible redressal builds confidence and repayment discipline.
15	Cultural Sensitivity	Respect for local culture enhances trust.	Federal's vernacular banking; Bandhan's gender-sensitive delivery; Axis's faith-compliant products.	Culturally aware services ensure inclusion acceptance.
16	Data-Driven Personalisation	Analytics make inclusion scalable.	ICICI's AI-based credit; HDFC's scoring engines; Axis's insight analytics.	Personalisation converts users into long-term customers.
17	Partnership Leverage	Collaboration expands capacity without overreach.	ICICI's MFI co-lending; Axis's cooperative alliances; Federal's fintech ties.	Partnerships deliver scale with governance integrity.
18	Balancing Simplicity and Sophistication	Simple interfaces drive adoption.	Axis's NEO app; HDFC's one-touch biometrics; ICICI's feature-phone banking.	Hide tech complexity—keep experiences intuitive and human.
19	Iterative Innovation	Failures are stepping stones to scale.	ICICI's early pilots; Axis's rural experiments; IDFC's product refinements.	Encourage iteration and adaptive learning.
20	Cross-Subsidisation	Profitable arms sustain inclusive ventures.	HDFC's urban cross-funding; Axis & ICICI's corporate subsidization.	Strategic cross-subsidisation nurtures early-stage inclusion.
21	Measuring Real Impact	Success must include social outcomes.	HDFC's livelihood tracking; Bandhan's empowerment studies; IDFC's job metrics.	Evaluate income, education, and empowerment—not just NPAs.
22	Coopetition for Good	Competitors can collaborate for public benefit.	Credit bureau sharing; UPI interoperability; co-lending.	Shared infrastructure amplifies inclusion impact.
23	Government Synergy	Public–private alignment accelerates results.	Axis's DBT delivery; HDFC's Digital Banking Units; ICICI's Mudra role.	Government frameworks + private agility = scalable inclusion.
24	Inclusion + Sustainability	Green finance and inclusion intersect.	Federal's solar loans; HDFC's clean-energy finance; Axis's climate-positive credit.	Climate-linked credit deepens livelihood resilience.
25	Continuous Evolution	Inclusion is a process, not an endpoint.	2022–25 shift from account-opening to digital and gender-linked inclusion.	Inclusion must evolve with customer needs and technology.

5.13. FUTURE OUTLOOK AND STRATEGIC IMPERATIVES

Beyond 2025, financial inclusion is set to align closely with wider development goals. Financial services are likely to be embedded within healthcare, education, and agriculture. Health-linked savings accounts, education loans integrated with online platforms, and agriculture credit tied to commodity market linkages are already emerging. Climate finance is becoming central, with banks committing significant shares of their portfolios to renewable energy, carbon credit financing, and climate insurance for smallholders.

The rise of the gig economy presents another frontier, demanding flexible savings, income-smoothing credit, and portable social benefits for millions of platform-based workers. Regulators are reshaping the landscape too. RBI's financial inclusion vision for 2025–30 emphasises service quality and usage. Account aggregator frameworks will make personalised credit and savings possible, while new digital lending rules aim to protect consumers without stifling innovation.

To succeed in this next phase, private banks must go beyond compliance. They need to design customer-centric models rooted in context, orchestrate partnerships with FinTechs and community institutions, invest in robust yet inclusive technologies, and build hybrid-skilled teams capable of understanding both finance and social realities. The lesson from 2022–25 is clear: inclusive banking is not charity but a sustainable strategy for long-term growth.

Private banks' journey from 2022–25 illustrates that inclusion is not about volume but value—about designing systems that are profitable, resilient, and human-centered. By blending data intelligence with empathy, risk innovation with local insight, and competition with cooperation, PVBs proved that financial inclusion can be commercially viable, socially transformative, and technologically scalable—a model now redefining inclusive banking for the future.

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Gendered Access to Finance in India: Evolution, Status, and Recommendations

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6

6.1. INTRODUCTION

Financial inclusion and access to financial services have consistently grown globally in the last few decades. According to the Global Findex Database (Klapper 2025), 79% of adults globally now have accounts, a sharp rise from just 51% in 2011. While this marks significant progress, this access is still far from equitable, in several respects. This means a massive 1.3 billion adults still lack access to accounts. Women, the poor, the young, those with limited education, individuals outside the formal workforce, and those in rural areas, are all more likely to form part of those without access. Moreover, 53% of the world's unbanked adults live in just eight economies, of which India is one.

In fact, a deep dive into India's case offers a similar paradox. Through efforts by successive governments and developments in the financial ecosystem, especially in the last decade, account ownership in India has risen dramatically from just 35% in 2011 to 89% today. Yet, despite this impressive expansion, India still has the largest absolute number of unbanked adults in the world. Even at just 11% of the population, the scale of exclusion is vast given the country's size.

Between 2011 to 2024, account ownership rates among both women and men have gone up. The global gender gap in account access has narrowed to just 4 percentage points—81% of men and 77% of women now hold an account. This is only part of the picture though. Of the 1.3 billion adults who remain unbanked worldwide, more than 700 million are women. The gender gap in financial inclusion becomes more apparent when delving beyond account ownership. In India, 18% of women reported having inactive accounts compared to 11% of men, while 30% of women had a debit card compared to 45% of men (Klapper 2025). Access to credit for women is more challenging. Studies have shown that factors such as lack of documentation and assets, patriarchal norms, limited financial agency and autonomy, and low financial literacy, all coalesce to limit credit access for women (Pingali, Iyer, Chakradhar, and Premchander 2021). Credit received by women is only 27% of the deposits they contribute, compared to 52% for men (Kumar 2022; Chavan 2020; Devchand 2024). This data, while only the tip of the iceberg, serves to illustrate the enormity of the gender gap in access to financial services.

Addressing gaps in access to finance for women is a policy imperative. At the most fundamental level, equal access to financial services is a matter of human rights. Bridging this gender gap will promote the social and economic empowerment of women, improve their financial agency and autonomy, boost their decision-making power in the household, and enable gainful participation in economic activities. There is growing evidence on how financial inclusion has a multiplier effect in boosting productivity and innovation, reducing poverty, and income inequality, with multiple positive externalities for economic growth and outputs at the national level (Reserve Bank of India 2020; Peterlechner 2021) . Plugging this gender gap is also integral to fulfilling India's international commitments to achieve the Sustainable Development Goals (SDGs); women's financial inclusion is not just a necessity for achievement of Goal 5 on gender equality but a critical enabler for six other SDGs.

In this context, this chapter explores the interplay of gender dynamics with access to finance in India. To do so, it first traces the evolution of the conception of women's financial inclusion, and the history of policy instruments and institutional

interventions on this subject. It then provides a snapshot of the status of women's access to finance in India, with a specific focus on savings and credit. The chapter then uses the Gender Equality and Social Inclusion (GESI) framework, which is explained in subsequent sections, to understand the barriers and challenges to women's access to financial services and provides actionable recommendations for policymakers and stakeholders in the ecosystem to bridge this gender gap.

6.2. THE HISTORY OF WOMEN'S FINANCIAL INCLUSION IN INDIA: CONCEPTS AND PRACTICE

The most prevalent and cited definition for financial inclusion in India is the one framed by the Government of India appointed Committee on Financial Inclusion, or the Rangarajan Committee (eponymously for the Chairman). The Rangarajan Committee's report (2008) defined financial inclusion as, 'the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost'. Though this definition does not explicitly mention women, interpretation of the definition in practice—including in the Committee Report—includes women as a category under vulnerable groups. While financial inclusion formally entered policy priorities and parlance in 2008, government action and thought on access to finance in India has a long history, which can be delineated into several evolutionary phases.

6.2.1. India's Approach to Financial Inclusion

Researchers describe two broad political economy approaches to financial inclusion—the activist and the modernist approach. Pallavi Chavan (2020) has argued that policy on banking and financial inclusion in India can be seen through the lens of two distinct phases: the phase of bank nationalisation starting in 1969, and the phase of financial liberalisation in 1991. These phases broadly correspond to the two approaches of political economy. More recently, a third approach—pro-market activism, a blend of the previous two—is seen. These philosophies have also shaped India's banking and financial inclusion policy, with the tenets of the third approach are visible in Indian policy since 2005.

The activist approach emphasised the role of the government in correcting market failures (or replacing weak, non-existent markets) and playing a decisive function in financial systems and services, such as regulation of interest rates, ownership of financial institutions, and directed credit programmes (Beck, Fuchs Uy 2009). In this framework, the government acts as a custodian and architect of the financial sector, using it as an instrument to advance broader development goals. This approach shaped policy in many developing countries through the latter half of the 20th century, especially in countries with weak market systems.

In India, prior to bank nationalisation, credit cooperatives were the main sources of formal credit in rural areas as commercial banks operated mainly in urban centres. The Green Revolution increased the demand for agricultural and rural credit—needs that cooperatives were unable to fully meet. Simultaneously, it was observed that private business houses had a monopolistic control over banks. To address these issues, the government nationalised 14 major banks in 1969 with the ostensible aim of curbing this control, expanding access to credit, and mobilising liquidity for rural areas (Chavan 2025). This period, referred to as the social banking phase, corresponds to the activist policy approach. Several policy instruments during this phase brought banks closer to masses. Branch licensing measures which mandated the opening of banks in unbanked rural areas and the creation of Regional Rural Banks increased services to underbanked areas. Priority Sector Lending aimed to redistribute bank credit by directing lending to underserved segments such as agriculture, small-scale industries, and socio-economically underprivileged sections. In this time, India witnessed a significant increase in household savings and investment rates with greater access to disadvantaged sections (Das 2021; Chavan 2020). PSL remains a mainstay of financial inclusion policy today.

Modernist approaches stand in sharp contrast to activist approaches. As evidence grew that government intervention was inefficient and had failed to meet development objectives, modernist approaches began to emerge, coinciding with the increasing trend of liberalisation of economies at the end of the 20th century. This approach instead placed a heavier focus on markets, lifting government controls and looking at the government as an enabler and regulator of financial institutions, rather than a director and actor (Beck, Fuchs and Uy 2009; Johnson and Williams 2013). As India opened its markets in 1991, policy on banking witnessed a sea change, keeping with the modernist approach. Emphasis was placed on bank profitability and privatisation, while the responsibility of redistribution was given to the fiscal, rather than

the credit system. Branch licensing and interest rate regulation were terminated.

Recently, the role of activist approaches in economic development are being revisited. Governments have been taking an enhanced role compared to purely modernist approaches: still placing primacy on market interventions, but stepping in with restricted, targeted designed interventions acting on specific failures and objectives. This blend of approaches has been termed 'pro-market activism' (de la Torre, Gozzi and Schmukler 2007).

By the 2000s, it was becoming evident that despite the impressive growth of India's banking networks, more than one-third of total credit demand was still being met by informal sources. Moneylenders—often charging exorbitant interest rates—remained a persistent source of household indebtedness. As concerns around financial exclusion intensified and the urban-rural divide widened, a new form of pro-market activism emerged in India, culminating in a stated policy focus on financial inclusion. Continuing the track of liberalisation, there was a focus on enabling inclusion while retaining bank profitability and reducing interventions like interest regulation and cross-subsidisation. While some branch licensing measures reappeared, greater thrust was given to reaching underserved areas through means beyond traditional brick and mortar branches, such as through banking correspondents (BCs)—agents or authorised representatives of banks who act as a liaison between communities and banks—and banking outlets managed by BCs. Other steps by the government to motivate banks to extend credit and promote financial inclusion included the issue of Kisan Credit Cards (KCCs), credit counselling, and collaboration with postal services to extend branchless banking (Chavan 2022; Premchander 2009). New forms of financial institutions such as for-profit microfinance institutions (MFIs), non-banking financial companies (NBFCs), small finance banks (SFBs), and payments banks, were promoted and involved to promote commercially oriented financial inclusion (Chavan 2020).

In 2014, the Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched to catalyse financial inclusion. This programme envisaged the opening of bank accounts without minimum balance requirements for unbanked persons and expanding access to a bouquet of financial services such as credit, insurance, and direct benefit transfer (DBT) of government entitlements, through these accounts. Similarly, the Pradhan Mantri MUDRA Yojana aims to facilitate and direct collateral-free credit to underserved segments. Simultaneously, there has been an extension of digital financial services and inclusion, through investments in creating the Jan Dhan-Aadhaar-Mobile (JAM) Trinity—linking Jan Dhan accounts with authentication through Aadhaar (Digital ID) and mobile phones—and in payment solutions such as the Unified Payments Interface (UPI). These initiatives have had a transformative impact on financial inclusion, including for women, as discussed in subsequent sections.

6.2.2. India's Focus on Women's Financial Inclusion

As noted in the previous section, financial inclusion emerged as an explicit policy priority only with the turn of the new millennium, even though earlier social banking initiatives did attempt to extend financial services into rural areas. Interestingly, these social banking initiatives did not explicitly identify women as a distinct target group. Some initiatives like PSL included them implicitly, such as by considering self-help groups (SHGs) under the category of socio-economically weaker sections. Only in 2013, were women explicitly mentioned as a weaker section to include them in the priority sector (Chavan 2020).

In 2000, the Union Government devised a programme for the targeted allocation of credit to women. This included the introduction of women's cell in banks and the stipulation of 5% target of total credit for women, which was binding on banks (Chavan 2020). This criminally low allocation, however, failed miserably to represent women's contribution to economic activity and their credit needs.

Another notable intervention aimed at financial inclusion of women was the establishment of Bharatiya Mahila Bank in 2013—a specialised, women-oriented public sector bank. The bank was created with an express mandate to cater to the banking needs of women; it lent primarily to women, offering them a slightly lower interest rate, but solicited deposits from both women and men. However, concerns around operational efficiency eventually led to its merger with the State Bank of India in 2017.

Possibly the biggest thrust to women's financial inclusion came through the SHG movement. Following from the success of the SHG movement in Bangladesh, SHGs were promoted in India from the 1980s to promote collective savings, self-reliance, and entrepreneurship among women (Mathan and Sunderaraj 2024). These SHGs formed the backbone of microfinance in India, when the National Bank

for Agriculture and Rural Development (NABARD) launched the SHG-Bank Linkage Programme (SHG-BLP). This programme aimed to encourage banks to extend microcredit to SHGs with refinance support from NABARD. This programme has now blossomed into the world's largest microfinance programme (Kumar and Singh 2024). Along with this bank-led model, an MFI led model also gained traction. In the former, banks were direct lenders to SHGs, while in the latter, banks lent to MFIs for onward lending to SHGs. Though interest rates were largely deregulated, subventions were offered for microcredit offered to women's SHGs.

Microfinance was positioned in the right place when the more recent discourse on financial inclusion emerged, allowing it to form an integral part of any official financial inclusion strategy. Though microfinance has certainly had a positive transformative impact, it has thrown up several challenges, which are discussed in detail in section 4 of this chapter. Before this, though, the next section discusses the status of financial inclusion in India at present.

6.3. CURRENT STATUS OF WOMEN'S FINANCIAL INCLUSION

The previous section illustrated the evolution of concepts and perspectives related to financial inclusion in India. Tracing this history reveals that while earlier initiatives sought to expand formal banking into rural areas and improve general access to financial services, a deliberate and focused push toward financial inclusion—particularly for women—emerged only in the early 2000s. Since then, by all accounts, India has made tremendous strides in promoting financial inclusion. This chapter provides a snapshot of the current state of financial inclusion of women, discussing the growth so far and areas for improvement.

6.3.1. Account Ownership and Usage

As earlier stated, according to Global Findex Data, account ownership among both women and men in India impressively stands at nearly 90% (Klapper 2025). The gender gap in account ownership has reduced tremendously over time, down from about 17% in 2011, to being nearly statistically insignificant in 2024 (shown in Figure 6.1).

Much of the credit for this progress can be attributed to the PMJDY programme and the sustained focus on financial inclusion over the past decade. Data from the Union Government states that 56% of the 460 million bank accounts opened under PMJDY belonged to women. The delivery of DBTs to beneficiary accounts is another reason cited for this growth (Kumar 2022). Between 2017 and 2024, the share of adults in India receiving Government to Person payments digitally rose by 20% (Klapper 2025).

This growth is most certainly a laudable achievement. However, a closer look reveals several underlying challenges that still require careful attention and targeted intervention. First, the government itself reported that 17% of PMJDY accounts, or 82 million accounts were inactive (Tiwari and Wright 2023). The Global Findex Database also notes this problem. It states that the rate of inactive accounts is especially high in India, even among low- and middle-income countries, standing at 16% of all accounts. Women are more likely to have inactive accounts than men; though the gender gap in inactivity has fallen from 12% in 2021, it still

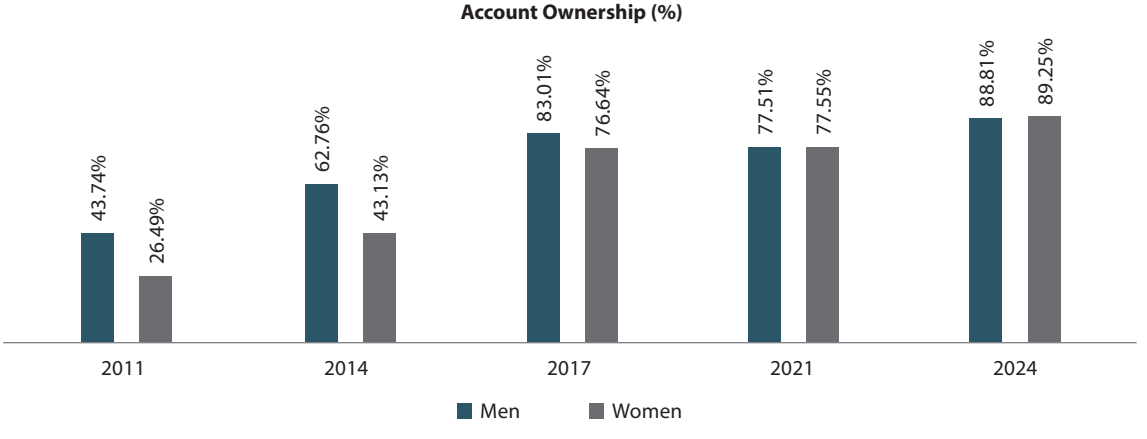

Figure 6.1. Account Ownership Rates in India

Source: Global Findex Database, 2025

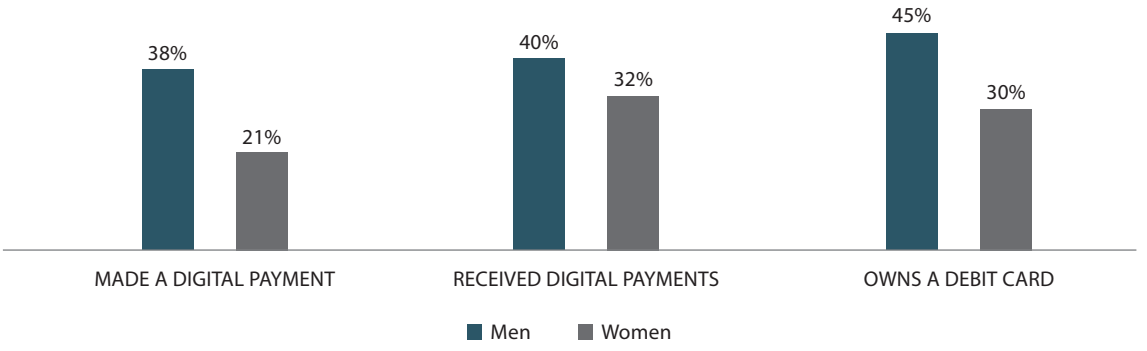

Figure 6.2. Use of Payment Services
Source: Global Findex Database, 2025

stands at a significant 7% in 2024 (Klapper 2025). Moreover, according to the National Family Health Survey-5 (2019–21), only 78.6% of women held a bank or savings account that they themselves used, though this number is up from 53% in the previous round of the survey. At over 20%, this statistic still raises concerns about agency and autonomy for a considerable population of women.

Similarly, a gender gap persists in usage of payment and allied services as well, as seen in Figure 6.2.

Owning an account is a necessary first step, but usage of the account is the crucial second step. India has made good progress on the first step, but on the second step, a persistent gender gap remains across most observable parameters.

6.3.2. SHGs and Microfinance

Since the inception of the SHG-Bank Linkage Scheme, 78 million households have been linked to formal savings through more than 14.4 million SHGs, which together hold deposits exceeding 650 billion. Out of the 14.4 million, 7.74 million are credit linked. The annual loan offtake has exceeded 209 billion, and since 2013–14 over 820 billion in loans has been disbursed under the programme. This has given a massive push to women, helping promote savings habits, creating linkages to formal financial institutions, and enabling access to credit, even where there is no credit history and collateral (Kumar and Singh 2024).

The SHG movement and the proliferation of microfinance has certainly had a transformative impact on women's financial inclusion. Yet, there remains considerable scope for growth in this space, considering that the overall credit linkage gap stands at 46%, indicating that about half of the SHGs can still be brought into the credit ecosystem. This gap is echoed in data from the National Family Health Survey (NFHS-5): only 51% of women were aware of microcredit programmes, and just 11% had ever availed of a microcredit loan. This should be pursued, but while acknowledging this immense impact, there are several reasons to consider looking beyond SHGs and microfinance in promoting holistic financial inclusion of women.

One of the principal concerns stems from the success of the SHG-Bank Linkage programme itself. In many developing countries, including India, microfinance has become almost synonymous with women's finance. This is reflected in practice, and also in literature, where scholars have noted that research on women's finance tend to centre on the outcomes of microfinance with limited discussion on women's access to bank finance (Chavan 2020). This is problematic for several reasons. To begin with, equating women's finance to microfinance limits the scope and imagination related to women's finance with an inherent assumption that women's credit needs are small, remain small, and relegates them to a division of the financial system, rather than truly expanding access to the wider financial system.

Scholars argue that for profit microfinance, in many cases, reinforce exclusionary gender norms rather than promote empowerment as is often assumed. For instance, research across various economies suggests that for profit microfinance consciously factors in restricted physical mobility of women in traditional environments as contributing to low credit risk (Beck 2015). On the other hand, there are documented cases where women's participation in microfinance increases their workloads, heightens domestic tensions, and reinforces their responsibility for household debt repayment. This serves to demonstrate that microfinance can exacerbate gender distinctions, by leveraging gender norms beneficial to them, and not factoring in (or actively ignoring) gender

norms and responsibilities that pose additional challenges for women. MFIs often valorise women's high repayment rates without acknowledging the pressures and sacrifices underpinning them.

Experience has also shown that microfinance does not adequately engage with a deep understanding of women's credit needs as well. A case in point is that microfinance loans are often used by women for consumption, while balancing this with productive investments. MFIs often critique this practice, reinforcing a normative assumption that "productive" loans are inherently superior to "consumptive" ones. However, this assumption runs rough-shod over ground realities where these consumptive loans are rational responses to precarious economic conditions and the absence of reliable safety nets; acts of adaptive resilience within constrained environments, rather than debt-financed sustenance. Women prioritise immediate household needs, medical emergencies, or educational expenses over entrepreneurial ventures, revealing that survival, rather than accumulation, often governs their financial choices. MFIs also typically define productive purposes narrowly, privileging income-generating activities while overlooking socially productive uses such as healthcare, education, or social reciprocity. In response, women often feel compelled to misrepresent the intended use of loans to conform to institutional requirements (Premchander, Prameela, Chidambaranathan, and Jayaseelan 2009).

Pallavi Chavan (2025) offers some interesting insights on women's access to bank credit, through an analysis of data reported by the Reserve Bank of India (RBI). She notes that despite the growth in microfinance spearheaded by SHG and bank linkages, only 17% of women reported bank credit access, compared to 32% of men in 2024. Citing that microfinance accounts for a minuscule 1% share of bank credit, she highlights the need to go beyond microfinance for women's financial inclusion. She further argues that the credit deposit ratio for women has been stagnant, while growing distant from a rising credit deposit ratio for men (Figure 6.3). This indicates that women's financial inclusion has been driven by deposits, rather than credit.

This lop-sided prioritisation of credit is a by product both of a neoliberal, market-led framework for financial inclusion as well as gender dynamics. Since 2005, India has approached financial inclusion with a framework that explicitly integrates business viability, profitability, and 'long-term sustainability of the process', according to the RBI. As a result, there is a greater thrust on mobilising small scale deposit as opposed to small scale lending. This is a consequence of market forces, since deposits are a cheap and stable source of finance for banks, while transaction costs associated with the financing of many small borrowers are much higher for banks. These transaction costs and credit risks are also usually the reason why microfinance interest rates are high. This consideration, coupled with the fact that women's credit needs have been serviced predominantly through microcredit with small ticket sizes, could be a major reason why women's inclusion continues to be driven by deposits, rather than credit. This presents another reason why there is a need to look beyond microfinance and service women's finance needs more holistically, with a clearer understanding of their priorities, requirements, and ground realities.

This section has presented a snapshot of the status of women's inclusion in the financial system, through the lens of various parameters. This analysis showcases that while there has been significant growth in ownership and enabling a first step towards women's financial inclusion, that there is still much work to be done in making this inclusion holistic and meaningful. Through this analysis, some hurdles that limit women's financial inclusion has already been laid bare. The following section builds on this by systematically discussing the challenges and barriers that constrain women's financial inclusion.

6.4. CHALLENGES AND BARRIERS

This section uses the Gender Equality and Social Inclusion (GESI) Framework to discuss the challenges and barriers that constrain women's financial inclusion in India. The GESI framework argues that transformative gender inclusion and empowerment can occur only when there is action on three inter-related domains of change, viz.,

- Access to Assets and Services
- Voice, Influence, and Agency
- Rules of the Game

The challenges and barriers to women's financial inclusion are discussed and presented across these three domains of change.

6.4.1. Access to Assets and Services

India has done well in reducing the gender gap in account ownership, reaching a position where most women now report having an account. Yet, as discussed in the previous section, moving beyond ownership to usage, there are several lacunae that reveal themselves.

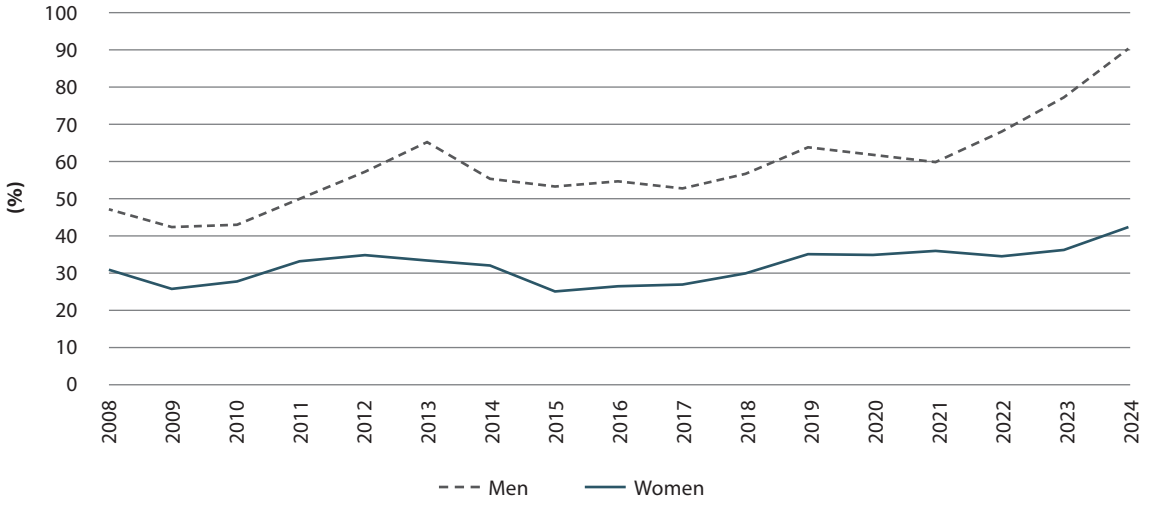

Figure 6.3. Credit to Deposit Ratio
Source: Chavan, 2025

Possibly the most glaring issue in relation to access is the one discussed in the previous section, on the nature and scope of women's finance. To summarise this once again for readers' benefit, microfinance has become synonymous with women's finance. Women form 98% of the clientele for MFIs in India (Reserve Bank Innovation Hub 2022). Along with this, women's financial inclusion remains predominantly deposit led, with minimal rise in credit offered to women. Together, these factors restrict the types of financial products available to women, limit the scale of finance they can access, and ultimately leave a substantial portion of their credit needs unmet. Looking beyond microfinance and SHGs is essential to truly promote financial inclusion of women.

Aside from their finance needs being unmet, there is also a mismatch between women's finance needs and realities and the products offered to them. Financial instruments remain poorly aligned to the needs of women, failing to acknowledge their priorities, gender roles, and the grassroots realities they contend with. Financial service providers typically design products and services considering men as the default users, neglecting women's lifecycle needs. Even where women are considered, they are often treated as a homogenous group, without accounting for nuances of age, caste, class, occupation, geography, education, and so on (Reserve Bank Innovation Hub 2022; Pingali, Iyer, Chakradhar, and Premchander 2021). The previous section discussed how microfinance has often leveraged and exacerbated gendered divisions and limitations. It also showed that financial products do not engage with women's needs and priorities and apply standards of scrutiny and judgement that are not in keeping with the realities that women must contend with, a case in point being the critique of the practice of balancing consumptive and productive investments made through loans. This not only means that women do not have the right kind of products available to them but also places them at a disadvantage to access the products that are available.

An emerging area of great concern is that of digital financial inclusion. In the last decade, there has been a great thrust given to digital delivery of financial services and digital payments, such as through UPI. There is no doubt that digital financial services (DFI) have immense potential to promote financial inclusion, but harnessing this potential will require bridging the gender-based digital divide that continues to persist in India. The gender gap in mobile ownership and mobile internet usage in India is estimated to be 26% and 56%, respectively. A study found that 47% of women who have access to phones in India are phone borrowers and not phone owners (Chatterjee 2021). This means that women are less likely to possess technology that will allow them to access digital financial services, and where they can access it, patriarchal norms will limit their use and autonomy.

Moreover, the gender gap in operating digital technology is even higher. Studies have found that the gender gap in making calls using a mobile phone may be up to 20%, for reading and sending SMS messages is 51%, and for making banking transactions could be 60% (Chatterjee 2021). Making a rapid transition to DFS without addressing

these critical issues such as access to technology and digital literacy, may have the deleterious effect of widening the gender gap in financial inclusion, rather than accelerating progress towards it.

A lack of documents and access to resources and assets such as land also limit women's participation in financial systems, such as opening accounts and seeking credit.

6.4.2. Voice, Influence, and Agency

Poor financial literacy, especially among women, is a major challenge that continues to stymie efforts towards women's financial inclusion. RBI's National Strategy for Financial Inclusion recognised this and placed financial literacy initiatives as a central part of its strategy. Despite initiatives like the promotion of Financial Literacy Centres and Financial Literacy Training, this remains an area of concern. Data from the National Centre for Financial Education (NCFE 2019) stated that only 21% of women were financially literate compared to 29% of men.

A lack of financial literacy inhibits trust in banking systems, the ability to take informed decisions, and exhibit desirable financial behaviours. This is compounded by the fact that women lack financial agency and autonomy. Accounts operation and financial decisions are usually made by men of the household, with limited inputs and participation by women. As earlier noted, women's control over technology and devices is also limited. Resultantly, women do not have agency over their own finances and even if they have accounts, financial inclusion in a real sense remains incomplete because it is not their participation that is driving financial decisions.

Women's representation, and therefore their voice, influence, and agency, is not just limited at the household level, but also in the banking systems themselves. There is a serious lack of gender diversity in staffing at every level of financial institutions, from board and leadership level to the frontline staff level. Though the Banking, Financial Services, and Insurance (BFSI) sector is often cited as one of the leading sectors in female representation, women still constitute less than a quarter of its workforce. Women are still under represented in revenue-generating, high-impact roles such as sales and branch banking (BW Online Bureau 2025). Even within the microfinance industry, which caters almost entirely to women, women account for only about 12% of the workforce (Reserve Bank Innovation Hub 2022). Increasing representation in staffing is imperative to ensure that women's voices are heard and influence the design of products and initiatives in the sector.

Evidence and experience have shown that more female field staff can have a multiplier effect in promoting financial inclusion. Studies have established that socio-cultural barriers prevent women from effectively transacting with male field staff and BCs, and that agent's gender plays a crucial role in accelerating regular usage of accounts by women. NABARD's Bank Sakhi programme, which employed and trained existing SHG members to act as BCs (called Banks Correspondents/Sakhis), has also demonstrated tremendous results. Not only did the Bank Sakhis earn more, gain greater financial independence, they were able to establish greater trust and meet the needs of female customers better, and increased financial activity and DFS access among women (Duvendack, Sonne and Garikipati 2023). Yet only 11% of MFIs field workforce are women, and less than 10% of BCs are women (Reserve Bank Innovation Hub 2022, Pinto and Arora 2021).

Moreover, where there is inclusion in staffing, there is 'adverse incorporation' (Hickey and du Toit 2007), as staffing systems rarely consider the gender dimensions of working women and do not provide adequate safeguards to enable their complete and effective participation. BCs and bank staff, especially at field level, often have very low commissions and carry inadequate voice within the banking system. Female BCs were often likely to earn less than their male counterparts, since they service primarily female customers that have fewer transactions and at lower volumes, which works as a disincentive (Sinha and Kaur 2022). There is also poor investment in their capacity building, which affects both delivery of services, and their own career growth and development. For example, even Bank Sakhis reported that lack of technical and digital skills limited their ability to work, an area that should have been addressed by capacity building efforts. They also reported safety issues, especially when handling and carrying cash over long distances, which made some of their families reluctant to allow them to work as Bank Sakhis (Duvendack, Sonne and Garikipati 2023). Other studies have also pointed out that BCs are not provided with working capital or cash-carrying risk cover, which adds to the cost of operations and erodes revenue margins (Pinto and Arora 2021). This can be particularly acute for female BCs, as they may earn less and may have lesser autonomy and disposable income to finance the working capital required. These issues are in addition to the patriarchal norms that are already in place that curtail women's independence in economic participation, limit their mobility, and cause concerns of harassment and safety in general.

6.4.3. Rules of the Game

Transformative impact on women's financial inclusion will require systematic addressal of challenges and barriers in policy and mechanisms that set the rules of the game. RBI's National Strategy for Financial Inclusion is a great step in this direction. Yet, it is interesting to note that the strategy does not contain a gender action plan or indeed, any systematic delineation of targets or interventions specific to gender.

The strategy makes mention of the availability of gender-disaggregated data but stops short of making concrete steps for the collection, dissemination, and usage of this data. Reserve Bank Innovation Hub (RBIH) acknowledges the poor availability of gender-disaggregated data as a barrier to financial inclusion. It recognises that "women's low levels of access and use remain hidden within the cumulative country-level data" and notes that beyond data on enrolment, financial institutions and government entities do not collect and publish gender-disaggregated data on usage and impact of financial services. Even the Financial Inclusion Index, though a step in the right direction, does not explicitly share a breakup of the index by gender, a major oversight that affects decision-making and visibility on the scale of the issue.

Perhaps the largest prevalent challenge in this category is the fact that financial institutions continue to carry discriminatory attitudes towards women. The authors' prior research on the subject has revealed that institutions often do not perceive women borrowers to be a valuable target segment, viewing them as having relatively low capacities and higher risk. Gender sensitisation is necessary across all levels of institutions to create more gender responsive financial products, services and systems (Pingali, Iyer, Chakradhar, and Premchander 2021).

6.5. RECOMMENDATIONS

The previous sections provided a snapshot of the status of financial inclusion of women and discussed challenges that hinder this process. This section lays out actionable recommendations for stakeholders across the financial services ecosystem, from financial institutions to government and RBI.

6.5.1. Evidence-based Policy Design

Collect and Disseminate Gender-disaggregated Data: Collecting and placing gender-disaggregated data on access, usage, and quality of financial services is critical for the development of evidence-based policy and gender responsive products and services by financial institutions, that can accelerate action on financial inclusion. Several countries have institutionalised this process. For example, the Central Bank of Kenya regularly conducts its FinAccess Household Survey. In India, the National Centre for Financial Education's (NCFE's) Financial Literacy and Inclusion Survey (FLIS) is a good start, but this needs to be made comprehensive and regular. Along with surveys, RBI should mandate the collection and reporting of gender-disaggregated data by banks on specific parameters, which can be decided consultatively.

Draft a Gender Action Plan as part of the National Strategy for Financial Inclusion: A comprehensive Gender Action Plan should mandatorily form part of the new National Strategy for Financial Inclusion. This should delineate targets, monitoring parameters, data collection and reporting strategies, and areas of action on gender and financial inclusion.

Present Gender Outcomes in the Financial Inclusion Index: Along with the overall score, the RBI should consider publishing a comprehensive dataset on the Financial Inclusion Index, broken down by several parameters, including mandatorily, gender. This will provide a metric for women's financial inclusion that can be measured and tracked over time.

Promote Experimentation and Research: The government should work with private players to conduct research on the needs and realities of women, which will feed into new experimental product and service designs for women. These can be piloted, with support from RBI and the government, before being launched at a larger scale. Similarly, several FinTech companies have experimented with alternative risk assessment mechanisms to assess creditworthiness of women and provide women-specific offerings (Deshmukh and Nikore 2022). Partnership with such agencies to capture learnings and scale up successful interventions can have great impact for the ecosystem.

Reporting and Knowledge Sharing: RBI should hold annual and/or regional multistakeholder workshops and convenings to encourage stakeholders to share progress, experience, and best practices, and promote convergent stakeholder action. This can culminate in the publication of an Annual Gender Equality in Finance Report.

6.5.2. Gender Sensitive Institutional Systems

Promote Gender Diversity in Staffing of Financial Institutions: Financial service providers should make efforts to increase women's representation in

leadership and senior roles. This will be a crucial step to increase gender-responsiveness in the design of products and services, as well as systems and processes.

Appoint More Female BCs and Frontline Field Staff: The positive impact of engaging more female staff at frontline levels has been discussed in the previous section. Scaling up the Bank Sakhi programme is a low-hanging fruit. The government should aim to ensure that at least 40% of all BCs are female.

Design Gender-responsive Financial Products: Research-backed products that actively respond to the needs of women and accommodate their priorities and realities are the need of the hour, both in microfinance and enterprise finance. Financial institutions should engage with these realities and design a suite of gender-focused products, rather than retrofitting products designed for male consumers.

6.5.3. Demand Side and Women-focussed Measures

Strengthen Digital and Financial Literacy Services: Financial literacy has been rightfully included in the National Strategy on Financial Inclusion. These efforts need to be strengthened significantly. The RBI must explore the conduct of women-only financial literacy modules and training programmes, that address the unique challenges and queries that women have and motivate them to exercise autonomy in the usage of their financial assets and technology. Digital literacy must be included along with financial literacy training.

6.6. CONCLUSION

Women's financial inclusion is a policy imperative to promote the socio-economic and human rights of women. Enabling transformative inclusion of women will give a fillip to economic growth, sustainable development, and household incomes. There is also a business case to be made for financial inclusion of women, as they represent a vast, underserved market with immense economic potential. Adopting a gender-focused approach and addressing the challenges to women's financial inclusion is therefore not just an option, but a necessary step. With significant progress in the last few decades, India has massive momentum on this issue, making the time ripe to capitalise on it and unlock India's goals of emerging as an economic powerhouse.

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Inclusive Insurance and Pension Systems in 21st Century India: Pathways, Progress, and Challenges

Ramesh Srivatsava Arunachalam

7

7.1. INTRODUCTION

Over the past decade, India has built one of the world's mostambitious frameworks for inclusive insurance and pension coverage. Schemes such as the Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Ayushman Bharat–Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), the Atal Pension Yojana (APY), Pradhan Mantri Fasal Bima Yojana (PMFBY), along with the expanded National Pension System (NPS), have collectively extended formal risk protection to millions of households who had previously been left outside the safety net. Insurance and pensions, once viewed as products for the middle class and formal workers, have now become part of the financial lives of rickshaw pullers, small farmers, domestic workers, and even street vendors.

This is a remarkable success story. Mass coverage has been achieved at an unprecedented scale and speed. Premiums have been kept at ultra-low levels to attract first-time participants. Digital rails like *Aadhaar*, *Jan Dhan accounts*, and *Unified Payments Interface* (*UPI*) have reduced costs and enabled automatic debits. Women have emerged as central beneficiaries, holding life cover, participating in pensions, and often managing health insurance benefits for their families. Yet these achievements are tempered by persistent challenges. Renewal stress threatens continuity of coverage, women encounter barriers in accessing higher-value insurance and pension products, regional disparities remain pronounced, and fiscal burden of sustaining these schemes continues to grow. The picture is thus one of progress and fragility intertwined, with achievements that must be celebrated and weaknesses that must be addressed.

7.2. PRADHAN MANTRI SURAKSHA BIMA YOJANA (PMSBY)

The PMSBY scheme was launched in May 2015 with the goal of providing accident insurance of ₹0.2 million at a premium of only ₹20 per year. The scheme's design was revolutionary because it dismantled the cost barrier that had long kept the low-income households outside the reach of insurance. By linking premiums to auto-debit from Jan Dhan accounts, the scheme achieved both scale and administrative simplicity (Table 7.1 and Figure 7.1).

The positive impact of PMSBY is undeniable. Within just two years, more than 130 million citizens had enrolled—many from high-risk occupations such as transport, construction, and small trades. Families who lost breadwinners in accidents often regard PMSBY payouts as life-saving support, enabling them to meet urgent expenses and begin rebuilding their livelihoods.

The challenge lies in *renewal continuity.* A significant number of Jan Dhan accounts lacked sufficient balances at the time of auto-debit. For households surviving on daily incomes, even ₹20 was not guaranteed to be available when required. This created renewal stress, a phenomenon where low-income households struggle not with the concept of insurance but with the mechanics of sustaining coverage. The lesson is clear—*access is not enough, continuity is essential.*

Table7.1. PMSBY Enrolments and Claims Year-wise

Financial Year (FY)	Cumulative Number of Claims Disbursed	In million		
		Cumulative Enrolments	Female Beneficiaries	PMJDY Account Holders
March 2016	5,530	94.1	36.3	Not Available
March 2017	16,164	99.5	38.4	Not Available
March 2018	34,160	134.8	42.1	19.25
March 2019	51,441	154.7	51.1	31.19
March 2020	66,719	185.4	66.4	46.23
March 2021	80,666	232.6	88.7	66.89
March 2022	96,453	281.9	116.3	94.96
March 2023	115,294	337.77	147.15	124.62
March 2024	134,573	438.07	200.6	149.74
April 23, 2025	157,155	510.62	238.6	171.21

Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2127981, as on23 April2025.

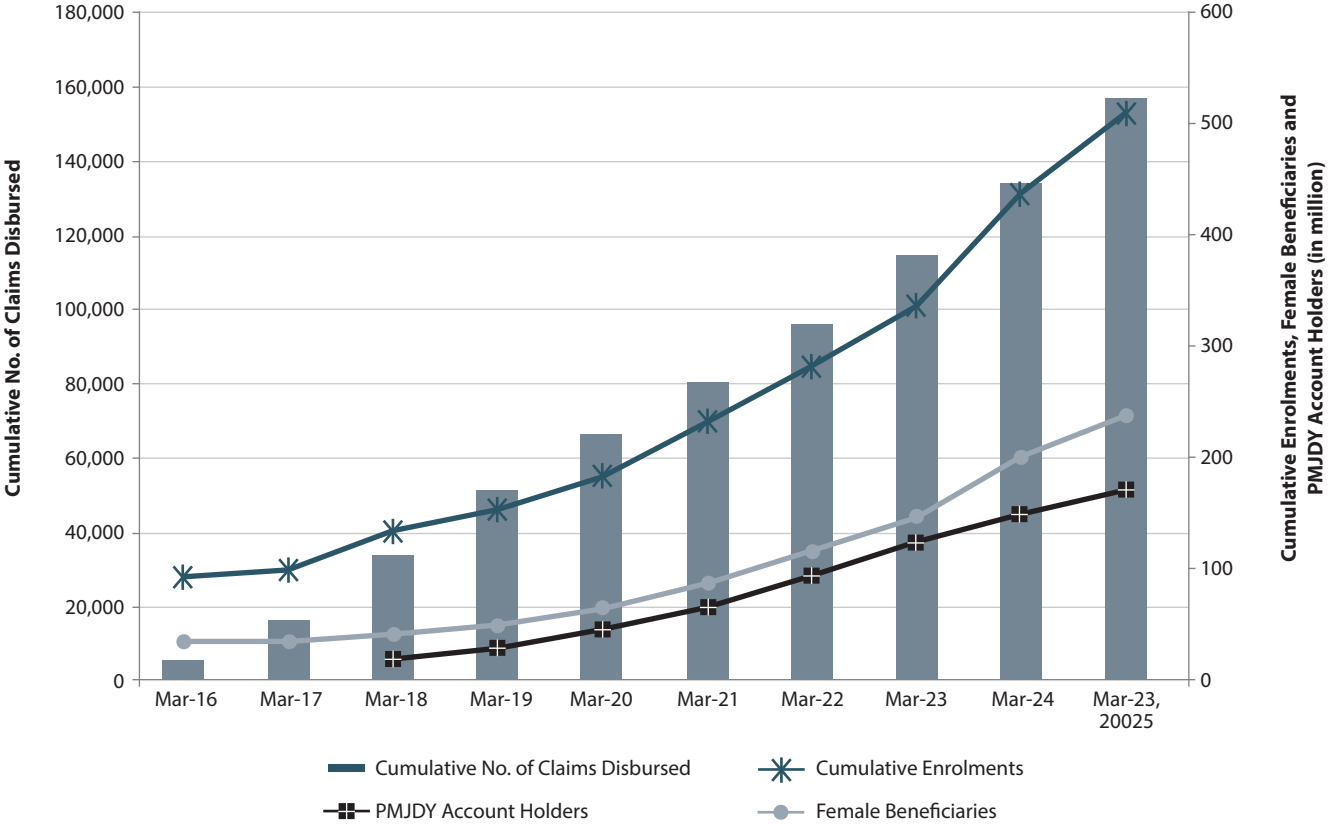


Figure 7.1. PMSBY Trends, March 2016 – 23 April 2025

Source: 'Three Jan Suraksha Schemes - Pradhan Mantri Suraksha Bima Yojana (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Atal Pension Yojana (APY) Complete 10 Years of Providing Social Security Cover'.

7.3. PRADHAN MANTRI JEEVAN JYOTI BIMA YOJANA (PMJJBY)

The PMJJBY scheme complemented PMSBY by offering life insurance cover of ₹0.2 million for an annual premium of ₹436. By targeting mortality risk, the scheme directly addressed the most devastating shock a household can face—the sudden loss of its primary bread winner.

PMJJBY achieved scale quickly (Table 7.2), crossing 100 million enrolments in its initial years. For the first time, millions of low-income households held life insurance policies. *The cultural impact of normalising life insurance among the poor was significant.* Every successful claim settlement created ripple effects of trust within communities, encouraging more households to enrol.

Yet renewal stress persisted. The annual premium of ₹436, though modest in absolute terms, was far from negligible for families juggling expenses on food, rent, and healthcare. Many households dropped out after the first year. The scheme therefore highlights a paradox: mass enrolment is possible, but without designing for continuity, the protection net remains fragile.

7.4. AYUSHMAN BHARAT–PRADHAN MANTRI JAN AROGYA YOJANA (AB-PMJAY)

The launch of AB-PMJAY scheme in 2018 marked a historic turning point. Providing annual hospitalisation cover of ₹0.5 million per family for over 100 million families, it became the world's largest government-funded health insurance program.

As Table 7.3 and Figure 7.2 illustrate, the positive impact of PMJAY has been profound. The scheme has financed millions of hospitalisations, shielding

Table 7.2. PMJJBY Claims, Cumulative Enrolments,and Female Beneficiaries[4]

FY	Cumulative Number of Claims Disbursed	In million		
		Cumulative Enrolments	Female Beneficiaries	PMJDY Account Holders
March 2016	41,437	29.6	11.0	Not Available
March 2017	84,727	31.0	11.5	Not available
March 2018	152,862	53.3	12.8	4.31
March 2019	254,830	59.2	15.5	5.99
March 2020	345,201	69.6	20.7	11.05
March 2021	454,085	102.7	28.8	19.63
March 2022	571,007	126.6	42.6	32.87
March 2023	660,383	163.1	62.39	52.53
March 2024	777,919	199.1	84.92	62.48
April 23, 2025	919,896	234.67	106.55	70.8

Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2127981, as on 23 April 2025.

Table 7.3. AB-PMJAY Overall and Last 30 Days Performance (in million)

	Overall	Last 30 Days
Ayushman Cards Created	419.09	2.18
Authorized Hospital Admissions (Count)	94.25	1.71
Authorised Hospital Admissions (Amount)	₹1,247,115.9	₹30,574.89
Hospitals Empanelled under AB-PM-JAY*	32,913	221

*: Hospitals Empanelled under AB-PM-JAY (in number)
Source: data from https://dashboard.nha.gov.in/public/ , as on 1 September 2025, 11.45 am.

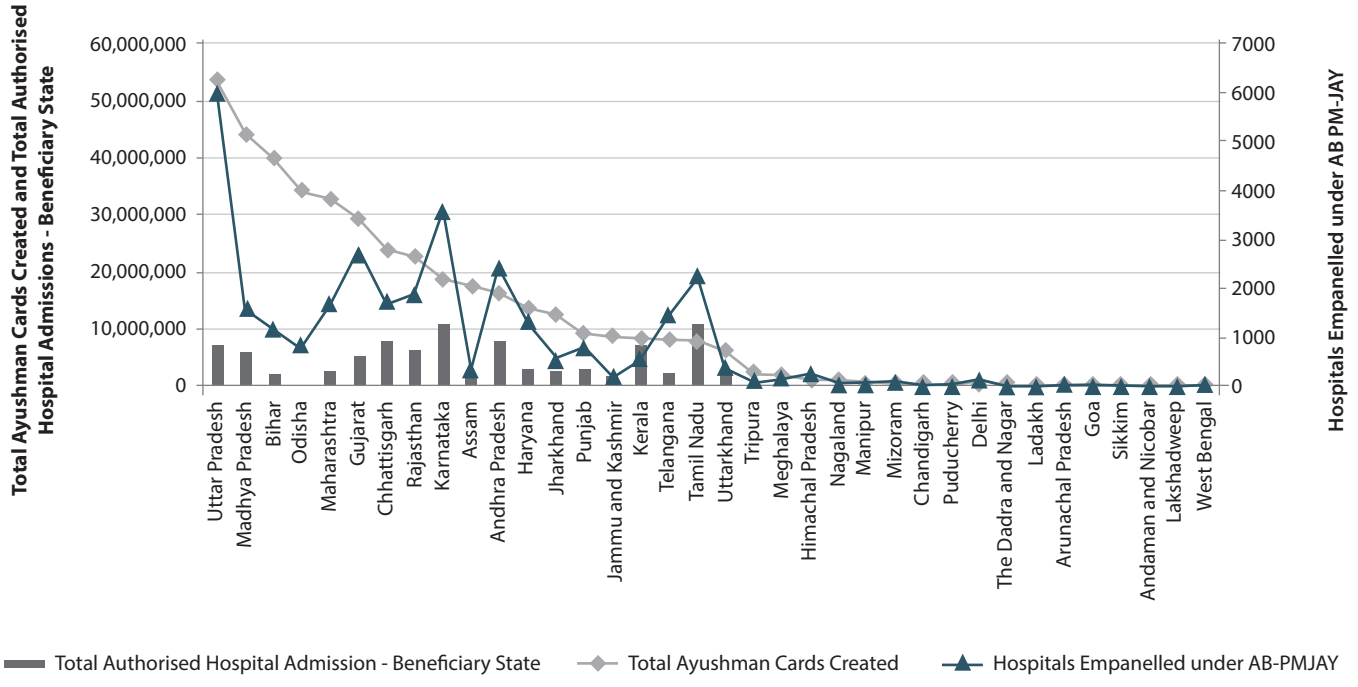


Figure 7.2. AB-PMJAY Statistics State Wise as on 1 September 2025, 12.15PM
Source: https://dashboard.nha.gov.in/public/

families from catastrophic health expenditures. The empanelment of private hospitals expanded access beyond the public sector, while digital claims platforms helped reduce administrative costs. PMJAY established health coverage as *a quasi-entitlement rather than a discretionary benefit*.

Yet significant challenges persist, including fraudulent claims, uneven quality of hospital services, and gaps in beneficiary awareness. In some regions, families hold PMJAY cards but are unsure how to use them. Despite these gaps, PMJAY represents a *paradigm shift* in Indian health policy where healthcare protection is no longer seen as privilege, but as a right.

7.5. PRADHAN MANTRI FASAL BIMA YOJANA (PMFBY)

Farmers face immense risks from droughts, floods, pests, and market volatility. The PMFBY scheme, initiated in 2016, was designed to stabilise farm incomes through heavily subsidised crop insurance. Farmers paid only 1.5–2% of the sum insured, while governments bore the rest.

The real achievement lies in its scale (see Tables 7.4 and 7.5). For smallholders who once had nothing but savings or informal loans to fall back on, PMFBY offered a much-needed safety net against climate shocks. The central challenge has been credibility.

Table 7.4. PMFBY Overall Performance

Applications	782.6 million
Insured Area	4,926 lakh hect.
Sum Insured	₹19,855.91 billion
Gross Premium	₹2,566.71 billion
Claims Paid	₹1,815.75 billion

Source: Data from https://pmfby.gov.in/adminStatistics/graphicalDashboard, as on 31 August 2025.

Table 7.5. Performance of PMFBY Year-wise

Year	2018	2019	2020	2021	2022	2023	2024
Season: Rabi							
Applications (PMFBY)	21,776,853	17,503,479	19,314,240	32,224,187	42,274,054	54,744,189	52,048,097
Area Insured PMFBY (Thousand Hect.)	19,363.14	15,262.28	15,486.72	14,961.03	15,086.57	18,370.26	16,223.74
Claim Paid-Farmer Benefit PMFBY (Actual) (in ₹ million)	460,072.9	198,009.1	273,713.4	282,759.9	256,582.6	228,208.7	99,385.6
Season: Kharif							
Applications (PMFBY)	29,992,861	37,347,465	40,693,200	49,777,829	68,511,655	86,222,054	95,840,361
Area Insured PMFBY (Thousand Hect.)	27,081.77	28,402.44	26,993.96	24,760.16	26,394.74	31,472.10	32,188.07
Claim Paid-Farmer Benefit PMFBY(Actual) (in ₹ million)	728,389.8	916,006.9	620,042.4	771,942.3	681,696.4	860,750.2	589,285.0

Source: Data from https://pmfby.gov.in/adminStatistics/dashboard, as on 31 August 2025.

Delays in crop-cutting experiments have slowed claim settlements, while disputes between states and insurers have further eroded confidence. Some states withdrew from the scheme citing fiscal burdens. For some farmers, the experience of premiums being deducted at sowing time, when liquidity was weakest, often felt like *repayment stress*, even though it was technically an insurance premium. With climate change increasing risks, PMFBY must evolve—incorporating satellite-based monitoring, AI-driven parametric models, and claim settlement mechanisms.

