The Inclusive Finance India Report is a comprehensive and well-researched account on cumulative progress made in India toward 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, Regional Rural Banks, the new specialized banks, non-bank finance companies, self-help groups, microfinance institutions, banking agents, and fintechs.

The report covers the initiatives in digital technology that help overcome last-mile delivery challenges and provides an overview of the new initiatives and breakthroughs in digital financial inclusion. The document tracks the performance of programmes and schemes of the government to promote financial inclusion, as well as contributions and new initiatives of ecosystem players such as investors, large apex institutions, and regulators. This edition of the Report also provides an overview of the initiatives and achievements in specialised areas of green financing and WASH financing that support progress on the climate resilience agenda.

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 and researchers engaged in the financial inclusion landscape. The Inclusive Finance India Report has earned its place as the top reference document on the annual trends and progress of financial inclusion covering a 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.

ISBN: 978-81-955245-4-9

INCLUSIVE FINANCE INDIA REPORT 2022

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EDITED BY
N. S. Vishwanathan

An ACCESS Publication

Inclusive Finance India Report 2022

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First published in 2022 by

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ACCESS Development Services
22, Ground Floor, Hauz Khas Village
New Delhi 110016

ISBN 978-81-955245-4-9

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List of Abbreviations

AA	Account Aggregator
ABCO	Active Borrowers per Credit Officer
AePS	Aadhaar-enabled Payments System
ANBC	Adjusted net Bank Credit
BBPS	Bharat Bill Payment System
BC	Business Correspondent
BCM	Billion Cubic Meters
BNPL	Buy Now Pay Later
BSBD	Basic Savings and Bank Deposit
BSBDA	Basic Savings Bank Deposit Account
CAGR	Compound Annual Growth Rate
CCL	Cash Credit Limit
CD	Credit-Deposit
CGSSD	Credit Guarantee Scheme for Subordinate Debt
CGTMSE	Credit Guarantee Fund Trust for Micro and Small Enterprises
CICO	Cash-In/Cash-Out
CRI	Climate Risk Index
CRR	Cash Reserve Ratio
CSP	Customer Service Point
DAY-NRLM	Deendayal Antayodya Yojana-National Rural Livelihoods Mission
DBIE	Database on Indian Economy
DBT	Direct Benefit Transfer
DCCB	District Credit Cooperative Bank
DFC	Digital Financial Capability
DFI	Development Financial Institutions
DFS	Digital Financial Services
DLAI	Digital Lenders Association of India
DPI	Digital Payments Index
DSCB	Domestic Scheduled Commercial Bank
ECLGS	Emergency Credit Line Guarantee Scheme
FI	Financial Inclusion
FLC	Financial Literacy Centres
FLDG	First Loss Default Guarantee
FPC	Farmer Producer Companies
FPO	Farmer Producer Organisation
FSP	Financial Service Provider
FY	Financial Year
GCC	General Credit Card
GDS	Gramin Dak Sevak
GeM	Government e-Marketplace
GoI	Government of India
GSTN	Goods and Services Tax Network
IFI	Inclusive Finance India
IFR	Inclusive Finance Report
IMPS	Immediate Payments System

IRACP	Income Recognition, Asset Classification and Provisioning
JAM	Jan-Dhan, Aadhaar and Mobile
JLG	Joint Liability Groups
KCC	Kisan Credit Cards
KYC	Know Your Customer
MFI	Microfinance Institution
MPC	Monetary Policy Committee
MPoS	Mobile Point of Sale
MSME	Micro, Small and Medium Enterprise
MSP	Minimum Support Price
MUDRA	Micro Units Development and Refinance Agency
NABARD	National Bank for Agriculture and Rural Development
NBFC	Non-Banking Financial Company
NBFC-MFI	Non-Banking Finance Company- Microfinance Institution
NCFE	National Centre for Financial Education
NGO	Non-Governmental Organization
NPA	Non-Performing Asset
NPCI	National Payments Corporation of India
NRLM	National Rural Livelihoods Mission
NULM	National Urban Livelihoods Mission
OCEN	Open Credit Enablement Network
OD	Overdraft
ONDC	Open Network for Digital Commerce
PAN	Permanent Account Number
PACS	Primary Agricultural Credit Society
PB	Payment Bank
PDS	Public Distribution System
PIDF	Payment Infrastructure Development Fund
PLF	Primary Level Federations
PMFBY	Pradhan Mantri Fasal Bima Yojana
PMGKY	Pradhan Mantri Garib Kalyan Yojana
PM-JAY	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
PM WANI	Prime Minister Wifi Access Network Interface
PVTG	Particularly Vulnerable Tribal Groups
PoS	Point of Sale
PS	Priority Sector
PSB	Public Sector Bank
PSL	Priority Sector Lending
PSLC	Priority Sector Lending Certificate
PVB	Private Bank
QR code	Quick Response code
RBI	Reserve Bank of India
RBIH	Reserve Bank Innovation Hub