7.6. ATAL PENSION YOJANA (APY)

Launched in 2015, the APY scheme was designed to extend retirement security to workers in the unorganised sector. It promised guaranteed pensions of ₹1,000–5,000 monthly, depending on contributions.

By 2024 (Figure 7.3), APY had 55 million subscribers, nearly 45% of them being women. For the first time, women domestic workers, farm labourers, and street vendors held pension accounts in their own names. This represents a major step towards gender equity in retirement security.

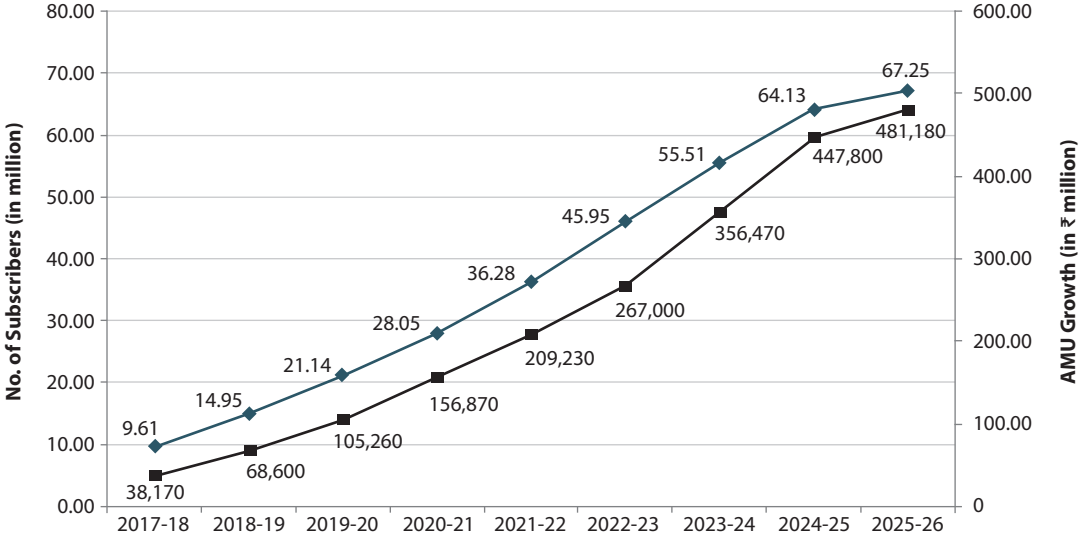


Figure 7.3. APY-Number of Subscribers and AUM Growth as on 1 September 2025

Source: https://npstrust.org.in/apy-aum-and-subscriber

The key challenges lie in scale and contribution continuity. Against an unorganised workforce exceeding 400 million, enrolment under APY remains modest. Daily wage earners often lapse in contributions, leading to penalties and frozen accounts. Here again, renewal stress limits sustainability. Nevertheless, APY's achievement is noteworthy: it introduced the very concept of *formal retirement savings* in communities where old age support is most needed and has traditionally relied on children.

7.7. NATIONAL PENSION SYSTEM (NPS)

Launched in 2004 for government employees, the NPS scheme has since expanded to become India's largest pension platform (Figure 8.4). With assets crossing ₹10 trillion by 2024, it has become a robust savings channel for government workers, corporates, and voluntary subscribers.

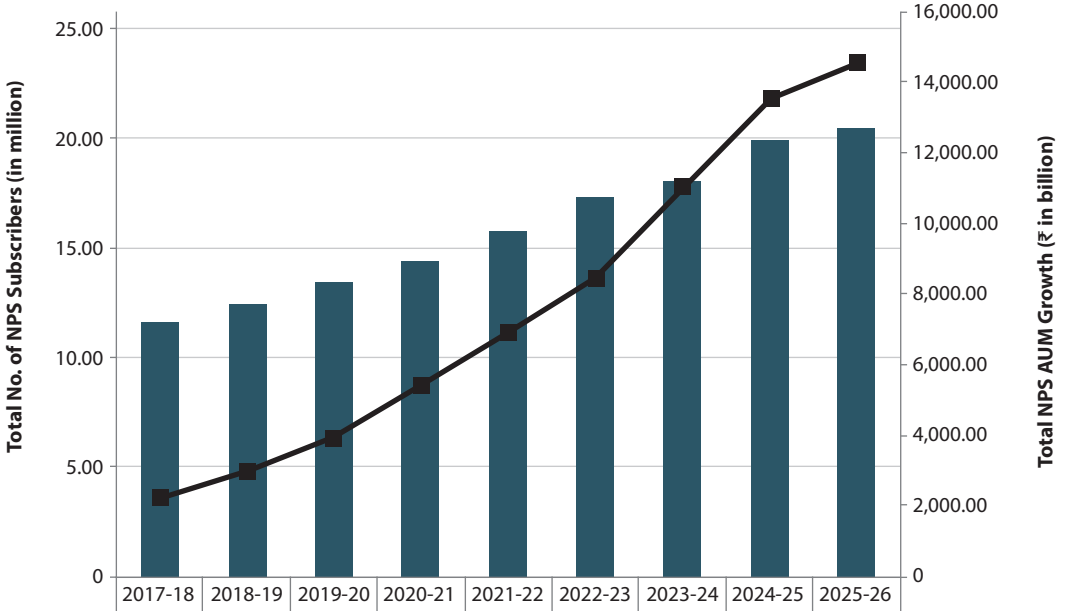
The positive contribution of NPS lies in its low charges, portability, and steadily growing asset base. The growth of NPS reflects both institutional strength and rising trust in retirement products Yet the challenge lies in inclusion: voluntary participation from informal workers remains limited, and tax incentives have largely favoured the middle class, leaving low-income groups constrained by barriers to entry.

BOX 7.1. WOMEN ARE BACKBONE OF PENSION INCLUSION

Women have emerged as the backbone of pension inclusion, forming a large share of APY subscribers. Retirement products such as APY and NPS succeed when households believe that decades of contributions will ultimately yield dignity in old age. For informal workers, whose incomes are uncertain, maintaining that trust is crucial. The lesson for all of us is that pensions must be designed with flexibility and incentives, while building long-term credibility through transparent governance. – Shri Sivasubramanian Ramann, Chairman, PFRDA

7.8. COMPARATIVE ANALYSIS OF INSURANCE AND PENSION SCHEMES

Thus, India's flagship social security and insurance schemes—PMJJBY, PMSBY, PM-JAY, APY, and PMFBY (Table 7.6)—form a comprehensive framework that addresses critical risks faced by households, particularly those in vulnerable sections of society. Taken together, they offer affordable protection against life, accident, health, pension,



	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Total No. of NPS Subscribers	11.56	12.40	13.41	14.39	15.74	17.31	18.04	19.86	20.46
Total NPS AUM Growth	2,307.61	3,113.52	4,069.40	5,623.37	7,156.71	8,716.43	11,370.03	13,987.25	15,055.48

Figure 7.4. Total NPS Asset Growth and Subscribers Segmentation as on 1 September 2025, 1.45PM[10]
Source: https://npstrust.org.in/aum-and-subcriber-base

Table 7.6. Comparative Analysis of Key Government Social Security and Insurance Schemes

Feature / Parameter	PMJJBY	PMSBY	PM-JAY	APY	PMFBY
Type of Scheme	A life insurance scheme providing annual risk coverage for death due to any cause.	An accident insurance scheme covering death or disability caused by accidents.	A flagship health insurance and assurance scheme under Ayushman Bharat, offering coverage for secondary and tertiary care.	A voluntary contributory pension scheme designed to provide old-age income security.	A comprehensive crop insurance programme covering a wide range of agricultural risks and disasters.
Enrolment Guidelines	Enrolment is linked to bank accounts through a simple auto-debit process, with annual renewal required.	Enrolment is linked to bank accounts, renewable annually, and can be done easily through banks or post offices.	Beneficiaries are isolated based on data from 2011 Socio-Economic Caste Census (SECC). The focus is on low-income families and vulnerable occupational groups.	Enrolment is linked to savings bank accounts and is open to individuals between the ages of 18 and 40.	Farmers must enrol during the crop sowing seasons, with mandatory participation for loanee farmers and optional enrolment for non-loanee farmers. Implementation is through banks and insurance companies.
Eligibility	Individuals from 18 to 50 years with a savings bank account are eligible. The coverage can continue up to age 55 upon renewal.	Individuals from 18 to 70 years with a savings bank account are eligible. The scheme is open to all citizens meeting these criteria.	Eligibility is based on SECC 2011 deprivation criteria and prioritises poor and vulnerable households, covering entire families with no limit on family size.	Individuals aged 18 to 40 years can enrol, make contributions until the age of 60, and must have a bank account.	Eligibility is for all farmers, including share croppers and tenant farmers. They must however grow the notified crops in designated areas. Enrolment is compulsory for those taking crop loans.
Sum Assured	The scheme gives a life cover of ₹200,000 payable on death, whether natural or accidental.	The scheme offers ₹200,000 for accidental death or total permanent disability and ₹100,000 for partial permanent disability.	There is no fixed "sum assured," but the scheme provides health coverage of up to ₹500,000 per family per year.	This scheme does not provide a lump-sum assurance but guarantees a pension between ₹1,000 and ₹5,000 per month depending on contributions.	The sum insured is determined by the "Scale of Finance" for the crop and area as decided by district-level authorities, with options for higher coverage at the farmer's cost.
Premium	The premium is ₹436 per annum for all subscribers, revised in 2022.	The premium is ₹20 per annum, making it highly affordable and heavily subsidised.	Beneficiaries pay no premium as the scheme is fully funded by the central governments along with various state governments.	Contributions vary according to the age of the subscriber and the desired pension amount, following an actuarial model.	The premium is capped at 2% of the sum insured for Kharif crops, 1.5% for Rabi crops, and 5% for horticultural and commercial crops, with the remaining premium shared equally by the Centre and State governments.

Feature / Parameter	PMJJBY	PMSBY	PM-JAY	APY	PMFBY
Enrolment Period	The scheme follows an annual enrolment and renewal cycle from 1 June to 31 May each year.	The enrolment and renewal cycle is annual, running from 1 June to 31 May.	There is no fixed enrolment period, and beneficiaries are continuously identified and empanelled.	Enrolment is open continuously until subscribers reach the age of 40, with contributions continuing until age 60.	The enrolment period aligns with the Kharif and Rabi sowing seasons, with exact dates notified by state governments annually.
Mode of Payment	Premiums are auto-debited directly from the respective bank account of the subscriber's.	There is an auto-debit of the Premiums directly from the bank account of the subscriber's.	Beneficiaries do not make any payments, as costs are reimbursed directly to hospitals and insurers by the government.	All contributions are taken via an auto-debit from the subscriber's bank account. This is done on a monthly, quarterly, or half-yearly basis.	Premiums for loanee farmers are deducted directly from crop loans, while non-loanee farmers can pay through banks, Common Service Centres (CSCs), or digital platforms.
Main Benefits	The scheme offers affordable life insurance, providing financial protection to the family in the event of death, with easy enrolment and minimal documentation requirements.	The scheme provides low-cost risk coverage against accidental death or disability, offering financial protection to rural and urban citizens alike.	The scheme offers cashless and paperless hospitalisation, covers pre-existing diseases, and provides a wide range of secondary and tertiary care services, making it one of the largest government health insurance programmes in the world.	The scheme guarantees lifelong pension, allows corpus transfer to a spouse or nominee upon the subscriber's death, and previously offered a government co-contribution to early subscribers.	The scheme provides comprehensive coverage for crop losses from pre-sowing to post-harvest stages, encourages farmers to adopt new technology and risk-taking practices, and reduces income volatility through subsidised premiums.
Data and Performance	As on 23 April 2025, the total enrolments under PMJJBY are higher than 236.29 million and an amount of ₹183.97 billion has been paid out against 919,896 claims. The scheme has recorded 106.6 million female enrolments and 70.8 crore enrolments from PMJDY account holders.	As on 23 April 2025, the total enrolments under PMSBY exceed 510.6 million and an amount of Rs. 31.21 billion has been paid out for 157,155 claims. The scheme has 238.7 million female enrolments and 171.2 million enrolments from PMJDY account holders.	As on 25 June 2025 Ayushman cards created: 412.69 million (Female-203.13 million, Male-208.66, Others 0.45 million) Authorised Hospital Admissions: 91.28 million (Female- 35.02 million, Male-35.97 million, and Others 0.024 million) and amount ₹1,190.93 billion Hospitals Empanelled: 32,096	As on 29 April 2025, more than 76.6 million individuals have subscribed to the scheme.	Performance of PMFBY (2024) Season: Rabi Covered Loanee Applications: 52.05 million Insured Area: 16,223.74 Thousand Hect Farmer Benefit PMFBY (Actual): ₹99,385.6 million Season: **Kharif** Covered Loanee Applications: 95.84 million Insured Area: 32,188.07 Thousand Hect Farmer Benefit PMFBY (Actual): ₹589,285.0 million

Source: Compiled from several sources

and agricultural risk coverage, creating a framework of financial security and social protection that spans every stage of life.

PMJJBY focuses on offering simple and affordable life insurance coverage for individuals aged 18–50 years, providing a financial safety net of ₹0.2 million to families in the event of the insured person's death. It has been designed for mass outreach, linking directly with bank accounts, ensuring ease of access and renewability. *PMSBY* complements this by covering accidental death and disability for citizens aged 18–70 years at an annual premium of just ₹20, making risk coverage against sudden accidents widely accessible.

PM-JAY, under Ayushman Bharat, addresses health vulnerabilities with cashless hospitalisation coverage of up to ₹0.5 million per family per year. By prioritising socio-economically deprived households identified through SECC data, it eliminates the burden of catastrophic health expenses and is one of the world's largest publicly-funded healthcare programmes. *APY* provides long-term social security by ensuring a guaranteed monthly pension of ₹1,000–₹5,000 after retirement. Contributions are linked to age and desired pension level, encouraging a culture of retirement savings and reducing reliance on informal support systems.

For Indian farmers, *PMFBY* provides robust crop insurance coverage, safeguarding them against yield losses caused by natural calamities, pests, and diseases. With subsidised premiums and coverage spanning pre-sowing to post-harvest stages, PMFBY helps stabilise farm incomes, incentivises investment in modern practices, and shields rural livelihoods from climate and market risks.

Taken together, these schemes forma multi-dimensional safety net. PMJJBY and PMSBY provide short-term life and accident coverage, PM-JAY mitigates health-related financial risks, APY establishes a long-term pension system, and PMFBY safeguards agricultural incomes—ensuring that social protection extends across both urban and rural populations. Built for simplicity, these schemes rely on auto-debits, smart subsidies, and integration with banks, making them easy to access even for people new to formal financial services. These programmes collectively embody India's commitment to inclusive growth and resilience by securing vulnerable citizens against multiple life-cycle risks.

7.9. SYSTEMIC SHIFTS: THREE PILLARS

The past decade has not only expanded the number of insurance and pension subscribers but has also *reshaped the very architecture of inclusion in India*. The transformation is not just numerical; it is systemic, altering how financial protection is designed, delivered, and experienced in India.

Pillar # 1: One of the most profound shifts has been the *integration of Aadhaar, UPI, and Jan Dhan accounts* into insurance and pension delivery. Aadhaar-based e-KYC streamlined enrolment by reducing paperwork and transaction costs, enabling scale, while UPI and banking networks facilitated auto-debits that converted annual and monthly contributions into seamless processes. This convergence has allowed programs like PMSBY, PMJJBY, and APY to reach tens of millions who would otherwise have been excluded due to procedural barriers. What once required extensive documentation and in-person verification can now be completed in minutes, bridging the last mile in financial access.

Pillar # 2: Equally transformative has been the *formalisation of identities through insurance and pension databases*. Millions of households once invisible to formal systems are now part of structured registries. This inclusion goes beyond administrative—it generates digital footprints that strengthen credit worthiness, enable more precise policy targeting, and integrate households into the broader framework of welfare governance. The ability of governments to track coverage, monitor claims, and design new programs is vastly improved because of these linkages.

Pillar # 3: Perhaps the most significant social shift is the *growing agency of women within households*. Women increasingly manage PMJJBY claims (Table 7.7), contribute to APY accounts, and act as decision-makers in using PMJAY health cards. These roles give women new bargaining power and a measure of financial independence. Insurance and schemes, once perceived as male domains, are now reshaping intra-household dynamics by recognising women as economic actors rather than mere dependents. This empowerment is subtle yet far-reaching, generating ripple effects in household decision-making and strengthening intergenerational security.

For communities, insurance and pensions have created a new form of *psychological capital*. Possessing an insurance policy or pension account fosters dignity and legitimacy, serving as a visible marker of participation in the formal financial system. In many villages, the visible presence of these schemes has reshaped perceptions of the state itself—casting government not merely as a distributor of subsidies but as a guarantor of protection. This change in perception strengthens the social contract and enhances trust in public institutions.

Table 7.7. PMJJBY Female Beneficiaries (in million)

Financial Year (FY)	Female Beneficiaries (in million)
March 2016	11.0
March 2017	11.5
March 2018	12.8
March 2019	15.5
March 2020	20.7
March 2021	28.8
March 2022	42.6
March 2023	62.39
March 2024	84.92
April 23, 2025	106.55

Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2127981, as on 23 April 2025

Yet these systemic shifts are not without limitations. Dependence on digital platforms risks excluding those lacking connectivity or literacy. While women's participation has expanded, it remains largely concentrated in entry-level products, with higher-value engagements till limited. National databases enhance tracking but raise pressing concerns around *privacy, consent,* and *data security* that demand proactive safeguards. Finally, psychological capital is fragile; trust can dissipate quickly if claims are delayed or benefits fall short of expectations.

Taken together, the decade has *redefined inclusion beyond enrolments*—embedding insurance and pensions within India's digital public infrastructure, strengthening women's agency, formalising previously invisible citizens, and reshaping community perceptions of both finance and the state. These systemic shifts represent the most enduring legacy of the past ten years, creating the foundations on which the next phase of inclusive protection must be built.

7.10. MICRO-INSURANCE POLICIES – INDIVIDUAL AND GROUP BY LIC AND PRIVATE INSURERS

The *Handbook on Indian Insurance Statistics 2023–24* provides a comprehensive look at *individual micro insurance new business policies* and premiums for both LIC and private insurers over the seven-year period from 2017–18 to 2023–24. The numbers reveal a significant evolution in the micro insurance market, highlighting a decisive strategic shift from high-volume, low-value issuance toward *fewer but higher-value policies*.

For LIC, micro insurance policy volumes initially rose, climbing from *0.57 million in 2017–18* to a peak of *0.99 million in 2020–21*, reflecting strong demand

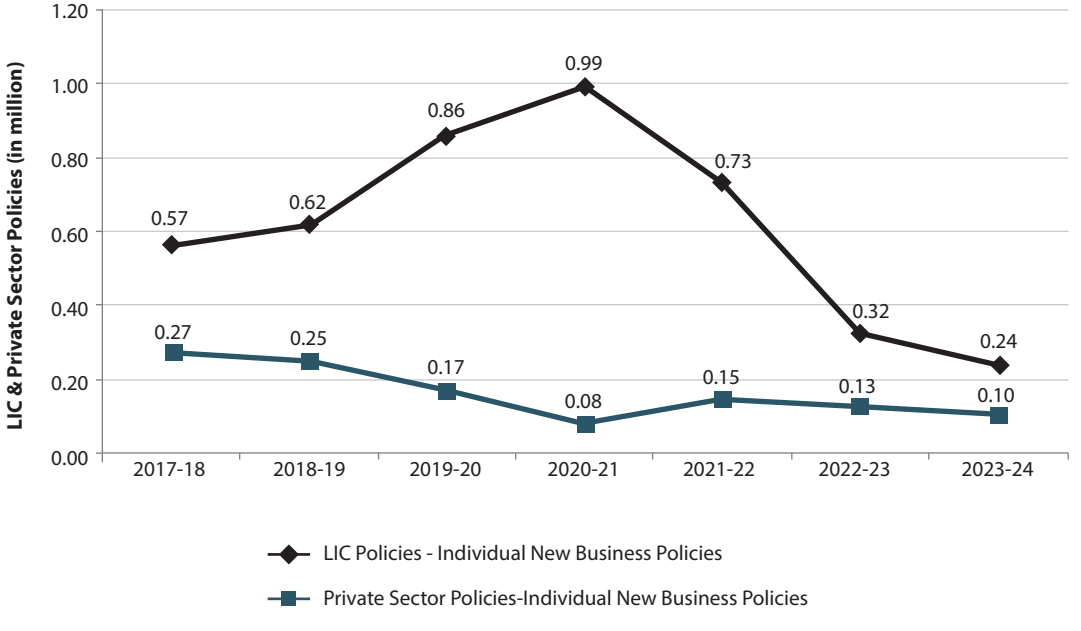


Figure 7.5. Performance of Micro-insurance Business in the Life Insurance Sector – Individual New Business (Policies)

Source: Handbook on Indian Insurance Statistics 2023-24

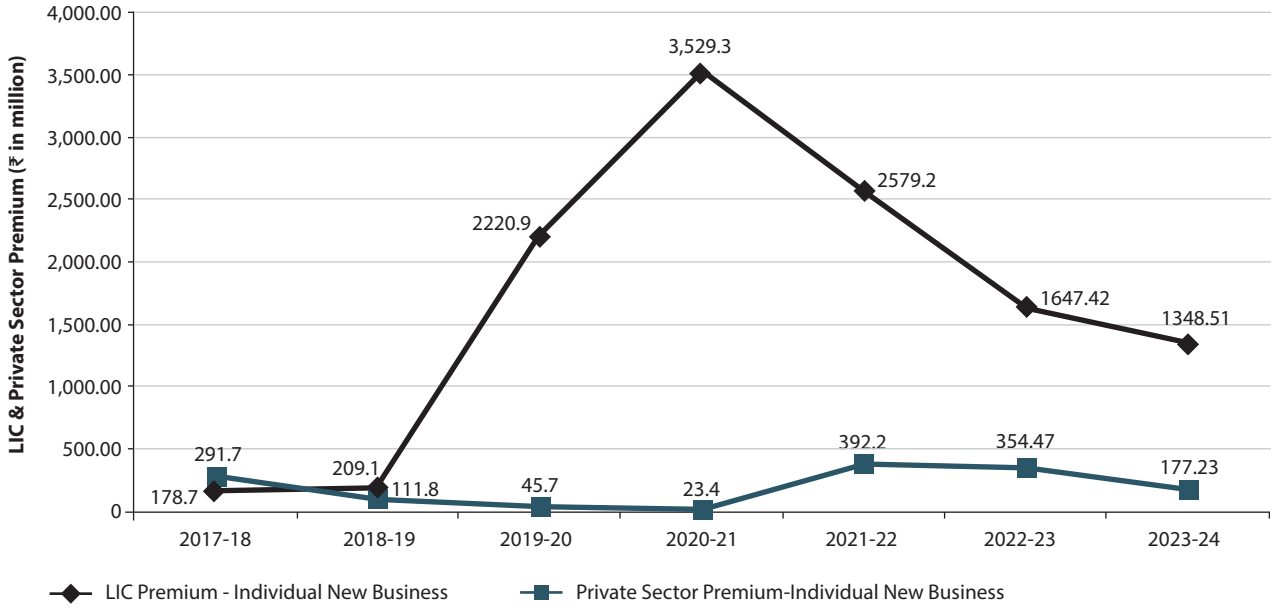


Figure 7.6. Performance of Micro-insurance Business in the Life Insurance Sector – Individual New Business (Premiums)

Source: Handbook on Indian Insurance Statistics 2023-24

amid heightened financial insecurity and pandemic-driven risk awareness. However, subsequent years saw a steep decline, with issuance dropping to *0.32 million in 2022–23* and further to *0.24 million in 2023–24*, signaling a strategic realignment of LIC's micro insurance offerings. Premium trends, however, show a contrasting narrative: collections surged dramatically to *₹2,220.9 million in 2019–20* and *₹3,529.3 million in 2020–21*, before moderating to *₹1,348.51 million in 2023–24*. This indicates that LIC has shifted its emphasis from mass outreach to *premium-rich, value-driven policies*, prioritising long-term sustainability over sheer policy count.

Private insurers followed a similar trajectory, with policy numbers shrinking from *0.27 million in 2017–18* to *0.10 million in 2023–24*, reflecting a deliberate move away from volume-based growth. Premiums in this period were volatile, dipping to *₹23.4 million in 2020–21* before rebounding sharply to *₹392.2 million in 2021–22* and stabilising at *₹177.23 million in 2023–24*. This volatility signals that private players are experimenting with *targeted, niche-market strategies*, leveraging partnerships with Microfinance Institution (MFIs), Self-Help Groups (SHGs), and fintech-driven channels to deliver micro insurance more efficiently and profitably.

Taken together, these trends represent a *structural transformation of India's micro insurance ecosystem*. The sector is moving away from a purely volume-driven model toward *customised, higher-value protection solutions* for low- and middle-income households. The pandemic years served as a catalyst for heightened awareness and increased premium inflows, but the subsequent normalisation shows that insurers are recalibrating their approaches to remain sustainable. LIC remains a key player, but its contraction in policy volumes reflects a strategic repositioning, while private insurers' innovation-driven growth shows their increasing role in shaping micro insurance delivery models.

For regulators and policymakers, these shifts emphasise the need to *balance accessibility and affordability* with insurers' profitability imperatives. As the micro insurance segment becomes more sophisticated, regulatory frameworks must safeguard low-income policyholders while supporting innovation, scalable technology adoption, and partnerships that expand reach. Micro insurance is transitioning from a purely social protection tool into a *dynamic, competitive market segment*, playing a pivotal role in bridging the protection gap and advancing financial inclusion in India.

The *Handbook on Indian Insurance Statistics 2023–24* also offers a revealing snapshot of India's *micro insurance market* through group new business data, highlighting a dramatic shift in leadership from LIC to private insurers over the past seven years. A market once dominated by LIC has now

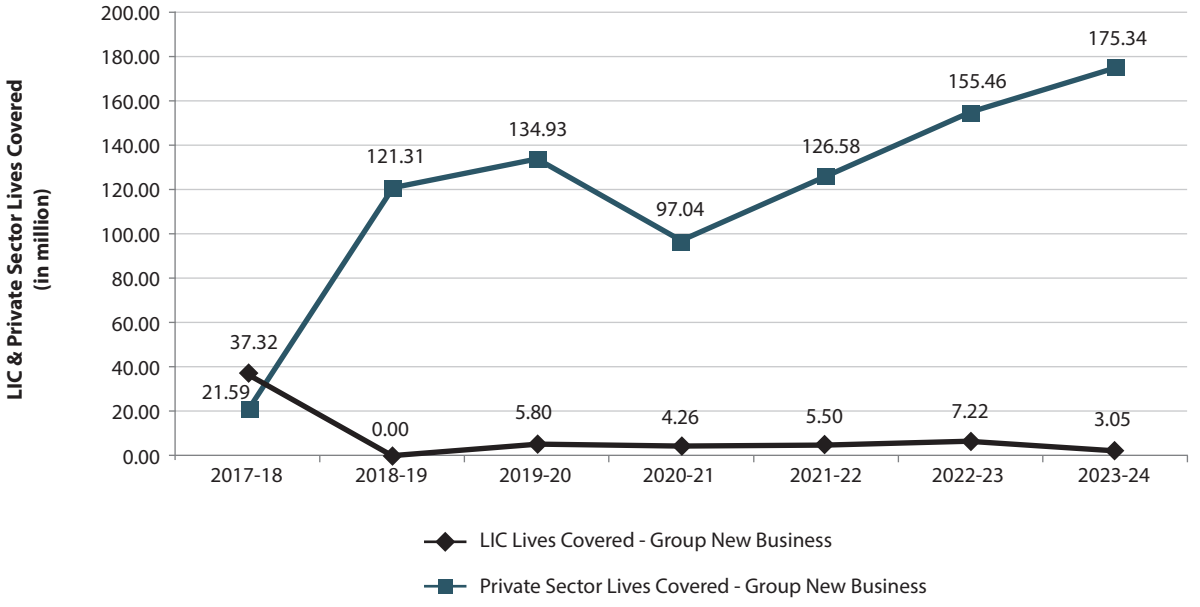


Figure 7.7. Performance of Microinsurance Business in Life Insurance Sector – Group New Business (Lives Covered)
Source: Handbook on Indian Insurance Statistics 2023-24

been reshaped, with private insurers powering growth at an unprecedented scale—evidence of changing market forces and a stronger push for financial inclusion. In 2017–18, LIC led the segment with *₹6,318.5 million in group micro insurance premiums and 37.32 million lives covered*, leveraging its wide distribution network and strong rural reach. However, by 2018–19, LIC's premium collections fell to zero, marking a significant pullback, likely due to portfolio restructuring and tighter product focus. While LIC partially recovered, reaching *₹1,145.3 million in premiums in 2020–21*, its volumes steadily declined thereafter, settling at *₹170.85 million in 2023–24*, covering only *3.05 million lives*. This illustrates a deliberate shift in LIC's strategy away from large-scale group microinsurance penetration towards targeted offerings.

The private sector, on the other hand, has rewritten the narrative. Starting from *₹7,545.2 million in premiums and 21.59 million lives covered in 2017–18*, private insurers have scaled aggressively, reaching a staggering *₹106,907.32 million in premiums and 175.34 million lives covered by 2023–24*. This explosive growth highlights their ability to innovate with low-ticket, high-volume products tailored for underserved populations, leverage technology-enabled distribution, and partner with MFIs, SHGs, Non-Banking Financial Company (NBFCs), and FinTechs to achieve mass outreach.

This divergence reflects a *structural transformation of India's micro insurance ecosystem*. LIC's retrenchment and product rationalisation have created space for private players to lead in high-volume, low-premium risk covers, particularly those tied to credit, livelihoods, and welfare-linked insurance. The surge in coverage demonstrates that micro insurance is becoming an integral part of India's financial inclusion story, offering a safety net for millions of vulnerable households while expanding insurers' reach to rural and semi-urban markets.

For policymakers, this trend underscores the need to *balance scale with sustainability*. The growing dominance of private insurers brings innovation and expanded reach but it also raises regulatory concerns around pricing, claim settlement timelines, and consumer literacy in low-income segments. LIC's cautious approach, while reducing exposure, signals a strategic repositioning that could open new opportunities for partnerships and targeted schemes. The numbers reflect not just an industry trend but a *shift in social protection delivery*, where insurance is evolving into a scalable tool for inclusive growth.

Thus, the individual micro insurance landscape in India has moved away from high-volume issuance toward a *value-focused, sustainability-driven model*. Insurers are increasingly designing

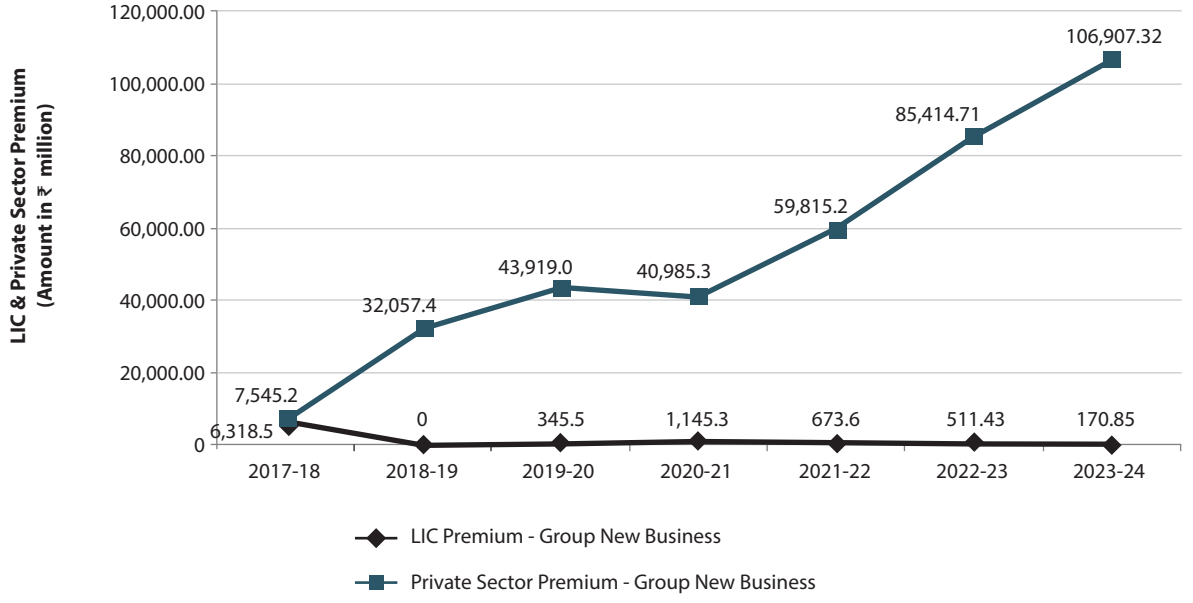


Figure 7.8. Performance of Microinsurance Business in Life Insurance Sector – Group New Business (Premiums)
Source: Handbook on Indian Insurance Statistics 2023-24

products that offer meaningful protection rather than merely expanding coverage numbers. This shift reflects a more mature and nuanced comprehension of financial inclusion, emphasising product quality, risk management, and portfolio stability. Public sector strategies point to rationalised offerings tailored for deeper coverage, while private players are leveraging *technology, innovation, and partnerships with grassroots networks* to reach underserved populations. The result is a micro insurance segment that prioritises *impact over scale*, setting the stage for more inclusive and resilient protection for vulnerable households.

Likewise, the group micro insurance has undergone a *complete structural transformation*, with private insurers redefining a market once dominated by the public sector. Their success stems from *ecosystem partnerships, digital distribution, and high-volume, low-ticket solutions* that efficiently cover large populations. LIC's shift toward selective offerings reflects a strategic repositioning, while private insurers have scaled aggressively by integrating micro insurance with credit and livelihood programs. This evolution demonstrates that group micro insurance has become a *key pillar of financial inclusion*, where scale is achieved through innovation and collaboration rather than legacy networks alone. It also underlines the need for strong regulatory oversight to ensure that rapid growth is matched by *affordability, transparency, and consumer protection* for low-income communities.

7.11. TWENTY-ONE LESSONS FROM A DECADE OF INCLUSIVE INSURANCE AND PENSION SYSTEMS

7.11.1. Lesson 1: Enrolment Is Only the First Step

The remarkable success of PMSBY, PMJJBY, and APY in attracting millions of first-time subscribers demonstrates that access barriers can be effectively overcome through affordability and simplicity. Yet inclusion cannot be measured by numbers alone. Without consistent renewals year after year, household coverage remains fragile. This lesson underscores that true inclusion requires sustained engagement, not one-time enrolment drives.

7.11.2. Lesson 2: Affordability Attracts, But Continuity Sustains

Ultra-low premiums such as ₹20 or ₹436 opened doors for the poor and normalised insurance in communities where it had never existed. But affordability by itself cannot guarantee retention. Renewal stress is real, as irregular incomes often compete with pressing consumption needs. The challenge is to ensure that affordability translates into permanence.

7.11.3. Lesson 3: Claims Define Credibility

The essence of insurance lies not in enrolment but in settlement. When families receive timely payouts following an accident or death, it builds confidence that resonates across entire communities. Conversely, delays or rejections corrode trust and discourage renewals. A decade of experience makes clear that claims are the true currency of credibility in inclusive insurance.

7.11.4. Lesson 4: Women as the Base, But Rare at the Peak

Women have emerged as the backbone of insurance and pension inclusion, dominating entry-level schemes and forming a large share of APY subscribers. Yet participation drops sharply in higher-ticket pensions and larger insurance covers. This reflects both economic vulnerability and systemic barriers. Future design must address this gender ceiling to convert entry into empowerment.

7.11.5. Lesson 5: Pensions Demand Patience and Trust

Retirement products such as APY and NPS succeed only if households believe that decades of contributions will ultimately yield dignity in old age. For informal workers, whose incomes are uncertain, maintaining that trust is difficult. The lesson is that pensions must be designed with flexibility and incentives, while building long-term credibility through transparent governance.

7.11.6. Lesson 6: Health Protection as an Entitlement

Ayushman Bharat–PMJAY has fundamentally altered the discourse by treating catastrophic health cover as a right of citizenship. Millions of hospitalisations financed under the scheme have prevented families from falling into debt traps. The next stage is to ensure that quality care matches access, making entitlement meaningful in practice as well as in law.

7.11.7. Lesson 7: Agriculture Insurance Must Be Climate-Smart

The experience of PMFBY shows that while large enrolments are possible, credibility falters when claims are delayed or disputes emerge. Climate change has intensified risks, making timely payouts more urgent. The future of agricultural insurance lies in satellite-based triggers, parametric models, and faster digital settlements. Trust depends on responsiveness to climate realities.

7.11.8. Lesson 8: Behavioural Barriers Are Stronger Than Financial Ones

Even when premiums are negligible, many households drop out due to lack of awareness or scepticism. This underlines that exclusion is not only about affordability but also about perception and trust. Insurance requires behavioural change, which can be achieved only through sustained education, practical demonstration, and the influence of peers within communities.

7.11.9. Lesson 9: Technology Is a Double-Edged Sword

Digital platforms like Aadhaar and UPI have enabled scale at unprecedented speed. Auto-debits, e-KYC, and digital claims are revolutionising delivery. Yet the very reliance on technology risks excluding those without smartphones, connectivity, or literacy. The lesson is that technology must serve as a bridge, and assisted models must be embedded to leave no one behind.

7.11.10. Lesson 10: Subsidies Are Essential But Not Enough

The Indian government's fiscal commitment has been central to sustaining PMFBY, APY, and PMJAY, with subsidies playing a crucial role in ensuring affordability for low-income households. But without actuarial recalibration and administrative efficiency, schemes risk becoming financially unsustainable. The decade shows that subsidies are necessary, but long-term viability requires balancing ambition with fiscal prudence.

7.11.11. Lesson 11: Regional Disparities Reflect Broader Divides

Coverage is deepest in the South, but in the Northeast and many poorer states, insurance and pension reach remains thin. This mirrors structural inequalities in banking networks, digital infrastructure, and state capacity. National totals can mask deep regional divides. Inclusion must therefore be pursued not just nationally but regionally, with tailored interventions for lagging geographies.

7.11.12. Lesson 12: First Coverage Creates Dignity

For many households, holding an insurance certificate or a pension card for the first time represents more than financial protection. It creates psychological capital—a sense of legitimacy, dignity, and confidence. The symbolic power of first-time coverage is profound. Policymakers must recognise

that insurance builds not only resilience but also identity.

7.11.13. Lesson 13: Products Must Mirror Real Lives

Informal workers earn seasonally, women often interrupt careers for care giving, and farmers face highly variable incomes. Products designed for formal, steady earners are ill-suited to their realities. Insurance and pensions must be tailored to these realities, offering flexible contributions and context-sensitive features. The decade proves that design determines adoption.

7.11.14. Lesson 14: Trust Builds Slowly and Erodes Quickly

Each successful claim adds a drop of confidence into the reservoir of trust. But one major delay, rejection, or scandal can drain it overnight. Trust is cumulative but fragile. For inclusive insurance to thrive, systems must ensure consistency, transparency, and fairness in every claim.

7.11.15. Lesson 15: Scale Cannot Compromise Sensitivity

The success of mass enrolments in PMSBY, PMJJBY, and APY shows that scale is achievable. Yet scale must not come at the expense of empathy in service. Families filing claims need guidance, not bureaucracy. Large-scale delivery must retain a human face, where empathy and sensitivity are valued as much as efficiency.

7.11.16. Lesson 16: Credit and Insurance Reinforce Each Other

Experience shows that loans without insurance expose households to financial ruin, while loans with insurance create resilience. Linking Mudra loans with insurance cover demonstrated the synergy of protection and credit. The lesson is that inclusion strategies must be integrated, treating credit, savings, insurance, and pensions as parts of a single ecosystem.

7.11.17. Lesson 17: Retirement Security Must Become Universal

As life expectancy rises, old-age insecurity will grow unless pensions become universal. APY and NPS have laid a foundation, but gaps remain vast. Retirement security is not a luxury; it is a demographic necessity. The lesson is that every worker, formal or informal, must be part of a pension system.

7.11.18. Lesson 18: Financial Literacy Anchors Inclusion

In the absence of financial literacy, policies are often misunderstood or underutilised. Many households mistake insurance for savings products or discontinue coverage due to misconceptions. Literacy is the backbone of inclusion. Sustained campaigns and grassroots education are as vital as product design in ensuring effectiveness.

7.11.19. Lesson 19: Women's Realities Must Shape Policy

Insurance and pensions must account for women's interrupted careers, unpaid labour, and income insecurity. While APY's gender profile shows promise, women remain largely absent from higher tiers participation. True empowerment demands products designed around women's realities, not retrofitted onto male-centric assumptions.

7.11.20. Lesson 20: Insurance Must Anticipate Shocks

The pandemic revealed how unexpected shocks disrupt households. Insurance must be designed with crisis-responsiveness in mind, including parametric health triggers and emergency coverage. The future will inevitably bring climate shocks, pandemics, and systemic disruptions. Preparedness must therefore be embedded within product design.

7.11.21. Lesson 21: From Safety Nets to Springboards

Ultimately, insurance and pensions must go beyond shielding households from vulnerability; they should foster the confidence to take risks, invest, and pursue new opportunities. Protection must transform into empowerment. The lesson of the decade is that inclusive insurance and pensions must be both *safety nets and springboards*, enabling households to climb toward resilience and prosperity.

7.12. DISCUSSION

India's journey in building inclusive insurance and pension coverage is a story of remarkable ambition and undeniable progress, yet one that remains incomplete. In just over a decade, tens of millions of low-income workers, small farmers, and informal-sector families have been brought under the protection of life, health, crop, and pension schemes. What was once a privilege of the organised sector has been reframed as a *right of citizenship*: affordable insurance and pensions are now woven

into the country's social protection fabric. Digital rails, simplified enrolment, and government-backed subsidies have made this unprecedented expansion possible, creating a safety net that extends to corners of society previously untouched by formal risk protection.

Among the most transformative achievements is the empowerment of women. The high enrolment of women in life insurance and pension schemes such as PMJJBY and APY has provided them with a tangible sense of financial independence and influence within households. Health coverage under PMJAY has further strengthened their decision-making role, as women often become custodians of family health cards and the first point of action during medical crises. This shift signifies more than numerical inclusion; it reflects a rebalancing of agency within families and communities, providing a foundation for deeper gender equity.

Yet the system's success is tempered by persistent vulnerabilities. *Renewal stress* remains a defining challenge: millions join these schemes but lapse due to irregular incomes, seasonal employment, and pressing consumption needs. Insurance that lapses when it is most needed erodes trust, creating a cycle where participation fluctuates rather than stabilises. Similarly, women's representation drops sharply as policies become more expensive or complex, revealing a *gender ceiling* in product design that fails to accommodate informal work patterns, career breaks, and caregiving responsibilities. These gaps undermine the potential of insurance and pensions as tools of empowerment.

Geographic disparities are also pronounced, highlighting uneven patterns of inclusion across regions. Southern states with robust financial ecosystems and proactive administration demonstrate far higher uptake and continuity, while the Northeast and economically weaker states remain underserved. This uneven coverage risks entrenching regional inequality. The national numbers show growth, but behind them are deep divides that put the idea of universal inclusion at risk.

Fiscal sustainability looms as another critical test. Subsidies have been indispensable in making products accessible, especially in schemes like PMFBY and APY. However, as participation grows, so does the fiscal burden. Without actuarial recalibration and stronger state–centre cost-sharing models, schemes may strain government budgets, risking political fatigue or withdrawal by states, and fragmenting the coherence of the national protection architecture.

Finally, *trust rests squarely on claims delivery*. Insurance is judged not at enrolment but at crisis. Delays in crop insurance settlements, allegations of fraud in health insurance, and uneven service quality erode credibility faster than awareness campaigns can repair it. Timely, transparent claims processing is not a mere operational detail; it is the heartbeat of inclusive protection. Without trust, even the most ambitious coverage numbers will ring hollow.

The message is unmistakable: India has achieved breadth; now it must deliver depth. The first decade of these schemes proved that scale is possible; the next must ensure sustainability, equity, and resilience. This means investing in *renewal mechanisms* to ensure continuity, designing *gender-sensitive and climate-resilient products*, leveraging data and technology for actuarial soundness, and building a *service culture that centres trust and transparency*. Only then will insurance and pensions transform from dashboards of coverage statistics into lived security — a shield of dignity and stability that truly protects every household.

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Ten Years of Mudra:
A Decade of the Pradhan Mantri Mudra Yojana

Ramesh Srivatsava Arunachalam

8

8.1. INTRODUCTION: FRAMING A DECADE OF FINANCIAL INCLUSION

Launched in April 2015, the Pradhan Mantri Mudra Yojana (PMMY), has emerged as one of the most ambitious credit-led financial inclusion programs globally. Its design drew upon decades of experimentation with microfinance, self-help group (SHG) lending, and targeted government schemes, but Mudra was distinct in both scope and institutional architecture. It was not confined to traditional non-governmental organisations (NGOs) or microfinance institutions (MFIs), nor limited to subsidies or small government-backed programs. Instead, Mudra mainstreamed microcredit by embedding it within the formal banking system, leveraging public sector banks (PSBs), private sector banks, regional rural banks (RRB), non-banking financial companies (NBFCs), microfinance institutions (MFIs), and later, small finance banks (SFBs).

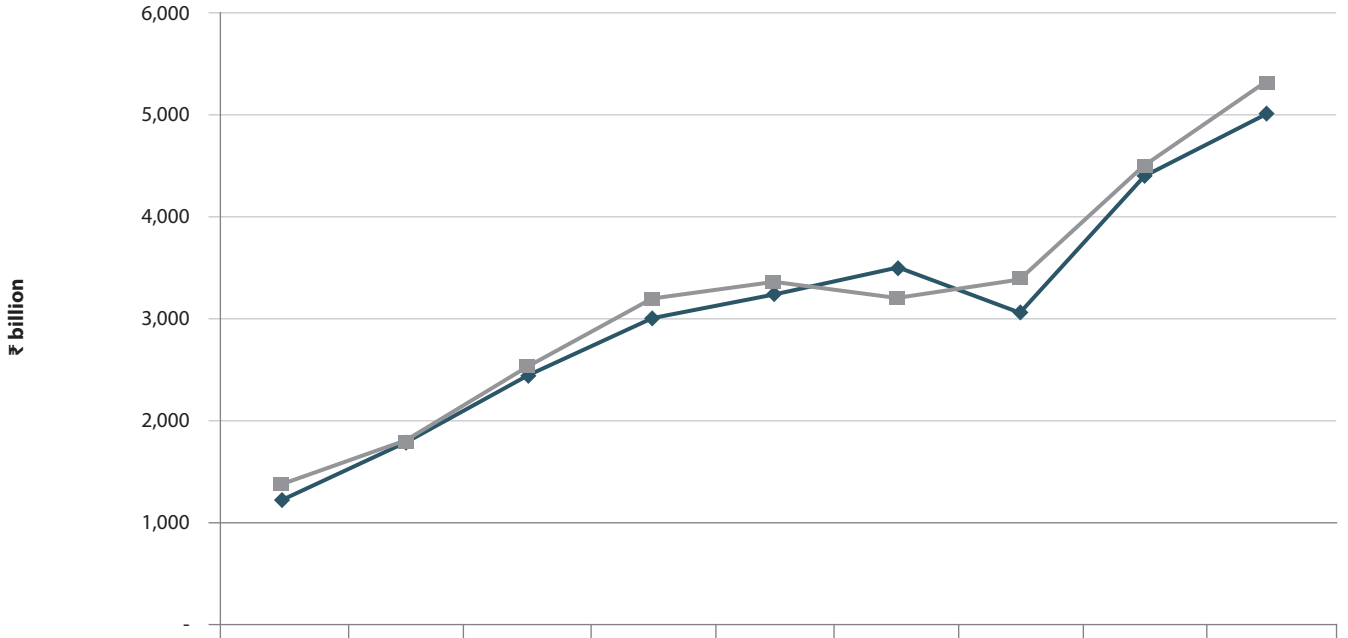
The scheme was conceptualised to address a long-standing structural gap in access to institutional credit. India's informal sector employed nearly 90% of the workforce, yet its access to formal credit was negligible. Entrepreneurs relied heavily on personal savings, informal lenders, or exploitative credit sources. This created a vicious cycle: inadequate collateral prevented formal loans, absence of formal loans impeded business expansion, and the resulting stagnation further entrenched perceptions of credit risk. Mudra's framework broke this cycle by designing collateral-free loans, standardised categories based on enterprise growth stages, and institutional mechanisms for refinancing and risk-sharing.

Over the past decade, Mudra has built one of the world's largest small loans portfolios, extending its outreach to women, Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBCs), minorities, and first-time entrepreneurs. It has redefined financial inclusion by moving beyond mere access to savings and remittances to meaningful access to credit. The decade-long journey reveals both successes and challenges: years of over achievement in targets, interruptions during the COVID-19 pandemic, strong gender dimensions, regional disparities, institutional evolution, repayment risks, and more. This chapter analyses these dimensions in depth, drawing on a decade of data and presenting lessons for the future.

8.2. TARGETS AND ACHIEVEMENTS: A DECADE OF SCALE AND VARIATION

The trajectory of Mudra is best understood through its targets and achievements (Figure 8.1). In the inaugural year, 2015–16,[1] the Indian government set a target of ₹1.22 trillion. Disbursement reached ₹1.37 trillion, exceeding expectations and signaling immense latent demand. Subsequent years consolidated this trend: ₹1.8 trillion in 2016–17, ₹2.54 trillion in 2017–18, and ₹3.21 trillion in 2018–19. In each of these years, achievements exceeded targets, demonstrating both institutional buy-in and the scheme's strong resonance among borrowers.

The COVID-19 pandemic of 2020–21[2] marked the first significant shortfall under the scheme. Against a target of ₹3.5 trillion, actual disbursement amounted to only ₹3.21 trillion. Disruptions to supply chains, lockdowns, and heightened borrower uncertainty depressed demand, while banks adopted a risk-averse stance. However, recovery was visible almost immediately. Disbursements rose in 2021–22 and reached ₹4.5 trillion in 2022–23, once again surpassing targets. The momentum continued



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Target	1,220	1,800	2,440	3,000	3,250	3,500	3,060	4,400	5,000
Achievement	1,370	1,800	2,530	3,210	3,370	3,210	3,390	4,500	5,320

Figure 8.1. PMMY Consolidated Targets vs Achievements

Source: MUDRA,'Annual Report 2023–24' and 'Ministry of Finance Annual Report 2024–25'.

in 2023–24, when achievements rose further to ₹5.3 trillion, once again exceeding targets.[3] This resilience underscored the depth of credit demand in India's microenterprise sector.

8.3. THE PMMY CATEGORY FRAMEWORK: SHISHU, KISHORE, TARUN, AND TARUN PLUS

PMMY is designed as a progressive credit pathway for India's micro and small entrepreneurs, offering four distinct loan categories—Shishu, Kishore, Tarun, and the newly introduced Tarun Plus (Tables 8.1 and 8.2). This structure reflects a deliberate strategy to foster financial inclusion at the entry level, facilitate enterprise expansion, and reward successful borrowers with access to larger volumes of collateral-free credit. With its strong outreach to women and first-time borrowers, Mudra has emerged as a cornerstone of India's microenterprise financing ecosystem. However, the relatively low transition rates between loan tiers underscore the need for complementary measures like business development support, market integration, and digital capacity-building to fully unlock the scheme's transformative potential.

Table 8.1. PMMY Loan Categories – Scope, Scale, and Strategic Significance

Category	Loan Size	Borrower Profile and Significance	Share in Accounts and Disbursals	Strategic Insights and Implications
Shishu	Up to ₹50,000	Entry-level borrowers, primarily women, running small home-based or local enterprises; gateway to formal credit.	~80% of accounts; <30% of sanctioned amounts.[4]	Strong inclusion impact, but upward mobility limited without training, networks, and digital support.
Kishore	₹50,001–₹500,000	Microentrepreneurs expanding operations beyond subsistence; near-parity women participation.	~18% of accounts; ~40% of sanctioned amounts.[5]	Acts as a bridge for scaling; demonstrates potential for gender-driven enterprise growth.

Category	Loan Size	Borrower Profile and Significance	Share in Accounts and Disbursals	Strategic Insights and Implications
Tarun	₹500,001–₹1,000,000	Growth-stage entrepreneurs entering manufacturing, services, or higher-value trade.	~2% of accounts; ~25% of sanctioned amounts.[6]	Low women participation reveals systemic barriers; success stories show high transformative potential.
Tarun Plus	₹1,000,001–₹2,000,000	Launched in 2024–25 for entrepreneurs who successfully repaid Tarun loans; collateral-free scaling credit.	34,697 accounts; ₹49.30+ billion sanctioned as of June 2025.[7]	Rewards credit discipline; emphasises monitoring and structured risk management.
Overall Framework	₹50,000–₹2,000,000	Inclusive-to-graduation model; designed to empower microentrepreneurs to scale sustainably.	Strong outreach; low progression between tiers.	Future focus: integrated entrepreneurship support, digital finance adoption, and market access.

Source: Compiled from multiple sources

The Mudra loan framework is thus a *strategically tiered financing model* that has unlocked credit access for millions of small entrepreneurs, particularly women, through Shishu loans. This entry-level credit has become a powerful tool for social inclusion, but its transformative potential is often constrained by a lack of market access and entrepreneurial training.

Kishore loans provide the *vital transition* stage enabling enterprises to consolidate operations, invest in technology and equipment, and expand into new markets. The near-equal participation of women at this level demonstrates how supportive policies and financial products can catalyse gender-inclusive growth.

Tarun loans highlight the *aspirational dimension* of the program, offering resources for significant scaling, though uptake remains low due to structural barriers like collateral requirements, risk aversion, and limited mentorship ecosystems. This makes Tarun borrowers a crucial segment for targeted development interventions.

The launch of Tarun Plus marks a *policy innovation*, rewarding successful borrowers with access to higher credit limits without collateral. With robust bank monitoring practices like post-sanction inspections and stock analysis, Tarun Plus reinforces credit culture and aligns with broader economic growth objectives.

Looking ahead, the continued success of Mudra will depend not merely on *expanding credit coverage* but on fostering a comprehensive enterprise support ecosystem. Enhancing digital platforms, strengthening entrepreneurship development programs, and deepening value-chain linkages will be key to ensuring that small entrepreneurs transition seamlessly across loan categories, thereby establishing a sustainable and inclusive growth trajectory for India's microenterprise ecosystem.

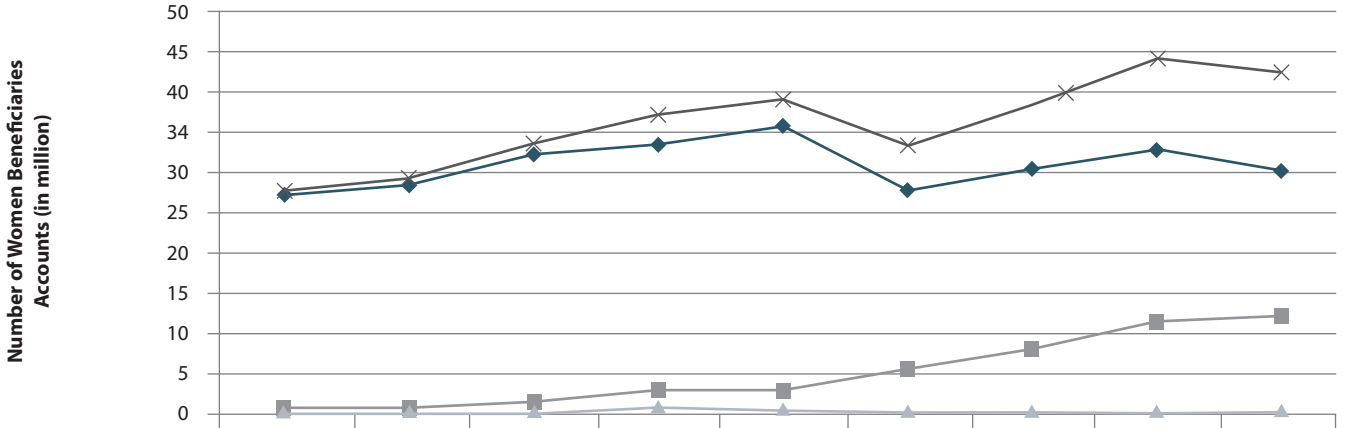
Table 8.2. Categories of MUDRA Loans and Beneficiaries, Financial Year (FY) 2023–24 and Cumulative for 9 Years under PMMY (accounts in million and amount in ₹ billion)

Category	2023–24			Cumulative for 9 Years Since Inception		
	No. of Accounts	Amount Sanctioned	Amount Disbursed	No. of Accounts	Amount Sanctioned	Amount Disbursed
Shishu	41.63 (62.34)	1,489.37 (27.53)	1,477.85 (27.76)	384.16 (80.30)	10,862.75 (37.60)	10,745.83 (38.08)
Kishore	23.63 (35.39)	2,622.85 (48.48)	2,570.94 (48.29)	84.59 (17.68)	11,197.48 (38.76)	10,852.88 (38.46)
Tarun	1.52 (2.27)	1,297.91 (23.99)	1,274.79 (23.95)	9.69 (2.03)	6,832.41 (23.65)	6,622.67 (23.47)
Total	66.78	5,410.13	5,323.58	478.44	28,892.64	28,221.38
Out of the above						
Women	42.49 (63.63)	2,258.87 (41.75)	2,222.97 (41.76)	324.98 (67.93)	12,845.10 (44.46)	12,437.54 (44.07)
New Entrepreneur Accounts	13.01 (19.49)	1,620.30 (29.95)	1,581.08 (29.70)	97.68 (20.42)	8,881.00 (30.74)	8,543.95 (30.27)
SC/ST/OBC	31.35 (46.94)	1,921.42 (35.52)	1,890.88 (35.52)	240.48 (50.26)	10,088.56 (34.92	9,891.44 (35.05)

Source: MUDRA, 'Annual Report 2023–24'.
Note: Figures in the parentheses indicate their percentage share in the total

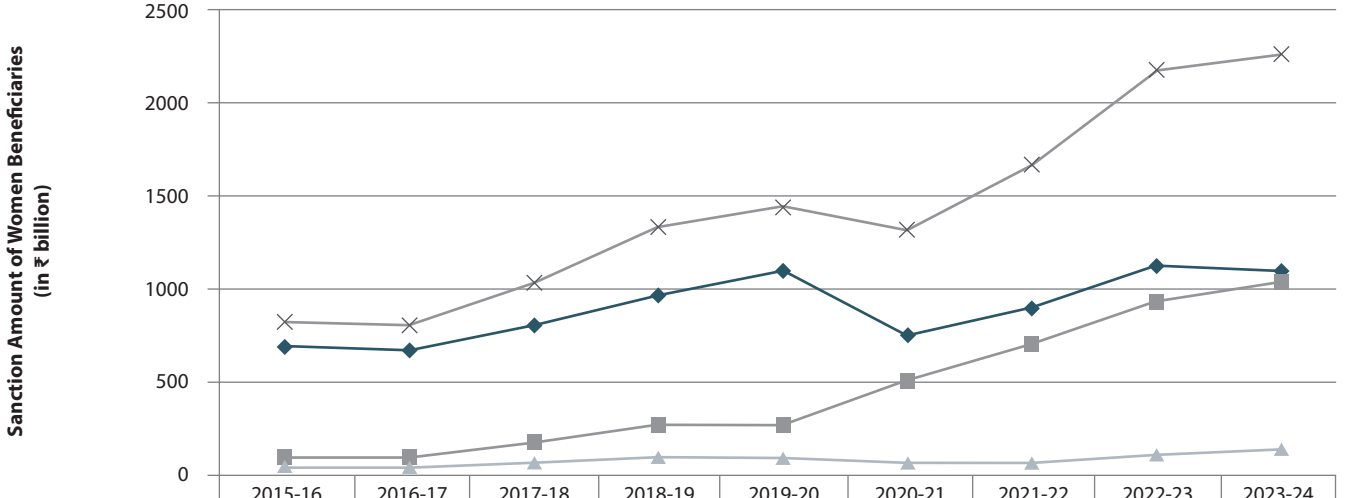
8.4. WOMEN BORROWERS ACROSS CATEGORIES

The gender dimension of Mudra is particularly noteworthy (Figures 8.2, 8.3, 8.4 and 8.5). Women consistently represent nearly two-thirds of accounts, with over 325 million loans sanctioned to women in the past decade, amounting to more than ₹12 trillion.[8]



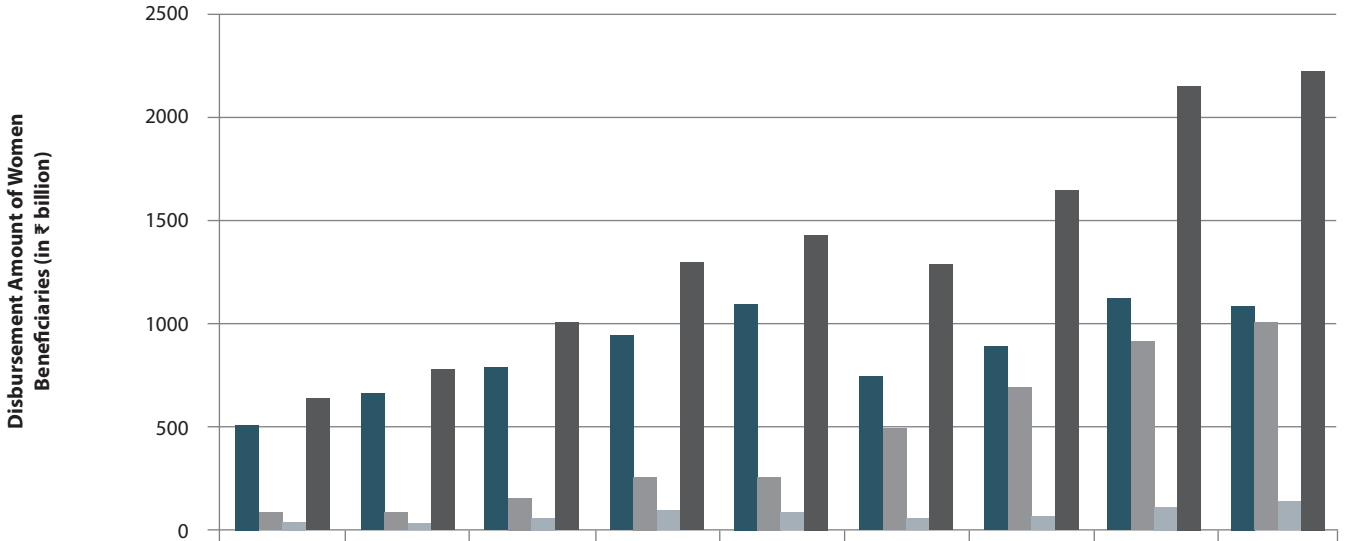
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu	27.1	28.47	32.14	33.4	35.72	27.75	30.44	32.82	30.19
Kishore	0.47	0.62	1.34	2.88	2.99	5.47	7.89	11.29	12.1
Tarun	0.05	0.05	0.08	0.78	0.4	0.08	0.09	0.15	0.19
Total	27.62	29.14	33.56	37.06	39.11	33.3	38.42	44.26	42.48

Figure 8.2. Overall Performance of Women Beneficiaries Accounts by Number



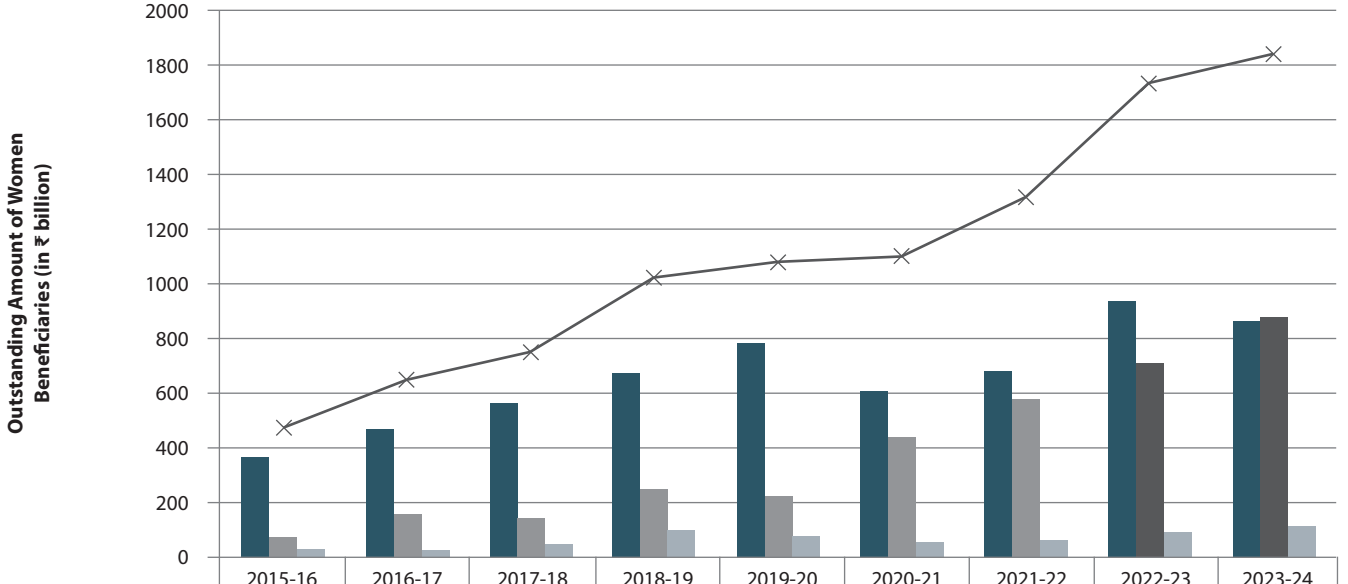
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu	690.39	669.98	803.72	962.53	1,096.60	744.9	896.22	1,128.57	1,093.55
Kishore	90.68	95.42	165.87	267.41	264.77	507.31	700.28	927.57	1,026.78
Tarun	40.77	37.5	62.96	100.39	90.45	60.82	67.73	113.41	138.54
Total	821.84	802.9	1,032.55	1,330.33	1,451.82	1,313.03	1,664.23	2,169.55	2,258.87

Figure 8.3. Overall Performance of Women Beneficiaries by Sanction Amount



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu	506.4	661.86	789.22	939.77	1,092.22	738.72	892.34	1,122.28	1,084.73
Kishore	86.75	87.33	157.5	256.67	251.6	488.18	686.61	916.91	1,003.70
Tarun	38.75	33.31	54.99	95.09	84.64	56.8	65.47	111.15	134.54
Total	631.9	782.5	1,001.71	1,291.53	1,428.46	1,283.70	1,644.42	2,150.34	2,222.97

Figure 8.4. **Overall Performance of Women Beneficiaries by Disbursement Amount**



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Shishu	369.69	466.85	561.51	674.38	785.49	609.02	683.9	938.49	859.56
Kishore	74.69	159.38	139.67	250.34	220.01	439.05	579.16	712.14	874.73
Tarun	33.43	29.18	50.16	102.14	78.92	53.08	60.68	90.05	114.2
Total	477.81	655.41	751.34	1,026.86	1,084.42	1,101.15	1,323.74	1,740.68	1,848.49

Figure 8.5. **Overall Performance of Women Beneficiaries by Outstanding Amount**

In the *Shishu loan* category, women's dominance is overwhelming. Women account for more than 65%of accounts, underscoring their predominance in small retail, household-based enterprises, food vending, tailoring, and personal services. Shishu loans gave women their first direct interaction with banks, creating credit histories and establishing financial independence. In *Kishore loans*, women's participation, though lower, is still substantial at around 45–50%. This indicates an important structural shift: women are not confined to subsistence businesses. They are scaling, expanding shops, investing in machinery, and entering service sectors. Kishore loans thus represent the frontier of women's economic empowerment. In *Tarun loans*, women's participation is limited. Structural barriers, sectoral concentration, and lending biases reduce women's access. Yet women who did access Tarun loans often achieved remarkable success, scaling into larger enterprises. This gap highlights the need for specific strategies—such as targeted risk-sharing mechanisms, mentorship, and collateral-free larger loans for women.`

8.5. BENEFICIARY DIMENSIONS BEYOND GENDER

Tables 8.3 and 8.4 demonstrate that Mudra's inclusivity goes beyond women, reaching out to marginalised communities as well. Over half of all Mudra accounts belong to SC/ST/OBC beneficiaries. Cumulative disbursement of nearly ₹28.22 trillion to these groups marks a historic correction of exclusion. First-time entrepreneurs also represent a major share—nearly 98 million accounts. These borrowers now possess credit bureau footprints, reputational capital, and access to larger loans. Mudra thus plays a critical role in enterprise creation. Notably, minorities, Pradhan Mantri Jan Dhan Yojana (PMJDY) overdraft beneficiaries, skill-trained individuals, and SHG members also figure prominently among its beneficiaries. This demonstrates Mudra's role as a convergence mechanism, linking with broader inclusion programs such as National Rural Livelihoods Mission (NRLM) and National Urban Livelihoods Mission (NULM).

Table 8.3. Shishu, Kishore, and Tarun Loan Cumulative Beneficiaries by Social Category, Minorities, and First-Time Entrepreneurs–Accounts (in million)

Category	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
General	16.48	17.21	21.9	31.73	32.5	25.86	26	30.85	35.43
SC	6.11	7.14	8.51	9.45	10.28	8.39	9.37	10.34	10.39
ST	1.68	1.8	2.54	3.34	3.89	3.12	3.52	3.54	3.37
OBC	10.6	13.58	15.17	15.34	15.58	13.35	14.92	17.58	17.6
Total	34.87	39.73	48.12	59.86	62.25	50.72	53.81	62.31	66.79
Minority	4.08	5.15	5.27	6.26	6.42	4.17	7.45	7.51	6.63
New Entrepreneurs/ Accounts	12.47	9.99	12.57	13.4	11.92	7.74	6.53	10.07	13.02

Source: 'PMMY Bank Wise Performance 2015–16 to 2023–24'.

Table 8.4. Shishu, Kishore, and Tarun Loan Cumulative Beneficiaries by Social Category, Minorities, and First-Time Entrepreneurs–Disbursement Amount (in ₹ billion)

Category	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
General	837.58	1,090.32	1,627.50	2,137.88	2,176.51	2,083.06	2,079.93	2,864.46	3,432.71
SC	146.92	185.24	236.85	289.90	343.02	303.60	369.24	472.72	574.33
ST	47.42	51.06	77.07	105.90	136.11	124.82	142.75	172.94	198.95
OBC	297.63	426.51	522.96	584.43	641.21	606.06	722.10	994.11	1,117.59
Total	1,329.55	1,753.13	2,464.38	3,118.11	3,296.85	3,117.54	3,314.02	4,504.23	5,323.58
Minority	135.6	194.75	231.56	290.29	301.8	262.5	408.57	453.29	450.88
New Entrepreneurs/ Accounts	589.08	699.74	936.56	1,009.25	948.95	795.05	690	1,294.22	1581.08

Source: 'PMMY Bank Wise Performance 2015–16 to 2023–24'.

8.6. REGIONAL SPREAD: UNEVEN GROWTH

Mudra's regional data (Table 8.5) reveals both inclusivity and disparity. The East consistently leads in number of accounts but lags in sanctioned amounts owing to smaller ticket size—a pattern that appears to have shifted in FY 2023–24. The South dominates in terms of loan value, reflecting deeper institutional penetration and the presence of relatively larger enterprises. Together, the North and West contribute nearly 40% of disbursed amounts, indicative of their robust small business ecosystems. The Northeast remains marginalised, with only around 2%of disbursements, reflecting structural challenges of geography, infrastructure, and institutional presence.

Table 8.5. Region-wise Sanction Amount Distribution of PMMY (number of accounts in million and amount in ₹ billion)

Region	FY 2016–17		FY 2017–18		FY 2018–19		FY 2019–20		FY 2020–21		FY 2021–22		FY 2022–23		FY 2023–24	
	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount
North	6.67 (17)	418.85 (23)	8.46 (18.0)	605.36 (24.0)	11.29 (19.0)	744.37 (23.0)	12.46 (20.0)	820.45 (25.0)	10.41 (21.0)	785.55 (24.0)	11.55 (21.0)	827.00 (24.0)	13.56 (21.76)	1,115.73 (24.77)	13.81 (20.70)	1,276.36 (24.0)
East	12.84 (32.0)	431.15 (24.0)	12.76 (27.0)	487.44 (19.0)	18.66 (31.0)	795.81 (25.0)	19.59 (31.0)	845.74 (25.0)	17.09 (34.0)	854.72 (27.0)	1.87 (35.0)	986.37 (29.0)	21.01 (33.72)	1,246.67 (27.68)	22.74 (34.10)	1,482.33 (27.80)
North East	1.60 (4.0)	66.50 (4.0)	4.40 (8.0)	185.53 (7.0)	3.06 (5.0)	131.45 (4.0)	2.28 (4.0)	108.24 (3.0)	1.68 (3.0)	115.11 (4.0)	1.17 (2.0)	86.82 (3.0)	1.08 (1.74)	104.86 (2.33)	1.18 (1.80)	115.25 (2.20)
South	11.43 (29.0)	528.77 (29.0)	14.46 (30.0)	762.59 (30.0)	17.32 (29.0)	969.30 (30.0)	17.45 (28.0)	987.67 (29.0)	13.08 (26.0)	903.25 (28.0)	13.33 (25.0)	917.65 (23.0)	15.87 (25.47)	1,246.50 (27.67)	18.31 (27.40)	1,564.17 (29.40)
West	7.17 (18.0)	360.01 (20.0)	8.04 (17.0)	495.83 (20.0)	9.54 (16.0)	576.29 (18.0)	10.47 (17.0)	612.85 (18.0)	8.48 (17.0)	558.97 (17.0)	9.02 (17.0)	573.27 (17.0)	10.79 (17.31)	790.47 (17.55)	10.73 (16.10)	885.46 (16.60)
Total	39.70	1,805.29	48.13	2,536.77	59.87	3,217.21	62.25	3,374.95	50.74	3,217.22	53.80	3,391.10	62.31	4,504.24	66.78	5,323.58

Note: Figures in parenthesis indicate the share in percentage
Source: Data compiled from MUDRA Annual Report from 2016–17 to 2023–24.

Addressing these disparities requires region-specific policies: boosting institutional presence in the Northeast, facilitating graduation in the East, and closely monitoring risks of over-leverage in the South.

8.7. INSTITUTIONAL PERFORMANCE: EVOLVING ROLES

Institutional participation has evolved over time. PSBs initially dominated disbursements by capitalising on their extensive rural networks. Over time, however, private banks expanded aggressively—particularly in the Kishore and Tarun categories—by leveraging technology and their strong urban presence. RRBs maintained steady rural outreach. NBFC-MFIs, once dominant in Shishu, are not exhibiting a consistent trend of late. SFBs have emerged as important players, bridging microfinance and mainstream banking. NBFCs have increased their presence in higher-ticket loans. The institutional landscape now reflects diversification, where multiple players sustain outreach, reducing dependence on any single category of lender. See Tables 9.6, 9.7, and 9.8 given in Appendix A.8.1.

8.8. TWENTY-FIVE LESSONS FROM TEN YEARS OF MUDRA

A decade of MUDRA offers a plethora of lessons (Figure 8.6).

8.8.1. Lesson 1: Ambition and Ground Realities

The experience of Mudra shows that ambitious targets serve as powerful instruments of mobilisation, compelling institutions to expand outreach and align resources. This is a critical lesson available from the Mudra experience.

8.8.2. Lesson 2: The Transformative Power of Small Loans

Shishu loans may appear modest in financial value, but their social and economic impact is immense. A ₹20,000 loan often enables a family to stabilise livelihoods, escape the clutches of moneylenders,

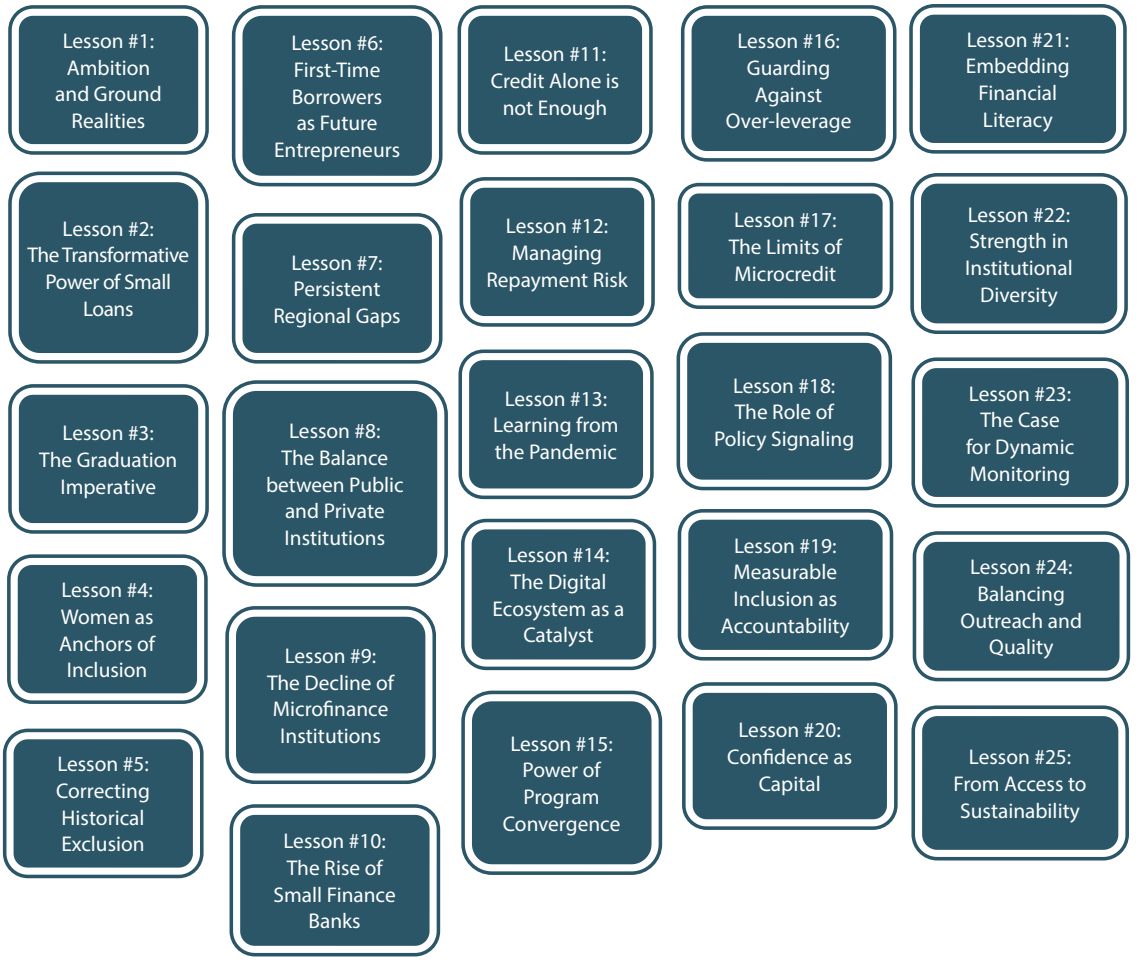


Figure 8.6. Lessons from Ten Years of Mudra

and gain financial dignity. The multiplier effects are visible in children's education, health expenditure, and women's empowerment. Mudra has proven that small credit can carry disproportionate returns in social development. Policymakers must recognise the power of micro-loans in achieving inclusive growth.

8.8.3. Lesson 3: The Graduation Imperative

Genuine empowerment lies not merely in initial access to credit but in enabling progression from Shishu to Kishore and ultimately to Tarun. In the absence of structured graduation mechanisms, borrowers risk stagnating in subsistence-level enterprises, limiting their capacity to scale or diversify. Credit policies must embed mechanisms—mentoring, capacity building, and market support—that allow borrowers to climb the credit ladder. Graduation is both an economic necessity and a test of inclusion. The second decade of Mudra must consciously prioritise this progression.

8.8.4. Lesson 4: Women as Anchors of Inclusion

Mudra's gendered impact is unmistakable, with women accounting for nearly two-thirds of its loans. Their participation has demonstrated that credit in women's hands is more likely to be used productively, strengthening household resilience and advancing children's welfare. Women borrowers also display stronger repayment discipline, which in turn builds confidence among lenders. However, women's participation drops sharply at higher loan brackets—a gap that must be addressed if Mudra's transformative potential is to be sustained.

8.8.5. Lesson 5: Correcting Historical Exclusion

Mudra's outreach to SC, ST, and OBC borrowers represents one of its most important equity achievements. By sanctioning nearly half of all loans to these groups, the scheme has helped redress their historical exclusion from formal finance. More importantly, it has shifted perceptions of risk and opened new pathways for entrepreneurship among marginalised communities. However, inclusion must go beyond access to ensure enterprise viability. Credit without capacity-building risks reinforcing inequality rather than resolving it.

8.8.6. Lesson 6: First-Time Borrowers as Future Entrepreneurs

Mudra has integrated nearly 98 million first-time borrowers into the formal credit system, generating reputational capital and establishing credit bureau records where none previously existed. These borrowers are the foundation of India's next generation of entrepreneurs. Their enterprises may begin modestly but can expand with the right mix of finance, training, and markets. The lesson is that inclusion today creates entrepreneurs tomorrow. Nurturing first-time borrowers will shape India's micro, small, and medium enterprise ecosystem.

8.8.7. Lesson 7: Persistent Regional Gaps

Regional disparities remain striking, with the Northeast consistently under represented and the East lagging in average loan sizes, although that seems to be changing slowly. The South and West dominate disbursement values, reflecting structural advantages in enterprise ecosystems. In the absence of corrective action, these disparities may become entrenched, perpetuating uneven patterns of development. Mudra's second decade must incorporate a region-specific design, incorporating tailored products, dedicated institutional support, and targeted infrastructure expansion in the lagging regions. Inclusion must be geographical as well as demographic.

8.8.8. Lesson 8: The Balance between Public and Private Institutions

PSBs provided the backbone of Mudra's early years, leveraging reach and trust. Private banks introduced dynamism, scale, and technology-driven lending. Both remain essential. Public institutions ensure mass outreach in rural areas, while private institutions bring innovation and efficiency. The future lies not in one over the other but in a balanced ecosystem where their complementary strengths reinforce financial inclusion.

8.8.9. Lesson 9: The Decline of Microfinance Institutions

NBFC-MFIs once dominated the Shishu segment but gradually lost share as competition intensified and risks mounted. Yet, their last-mile delivery expertise remains invaluable. The decline in share for MFIs should not mean their marginalisation. Instead, Mudra must harness their community knowledge and integrate their strengths within formal credit systems. Inclusion requires not only scale but proximity, and MFIs embody proximity in practice.

8.8.10. Lesson 10: The Rise of Small Finance Banks (SFBs)

SFBs represent one of the most important institutional innovations in India's financial system.

Emerging from microfinance legacies, they have successfully bridged informal and formal credit channels. Their growing share in Shishu and Kishore loans demonstrates their ability to connect local borrowers with national financial infrastructure. The lesson is that regulatory innovation can create powerful intermediaries. Strengthening SFBs will strengthen Mudra's future.

8.8.11. Lesson 11: Credit Alone is not Enough

Access to credit should be viewed as a starting point rather than an end in itself. In the absence of capacity-building, skills training, and market linkages, loans risk being diverted to consumption rather than investment. Mudra must embed non-financial support systems that enable entrepreneurs to convert credit into enterprise growth. Credit policies must thus be designed as part of holistic ecosystems. Inclusion must be sustainable, not temporary.

8.8.12. Lesson 12: Managing Repayment Risk

Repayment stress, especially in Shishu loans, underscores the vulnerability of borrowers whose livelihoods depend on volatile incomes. A bad harvest, illness, or local disruption can trigger defaults. Mudra's future must embed risk cushions—insurance, refinancing, grace periods, or structured repayment relief. Credit resilience is as important as credit access. Institutions must design for vulnerability rather than assume uniform repayment capacity.

8.8.13. Lesson 13: Learning from the Pandemic

COVID-19 revealed how external shocks can disrupt credit flows. Disbursements dipped, repayment faltered, and demand collapsed in specific sectors. Yet recovery was swift, highlighting resilience. The lesson is that Mudra must embed crisis-contingent features—emergency credit lines, flexible repayment, and shock-responsive products. Future resilience requires designing for uncertainty. The pandemic must not be treated as an aberration but as a harbinger of systemic risks.

8.8.14. Lesson 14: The Digital Ecosystem as a Catalyst

Integration with Aadhaar, Unified Payments Interface (UPI), Jan Dhan accounts, and Mudra cards has created a powerful digital ecosystem for credit. It has reduced transaction costs, improved transparency, and accelerated delivery. Digital tools also provide data for monitoring and accountability. Mudra has proven that digital infrastructure is not optional but foundational. Future credit programs must build upon this ecosystem, embedding technology at every stage of delivery.

8.8.15. Lesson 15: Power of Program Convergence

Mudra's success has been amplified when integrated with programs such as NRLM, NULM, PMJDY, and Skill India. Convergence creates synergies—credit complements training, savings, and livelihood support. The key lesson is that holistic inclusion cannot be achieved through a single program; rather, policy design must intentionally integrate complementary interventions. Mudra is most effective when part of a larger tapestry of empowerment.

8.8.16. Lesson 16: Guarding Against Over-leverage

In regions such as the South and West, rising loan ticket sizes raise the risk of over-leverage. Borrowers may access multiple loans across institutions, creating repayment burdens beyond their capacity. Monitoring systems must identify and prevent over-indebtedness. Sustainability lies in balance, not in perpetual expansion. Mudra's second decade must refine its risk management architecture to guard against systemic vulnerabilities.

8.8.17. Lesson 17: The Limits of Microcredit

Credit is necessary but not sufficient. In the absence of viable enterprises, markets, and supportive ecosystems, loans cannot deliver lasting transformation and risk serving primarily as instruments of consumption smoothing rather than drivers of enterprise growth. Mudra must recognise these limits and complement credit with enterprise development. The lesson is that while credit can unlock potential, this potential, in turn, requires an ecosystem to flourish.

8.8.18. Lesson 18: The Role of Policy Signaling

Annual Mudra targets are more than numbers—they are policy signals. They shape institutional behaviour, resource allocation, and public expectations. But signals must remain credible. If targets consistently exceed achievements, credibility erodes. Mudra teaches us that policy signaling must balance ambition with realism. The strength of a program lies in the alignment of its vision and its execution.

8.8.19. Lesson 19: Measurable Inclusion as Accountability

Mudra has made inclusion measurable, publishing data on gender, caste, community, and region. This transparency enables accountability and informed debate. Programs often falter when success cannot be quantified. Mudra shows that data is a tool of empowerment, ensuring that promises translate into performance. Inclusion must remain visible, transparent, and verifiable.

8.8.20. Lesson 20: Confidence as Capital

Beyond finance, Mudra loans provide psychological capital. For first-time borrowers, the act of receiving and repaying a loan builds confidence, ambition, and legitimacy. Confidence itself becomes a form of capital, enabling entrepreneurs to aspire, invest, and expand. Mudra demonstrates that empowerment is as much psychological as it is economic. The lesson is that dignity matters.

8.8.21. Lesson 21: Embedding Financial Literacy

Financial literacy remains a critical gap. Many borrowers face challenges in navigating repayment schedules, interest calculations, and loan conditions. In the absence of financial literacy, inclusion risks translating into vulnerability. To mitigate this, Mudra must embed financial literacy into delivery mechanisms, ensuring borrowers fully understand the products they use. True inclusion requires knowledge alongside credit. Education is as vital as access.

8.8.22. Lesson 22: Strength in Institutional Diversity

Mudra has succeeded because multiple institutions—PSBs, private banks, NBFCs, NBFC-MFIs, and SFBs—collectively sustained outreach. Diversity ensures resilience. If one category falters, others fill the gap. Programs dependent on a single institutional form risk collapse. The lesson is that pluralism in financial institutions is not a weakness but a strength.

8.8.23. Lesson 23: The Case for Dynamic Monitoring

Annual or quarterly reporting is inadequate for a program of Mudra's scale. Real-time, granular monitoring systems are essential for identifying risks and guiding interventions. Data analytics, dashboards, and predictive modeling can enhance oversight. Mudra's second decade must embrace dynamic monitoring to manage complexity. Ensuring inclusion demands active supervision, not passive reporting.

8.8.24. Lesson 24: Balancing Outreach and Quality

Mass outreach has been Mudra's greatest strength, but it carries risks. Without attention to repayment, enterprise viability, and borrower support, outreach becomes unsustainable. The challenge is to balance breadth with depth, ensuring that quality accompanies quantity. The second decade of Mudra needs to prioritise this balance to ensure long-term credibility.

8.8.25. Lesson 25: From Access to Sustainability

Mudra's first decade was about access—bringing millions into the credit system. The second decade must be about sustainability—ensuring that enterprises grow, repay, and thrive. Graduation pathways, gender equity at higher loan brackets, regional inclusion, and repayment resilience are the future priorities. The true legacy of Mudra will lie not in how many loans were given but in how many enterprises endured.

8.9. DISCUSSION

The decade-long journey of the PMMY is not simply a chronicle of disbursement figures; it is a story of how credit has been re-imagined in India's development architecture. At its core, Mudra has been about rewriting the relationship between citizens and the financial system. It brought millions into credit bureau databases for the first time, transforming the "invisible" entrepreneur into a documented and recognised borrower. It integrated Aadhaar authentication, UPI rails, and Mudra cards into a seamless digital delivery framework, reducing costs and improving monitoring. These systemic shifts have expanded the very meaning of inclusion, embedding financial participation into the daily lives of borrowers and creating a new sense of legitimacy for small enterprises.

This transformation is particularly visible among women. Mudra is one of the very few national credit programs in the world where women dominate consistently across categories. In Shishu loans, women have accounted for nearly two-thirds of accounts, reflecting their centrality to micro and home-based enterprises. The empowerment effect here is undeniable: women who once relied on husbands or local lenders began negotiating

directly with banks, controlling cash flows, and gaining financial agency. In Kishore loans, women's participation has been substantial, nearly half of borrowers in many years, signaling a willingness and capacity to scale businesses beyond subsistence. But the sharp decline in women's participation at the Tarun level exposes the fragility of this empowerment. Structural constraints—such as concentration of women in low-investment sectors, gendered biases in higher-ticket lending, and lack of collateral substitutes—have acted as ceilings, preventing many from accessing loans above ₹500,000. Where women have managed to cross this threshold, the results have been remarkable: enterprises expanded into manufacturing, services, and competitive markets, often generating local employment. Yet the small number of such cases underscores the urgent need for targeted interventions—risk-sharing schemes for women borrowers, mentorship for enterprise growth, and customised products that recognise women's business realities.

The discussion of Mudra's future cannot overlook its challenges. Repayment stress is most acute in Shishu loans, where even minor disruptions—an illness, a failed crop, or a sudden market shock—can destabilise repayment. The very inclusivity of Mudra creates this vulnerability: millions of borrowers operate at the margins of survival. Without buffers such as insurance, refinancing support, or income diversification, repayment stress can erode confidence and sustainability. Another challenge is over-concentration in Shishu loans without adequate graduation to Kishore and Tarun. This creates a paradox: inclusion is achieved, but transformation is stalled. Enterprises survive but do not thrive, and borrowers remain locked in low-income cycles. The graduation pathway is thus the most urgent reform priority of Mudra's second decade.

Regional disparities also remain entrenched. The East has vast outreach but low average ticket sizes, limiting enterprise growth. The South accounts for nearly a third of disbursed amounts, reflecting stronger institutional presence and higher-value businesses, but also raising concerns of over-leverage. The Northeast, despite policy attention, remains marginalised with only about 2% of national disbursement, highlighting the persistent challenge of geography, infrastructure, and institutional absence. These disparities undermine the national character of Mudra, creating pockets of saturation and neglect.

Institutional challenges are equally important. PSBs remain indispensable but have shown fatigue in sustaining growth, while private banks and SFBs, though dynamic, are concentrated in urban and peri-urban geographies. NBFC-MFIs, once dominant in Shishu lending, have lost space, but their community-level expertise is not fully integrated into Mudra's current architecture. Without careful balance, the institutional ecosystem may tilt towards efficiency at the cost of inclusivity, or inclusivity at the cost of financial sustainability.

Finally, the greatest paradox of Mudra lies in the relationship between credit and enterprise. Credit has flowed at scale, but viable enterprises do not automatically emerge. For too many borrowers, loans are used to stabilise household consumption rather than expand businesses. This is not a failure of the borrower but of the ecosystem: without training, mentoring, and access to markets, credit cannot unlock sustainable growth. The lesson here is fundamental: inclusion through credit must be matched by inclusion through capacity-building.

In sum, the discussion points to a dual reality. On one hand, Mudra has created one of the most inclusive credit infrastructures in the world, empowering women, onboarding marginalised groups, diversifying institutions, and embedding inclusion into digital rails. On the other hand, it faces clear structural challenges: repayment stress at the bottom, stalled graduation in the middle, barriers for women at the top, persistent regional disparities, and an ecosystem that has yet to convert credit into viable enterprise growth. The second decade of Mudra must therefore shift its emphasis. If the first decade was about access, the next must be about sustainability. Outreach must be matched by resilience, disbursement by repayment quality, entry by graduation, and credit by enterprise viability. Only under such conditions will Mudra progress beyond a scheme of loans to emerge as a platform for lasting transformation.

APPENDIX A.8.1

Shishu, Kishore and Tarun Loans by Bank Type-wise (in %)

Bank Type Name	FY 2015–16		FY2016–17			FY2017–18			FY2018–19			FY2019–20			FY2020–21			FY2021–22			FY2022–23			FY2023–24		
	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Dis-burse-ment Amount	No. of A/Cs	Sanc-tion Amount	Dis-burse-ment Amount	No. of A/Cs	Sanc-tion Amount	Dis-burse-ment Amount	No. of A/Cs	Sanc-tion Amount	Dis-burse-ment Amount	No. of A/Cs	Sanction Amount	Dis-burse-ment Amount	No. of A/Cs	Sanc-tion Amount	Dis-burse-ment Amount	No. of A/Cs	Sanc-tion Amount	Dis-burse-ment Amount
SBI and Associates	2.86	2.22	2.36	1.59	1.49	1.87	1.79	1.80	4.10	4.32	4.38	5.64	5.70	5.73	1.85	1.03	1.04	1.21	0.95	0.95	1.96	1.51	1.31	2.40	1.28	1.29
Public Sector Commercial Banks	12.60	10.82	5.30	5.53	5.23	4.01	5.02	4.75	4.05	3.35	3.05	4.67	3.01	2.74	10.96	7.40	6.68	7.23	4.38	4.06	8.06	6.38	6.29	10.18	6.60	6.46
Private Sector Commercial Banks	8.23	9.57	23.07	29.08	29.48	22.04	26.12	26.54	21.81	24.12	24.55	34.47	35.39	35.51	39.24	36.08	36.47	45.27	43.11	43.09	44.24	42.05	42.33	41.49	41.52	41.76
Regional Rural Banks	3.18	4.77	2.54	3.36	3.29	1.89	2.70	2.68	1.49	1.92	1.90	1.32	1.46	1.44	1.79	1.87	1.79	1.33	1.52	1.43	1.91	2.02	1.94	2.57	2.10	2.03
Microfinance Institutions	2.29	3.01	3.10	2.47	2.51	4.22	1.71	1.74	3.65	1.66	1.69	3.78	1.84	1.84	2.26	1.85	1.87	3.00	1.46	1.46	0.64	0.36	0.36	0.63	0.59	0.60
NBFC-Microfinance Institutions	70.84	69.61	55.30	49.68	49.60	45.69	43.13	42.64	43.79	41.26	40.63	30.88	30.61	30.69	29.88	33.61	33.82	26.86	30.01	29.83	27.88	30.12	30.05	27.17	29.94	29.82
Non-Banking Financial Companies	0.00	0.00	0.53	0.52	0.52	4.34	4.95	5.03	8.67	9.33	9.51	8.50	10.44	10.49	4.81	6.90	6.98	3.09	4.81	4.81	4.48	5.23	5.27	3.59	4.41	4.39
Foreign Banks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Small Finance Banks	0.00	0.00	7.81	7.77	7.88	15.94	14.58	14.82	12.45	14.05	14.31	10.74	11.56	11.58	9.20	11.26	11.34	12.01	14.39	14.38	10.84	12.34	12.44	11.98	13.56	13.67
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: 'PMMY Bank Wise Performance 2015–16 to 2023–24'.

APPENDIX A.8.2

Kishore Loan by Bank Type Wise (in %)

Bank Type Name	FY 2015–16		FY 2016—17			FY 2017–18			FY 2018–19			FY 2019–20			FY 2020–21			FY 2021–22			FY 2022–23			FY 2023–24		
	No. of A/Cs	Sanc-tion Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount	No. of A/Cs	Sanc-tion Amount	Disburse-ment Amount
SBI and Associates	12.56	16.68	12.81	16.60	17.25	8.79	12.98	13.33	6.15	10.35	10.69	6.16	10.22	10.58	4.65	9.73	10.09	2.46	5.92	6.04	2.84	5.67	5.63	2.48	4.96	5.05
Public Sector Commercial Banks	50.64	48.03	48.30	48.11	47.17	36.76	39.25	37.79	22.67	30.89	29.34	21.79	32.33	30.78	19.14	26.89	25.19	15.25	25.73	24.54	11.94	22.55	22.17	10.50	19.68	19.32
Private Sector Commercial Banks	14.47	17.01	11.28	13.55	13.93	19.93	15.09	15.62	28.79	19.09	19.80	29.46	22.77	23.66	43.19	32.69	33.97	49.46	38.25	39.40	38.20	31.17	31.59	41.10	35.39	36.04
Regional Rural Banks	17.63	16.35	18.75	14.13	13.68	14.02	12.04	11.80	10.77	12.30	11.65	11.76	12.94	12.39	8.85	10.62	9.89	6.25	10.36	9.67	7.97	11.26	10.83	6.75	10.41	9.45
Microfinance Institutions	0.03	0.03	0.00	0.00	0.00	0.17	0.16	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.24	0.25	0.00	0.00	0.00	0.27	0.20	0.20	0.24	0.21	0.21
NBFC-Microfinance Institutions	4.65	1.87	4.05	1.60	1.68	0.74	0.26	0.27	4.45	1.97	2.06	11.26	4.83	5.05	11.31	5.46	5.69	13.65	7.32	7.53	18.10	11.27	11.40	18.46	11.77	11.98
Non-Banking Financial Companies	0.00	0.00	1.44	1.80	1.89	16.08	16.33	16.96	18.05	20.09	20.91	4.25	8.69	8.96	5.33	10.00	10.40	2.32	5.41	5.59	8.06	8.96	9.09	9.19	9.18	9.36
Foreign Banks	0.01	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Small Finance Banks	0.00	0.00	3.36	4.20	4.40	3.51	3.89	4.05	9.12	5.31	5.55	15.33	8.21	8.58	7.08	4.36	4.52	10.61	7.01	7.23	12.62	8.94	9.08	11.28	8.41	8.58
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: 'PMMY Bank Wise Performance 2015–16 to 2023–24'.

APPENDIX A.8.3

Tarun Loan by Bank Type Wise (in %)

Bank Type Name	Financial Year 2015–16		Financial Year 2016–17			Financial Year 2017–18			Financial Year 2018–19			Financial Year 2019–20			Financial Year 2020–21			Financial Year 2021–22			Financial Year 2022–23			Financial Year 2023–24		
	No. of A/Cs	Sanction Amount	No. of A/Cs	Sanction Amount	Disbursement Amount	No. of A/Cs	Sanction Amount	Disbursement Amount	No. of A/Cs	Sanction Amount	Disbursement Amount	No. of A/Cs	Sanction Amount	Disbursement Amount	No. of A/Cs	Sanction Amount	Disbursement Amount	No. of A/Cs	Sanction Amount	Disbursement Amount	No. of A/Cs	Sanction Amount	Disbursement Amount	No. of A/Cs	Sanction Amount	Disbursement Amount
SBI and Associates	28.01	29.39	28.61	29.51	30.54	25.08	25.66	26.43	12.34	22.50	23.28	15.99	20.46	21.18	28.19	30.20	31.52	21.12	25.00	25.83	14.30	20.70	20.79	14.17	22.28	22.61
Public Sector Commercial Banks	43.15	42.51	43.50	45.09	43.59	37.44	39.94	38.42	19.71	37.89	36.25	27.10	36.81	35.25	33.10	36.30	33.95	43.41	45.27	43.82	48.14	47.24	46.87	46.74	45.78	45.62
Private Sector Commercial Banks	24.57	23.78	18.68	16.76	17.18	15.61	14.36	14.61	8.10	13.00	13.24	13.96	15.49	15.82	16.39	13.06	13.50	18.08	15.10	15.44	18.76	16.19	16.39	18.88	15.89	16.10
Regional Rural Banks	3.98	4.02	3.77	3.79	3.69	3.43	3.53	3.52	1.80	3.31	3.32	3.14	4.07	4.09	4.08	4.43	4.45	6.19	5.48	5.44	6.88	6.55	6.47	8.47	7.11	6.57
Microfinance Institutions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NBFC-Microfinance Institutions	0.25	0.26	0.24	0.24	0.25	0.00	0.00	0.00	6.51	0.44	0.45	0.13	0.34	0.35	0.07	0.06	0.07	0.02	0.02	0.02	0.44	0.41	0.42	0.26	0.24	0.24
Non-Banking Financial Companies	0.00	0.00	1.13	1.10	1.14	14.31	12.48	12.89	11.24	17.18	17.58	14.89	19.32	19.67	16.13	14.06	14.55	8.63	6.89	7.13	8.88	6.67	6.79	8.79	6.44	6.56
Foreign Banks	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Small Finance Banks	0.00	0.00	4.03	3.48	3.59	4.11	4.00	4.10	40.31	5.67	5.87	24.79	3.51	3.64	2.05	1.89	1.97	2.55	2.25	2.32	2.60	2.23	2.27	2.70	2.26	2.30
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: 'PMMY Bank Wise Performance 2015–16 to 2023–24'.

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Digital Financial Inclusion in India: Infrastructure, Impact, and Imperatives

Ramesh Srivatsava Arunachalam

9

9.1. INTRODUCTION: THE MAKING OF A DIGITAL INCLUSION REVOLUTION

India's financial inclusion journey did not begin with Jan Dhan or Unified Payments Interface (UPI), though these are now its most visible milestones. Its foundations were laid in the late 2000s, with the introduction of Business Correspondents (BCs)to extend banking services into rural areas, and the linking of Self-Help Groups (SHGs) that began connecting women to formal finance. These early initiatives were fragmented and often uneven, constrained by paper-based processes, poor connectivity, and the absence of reliable identity verification . As a result, millions remained excluded, trapped in cycles of informal credit and dependence on intermediaries.

The turning point came in 2009 with the formation of the Unique Identification Authority of India (UIDAI) and the rollout of Aadhaar, a biometric identity that promised universality. Aadhaar was controversial at the time, but its ability to provide a verifiable, low-cost identity opened the door for digital transformation. The second breakthrough arrived in 2014 with the launch of the Pradhan Mantri Jan Dhan Yojana (PMJDY), which gave millions their first bank account, often linked to Aadhaar. For the first time, a foundation was laid where identity, accounts, and subsidies could converge. The third pillar emerged in 2016 with the creation of UPI, which transformed India into the world's largest real-time digital payment ecosystem. Together, these three innovations—Aadhaar, Jan Dhan, and UPI—became known as India Stack, the backbone of digital financial inclusion.

The decade from 2014 to 2024 therefore represents nothing short of a revolution. More than 561 million bank accounts[1] were opened under PMJDY, UPI now processes over 20 billion transactions a month (August 2025),[2] and Aadhaar authentications exceed 100 billion cumulatively and 21 billion annually[3] (2023-24). These numbers reflect scale, but the deeper story lies in how these systems reshaped the relationship between the citizen, the market, and the state.

Globally, India's model stands out. Kenya's M-Pesa revolutionised mobile money but did not integrate with state welfare systems at comparable scale. Brazil digitised cash transfers through Bolsa Família but did not combine them with real-time payments infrastructure. China built digital finance through private platforms like Alipay and WeChat Pay but without the public rails that India has established. In contrast, India pursued a public digital infrastructure model, building open and interoperable systems that enabled both government and private players to innovate. This approach is now being studied worldwide, from Africa to Southeast Asia, as a potential blueprint for inclusive digital states. Yet, the achievements coexist with persistent structural weaknesses. Millions have been brought into the formal system, but many accounts remain dormant. UPI has woven digital payments into daily life, but its reach is uneven—particularly the elderly, women in remote regions, and those with limited digital literacy. Aadhaar has enabled scale but raised concerns over privacy, consent, and data protection. India's digital inclusion journey is thus both an inspiration and an unfinished project: a story of unprecedented breadth, but still uneven depth.

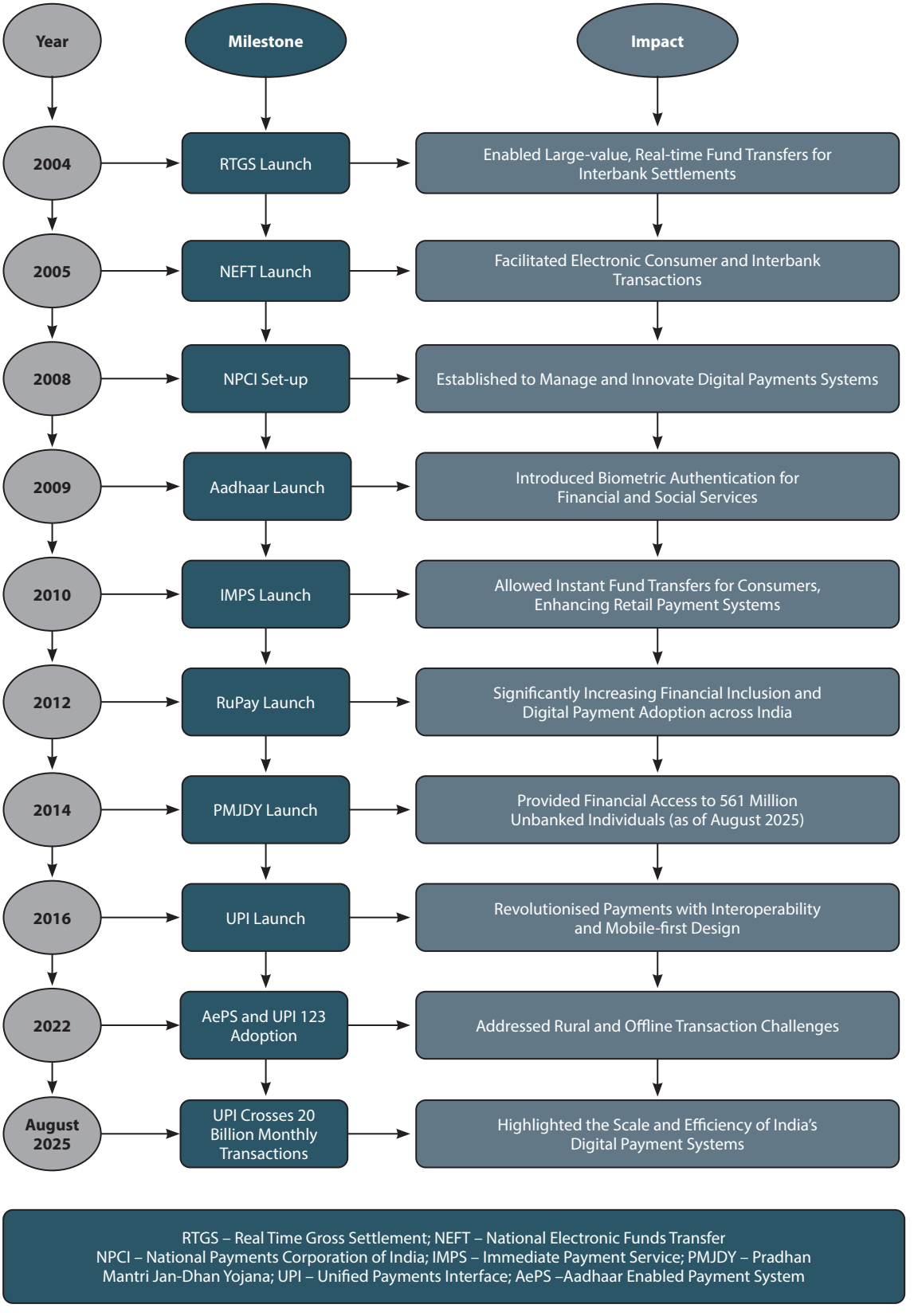


Figure 9.1. Timeline of Major Milestones in Digital Financial Inclusion, 2004–25

9.2. THE ARCHITECTURE OF DIGITAL RAILS

The architecture of India's digital financial inclusion rests on the trinity of Aadhaar, Jan Dhan, and UPI, complemented by additional layers like RuPay cards, the Aadhaar Enabled Payment System (AePS), DigiLocker, and the emerging Account Aggregator framework. Each layer serves a distinct purpose, but it is their integration that gives the system its transformative power.

9.2.1. Aadhaar: The Identity Layer

Aadhaar provided a universal, portable, and verifiable identity for over 1.39 billion citizens.[4] By enabling e-KYC at near-zero cost, Aadhaar eliminated the need for extensive documentation, which had long been a barrier for the poor. It became the cornerstone for Direct Benefit Transfers (DBT), insurance enrolments, and pension contributions.