RCB	Rural Co-Operative Banks
RFP	Request for Proposal
ROE	Return on Equity
RRB	Regional Rural Bank
RXIL	Receivables Exchange of India
SBI	State Bank of India
SBM	Swacch Bharat Mission
SCBs	Scheduled Commercial Banks
SDG	Sustainable Development Goals
SEWA	Self Employed Women's Association
SFB	Small Finance Bank
SHG	Self-Help Group
SHG-BL	Self Help Group Bank Linkage
SHPIs	Self-Help Promoting Institutions
SIDBI	Small Industries Development Bank of India
SLBC	State-level Bankers' Committee
SLF	Secondary Level Federation
SLR	Statutory Liquidity Ratio
TLF	Tertiary Level Federation
TLTRO	Targeted Long-Term Repo Operations
TReDS	Trade Receivables Discounting System
UBI	Universal Basic Income
UNSGSA	United Nations Secretary-General's Special Advocate
UPI	Unified Payments Interface
WASH	Water, Sanitation and Hygiene

Foreword

Finally, the pall of the pandemic seems to be lifting; unless a new wave, ominously building up in our neighborhood, decides to descend and scuttle the plans and prospects of revival. The last over two years of the COVID, truly were devastating; specifically, for the small vulnerable businesses; and it will take a while to rebuild their livelihoods to levels where they can cope with future shocks and remain antifragile. This of course, is easier said than done.

On the financial inclusion front, the India story has been pacy; ever since, maybe, the Prime Minister first announced the Jan Dhan Yojana (PMJDY) in 2014. As of December 2022, there were about 478 million PMJDY accounts, with an aggregate balance of INR 180 trillion and 320 million Rupay Cards issued. Almost every rural household has access to formal banking services. Public Sector Banks, with 85% of the accounts, have been the leaders of this mammoth campaign. Despite these gains, loans from formal sources are still fewer than they are from informal sources, critical for true and tangible benefits from financial inclusion. This is borne out from the recently released World Bank Findex report that states that 31% of adults still borrowed from friends and relatives. Women continue to be less attractive to formal financial institutions for loans.

As per the recently released Global Findex Report, with 78% adults having bank accounts, India fares better than the developing economy average of 71%. However, usage in these accounts has not improved, with about 35% remaining still inactive. Interestingly, the gender gap in account ownership has significantly reduced to almost zero. With greater volumes of Direct Benefit Transfers into accounts (54%), it is expected that, over time, the usage will improve. While overall, propelled by the pandemic, digital transactions in the country have increased exponentially; as per the Findex Report, merchant and utility bill payments are among the most common. Over 127 million adults, as per the Report, made their first digital payments directly from their account for the first time during the COVID period. Women are found less savvy in undertaking digital transactions than men. The savings trend has also registered a decline of 10% since 2017; and only 17% save in bank accounts. This significantly reduces their financial resilience, specifically in times of emergencies, with less access to ready cash availability.

Prior to the launch of PMJDY, and it stands true even today, the two traditional strands for financial inclusion, specifically for the bottom of the pyramid women, were the Microfinance Institutions (MFIs) and the Self Help Group (SHG) Bank Linkage programme. Over the last 25 years or so, from "a good market-based model, doing good and doing well" to a "not so good, exploitative, profiteering" mechanism, the debate around the raison d'etre for MFIs in a country where an already established impressive formal financial institutional infrastructure existed, is over, for good. MFIs are now fully legitimized, fully regulated set of institutions; and today cover almost the entire country, serving about 62 million clients with a gross loan portfolio of INR 3,000 billion. While there was some slowdown due to COVID, the sector is poised to spring back with new energies. Also, thanks to COVID, with "physical" becoming difficult, several innovations in disbursements and collections, using technology were introduced. The new RBI regulation for MFIs too, is seen as a positive, providing more operational flexibility and is bound to spur growth, both in outreach and portfolio size.