The positive story of Aadhaar lies in its scale and efficiency. Authentication curbed fraud and enabled more precise targeting of subsidies. Yet the system has been contested, with critics pointing to privacy risks, the potential for surveillance, and instances of occasional exclusions caused by biometric mismatches. For rural households, failures in authentication sometimes meant denial of rations or pensions. Aadhaar thus embodies the double-edged nature of digital identity: foundational for scale, but vulnerable to errors and misuse if not safeguarded.

9.2.2. Jan Dhan Yojana: The Access Layer

The PMJDY scheme ensured that Aadhaar-linked identities were connected to usable financial instruments. Over 561 million bank accounts[5] have been opened under PMJDY, with an increasing share held by women and rural residents. These accounts provide zero-balance entry, overdraft facilities, and RuPay debit cards.

The achievement is historic: India moved from being a country where half the population lacked bank accounts to one where nearly every household is financially connected. Women now hold more than half of PMJDY accounts, and balances have steadily increased, indicating that accounts are not merely symbolic but increasingly active. However, dormancy remains a persistent issue, with many accounts unused or used only for DBT credits. The next challenge is to ensure active usage through savings, insurance, and credit linkages.

Table 9.1: Year-wise Aadhaar Generation and Yes/No Cumulative Authentication Transactions (in million)

Financial Year	Cumulative Aadhaar Generation (in million)	Authentication Transactions	Cumulative Transactions
2012–13	311.80	2.4	2.4
2013–14	610.10	64.4	66.8
2014–15	804.70	310.59	377.4
2015–16	999.20	1043.8	1421.2
2016–17	1,132.90	2950.4	4371.6
2017–18	1,207.10	8,769.60	13,141.20
2018–19	1,235.70	8,744.80	21,886.00
2019–20	1,257.90	10,241.30	32,127.30
2020–21	1,290.40	13,021.50	45,148.80
2021–22	1,329.60	15,323.80	60,472.60
2022–23	1,366.50	19,690.00	80,162.60
2023–24	1,395.60	21,916.30	1,02,078.90

Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2127981, as on23 April 2025.

Table 9.2. PMJDY Achievements from March 2015 to as on 13 August 2025[6]

End March	No. of PMJDY Accounts (in million)	No. of PMJDY Accounts (Male) (in million)	No. of PMJDY Accounts (Female) (in million)	No. of PMJDY Accounts (Rural/ Semi-urban) (in million)	No. of PMJDY Accounts (Urban/Metro) (in million)	Deposit Amount (in ₹ billion)	Average Deposit in Account (in ₹)	Number of RuPay Debit Card Issued (in million)
March 2015	147.2	71.5	73.9	86.8	58.6	156.70	1,065	131.50
March 2016	214.3	103.7	110.5	131.7	82.6	356.72	1,665	177.50
March 2017	281.7	136.7	144.9	168.7	113.0	629.72	2,235	219.90
March 2018	314.4	148.5	166.0	185.2	129.2	784.94	2,497	236.50
March 2019	352.7	165.3	187.4	209.0	143.7	961.07	2,725	279.10
March 2020	383.3	178.5	204.8	226.3	157.0	1,184.34	3,090	293.00
March 2021	422.0	188.2	233.8	278.5	143.5	1,455.51	3,449	309.00
March 2022	450.5	199.8	250.8	300.7	149.9	1,664.59	3,694	316.20
March 2023	486.5	216.0	270.5	324.5	162.0	1,988.44	4,087	329.40
March 2024	519.5	230.5	289.0	345.8	173.6	2,325.02	4,476	333.50
March 2025	551.8	-	-	-	-	2,603.87	4,719	378.5
As on 13.08.2025	561.59	241.7*	303.2*	362.8*	182.2*	2,677.56	4,768	386.8

Note: *As on 08.01.2025

Source data from https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2049231, and Ministry of Finance, Annual Report 2024-25 and PIB, (August, 2025), 'Pradhan Mantri Jan Dhan Yojana (PMJDY) — National Mission for Financial Inclusion — Completes 11 Years of Transformative Impact', https://www.pib.gov.in/PressReleasePage.aspx?PRID=2161401#:~:text=Expanding%20Financial%20Inclusion:,may%20be%20charged%20by%20Banks

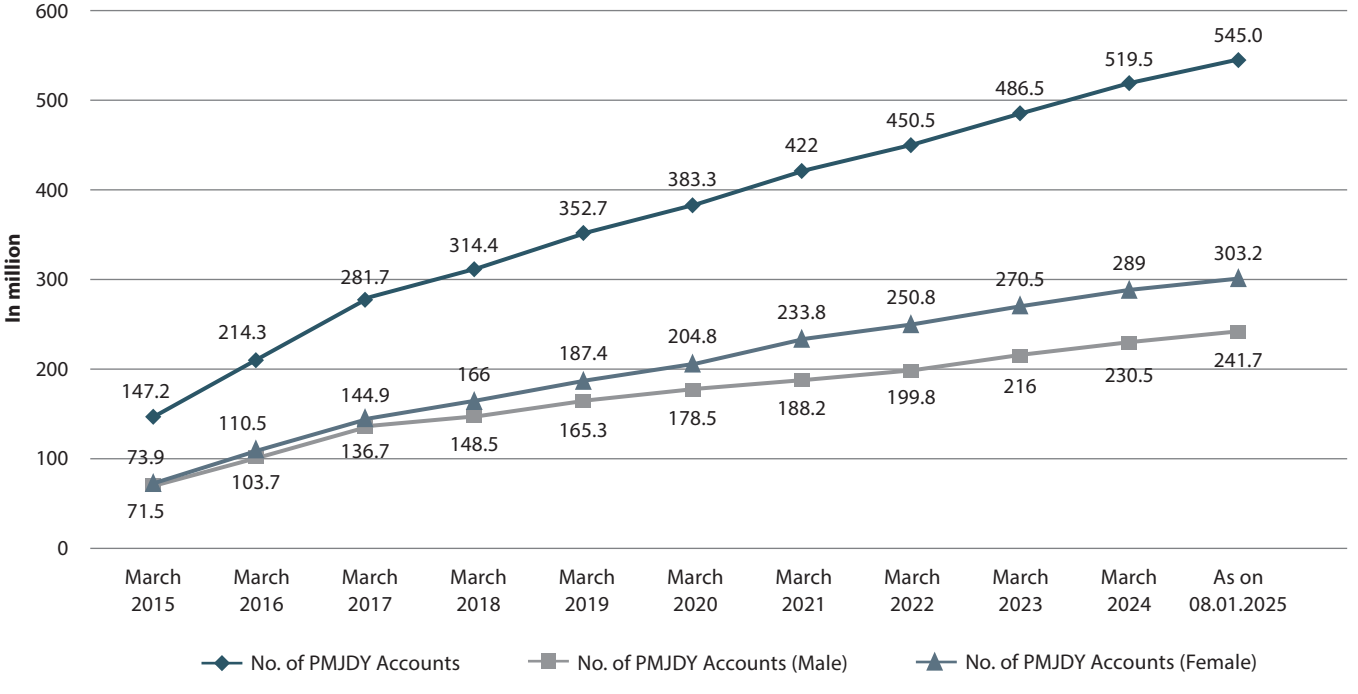


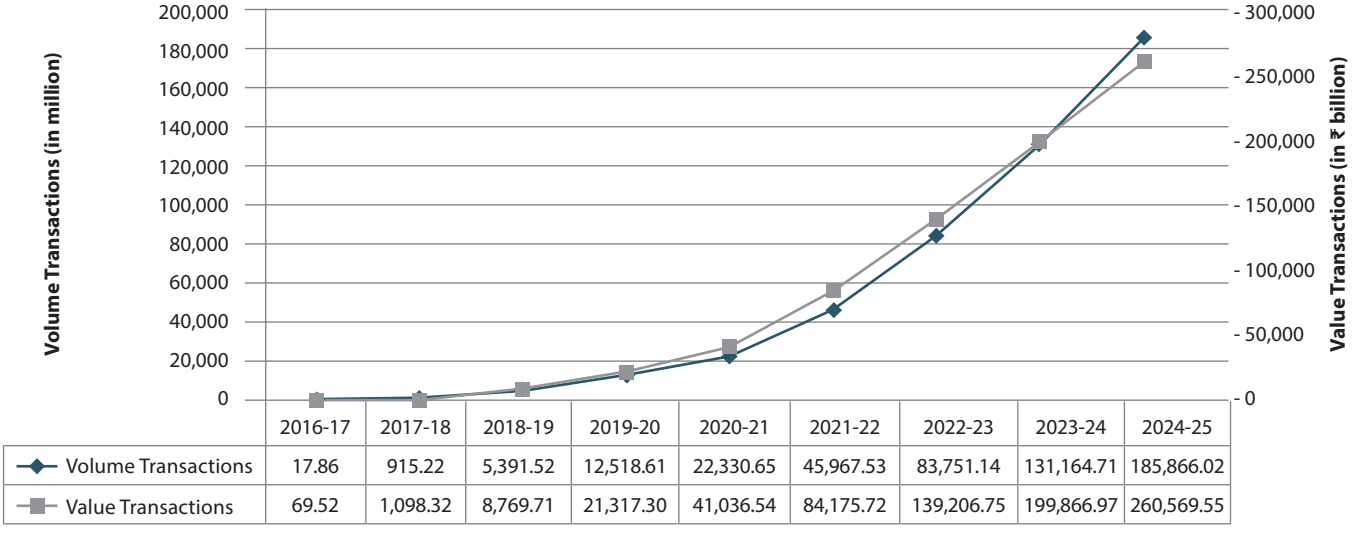
Figure 9.2: Total Number of PMJDY Accounts, by Male/Female, March 2015 as on 8 January 2025

Source: Ministry of Finance, Annual Report 2023–24 and 2024–25.

9.2.3. Unified Payments Interface (UPI): The Payments Layer

If Aadhaar created identity and Jan Dhan enabled access, UPI revolutionised usage. Launched in 2016 by the National Payments Corporation of India (NPCI), UPI made instant, interoperable, and low-cost digital payments accessible via mobile phones. By August 2025, it was processing over 20 billion transactions each month,[7] positioning India as the global leader in digital payments.

The positive impact of UPI has been extraordinary. Street vendors, farmers, and small traders routinely use QR codes for payments, reducing their reliance on cash and gaining access to digital markets. For small businesses, transaction costs have fallen sharply, while instant payments have transformed commerce. Yet, digital divides persist: limited smartphone access, patchy connectivity, and low digital literacy constrain adoption among the poorest. Fraud, phishing, and SIM-swap scams have also increased, underscoring the need for stronger safeguards.



	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Volume Transactions	17.86	915.22	5,391.52	12,518.61	22,330.65	45,967.53	83,751.14	131,164.71	185,866.02
Value Transactions	69.52	1,098.32	8,769.71	21,317.30	41,036.54	84,175.72	139,206.75	199,866.97	260,569.55

Figure 9.3: UPI Transaction Volumes and Values Year-wise

Source: NPCI, UPI Product Statistics.

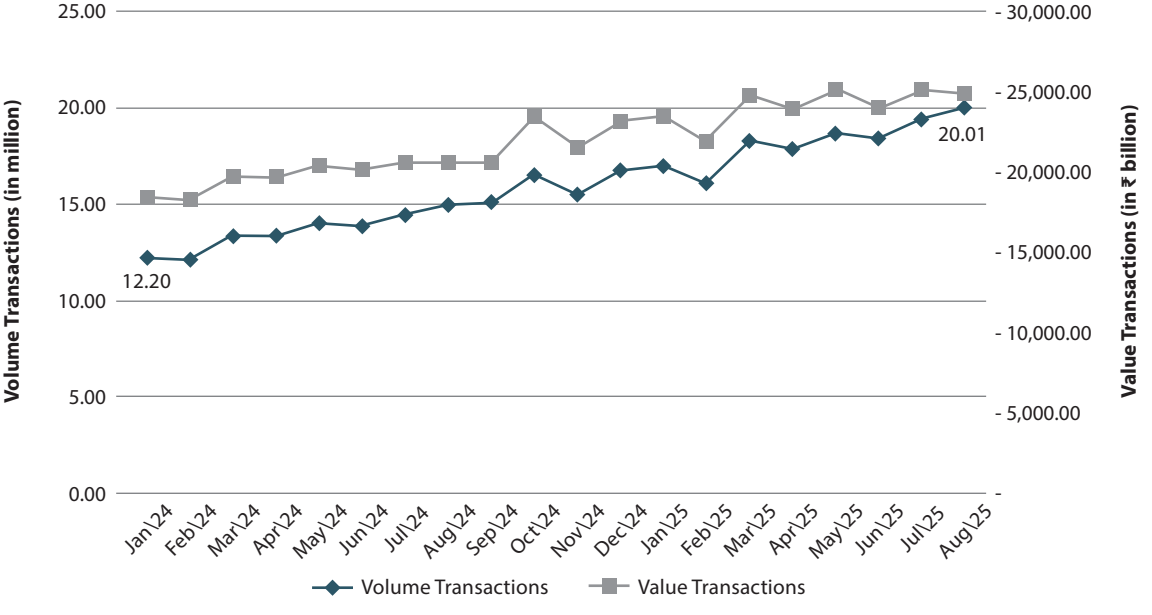


Figure 9.4: UPI Transaction Volumes and Values from January 2024 to August 2025

Source: NPCI, UPI Product Statistics.

9.2.4. Complementary Layers: RuPay, AEPS, DigiLocker, and Account Aggregator

The RuPay card network brought card-based payments into rural areas, reducing dependence on international schemes.

BOX 9.1: GROWTH OF RUPAY[8]

RuPay dominates India's debit card market, commanding over 80% market share in cards issued. However, in the credit card space—where overall spending is significantly higher—it continues to trail Visa and Mastercard. The recent integration of RuPay credit cards with UPI has helped the platform secure 25% of the market share for newly issued credit cards. According to RBI data, India currently has about 108 million active credit cards in circulation.

Each month, RuPay processes around ₹140 billion in transactions through UPI, while total spending across all credit cards reaches ₹180 billion, giving RuPay a 7.5% share by value. Including Point of Sale (PoS) terminal spending—via both swipe and tap-and-pay methods—RuPay's total monthly spend stands at approximately ₹260 billion, or 14% of the market. Over half of RuPay's credit card transactions now occur through UPI, compared to a year ago, when monthly spending was ₹100 billion, with 50% routed through UPI.

Spending on RuPay credit cards is rising rapidly at about 5% per month, with the average RuPay credit cardholder now spending ₹40,000. Yet the average transaction size remains modest at ₹1,100—far below Visa and Mastercard's ₹4,000—since RuPay is used largely for every day, small-ticket payments that UPI once dominated.

The AePS enabled cash-in and cash-out services through Business Correspondents (BCs), critical for rural areas where cash remains dominant.

Most recently, the Account Aggregator (AA) framework has been rolled out, allowing individuals to securely share their financial data with banks and insurers, enabling new models of credit and risk assessment.

Launched in 2015 as part of the Digital India vision, DigiLocker offered citizens secure provided digital storage for documents, streamlining KYC and verification. Since then, DigiLocker has evolved into one of the most widely adopted citizen services platforms in the world. What began with fewer than a million users in its first year has grown exponentially to reach 577.8 million users by 2025, with over 203 million new sign-ups in 2024[9] alone. This phenomenal growth demonstrates not only the scale of India's digital transformation but also the trust that citizens place in a secure, government-backed digital repository for their essential documents.

The National e-Governance Division (NeGD) under the Ministry of Electronics and Information Technology (MeitY) has further strengthened this success by enabling nationwide integration of DigiLocker with the e-District platform, giving every citizen in all States and Union Territories seamless access to nearly 2,000 digital services. From birth certificates, welfare benefits, and academic credentials to utility payments and government approvals, DigiLocker now functions as a single gateway for authenticated and verifiable documents, reducing paperwork, delays, and inefficiencies.

This integration represents a major leap in India's journey towards paperless, mobile-first governance, aligning directly with the Sustainable Development Goals (SDGs) by promoting transparency, efficiency, and inclusivity. DigiLocker's[10] robust architecture—built for interoperability, data security, and multi-stakeholder coordination—has established it as a trusted pillar of India's digital public infrastructure (DPI).

The platform's reach is truly national: Maharashtra is in the front with 254 services. Delhi (123), Karnataka (113), Assam (102), and Uttar Pradesh (86) follow. 77 services are offered by Kerala and Jammu and Kashmir. Andhra Pradesh (76) is next, followed by Gujarat (64), Tamil Nadu (63), and Goa (63). Even smaller states like Haryana (60) and Himachal Pradesh (58) have embraced DigiLocker's integration, underscoring its role as a truly national platform. Today, 1,938 verified services are accessible to citizens, demonstrating how India has transformed a simple document storage initiative into a powerful driver of governance innovation and citizen empowerment.

Together, these layers have built the world's most comprehensive digital public infrastructure for finance. What makes India's model unique is its public, interoperable character. Unlike China's private-led model or Africa's telecom-led systems, India's rails are state-facilitated but open to private innovation, creating both scale and competition.

Table 9.3: Aadhaar Enabled Payment System (AePS) (in million)

Financial Year	Total Approved Transaction	Approved Off-us Transaction	Approved Off-us Value	Approved BHIM Aadhaar Pay Transaction	Approved BHIM Aadhaar Pay Value	Approved On-us Transaction	Successful eKYC	Approved Demo Auth – Authenticated
2015–16	42.67	0.32	479.09	0	0	42.35	3.46	5.42
2016–17	345.04	25.86	22,823.1	0	0	319.21	47.61	31.81
2017–18	983.1	199.46	268,386.4	1.96	780.69	781.69	156	639.7
2018–19	1,694.1	517.24	670,157.8	6.78	8,154.70	1,170.1	152.74	136.33
2019–20	2,330.08	815.59	1,175,612.40	9.09	13,033.09	1,505.42	89.56	34.48
2020–21	3,921.04	1,946.3	2,260,497.9	16.08	25,794.4	1,958.69	150.65	39.1
2021–22	4,314.03	2,342.14	3,003,928.1	22.8	61,132.70	1,949.12	243.55	76.02
2022–23	4,859.44	2,522.23	3,349,719.4	21.42	67,924.4	2,315.54	340.43	57.34
2023–24	5,533.09	2,459.28	3,148,773.8	19.4	61,254.6	3,054.41	467.64	89.14
2024–25	6,109.36	2,380.60	3,002,760.00	23.01	69,071.90	3,707.72	460.52	130.7

Source data from https://www.npci.org.in/what-we-do/aeps/product-statistics
Note: BHIM – Bharat Interface for Money

Table 9.4: AA System Performance Dashboard – Financial Information Provider (FIP) and Financial Information User (FIU) (in million)

Month	FIP-Monthly Counts of Accounts Linked by Account Holders	FIU-Monthly Count of Consent Requests Successfully Fulfilled
April, 2023	1.64	1.69
May, 2023	2.29	2.43
June, 2023	2.77	2.77
July, 2023	3.65	3.26
August, 2023	3.54	4.56
September, 2023	4.31	4.34
October, 2023	5.17	5.27
November, 2023	5.38	5.92
December, 2023	5.21	5.50
January, 2024	6.01	7.22
February, 2024	6.42	5.69
March, 2024	6.61	9.58
April, 2024	6.54	8.19
May, 2024	6.24	8.03
June, 2024	6.32	8.67
July, 2024	7.51	8.75

Month	FIP-Monthly Counts of Accounts Linked by Account Holders	FIU-Monthly Count of Consent Requests Successfully Fulfilled
August, 2024	7.61	8.84
September, 2024	6.98	8.52
October, 2024	7.33	9.51
November, 2024	5.46	9.04
December, 2024	7.59	10.31
January, 2025	8.74	10.45
February, 2025	3.29	12.12
March, 2025	8.93	13.54
April, 2025	9.48	12.46
May, 2025	20.08	38.28
June, 2025	11.41	18.07

Source: https://sahamati.org.in/aa-dashboard/

Table 9.5: DigiLocker National Statistics

Users	577.8 million
Issuers	2,204
Requesters	2,737
Issued Documents	843.6 million

Source: Data from https://www.digilocker.gov.in/web/statistics

The architecture of Aadhaar, Jan Dhan, and UPI, supported by complementary systems, has enabled the delivery of financial services at a speed and scale previously unimaginable. The next part of this chapter will examine how these rails have been used to roll out instruments of inclusion—from DBT to microcredit, insurance, and pensions—and how they have reshaped the relationship between citizens, markets, and the state.

9.3. INSTRUMENTS OF INCLUSION: FROM SCHEMES TO EVERYDAY PRACTICE

India's digital public infrastructure is far from a static technical framework. It is being continually applied to welfare delivery and financial inclusion instruments that touch the lives of millions. Aadhaar, Jan Dhan, and UPI are no longer abstract systems; they are lived realities, translated into cash transfers, insurance coverage, pensions, and credit.

The DBT program is redefining welfare every single day. Subsidies for liquefied petroleum gas (LPG), pensions for the elderly, scholarships for students, and wages for Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) workers are flowing directly into Aadhaar-linked Jan Dhan accounts. Citizens are no longer waiting in long queues, negotiating with intermediaries, or losing entitlements to leakages. Money is appearing directly in accounts, and with it, welfare is shifting from feeling like a favour to being recognised as a rightful entitlement.

Insurance and pensions are relying heavily on these rails. Programs like Pradhan Mantri Suraksha Bima Yojana (PMSBY) and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) are continuously deducting premiums from Jan Dhan accounts, and Atal Pension Yojana (APY) subscriptions are being maintained through small, regular contributions. Millions of citizens are holding policies and pension

Table 9.6: Financial Year-wise DBT

Financial Year	Total Direct Benefit Transfer (in ₹ billion)	Total Number of Transactions (in billion)	Number of Schemes	Ministries	Estimated Gains (in ₹ Billion)
2019–20	3,816.31	4.38	315	53	Cumulative upto March 2022 – 2,848.67
2020–21	5,525.27	6.03	315	53	
2021–22	6,302.64	7.17	315	53	
2022–23	7,163.96	6.93	315	53	April 2022 to March 2023 – 636.96 Cumulative upto March 2023 –3,485.64
2023–24	6,913.59	10.06	315	53	
2024–25	6,897.08*	9.31	321	56	

Source: https://dbtbharat.gov.in/
Values normalized post COVID-19

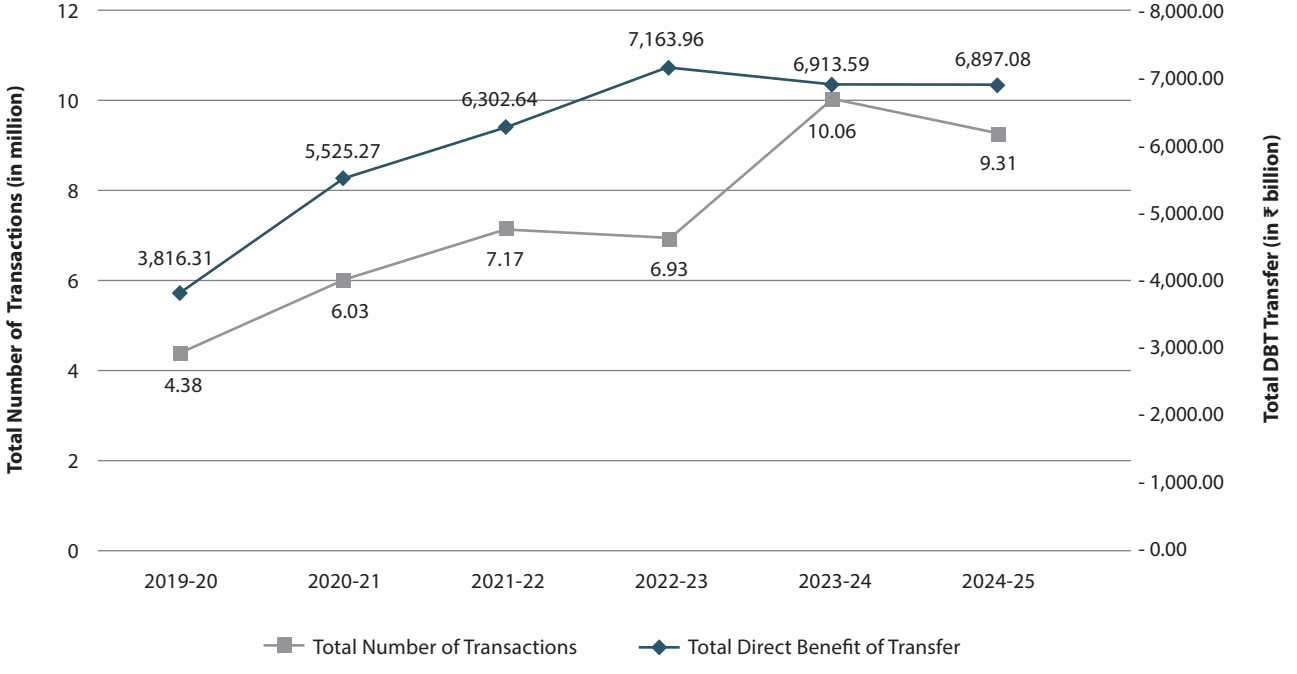


Figure 9.5: Total Number of Transactions and Total DBT from 2019–20 to 2024–25

Source: https://dbtbharat.gov.in/

accounts in their own names, and digital rails are making enrolment and renewal seamless. The systems are working in the background, pulling small contributions from accounts and quietly weaving a safety net across society.

Credit is also being reshaped. Mudra loans are being disbursed through Jan Dhan accounts, and SHGs are now using AePS and UPI for savings and repayments. Even the smallest transactions are generating digital footprints that serve as early-

Table 9.7: Mudra Disbursements Under PMMY

Financial Year	Amount Disbursed (in ₹ billion)
2015–16	1,329.54
2016–17	1,753.12
2017–18	2,464.37
2018–19	3,118.11
2019–20	3,297.15
2020–21	3,117.54
2021–22	3,314.02
2022–23	4,504.23
2023–24	5,323.58
2024–25	5,418.02

Source: Data from https://www.mudra.org.in/

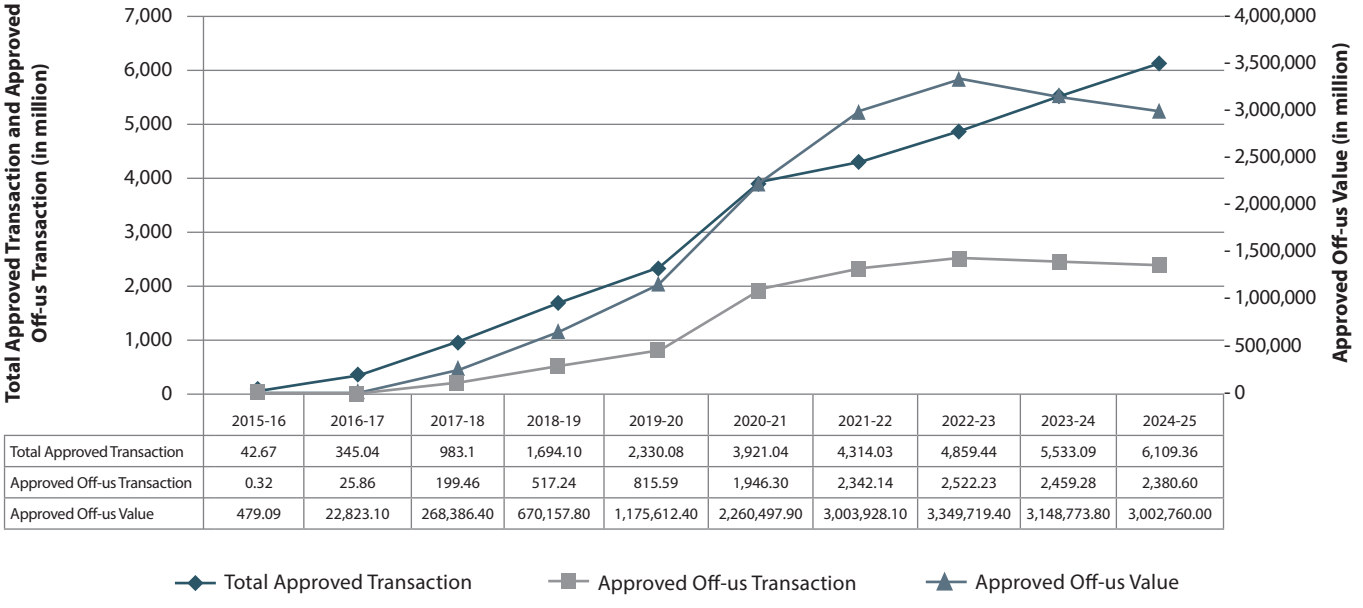
stage credit histories—footprints that lenders are beginning to recognise. Citizens who were once invisible to banks are now steadily becoming legible to the system.

Other instruments are reinforcing this web of inclusion. RuPay debit cards are being used by first-time account holders to withdraw DBT funds or make small purchases, often representing their first experience with card-based money. AePS outlets are enabling cash-in and cash-out at the local level with biometric authentication, allowing the poor to navigate between cash and digital seamlessly. And the AA framework is beginning to empower individuals to securely share their financial data with lenders and insurers, creating the possibility of more tailored, responsible products.

Through these instruments, digital rails are reconfiguring everyday financial practices. Welfare transfers, pensions, micro-insurance, and small loans are no longer distant promises; they are now woven into the daily rhythm of household finance.

9.4. SYSTEMIC SHIFTS: BEYOND NUMBERS, TOWARDS TRANSFORMATION

What makes India's experience remarkable is that its impact does not end with enrolments. The rollout of digital systems is continuously producing systemic shifts that are altering financial and social life in ways that continue to unfold. The first and most visible shift is the formalisation of previously invisible citizens. Every DBT transfer, every Aadhaar authentication, and every UPI transaction is leaving a digital trace, steadily building a verifiable financial identity. Citizens who once operated entirely in the informal shadows are now being recognised by the state and financial institutions. This recognition is



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Total Approved Transaction	42.67	345.04	983.1	1,694.10	2,330.08	3,921.04	4,314.03	4,859.44	5,533.09	6,109.36
Approved Off-us Transaction	0.32	25.86	199.46	517.24	815.59	1,946.30	2,342.14	2,522.23	2,459.28	2,380.60
Approved Off-us Value	479.09	22,823.10	268,386.40	670,157.80	1,175,612.40	2,260,497.90	3,003,928.10	3,349,719.40	3,148,773.80	3,002,760.00

Figure 9.6: AePS Total Approved Transaction, Approved Off-us Transaction and Approved Off-us Value from 2015–16 to 2024–25

Source: https://www.npci.org.in/what-we-do/aeps/product-statistics

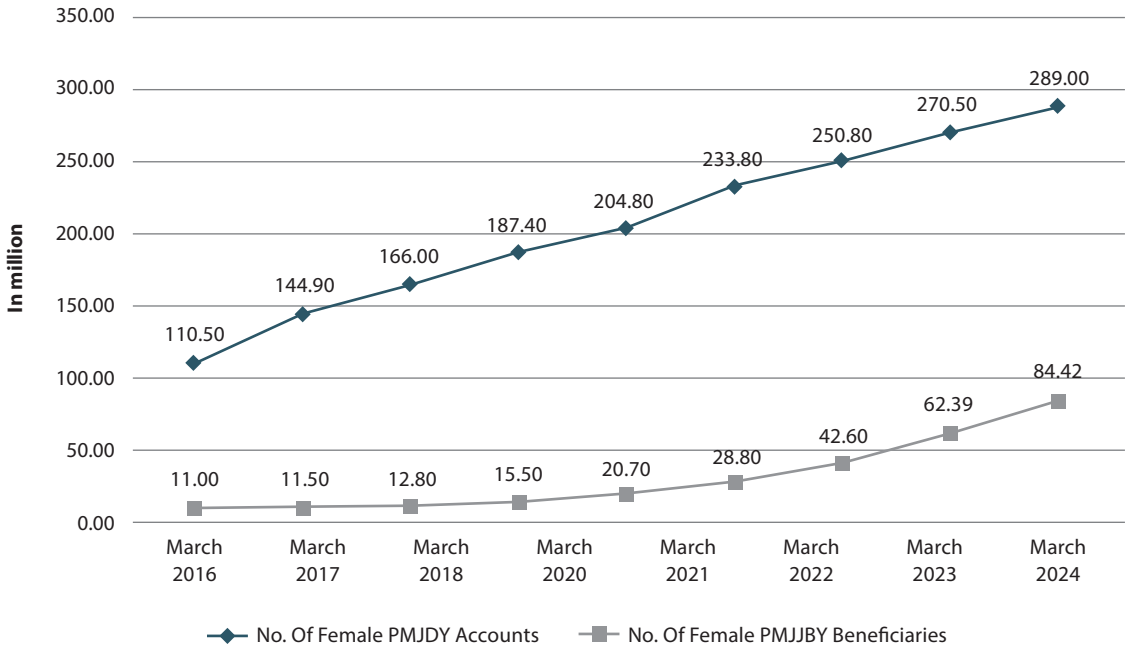


Figure 9.7: Number of Women's Participation in PMJDY and PMJJBY[11]

Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2127981

empowering, but it is also raising ongoing concerns about privacy, consent, and surveillance.

The second systemic change is the transformation of household power dynamics, particularly for women. Increasingly, women are holding Jan Dhan accounts, managing DBT credits, filing PMJJBY claims, and contributing to APY. They are acting as custodians of PMJAY health cards and making critical financial and health decisions for their families. In countless homes, money is now flowing directly to women's accounts, giving them leverage in family negotiations. While barriers remain at higher-value products, the process of empowerment is actively unfolding in real time.

A third transformation is the creation of psychological capital. Citizens are experiencing dignity when they hold a RuPay card, make a UPI payment, or receive a DBT credit. Communities gain pride and confidence as they perceive themselves as being inside the system rather than excluded from it. This sense of belonging is changing behaviour—households are beginning to save, experiment with pensions, and engage more actively with formal institutions. Yet this psychological capital remains fragile, as trust can quickly erode if claims are delayed or systems fail.

Finally, a new trust contract between the state and citizens is emerging. By transferring money directly and reliably, the government is being perceived less as a gatekeeping bureaucracy and more as a guarantor of entitlements. Each successful transfer, each insurance claim settled, each pension paid on time is strengthening this trust. But the responsibility is heavier than ever: a single breach of trust—whether through exclusion, error, or fraud—can quickly erode confidence. Taken together, these systemic shifts are reshaping India's financial and social fabric. Citizens are becoming formalised, women are gaining new forms of agency, psychological capital is fostering confidence, and the state–citizen contract is being redrawn. The transformation is still unfolding, and its full implications are only beginning to be understood.

9.5. TWENTY-FIVE LESSONS FROM A DECADE OF DIGITAL FINANCIAL INCLUSION

Lesson 1: Access is Opening, but Continuity is Struggling—Millions of Jan Dhan accounts are being opened and connected to Aadhaar and UPI, but many of them are becoming dormant after the first deposit or transfer. Citizens are experiencing the excitement of inclusion, yet they are also struggling to maintain balances or keep accounts active. This is showing that inclusion is not a one-time achievement but a continuous and dynamic process that requires constant reinforcement.

Lesson 2: Affordability is Attracting, but Awareness is Sustaining—Low-cost accounts and micro-insurance premiums are drawing households into the system, but the real test is whether people are understanding and continuing to use them. Financial literacy campaigns are underway, but their reach remains uneven, and many users still view financial products as one-off windfalls. He experience shows that affordability without awareness is only half the battle.

Lesson 3: Claims are Defining Trust Every Day—Citizens are judging the credibility of schemes not by enrolment numbers but by whether their claims and transfers are arriving on time. A widow receiving a PMJJBY payout strengthens community trust, while a farmer facing delays in a PMFBY claim loses faith in the system. Trust is built—and tested—one claim at a time.

Lesson 4: Women are Emerging, but Barriers are Persisting—Women are increasingly holding PMJDY accounts, receiving DBT transfers, and contributing to pensions, and in the process, they are gaining financial leverage within households. Yet, as soon as the product value rises, participation is dropping sharply. The ceiling for women is clearly visible, and breaking through it remains the unfinished challenge of the decade.

Lesson 5: Pensions are Promising, but Trust is Fragile—APY accounts are expanding, and women in particular are signing up in large numbers, but sustaining contributions is proving difficult when daily incomes are irregular. The idea of a pension is becoming normalised, yet belief in long-term continuity is fragile. The system is learning that pensions succeed only when credibility is nurtured decade after decade.

Lesson 6: Health Cover is Transforming into a Right—Ayushman Bharat is continuously financing hospitalisations, providing families with much-needed relief from catastrophic health expenses. The scheme is creating the perception that health protection is a citizen's entitlement, not a privilege. Yet gaps in awareness and uneven hospital quality show that access does not always translate into effective care.

Lesson 7: Crop Insurance is Expanding, but Trust is Eroding—PMFBY is enrolling millions of farmers, and premiums are being deducted automatically at sowing, but delays in settlement are creating dissatisfaction. Farmers are realising that insurance exists, but they are also questioning its reliability when claims take months to arrive. Trust in crop insurance is being built and broken simultaneously.

Lesson 8: Behavioural Barriers are Limiting Inclusion—Even when accounts are free and insurance premiums negligible, many citizens are hesitating to renew or use them actively. Fear of technology, lack of trust, and unfamiliarity with formal systems are slowing down deeper adoption. Behavioural economics is showing its power—inclusion is not only about affordability but about confidence and habit.

Lesson 9: Technology is Empowering, but Excluding Too—UPI, Aadhaar authentication, and RuPay are allowing transactions in seconds, giving dignity and speed to citizens who once waited days for cash. At the same time, people without smartphones, connectivity, or literacy are being left behind. The dual truth is unfolding: technology is bridging gaps while also creating new divides.

Lesson 10: Subsidies are Enabling, but Sustainability is Questioned—Subsidised premiums and transfers are keeping schemes affordable and popular. Yet fiscal planners are worrying about long-term viability as budgets stretch. Citizens are enjoying affordability now, but policymakers are debating how long the model can continue without recalibration.

Lesson 11: Formalisation is Giving Legitimacy—Every Aadhaar authentication, every DBT credit, and every digital payment is formalising citizens who were once invisible. Households are gaining recognition and legitimacy in the eyes of the state and financial institutions. But this visibility is also raising new anxieties about data use, privacy, and surveillance.

Lesson 12: Literacy is Emerging as the Anchor—It is becoming clear that without financial literacy, inclusion remains shallow. Many households are confusing insurance with savings or failing to understand pension penalties. Efforts are growing to build awareness, but the challenge is massive. Literacy is showing itself as the anchor without which the edifice of inclusion cannot stand.

Lesson 13: Integration is Creating Scale—The real breakthrough is not Aadhaar, Jan Dhan, or UPI in isolation, but their integration into a seamless stack. Identity, access, and payments are reinforcing each other every day. Citizens are experiencing the benefit of this integration whenever DBT arrives in accounts instantly and without leakages.

Lesson 14: Women's Agency is Expanding Slowly but Surely—Women are receiving transfers in their own names and deciding on their use, shifting household dynamics. This is giving them bargaining power and confidence, even though deeper ceilings remain. The slow but steady growth

of women's agency is becoming one of the quiet revolutions of digital inclusion.

Lesson 15: Monitoring is Strengthening Accountability—Real-time dashboards are being developed, and grievance redressal mechanisms are increasingly embedded into program design. Policymakers are tracking performance in real time, rather than on an annual basis. This is making schemes more responsive and transparent, though coverage is still uneven across states.

Lesson 16: Innovation is Flowing from Public Rails—Fintech firms are building micro-loans, savings products, and insurance innovations on top of UPI and Aadhaar. The public infrastructure is acting as a base, and the private sector is continuously experimenting. Innovation is thriving not because systems are closed, but because rails are open.

Lesson 17: Entitlements are Reframing Citizenship—Citizens are no longer seeing welfare as charity. DBT, pensions, and health protection are being experienced as rights. This is reshaping the contract between citizens and the state, strengthening democracy by embedding financial protection into the idea of citizenship.

Lesson 18: Privacy Concerns are Growing—As more citizens are being formalised, digital footprints are growing. People are beginning to question who owns their data, how consent is managed, and whether surveillance is possible. Privacy is emerging as the frontier issue of inclusion, showing that empowerment and vulnerability are unfolding together.

Lesson 19: Exclusion Risks are Persisting—Elderly citizens, tribal communities, and those without connectivity are still struggling to participate fully. Assisted models are trying to bridge the gap, but exclusion is persisting. Inclusion is proving to be uneven, highlighting that averages hide persistent inequality.

Lesson 20: Agriculture Needs a Smarter Model—Crop insurance is showing the limits of paper-based assessments. Farmers are waiting too long for payouts, and trust is fading. The lesson is that technology like satellite imagery and parametric triggers must be integrated if agriculture is to benefit from digital inclusion.

Lesson 21: Scale Should Not Cancel Sensitivity—Mass systems are expanding fast, but the quality of service still matters. Citizens filing claims or accessing DBT need empathy as much as efficiency. The challenge to ensure that scale does not come at the cost of the human touch.

Table 9.8: India vs. Global Leaders in Digital Financial Inclusion (2024–25)

Country/ Region	Core Digital Infrastructure	Scale and Reach	Strengths	Lessons from Experience	Offerings to the World
India	Aadhaar (ID), PMJDY (accounts), UPI (real-time payments), Account Aggregator, DigiLocker	20 billion UPI transactions/ month; 561 million bank accounts; Aadhaar >100 billion authentications	Scale, affordability, agent-assisted inclusion, DBT integration	Enhance cyber-liability clarity, resilience planning	Blueprint for inclusive DPI; consent-based data sharing; QR and UPI standards
European Union	SEPA Instant, PSD2, IBAN interoperability	Instant euro payments across several nations	Regional integration, open banking regulation	Wider QR adoption, agent models	Regulatory frameworks for data portability at scale
UK	Faster Payments, Open Banking	Near-universal adoption, strong fintech sector	Dispute resolution, consumer protection	Build liability regimes for scams	Low-cost inclusion strategies, open-rail lessons
Sweden	BankID + Swish; near-cashless	80–85% population uses Swish	Cashless economy with offline readiness	Outage planning for critical services	Rural agent networks, inclusion-first design
Netherlands	iDEAL + contactless	70%+ of online payments via iDEAL	Merchant-friendly pricing, UX	Small business incentives	QR acceptance blueprint

Country/ Region	Core Digital Infrastructure	Scale and Reach	Strengths	Lessons from Experience	Offerings to the World
Germany	Girocard, SEPA	Strong domestic debit adoption	Interbank stability, trusted rails	QR-based low-cost micro-payments	Interoperability + scale cost lessons
France	Cartes Bancaires, SEPA	Integrated cards and IBAN transfers	Fraud mitigation, card penetration	Offline-first tools for rural	Aadhaar e-KYC for cross-border migrants
Brazil	Pix (Central Bank-led)	250M txns/day record; ~180M users	Rapid QR ubiquity, interoperability	Advanced analytics	Assisted models for thin-file credit
China	Alipay and WeChat Pay	Mobile pay volumes in trillions USD	Seamless UX, embedded finance	App personalisation	Open, public-rail alternative at scale
Singapore	PayNow/FAST + Singpass e-ID	100% adoption in banked population	Sandbox innovation, CBDC pilots	Regulatory sandboxing	Consent-led data sharing blueprint
Australia	NPP/PayTo	A$1.99T via NPP (2024)	Real-time B2B/ payroll	Large enterprise integration	High-frequency small-value scaling
Canada	Interface-Transfer, debit rails	~98% adults use digital payments	Trust, reliability	Flexible merchant pricing	Inclusive low-cost design for mass adoption

Lesson 22: Community Models are Remaining Vital—Even as digital rails dominate, SHGs, cooperatives, and local institutions are continuing to act as bridges for the excluded. Community trust is proving to be indispensable, and digital systems are working best where they are embedded in social networks.

Lesson 23: Shocks are Revealing Gaps—The pandemic showed how quickly crises overwhelm systems. Even with DBT and UPI, many households struggled with delayed relief or insufficient support. Insurance and pensions were tested by shocks, revealing the need for focus on individual financial health.

Lesson 24: India's Model is Inspiring, but not Exportable Whole—Countries across Asia and Africa are studying Aadhaar, UPI, and Jan Dhan. India's model is being admired globally, but it is also clear that local contexts matter. What works in India must be adapted, not copied, abroad.

Lesson 25: From Access to Resilience—The decade has shown that opening accounts or enabling payments is only the starting point. True inclusion lies in citizens being able to withstand shocks, plan for the future, and steadily climb toward prosperity. The journey is ongoing, with digital financial inclusion evolving from a safety net into a springboard for resilience.

9.6.INDIA'S DIGITAL FINANCE LEADERSHIP IN THE GLOBAL CONTEXT

India has become the world's foremost example of how technology, policy, and inclusion can come together to transform lives. Over the last decade, India has built the most comprehensive digital public infrastructure (DPI) in the world, centred on three pillars: Aadhaar (universal biometric identity), Jan Dhan Yojana (financial access), and UPI (real-time payments). This trinity, backed by a culture of open APIs, interoperability, and agent-assisted delivery, has turned India into a true digital finance superpower.

While many advanced economies excel in sophisticated payment systems and regulatory safeguards, India stands out for scale and inclusivity. No other country has brought over 561 million bank accounts into the formal system in less than a decade, enabled 20 billion transactions monthly on a single platform, or connected government transfers directly to citizens' accounts at this scale. What's remarkable is that this growth has not been limited to cities or the affluent; India has brought street vendors, farmers, and rural women into the digital economy, making it a beacon for the Global South and a model that even developed nations now study.

Europe's journey has been impressive in its own right, with systems like the European Union's (EU's) Single Euro Payments Area (SEPA) Instant Credit Transfer, the UK's Faster Payments, and Sweden's Swish leading the way in speed and convenience. However, India's cost efficiency, universal identity layer, and agent networks are innovations that Europe and North America increasingly look to adapt, as they explore financial inclusion for underserved populations such as migrants, refugees, and rural communities. India, once a follower, is now strongly influencing the future of digital finance globally.

9.7. INDIA'S STRENGTHS: A STORY OF SCALE AND EQUITY

India's DPI is unmatched for its ability to blend low-cost technology with equity-driven design. Aadhaar eliminated onboarding barriers by enabling paperless KYC at scale, while Jan Dhan accounts ensured universal access. UPI transformed these accounts into active hubs, turning every smartphone into a payment terminal. The addition of DigiLocker and AA frameworks has created a data-rich yet privacy-conscious ecosystem that empowers even small farmers and informal workers.

Europe's systems are fast, trusted, and highly integrated across nations, but they primarily serve populations that were already banked. India demonstrates how digital rails can serve as a social equaliser, bringing financial dignity to those who had never interacted with banks. This is a message the developed world increasingly needs, as inequality and exclusion persist even in advanced economies.

9.8. LESSONS FOR INDIA: SHARPENING THE EDGE

India's rapid growth calls for next-level safeguards. European markets have mastered fraud prevention, liability-sharing frameworks, and data governance standards that India can adopt to strengthen trust. Systems like Sweden's Swish and the EU's SEPA show the importance of offline contingency planning in near-cashless societies. The design maturity of China's super-app ecosystem is also a reminder that user experience, behavioural nudges, and financial literacy must evolve alongside technical rails to sustain adoption.

9.9. INDIA'S OFFERINGS TO THE WORLD: A PLAYBOOK FOR DIGITAL EQUITY

India's success is more than a national achievement—it is a template for global transformation. Countries across Africa, Southeast Asia, and Latin America are already emulating UPI, Aadhaar-like identity systems, and consent-based data-sharing frameworks. India's unique strengths include:

- **Ultra-low-cost digital onboarding** through Aadhaar e-KYC.
- **Agent-assisted inclusion models** that overcome literacy and connectivity barriers.
- **Open API frameworks** that encourage fintech innovation without monopolies.
- **Integration of welfare and commerce**: subsidies, pensions, insurance, and payments on a single rail.
- **Consent-led data sharing** through AA framework, a global benchmark for privacy-first innovation.

9.10. DISCUSSION: FROM FOLLOWER TO GLOBAL TRAILBLAZER

India's digital finance revolution transformed a nation once defined by exclusion into a global leader in financial innovation and inclusion. By combining public infrastructure, private innovation, and grassroots delivery, India has achieved what few nations have dared to attempt: universal, low-cost, scalable inclusion.

Europe offers valuable lessons in regulatory depth, consumer protection, and resilience planning, while India offers the world its inclusive design philosophy, scale-driven innovation, and ability to democratise finance. Together, these models form a complementary blueprint: Europe shows how to protect users, and India shows how to reach them all.

The coming decade offers India the chance to not only deepen domestic adoption but also export its playbook—enabling other nations deliver dignity, equity, and opportunity through finance. India is no longer playing catch-up; it is innovating and setting the global benchmark for what digital finance can achieve.

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The Digital Trust Revolution – India's Cybersecurity Transformation in the Age of Unprecedented Financial Inclusion (2022–25)

Ramesh Srivatsava Arunachalam

10

10.1. THE PARADOX OF DIGITAL PROSPERITY

In August 2025, as India's Unified Payments Interface (UPI) processed an astounding 20 billion transactions worth ₹24,854.73 billion in a single month,[1] the nation stood at a remarkable crossroads. This was more than a statistical milestone—it was the world's largest experiment in democratizing digital finance. But beneath this triumph lay a sobering reality: the same digital revolution that extended banking to millions of previously unbanked Indians had simultaneously opened floodgates to unprecedented cyber vulnerabilities. The stark reality emerged in 2024's sobering statistics—3.6 million cyber fraud cases resulting in losses of ₹228.45 billion,[2] a figure that threatened to unravel decades of painstaking financial inclusion efforts.

And it was precisely to respond to these escalating cyber risks across the financial ecosystem that India unveiled a comprehensive digital financial security reform program, aiming to safeguard trust, resilience, and long-term inclusivity. At the core is the Digital Personal Data Protection (DPDP) Act, 2023, enacted on 11 August 2023, which creates enforceable privacy rights and imposes penalties of up to ₹2.5 billion per violation for failing to implement adequate safeguards.[3] Complementing this, the Reserve Bank of India (RBI) issued the IT Outsourcing Master Directions, 2023, effective from 1 October 2023, mandating robust governance, vendor due diligence, and risk controls.[4] The Digital Lending Directions, 2025 consolidated earlier frameworks, requiring Key Fact Statements, a one-day cooling-off period, strict disclosures, and alignment with the DPDP Act.[5] Cybersecurity reforms include the Indian Computer Emergency Response Team (CERT-In) six-hour incident reporting rule, mandatory log retention in India for 180 days, and expanded reporting of all major breaches.[6] Specialised sectoral Cyber Security Incident Response Team (CSIRTs), including Cyber Security Incident Response Team for Finance (CSIRT-Fin) for Banking, Financial Services, and Insurance, nearly 9,800 security audits have been conducted across banking, financial services, insurance (BFSI), energy, and power sectors.[7]

Payment security has also been strengthened: the National Payments Corporation of India (NPCI) mandated biometric authentication for business correspondents handling Aadhaar Enabled Payment System (AePS) transactions[8] and introduced UPI safeguards such as weekly database updates via the Mobile Number Revocation List (MNRL) and mandatory deactivation of inactive IDs.[9] Industry players are investing heavily in Security Operations Centers (SOCs), AI-driven fraud detection, and device binding to counter SIM-swap fraud. Public awareness stands as a central pillar. The RBI's multilingual "RBI Kehta Hai" campaign reaches citizens through television, SMS, radio, WhatsApp, and digital platforms,[10] embedding financial safety into everyday conversations. At the community level, cyber ambassadors and pilot certification programs for AI auditors are extending digital literacy and oversight. Together, these initiatives feed into a broader framework of regulation, enforcement, innovation, and outreach—a holistic defense architecture designed to balance India's rapid digital financial growth with the equally urgent imperatives of security, consumer protection, and systemic resilience.

India's story is thus not merely about containing threats; it is about embedding trust into every digital transaction. These measures transformed cybersecurity from a compliance burden into a strategic advantage, proving that inclusion and resilience are not mutually exclusive but mutually reinforcing.

This chapter chronicles India's extraordinary journey from 2022 to 2025, a period that witnessed not merely a technological evolution but a fundamental reimagining of how a nation could simultaneously scale innovation and security. The transformation touched every corner of the financial ecosystem, from the gleaming towers of Mumbai's banking district to the dusty village squares where farmers first learned to trust their smartphones with their life savings. What emerged was a comprehensive national strategy that treated cybersecurity not as a compliance burden but as the invisible infrastructure upon which the entire edifice of digital inclusion rested.

10.2. THE ARCHITECTURE OF VULNERABILITY: UNDERSTANDING INDIA'S UNIQUE CHALLENGE

India's cybersecurity challenge was fundamentally different from that of developed economies. While nations like the United States or United Kingdom grappled with sophisticated state-sponsored attacks on already mature digital infrastructure, India confronted a more complex reality. The Financial Inclusion Index's (FI-Index) rise from 60.1 in March 2023 to 67.0 in March 2025[12] meant millions of first-time digital users—farmers, daily wage workers, small shopkeepers—were suddenly navigating a landscape they barely understood. These users—often sharing devices, relying on feature phones, or navigating with minimal digital literacy—formed the soft underbelly of India's digital economy, where vulnerability was most acute.

The scale of transformation becomes clear when examining UPI's meteoric rise from 45.96 billion transactions in FY 2020-21 to 185.86 billion transactions in FY 2024-25.[13] This four-fold surge was not merely about quantitative growth; it represented a fundamental transformation in how Indians conducted their daily financial lives. Every vegetable vendor accepting UPI payments, every rural self-help group (SHG) member checking her loan status online, every migrant worker sending money home digitally—each represented both a victory for inclusion and a potential vulnerability in the system.

BOX 10.1. BANKING ON TRUST IN THE AGE OF CYBER THREATS[11]

India's banking sector found itself under siege, facing an average of more than 2,500 cyberattacks every week—a rate far above the global average. The ransomware incident that crippled payment systems across nearly 300 smaller banks revealed just how exposed the system remains. RBI and International Monetary Fund (IMF) data underscore the scale of the challenge: over 20,000 cyber incidents in the past two decades have drained close to $20 billion from the sector. Yet the true damage lies beyond balance sheets—service outages across National Electronic Funds Transfer (NEFT), Real-Time Gross Settlement (RTGS), Unified Payments Interface (UPI), and card networks erode customer confidence, while reputational scars diminish the very trust that keeps the financial system afloat.

Around the world, regulators are treating cybersecurity as the new backbone of finance—from the European Unions' (EU's) General Data Protection Regulation (GDPR) and Singapore's Technology Risk Management guidelines to Australia's CPS 234 standards.

India too has mounted a decisive response, accelerating reforms over the past two years through zero-trust frameworks, AI-driven threat detection systems, end-to-end encrypted data practices, and stricter vendor oversight. Crucially, customer education has emerged as the first firewall against fraud. The message is clear: in a digital-first economy, trust is built not only through convenience and service but through invisible guardians of cyber resilience. India's recent reforms, as articulated in this chapter, show that even amid rising threats, trust can be safeguarded—and strengthened—when technology and vigilance move hand in hand.

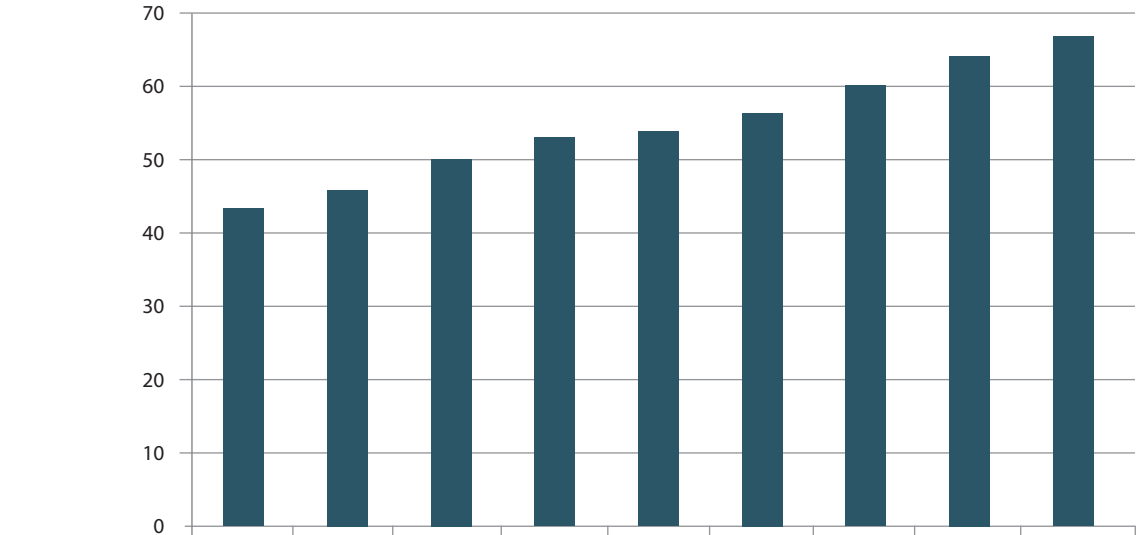

Figure 10.1. RBI FI-Index from March 2017 to March 2025
Source: Data Compiled from RBI

10.3. THE EVOLVING THREAT LANDSCAPE: A COMPREHENSIVE ANALYSIS

The numbers tell a story of escalating complexity. By 2024, India was detecting approximately 702 cybersecurity incidents per minute across all sectors, with the BFSI sector bearing a disproportionate burden at 17.38% malware prevalence.[15] More troubling still was the projection that cyber fraud losses could reach ₹1,200 billion in 2025, approaching 0.7% of gross domestic product (GDP)[16]—a figure that could erase years of financial inclusion gains if left unchecked.

Table 10.1. India's Cybersecurity Incident Evolution (2022–25)

Metric	2022	2023	2024	2025 (Projection)
Total Incidents (CERT-In)	1,391,457	1,592,917	2,041,360	>2 Million annually
BFSI Share of Incidents	~20%	–	–	–
Average Data Breach Cost (India)	–	–	₹195 million	–
Cyber Fraud Losses- (I4C)[14]	–	–	₹113.33 billion (Jan-Sep)	₹1,200 billion (~0.7% GDP)
BFSI Malware Prevalence	–	–	17.38%	–
Total Detections (all sectors)	–	–	369 Million (~702/min)	–
Ransomware Events	–	–	>1 Million	↑ Sophistication
Cloud Exposure Share	–	–	62% detections	–
Global Cybersecurity Index (GCI)	–	–	Tier-1, 98.49/100	–

Source: Compiled from multiple sources.

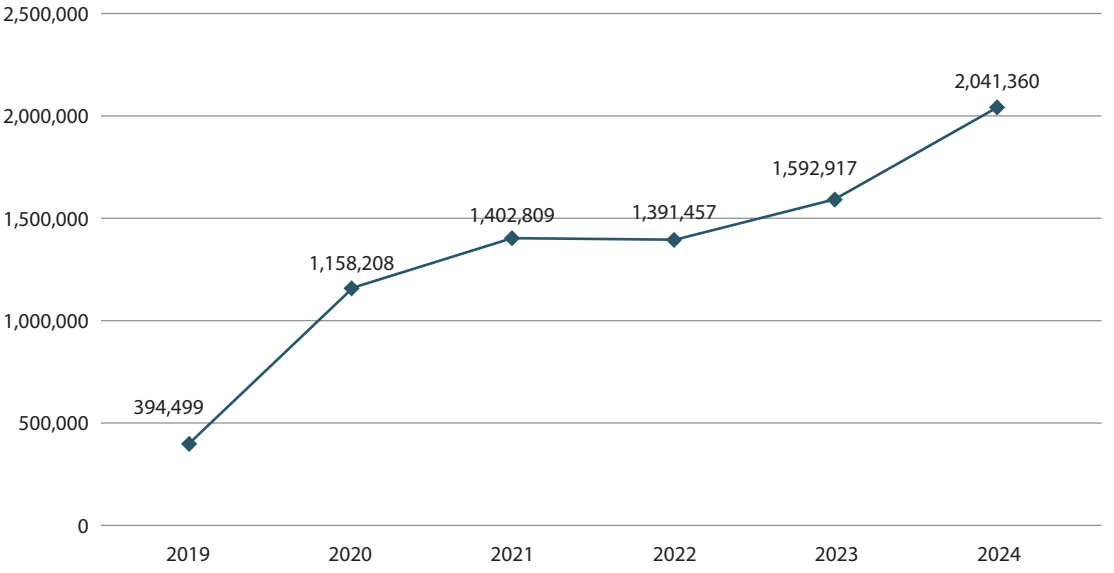

Figure 10.2. Total Cybersecurity Incidents in India from 2019 to 2024
Source: Data compiled from CERT-In and other sources

Table 10.2. Cybersecurity Key Highlights – Based on Seqritre Labs' Telemetry Data from October 2023 to September 2024

Bigger Spectrum of Detections and Endpoints	• Over 369.01 million detections recorded across 8.44 million endpoints • Averaging 702 detections per minute
Behavioural-based Detection	• 53.73 million behaviour-based detections, accounted for 14.56% of total detections • Significant increase from 12.5% in 2023
Primary Attack Vectors	• 68% of attacks originated from Trojans and Infectors
Top Most Targeted Industries	• 17.38% BFSI • 21.82% Healthcare • 19.57% Hospitality
Attacks Per Month on Personal End User Devices	• ~12
Cloud Detections Contributed	• 62% while 38% detections were on-premise
Geographical Hotspots	• Telangana 15.03% of detections • Tamil Nadu 11.97% of detections • Surat 14.58% of detections • Bengaluru 11.93% of detections • Jaipur 11.72% of detections
Malware and Ransomware Incidents	• 1 Malware incident per 40,436 detections • 1 Ransomware incident per 595 detection • Approximately 1 million Ransomware detections reported over the year

Source: Compiled from Seqrite, 'India Cyber Threat Report 2025' and other sources

The threat matrix itself had evolved from crude phishing attempts to sophisticated, multi-layered attacks that exploited both technological vulnerabilities and human psychology. Smishing campaigns became increasingly sophisticated, with fraudsters crafting messages that perfectly mimicked legitimate communications from banks, government agencies, and trusted brands. These attacks particularly targeted rural and semi-urban users who had recently received government subsidies or loans, exploiting their unfamiliarity with digital protocols

The emergence of AI-driven social engineering marked a particularly troubling evolution. By 2024, fraudsters were deploying voice cloning technology mimic bank officials—complete with convincing accents, jargon, and authority—to trick customers into revealing OTPs and passwords. These attacks succeeded not through technical sophistication alone but by exploiting the deep-seated respect for authority that shaped interactions in many rural communities.

10.4. LEARNING FROM CATASTROPHE: THE BREACHES THAT RESHAPED POLICY

The period from 2022 to 2025 witnessed several watershed breaches that fundamentally reshaped India's approach to cybersecurity. Each incident served as a harsh teacher, exposing systemic vulnerabilities that regulations alone could not remedy and forcing a shift toward deeper structural and technological reforms. The July 2024 breach at Angel One, exposing data of 8 million investors,[17] demonstrated how even established financial institutions could fall prey to basic security oversights. The incident revealed that sensitive investor information, including PAN details and trading histories, had been stored in inadequately protected databases. The breach's timing—during a bull market when retail participation was at historic highs—threatened to derail the democratisation of equity markets that regulators had carefully nurtured.

Even more dramatic was the WazirX crypto currency exchange hack in July 2024, where attackers siphoned off $230 million through wallet vulnerabilities[9]. This breach underscored the unique risks of digital assets, where traditional recovery mechanisms are absent. The incident forced regulators to confront the uncomfortable reality that cryptocurrency adoption was outpacing security frameworks, leaving millions of young investors exposed to risks they barely understood.

Equally alarming was the Star Health Insurance breach in September 2024, which leaked 31 million personal records onto the dark web.[18] Unlike financial losses, this was a trust catastrophe. Health data—deeply intimate and permanent—was weaponised in targeted scams, as fraudsters exploited knowledge of chronic illnesses to peddle fake treatments and insurance policies. But it was the December 2024 Signzy breach that truly illuminated the systemic nature of India's cybersecurity challenge.[19] As a

Table 10.3. Threat Categories and Their Impact on Financial Inclusion

Threat Type	Description	Primary Targets	Impact on Inclusion
Smishing and Malware	SMS phishing delivering malicious Android Application Package (APKs) that capture Aadhaar, UPI credentials, and One Time Password (OTPs)	Rural users, subsidy recipients	High risk; drives reversion to cash
Fake Apps and Impersonation	Clone applications mimicking banks, fintechs, or government portals	First-time digital users	Exploits institutional trust
Ransomware Evolution	Sophisticated extortion combining data theft with operational disruption	Small banks, NBFCs, cooperatives	Threatens payments infrastructure
Cloud Misconfigurations	Weak Identity and Access Management (IAM) policies, insecure Application Programming Interface (APIs), exposed storage buckets	Fintech platforms, digital lenders	Endangers entire vendor ecosystems
Third-Party Breaches	Exploitation of vendors, KYC aggregators, payment processors	Multi-institutional impact	Single breach affects hundreds of FIs
AI-Driven Social Engineering	Deepfake calls, Multi-factor Authentication (MFA) fatigue attacks, voice phishing	All user segments	Undermines trust in digital interactions

vendor providing KYC services to over 600 financial institutions globally, Signzy's compromise created a cascade effect. Hundreds of banks, non-banking financial companies (NBFCs), and FinTechs found themselves potentially exposed through no direct fault of their own. The incident starkly illustrated how India's financial system had become a complex web of interdependencies, where a single weak link could compromise the entire chain.

10.5. THE REGULATORY REVOLUTION: FROM FRAGMENTATION TO FRAMEWORK

India's regulatory response to these challenges represented one of the most comprehensive overhauls of cybersecurity governance attempted by any emerging economy. The transformation began with the recognition that traditional, siloed approaches to regulation were inadequate for an interconnected digital ecosystem.

The Digital Personal Data Protection (DPDP) Act of 2023 emerged as the cornerstone of this new architecture.[20] With penalties of up to ₹2.5 billion per violation, the Act fundamentally altered the economics of data protection. For the first time, the cost of a breach could exceed the cost of prevention by orders of magnitude. The Act's emphasis on consent-based data handling and mandatory Data Protection Officers (DPOs) created a new class of professionals whose sole mandate was safeguarding citizen data.

The RBI's Master Directions on IT Outsourcing and Cybersecurity, updated through 2023–24,[21] went beyond traditional banking supervision. These directions required financial institutions to conduct comprehensive audits of all third-party vendors, implement Security Operations Centers (SOCs), and conduct quarterly cyber drills. The regulations recognised that in an era of extensive outsourcing, a bank's security perimeter extended far beyond its own infrastructure.

The creation of the CSIRT-Fin represented a particularly innovative approach. Rather than treating each institution as an island, CSIRT-Fin created a collaborative defense mechanism where threat intelligence was shared in real-time across the sector. An attack on one institution immediately triggered alerts across the entire financial system, transforming isolated defenses into a coordinated immune response.

10.6. THE TWENTY-FIVE PILLARS OF TRANSFORMATION: TAKEAWAYS FROM THE FRONTLINES

The period from 2022 to 2025 yielded twenty-five critical takeaways (see Table below) that would shape India's cybersecurity doctrine for the coming decade. Each takeaway emerged from real-world experiences, often paid for in lost trust and financial damage.

The first aspect—that security must scale with innovation—emerged from UPI's explosive growth. As transaction volumes jumped from 45.96 billion to 185.86 billion over four years,[22] institutions discovered that linear scaling of security measures was inadequate. Real-time fraud analytics powered by artificial intelligence became mandatory, processing billions of transactions to identify suspicious patterns

Table 10.4. India's Comprehensive Regulatory Framework (2023–25)

Framework	Key Requirements	Enforcement Mechanisms	Impact Timeline
DPDP Act (2023)	Consent-based data handling, mandatory DPOs, user rights to correction and erasure	₹2.5 billion penalties, Data Protection Board oversight	Full implementation by 2024
RBI IT and Cybersecurity Directions	Third-party vetting, SOC establishment, quarterly drills, incident reporting	Supervisory action, monetary penalties, operational restrictions	Phased rollout 2023–24
Digital Lending Guidelines	Transparent pricing, app vetting protocols, secure data storage	App bans, operational audits, license revocation	Immediate effect from 2023
CERT-In Directions (2022)	6-hour incident reporting, mandatory log retention for 180 days	Legal liability, criminal prosecution for non-compliance	Enforced from 2022
NPCI Security Standards	Secure APIs, two-factor authentication, device binding protocols	Scheme expulsion, transaction limits	Continuous updates
CSIRT-Fin Framework	Sectoral incident response, threat intelligence sharing	National-level coordination, mandatory participation	Operational from 2024

in milliseconds. The projected ₹1,200 billion fraud loss for 2025[23] served as a constant reminder that innovation without proportional security investment created systemic vulnerabilities that could ripple through the entire economy.

More insidious than financial loss was the erosion of trust. The ₹195 million average breach cost (the average cost of an organisation for a data breach has risen 13% to ₹220 million in 2025 from ₹195 million in the year-ago period)[24] captured only the immediate financial impact, overlooking the deeper blow to institutional credibility. When Star Health's 31 million records surfaced on the dark web, the fallout extended far beyond monetary losses. In rural communities, where word-of-mouth is the primary information channel, victims abandoned digital services altogether. Years of patient education about digital banking benefits evaporated overnight. Institutions learned that reputational recovery took far longer than technical remediation, with trust demanding consistent demonstration of security competence over extended periods.

Table 10.5. Twenty-Five Expanded Takeaways from India's Cybersecurity Journey (2022–25)

#	Takeaway	Key Insight	Forward Implication
1	Scale Security with Innovation	UPI's exponential growth showed that adoption without parallel security creates systemic vulnerabilities.	Security-by-design must become the norm in all digital infrastructures.
2	Trust Erosion is the Real Loss	Monetary loss is visible, but the real casualty is long-term user trust and investor confidence.	Trust-building must be treated as a primary KPI of cybersecurity.
3	Close the Rural Vulnerability Gap	Rural users remain disproportionately exposed to phishing and Aadhaar-linked fraud.	National inclusion goals hinge on embedding rural-centric cyber protection.
4	Cloud is a Double-edged Sword	62% of 2024 breaches originated in cloud vulnerabilities and misconfigurations.	Cloud adoption must go hand in hand with encryption, governance, and monitoring.
5	From Compliance to Culture	Penalties under DPDP made boards prioritise resilience over checklists.	Embedding security into organisational culture sustains readiness.
6	Vendors are the Security Perimeter	Third-party breaches (e.g., Signzy) exposed systemic dependency risks.	Vendor risk tiering and contract-enforced security must be standardised.
7	AI's Paradox: Weapon and Shield	Attackers exploit AI (deepfakes, MFA bypass), defenders deploy AI for fraud detection.	Ethical AI governance will decide whether AI protects or undermines systems.
8	Secure Mobile-First Inclusion	Smartphones are the rural gateway to finance; SIM-swap frauds forced stronger device binding.	Securing mobile-first infrastructure is essential for sustaining inclusion.
9	Awareness Delivers the Highest ROI	Awareness campaigns cut fraud by up to 40%, proving human firewalls matter.	Continuous behavioural education must complement technical defenses.
10	Build Antifragile Systems	Post-breach learning loops made BFSI stronger under stress.	Treating every incident as a teacher fosters national cyber resilience.
11	Deep fakes Demand New Identity Models	AI-cloned voices rendered OTP-based systems obsolete.	Behavioral biometrics and geolocation must redefine identity.
12	App Stores as Security Gatekeepers	Loan app crackdowns showed platforms must police ecosystems.	Regulators, platforms, and fintechs must co-own digital safety.
13	Shared Defenses for Smaller Banks	SOC pooling enabled NBFCs to access enterprise-grade monitoring.	Collaboration and shared infrastructure ensure systemic safety.
14	Make Redressal Easy to Keep Trust	National portals allowed victims to complain without barriers.	Accessible grievance redressal sustains confidence in digital finance.
15	Cyber Diplomacy is Critical	Cross-border scams revealed limits of local enforcement.	Global cyber diplomacy must anchor India's financial credibility.
16	Telecom Security Equals Banking Security	SIM-swap frauds proved telecom is the first link in financial safety.	Joint telecom–banking audits should be institutionalised.

#	Takeaway	Key Insight	Forward Implication
17	Global Rankings Build Credibility	India's climb in the Cybersecurity Index boosted investor trust.	International benchmarks provide leverage in economic diplomacy.
18	Prepare for Quantum Disruption Early	Quantum computing threatens current encryption standards.	Quantum-safe pilots must mature into nationwide standards.
19	People are the First Firewall	Cyber literacy, especially among rural women, reduced fraud exposure.	Behavioural literacy must be prioritised as digital infrastructure.
20	Sandboxes Accelerate Safe Innovation	RBI's sandboxes balanced fintech experimentation with safety.	Structured experimentation fast-tracks secure innovation.
21	Modern Laws Strengthen Justice	New evidence laws recognised digital records in courts.	Legal modernisation aligns enforcement with tech realities.
22	Insurance Reduces Fear and Builds Adoption	Fraud insurance reassured vulnerable borrowers.	Cyber-insurance is both a financial product and a trust enabler.
23	Zero-Trust is the Future Standard	Banks adopted zero-trust to reduce insider and vendor threats.	Zero-trust must evolve into an industry-wide security norm.
24	Talent is Economic Infrastructure	India's cybersecurity workforce became a strategic global asset.	Skilled cyber talent is as critical as hard infrastructure.
25	Trust is the True Currency of Inclusion	Inclusion collapses without digital trust, as seen in phishing-hit areas of Bihar.	The future of financial inclusion rests on invisible cybersecurity.

Table 10.6. Average Breach Cost in Globally (measured in USD millions)

Country	↓↑	2025	2024
United States	↑	$10.22	$9.36
Middle East	↓	$7.29	$8.75
Benelux	↑	$6.24	$5.90
Canada	↑	$4.84	$4.66
United Kingdom	↓	$4.14	$4.53
Germany	↓	$4.03	$5.31
Latin America	↓	$3.81	$4.16
France	↓	$3.73	$4.17
ASEAN	↓	$3.67	$3.23
Japan	↓	$3.65	$4.19
Italy	↓	$3.44	$4.73
South Korea	↓	$2.84	$3.62
Australia	↓	$2.55	$2.78
India	↓	$2.51	$2.35
South Africa	↓	$2.37	$2.78
Brazil	↓	$1.22	$1.36

Source: IBM Corporation 'Cost of a Data Breach Report 2025 The AI Oversight Gap'.

The rural vulnerability gap revealed itself as perhaps India's greatest cybersecurity challenge. Low literacy levels, widespread use of feature phones, and the cultural practice of sharing devices created perfect conditions for exploitation. Fraudsters specifically targeted subsidy schemes and Aadhaar-linked systems, fully aware that a loss as small as ₹5,000 loss wipe out months of savings for a rural family. Left unaddressed, such vulnerabilities threatened to turn financial inclusion into financial predation. Some institutions began to counter this risk with culturally rooted interventions. Programs like HDFC Bank's deployment of community cyber ambassadors, who conducted awareness sessions in local languages and contexts, demonstrated that culturally adapted security education could significantly curb fraud and restore confidence among vulnerable users.

Cloud computing's double-edged nature became starkly apparent when 62% of all security detections in 2024 originated from cloud vulnerabilities.[25] While cloud services fuelled FinTech innovation and rapid scaling, they also introduced massive attack surfaces, with misconfigured APIs and exposed storage buckets leaving critical systems open to exploitation. The Signzy breach, affecting 600+ financial institutions through a single vendor's cloud vulnerability, illustrated how shared infrastructure multiplied systemic risk. Financial

institutions discovered that cloud adoption required not just technical migration but comprehensive governance frameworks, encryption protocols, and continuous monitoring systems that many had underestimated.

The transformation from compliance-driven to culture-driven security marked a fundamental shift in organisational mindset. RBI regulations and DPDP penalties of ₹2.5 billion forced companies to recognise cybersecurity as a business enabler rather than a regulatory burden.[26] Quarterly cyber drills evolved beyond box-ticking exercises to become realistic simulations that revealed critical vulnerabilities. Boardrooms that once dismissed cybersecurity as an IT issue came to treat it as a primary threat to financial stability. This cultural change was most evident in everyday employee behaviour—from stronger password practices to vigilant reporting of suspicious emails—turning the workforce into a network of human firewalls that reinforced technical safeguards.

Building the Human Firewall: Awareness as Infrastructure: Perhaps the most critical pillar of India's cybersecurity transformation between 2023 and 2025 was the unprecedented scale of public awareness campaigns. The flagship "RBI Kehta Hai" (RBI Says) campaign[27] transformed OTP safety from obscure technical jargon into household wisdom. By enlisting cricket icons, Bollywood celebrities, and regional influencers, the campaign reached into India's remotest corners with simple, memorable messages about digital safety.

The impact was measurable and dramatic. Regions with intensive awareness programs reported 40% lower fraud rates compared to areas with minimal outreach.[28] The campaigns succeeded by translating complex security concepts into relatable scenarios. Rather than overwhelming citizens with explanations of encryption protocols, they taught "Never share your OTP, even with bank officials." Instead of technical briefings on phishing vectors, they offered simple wisdom: "If it seems too good to be true, it probably is."

Rural SHGs emerged as unexpected but powerful vectors for security awareness. Women who had learned digital banking through their SHGs became natural evangelists for safe practices. They understood their communities' specific vulnerabilities—the tendency to trust anyone claiming government authority, the practice of saving passwords in notebook margins, the habit of sharing phones among family members. These grassroots educators achieved what top-down programs couldn't: making cybersecurity personally relevant to every user.

The Technology Arms Race: Innovation versus Exploitation: The period witnessed an escalating technological arms race between defenders and attackers, with artificial intelligence serving as both weapon and shield. Financial institutions deployed AI-powered systems that could analyse millions of transactions in real-time, identifying subtle patterns invisible to human analysts. These systems learned from each attack, continuously refining their detection capabilities. A suspicious transaction pattern identified in Mumbai could instantly update fraud detection models nationwide, creating a collective intelligence that grew stronger with each threat encountered.

Yet attackers wielded AI with equal sophistication. Deepfake technology enabled voice cloning so accurate that children could not distinguish fake calls from their parents. Machine learning algorithms helped fraudsters identify the most vulnerable targets, analysing social media profiles to craft personalised attacks. Multi-factor authentication faced "MFA fatigue" attacks, where repeated authentication requests wore down users' vigilance until they approved fraudulent transactions out of frustration.

The mobile-first nature of India's financial inclusion created both distinct vulnerabilities and powerful opportunities. NPCI's device-binding initiative, linking UPI applications to verified devices, proved remarkably effective against SIM-swap fraud. Biometric authentication, leveraging the Aadhaar infrastructure, delivered security mechanisms accessible even to illiterate users. These innovations demonstrated that security measures could enhance rather than hinder inclusion when thoughtfully designed.

The Institutional Response: From Individual to Collective Defense: Large banks like HDFC, ICICI, and State Bank of India invested heavily in SOCs that operated round-the-clock, staffed by teams of security analysts monitoring millions of transactions. These SOCs employed advanced Security Information and Event Management (SIEM) systems that correlated data from multiple sources—transaction systems, network logs, threat intelligence feeds—to identify potential breaches before they caused damage.

However, smaller institutions—cooperative banks, regional rural banks (RRBs), small NBFCs—lacked resources for such elaborate defenses. This disparity threatened to create a two-tier security system where sophisticated attackers could exploit weaker institutions as entry points into the broader financial network. The solution lay in collaborative models where multiple smaller institutions pooled

resources to share SOC services, gaining access to enterprise-grade security capabilities they would have been financially out of reach on their own..

The insurance sector's response was particularly innovative. Companies such as IDFC First Bank began bundling micro-insurance with digital loans, ensuring that fraud losses would not devastate borrowers. This approach transformed insurance from a financial product into a trust enabler, reassuring hesitant users that digital adoption would not leave them vulnerable to catastrophic losses. The psychological safety net proved as important as the financial protection, maintaining user engagement even after fraud incidents.

The Legal Evolution: Modernising Justice for Digital Crimes: India's legal system underwent parallel modernisation to address cybercrime effectively. The Bharatiya Sakshya Adhiniyam (2023) granted electronic records primary evidentiary status in courts,[29] closing loopholes that had allowed cybercriminals to escape prosecution. Courts established special fast-track mechanisms for cybercrime cases, recognising that delayed justice in digital crimes often meant no justice at all, as evidence could be destroyed or modified easily.

The National Cybercrime Reporting Portal emerged as a crucial innovation, allowing victims anywhere in India to report crimes without traveling to police stations. This accessibility proved particularly important for rural victims who might otherwise have accepted losses rather than navigate complex reporting procedures. The portal's integration with banking systems enabled rapid account freezing, often recovering funds before fraudsters could withdraw them.

International cooperation became essential as fraud networks operated across borders with impunity. The ₹1.25 billion tech-support scam uncovered in Gurugram[30] involved call centers targeting elderly Americans while operating from Indian soil. Such cases required sophisticated coordination between Indian and foreign law enforcement, establishing frameworks that would prove crucial as cybercrime increasingly ignored national boundaries.

Preparing for Tomorrow— Quantum Computing and Beyond: Even as India addressed current threats, forward-thinking initiatives prepared for future challenges. MeitY's 2025 white papers on quantum computing[31] warned that current encryption methods could become obsolete within a decade. In response, financial institutions began experimenting with quantum-resistant cryptography, running pilot programs that tested post-quantum algorithms in controlled environments.

The talent development imperative received unprecedented attention. Universities launched specialised cybersecurity programs, producing thousands of graduates annually. These programs moved beyond the boundaries of traditional computer science, weaving in psychology, finance, and law to shape professionals attuned to cybersecurity's inherently multidisciplinary nature. Industry-academia partnerships ensured curricula remained relevant, giving students hands-on experience with real-world threats even before graduation. India's cybersecurity workforce became a strategic asset, with skilled professionals not just defending domestic infrastructure but increasingly exported as consultants to other emerging economies. This "cybersecurity diplomacy" positioned India as a thought leader in inclusive digital security, sharing lessons learned from protecting the world's largest digital payment ecosystem.

10.7. THE RISK LANDSCAPE: A STRATEGIC ASSESSMENT

This risk assessment revealed that traditional perimeter-based security models were obsolete. The adoption of zero-trust architectures, where

Table 10.7. Risk Heat Map for India's Financial Sector (2025)

Threat Category	Likelihood	Impact	Risk Level	Mitigation Priority
Smishing and Malware	High	High	Critical	Immediate action required
Fake Apps and Impersonation	High	Medium	High	Urgent attention needed
Ransomware Attacks	Medium	High	High	Systematic preparation essential
Cloud Misconfigurations	High	High	Critical	Continuous monitoring mandatory
Third-party Breaches	Medium	High	High	Vendor management crucial
AI Social Engineering	Medium	Medium	Moderate	Emerging threat monitoring

every connection required verification regardless of source, became the new standard. Banks like HDFC and ICICI[32] pioneered implementations that treated internal networks with the same suspicion as external connections, dramatically reducing insider threats and vendor exploitation risks.

10.8.THE ECONOMIC IMPERATIVE: SECURITY AS INFRASTRUCTURE

By 2025, India's policymakers had come to regard cybersecurity as economic infrastructure—every bit as essential as highways or power grids. The projected ₹1,200 billion annual fraud loss represented not just individual tragedies but a macroeconomic threat that could derail growth trajectories.[33] This recognition drove unprecedented public-private partnerships where government agencies, regulators, financial institutions, and technology companies collaborated on shared defense initiatives.

The Global Cybersecurity Index ranking, where India achieved Tier-1 status with a score of 98.49/100,[34] provided international validation of these efforts. This recognition translated into tangible economic benefits—increased foreign investment, easier market access for Indian fintech companies, and reduced risk premiums on international transactions. The ranking underscored that security excellence was not merely an expense but a source of competitive advantage.

10.9. THE TRUST EQUATION: MEASURING SUCCESS BEYOND NUMBERS

While statistics captured the scale of India's cybersecurity transformation, the true measure of success lay in maintained trust. In Bihar, where phishing scams had initially driven farmers back to cash transactions, renewed confidence enabled digital payment adoption to rebound and ultimately surpass pre-incident levels. Villages that had experienced fraud but received prompt redressal and support showed higher long-term digital engagement than those that had never faced incidents.

This paradox—that successfully managed security incidents could actually strengthen trust—revealed a crucial insight. Users did not expect perfect security but did expect responsive support when problems occurred. The ease of filing complaints through the National Cybercrime Reporting Portal, the speed of fund recovery, and the visibility of arrests and prosecutions all contributed to maintaining confidence even amid rising threat levels.

10.10. CONCLUSION: THE UNFINISHED REVOLUTION

As 2025 draws to a close, India's cybersecurity transformation stands as a landmark achievement in global digital governance—demonstrating how a developing nation can balance rapid financial innovation with resilient security frameworks. From tackling 1.39 million cyber incidents in 2022 to reaching Tier-1 status in the Global Cybersecurity Index by 2024, India has proven that regulation, technology, and inclusion can evolve together. However, the revolution remains unfinished: quantum computing threats are emerging, AI-driven attack vectors are multiplying, and the next billion users—many rural and digitally inexperienced—await secure financial access. This moment is not an end but a turning point, where trust, resilience, and innovation must advance together to protect every citizen's digital future. This leads us to key issues from India's Cybersecurity Transformation.

1. Regulation as a Strategic Backbone—The DPDP Act of 2023 and RBI's layered directives show that security is not an afterthought but a core element of economic policy. By codifying privacy rights and imposing penalties up to ₹2.5 billion per violation, India established an enforcement-driven culture. Regulations aligned legal incentives with technological change, creating an accountability framework for enterprises. This proactive approach positioned India as a pioneer among emerging economies.

2. Rapid Incident Response as a National Imperative—CERT-In's six-hour reporting rule forced organisations to strengthen detection systems, automate alerts, and adopt unified protocols. It redefined cybersecurity as a matter of national urgency, not corporate discretion. By mandating system log storage within India, the government ensured incident traceability. This model offers lessons for nations seeking faster, verifiable response ecosystems.

3. Sector-specific Coordination Strengthens Resilience—The creation of CSIRTs, such as CSIRT-Fin for BFSI and CSIRT-Power, allowed India to scale responses across critical infrastructure sectors. These specialised teams bridged the gap between regulators, companies, and threat intelligence providers. The nearly 9,800 audits across sectors demonstrate that oversight works best when industry expertise meets regulatory authority.

4. Payment Ecosystem Security is Foundational—NPCI's biometric safeguards for AEPS and MNRL-based UPI security protocols

highlight the necessity of continuous adaptation. Payment systems are the lifeline of a digital economy, and India's approach demonstrates that innovation must be paired with systemic safeguards. By mandating database audits and deactivation of dormant IDs, fraud risks were mitigated at scale.

5. AI and Innovation as Double-Edged Swords—While AI-driven fraud detection tools strengthened defenses, adversaries also leveraged AI for phishing, deepfakes, and attack automation. India's decision to explore AI auditor certification and invest in AI-powered SOCs shows the importance of dual-use foresight. Innovation cannot be reactive; it must anticipate emerging attack vectors to stay ahead.

6. Inclusion and Security are Interdependent—Bringing millions of first-time users online without adequate protection risks systemic distrust. By prioritising campaigns like RBI Kehta Hai and grassroots cyber ambassadors, India proved inclusion and security are not competing goals. Educating rural users safeguarded trust, making financial participation safer for marginalised communities.

7. Public-Private Collaboration Multiplies Impact—India's cybersecurity leap was not solely a government initiative; FinTechs, insurers, and banks invested heavily in SOCs and fraud prevention systems. The synergy between state-led regulation and industry-driven innovation created a distributed shield against threats. Other nations can replicate this collaboration model to avoid over-reliance on government action.

8. Trust as an Economic Multiplier—Every secure digital interaction reinforced user confidence, driving greater adoption of digital finance and UPI systems. Trust, once earned, generated compounding network effects that accelerated economic growth. This lesson underscores that cybersecurity is not just a cost centre but a growth catalyst, shaping consumer behaviour and systemic stability.

9. Continuous Adaptation as a Strategic Necessity—Cybersecurity is a living discipline. India's success lies in institutionalising change rather than chasing temporary fixes. Updating payment protocols, tightening lending guidelines, and embedding security into outsourcing arrangements showed agility at scale. Other economies can emulate this adaptive culture to stay resilient in rapidly evolving threat landscapes.

10. Global Leadership through Local Innovation—India's cybersecurity reforms set a precedent for other developing nations: digital growth and security can advance together. By integrating AI oversight, indigenous policy innovation, and grassroots campaigns, India transformed its vulnerability into a leadership opportunity. This global model shows that inclusion-driven economies can lead, not follow, in cybersecurity governance.

Thus, as noted in Table 10.8, while India's cybersecurity revolution is far from complete, its achievements redefine what is possible for a digitally inclusive nation. The real victory lies not only in preventing attacks but in the quiet confidence of citizens—like a rural farmer sending money securely, knowing that systems are designed to protect her. Each secure interaction renews trust, proving that safety and dignity are attainable at scale. The lessons of 2022–25 will guide India's next phase—where resilience, innovation, and inclusion converge to build a future-ready digital economy, inspiring the world while remaining anchored in trust and collective vigilance.

Table 10.8. India's Cybersecurity and Financial Inclusion Risk Landscape (2022–25)

Pillar/Metric	2022	2023	2024	2025 (Projection / Status)	Inclusion Impact	Key Actions/ Sources
UPI Scale (Transactions and Value)	—	—	181.20 billion transactions in FY25 *(Economic Times)*	20 billion transactions worth ₹24,854.73 billion (August) *(NPCI)*	Mass adoption of low-cost, instant payments	Device binding, secure APIs, AI fraud analytics *(NPCI Security Measures 2024–25)*
Total Cybersecurity Incidents (CERT-In)	1,391,457 *(CERT-In Annual Report)*	1,592,917	2,041,360	>2 million annually	Digital rails face systemic exposure	6-hour reporting mandate, log retention, drills *(CERT-In Directions 2022)*
BFSI Share of Incidents	~20%	—	—	—	Banking and FinTechs are top attack targets	CSIRT-Fin coordination, RBI oversight *(Digital Threat Report 2024)*

Pillar/Metric	2022	2023	2024	2025 (Projection / Status)	Inclusion Impact	Key Actions/ Sources
Cyber Fraud Losses (I4C)	—	—	₹113.33 billion (Jan–Sep) *(TOI Report 2025)*	~₹1,200 billion (~0.7% GDP)	Trust erosion risk, rural users at risk	AI-driven fraud monitoring, rapid redressal *(National Cybercrime Portal)*
Average Breach Cost (India)	—	—	₹195 million *(FICCI Cybercrime Cost Report 2024)*	—	Higher burden on smaller NBFCs and microfinance institutions	Zero-trust, tabletop drills, red-team testing *(IBA Case Studies 2025)*
Total Detections (All Sectors)	—	—	369 million (~702/min) *(CERT-In 2024 Report)*	—	Attack volumes overwhelm legacy systems	24/7 SOCs, SIEM/SOAR upgrades *(NCIIPC Threat Landscape 2024)*
Ransomware Activity	—	—	>1 million events *(NCIIPC 2024 Report)*	↑ Sophistication	Threatens payments and insurance continuity	Incident playbooks, endpoint detection and response *(IRDAI Guidelines 2024)*
Cloud Exposure Share	—	—	62% detections *(Seqrite Cyber Threat Report 2025)*	—	Vendor misconfigurations endanger inclusion rails	CSPM, CIEM, shared-responsibility enforcement *(MeitY Guidelines 2024)*
BFSI Malware Prevalence	—	—	17.38% *(Seqrite Cyber Threat Report 2025)*	—	Endpoint compromises at edge banking	APK scanning, mobile device management *(CERT-In Annual Report 2024)*
Global Cybersecurity Index (GCI)	—	—	Tier-1, 98.49/100 *(ITU GCI 2024)*	—	Builds investor and partner confidence	Sustained enforcement and policy alignment
Smishing and Mobile Malware	Rising	Rising	High	Critical	Targets rural users and subsidy recipients	Vernacular training, device binding *(Cyber Awareness Campaign Reports 2024)*
Fake Apps and Impersonation	Noted	Rising	High	High	Exploits brand/ government trust	App-store audits, take downs *(MeitY App Vetting 2023–24)*
Third-Party/Supply-Chain Breach	Visible	Rising	Signzy breach affecting 600+ FIs	High	Cascade effect across fintech and NBFC ecosystems	Vendor tiers, kill-switch clauses *(RBI Outsourcing Directions 2023)*
Major BFSI Incidents	—	—	Angel One (8 Million), WazirX ($230 Million), Star Health (31 Million), HDFC Life probe, Signzy breach *(NDTV/TOI 2024)*	—	Massive trust shocks across BFSI	Coordinated advisories, user notifications
DPDP Act (2023)	—	Passed	Enforcement ramp-up	₹2.5 billion penalties	Consent dashboards, privacy by design	Data Protection Board oversight *(DPDP Act 2023)*

Pillar/Metric	2022	2023	2024	2025 (Projection / Status)	Inclusion Impact	Key Actions/ Sources
RBI IT and Cybersecurity Framework	Draft	Directions issued	Drills, SOCs scaled	Ongoing supervision	Strengthens NBFC & RRB security posture	RBI Circulars, audits (RBI Directions 2023–24)
Digital Lending Guidelines	—	Issued	Enforcement active	Ongoing	Stops predatory lending apps	Transparent pricing, data security *(RBI Guidelines 2022–23)*
CERT-In Mandates	Active	Enforced	6-hour reporting rule	Continuous	Faster detection and sector alerts	Mandatory log retention *(CERT-In Directions 2022)*
NPCI UPI Security	—	Enhancements	Device binding, 2FA	Continuous updates	Secures India's inclusion backbone	Secure APIs, transaction interdiction *(NPCI Security Measures 2025)*
CSIRT-Fin	—	—	Operational	Embedded	Real-time BFSI threat sharing	National-level intelligence platform
Awareness and Redressal	Seeding	Scaling	RBI Kehta Hai; Cybercrime Portal	Institutionalized	40% fraud reduction in trained areas	SHG cyber-ambassadors *(CERT-In Campaign Reports 2024)*
Telecom–BFSI Security	—	—	BSNL breach lessons	Joint audits	SIM swap prevention, KYC safety	DoT Rules 2024 *(Critical Infrastructure Rules 2024)*
Zero-Trust Adoption	Emerging	Expanding	Leading banks (HDFC, ICICI)	Becoming baseline	Curtails insider and vendor threats	IBA Zero-Trust Case Studies 2025
AI: Dual-Use Threats	Early	Visible	Deepfake OTP scams, AI fraud models	Need governance	Amplifies attack/ defense dynamics	CSPAI certification framework *(MeitY 2024)*
Quantum-Safe Prep	—	Roadmap	Briefs issued	Pilots underway	Future-proofs encryption standards	PQC trials, NIST alignment *(MeitY 2025)*

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Digital Public Infrastructure for Agriculture (AgriStack) in India: A Comprehensive Analysis of Transformation, Progress, and Future Pathways

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11

11.1. INTRODUCTION: THE DIGITAL TRANSFORMATION OF INDIAN AGRICULTURE

India's agricultural sector stands at a historic inflection point where digital technologies, administrative reforms, and farmer-centric policies are fundamentally transforming how agricultural services are conceived, delivered, and experienced. The emergence of Digital Public Infrastructure for agriculture, commonly referred to as AgriStack, represents far more than technological upgrade. It marks a fundamental shift in how the Indian state understands, engages with, and supports its agricultural community, reshaping the relationship between farmers and institutions, land and livelihood, data and decision-making, and risk and resilience.

For decades, India's agricultural governance operated within an "estimation economy" where critical parameters—crop area, production levels, farmer identities, land ownership patterns, and disaster impacts—were known only approximately, recorded periodically, verified manually, and updated with significant temporal lags. The administrative architecture relied heavily on paper-based land revenue records dating back to colonial cadastral surveys, manual crop-cutting experiments conducted by field staff, village-level *patwari* reports combining observation with estimation, and farmer self-declarations that could not be independently verified in real-time. While these mechanisms served their purpose within technological and resource constraints, they proved increasingly inadequate for addressing the accelerating complexity of contemporary agricultural challenges.

The limitations became particularly acute in contexts requiring rapid response, precise targeting, or individualised service delivery. When natural disasters occurred, identifying the affected farmers, assessing which crops were damaged, and determining the appropriate compensation often required months of field verification and bureaucratic processing. When farmers needed credit, the absence of verifiable production records meant lending decisions defaulted to traditional collateral-based models that excluded millions of small and marginal farmers from formal financial services. When input subsidies were distributed, the absence of real-time crop verification meant targeting was only approximate, leading to both inclusion and exclusion errors. When agricultural advisories were issued, they had to be necessarily generic and broadcast-based, unable to account for micro-level variations in soil type, water availability, pest pressure, and cropping patterns that define India's diverse agrarian landscape.

These systemic limitations had profound consequences for farmer welfare, resource allocation equity, market efficiency, environmental sustainability, and overall productivity and resilience of India's food system. Delayed disaster compensation could mean the difference between a farm household's recovery and its descent into debt. Exclusion from credit access trapped productive farmers in dependency on informal moneylenders.

Untargeted advisory services meant farmers either received irrelevant information or failed to receive critical warnings about emerging threats. The inability to verify production claims undermined certification system credibility, limiting market access for quality-conscious producers. The absence of real-time monitoring meant that resource degradation, water stress, pest outbreaks, and climate anomalies were often detected only after significant damage had already occurred.

Against this backdrop, AgriStack represents a fundamental reimagining of agricultural governance infrastructure. The core insight driving this transformation is that in an increasingly complex, risk-prone, and competitive agricultural environment, decision quality depends critically on information quality, and information quality depends on the capacity to generate, validate, integrate, and mobilise data at scales, speeds, and precision levels that manual systems cannot achieve. AgriStack seeks to create a sovereign, integrated, real-time agricultural intelligence grid providing informational foundation for everything from farmer identification and entitlement determination to advisory services and market access, from credit underwriting and insurance payouts to input optimisation and environmental monitoring, from supply chain traceability and food safety verification to climate adaptation planning and disaster response coordination.

The architecture of AgriStack is built on foundational principles distinguishing it from earlier digitisation efforts. First, it recognises that digital systems must narrow information asymmetries rather than replicate existing inequalities in access to services and opportunities. Second, it understands that agricultural data must be farmer-centric rather than purely administrative, meaning data generation and use must demonstrably benefit the farmer who is the data subject. Third, it embraces interoperability, recognising that agricultural decisions require integration of identity, spatial, temporal, and contextual information from multiple sources. Fourth, it commits to the digital public goods philosophy, ensuring foundational datasets and protocols remain in the public domain rather than becoming platforms for private extraction or monopolistic control. Fifth, it acknowledges that digital transformation must account for India's extraordinary diversity in land tenure systems, cropping patterns, agro-climatic conditions, literacy levels, connectivity infrastructure, and institutional capacities across states and regions.

The structural foundation of AgriStack rests on three interconnected pillars creating a comprehensive digital representation of India's agricultural reality. The first pillar is the Farmers Registry, which establishes verified digital identities for agricultural producers, integrating with Aadhaar for demographic authentication while capturing

Table 11.1. Data Achievements for AgriStack

Metric	Value/Achievement
Farmer Indetifications (IDs) (Digital Farmer Registry)	~45.8 million as of 21 March 2025.[1]
Target for Farmer IDs	110 million by FY 2026–27. 60 million farmers in FY 2024–25, 30 million farmers in FY 2025–26, and 20 million farmers in FY 2026–27.[2]
Digital Crop Survey (DCS)	253 million farm plots mapped in the 2024–25 Rabi season.[3]
Geographical coverage / Scale	AgriStack registries operate in 17 states, 492 districts, ~421,000 villages in 2024–25 (Rabi).[4]
Digital Agriculture Mission outlay	₹ 28,170 million (An amount of ₹549.72 million has been allocated for the FY 2025–26).[5]
Memorandum of Understandings (MoUs) / State Adoption	19 states have signed MoUs with Central Government (AgriStack implementation).[6]
Pilot States for Farmer ID / DCS	6 pilot states: Uttar Pradesh (Farrukhabad), Gujarat (Gandhinagar), Maharashtra (Beed), Haryana (Yamuna Nagar), Punjab (Fatehgarh Sahib), and Tamil Nadu (Virudhnagar).[7]
Soil Profile Mapping	Target: soil profile mapping over 142 million ha; ~29 million ha completed (inventory).[8]
Employment Impact	~0.25 million local youth / "Krishi Sakhis" expected to be employed via ground-data and survey work.[9]

Source: Compiled by the Authors from Various sources, all of which have been identified above and in the text.

farmer-specific attributes such as landholding size, cropping history, livestock ownership, and socio-economic category. This registry serves as the anchor for all subsequent service delivery, ensuring that benefits, advisories, and opportunities reach intended recipients without leakage or misappropriation. The second pillar is geo-referenced digital mapping of agricultural land, providing spatially precise information about plot boundaries, ownership patterns, land use classification, irrigation status, and soil characteristics. This spatial layer enables services to be delivered not just to the right person, but to the right location, accounting for micro-variations in agro-ecological conditions. The third pillar is the Digital Crop Sown Registry, providing seasonal verification of what crops are planted where, using a combination of farmer declarations, satellite imagery analysis, drone surveillance, and field validation. This crop verification layer enables real-time monitoring of planting patterns, risk exposure, input requirements, and production expectations.

Together, these three pillars create a "single source of truth" for agricultural identity, space, and activity. This integrated information architecture enables a qualitative shift from approximate, delayed, and unverified data to precise, timely, and validated intelligence. It makes possible forms of governance and service delivery that were previously infeasible. Precision targeting of subsidies becomes achievable when both farmer identity and crop planted are digitally verified. Rapid disaster compensation becomes possible when satellite and drone imagery can immediately identify affected areas and match them to registered farmers. Personalised advisory services become practical when the system knows not just who the farmer is, but what they are growing, where they are growing it, and what local conditions are. Risk-based agricultural insurance becomes economically viable when both insured party and insured crop are verified, and when automated parametric triggers can replace manual loss assessment. Supply chain traceability becomes credible when the origin of produce can be digitally certified from the field itself.

The evolution of AgriStack must be understood within the broader trajectory of India's digital public infrastructure journey. The philosophical and architectural foundations were laid by Aadhaar, which demonstrated that it was possible to create a biometric digital identity system for over a billion people, and that such a system could dramatically reduce leakage and improve targeting in welfare programs. The subsequent development of the Unified Payments Interface (UPI) showed that digital public infrastructure could enable financial inclusion and transaction efficiency at unprecedented scale while remaining open, interoperable, and non-monopolistic. AgriStack represents the application of this digital public goods philosophy to the agricultural domain, creating sector-specific data infrastructure while maintaining interoperability with identity, payment, and other foundational systems.

However, the promise of digital infrastructure must be understood alongside its challenges and limitations. Digital systems are not neutral technologies that simply improve efficiency. They reshape power relations, create new forms of inclusion and exclusion, generate novel vulnerabilities and dependencies, and raise profound questions about data governance, privacy, consent, and the distribution of value created through datafication. As foundational digital infrastructure, AgriStack will shape agricultural development trajectories for decades to come. Its design choices, governance frameworks, implementation approaches, and regulatory safeguards will ultimately determine whether digital agriculture advances inclusive growth, environmental sustainability, and farmer empowerment—or whether it generates new exclusions, vulnerabilities, and modes of control.

11.2. NATIONAL PROGRESS: BUILDING THE DIGITAL AGRICULTURAL STATE

The scale and pace of India's agricultural digitisation over the past several years represents one of the most ambitious sectoral digital transformation initiatives anywhere in the world. As of 21 March 2025, the Farmers Registry had successfully created 45,805,017 digitally verified farmer identities, representing approximately 45.8 million agricultural households.[10] This figure represents a complex process of identity verification, integration with Aadhaar authentication systems, capture of agricultural attributes, validation through field-level officials, and creation of persistent digital profiles that can serve as the foundation for decades of service delivery.

The significance of this farmer identity infrastructure becomes apparent when we consider what it makes possible. Prior to these digital registries, there was no authoritative, continuously updated, nationally interoperable database of who India's farmers actually were. Agricultural census data provided periodic snapshots but was

Table 11.2. Progress Evidence

Domain	Progress Achieved
Identity	45.8 million unique farmer IDs
Crop Verification	436 Kharif and 450+ Rabi districts; 253 million plots
Precision Inputs	15,000 drones; 23% chemical reduction; 18% yield increase
Field-level Sensing	50,000 + IoT sensors; satellite analytics over 140m ha
Financial Enablement	23 million alternative scores; 52 million parametric insurance users
Digital Transactions	489 million rural UPI users

Source: Lok Sabha Unstarred Question No. 4057, Ministry of Agriculture and Farmers Welfare, Government of India, 25 March 2025; and Agricultural Revolution: Technology Transforming Traditional Farming, Digital Agriculture.

quickly outdated. Land records maintained by state revenue departments focused on ownership rather than cultivation and often failed to reflect ground realities, particularly in cases of informal tenancy, women cultivators without formal titles, indigenous communities with customary land rights, and millions of marginal farmers whose land parcels were too small or too informal to be systematically recorded. The creation of 45.8 million[11] verified farmer identities represents a foundational achievement in establishing who has standing as a farmer in India's agricultural system.

The spatial scale of AgriStack's progress is equally remarkable. During the Kharif season of 2024, digital crop mapping was successfully completed across 436 districts, expanding to over 450 districts during the subsequent Rabi season. These efforts covered more than 230 million[12] agricultural plots, creating a comprehensive digital atlas of India's cultivated landscape.[13] The technical and administrative complexity of this achievement should not be underestimated. Each plot requires boundary delineation, ownership verification, land-use classification, and seasonal crop identification.

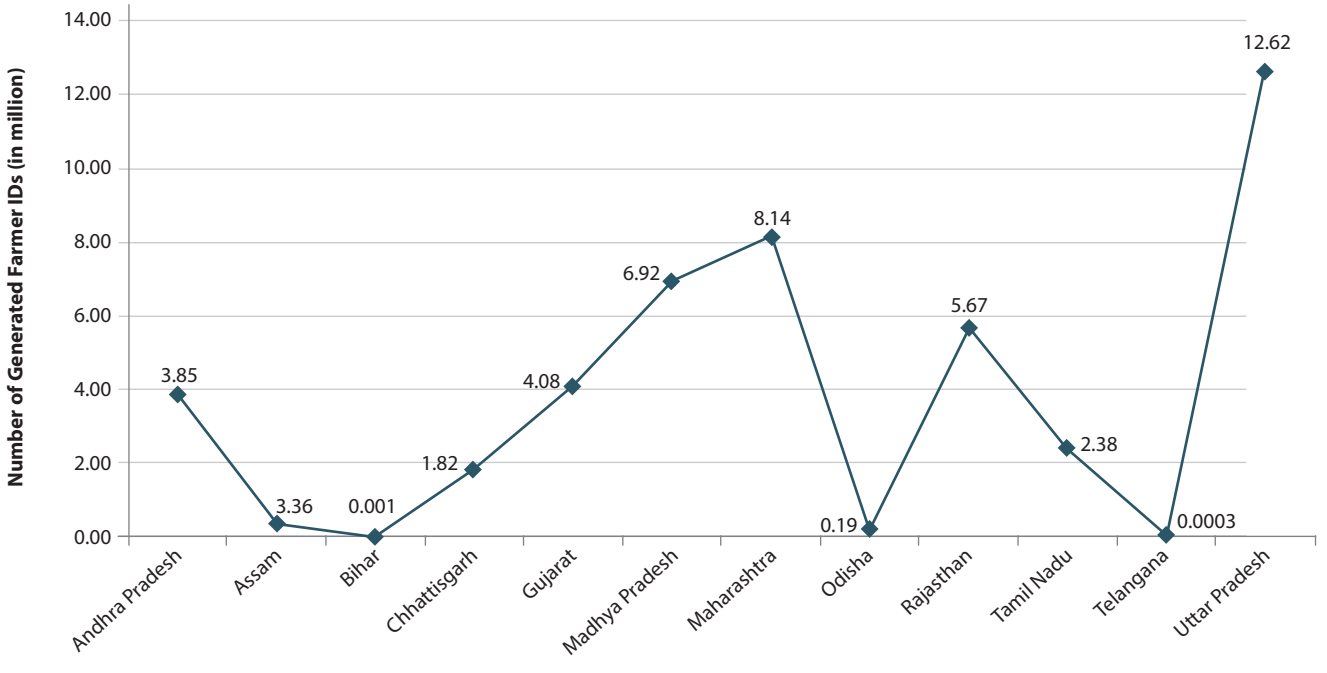

Figure 11.1. State-wise Progress of Farmers' Registry as of 21 March 2025

Source: Lok Sabha Unstarred Question No. 4057, Ministry of Agriculture and Farmers Welfare, Government of India.