The other strand, the SHG Bank Linkage programme, touted as the world's largest microfinance programme, is now three decades old. When the Programme was 20 years, ACCESS had brought out a book titled "Banking on Self Help Groups". Now after Three Decades, ACCESS has commissioned another book to document this phenomenal journey. While NABARD should take a lot of pride in starting and

spearheading the programme; however, National Rural Livelihoods Mission (NRLM) seems to have taken the leadership after SHGs became the mainstay plank for the national poverty eradication programme. With about 12 million SHGs existing currently, it will continue to be an important programme, even though there remain challenges. While reluctance from formal financial institutions for lending to SHGs has been a continuing challenge, it will necessarily require a lot more ecosystem strengthening, better directed capacity building / hand-holding and adoption of technology to track transactions to enable banks to respond positively. Transitioning from group-based loans to individual loans for setting up of enterprises, I guess, should be the next big effort.

Regional Rural Banks (RRBs) have been an important institutional cog in the financial inclusion schema, since 1975. While the original idea of RRBs was a good one, set up to serve the lower segments of the population in rural areas, over the years, there has been some mission drift. Now, profitability takes precedence over all else. Ever since they were set up, ownership of the RRBs, and the conflict of interest within that, has been a critical reason for their getting bogged down. RRBs have not been provided the necessary level playing field to operate competitively. And, now, with new differentiated banks like the Small Finance Banks and Payments Banks, which have private sector ownership, are new generation, technology driven; the competition will only increase, given similar mandates and statutory obligations. This is perhaps a good time to reflect on the need for RRBs to exist; and if so; what re-engineering is required to justify their existence.

Jan Dhan, Aadhaar and Mobile, now popular as the JAM trinity, has been a game changer of sorts. The digital network is now the fulcrum for most of India's social security and cash transfer programs, with direct benefit transfers for 317 programs. It made 2.6 billion transactions in 2021-22, getting more than INR 6000 billion to beneficiaries.

The four big successes of India's public digital infrastructure have been Unified Payments Interface (UPI), Bharat QR, Bharat Bill Pay System (BBPS) and the RuPay card. UPI allows peer-to-peer and consumer-to-merchant transactions through mobile apps and e-commerce platforms. It registers over 2 billion transactions a month. Bharat QR, with 250 million transactions a month, allows consumers to scan the graphic codes to transfer money without sharing phone numbers. Since going live in 2018, BBPS allows Indian consumers to pay bills for practically everything online - utilities, school fees, insurance premiums and loans. Launched in 2012, more than 600 million RuPay cards have been issued, chiefly on Jan Dhan accounts. RuPay has a 30% market share in point of sale transactions and 25% in online transactions.

Micro Small and Medium Enterprises (MSMEs) are central to the employment and economic growth in India. They employ over 110 million people, contribute to 40% of exports and about 28% to the GDP. As per the MSME Census (2006-07), of the total 36 million enterprises, over 95% are in the informal sector. It is these that face the most challenges, specifically for access to finance. If creation of jobs has become so critical to the national economy, the informal sector enterprises require that much more focus. While MUDRA was introduced precisely for this purpose, the proportion of loans going to the very small microenterprises (loans up to INR 1 million) is very minimal.

Finally, financial services to women continues to be a critical concern. As per a UN study, at 17%, India has a lower share of women's contribution to the GDP than the global average of 37%. India's current female labour force participation rate at 20% is amongst the lowest in the world, worsened during the last couple of pandemic years. As per NSSO data, of the women engaged in non-agricultural employment, as much as 84.7% are in the informal sector. Only 13.76% of enterprises are owned by women and more than 95% of these fall in the microenterprise category with low levels of capitalisation. Even though the number of women with bank accounts have increased under the PMJDY, equity in financial usage has lagged. Credit use in particular by women is low. The share of women borrowers in India is lower still at 10 percent, as compared to 15 percent of men. As per the Global Gender Gap Report 2022, India ranks 135 out of 146 countries. According to the IMF, unlocking this potential and closing the gender gap could boost India's GDP by USD 700 billion by 2025.

This widening gap is due to several factors; but an important factor is women's poor access to finance. Women entrepreneurs face barriers in accessing finance, especially to set-up and meet the needs of their enterprises. Bridging this gap in access to finance is crucial for enabling greater women entrepreneurship and higher women labour force participation, as women tend to employ more women. ACCESS, in 2022, has begun a campaign to highlight this huge challenge, since unless this is addressed, we are potentially missing out on a huge opportunity. Financial Inclusion is also about equitable growth.

The Inclusive Finance India Report continues to be the most composite document on Financial Inclusion, tracking progress of the campaign on a year-on-year basis; and has certainly emerged as the principal reference document for policy makers, promoters, practitioners, academia, students, to learn on the forays made in India on financial inclusion. While each year ACCESS commissions the Report, it is supported by a wide range of stakeholders. SIDBI, NABARD and Rabo Foundation have been among the longest and continuing supporters of the Report, with Bill & Melinda Gates Foundation and Mastercard also being associated now for close to a decade. The Report this year has additionally been supported by IDFC First Bank and water.org. 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.