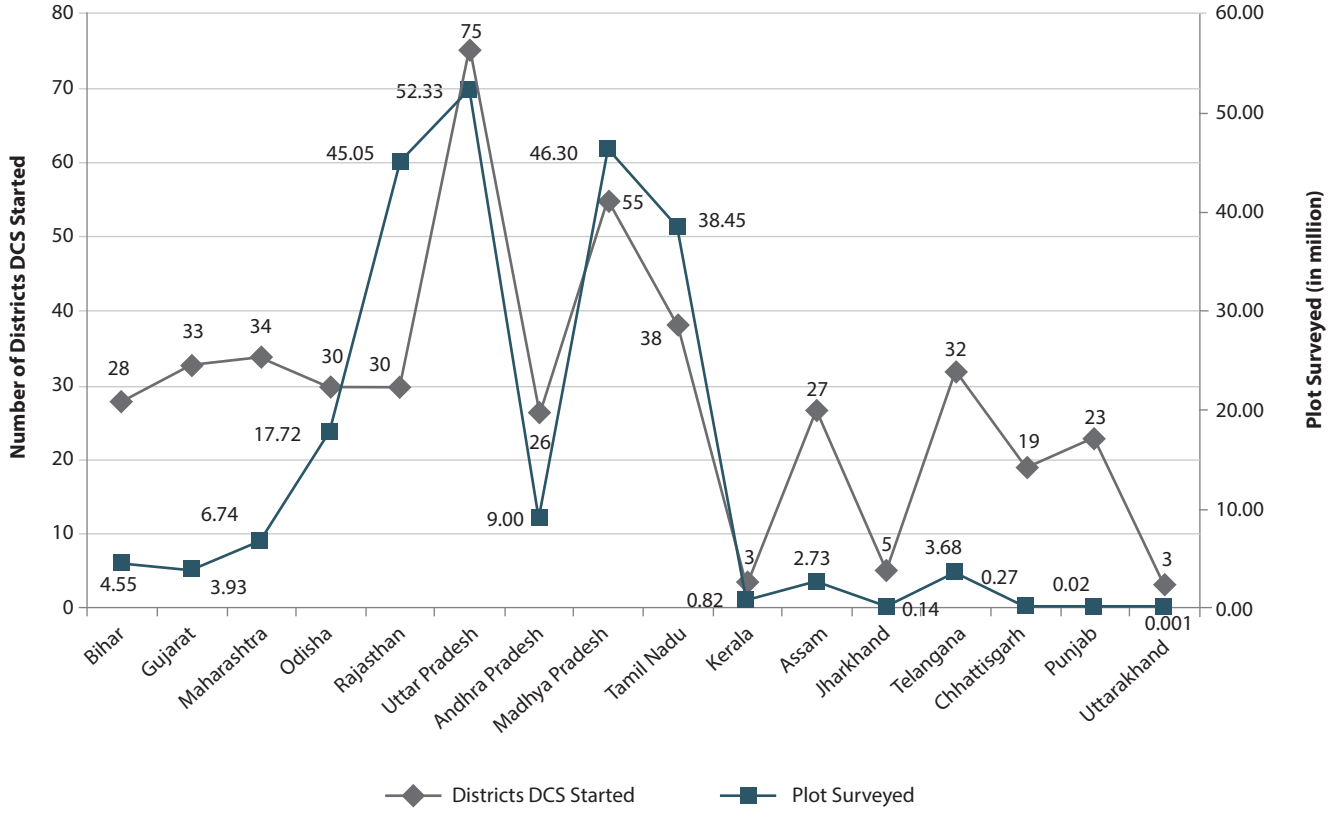

Figure 11.2. State-wise Progress—Status of Digital Crop Survey (DCS) as on 21 March 2025
Source: Lok Sabha Unstarred Question No. 4057, Ministry of Agriculture and Farmers Welfare, Government of India.

This process demands integrating satellite imagery with ground-truth validation, reconciling formal land records with actual cultivation patterns, and ensuring that the resulting digital maps are accurate enough to serve as the basis for financial, insurance, and advisory services—where even small errors can have substantial economic consequences.

The technological infrastructure supporting this digital transformation spans multiple domains. The deployment of 15,000 agricultural drones across 2.5 million hectares represents significant investment in precision agriculture capabilities.[14] These drones provide high-resolution aerial imagery for crop verification and monitoring, enable precision application of pesticides and nutrients that reduces input use while maintaining or improving efficacy, facilitate rapid assessment of crop health and damage during critical growth stages, and generate standardised, time-stamped visual evidence supporting insurance claims and disaster compensation. The reported outcomes from drone deployment are striking: a 23% reduction in chemical usage coupled with an 18% gain in productivity.[15] These figures demonstrate how digital agriculture converges multiple objectives that were previously seen as trade-offs.

The sensor infrastructure now embedded in agricultural landscapes further expands data generation capabilities. Over 50,000 Internet of Things (IoT)-based field sensors are currently operational, continuously measuring soil moisture, temperature, pH, nutrient levels, ambient weather conditions, and pest presence.[16] These sensors generate machine-readable, time-series datasets that enable both real-time monitoring and predictive modeling. The satellite-based monitoring infrastructure represents the macro-scale complement to these micro-scale sensors. With coverage extending across 140 million hectares, satellite systems provide synoptic views of agricultural landscapes that enable detection of large-scale patterns, regional anomalies, and systemic trends invisible at plot level.

The financial infrastructure dimension of AgriStack represents perhaps its most transformative potential for farmer welfare. The system has generated 23 million alternative credit scores for

farmers, representing a fundamental reimagining of agricultural creditworthiness assessment. Traditional agricultural lending has been constrained by lack of formal credit histories for most smallholder farmers and by the difficulty of using land as collateral when ownership is informal or disputed. Alternative credit scoring addresses these constraints by using the digital footprints farmers generate through their engagement with agricultural systems to construct creditworthiness assessments that do not rely on conventional collateral.

The parametric insurance infrastructure represents another financial innovation enabled by digital verification systems. With 52 million farmers enrolled in parametric insurance programs, India has created one of the world's largest risk protection systems for agriculture. Parametric insurance sidesteps traditional problems by defining payouts in terms of objectively measurable triggers such as rainfall levels, temperature extremes, or vegetation indices rather than individual crop losses. When satellite data or weather station data indicates that rainfall in a particular area fell below specified thresholds during critical crop growth periods, payouts are automatically triggered for all insured farmers in that area, without requiring individual field visits or loss assessments.

The scale at which UPI operates today is extraordinary. In June 2025, the platform processed payments worth more than ₹ 2,403 billion, covering a massive 18.39 billion individual transactions. A year earlier, the volume for the same month stood at 13.88 billion transactions—showing a sharp 32% year-on-year (y-o-y) expansion.

UPI's reach is equally impressive. The network now supports 491 million users and 65 million merchants, creating one of the world's largest interconnected digital payment ecosystems. With 675 banks plugged into a single seamless framework, users can pay anyone, anywhere, without having to think about bank-specific constraints.

Today, UPI drives about 85% of all digital payments made in India and is responsible for nearly half of the world's real-time digital transactions.

These statistics tell a larger story: they reflect a system that people trust for its ease, reliability, and speed. Month after month, more citizens and businesses actively choose UPI, reinforcing India's steady shift toward a low-cash, digitally-empowered economy.[17]

India's rural financial landscape is undergoing a major transformation as farmers steadily adopt digital modes of payment. Insights from a McKinsey study of 1,031 farmers in early 2024 reveal how quickly this change is taking root across agricultural communities.

Just two years ago, digital transactions were uncommon—only about 11% of farmers used them in 2022. By 2024, that share had leapt to 43%, signalling a decisive shift away from cash and toward electronic methods. This rapid rise is closely linked to widespread smartphone ownership, low data prices, and the seamless convenience of UPI, which has become an integral part of everyday transactions.

Most digital payments take place during in-person purchases at agricultural input shops, where farmers increasingly rely on QR-code–based UPI payments for seeds, fertilisers, and essential

Table 11.3. UPI Transaction Volumes and Values Year-wise

Financial Year	No. of Banks Live on UPI	Volume (in million)	Value (in ₹ billion)
2016–17	44	17.86	69.52
2017–18	91	915.22	1,098.32
2018–19	142	5,391.52	8,769.71
2019–20	148	12,518.61	21,317.30
2020–21	216	22,330.65	41,036.54
2021–22	314	45,967.53	84,175.72
2022–23	399	83,751.14	139,206.75
2023–24	572	1,31,164.71	199,866.97
2024–25	661	1,85,866.02	260,569.55
October 2025	683	20,700.92	27,277.91

Source: https://www.npci.org.in/product/upi/product-statistics

supplies. This growing acceptance reflects not just access to technology, but a deeper behavioural shift as rural households become more confident and fluent in digital finance.[18]

When we view these components together, what emerges is an integrated agricultural intelligence and service delivery stack. The integration is what creates transformative potential. A farmer who is digitally registered, cultivating digitally-mapped land, growing digitally-verified crops, monitored through satellite and sensors, connected to digital payment systems, and covered by parametric insurance, exists within a fundamentally different relationship to markets, risks, and opportunities than a farmer operating in the traditional system.

This integrated infrastructure represents the emergence of an "evidence-based agricultural state" where policy decisions, service delivery, resource allocation, and impact assessment are increasingly grounded in real-time, verified, granular data rather than in periodic surveys, manual reporting, or administrative approximations. However, it is crucial to recognise that infrastructure creation, while necessary, is not sufficient for transformation. The 45.8 million farmer identities, 230 million digitally-mapped plots, and hundreds of millions of transactions represent potential that must be activated through effective service delivery, equitable access, farmer trust, and demonstrated value.

11.3. THE ARCHITECTURE OF INTEGRATION: HOW COMPONENTS CONNECT AND CREATE VALUE

Understanding AgriStack requires moving beyond inventories of individual components to examine how these components interact, integrate, and generate emergent capabilities exceeding the sum of parts. The architecture is specifically designed around interoperability, meaning different systems can exchange data, validate information across sources, and coordinate services in ways that create compound value.

Consider the integration between the Farmers Registry and the DCS Registry. When a farmer registers and provides their Aadhaar-linked identity, this creates a unique digital identifier persisting across seasons and programs. When that farmer's plot is mapped and crop choices verified each season, these seasonal records are linked to the persistent identity. This creates a longitudinal agricultural profile for each farmer. A credit officer assessing a loan application can see not just current cultivation status but historical patterns indicating farming experience, crop diversification strategies, and consistency of agricultural activity.

The integration between spatial mapping and sensor networks creates another powerful capability. When soil sensors are deployed, their data is spatially tagged to specific plot locations in the digital map database. When soil moisture readings indicate stress conditions, the system knows precisely which plots are affected, who the farmers are, and what crops are at risk. This enables targeted alerts reaching affected farmers with specific recommendations for their particular situations.

The integration between satellite monitoring and insurance payouts represents one of the most economically significant architectural features. When satellite imagery indicates that vegetation indices in a particular area have fallen below specified thresholds during critical growth periods, this can automatically trigger parametric insurance payouts to all insured farmers in that area. The digital linkage between the insurance database, the spatial mapping system, and the satellite monitoring infrastructure enables this to happen without manual verification or claims processing.

The integration between crop verification and input optimisation demonstrates how data flows can serve both economic and environmental objectives simultaneously. When the system knows what crop a farmer is growing on a precisely mapped plot, when sensor data indicates current soil nutrient levels, when weather forecasts project upcoming rainfall patterns, and when pest monitoring data from nearby areas indicates emerging threats, it becomes possible to generate hyper-localised, temporally-specific input recommendations.

This architectural integration enables the shift from reactive, generalised services to proactive, personalised interventions. In traditional systems, farmers sought out services when they perceived a need, and received whatever standardised offering was available. In the integrated digital system, services can find farmers based on detected needs, predicted risks, or identified opportunities. When satellite data detects early signs of crop stress in a particular area, advisory services can proactively contact affected farmers with diagnostic support and remediation guidance before damage becomes severe.

However, this powerful integration also creates new risks and governance challenges that must be carefully managed. The more integrated the system becomes, the more dependent farmers become on its proper functioning and the more severe the consequences of system failures, data errors, or malicious manipulation. The architecture must

therefore incorporate not only data integration systems but also mechanisms for error correction, manual override capabilities, clear grievance-redressal pathways, transparency features that help farmers understand how automated decisions are made, and robust cybersecurity safeguards to protect against data breaches or malicious manipulation.

11.4. CHALLENGES IN IMPLEMENTATION: THE GAP BETWEEN INFRASTRUCTURE AND IMPACT

While the scale of infrastructure developed under AgriStack is impressive, the path from infrastructure creation to actual transformation has revealed numerous challenges that are primarily institutional, social, and governance-related rather than purely technical. These challenges help explain why digital infrastructure, however sophisticated, does not automatically translate into equitable and effective service delivery.

The first major challenge relates to asymmetric state capacity and readiness. India's federal structure means that agricultural policy and administration are shared responsibilities between central and state governments, with states possessing significant autonomy in implementation. This has created enormous variation in digital readiness, administrative capability, political commitment, and institutional capacity across different states. States with longer histories of systematic land record digitisation, more professional revenue administration systems, higher levels of digital literacy among citizens and officials, and stronger fiscal capacity have been able to implement AgriStack components much more rapidly and effectively than states where these preconditions are weak.

Figure 11.3. Implementation Challenges in Digitisation of Land Records

This capacity asymmetry creates multiple problematic dynamics. It means farmers in more developed states gain access to digital services and their benefits much more quickly than farmers in less developed states, potentially widening already existing regional inequalities. It also generates frustration in lower-capacity states where the promise of transformation seems distant while resources are diverted to digital system development. It raises equity concerns about whether digital infrastructure should be universally mandated even in contexts where preconditions for effective implementation are not yet in place.

The second major challenge relates to the complexity of land tenure and cultivation rights in Indian agriculture. AgriStack's architectural foundation assumes that farmer identity can be definitively verified and that land parcels can be unambiguously assigned to specific cultivators. This assumption breaks down in numerous real-world contexts. In many regions, formal land titles remain with elderly patriarchs even when actual cultivation is performed by sons or daughters-in-law who may have been farming the land for decades. A substantial portion of agricultural labour in India is performed by women, and in many households women are primary decision-makers about cropping patterns, input use, and daily farm management. However, land ownership remains predominantly male due to inheritance practices and social norms.

The tenure complexity is further compounded by widespread practice of tenancy and sharecropping, which exists in a legal gray zone in many states. Indigenous and tribal communities present additional tenure complexity. In many regions, particularly in central and northeastern India, tribal communities have cultivation rights under customary law or through community land management systems, but these rights may not be documented in formal land records.

The third major challenge concerns data quality, validation, and harmonisation across multiple sources. AgriStack's power derives from integrating data across identity, spatial, temporal, and contextual dimensions, but this integration requires that data

from different sources be reconcilable, consistent, and accurate. In practice, multiple challenges undermine this ideal. Satellite imagery may indicate that a plot is under cultivation when ground reality is fallow, or may classify crops incorrectly due to spectral similarity between species. Farmer declarations of cropping choices may differ from remote sensing classifications.

When these discrepancies arise, how should the system determine ground truth? Different choices have different implications. The practical solution requires validation protocols that triangulate multiple sources, flag large discrepancies for manual investigation, and maintain farmer participation in verification rather than treating them as passive data subjects. The challenge is compounded by the temporal dynamics of agricultural data. Agricultural truth is not static but changes continuously through seasons, weather events, farmer decisions, and ecological processes.

The fourth challenge relates to behavioural, cognitive, and trust dynamics in farmer engagement with digital systems. Digital infrastructure creates value only when farmers actually use it, trust it, and modify their behaviour based on its outputs. Multiple factors complicate achieving this behavioural engagement. Rural digital literacy remains limited, meaning many farmers are not comfortable with smartphone interfaces, text input, or navigating application menus. Many farmers are skeptical of government systems based on historical experiences where promised benefits did not materialise. Privacy concerns and data anxiety also affect farmer willingness to engage.

The fifth major challenge concerns data governance frameworks and farmer data rights. As agricultural data becomes increasingly central to service delivery, market access, and livelihood opportunities, questions of data ownership, access rights, consent mechanisms, and value distribution become critical governance issues. Consent mechanisms present particular complexity in contexts where literacy is limited, where power asymmetries between farmers and officials are significant, and where farmers may feel they have no real choice about participation if digital registration becomes prerequisite for accessing essential services.

11.5. LESSONS FROM IMPLEMENTATION: WHAT EXPERIENCE HAS TAUGHT

Several years of implementing AgriStack components across diverse contexts has generated important lessons about what works, what does not, and what conditions are necessary for digital agricultural infrastructure to deliver on its transformative potential.

The first fundamental lesson is that digitisation generates value only when it reduces transaction costs, improves outcomes, or enables previously infeasible capabilities for end users, not when it merely creates digital replicas of existing bureaucratic processes. Numerous early digitisation initiatives failed this test. They digitised paper forms without streamlining processes, created online submission portals but retained manual verification and approval processes creating delays, or required farmers to provide digital documentation that duplicated information already submitted through other channels. Farmer resistance to such systems was entirely rational.

Effective digital systems demonstrably reduce burdens or create new value for users. When parametric insurance enables farmers to receive automated compensation within days of adverse weather events, rather than waiting months for manual claim processing, this represents clear value. When digital advisories provide plot-specific pest alerts enabling early intervention preventing crop loss, farmers immediately understand benefits. The lesson is that every digital feature should be evaluated based on clear answers to the question: what concrete problem does this solve for the farmer, and is this value large enough to justify the effort required to engage with the system?

The second critical lesson concerns the importance of triangulated truth and multi-source validation rather than assuming single data sources provide authoritative reality. The history of AgriStack implementation includes numerous instances where satellite classifications disagreed with farmer reports, where sensor readings contradicted visual field observations, and where insurance payout triggers based on one data source were disputed by farmers whose ground experience was different. Experience has shown that technical data sources have their own error modes, that farmers possess contextual knowledge about their local situations that remote systems cannot capture, and that consistently overriding farmer knowledge with technical data alienates farmers from the system.

Best practice has emerged around validation protocols that triangulate multiple data sources, flag significant discrepancies for investigation rather than automatically resolving them in favour of one source, maintain farmer engagement in verification processes, and develop error correction and dispute

resolution mechanisms. This approach treats data sources as inputs to truth-determination processes rather than as authoritative facts, and preserves space for human judgment and local knowledge in system outputs.

The third lesson concerns equity and inclusion: digital systems must expand rather than restrict access to services and benefits. The risk is that digital requirements become de facto exclusion mechanisms for certain farmer populations. Inclusive design requires multiple access channels, simplified processes for populations with special needs, proactive outreach rather than expecting farmers to navigate bureaucratic systems independently, and maintained alternative access routes for those who cannot engage digitally.

The fourth lesson relates to the critical importance of payout speed in financial services. In disaster contexts or when farmers face sudden income shocks, the timing of compensation or credit can be more important than the absolute amount. A farmer who experiences crop loss needs immediate resources to prevent descent into debt, to purchase food for their household, or to plant the next season's crop. Compensation arriving six months after a disaster, after the farmer has already borrowed from moneylenders at high interest rates, provides much less welfare impact than smaller compensation arriving within days of the adverse event.

The fifth lesson concerns trust as a design element rather than an assumed condition. Trust cannot be assumed and must instead be actively built through system design features, operational practices, and institutional behaviours. Design features that build trust include transparency about what data is collected and how it is used, farmer ability to access their own data records and correct errors, clear consent mechanisms that genuinely allow opt-out without penalty, and responsive grievance-redressal systems.

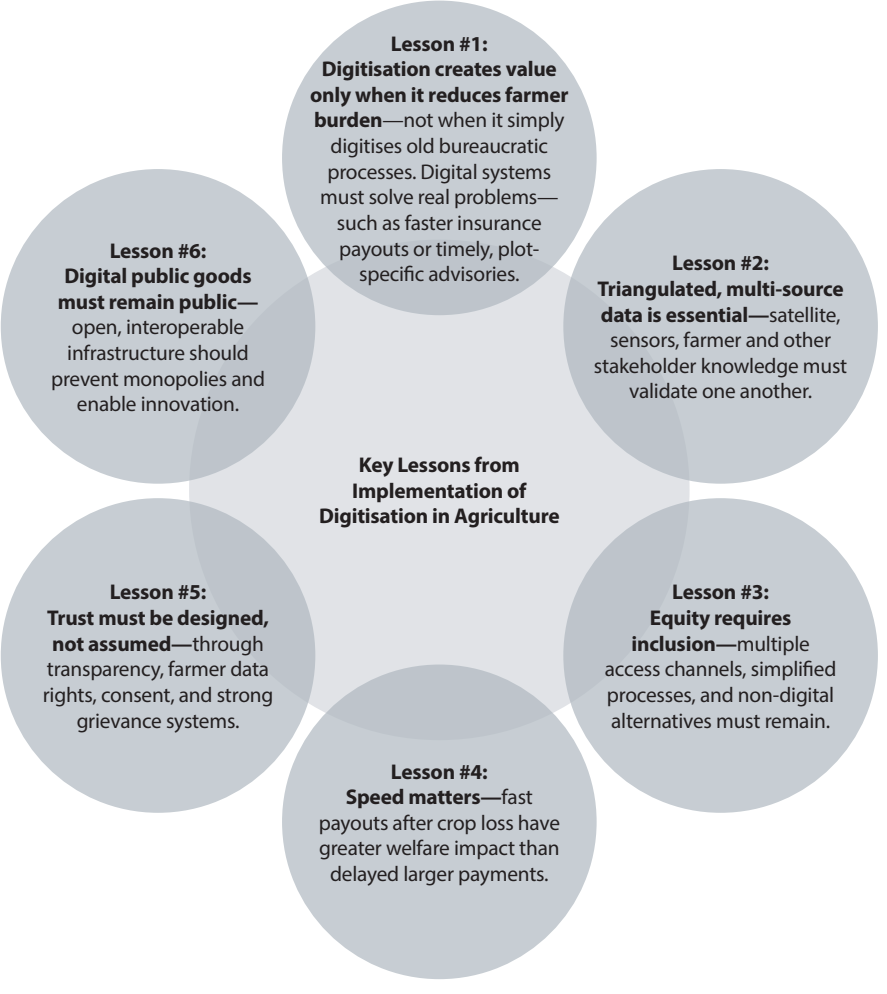

Figure 11.4. Key Lessons from Implementation of Digitisation in Agriculture

The sixth lesson concerns the critical importance of public infrastructure remaining in the public domain rather than becoming privatised extraction platforms. The digital public goods philosophy underlying AgriStack holds that foundational data infrastructure and protocols should remain open, interoperable, and non-excludable, enabling multiple service providers to build on shared infrastructure while preventing lock-in or monopolistic control.

11.6. INTERPRETIVE FRAMEWORK: OLD VERSUS NEW MODELS OF AGRICULTURAL GOVERNANCE

Understanding AgriStack's significance requires situating it within the broader evolution of agricultural governance models. The traditional model that has defined Indian agricultural administration can be characterised as reactive, aggregated, periodic, ownership-based, and manual. The emerging model enabled by digital infrastructure is fundamentally different across all these dimensions.

The shift from reactive to predictive governance represents perhaps the most significant transformation. Traditional approaches operated primarily through post-event response. Digital infrastructure enables a fundamental shift toward predictive and anticipatory governance. Satellite monitoring detecting early vegetation stress enables intervention before crops fail completely. Sensor networks identifying emerging pest populations enable targeted control before outbreaks spread across regions. This shift from post-event response to pre-event anticipation has profound welfare implications, as preventing losses is generally far more cost-effective and less disruptive than compensating for them after they occur.

The shift from aggregated to granular governance similarly represents a qualitative transformation. Traditional systems operated primarily at aggregate levels with little capacity for further differentiation. Digital infrastructure enables plot-level, farmer-specific granularity. Satellite data identifies precisely which parcels are experiencing stress. Linked farmer registries enable identification of who cultivates affected parcels. This enables services and support to be precisely targeted to affected farmers, calibrated to their specific circumstances, and delivered in forms appropriate to their particular needs.

The shift from periodic to continuous monitoring and updating represents another critical dimension. Traditional systems generated information periodically with administrative understanding gradually becoming outdated between data collection events. Digital systems enable near-real-time, continuous updating. Satellite imagery generates data on vegetation conditions daily or weekly throughout growing seasons. This continuous data flow means that administrative understanding of agricultural reality remains current, enabling decisions based on actual conditions rather than on historical snapshots.

The shift from ownership-based to cultivation-based service delivery addresses one of the core equity limitations of traditional systems. Traditional systems relied on land records that documented ownership rather than actual cultivation, systematically disadvantaging tenant farmers, women cultivators, and various forms of informal cultivation arrangements. Digital systems that can verify actual cultivation through satellite imagery or crop registries potentially enable services to flow to actual cultivators regardless of ownership status.

The shift from manual verification to automated, objective validation represents a transformation in both efficiency and accountability. Traditional systems relied on manual assessments by field-level officials whose judgments could be inconsistent, subject to influence or corruption, time-consuming, and difficult to verify. Digital systems employing satellite data, sensors, timestamps, and geolocation create objective, auditable records that are consistent, transparent, and verifiable.

The shift from blanket advisory services to personalised and context-specific guidance represents a fundamental change in agricultural extension philosophy and capability. Traditional extension operated through uniform recommendations that could not account for variations in soil conditions, water availability, farmer resource constraints, or local pest and disease pressures. Digital infrastructure enables advisory services genuinely personalised to farmer circumstances.

The shift from survey-dependent crop insurance to automated parametric systems addresses fundamental problems that made traditional agricultural insurance economically unviable for small farmers. Parametric insurance uses objective, automated triggers based on satellite data or weather station data to determine payouts without individual farm visits, reducing administrative costs dramatically, enabling payouts within days rather than months, and making insurance economically viable even for small holdings.

The shift from opaque supply chains to digitally traceable value chains addresses information

problems that have historically disadvantaged farmers in markets. Digital traceability uses integration of farmer identification, plot mapping, input purchase records, advisory compliance data, and transaction records to create verifiable production histories from field to final sale. When produce carries digital certification of origin from a specific verified farmer's plot where specified inputs were used and specified practices were followed, this creates credibility enabling market differentiation.

11.7. FUTURE DIRECTIONS: EVOLUTION TOWARD CLIMATE-RESILIENT, SUSTAINABLE, EQUITABLE DIGITAL AGRICULTURE

The current state of AgriStack represents foundation-laying rather than destination-reaching. Infrastructure being put in place today will support agricultural transformations over the coming decades, the full extent of which is only starting to emerge. Several frontier directions represent the next level of digital agriculture capability building.

Climate adaptation and resilience support will become increasingly central as weather volatility intensifies and historical experience becomes less reliable as guide to future conditions. Digital systems should integrate climate projections and seasonal forecasts with local observation data to provide increasingly sophisticated anticipatory guidance. This might involve crop choice recommendations accounting for changing precipitation patterns, planting time adjustments aligning sensitive growth stages with likely favourable weather windows, variety selections matching expected temperature and moisture conditions, or diversification strategies hedging against multiple potential climate scenarios.

Ecosystem service valuation and payment systems represent another frontier where digital infrastructure could enable entirely new economic opportunities for farmers. Current agricultural payment systems reward farmers almost exclusively for marketable production. Digital monitoring infrastructure using satellite imagery, sensor networks, and ground validation could enable credible, low-cost measurement of ecosystem service provision at farm level. Soil carbon sequestration can be estimated from repeated soil sampling combined with land use data and modeling. With credible measurement, payment systems become feasible where farmers receive compensation for verified ecosystem service provision, creating economic incentives aligned with environmental objectives.

Nutrition and health integration represents another high-potential frontier. Digital traceability infrastructure could enable credible nutritional quality certification. Farmers who grow biofortified varieties with enhanced iron or zinc or vitamin content could receive price premiums if quality can be verified from seed source to market. Advisory systems could provide guidance on crop choices and farming practices maximising nutritional value alongside yield.

Financial product sophistication represents a more immediate evolution opportunity. Current uses of agricultural data for financial inclusion primarily involve basic applications. Much more sophisticated financial products become possible with mature data infrastructure. Dynamic insurance products could adjust premiums and coverage based on continuous risk monitoring rather than static annual contracts. Credit products could provide seasonal working capital that automatically adjusts to observed crop progress and expected cash flows.

Knowledge systems and innovation networks represent another evolution frontier. Current advisory systems primarily deliver centrally-generated recommendations to farmers. Future systems could function as knowledge networks where farmer experience, scientific research, local experimentation, and formal extension all contribute to continuously evolving collective understanding. Farmers who successfully address particular pest problems could document their practices with photographs, descriptions, and outcome data becoming accessible to other farmers facing similar issues.

Coordination and collective action support represents another frontier where digital infrastructure could address long-standing development challenges. Indian smallholder agriculture is characterised by extreme fragmentation creating multiple inefficiencies. Digital systems could dramatically reduce transaction costs in coordination. Farmer producer organisations (FPOs) could use digital platforms for member management, production planning, input procurement, quality monitoring, aggregated marketing, payment processing, and transparent financial management.

All these frontier directions share common requirements. They demand sustained investment in digital infrastructure, analytical capacity, and institutional development. They call for continued innovation and experimentation rather than assuming current systems are sufficient. They require governance frameworks that ensure equitable access

and fair distribution of benefits.. They necessitate integration across sectors that have historically operated in silos. Most fundamentally, they require maintaining a clear focus on developmental goals rather than allowing digital transformation to become an end in itself.

11.8. CONCLUSION: DIGITAL INFRASTRUCTURE AS FOUNDATION FOR AGRICULTURAL TRANSFORMATION

AgriStack represents one of the most ambitious sectoral digital transformation initiatives undertaken anywhere. The scale of infrastructure already deployed, the number of farmers engaged, the technological sophistication of integrated systems, and the scope of transformation envisioned are all remarkable. Substantial progress has been achieved in building foundational infrastructure, in deploying monitoring and service delivery capabilities, in creating financial inclusion pathways, and in generating evidence about implementation approaches.

Yet, infrastructure creation alone does not constitute transformation. The path from digital systems to farmer welfare involves multiple steps and each step involves challenges that are as much social and institutional as technical. Success requires not just sophisticated technology but also appropriate governance, inclusive design, continuous learning, behavioural insight, institutional coordination, and sustained commitment.

The evidence demonstrates that these conditions are being met in many contexts, with farmers experiencing tangible benefits from digital services, with institutions building capabilities and improving performance, and with growing momentum toward agricultural digitalisation. It also reveals continuing challenges around equity and inclusion, data governance and trust, state capacity variation, and the distance between infrastructure potential and realised impact. The trajectory is positive but not inevitable.

The coming years will be critical in determining whether AgriStack evolves as a public good serving smallholder welfare and sustainable development, or whether it becomes a platform for commercial extraction and government control while generating new exclusions and dependencies. India has the opportunity to demonstrate that digital agricultural transformation can be democratic, inclusive, environmentally sustainable, and developmental.

Realising this positive vision requires that agricultural digital transformation be understood not primarily as a technology project but as a development initiative that employs digital capabilities as means toward poverty reduction, food security, climate resilience, environmental sustainability, and farmer empowerment. It requires that farmers remain at the centre as active participants with their interests guiding system development rather than as passive data subjects or service recipients. It calls for honest monitoring and evaluation that tracks equity and welfare impacts alongside implementation metrics. Most fundamentally, it requires sustained commitment to ensuring that technological possibility becomes developmental reality, that infrastructure becomes impact, and that digital transformation serves the hundreds of millions of Indian farmers whose welfare and livelihoods are at stake.

The foundations are laid. The trajectory is promising. The work continues. Success requires not just maintaining implementation momentum but deepening attention to governance, equity, farmer voice, environmental sustainability, and ultimately to the fundamental question that should guide all agricultural development initiatives: are farmers' lives improving, are agricultural systems becoming more sustainable and resilient, and is transformation serving broad-based welfare or narrow interests? These questions are the ultimate measures of success.

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Financial Inclusion in India: Measuring Progress from Access to Effective Use

Leora Klapper and Alexandra Norris

12

This chapter draws on the Global Findex Database to document India's financial inclusion transformation between 2011 and 2024. In 2011, only 35% of adults owned an account; by 2024, coverage had expanded to 89%. Gender and rural-urban disparities in account ownership have been eliminated, and the divide between poorer and richer adults has narrowed considerably. Today, most government wages, transfers, and pension payments are paid directly into accounts. Despite these gains, significant challenges remain. Despite rapid expansion in account ownership, 16% of accounts are inactive, and just 29% of adults use their accounts to make digital payments, significantly lower than the average for developing economies. This gap reflects an important reality: while India succeeded in opening accounts at unprecedented scale many users have yet to embrace the digital features essential for full participation in the modern financial system. Policies like Unified Payments Interface (UPI), Aadhaar Enabled Payment System (AePS), and Digital India, however, are helping drive wider adoption of digital payments among merchants and bill collectors, and transforming the digital ecosystem. India's experience demonstrates that rapid, inclusive financial expansion is achievable through targeted and incremental policy action.

12.1. INTRODUCTION

India has witnessed a remarkable expansion in financial inclusion over the past decade and a half, achieving near-universal account ownership through a strategic combination of digital infrastructure, well-targeted government programs, and private-sector innovation. India transformed from a country where most households relied on cash and women had limited financial autonomy to a country where nearly 90% of adults own bank accounts.

This transformation is reflected in data from the Global Findex Database, the world's most comprehensive demand-side survey on financial inclusion. Since 2011, the Global Findex has tracked how adults access and use financial services through nationally representative surveys conducted by Gallup, Inc. in over 140 economies. While supply-side data from banks and regulators reports the number of official account holders, demand-side data reveals how people themselves perceive account ownership and usage, while also uncovering barriers faced by those excluded from the system. Since its inception, the Global Findex has chronicled India's financial inclusion journey, witnessing account ownership surging from 35% in 2011 to 80% in 2017 to nearly 90% in 2024, alongside the virtual elimination of gender and urban-rural disparities.

Although swift, this transformation was neither accidental nor overnight. India's growth in account ownership stems from carefully sequenced strategy for financial inclusion. The rollout of Aadhaar biometric ID in 2009 along with introduction of e-KYC (know your customer) regulations by the Reserve Bank of India (RBI)[2] solved identity barriers that had long prevented millions from accessing formal banking services. The launch of the Pradhan Mantri Jan Dhan Yojana (PMJDY) in 2014 then catalysed mass account openings, with public sector banks (PSBs) partnering with local business correspondents (BCs) to extend access to remote communities. Next, the development of the digital payment infrastructure—including UPI, AePS, and BharatQR— together with the rapid spread of inexpensive smartphones and mobile data, transformed many dormant accounts into active

financial tools for daily transactions, savings, and most importantly, Direct Benefit Transfers (DBTs).

The digitalisation of government payments proved especially critical in both expanding account ownership and driving regular usage. By 2024, almost all government pensions, public-sector wages, and social transfer payments flowed directly into accounts, creating regular usage patterns that encouraged broader financial engagement. Low-cost smartphones and affordable mobile internet, driven by initiatives such as Digital India and market disruption from providers like Jio, enabled those with access to technology to use digital payment systems for everything from electricity bills to groceries.

Despite these gains, significant gaps persist. While account access has expanded dramatically, 16% of accounts remain inactive, showing that access does not automatically translate to meaningful usage. Moreover, only about one-third of adults report being able to mobilise emergency funds within 30 days with little or no difficulty, revealing that expanded financial inclusion has not yet translated into broad-based financial resilience. And although women are as likely as men to own an account, gender gaps persist in the use of accounts by women to make digital payments (as compared to men). Gender gaps are also found in mobile and smartphone ownership, limiting women's ability to fully participate in the digital financial ecosystem. These technology-related disparities are likely a key driver of downstream differences in digitally-enabled account ownership and digital account usage.

India's story demonstrates how technology-driven policies can accelerate financial inclusion when combined with strong political commitment, a comprehensive regulatory framework, coordinated implementation across government departments, and user-centric design. The experience offers valuable lessons for other countries seeking to expand financial access, particularly for low-income populations, rural communities, and women, but there is still work to be done.

12.1.1. Understanding Why This Matters: The Evidence on Financial Inclusion

India's push for universal account ownership is grounded in substantial evidence linking financial inclusion to improved development outcomes. Research has shown that account ownership is associated with increased consumption[3] and reduced poverty,[4] while also driving productivity gains[5] and higher savings rates among account holders.[6] For governments, expanding formal financial services can also boost tax revenues as more economic activity enters the formal sector.[7]

The benefits of account ownership are particularly pronounced for women. When women have their own accounts, and actively use them, they gain greater control over household finances and spending decisions. Research from Nepal found that providing women with fee-free bank accounts led to increased spending on education and nutritious food.[8] In the Philippines, access to commitment-savings products strengthened women's decision-making power within households and increased purchases of labour-saving goods.[9] And in India itself, a randomised experiment revealed that receiving government benefits directly into personal accounts shifted gender norms, making women more likely to work outside the home compared to those receiving cash payments.[10] These findings underscore why India's near-elimination of the gender gap in account ownership is not only a milestone in financial inclusion, but also a meaningful step toward advancing gender equity.

12.2. INDIA'S FINANCIAL INCLUSION JOURNEY

Government policies in India have played a pivotal role in driving financial inclusion. Key initiatives include the Aadhaar program, India's national digital identification system, and the PMJDY program, which provided every individual the opportunity to open a zero-balance basic savings account with no maintenance charges. As a result, India's expansion in account ownership represents one of the fastest and most comprehensive financial inclusion efforts in history.

12.2.1. Foundations of Financial Inclusion in India: The Aadhaar Program

Today, lacking documentation is the least commonly reported barrier to account ownership in India, largely because Aadhaar resolved the long-standing identity gap that had excluded hundreds of millions from formal banking (Figure 12.1). Launched in 2009, Aadhaar assigned residents biometric-based unique identification numbers, dramatically reducing verification costs and eliminating the documentation requirements that poor and rural populations typically lacked. It has since become the backbone of India's digital financial infrastructure, powering direct benefit transfers, enabling payment systems in remote villages through fingerprint authentication, and facilitating mobile phone ownership—all critical components of the financial

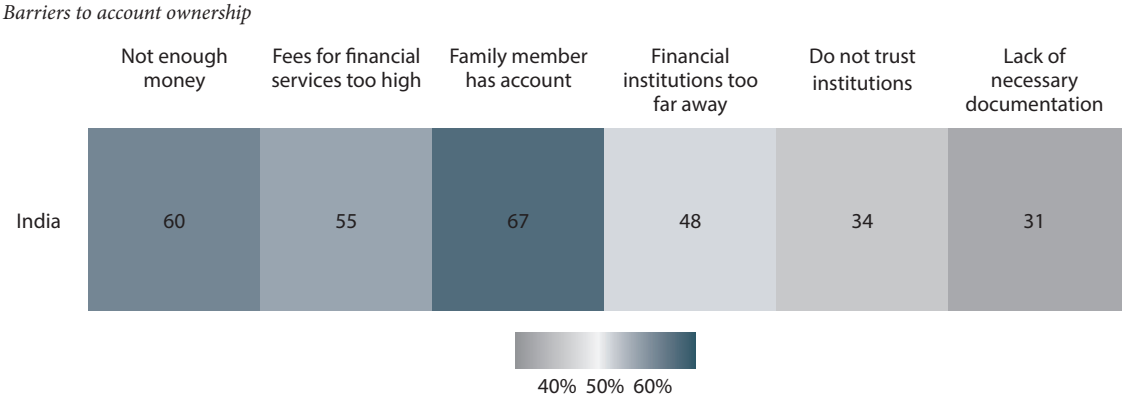

Figure 12.1. Adults without an Account (in %), 2024 (Lack of Money is the Main Barrier to Account Ownership for Most Adults without Accounts)

Source: Global Findex Database, 2025

inclusion transformation that followed. Because of Aadhaar, as on 2024, 99% of Indian adults possess a recognised form of ID.

For low-income and rural populations specifically, Aadhaar eliminated one of the most persistent barriers to financial inclusion. Previously, opening a bank account required multiple forms of documentation that many poor Indians simply did not possess, like utility bills for proof of address, employment letters for income verification, or other formal documents common among middle-class urban residents but rare in rural or informal-sector contexts.

12.2.2. Growth in Account Ownership (2011–24)

Account ownership jumped from 35% in 2011 to 53% in 2014, then accelerated dramatically to 80% in 2017 before reaching 89% in 2024 (Figure 12.2). Essentially all Indian account owners have an account at a bank or similar financial institution, but a growing share also use mobile money accounts—accounts accessed via a mobile phone through telecom or fintech-led platforms like PhonePe, PayTM, Airtel Money, or India Post. Mobile money account ownership rose from insignificant in 2014 and 2017 to 10% of adults in 2021 and 23% in 2024. Virtually no adults in India rely exclusively on mobile money accounts, instead using them as a complement to traditional banking.

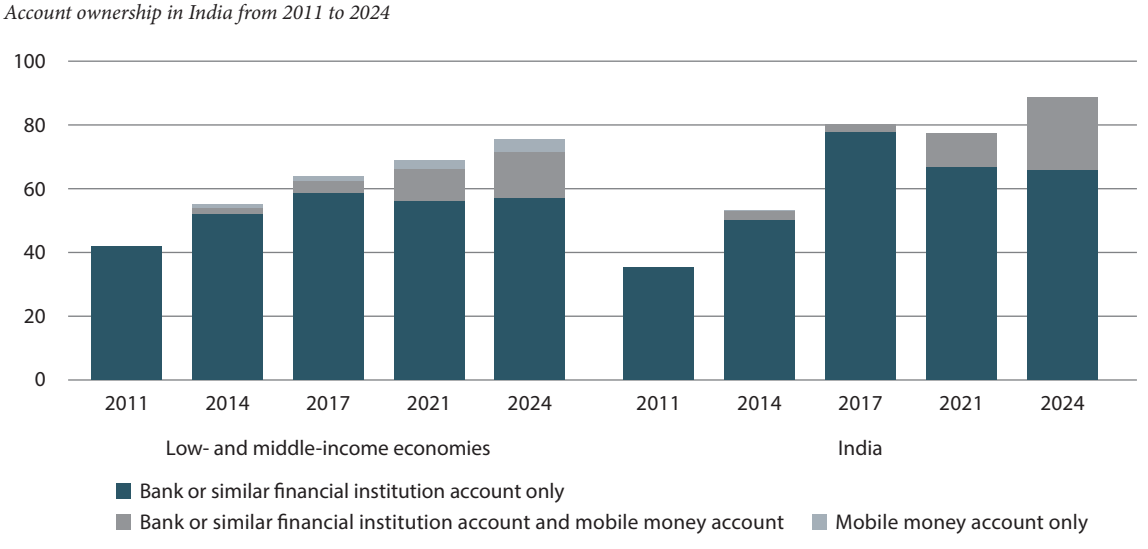

Figure 12.2. Adults with an Account (in %), 2011-24 (Account Ownership in India Grew Over 150% Between 2011 and 2024)

Source: Global Findex Database, 2025

The demographic patterns of account ownership expansion demonstrate India's success in reaching previously excluded populations (Figure 12.3). The gender gap, which stood at approximately 20 percentage points in both 2011 and 2014, narrowed to 6 percentage points by 2017 and was eliminated entirely by 2021, remaining at zero through 2024. Closing this gap marks a particularly significant achievement given the historical exclusion of women from formal banking services and their limited financial autonomy in many Indian households.

Urban-rural disparities in account ownership have effectively disappeared and have not been present since 2017. The achievement of near-universal coverage by 2024 suggests that rural populations, who traditionally faced greater barriers to banking access, were successfully integrated into the formal financial system. While gaps remain between adults in the workforce and those outside it, they are relatively small: – 86% of adults out of the workforce have accounts.

The expansion of account ownership proved especially transformative for poor households. Among adults from the poorest 40% of households, account ownership rose from 27% in 2011 to 86% in 2024. Over the same period, the gap between these adults and those in the wealthiest 60% of households narrowed from 14 percentage points to just 5 percentage points. Through this expanded access, low-income populations, who previously relied entirely on informal financial mechanisms, gained access to safe savings, government transfers, and eventually credit products. The provision of zero-balance accounts under PMJDY eliminated minimum balance requirements that had long excluded the poor from banking services.

Account ownership by gender, income, rural/urban residence, and employment

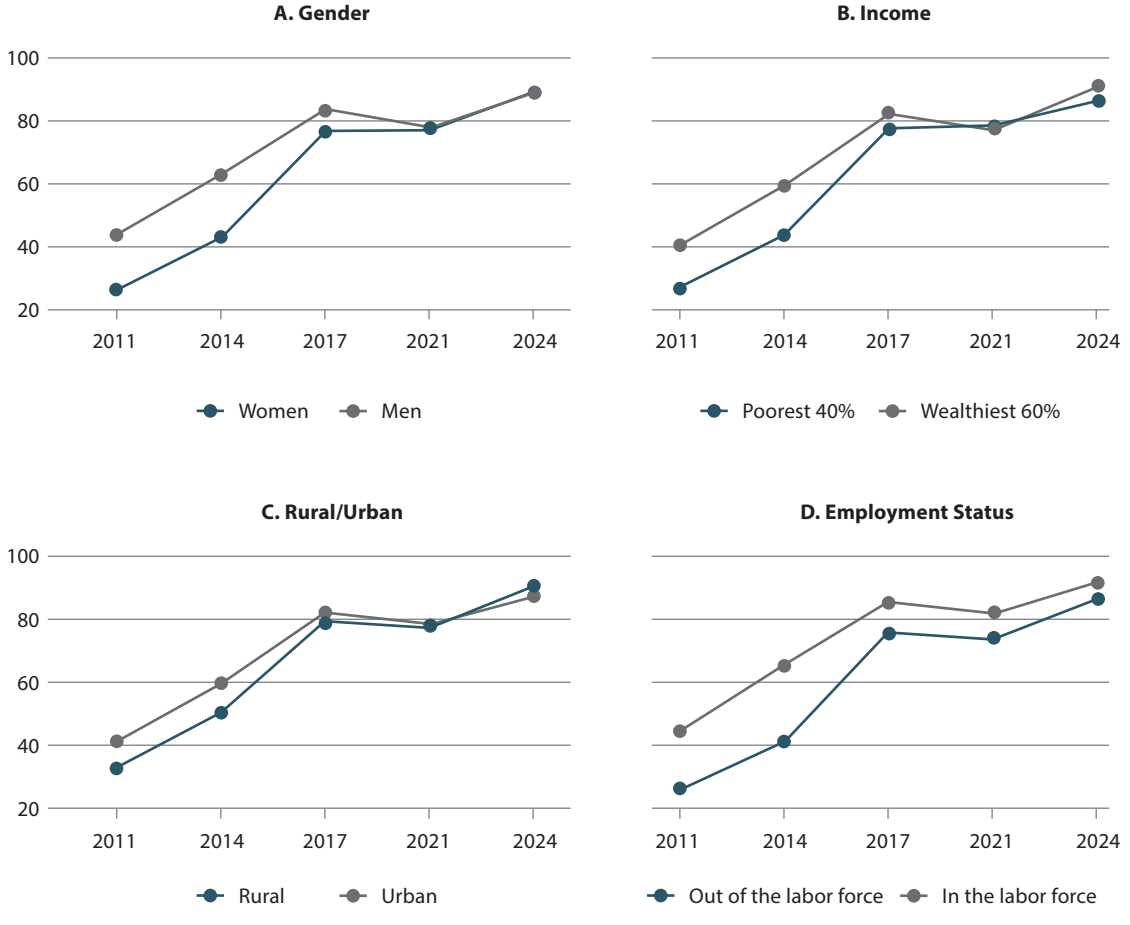

Figure 12.3. Adults without an Account (in %), 2024 (Gaps in Account Ownership Narrowed in India Between 2011 and 2024)

Source: Global Findex Database, 2025

PMJDY's role in driving account ownership cannot be overstated. Public sector banks, working through business correspondents, opened millions of first-time bank accounts across India. According to the Indian government, by 2017, 300 million new PMJDY bank accounts had been opened, directly contributing to the surge in overall account ownership to 80 percent of adults[11]. The program's design specifically targeted the unbanked, focusing on rural areas, urban slums, and other underserved communities where traditional banking had not reached.

12.2.3. Decreasing Account Inactivity

While India's financial inclusion initiatives successfully expanded account ownership through programs like PMJDY, they inadvertently created a paradox of widespread account inactivity that undermined the effectiveness of these efforts (Figure 12.4). The problem peaked in 2017 and 2021 when over a third of accounts were classified as inactive—having no deposits, withdrawals, or digital payments for an entire year—revealing that millions of newly-banked Indians had gained access but were not actively using their accounts for saving, storing money, or daily transactions. These dormant accounts primarily served as conduits for occasional government transfers rather than being integrated into account holders' financial lives. The inactivity stemmed from multiple structural barriers. Many account holders simply lacked money to deposit, reflecting that account ownership alone cannot address underlying poverty; others faced prohibitive transaction costs or difficulty accessing bank branches and ATMs, especially in rural areas with limited infrastructure; and many saw no compelling reason to shift from their established cash-based economic activities to formal banking services.

Concerted efforts to activate dormant accounts began showing results in the latest round of Global Findex data in 2024. Inactivity rates fell from 35% of account owners in 2021 to 16% in 2024, reflecting several policy initiatives and market developments designed to make accounts more relevant and useful for daily financial needs.

However, significant challenges persist. Despite improvements, India's 16% inactivity rate still exceeds the 4% average for low- and middle-income countries (excluding India), underscoring the need to deepen usage and integration of accounts into people's financial lives. Gender disparities in account activity also remain despite equal account ownership rates (Figure 12.5). As on 2024, women are six percentage points more likely than men to have inactive accounts, with 18% of women owning but not using their accounts compared to 11% of men. Income gaps in activity surmount gender gaps. Adults from the poorest 40% of households are twice as likely to have an inactive account than those from the wealthiest 60%, despite having overall similar levels of account ownership (Figure 12.6). These disparities in account activity suggest that women and lower-income adults continue to face unique barriers to financial engagement, whether cultural, technological, or economic. Interestingly, there are no significant differences in account activity between adults living in rural and urban areas.

The persistence of inactivity highlights that sustainable financial inclusion requires continuous engagement and value creation rather than simply providing initial access. Close exploration of the role of digital government payments in reducing inactivity, particularly for women can highlight how policy changes can result in tangible improvements.

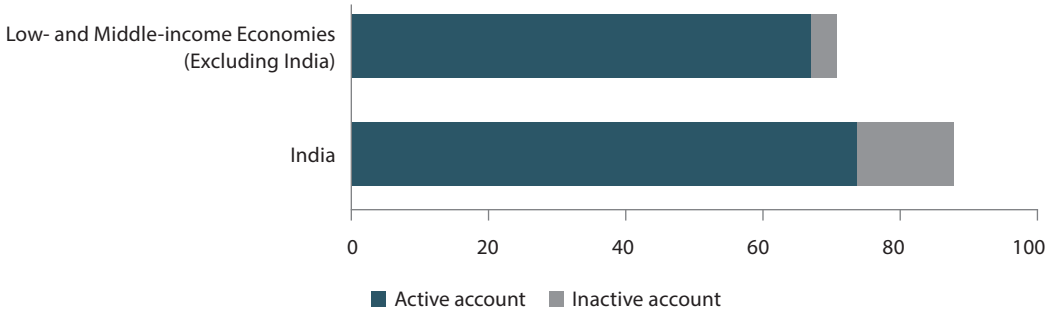

Figure 12.4. Adults with an Active and Inactive Account (in %) 2024, (In India, 16% of Account Owners Have an Inactive Account, As Compared to 4 % in Other Low and Middle-income Economies)

Source: Global Findex Database, 2025

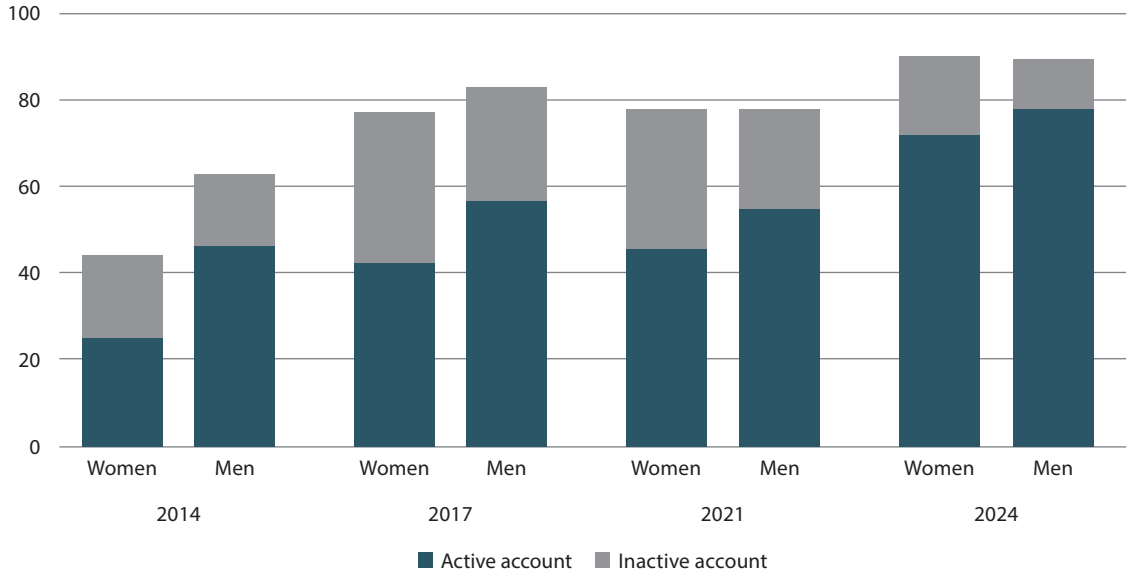

Figure 12.5. Gender wise Active and Inactive Accounts (in %), 2014-2024
Source: Global Findex Database, 2025

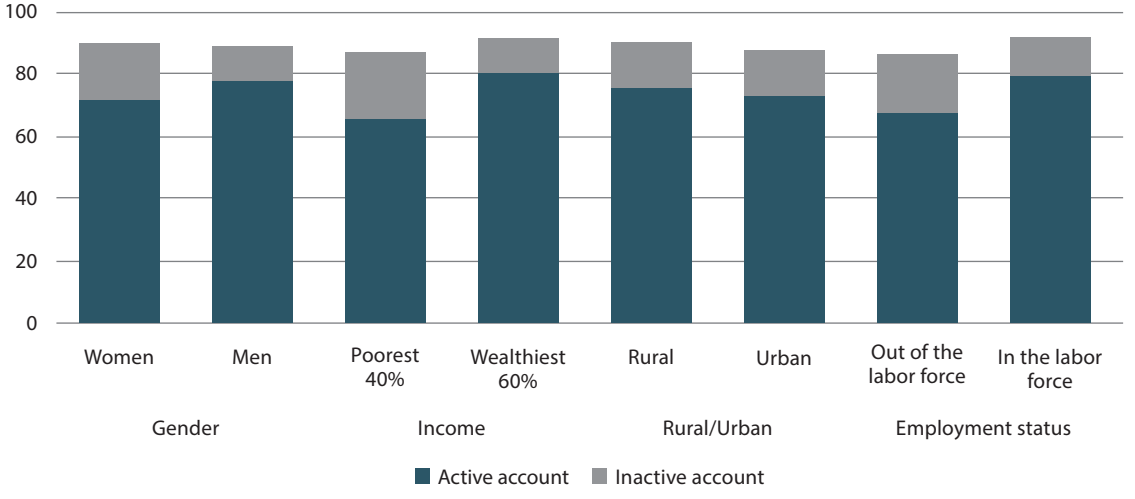

Figure 12.6. Active and Inactive Accounts Based on Gender, Income, Rural/Urban, and Employment (in %), 2024
Source: Global Findex Database, 2025

A non-dormant account, while essential, should not be the ultimate goal of financial inclusion efforts. While only 16% of accounts in India are dormant, many active accounts see infrequent use (Figure 12.7). Fewer than half of account holders deposit or withdraw money on a weekly or monthly basis—a rate well below the developing-world average.[12] To truly benefit from account ownership, one must use their account as a tool to achieve their financial goals.