The Inclusive Finance India Report, as always, has been insightful and analytical highlighting the factors that have helped to advance / impede the progress of financial inclusion in the country. ACCESS has, all along, been fortunate to have identified great thought leaders to help bind the Report together. I would like to place my special thanks to Mr. N S Vishwanathan for agreeing to edit the Report, for the second consecutive year, despite his other overwhelming priorities. He has worked with all the Chapter authors with great patience, refining the structure, making suggestions, and helping in knitting the Report into one composite document. I also take this opportunity to thank all the chapter authors, some of whom have been associated with the Report for many years now, for their painstaking efforts and providing great thematic insights through their chapters. I would like to individually thank Srini (Microfinance: Overcoming the Pandemic Gloom); Bhaskaran (The Banking System: Driving the FI Juggernaut); Gaurav Gupta (Regional Rural Banks); H K Pradhan & Sunil Puliyakot (MSME Finance); Smita Premchander and team (Self Help Groups); Akshat and Graham (Digital Financial Services); Hemendra (Green Financing); Henrietta (WASH Financing) and Indradeep & Susan Thomas (Financial Inclusion Measurement). Thank you all for your incredible effort and support in helping to bring out this edition of the Inclusive Finance India Report.

Finally, I also take this opportunity to thank my small team at ACCESS in providing the timely support to the Editor and the authors in terms of data mining, copy editing, coordination with the printers, among others. The team, led by Radhika and supported by Praveen, Diana and Lalitha, has been nimble in its responses, and tireless in its efforts to ensure that a high quality Report is brought out in time. Praveen was particularly adroit in his support to the authors for data analysis and consolidation and secondary research, which was highly appreciated by all.

I hope the Report, as always, has useful insights to better understand the aggregate efforts of a large number of stakeholders from policy makers, to the regulator, to diverse institutions – all contributing in advancing financial inclusion in India. As per convention, the Report will be formally launched at the 19th Inclusive Finance India Summit on January 17, 2023. Happy reading.

Vipin Sharma
Chief Executive Officer

Preface and Overview

It is a well-known fact that economically weaker people are the most negatively impacted by any economic crisis/adversities. The global economy has witnessed a series of such crises - the Great Recession, the COVID Pandemic led economic downturn and now the crisis caused by geopolitical developments. The low for long is now replaced by high for how long. Central banks are on an interest rate raising spree in their fight against inflation, which is at record levels in many countries. There are now fears whether the global economy will transition soon to a recessionary phase.

India was, obviously, not immune to these global developments. The Consumer Price Index (CPI) inflation was above the tolerance band for the Monetary Policy Committee (MPC), and the MPC raised the Repo rate by 225 bps over the last eight months commencing May 2022. The global food and crude oil prices led inflation was to an extent attenuated by the depreciation of INR versus the USD. Inflation, particularly food prices led one, impacts the poor lot more. This came just as the economy was trying to get back to normalcy post the COVID pandemic, which again hurt those in the lower strata of the economic ladder the most.

Financial inclusion, which enables the poor to access the formal financial system for savings and debt, reduces the vulnerability of the included to an economic crisis. On the one hand, it makes them relatively better off through access to financial services from the entities in the regulated space, and on the other it enables them to tide over disruptions caused by exogenous developments.

National Strategy for Financial Inclusion 2019-24, put out by the RBI, states aptly as under:

> *Access to formal finance can boost job creation, reduce vulnerability to economic shocks and increase investment in human capital. Without adequate access to financial services, individuals and firms need to rely on costly informal sources of finance to meet their financial needs and pursue growth opportunities. At a macro level, greater financial inclusion can support sustainable and inclusive socio-economic growth for all.*

Financial inclusion is identified by World Bank as an enabler for achieving seven of the Sustainable Development Goals. Public policy in India has been driven by the need to widen, deepen and accelerate financial inclusion, though the instruments and approaches used to achieve the objective have gotten progressively more sophisticated over time. More importantly, the definition of financial inclusion has itself undergone a change to make it more wholesome rather than being viewed from a limited frame of access to bank accounts and credit.