12.3. PAYMENTS AS A CATALYST FOR USE AND INDICATOR OF PERSISTENT CHALLENGES

Despite India's remarkable growth in digital payment transaction volumes through the use of UPI, expanding usage remains an untapped opportunity for the fintech market.

As on 2024, 48% of adults (54% of account owners) made or received a digital payment, up from

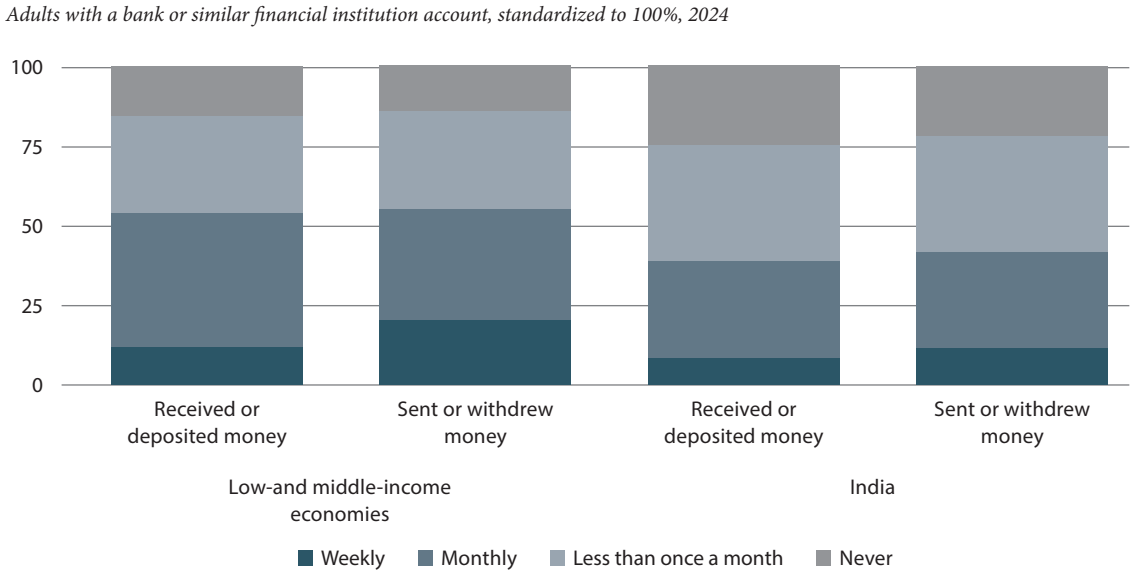

Figure 12.7. Frequency of Account Usage (in %), 2024 (Account Use Frequency in India is Lower than in Low and Middle-Income Economies on Average)

Source: Global Findex Database, 2025

Note: Due to lack of data averages exclude Algeria, China, Iran, Libya, Mauritius, Russia, and Ukraine.

35% of adults in 2021 (45% of account owners). With this growth, digital payment usage in India is now on par with other lower-middle income economies (47% of adults), but remains below the average for low and middle-income economies (62% of adults). This is further corroborated by the Bureau of Indian Standards (BIS) Red Book statistics, which suggest that there is potential for growth in digital payments per capita in India when compared to other G20 economies (Figure 12.8).

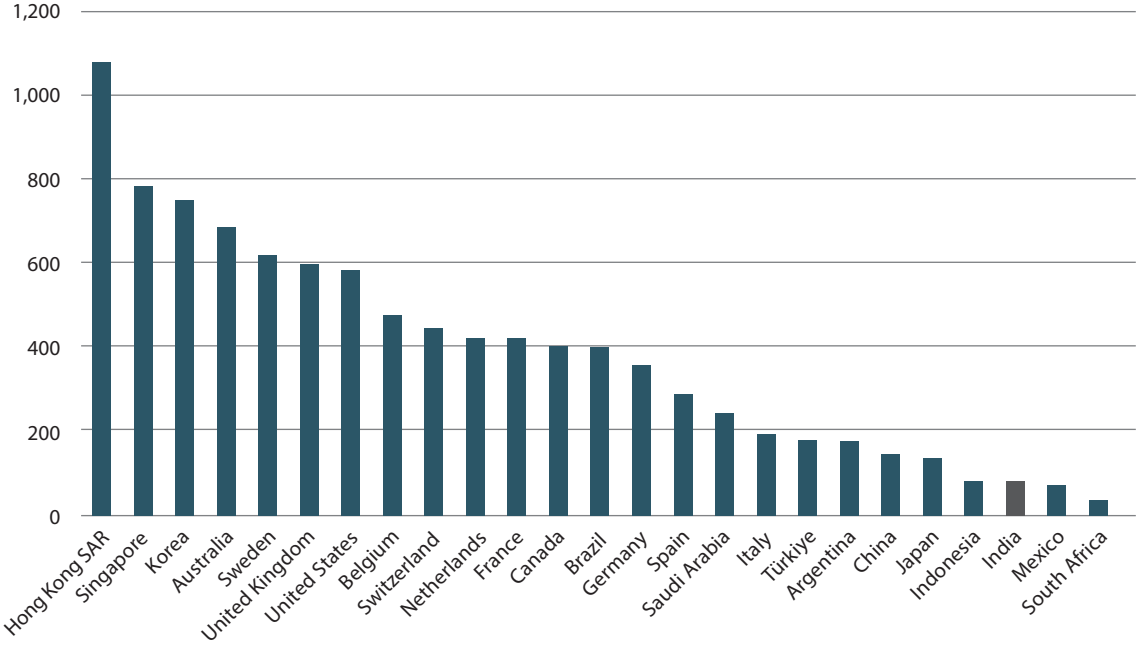

Figure 12.8. Digital Payments Per Capita across G20 Jurisdictions

Source: BIS

12.3.1. Receiving Payments

The digitalisation of government payments proved particularly effective in activating accounts. Digital government payments increased both intensively and extensively – by 2024, 80% of government-to-person (G2P) payments were deposited directly into accounts, compared to only about half in 2017 and 2021 (Figure 12.9). This regular flow of funds gives account holders concrete reasons to engage with their accounts, check balances, and eventually use their accounts for other purposes.

As of 2024, 48% of Indian adults, more than half of account owners opened their first account to receive either a private sector wage or money from the government, highlighting how these payments can be used as tools to promote access in addition to their other goals.

Major government programs contributed significantly to this transformation. The digitisation of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) program channeled wage payments directly into the accounts of rural workers, bringing millions of informal-sector workers into regular contact with the formal banking sector. Similarly, DBT programs for subsidies created systematic usage patterns among beneficiaries who had previously conducted all financial activities in cash.

The digitalisation of G2P payments has had important implications for women's account ownership. Over half of all women, 55% reported opening their first account to receive wages or transfers from the government, compared to 42% of men. Additionally, growth in digital G2P payments for women corresponds with a narrowing of the account inactivity gap. The share of women receiving a G2P payment into an account rose from 13% of women (59% of female G2P recipients) in 2021 to 24% of women in 2024 (81% of G2P recipients). Receiving payments into accounts allows women greater autonomy and control over their money which can have important implications both for them personally and overall development.

The impact of digital G2P payments extended beyond simple payment digitalisation. Recipients who begin using accounts to receive government benefits often develop broader banking habits, checking balances, making withdrawals, paying bills, and eventually using accounts for a wide range of financial activities. The predictable flow of government transfers also helps account holders build transaction histories that can later be used for credit assessment, expanding their access to formal lending. Even more fundamentally, receiving G2P payments into an account can necessitate or induce account ownership itself.

While there has been significant progress in G2P payment digitalisation, wages from private employment remain predominantly cash-based, limiting the broader potential for digital payments to activate accounts. Only a third of all private sector wage payments in India are paid into accounts, significantly lower than the developing world average of 45% (Figure 12.10).[13] Unlike government transfers, which can be mandated to flow through formal channels, private-sector wage payments continue to rely heavily on cash, particularly in India's vast informal economy. This persistence of cash wages has slowed the overall growth of account usage and limited the financial inclusion benefits for workers in manufacturing, agriculture, and services sectors.

Adults receiving a G2P payment in the past year (%), 2021-2024

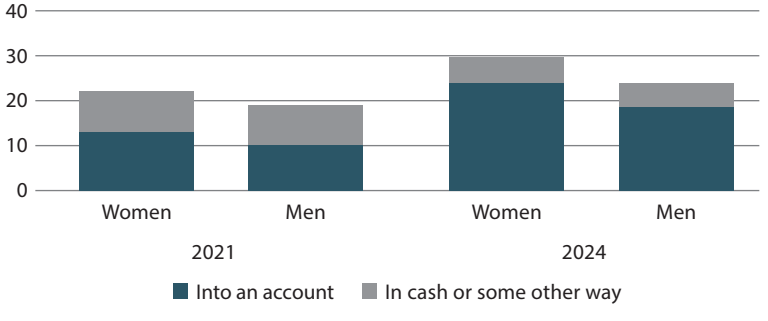

Figure 12.9. G2P payments in India Based on Gender (in %), 2021-2024 (The Share of Both Men and Women Receiving G2P Payments into Accounts Rose between 2021 and 2024)

Source: Global Findex Database, 2025

Adults receiving a private sector wage payment in the past year (%), 2024

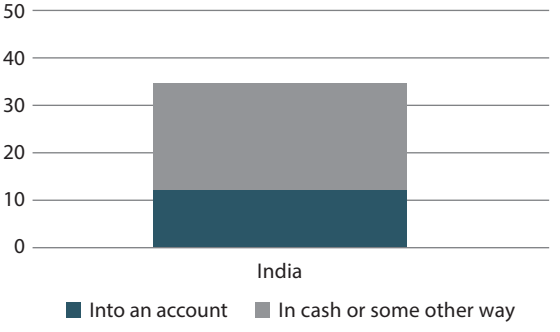

Figure 12.10. Private Sector Wage Payments in India into Accounts (in %), 2024 (One-third of Private Sector Wage Recipients in India are Paid into Accounts)

Source: Global Findex Database, 2025

Government transfer or pension withdrawal by gender, income, rural/urban residence, and employment
Adults who received a government transfer or pension into an account (%), 2024

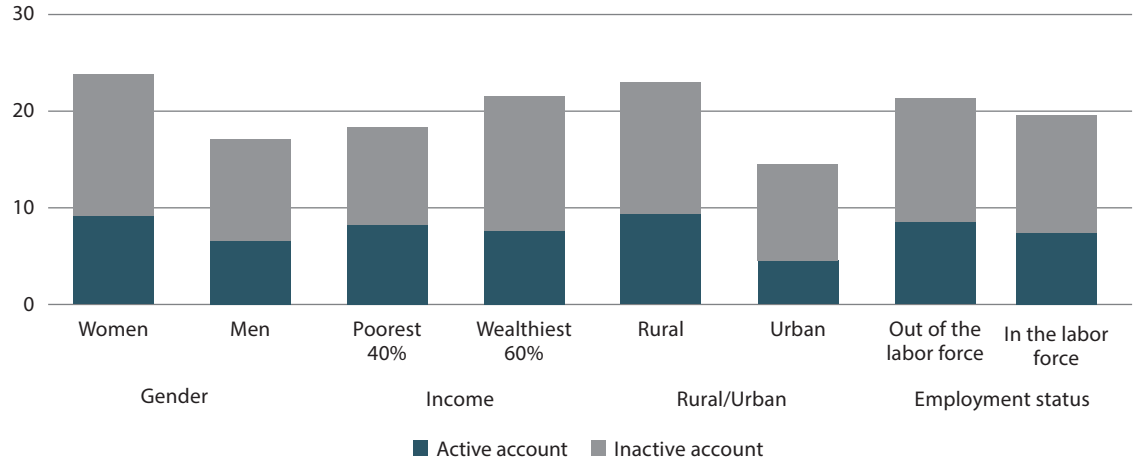

Figure 12.11. Rates of Government Transfer or Pension Withdrawal by Demographic Groups (in %)
Source: Global Findex Database, 2025

While receiving a payment into an account is an important step towards effective use of the financial system, what account owners do with the money in their account is also important.

Among adults who receive government transfers or pensions into an account, over a third (8% of adults) report withdrawing the entire amount in cash upon receiving it (Figure 12.11). While there are no meaningful gender differences, adults from the poorest 40% of households and rural adults who receive government transfers or pensions are 10 percentage points more likely than their wealthier and urban peers to fully withdraw all of their money. About 40% of both poor and rural adults paid into accounts withdraw all of their money, effectively preventing them from using their accounts for payments of formal savings.

In addition to whether adults withdraw all of their money as cash, the Global Findex also collects data on who withdraws government transfers or pensions deposited into accounts. While the overall prevalence of family or friends withdrawing government payments on behalf of someone else is too small to study, 1 in 5 women who receive government transfers or pensions into accounts (5% of women) had a friend or family member withdraw the money for them. For women to truly benefit from receiving money into accounts, they must be able to control this money. While having someone withdraw the money for them could be innocently done in the name of convenience or because of a lack of knowledge, it can also be a mechanism of financial control.

12.3.2. Making Payments

As mentioned above, 48% of adults make or receive digital payments as of 2024, reflecting the growing integration of digital financial services into everyday life in India. This expansion of digital payments proved crucial in transforming dormant bank accounts into active financial tools. However, this growth is largely due to the aforementioned increases in the share of adults receiving digital payments. Over the same period,, the share of adults making digital payments increased by 5 percentage points reaching 29%of adults, meaning that about 1 in 5 adults in India receives a digital payment but does not use their account to make one.

Digital merchant payments are the most commonly made type of digital payment. Infrastructure expansion through initiatives like BharatQR, which deployed millions of QR code payment terminals at local shops and service providers, made digital payments practical for routine expenses. UPI proved particularly transformative, enabling instant, low-cost transfers through simple mobile interfaces. Mobile wallets complemented this growth by providing simplified entry points for users new to digital finance. However, despite these advances, digital merchant payment adoption in India significantly lags behind the developing world—just 18% of Indian adults made a digital merchant payment as on 2024 up from 12% in 2021 but well below the developing world average of 42%.

Digital merchant payment usage by gender, income, rural/urban residence, and employment

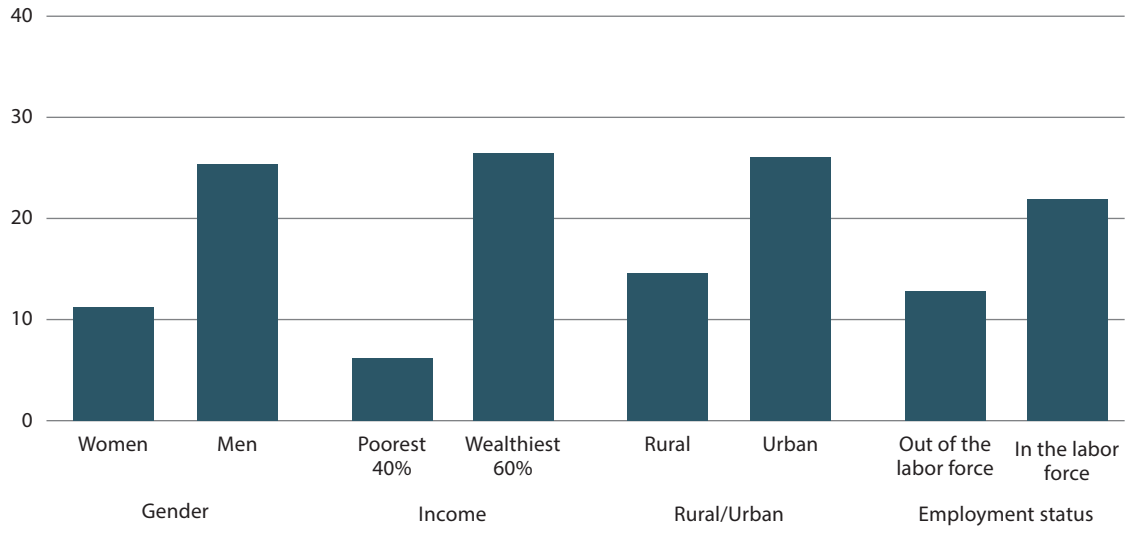

Figure 12.12. Adults Making a Digital Merchant Payment (%), 2024 (Significant Demographic Disparities in Digital Merchant Payment Usage Exist in India)

Source: Global Findex Database, 2025

Meaningful gender and income gaps exist in the use of digital merchant payments (Figure 12.12). Only 11% of women make digital merchant payments compared to 25% of men. The income divide is even more pronounced. Adults from the poorest 40% of households are 20 percentage points less likely than their wealthier counterparts to make digital merchant payments. When looking at the intersection of gender and income, the gap widens further. Over a third of men living in the richest 60% of households make digital merchant payments compared to just 17% of wealthy women, 9% of poor men, and 4% of poor women. Rural adults are also significantly less likely than urban adults to make digital merchant payments. Interestingly, the urban-rural divide is driven entirely by differences in digital merchant payment usage among wealthier adults. Among poorer adults, there is no significant difference between those living urban versus rural areas (Figure 12.13).

Digital merchant payment usage by income and rural/urban residence

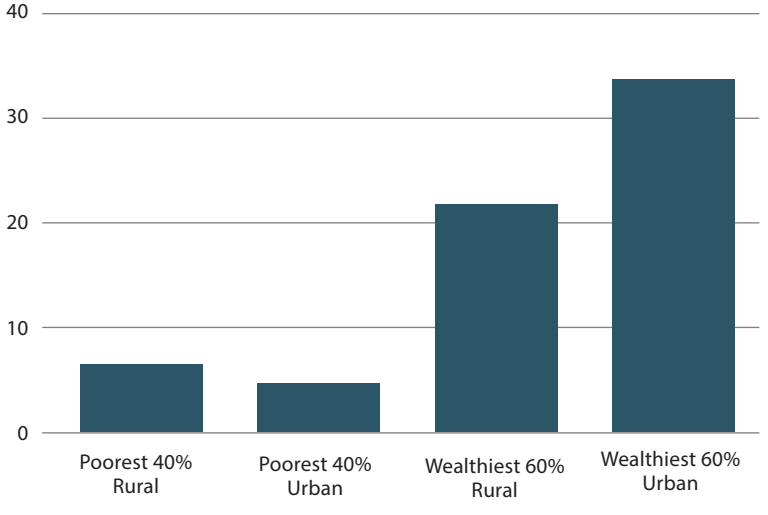

Figure 12.13. Adults Making a Digital Merchant Payment (%), 2024 (Adults Making a Digital Merchant Payment (%), 2024)

Source: Global Findex Database, 2025

Notably, even with these pronounced income and gender disparities, men from the richest 60% of households in India remain significantly less likely than the average adult in a developing country to make a digital merchant payment—underscoring that even among more privileged adults, there is still significant progress to be made.

When account owners are asked why they do not make in-store digital merchant payments—the most common type of digital payment—nearly all of them report that they are simply accustomed to paying with cash (Figure 12.14). This pattern holds across demographic groups. Even among poorer and rural adults who might be expected to encounter more informal merchants unwilling or unable to accept digital payments, fewer than 10% of adults report merchants not accepting digital payments as a barrier.

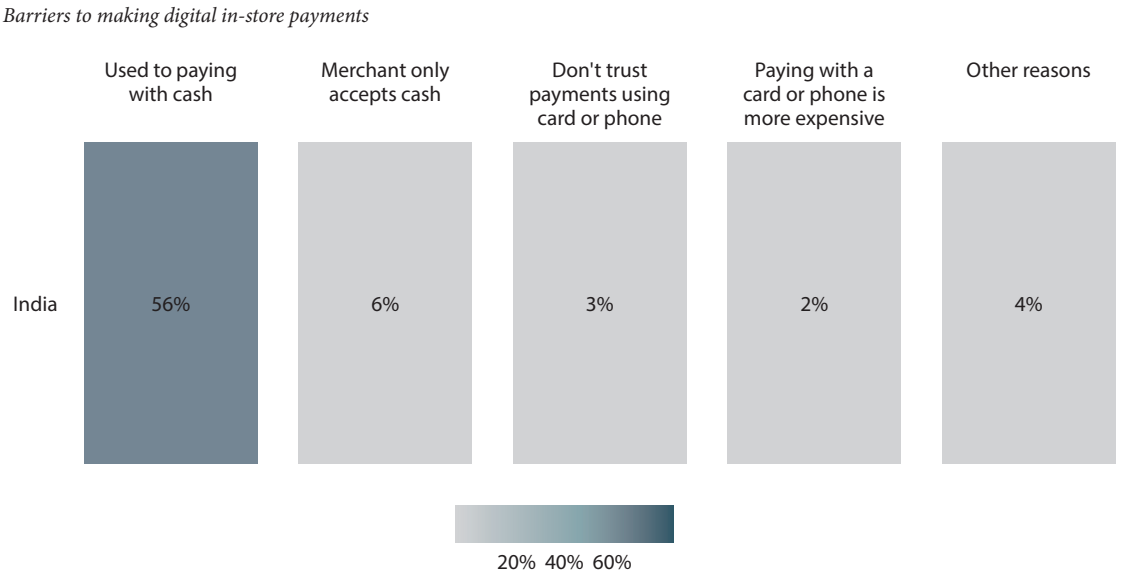

Figure 12.14. Adults Who did not Make a Digital Payment for an In-Store Purchase in the Past 12 Months (%), 2024 (Familiarity with Cash Payments is By Far the Most Frequently Cited Reason for not Making a Digital Payment for an In-store Purchase)

Source: Global Findex Database, 2025

Other common forms of digital payments that people make include online bill payments and utility payments. By 2024, 15% of Indian adults reported making digital bill payments, up from 10% in 2021. A similar share makes digital utility payments; however, among adults who pay for utilities, only about one-third do so digitally. As explored in the following section, limited mobile and smartphone penetration, poor internet connectivity, and unfamiliarity with digital interfaces continue to constrain adoption among some demographic groups.

12.4. UNDERLYING CHALLENGES TO GREATER ACCOUNT USE

Despite India's remarkable progress in financial inclusion, significant gaps and constraints continue to limit the full potential of digital financial services, particularly for the poorest populations, women, and rural communities. These persistent challenges highlight that achieving universal access is not only a matter of expanding infrastructure, but also of tackling deeper issues related to poverty, gender inequality, and digital literacy.

12.4.1. Limited Digitally-enabled Accounts

While account ownership in India is nearly universal, very few accounts are digitally-enabled, meaning that they are used to make digital payments using a card or phone. This gap may be partly be 'demand-driven', with some account holders simply choosing not to use their accounts to in this way. Although the PMJDY scheme requires the provision of a RuPay debit card, the number of cards issued is far below the total number of accounts opened, reinforcing the gap between account ownership and active usage (PMJDY 2025).

In addition, the growth of QR codes as the primary means of digital payments suggests that even account owners provided with a RuPay debit card might have limited access to mobile payments if the account owner does not own their own phone. In India, 30% of account owners do not have a mobile phone and 56% lack a smartphone —restricting their ability to use QR-based payment systems. Furthermore, the barrier might be 'supply-driven' if sellers do not accept payments using a card or QR code on a phone.

As on 2024 only a third of Indian account owners (31% of adults), have accounts that are digitally-enabled, substantially below the 72% average (54% of adults) for low and middle-income countries (Figure 12.15). Account holders can receive government transfers and make basic withdrawals, but without mobile connectivity, they may not be able to easily access mobile banking, make online payments, or use more sophisticated financial products. Interestingly, while the share of adults using their accounts digitally in India is low, 40% of adults reported receiving information from their bank on their mobile phone

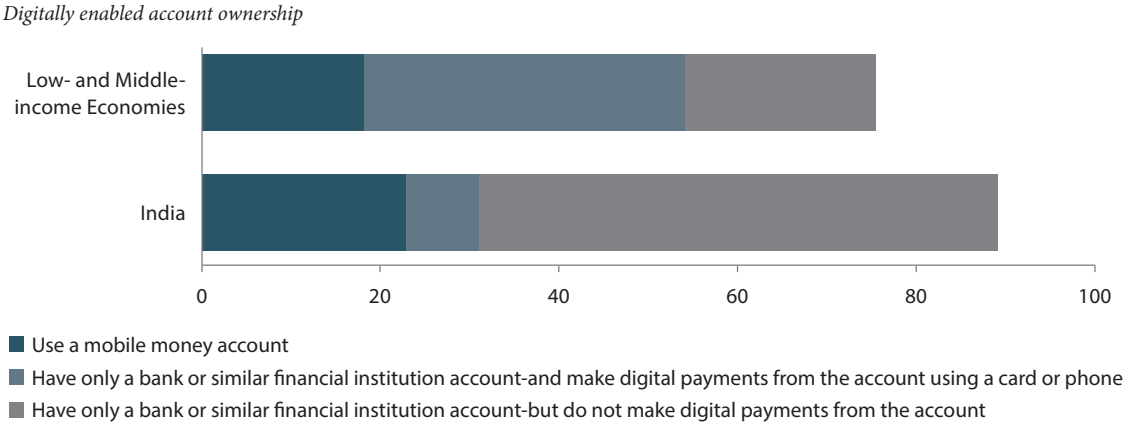

Figure 12.15. Adults with an Account (in %), 2024 (Relatively Few Adults in India Have a Digitally-enabled Account Despite Overall High Levels of Account Ownership)

Source: Global Findex Database, 2025

(54% of adults with an account who own a mobile phone) and a third reported using a mobile phone or computer to check their account balance (46% with an account and a phone).

Yet the data also point to the success of policies that mandate digital notifications: for electronic transactions[14] Indian banks are required to digitally notify recipients of electronic bank payments. This is reflected in the data—about 70% of digital payment recipients who own mobile phones (78% of digital payment recipients who own smartphones) report receiving digital notifications from their banks (the remaining share might not be aware of how to check notifications or have literacy challenges).

A stark gender disparity characterises digitally-enabled account access. Just 22% of women have digitally-enabled accounts compared to 40% of men, an 18 percentage-point gap that limits women's ability to participate fully in digital financial services. This disparity restricts women's economic autonomy and their capacity to benefit from the efficiency, safety, and convenience advantages of digital finance. Narrowing gender gaps is critical but so is raising the overall level of digitally-enabled accounts in India—the 40% of men with a digitally-enabled account is still significantly lower than the all-adult developing world average.

12.4.2 Underlying Technology Access Barriers

The gender gap in digitally-enabled accounts reflects deeper disparities in technology access that continue to constrain financial inclusion. Women face substantial disadvantages in both basic mobile phone ownership and smartphone access. Only 54% of women own a mobile phone compared to 78% of men, while smartphone ownership gaps are even larger with 32% of women owning a smartphone compared to 52% of men (Figure 12.16). While narrowing these gaps is important for increasing access for women, there is also a lot of room to grow for men. Indian men are 10 percentage points less likely than the average man in the developing world to own a mobile phone, 17 percentage points less likely to own a smartphone, and 19 percentage points less likely to have a digitally-enabled account, despite being 11 percentage points more likely to own an account.

These relatively low levels of technology access, combined with persistent disparities, create cascading effects that limit overall financial inclusion. Adults without mobile phones are unable to access mobile banking services, receive account notifications, or use UPI for digital payments. Those without smartphones, cannot download banking apps, scan QR codes, or access the full range of digital financial services that increasingly define modern banking in India.

Income-based disparities also persist in technology access. Adults in the poorest 40% of households are 17 percentage points less likely to own phones than higher-income groups, and their smartphone ownership lags far behind that of middle- and upper-income Indians. These gaps mean that the populations who could potentially benefit most from digital financial services often lack the basic technology infrastructure needed to access them.

When adults are asked why they do not own a phone—or why they do not own a smartphone—, the most commonly cited barrier, for both men and women, is lack of money.

Phone ownership by gender, income, rural/urban residence, and employment

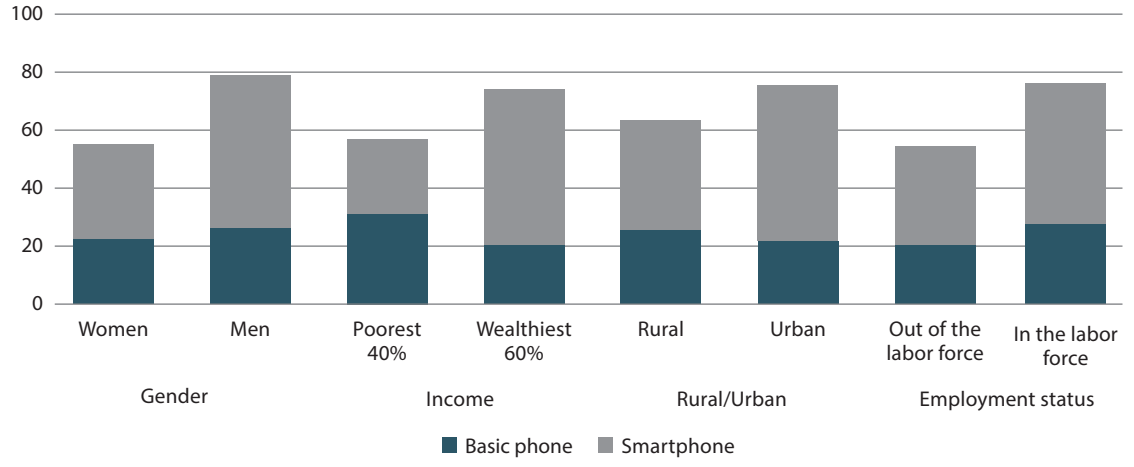

Figure 12.16. Adults with a Mobile Phone (in %), 2024 (Significant Gaps in Overall Mobile Phone and Smart Phone Ownership Exist in India)

Source: Global Findex Database, 2025

12.4.3. Internet and Digital Literacy Constraints

Building up from phone ownership, approximately 55% of India's population does not use the internet, creating a fundamental barrier to digital financial services adoption. Internet access remains uneven across geographic and demographic lines, with rural areas, women, and low-income populations facing greater connectivity challenges. Even where internet infrastructure exists, data costs, device limitations, and digital literacy constraints prevent many Indians from effectively using online financial services.

Digital literacy represents a particularly complex challenge. Many Indians who technically have access to smartphones and internet connections lack the knowledge and confidence to use digital financial services safely and effectively. They may struggle with basic app navigation, worry about security risks, or simply not understand how digital payments work. This knowledge gap is especially pronounced among older adults, women, and populations with limited formal education.

12.5. ACHIEVING FINANCIAL HEALTH

Despite expanded account ownership, only 30% of Indian adults in 2024 reported being able to raise emergency funds within 30 days without significant difficulty—a figure unchanged since 2021 and substantially below the developing-country average of 56%. This limited financial resilience indicates that account access has not yet translated into the financial security and stability that represent the ultimate goals of inclusion efforts.

Women face particularly acute financial resilience challenges, being 15 percentage points less likely than men to report being able to manage unexpected expenses comfortably (Figure 12.17). About 60% of Indians report that they would turn to family, friends, or employers for emergency funding—sources that may be unreliable during widespread economic crises when entire communities face simultaneous financial stress. While the share of adults formally saving rose between 2021 and 2024, that has yet to translate into savings-based financial resilience, just 7% of Indian adults could access reliable savings in an emergency.

When asked how long they could cover expenses if they lost their main source of income, 61% of adults reported being able to manage for at most one month, while 28% said they could not cover even two weeks of expenses.

Moving beyond emergencies into everyday financial worries, when asked about their greatest financial worry, about one-third of adults cited not having enough money for monthly expenses, while 23% pointed to school fees and 17% to healthcare as their primary financial concerns. These patterns of financial anxiety suggest that while Indians have gained access to formal financial services, they have not yet developed the savings, credit access, and financial management capabilities needed for true economic security.

This lack of access and utilisation is reflected in how adults use financial tools to respond to these financial worries. For instance, 31% of Indian adults have borrowed for health or medical purposes, but

Financial resilience by gender and income

Adults identifying the source of, and assessing how difficult it would be to access emergency money (%), 2024

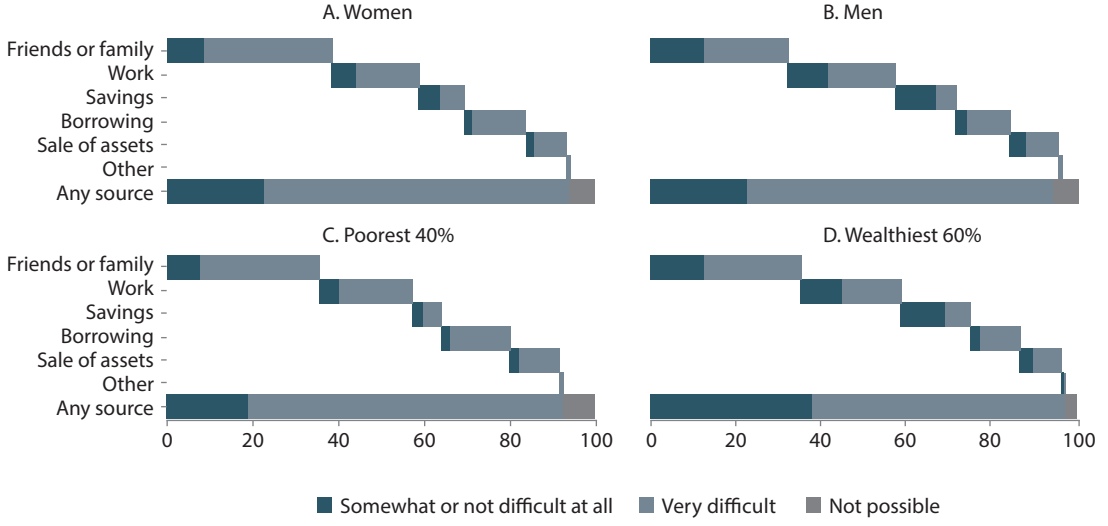

Figure 12.17. In India, Women and Poorer Adults are Less Financially Resilient Than Men and Wealthier Adults

Source: Global Findex Database, 2025

Note: The figure can only be generated for one economy at a time.

only a fifth of them (6%) do so formally (Figure 12.18). Business borrowing follows a similar pattern with 12% of adults borrowing to start or maintain a business with only a third (4%) borrowing formally. While having money for old age is not the most frequently cited financial worry, just 7% of adults save formally for old age.

Use of formal financial services among adults saving or borrowing for specific purposes

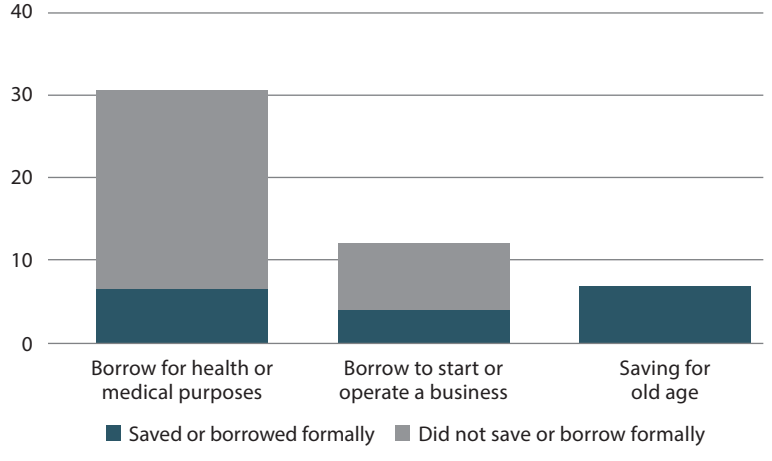

Figure 12.18. Adults Who Saved for Old Age or Borrowed for Health or Business Purposes in the Past year (%), 2024 (The Use of Formal Financial Services among Adults Who Borrow for Health or Business Purposes Remains Low)

Source: Global Findex Database, 2025

Note: Only adults who saved formally were asked the question on saving for old age.

Finally, one of the easiest and most reliable ways to cover and plan for monthly expenses is to save—ideally using an account. In India, 27% of adults reported saving formally in 2024, ,a notable increase from just 14% in 2021, but still well below the developing-world average of 40% Interestingly, much of this growth appears to be driven by adults who save through both traditional bank accounts and mobile money accounts, reflecting the increasingly digital nature of the financial system. The expansion of formal saving happened among both men and women but growth for men outpaced that of women. Between 2021 and 2024, formal saving among men grew from 15% to 31% while among women it grew from 13% to 23%. One component of this growth for men and the increasing gender gap is the role of mobile money savings. As on 2024 15% of men save formally using a mobile money account, up from just 5% in 2021, and more than double the rate of women using these accounts to save.

Income gaps in formal saving are even larger, with adults from the richest 60% of households being 20 percentage points more likely to save formally than those from the poorest 40%. Like with gender, wealthier adults are also more likely to save using mobile money than poorer adults, highlighting the important role that access to technology can play in facilitating access and the negative consequences of lacking access.

12.6. FUTURE OPPORTUNITIES

India's financial inclusion journey illustrates both the transformative potential of coordinated policy action and the persistent challenges in translating access into meaningful financial improvement. Through a strategic combination of digital identity infrastructure, targeted government programs, and coordinated implementation across the public and private sectors, India has achieved near-universal account ownership. This success has dismantled traditional barriers to financial access and created a foundation for broader economic participation among previously excluded populations.

The experience offers several key insights for achieving sustainable financial inclusion. First, digital public infrastructure can be a powerful enabler when designed with interoperability, minimal data requirements, and vendor neutrality. India's Aadhaar identification system and the UPI payment rails exemplify how common digital platforms can spur innovation while maintaining public oversight and regulatory accountability.

Second, G2P payments can catalyse account usage and create pathways to deeper financial engagement. The digitalisation of transfers, subsidies, and wage payments provided millions of Indians with practical reasons to interact with formal financial services, often leading to greater and more consistent usage over time.

Third, meaningful financial inclusion requires more than just access—it demands attention to structural barriers such as poverty, gender inequality, and digital illiteracy. India's success in account ownership has not been fully matched by improvements in financial resilience, underscoring the need for ongoing policy focus on quality of use and financial capability development.

Looking ahead, India faces several priorities to ensure that financial inclusion translates into improved financial well-being. Expanding mobile and app-based financial services remains essential, particularly given the high proportion of dormant accounts and the many account holders who do not make payments from their accounts. For example, further efforts to issue more RuPay debit cards, a prerequisite for UPI access, would allow more account holders, especially women and rural residents, to engage with digital services. Equally important is providing training and awareness programs to help users adopt these digital tools safely and effectively.

Building e-commerce and social media–based sales opportunities can also help integrate more Indians into formal economic networks while fostering practical use cases for digital financial services. Small merchants and entrepreneurs, in particular, would benefit from simple, affordable tools for online sales, inventory management, and customer payments linked directly to their existing bank accounts and mobile devices.

This expansion must coincide with efforts to close gaps in both smartphone ownership and digital literacy, which continue to limit people's full participation in the digital financial ecosystem. For example, QR code-based payments which are widely used for digital payments, require users to have a smartphone, precluding those without access to the technology from partaking. Alongside improving access to technology, enabling digital merchant payments through basic feature phones would expand usage among adults without smartphones and, in turn, among women and lower-income users who are less likely to own one.

The measures outlined above can promote greater account usage by making digital payment services more accessible, safe, and attractive for all account owners. Current data show that while UPI transaction volumes nearly doubled between August 2023 and August 2025, the number of new users showed little growth. This signifies that the increase in UPI transaction volumes is primarily driven by intensified use among existing customers rather than by onboarding new users. This imbalance suggests that while digital payments are scaling rapidly, their reach and inclusivity remain limited.

To further improve financial health, users must also be educated on digital security practices to protect against cyber threats such as phishing, social engineering, and other forms of financial fraud. Awareness of users' rights and responsibilities is critical to building a safe and trusted digital financial ecosystem.

Strengthening financial resilience through tailored savings and insurance products represents the next critical phase. Despite widespread account ownership, many Indians still lack easy access to emergency funds, underscoring the need for savings options suited to low-income households. Similarly, while insurance products can protect vulnerable families from health, weather, and economic shocks, they often appear complex or irrelevant to poor households—highlighting the need for simplification and awareness.

Finally, deploying digital tools for financial planning and goal-setting can help account holders build the skills needed for long-term financial success. Simple, mobile-based applications for budgeting, saving toward specific goals, and

tracking progress can complement access with better financial management.

India's experience demonstrates that rapid, inclusive financial expansion is possible through coordinated policy action and technological innovation. However, the persistence of inactive accounts, limited financial resilience, and gender disparities in access to digital devices shows that true financial inclusion requires continuous focus on usage quality, capability development, and addressing the underlying social and economic barriers that prevent women and the poor from fully benefiting from expanded financial access.

The next phase of India's financial inclusion journey can determine whether expanded access truly translates into lasting improvements in economic opportunity and financial security for the country's most vulnerable populations.

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ENDNOTES

1 World Bank Development Research Group. Corresponding author, lklapper@worldbank.org. We are grateful to Gynedi Srinivas for helpful input and to Ananya Sharma and Anh Phuong Nguyen for technical support. The findings, interpretations, and conclusions expressed in this chapter are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organisations, or those of the Executive Directors of the World Bank or the governments they represent.

2 https://rbidocs.rbi.org.in/rdocs/notification/PDFs/MD18KYCF6E92C82E1E1419D87323E3869BC9F13.PDF

3 Karlan and Zinman (2012); Burgess and Pande (2005)

4 Beck, Demirgüç-Kunt, and Levine (2007); Suri and Jack (2016)

5 Allen et al. (2016); Bruhn and Love (2009)

6 Karlan, Ratan, and Zinman (2014); Gertler et al. (2023)

7 Apeti and Edoh (2023)

8 Prina (2015)

9 Ashraf, Karlan, and Yin (2010)

10 Field et al. (2021)

11 Government of India Press Information Bureau (2025)

12 In Algeria, China, the Islamic Republic of Iran, Libya, Mauritius, and Ukraine, an abridged questionnaire was administered by phone, and it did not include any of the questions on deposit or withdrawal frequency—averages exclude those economies.

13 In Algeria, China, the Islamic Republic of Iran, Libya, Mauritius, and Ukraine, an abridged questionnaire was administered by phone, and it did not include any of the questions on receiving payments.

14 Reserve Bank of India (2013)

Establishment and Evolution of Regional Rural Banks (RRBs)

Anuradha Ray and N. Srinivasan

13

13.1. BACKGROUND

Regional Rural Banks (RRBs) celebrate their golden jubilee year this year, with the first five RRBs set up on 2 October 1975 following the promulgation of an ordinance. Their creation was based on the recommendations of the Narasimham Working Group[1] (1975).[2] They were a distinct set of regionally-oriented rural banks combining characteristics of cooperatives and commercial banks—combining the 'local feel and familiarity of rural problems' associated with cooperatives with the 'professionalism and large resource base' typical of commercial banks. RRBs were designed to mobilise resources and deploy them locally, with the intent of playing a significant role in India's agriculture and rural development. RRBs are jointly owned by Government of India (GoI), state governments and sponsoring commercial banks with respective equity contributions in the ratio 50:15:35. They are regulated by the Reserve Bank of India (RBI) and supervised by the National Bank for Agriculture and Rural Development (NABARD).

13.2. RURAL FINANCE CONTEXT PRIOR TO RRB FORMATION

The large financing gap in agriculture and rural sector was a huge development challenge. The cooperative credit system which was meant to address rural credit needs was falling short of delivering their mandate. In part, this was attributed to the state's tendency to 'over-administer and under-finance' the cooperative movement. A coordinated and more integrated approach with the banking system was felt necessary.

India's agricultural strategy was also evolving, prioritising self-sufficiency and achieving scale in domestic agricultural production. The High-Yielding Varieties Programme (or HYVP) was launched during the Kharif season of 1966–67, as part of the new agricultural strategy towards achieving self-sufficiency in food by 1970–71.[3] The financial sector stepped up by aiming to scale institutional supply of credit for intensive agricultural production and marketing, adopting a multi-agency approach to meet the large emerging sectoral credit needs.

Given India's early phase of economic development and the underdeveloped state of its financial markets at the time, a 'supply-led' approach was considered appropriate for stimulating agricultural and rural growth. Through a supply-led approach, the availability of funds, largely credit, was expected to induce higher levels of economic activity. The multi-agency approach was operationalised through several interventions under the 'social control' policy dispensation. First, 14 commercial banks were nationalised in 1969 which gave greater state control over channelling funds to priority sectors. Secondly, the Lead Bank Scheme helped organised credit channels improve flow of institutional credit to the agriculture sector. Three, RRBs—a design innovation to spur rural financial intermediation—were added to the rural financial institutional architecture.

The decisive action by GoI and RBI to focus on rural financial institutions that were inclusive was a pioneering effort and ahead of the financial inclusion initiatives run by policy establishments from the latter half of the 1990s. The debate on whether governments should establish and retain financial institutions has nonetheless long dominated the financial sector policy space.

NABARD[4] was established in 1982 based on the recommendations of the Committee to

BOX 13.1. TRADITIONAL AND NEWER GLOBAL APPROACHES TO RURAL FINANCIAL INTERMEDIATION—THE ENABLING ROLE OF GOVERNMENT

Traditionally, the case for government intervention through subsidised agricultural credit programs has been based on a combination of factors viz. governments' priority to promote rural development through agriculture; under capitalised agriculture; farmers need for concessional credit to encourage technology adoption and to compensate them for urban-centric policies; inadequate savings at a farmer level; and limited credit availability from private banks forcing small borrowers to use high cost informal channels including moneylenders. Newer approaches seek to raise standards of living in rural areas by casting the government in a very different role—one of setting a favourable legal and policy environment for developing rural financial markets and addressing specific market failures cost effectively through well-designed and self-sustaining interventions. While channelling credit into agriculture and rural development did yield several socio-economic benefits, many rural credit programs and institutions globally collapsed under the weight of losses generated by traditional directed credit strategies. Major reforms of rural credit systems are aimed ensuring public resources are used more effectively, to support the expansion of rural incomes, and to reduce poverty.

The newer approach continues to focus on income expansion and poverty reduction but makes the case for cost-effective alternatives, such as increased investment in rural infrastructure or in human development, to reach these goals[]. Advocates of this approach propose that governments concentrate on establishing a favourable policy environment that facilitates the smooth functioning of rural financial markets while playing a more limited and efficient role in the direct provision of rural financial services. That is, governments should first and foremost facilitate the workings of the market so that economic agents can allocate resources efficiently in response to price and profit signals.

Global evidence has shown that it is possible for financial services to be extended to low-income rural clients at lower public costs than previously thought possible when accompanied by policy shift towards genuine rural financial intermediation—reinforcing the criticality of a conducive institutional framework, for markets to work as also for public intervention to succeed.

Review Arrangements for Institutional Credit for Agriculture and Rural Development[5] and was mandated, among other things, to play a critical role in refinancing, institutional development and supervision of RRBs.

RRBs today

There are 28 RRBs as of May 2025 (consolidated from 196 banks that were set up originally) with 306 million customers, equivalent to 21% of India's population. With 22,158 branches, these banks

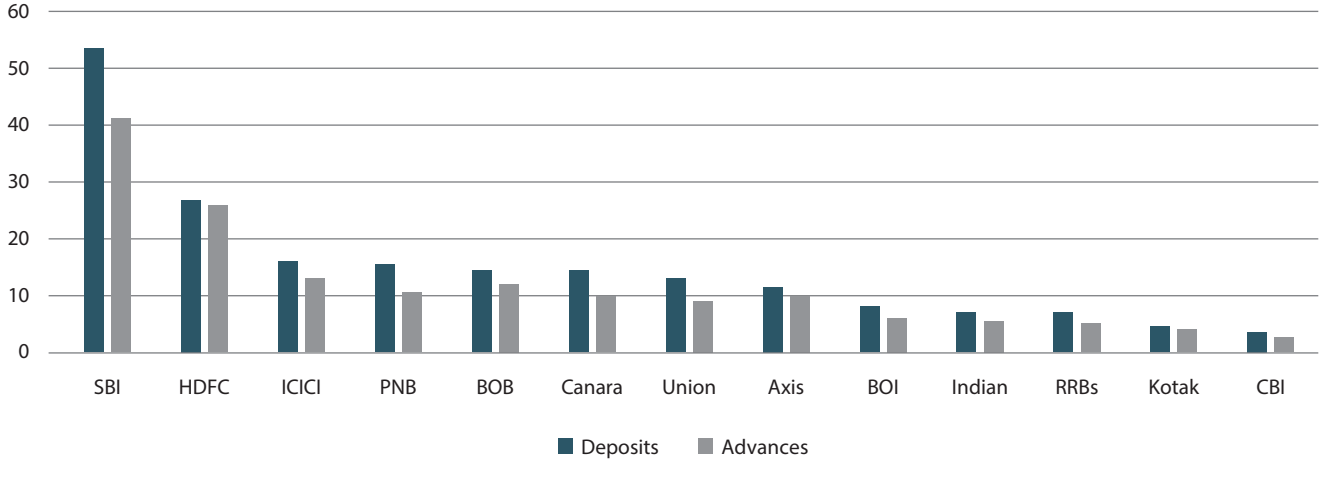


Figure 13.1. RRB group relative to other banks (in Rs lakh Cr 2025)
Source: NABARD

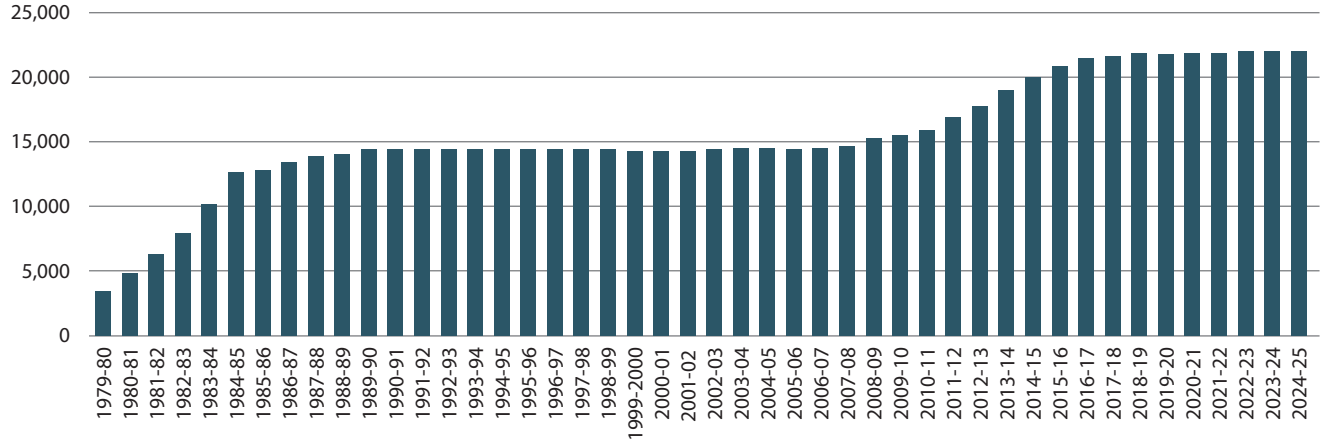
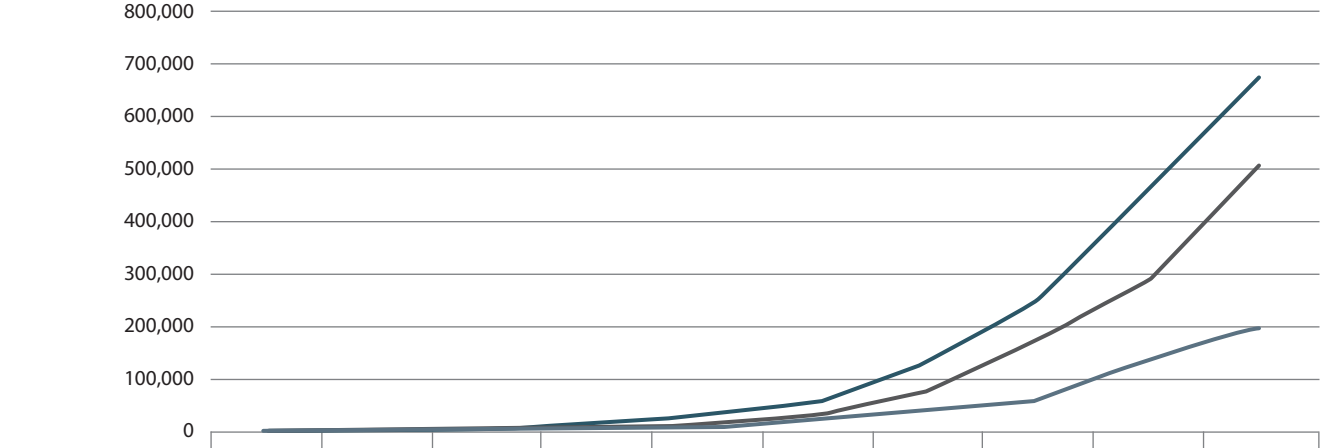


Figure 13.2. Number of RRB branches 1980-2024
Source: NABARD

account for 12.6% of commercial bank branches in the country (i.e., every eighth bank branch is that of an RRB), geographically covering more than 90% of districts. Deposits mobilised by RRBs aggregate ₹7.1 trillion or 13% of deposit accounts of the commercial banking system. Outstanding loans aggregate ₹5.3 trillion or 8% of loan accounts of the commercial banking system (Figure 13.1). Their aggregated business makes them the 11th largest entity among all banks in the country and 8th largest among public sector banks (Figure 13.2). RRB assets constitute about 3% of India's GDP and 2% of financial sector assets[6].

RRBs form a key component of India's rural finance footprint (Figure 13.3). They are part of a large and diverse network of formal rural finance institutions delivering rural financial services that include cooperative credit institutions for long-term and short-term credit, Commercial banks, small finance banks (SFBs), payment banks, non-bank finance companies (NBFCs), post offices and insurance companies. The rural financial landscape also includes semi-formal entities like microfinance institutions (MFIs) and bank-linked self-help groups (SHGs), as well as informal entities like trade creditors and money lenders.



	1979-80	1984-85	1989-90	1994-95	1999-00	2004-05	2009-10	2014-15	2019-20	2024-25
Deposits	145	973	3,815	10,848	30,051	58,286	135,814	254,226	467,203	674,871
Credit	173	1,134	3,409	6,201	12,663	31,651	79,016	173,972	293,575	507,007
Investments	0	0	6	834	6,010	20,212	39,229	61,433	138,694	198,700

Figure 13.3. RRBs across Decades
Source: NABARD

13.2.1. The early days 1975 –85: Genesis and Expansion

Opening new branches in rural areas was the most important activity during this decade and business growth in terms of deposit and advances was muted. In the initial phase, RRBs encountered several logistical challenges associated with setting up a new institution, making inroads into remote rural areas, and, most importantly, building trust among people so they felt comfortable depositing their savings in a new institution. Staffing newly opened branches was a significant challenge for the banks.

At initiation, the authorised share capital of an RRB was set at 50 million with a minimum paid up capital at 2.5 million. The banks were given scheduled status under the RBI Act, given their Public Sector character even as they benefited from preferential provisions. For example, RRBs could at the time maintain statutory liquid assets[7] at 25% of demand and time liabilities compared to 33% for scheduled commercial banks (SCBs) and cash reserve ratio (CRR) at 3% of demand and time liabilities (for a period of one year) compared to 4% for SCBs. They were deemed to be a cooperative society (for the purpose of Income-tax Act, 1961 or any other act relating to tax on income, profits, or gains), and therefore not liable to pay tax. RRBs were able to access loans and advances from the RBI's dedicated funds from 1975 to 1982 through access to the National Agricultural Credit (Long-term Operations) Fund and the National Agricultural Credit (Stabilisation) Fund[8] for RRBs. The refinancing role was later assumed by NABARD post its establishment in 1982[9].

For administrative ease, the sponsoring banks were to provide managerial assistance to RRBs for the first five years (in effect, the assistance continued much longer) and RRBs commenced operations with staff on deputation from the respective sponsor banks. To begin with, no service rules were in place for RRB staff. The pay scales of employees were aligned with those in respective state governments.

The governance structure entailed a nine-member Board of Directors headed by a chairman who was an officer of the sponsor bank. The Board consisted of three Government of India nominees, two nominees of the respective state government, and four nominees including the chairman from the sponsor commercial bank.

By the end of 1985, RRBs set up more than 12,600 branches across 330 districts. While business growth was muted in the initial five years, it picked up after 1980. Between 1977 and 1986, RRB advances exceeded deposits mobilised (assets funded by accessing funds from sponsor banks and availing refinance facilities). The credit-to-deposit (CD) ratio was in excess of 100 till 1986 and no investments were reported by RRBs (according to RBI data) during this period. The requirements of CRR and statutory liquidity ratio (SLR) were being met by cash and bank balances held with the sponsor banks.

The history of RBI (1967–81) summarising the early days of RRBs stated that:

> ***…the story of the development of RRBs was a somewhat chequered one, with very little prospect of their becoming the main institutional mechanism for providing credit to the relatively poor sections of the rural sector. Although the number of RRB branch offices increased sharply, from 112 at the end of June 1976 to 5,118 as of end-June 1982, they faced problems in day-to-day operations partly because of the lack of enthusiasm on the part of state governments for fear of RRBs adversely impacting cooperatives, and partly because other commercial banks did not find it useful to have one more institution of their own competing with them for business.***

13.2.2. The Second Phase (1985–95): Decade of Turbulence and Confronting Viability Challenges

The second decade of RRBs marked a phase of consolidation. During this period, the government completed establishing the number of RRBs that it considered adequate—ultimately setting up 196 RRBs across the country. Branch expansion continued as earlier till 1990 thereafter the pace eased and in fact registered a decline for the first time from 14,542 branches in 1994 to 14,509 in 1995. This indicated a clear attempt towards initiating consolidation of branches both by closing unviable branches in disadvantageous locations and merging very small, unviable branches.

GoI announced a comprehensive restructuring programme for RRBs in the financial year (FY) 1995. The Union Finance Minister in his Budget Speech announced that 50 RRBs will be taken up during FY1995 for comprehensive restructuring. In April 1994, RBI constituted a committee to spearhead the process of restructuring which submitted its final report in December 1994. Recommendations included different aspects of functioning of the RRBs for example on investment of surplus funds,

professionalisation of non-official directors, among others and also included capital estimates for balance sheet strengthening. GoI approved 3,000 Million as equity support for the selected RRBs towards strengthening balance sheets and augmenting liquidity 425.2 Million to be contributed by GoI, sponsor banks and State Governments in the ratio of 50:35:15.

Table 13.1. CD ratio

RRB CD ratio	Year
104.8	1986
96.81	1987
94.55	1988
93.58	1989
85.63	1990
72.34	1991
69.72	1992
66.69	1993
59.51	1994
56.42	1995

The period 1985 to 1995 saw deposit growth picking up especially post 1992 when the first phase of financial sector reforms started to kick in. The RRB branch network was well established, and the institutions were making headway in gaining the trust of people. Deposits increased eight times and credit 4.5 times during this ten-year period. By March 1989, deposits exceeded advances and the CD ratio started declining from 1987 onwards falling below 100%. The decline in CD ratio was both on account of robust deposit growth and significant asset quality issues that had started to impact asset growth.

Close monitoring of defaults at the highest level signalled, for the first time, a shift toward quality asset origination and pragmatic risk taking. Advisories from NABARD, RBI, and GoI focused on the need to reduce loan defaults. RRBs responded by being more selective in their risk exposures.

RBIs Report on Trend and Progress of Banking in India 1985-86 notes that:

> ***the CD ratio of RRBs had been rising rapidly, being as high as 300 per cent in some cases as against the All-India average ratio of 113 per cent for all RRBs. Since this might create serious financial problems if unchecked, it was decided to introduce a timebound programme to reduce the CD ratio of RRBs to 100 per cent over the next 3-to-5-year period.***

Consequently, the reduction in CD ratio was rapid during this period, with banks now investing more in government securities. This period witnessed the start of 'Narrow Banking'; i.e., raising deposits and investing them in risk-free government securities or bank deposits. Only 16% of RRBs were in profits in 1995.

13.2.3. The Third Phase (1996–2005): Decade of Turnaround

In line with the tenor of broader banking sector reforms, RBI introduced prudential norms for RRBs, with asset classification and income recognition norms becoming effective in 1995–96 and provisioning norms in 1996–97. The process of restructuring was initiated for 138 RRBs in 1994–95. Financial restructuring coupled with other policy initiatives, viz., rationalising of the branch network, accessing non-fund business, financing non-target group borrowers, expanding avenues of investments, and upgrading the level of operational technology and managerial skills, etc., resulted in 45 RRBs earning profit during 1995–96 as against 32 in 1994–95. By 2003, the number of profit-making RRBs increased to 156, indicating the effectiveness of the restructuring programme.

Table 13.2. Outreach and CD Ratio

Year	Branches	Districts	CD Ratio
1996	14,497	427	52.90
1997	14,461	427	48.35
1998	14,459	451	44.44
1999	14,498	486	41.96
2000	14,301	482	40.94
2001	14,313	501	41.33
2002	14,350	484	41.76
2003	14,400	511	42.22
2004	14,446	518	46.34
2005	14,484	523	52.89

During this period, RRBs continued to expand coverage across districts. It covered 96 more districts but did so with fewer branches, and enhanced branch effectiveness. Deposit growth continued to

be robust. Credit performance of RRBs however remained sub-optimal until 2005. Asset quality pressures started easing after 2000–01 and gross NPAs as a percentage of outstanding loans and advances decreased from 18.84% as at end-March 2001 to 12.63% as at end-March 2003.

A Working Group under the Chairmanship of Shri M.V.S. Chalapathi Rao, the then Managing Director, NABARD, was set up in July 2001 to review and suggest amendments to the Regional Rural Banks Act, 1976. It submitted its report in August 2002. Thereafter, RBI, in its credit policy of October 2004, announced the amalgamation initiative for RBBs.

The 1996–2005 decade was a critical one for the future evolution of RRBs—in terms of policy reforms, capital enablers and capacity building of staff, a comprehensive restructuring package that helped clean up balance sheets and prepare RRBs to leverage strategic and business opportunities from the upcoming amalgamation journey.

BOX 13.2. K C CHAKRABARTY COMMITTEE, 2010 (COMMITTEE ON RECAPITALIZATION OF RRBS FOR IMPROVING CRAR)

The Committee was required to assess the current levels of capital to risk-weighted asset ratio (CRAR) of RRBs, suggest a roadmap for their achieving CRAR of 9% by March 2012, and also suggest suitable capital structure to provide for future growth of RRBs and to sustain this level of CRAR.

Capital was needed to offset accumulated RRB losses, provide growth capital and meet future non-discretionary expenditures due to policy or administrative changes. These future expenditures would necessarily have to be incurred in the current or next few financial years and would relate to (i) payment of wage arrears as and when salaries are revised, (ii) payments towards staff gratuity and leave encashment on retirement, (iii) establishing core banking solutions (CBS) in RRBs, and (iv) making mark to market (MtM) provisions for SLR securities held by them.

RRBs were classified into 3 groups to facilitate assessment of recapitalisation funds derived from baseline viability metrics as of FY 2019. The Committee generated estimates of expenditure under different heads and its likely phasing and also considered scenarios in particular for treatment of MtM. It considered the scenario that RBI may allow RRBs to hold all SLR securities under HtM category until 31 March 2013, and the MtM[10] norms applicable for Commercial banks may be made applicable to RRBs with effect from 1 April 2013.

Table 4.1. Additional Provisions for likely Commitment

(In ₹ Million)

Group	Wage revision	Gratuity	Leave encashment	Sub-total of first 3 areas	CBS	MtM	Total expenditure
I . 28 RRBs	2,418.80	1,727.80	891.10	5,037.70	11,846.70	8,984.50	25,868.90
II. 21 RRBs	2,127.70	1,730.90	850.90	4,709.50	11,670.70	9,875.10	26,255.30
III . 33 RRBs	5,805.70	3,101.40	3,332.50	12,239.60	13,286.10	11,273.70	36,799.40
82 RRBs	**10,352.30**	**6,560.10**	**5,074.50**	**21,986.80**	**36,803.50**	**30,133.40**	**88,923.60**

*RRB-wise details indicated in Annexure 4.2, 4.3 and 4.4

Table 4.2. Capitalisation Funds Required with all Provisions made

(In ₹ Million)

Group	Funds required		
	2010-11	2011-12	Total
I. 28 RRBs	18,948.50	7,727.00	26,675.50
II. 21 RRBs	2,455.00	6,342.00	8,797.00
Total	**21,403.50**	**14,069.00**	**35,472.50**

Table 4.4. Shareholder-wise Contribution for Capitalization of 40 RRBs in Groups I and II with all Provisions except for MtM

(In ₹ Million)

Shareholders	Capitalisation Amounts		
	2010-11	2011-12	Total
Government of India (50%)	6,687.50	4,312.50	11,000.00
State Government (15%)	2,006.30	1,293.80	3,300.00
Sponsor Banks (35%)	4,681.30	3,018.80	7,700.00
Grand Total	**13,375.00**	**8,625.00**	**22,000.00**

13.2.4. The Fourth Phase (2006–15): Consolidation and Technology adoption

The amalgamation exercise kicked off in 2005–06 and in the first wave, brought down the number of RRBs from 196 to 133. By March 2010, the number of RRBs were at 82 and by 2015, the total count was at 56. RBI raised the CRAR for RRBs to 9% in 2013. By 2015, 52 out of 56 banks had complied with the 9% CRAR requirement. GoI continued with additional recapitalisation for 40 RRBs out of 82 in 2012, based on the recommendations of K. C. Chakrabarty Committee. The RRBs became a critical player in the financial inclusion framework of RBI, opening more than 230 million deposit accounts between 2006 and 2009. Branch expansion gathered steam again though this time fuelled substantively by larger RRBs to support the financial inclusion drive. Coverage of districts also increased despite the reduction in number of banks. And amalgamation improved credit sentiment as CD ratios started improving to healthier levels.

Effective August 2009, RRBs could issue inter-bank participation certificates (IBPCs) of a tenor of 180 days on risk sharing basis to SCBs against their priority sector advances in excess of 60% of their outstanding advances. Expanding the range of market-based instruments, albeit short-term in nature, signalled a welcome step towards facilitating better asset allocation and optimisation in capital/fund use.

Compulsory adoption of core banking solutions (CBS) at all branches was aimed at bringing RRBs at par with commercial banks at a foundational technology platform. Incentives were introduced to augment the performance culture at the highest levels of RRB management. And in 2015, the RRB Act 1976 was amended, to raise the authorised capital of each RRB from 50 Million to 20,000 Million. RRBs were permitted to raise capital from sources other than the central/state government/sponsor banks, provided the combined shareholding of the central government and the sponsor bank remained above 51%.

The 2006–15 were an eventful decade for RRBs. The phased amalgamation exercise enabled the creation of larger banks with better financial strength, brought in greater transparency, and equipped them to transform into meaningful rural financial intermediaries.

13.2.5. The Fifth Phase (2016–25): Decade of Restructuring and Resurgence

The decade from 2016 to 2025 has enabled RRBs to find their footing and establish their significance in the Indian financial system. CD ratio averaged around 65% for most part of this decade, in the last two years, there was a spike in CDR which went past 70% after 34 years. RRBs showed sustained business growth on a large base, and the focus was distinctly towards disbursing more credit. The branch expansion of the previous decade seemed to pay off

BOX 13.3. PHASES OF AMALGAMATION TOWARDS THE ONE STATE-ONE RRB POLICY GOAL

The consolidation of RRBs has occurred in four distinct phases:

- **Phase I (2005–10):** Numbers reduced from 196 to 82 by merging banks sponsored by the same bank within a state.
- **Phase II (2012–14):** Numbers brought down from 82 to 56 by merging RRBs across different sponsor banks within a state.
- **Phase III (2019 - 21):** Numbers reduced from 56 to 43, by amalgamating weaker RRBs with stronger ones.
- **Phase IV (May 2025):** Numbers reduced from 43 to 28 resulting in the formation of a state level RRB with contiguous area of operation leading to simplifying management and ease of service delivery.

RBI issued the necessary licenses while NABARD played a pivotal role in preparing a standard operating procedure (SOP) for amalgamation and overseeing implementation of operational and governance reforms. Guided by the regulatory framework of the RBI and the developmental support of NABARD, the consolidation is progressively transforming many financially weak and operationally inefficient entities into stronger, more competitive, and sustainable institutions. The amalgamation of RRBs has been a crucial step in revitalising India's rural banking sector. Continuing support and oversight from regulatory bodies will be vital for the success of this reform process—enabling RRBs to become stronger, more productive, impactful rural financial intermediaries, while maintaining their core commitment to fostering robust and inclusive growth in rural India.

in business terms. The other aspects of performance relating to productivity and profitability improved as a result. After reporting net losses during 2018–20, RRBs reported their highest ever consolidated net profit of 75.71 billion during 2023–24 which moderated marginally to 71.48 billion in 2024–25. Sustained improvement in asset quality in the previous three years was positive resulting in the gross non-performing assets (GNPA) ratio of RRBs reaching a decadal low of 6.2% (net non-performing assets or NNPA 2.4%) at end March 2024 and further to 5.3% (NNPA 1.%) at end March 2025. The improvement in asset quality was accompanied by higher provision buffers. Further, the consolidated CRAR stood at an all-time high of 14.4% at end March 2025, building on the 14.2% levels of end March 2024. Aided by the capital infusion of ₹108.9 billion during 2021–23 and the overall improvement in operating profile, the number of RRBs with CRAR below the regulatory minimum of 9% declined.

Priority sector lending accounted for 87% of RRBs' total lending and all banks met their target of lending 75% as of March 2024. Effective 2016, priority sector lending certificates (PSLC) had been introduced enabling RRBs to issue and trade in market-based instruments (certificates) based on their surplus priority sector loans and earn an (premium) income. Some RRBs that could not meet PSL targets in the past bought PSLCs to fulfil their obligations against a premium payment. RRBs are also permitted to issue perpetual debt instruments to augment Tier 1 capital.

13.3. RRBS NOW

After the last round of mergers and consolidation, 28 RRBs, one for each major state remain. The financial position of the entities that remain is much stronger; they have the scale and scope to expand meaningfully and not just offer a comprehensive range of financial services, but catalyse rural economic activity aligned to the aspirations of resurgent rural areas. At the aggregate level the RRBS are profitable with return on assets (ROA) of 0.84 (only four banks making current losses, mainly on account of bulk provisions towards pension and emoluments arrears liability). Only three out of 28 have a CRAR of less than regulatory threshold of 9%. NNPA is reasonably low at less than 2%, with a provision coverage ratio of more than 65%. Given the current state of profitability, the banks are likely to raise the provision coverage ratio (PCR) upwards of 75% towards that regulatory guidance level. While 22 banks were compliant with priority sector lending requirements (achieving 88% against target of 75%), six had to buy PSLCs to ensure compliance.

Table 13.3. Status of RRBs Post Amalgamation (May 2025)

Number of Banks	28
Assets(in ₹ million)	9,029,820
Deposits(in ₹ million)	7,138,000
Advances(in ₹ million)	5,267,620
Investments(in ₹ million)	3,160,430
ROA %	0.84
CD Ratio%	73.8
NNPA %	1.97
PCR%	65.2
CRAR%	14.4

13.4. PREPAREDNESS FOR THE FUTURE: KEY CONSIDERATIONS

To transform India into a fully developed economy by 2047, Viksit Bharat vision calls for economic competitiveness in all sectors, including the rural economy. RRBs need to evolve to make this a reality, especially as the vision entails fostering growth that is both sustainable and inclusive. RRBs accordingly stand at a strategic inflection point. Backed by technological upgrades and governance reforms, the imperative for RRBs is to transform into modern, efficient, and customer-centric rural financial institutions—institutions that promote efficient financial intermediation in its full sense, to unlock rural productivity and inclusive growth. In broad terms, this will entail product and business diversification, upscaling digital capabilities, human capital investment, and empowered risk governance all while staying true to their core mission of financial inclusion.

Below are some of the key considerations for RRB strategy going forward -

- **Focus on rural financial services vs narrower rural credit:** For RRBs to be efficient rural financial intermediaries serving the needs of a large, young and aspiring rural population, a renewed approach to delivering rural finance is essential. One that looks more holistically at financial services (viz savings, credit, investments, payments, risk mitigation and other needs) of agriculture and non-farm enterprises;

of farmers and agricultural workers; of women and youth; of skilled artisans and many others. This will entail tailoring 'bankable' products—often requiring innovative approaches—that respond to customers' diverse needs (investment, working capital, lifecycle financial, risk mitigation) while making it economically feasible for both lender and borrower. These can include risk sharing products or instruments which are catalytic in nature helping to crowd in diverse pools of financing including from the private sector. This repositioning is vital if RRBs want to see themselves as competitive alternatives to NBFC and MFIs. The centralised digital lending platform (CDCI) being developed by NABARD for RRBs will enable end to end credit delivery and provide the needed infrastructure support towards this end.

- **Scale rural infrastructure investments:** Investments in rural infrastructure (energy, roads, digital connectivity, affordable housing, etc.) and services (education, health, etc.) enhance income generating capacity and contribute to competitiveness when delivered at scale and in a cost-effective manner. Equally, investments in natural resource management, adaptation and mitigation are critical for agriculture and rural ecosystems. Complementing traditional financing mechanisms of RRBs with more market-based approaches leveraging a diverse set of financial institutions along with markets can be a potential way not only to achieve scale but also to unlock innovation in delivering rural infrastructure.
- **Unlock gains from technology:** The amalgamation process has enabled RRBs to align with banking industry technology standards making way for unlocking business and operational efficiencies that can be strategic for RRBs. Policy thrust on technology upgradation has bolstered RRB capabilities with internet banking, mobile banking, unified payment interface (UPI), call centre facility, account aggregator framework, video know-your-customer (KYC), Bharat Bill Payment Service, etc. In addition to developing a large number of use cases with these, advanced technologies can help revolutionise customer analytics, loan origination and management, and customer interface with banks. Utilising a modern loan origination system (LOS) that leverages data analytics for credit decisions integrates alternative data points like utility payments or mobile transaction history, credit scores, and credit information bureau reports to create a more comprehensive credit profile for rural borrowers is one way. This can be particularly useful for borrowers without traditional collateral backing, like those starting up enterprises or women pursuing livelihoods. Account aggregator platforms or unified loan interface are platform-based approaches that RRBs can already use. More broadly, branchless and cashless banking enabled by technology is often the preferred mode for young professionals, migrant workers, and youth. Finally, RRBs must adopt technologies that can optimise costs, support risk measurement and mitigation, improve productivity, and unlock scale efficiencies. In its technology strategy, RRBs must be guided by their Boards, including leap-frogging to the next technology level when needed while maintaining appropriate institutional safeguards at all times, to be able to deliver sound and reliable customer value and service.
- **Bolster capital:** The financial strength conferred by a sizable balance sheet and a well-developed branch network that is staffed can be fully exploited only if capital is well above the minimum regulatory threshold. Shifting the focus of capital from 'minimum compliance needs' to the 'amount and quality that can support growth' will be a helpful way forward. RRBs should be able to bolster their capital base in a number of ways including through: (i) Tier 1 Debt: this will bolster their capital without diluting existing equity, providing a cushion against potential losses and supporting new credit growth; (ii) equity infusion from others viz, other than the sponsor bank, such as private investors to supplement capital subject to regulatory limits; (iii) listing of shares: listing of RRB shares on a stock exchange through an initial public offering (IPO) would provide access to a wider pool of capital and enhance transparency. This would also create a market valuation for the banks and increase standards of disclosure and compliance. These measures will enable market discipline to support RRBs' institutional strengthening, modernisation, and growth.

  RRBs should boldly consider (i) long-term bond/debt Issuance—with sufficient institutional preparedness and credit strengthening that would support both credit expansion plans and asset-liability management; and (ii) getting a credit rating—all RRBs may be encouraged to obtain a credit rating from a recognised agency to enable market access, lower borrowing costs, and instil confidence among investors and depositors.

- **Enhance and modernise risk governance:** RRBs will need to modernise governance standards, risk management practices, and enhance overall risk culture as they strategically and institutionally transform. This will mean commensurate investments in skills and infrastructure that are both focused and sustained. Among others, RRBs should mainstream risk-based pricing principles and adopt appropriate policies to ensure optimal interest margins that price-in risks and ensure profitability. It would be good practice for all government-mandated subsidies and schemes to be well targeted and designed as transparent pass-through transactions. Currently subsidies on loans are delivered through adjustment of interest charged to customers with subsidies paid to the banks; this blurs the line between social costs of development and financial cost of banking. There is therefore an urgent need to clearly delineate the intermediation function of the bank from the social objective of keeping cost of capital affordable. Within priority sector lending, certain categories such as loans to SHGs perform better, potentially providing a basis for differential risk weights for better performing sub-categories, without compromising credit culture and soundness metrics. That would need RRBs to consistently demonstrate that their asset allocation decisions are based on strong due diligence and risk assessments. On this count, utilising modernised systems that leverage data analytics for credit origination and monitoring can be supportive and efficient. Finally, RRBs need to adopt robust recovery measures and deploy technology where feasible to support it.

13.5. CONCLUSION

Government ownership of retail financial institutions is not an easy choice. In a farsighted move, GoI prioritised inclusive financial services for a vast rural population and established RRBs, recognising the limitations of any one set of institutions in serving all the needs of the marginalised and underserved. Despite their challenges and limitations, RRBs have grown across the country and have now scaled up into large, state-level entities that can potentially catalyse rural economic growth. The interventions over the years on financial, governance, process and technology improvements have enabled RRBs to narrow the gap with larger banks in an increasingly competitive market. Today, the RRBs are moving towards operating on a more level playing field, though some alignment gaps[11] remain. They have the opportunity of becoming bankers of choice in rural areas, and have the capacity and technological base needed to offer fit for purpose, competitive products in many cases. The residual issues around institutional governance, skill sets, harmonisation and optimisation of technology, product design and a performance-oriented culture will be a matter of sustained effort and investment, supported in particular by specialised human resources. RRBs are likely coming of age to be able to manage and compete on their own, indeed guided and steered by their modernized and independent Boards. It is a significant achievement that in five decades, RRBs find themselves ready to embark on a bold trajectory of growth, with greater preparedness to compete by themselves, independent of state support.

APPENDIX A.13.1.

RRB Data: State-wise Footprint and Outreach May 2025

Name of Bank	RRB customer to state population ratio (%)	RRB branches as % of total state branches
MIZORAM RURAL BANK	79.0	42.0
TRIPURA GRAMIN BANK	70.4	22.6
ASSAM GRAMIN VIKASH BANK	38.3	13.9
UTTAR PRADESH GRAMIN BANK	32.1	21.6
MEGHALAYA RURAL BANK	30.0	21.8
KARNATAKA GRAMEENA BANK	28.4	14.8
CHHATTISGARH RAJYA GRAMIN BANK	27.6	18.7
ARUNACHAL PRADESH RURAL BANK	26.4	13.8
BIHAR GRAMIN BANK	26.1	24.9
ODISHA GRAMEEN BANK	25.9	16.0
RAJASTHAN GRAMIN BANK	24.8	17.5
SARVA HARYANA GRAMIN BANK	24.1	11.8
PUDUVAI BHARATHIYAR GRAMA BANK	23.9	15.4
ANDHRA PRADESH GRAMEENA BANK	23.8	16.0
KERALA GRAMIN BANK	23.2	8.4
TELANGANA GRAMEENA BANK	23.1	14.3
WEST BENGAL GRAMIN BANK	19.6	9.2
HIMACHAL PRADESH GRAMIN BANK	19.2	14.5
MANIPUR RURAL BANK	18.3	9.9
JHARKHAND RAJYA GRAMIN BANK	18.1	12.4
MADHYA PRADESH GRAMIN BANK	17.7	16.0
UTTARAKHAND GRAMIN BANK	17.2	11.9
PUNJAB GRAMIN BANK	13.1	6.4
JAMMU & KASHMIR GRAMEEN BANK	12.9	16.1
GUJARAT GRAMIN BANK	10.1	7.6
TAMIL NADU GRAMA BANK	8.0	4.9
MAHARASHTRA GRAMIN BANK	8.0	4.9
NAGALAND RURAL BANK	2.5	5.3
All India (All RRBs)	**21.6**	**12.8**

APPENDIX A.13.2. DATA SETS

RRB Data – Assets and Deposits (both in Million), as of May 2025

Rank	Bank	Assets	Bank	Deposits
1	UTTAR PRADESH GRAMIN BANK	153,506.6	UTTAR PRADESH GRAMIN BANK	136,500.7
2	ANDHRA PRADESH GRAMEENA BANK	915,652.7	ANDHRA PRADESH GRAMEENA BANK	595,465.9
3	RAJASTHAN GRAMIN BANK	670,312.7	KARNATAKA GRAMEENA BANK	560,702.5
4	KARNATAKA GRAMEENA BANK	669,442.3	RAJASTHAN GRAMIN BANK	534,491.5
5	TELANGANA GRAMEENA BANK	580,019	BIHAR GRAMIN BANK	478,162.8
6	BIHAR GRAMIN BANK	557,286.8	WEST BENGAL GRAMIN BANK	330,383
7	MADHYA PRADESH GRAMIN BANK	404,958.2	TELANGANA GRAMEENA BANK	322,730.2
8	WEST BENGAL GRAMIN BANK	381,030.9	MADHYA PRADESH GRAMIN BANK	322,071.3
9	KERALA GRAMIN BANK	373,549	ODISHA GRAMEEN BANK	281,268.9
10	TAMIL NADU GRAMA BANK	362,359	KERALA GRAMIN BANK	274,271.3
11	ODISHA GRAMEEN BANK	3,334,140	MAHARASHTRA GRAMIN BANK	2,655,317
12	MAHARASHTRA GRAMIN BANK	331,474	GUJARAT GRAMIN BANK	252,180.7
13	SARVA HARYANA GRAMIN BANK	306,982	SARVA HARYANA GRAMIN BANK	251,114.3
14	GUJARAT GRAMIN BANK	288,469.7	TAMIL NADU GRAMA BANK	232,553
15	CHHATTISGARH RAJYA GRAMIN BANK	213,635.4	CHHATTISGARH RAJYA GRAMIN BANK	178,566.7
16	PUNJAB GRAMIN BANK	208,934.2	PUNJAB GRAMIN BANK	157,782.1
17	JHARKHAND RAJYA GRAMIN BANK	153,989.7	ASSAM GRAMIN VIKASH BANK	127,255
18	ASSAM GRAMIN VIKASH BANK	150,231.6	JHARKHAND RAJYA GRAMIN BANK	115,701.8
19	TRIPURA GRAMIN BANK	125,730	TRIPURA GRAMIN BANK	100,660
20	HIMACHAL PRADESH GRAMIN BANK	103,693	HIMACHAL PRADESH GRAMIN BANK	92,893.5
21	JAMMU & KASHMIR GRAMEEN BANK	100,615.1	UTTARAKHAND GRAMIN BANK	84,704.9
22	UTTARAKHAND GRAMIN BANK	95,467.6	JAMMU & KASHMIR GRAMEEN BANK	78,125.1
23	MIZORAM RURAL BANK	73,095.3	MIZORAM RURAL BANK	58,439.9
24	MEGHALAYA RURAL BANK	45,259.4	MEGHALAYA RURAL BANK	40,331.4
25	PUDUVAI BHARATHIYAR GRAMA BANK	21,127.2	PUDUVAI BHARATHIYAR GRAMA BANK	15,177.4
26	ARUNACHAL PRADESH RURAL BANK	18,727.8	ARUNACHAL PRADESH RURAL BANK	15,129.7
27	MANIPUR RURAL BANK	7,095.1	MANIPUR RURAL BANK	5,600.4
28	NAGALAND RURAL BANK	2,210.3	NAGALAND RURAL BANK	1,700.6
	India	**909,828.1**	**India**	**7,138,002.3**

RRB Data – Advances (Millions) and Staff (nos), as of May 2025

Rank	Bank	Advances Millions	Bank	Staff
1	UTTAR PRADESH GRAMIN BANK	805,008.2	UTTAR PRADESH GRAMIN BANK	19,218
2	ANDHRA PRADESH GRAMEENA BANK	619,671.4	KARNATAKA GRAMEENA BANK	8,174
3	KARNATAKA GRAMEENA BANK	479,761.1	BIHAR GRAMIN BANK	7,318
4	RAJASTHAN GRAMIN BANK	427,320.1	ANDHRA PRADESH GRAMEENA BANK	7,154
5	TELANGANA GRAMEENA BANK	415,182.8	RAJASTHAN GRAMIN BANK	6,846
6	BIHAR GRAMIN BANK	301,751.9	MADHYA PRADESH GRAMIN BANK	5,649
7	KERALA GRAMIN BANK	275,621.9	TELANGANA GRAMEENA BANK	4,571
8	TAMIL NADU GRAMA BANK	240,085.7	WEST BENGAL GRAMIN BANK	3,895
9	MADHYA PRADESH GRAMIN BANK	219,210.1	KERALA GRAMIN BANK	3,853
10	WEST BENGAL GRAMIN BANK	184,977.1	SARVA HARYANA GRAMIN BANK	3,660
11	GUJARAT GRAMIN BANK	175,368.1	TAMIL NADU GRAMA BANK	3,450
12	SARVA HARYANA GRAMIN BANK	17,220	ODISHA GRAMEEN BANK	3,390
13	ODISHA GRAMEEN BANK	16,24,591	MAHARASHTRA GRAMIN BANK	3,063
14	MAHARASHTRA GRAMIN BANK	160,749	GUJARAT GRAMIN BANK	2,974
15	PUNJAB GRAMIN BANK	120,972.2	CHHATTISGARH RAJYA GRAMIN BANK	2,490
16	CHHATTISGARH RAJYA GRAMIN BANK	99,944	PUNJAB GRAMIN BANK	2,176
17	ASSAM GRAMIN VIKASH BANK	81,070.5	ASSAM GRAMIN VIKASH BANK	1,820
18	JHARKHAND RAJYA GRAMIN BANK	68,966.7	JHARKHAND RAJYA GRAMIN BANK	1,648
19	JAMMU & KASHMIR GRAMEEN BANK	49,920.6	JAMMU & KASHMIR GRAMEEN BANK	1,537
20	UTTARAKHAND GRAMIN BANK	45,779.5	HIMACHAL PRADESH GRAMIN BANK	1,032
21	HIMACHAL PRADESH GRAMIN BANK	43,273.4	UTTARAKHAND GRAMIN BANK	1,025
22	TRIPURA GRAMIN BANK	40,191.4	TRIPURA GRAMIN BANK	903
23	MIZORAM RURAL BANK	37,338.9	MIZORAM RURAL BANK	524
24	PUDUVAI BHARATHIYAR GRAMA BANK	16,423.7	MEGHALAYA RURAL BANK	443
25	MEGHALAYA RURAL BANK	15,184.1	PUDUVAI BHARATHIYAR GRAMA BANK	174
26	ARUNACHAL PRADESH RURAL BANK	5,151	ARUNACHAL PRADESH RURAL BANK	126
27	MANIPUR RURAL BANK	3,187.3	MANIPUR RURAL BANK	113
28	NAGALAND RURAL BANK	785.9	NAGALAND RURAL BANK	44
	India	**5,267,628.9**		**97,270**

RRB Data – Customers (nos) and Credit Deposit Ratio (%), as of May 2025

Rank		Customers		CD ratio %
1	UTTAR PRADESH GRAMIN BANK	77,298,066	TELANGANA GRAMEENA BANK	128.65
2	BIHAR GRAMIN BANK	34,103,118	PUDUVAI BHARATHIYAR GRAMA BANK	108.21
3	RAJASTHAN GRAMIN BANK	20,499,458	ANDHRA PRADESH GRAMEENA BANK	104.06
4	WEST BENGAL GRAMIN BANK	19,605,051	TAMIL NADU GRAMA BANK	103.24
5	KARNATAKA GRAMEENA BANK	19,435,151	KERALA GRAMIN BANK	100.49
6	MADHYA PRADESH GRAMIN BANK	15,720,433	KARNATAKA GRAMEENA BANK	85.56
7	ASSAM GRAMIN VIKASH BANK	13,944,231	RAJASTHAN GRAMIN BANK	79.95
8	ANDHRA PRADESH GRAMEENA BANK	12,721,584	PUNJAB GRAMIN BANK	76.67
9	ODISHA GRAMEEN BANK	12,133,490	GUJARAT GRAMIN BANK	69.54
10	MAHARASHTRA GRAMIN BANK	10,274,368	SARVA HARYANA GRAMIN BANK	68.57
11	TELENGANA GRAMIN BANK	8,899,004	Madhya Pradesh Gramin Bank	68.06
12	CHHATTISGARH RAJYA GRAMIN BANK	8,529,239	JAMMU & KASHMIR GRAMEEN BANK	63.90
13	KERALA GRAMIN BANK	8,370,274	MIZORAM RURAL BANK	63.89
14	SARVA HARYANA GRAMIN BANK	7,450,149	ASSAM GRAMIN VIKASH BANK	63.71
15	GUJARAT GRAMIN BANK	7,417,881	BIHAR GRAMIN BANK	63.11
16	JHARKHAND RAJYA GRAMIN BANK	7,322,260	MAHARASHTRA GRAMIN BANK	60.54
17	TAMIL NADU GRAMA BANK	6,210,032	JHARKHAND RAJYA GRAMIN BANK	59.61
18	PUNJAB GRAMIN BANK	4,076,906	UTTAR PRADESH GRAMIN BANK	58.98
19	TRIPURA GRAMIN BANK	2,971,373	ODISHA GRAMEEN BANK	57.76
20	UTTARAKHAND GRAMIN BANK	2,044,765	MANIPUR RURAL BANK	56.91
21	JAMMU & KASHMIR GRAMEEN BANK	1,782,690	WEST BENGAL GRAMIN BANK	55.99
22	HIMACHAL PRADESH GRAMIN BANK	1,429,837	CHHATTISGARH RAJYA GRAMIN BANK	55.97
23	MEGHALAYA RURAL BANK	1,022,987	UTTARAKHAND GRAMIN BANK	54.05
24	MIZORAM RURAL BANK	996,235	HIMACHAL PRADESH GRAMIN BANK	46.58
25	MANIPUR RURAL BANK	602,060	NAGALAND RURAL BANK	46.21
26	ARUNACHAL PRADESH RURAL BANK	419,727	TRIPURA GRAMIN BANK	39.93
27	PUDUVAI BHARATHIYAR GRAMA BANK	335,778	MEGHALAYA RURAL BANK	37.65
28	NAGALAND RURAL BANK	56,728	ARUNACHAL PRADESH RURAL BANK	34.05
	India	**3,05,672,875**	**India**	**73.80**

RRB Data – Cost of Funds and Return on Assets (both %), as of May 2025

Rank	Bank	Cost of funds %	Bank	ROA %
1	MANIPUR RURAL BANK	2.75	TELANGANA GRAMEENA BANK	2.10
2	ARUNACHAL PRADESH RURAL BANK	3.24	ANDHRA PRADESH GRAMEENA BANK	1.95
3	MEGHALAYA RURAL BANK	3.36	MIZORAM RURAL BANK	1.76
4	BIHAR GRAMIN BANK	3.53	GUJARAT GRAMIN BANK	1.65
5	CHHATTISGARH RAJYA GRAMIN BANK	3.53	MEGHALAYA RURAL BANK	1.56
6	MIZORAM RURAL BANK	3.6	ARUNACHAL PRADESH RURAL BANK	1.42
7	UTTAR PRADESH GRAMIN BANK	3.62	PUDUVAI BHARATHIYAR GRAMA BANK	1.39
8	NAGALAND RURAL BANK	3.68	SARVA HARYANA GRAMIN BANK	1.26
9	ODISHA GRAMEEN BANK	3.8	JHARKHAND RAJYA GRAMIN BANK	1.17
10	TRIPURA GRAMIN BANK	3.82	ODISHA GRAMEEN BANK	1.14
11	WEST BENGAL GRAMIN BANK	3.83	RAJASTHAN GRAMIN BANK	1.13
12	ASSAM GRAMIN VIKASH BANK	3.87	TAMIL NADU GRAMA BANK	0.96
13	JHARKHAND RAJYA GRAMIN BANK	3.93	KERALA GRAMIN BANK	0.89
14	UTTARAKHAND GRAMIN BANK	4.02	WEST BENGAL GRAMIN BANK	0.89
15	SARVA HARYANA GRAMIN BANK	4.06	TRIPURA GRAMIN BANK	0.88
16	MADHYA PRADESH GRAMIN BANK	4.17	UTTARAKHAND GRAMIN BANK	0.87
17	GUJARAT GRAMIN BANK	4.31	ASSAM GRAMIN VIKASH BANK	0.79
18	MAHARASHTRA GRAMIN BANK	4.36	PUNJAB GRAMIN BANK	0.78
19	RAJASTHAN GRAMIN BANK	4.5	CHHATTISGARH RAJYA GRAMIN BANK	0.75
20	JAMMU & KASHMIR GRAMEEN BANK	4.55	UTTAR PRADESH GRAMIN BANK	0.43
21	TELANGANA GRAMEENA BANK	4.72	HIMACHAL PRADESH GRAMIN BANK	0.34
22	KARNATAKA GRAMEENA BANK	4.78	NAGALAND RURAL BANK	0.24
23	KERALA GRAMIN BANK	4.87	BIHAR GRAMIN BANK	0.22
24	PUNJAB GRAMIN BANK	5.02	MAHARASHTRA GRAMIN BANK	0.13
25	ANDHRA PRADESH GRAMEENA BANK	5.16	MANIPUR RURAL BANK	0.10
26	HIMACHAL PRADESH GRAMIN BANK	5.17	MADHYA PRADESH GRAMIN BANK	-0.04
27	TAMIL NADU GRAMA BANK	5.84	KARNATAKA GRAMEENA BANK	-1.00
28	PUDUVAI BHARATHIYAR GRAMA BANK	5.93	JAMMU & KASHMIR GRAMEEN BANK	-1.96
	India	**4.34**	**India**	**0.78**

RRB Business Productivity – Deposits and Advances per Staff (both Millions per employee) – May 2025

Rank	Bank	Deposits per staff	Bank	Advances per staff
1	ARUNACHAL PRADESH RURAL BANK	120.10	PUDUVAI BHARATHIYAR GRAMA BANK	94.40
2	MIZORAM RURAL BANK	111.50	TELANGANA GRAMEENA BANK	90.80
3	TRIPURA GRAMIN BANK	111.50	ANDHRA PRADESH GRAMEENA BANK	86.60
4	MEGHALAYA RURAL BANK	91.00	KERALA GRAMIN BANK	71.50
5	HIMACHAL PRADESH GRAMIN BANK	90.00	MIZORAM RURAL BANK	71.30
6	PUDUVAI BHARATHIYAR GRAMA BANK	87.20	TAMIL NADU GRAMA BANK	69.60
7	MAHARASHTRA GRAMIN BANK	86.70	RAJASTHAN GRAMIN BANK	62.40
8	WEST BENGAL GRAMIN BANK	84.80	GUJARAT GRAMIN BANK	59.00
9	GUJARAT GRAMIN BANK	84.80	KARNATAKA GRAMEENA BANK	58.70
10	ANDHRA PRADESH GRAMEENA BANK	83.20	PUNJAB GRAMIN BANK	55.60
11	ODISHA GRAMEEN BANK	83.00	MAHARASHTRA GRAMIN BANK	52.50
12	UTTARAKHAND GRAMIN BANK	82.60	ODISHA GRAMEEN BANK	47.90
13	RAJASTHAN GRAMIN BANK	78.10	WEST BENGAL GRAMIN BANK	47.50
14	PUNJAB GRAMIN BANK	72.50	SARVA HARYANA GRAMIN BANK	47.00
15	CHHATTISGARH RAJYA GRAMIN BANK	71.70	UTTARAKHAND GRAMIN BANK	44.70
16	KERALA GRAMIN BANK	71.20	ASSAM GRAMIN VIKASH BANK	44.50
17	UTTAR PRADESH GRAMIN BANK	71.00	TRIPURA GRAMIN BANK	44.50
18	TELANGANA GRAMEENA BANK	70.60	HIMACHAL PRADESH GRAMIN BANK	41.90
19	JHARKHAND RAJYA GRAMIN BANK	70.20	UTTAR PRADESH GRAMIN BANK	41.90
20	ASSAM GRAMIN VIKASH BANK	69.90	JHARKHAND RAJYA GRAMIN BANK	41.80
21	SARVA HARYANA GRAMIN BANK	68.60	BIHAR GRAMIN BANK	41.20
22	KARNATAKA GRAMEENA BANK	68.60	ARUNACHAL PRADESH RURAL BANK	40.90
23	TAMIL NADU GRAMA BANK	67.40	CHHATTISGARH RAJYA GRAMIN BANK	40.10
24	BIHAR GRAMIN BANK	65.30	MADHYA PRADESH GRAMIN BANK	38.80
25	MADHYA PRADESH GRAMIN BANK	57.00	MEGHALAYA RURAL BANK	34.30
26	JAMMU & KASHMIR GRAMEEN BANK	50.80	JAMMU & KASHMIR GRAMEEN BANK	32.50
27	MANIPUR RURAL BANK	49.60	MANIPUR RURAL BANK	28.20
28	NAGALAND RURAL BANK	38.70	NAGALAND RURAL BANK	17.90
	India	**73.40**	**India**	**54.20**

ENDNOTES

1 The Working Group constituted by the Government of India on 1 July 1975 was to study, in depth, the problem of devising alternative agencies to provide institutional credit to rural people in the context of the steps being initiated under the 20-point Economic Programme. See, *Annual Report and Trend and Progress of Banking in India 1976, Reserve Bank of India.*

2 The Regional Rural Banks Act 1976, followed the 1975 Ordinance.

3 Note that the Indian economy was jolted from its normal growth path since 1971–72, primarily because of the serious set-back to the agriculture sector during 1971–72 and 1972–73. Consequently, inflation assumed serious proportions along with a dramatic deterioration in India's terms of trade. See, *Extracted and summarized from the Annual Report and Trend and Progress of Banking in India 1976, Reserve Bank of India*.

4 National Bank for Agriculture and Rural Development, Development Financial Institution (DFI), owned by GoI.

5 The Committee was chaired by B. Sivaram, former Secretary of the Ministry of Agriculture, GoI.

6 *India, Financial Sector Assessment Program, Financial System Stability Assessment,* IMF February 2025

7 Enabled by amendments to the Banking Regulation Act, 1949

8 Enabled by amendments to the Reserve Bank of India Act, 1934

9 NABARD also assumed the responsibility for laying down RRB policies, monitoring their operations, administering refinance scheme, liaising with RBI on RRB branch expansion, and conducting statutory inspection of RRBs.

10 MtM norms are applicable for SCBs only in the case of such SLR investments which are held beyond the required 25% of Demand and Time Liabilities norm and are classified in two categories of 'held for trading' or 'available for sale'

11 For instance, the applicable prudential framework RRBs is Basel I, compared to Basel II for SFBs and Basel III for Public Sector Banks.

About the Authors

Ramesh Srivatsava Arunachalam
AI Strategist | Causal Intelligence Architect | Smallholder Aquaculture Advisor | Global Policy Advisor | Financial Inclusion Pioneer | Agriculture and SME Strategic Advisor

Ramesh Srivatsava Arunachalam is a globally recognized expert in Causal Artificial Intelligence (AI), Financial Inclusion, Smallholder Aquaculture, Strategic Governance and Risk Management, Technology-Driven Development especially for MSMEs, Climate Change, Climate Risk, Digital Public Infrastructure (DPI), Agriculture and Sustainable Food Systems, Natural Resource Management, Cyber Security and several related sectors, with 38 years of professional experience across 36 countries and 795 districts in India.

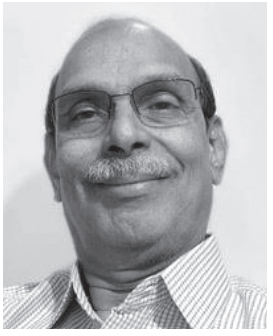
He has successfully led over 475 assignments for premier institutions including the World Bank, ADB, IFC, FAO, IFAD, DFID, UNDP, NABARD, SIDBI, ACCESS Development Services (ADS), Commonwealth Secretariat, Bill and Melinda Gates Foundation and multiple National Governments, several State Governments, regulatory bodies, private sector players, FPOs, community organizations and others.

He has Co-Founded SERPICO, a next generation multi-national Deep Tech Causal Artificial General Intelligence (AGI) company for enhancing productivity and market and financial access for smallholders and SMEs in Aquaculture, Agriculture and Non-Farm Value Chains. He specializes in architecting and building explainable artificial general intelligence systems for smallholders and SMEs, amongst others.

An engineer from REC (NIT) Trichy (1980-84) and an MBA from the Carlson School of Management (University of Minnesota), Ramesh (with his colleagues) has delivered several patentable innovations in Causal, Conversational and Agentic AI that address pressing challenges across smallholder aquaculture, agriculture, finance, insurance, climate risk, and satellite-based diagnostics. These innovations are underpinned by their proprietary 9W Causal Intelligence Framework, offering explainable, real-time decision support. He is widely known for leading system-level reforms through causal audits and evaluations in several areas.

Ramesh is a prolific writer, thought leader and author of 34 best selling books and 142 volumes of causal AI working papers, with active contributions to major publications and a widely followed LinkedIn newsletter. His 2025 book series "Tech, Tide, and Terrain" covers Causal AI, Aquaculture, Agriculture and SME Development, Climate, Gender, Finance, DPI, Sustainable Livelihoods and more, and is shaping global discourse on ethical, explainable and inclusive technology for smallholders in aquaculture, agriculture and non-farm value chains.

With deep technical fluency, strategic clarity, strong field experience and a global footprint, Ramesh Srivatsava Arunachalam continues to advance causal conversational AI-enabled, inclusive systems that serve the most underserved communities across the world.



N. Srinivasan

N. Srinivasan has forty five years of development finance and development economics experience. He had been a central banker and development banker for 30 years (in Reserve Bank of India and NABARD). After three decades of being a development banker, for more than fifteen years, he has been involved in design, supervision and evaluation of policy, strategy and implementation of several development finance and rural livelihood initiatives and institutions in India and abroad. His areas of interest are, development banking, financial inclusion, vulnerable and rural livelihoods and social entrepreneurship. He has authored the Microfinance India State of the Sector Reports for four years which are regarded as reference material for the sector. He has jointly authored, with Girija Srinivasan, the State of India's Livelihoods report for the years 2015, 2016 and 2017. He has also brought out books and on Rural Finance and Agricultural Finance in India. As a co-author he had written a book on Corporate Social Responsibility and another on 30 years of Self Help Groups in India (Spring Board for powering Women). He currently serves as an independent director on the board of Samunnati Finance and two development trusts. He serves as a member of the SRO Committee of Sa-Dhan. As an international development finance and livelihoods expert, he serves as a consultant and advisor to World Bank, International Fund for Agricultural Development, Asian Development Bank, and many other institutions.

Gaurav Gupta

A contributing author to the Inclusive Finance India Report since 2022, Gaurav Gupta is an independent researcher, consultant and visiting faculty. An ex-banker with experience in retail and corporate/ transaction banking, Gaurav is pursuing an executive-PhD (part-time) with a focus on inclusive finance from XLRI Jamshedpur. He is particularly interested in qualitative inquiry and its usefulness in understanding the financial decision-making of the economically poor. His overall experience over two decades includes a perspective-changing three years with the Azim Premji Foundation (from 2021 till 2024) mostly working on issues related to the urban poor. His interests lie at the intersection of financial inclusion, livelihoods in the informal sector, low-income communities and microenterprises. He has done multiple research/ consulting assignments with the World Bank Group, Women's Fund Asia, LabourNet and other organisations.

Girija Srinivasan

Girija Srinivasan had been a development banker for more than decade and then turned to build a successful international consulting practice in the areas of livelihoods and rural finance. She has been involved in design, supervision and evaluation of strategy and implementation of several unique development projects. She has accompanied rural institutions in their growth process in India and abroad. Her areas of interest are rural livelihoods, rural banking, financial inclusion and community-based organisations of women and farmers. Her experience spreads over almost all the states in India, South, South East and Middle-east Asia, and east, west and north Africa. She has authored the India Social Performance Report in Microfinance from 2012 to 2014, besides editing the report in 2011. She has co-authored, with

N. Srinivasan, the State of India's Livelihoods report for the years 2015, 2016 and 2017. She has also authored individually and jointly other books, carried out pioneering studies in SHG bank linkage programme. She is involved in the industry bodies dealing with microfinance and rural livelihoods. She serves as a consultant and advisor to IFAD, GIZ, Frankfurt School of Management and other institutions. She serves on the Boards of FWWB, CMF and Grameen Foundation for Social Impact.

Anirudh Chakradhar

Anirudh Chakradhar is an independent development consultant, and managing partner of Pragma Development Advisors. With nearly a decade of experience, Anirudh has worked with multilateral agencies, non-profits, and government agencies, on consulting assignments ranging from policy analysis and research to project design and evaluation. He has worked across sectors such as labour, migration, livelihoods, skill development and entrepreneurship promotion. He holds a Master's Degree in Public Policy and a Bachelor's Degree in English Literature.

Smita Premchander

Smita Premchander is a development practitioner, consultant, and teacher, and has done extensive work on poverty reduction, entrepreneurship, microfinance, gender equality, women's economic and social empowerment, gender-based violence, informal and migrant labour, elimination of child and bonded labour, social inclusion, social protection and sustainable development. She is a founder member of Sampark, of a 34-year-old highly accredited NGO with operations in India and Nepal, reaching cumulatively over 100,000 women, children, and migrant workers. Sampark engages in grassroots work, forms and strengthens people's organizations, and advocates for rights of the most marginalized social groups. She serves on the board of several Indian NGOs engaged in sustainable development and education. Smita holds advisory and board positions on institutions of the United Nations University (Tokyo and Bonn), and the University of Berne. She serves on the review panels of programmes of Swiss Agency for Development Cooperation (SDC/DEZA), and the Swiss National Science Foundation (SNSF). She has evaluated and designed international programmes for agencies including SDC, UNDP, ILO and others, covering over 18 countries. She is a Visiting Faculty at Indian Institute of Management in Ahmedabad (IIMA), where she teaches courses on Microfinance Management and Gender and Development Policies and Programmes. She is an alumni of the Lady Sri Ram College and Miranda House, University of Delhi; IIMA, Durham University UK; University of Berne, Switzerland. She is a Certified Associate of the Indian Institute of Bankers.

Soniya Hazarani
Soniya Hazarani is an Academic Associate in the Public Systems Group at the Indian Institute of Management Ahmedabad. She supports teaching and applied research across public policy and development, with experience in curriculum design, evaluation, and student mentoring. She holds a BSc in Biochemistry, an MSc in Biomedical Technology, and a B.Ed. She has previously taught at school and university levels. Her interests include gender, financial inclusion, and how public systems can expand equitable access to services for all communities.

Leora Klapper
Leora Klapper is a Lead Economist in the Development Research Group at the World Bank. She is a founder of the Global Findex database, co-editor of the World Bank Economic Review, and was Director of the 2022 World Development Report, *Finance for an Equitable Recovery*. She has published widely in refereed journals on corporate and household finance, fintech, banking, and entrepreneurship. Her current research studies the impact of digital financial services and connectivity on firms and households. Previously, she worked at the Board of Governors of the Federal Reserve System and Salomon Smith Barney. She holds a Ph.D. in Financial Economics from New York University Stern School of Business.

Alexander Norris
Alexandra Norris is a consultant in the World Bank's Development Research Group and a coauthor of The Global Findex 2025. Her research examines how adults around the world access and use financial services, with an emphasis on women and low-income individuals. She is particularly interested in the role digital technology plays in expanding financial inclusion. She holds an A.B. in Government with a focus in Data Science and a secondary in Economics from Harvard University.

Anuradha Ray
Anuradha Ray has an international career in development finance and financial market development, with extensive experience in India. Her work has focused on addressing structural constraints to financial market development including issues around information asymmetries and market infrastructure, and the strengthening of sustainable financial institutions. At the World Bank, she has worked at the global level and across regions on policies, institutional reforms and innovations to deepen long-term finance markets for agriculture, infrastructure, affordable housing, MSMEs, as well as to advance financial stability, inclusion, and the mobilisation of finance for sustainable development. She is currently an international consultant working with multilateral institutions on policies and programs to help countries unlock financing at scale for development, in particular for sustainable infrastructure.

The Inclusive Finance India Report is a comprehensive and well-researched document on cumulative progress made in India towards reaching the ambitious goal of universal Financial Inclusion. The report covers a review of the performance of diverse institutional structures and delivery models in inclusive finance – the commercial banks, the new specialized banks, Co-operative Banks, non-banking finance companies, self-help groups, microfinance institutions, banking agents and fintechs.

The report covers the initiatives in the digital technology that help overcome last-mile delivery challenges and provides an overview of the new initiatives and breakthroughs in digital financial inclusion. This publication tracks the performance of programmes and schemes of the Government to promote Financial Inclusion, as well as contributions and new initiatives of the ecosystem players such as investors, academic and research institutions, large apex institutions and regulators.

This edition of the report also provides an overview of specialized areas of Role of Private Sector Banks in Financial Inclusion, Ten Years of Mudra Bank and PMMY, 50 Years of RRBs in India, Unified Payment Interface (UPI), Gender aspects in Financial Inclusion, update on MSME, Inclusive Insurance and Pensions. Also, Cyber Security and Data Protection / Privacy, Digital Public Infrastructure for Agriculture, and Financial Inclusion in India: Measuring Progress from Access to Effective Use are the critical chapters in this edition of Inclusive Finance India Report.

The report aims to inform the policy development process on inclusive finance, highlight the positive impact of various institutions, models and initiatives and identify and highlight policy and practice gaps.

The report is authored by multiple experts in the sector and researchers engaged in the Financial Inclusion landscape. The Inclusive Finance India Report has earned its place at the top reference document on the annual trends and progress of financial inclusion covering as wide-ranging data-based analysis of all streams and models of financial inclusion; a must-have for every stakeholder interested and involved in Financial Inclusion in India.

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