In the initial years, the Indian government used a rather blunt instrument of the public sector banks being made to purvey credit to those who might not strictly pass the commercial viability test. Unfortunately, the execution of these programmes was poor, with the result some of these degenerated into the distribution of largesse with no tangible economic outcomes. Increasing competition in the banking sector, Priority Sector lending (PSL) policy, which mandated banks to direct a part (40%) of their loans to segments and sectors that might not have easy access to bank credit in the normal course, differentiated bank licensing, which created banking entities that had a licensing policy-driven requirement to lend a larger proportion (75%) of their loans to the priority sector and also provide small ticket loans, the use of Business Correspondents for the conduct of banking business as well as the decision to replace the brick and mortar branch with the banking outlet as the point of bank presence, have all contributed to deepening and widening the reach of banking services to people and areas not otherwise likely to have been served by banks. An enabling

regulatory environment facilitated the growth of a strong microfinance sector in the NBFC segment that provided access to formal credit to the excluded. One could see clearly how the approach to enhance financial inclusion moved from being regulatory mandates to a mix of regulatory prescriptions and market enablers. Even the policy mandate on priority sector lending was made partly a market-driven instrument through the introduction of priority sector lending certificates, a system under which trading in priority sector lending was facilitated. A little more about this later.

While access to bank accounts was not an end in itself for financial inclusion, it was definitely the beginning. In the initial years, multiple policy initiatives aimed at increasing the number of persons having bank accounts were pursued, and each of the instruments mentioned above can be seen as directly and indirectly facilitating that. It, however, required the strong push for opening of bank accounts under the Pradhan Mantri Jan Dhan Yojana (PMJDY) to really get there. There are three elements of the PMJDY that need to be mentioned here. First, it was not a case of persons going to banks to open accounts but banks going to people in 'camp mode' to make them open accounts. Second, the Aadhaar (the national digital data base of individual identity) provided for easy identity documentation. Third, the regulations on 'no frills' account, which was later rechristened as Basic Savings Bank Deposit (BSBD) accounts, ensured that persons of small means are not deprived of having operating bank accounts by mandating certain basic facilities without the requirement of a minimum balance. To elaborate, most banks insisted on a minimum balance to provide operating bank accounts with chequebooks, ATM facilities etc. The BSBD accounts regulation required banks to open savings accounts that provided limited ATM withdrawals and cheque facilities, among others, without a minimum balance. Thus, the fear of penalty on non-maintenance of minimum balance as an inhibitor of people of small means opening bank accounts was gotten over. This was further popularised by the decision of the Central Government to expand the reach of the RuPay card, the Indian card network operated by the National Payments Corporation of India (NPCI).

Access to banking facilities was made much easier by enabling the provision of banking services through banking outlets. The manifold increase in the number of touch points of banks witnessed in the last couple of years was primarily driven by this regulatory policy change. This is a crucial reform because, unless a transaction touch point is available at a reasonably nearby place, people may be less inclined to make transactions. Of course, the innovations and policy enablement in the digital payments space have made access to a physical touch point much less necessary, but the importance of access to touch points cannot be undermined for the less digitally savvy persons. As per RBI Annual Report for 2021-22, it has been ensured that a banking outlet was available within a 5-kilometer radius of every village/hamlet of 500 households in hilly areas in 99.94% of the identified villages.

An important element of the financial inclusion strategy in India has been the extensive use of technology to expand the reach of and facilitate access to financial services. The JAM trinity, comprising Jan Dhan Accounts, the digital identity database of Aadhar and increased penetration of mobile telephony, has enabled ease of opening bank accounts and the creation of payment systems that facilitate simple, safe and high-speed financial transactions.

India began the digital payments journey some years ago. As far back as October 2013, the Payment Systems in India: Vision 2012-15 put out by the Reserve Bank of India had thus stated the vision:

To proactively encourage electronic payment systems for ushering in a less-cash society in India and to ensure payment and settlement systems in the country are safe, efficient, interoperable, authorised, accessible, inclusive and compliant with international standards.

The Payments Banks were licensed in 2014 as part of the plan to reach electronic transfers to the nook and corners of the country. The Unified Payments Interface was launched in April 2016. Effective 16 December 2019, NEFT was made a 24 x 7 available payment system. Although the digital payments movement began in India some time ago, the Pandemic provided the impetus to make it a widely accepted mode of transaction. This was partly because the remote purchase of goods and services had become a necessity and convenient method of buying household requirements. There was a general discomfort with contact-based payments that cash transactions entailed. This led to explosive growth in digital payments, led largely by the Immediate Payments System (IMPS) and Unified Payments Interface (UPI), which were easy, accessible and secure. These together form the bulk of the 'fast payments' system.

Table 1. Growth in digital payments through IMPS and UPI (Volume in Million and Value in ₹ Trillion)

	IMPS Volume	IMPS Value	UPI Volume	UPI Value
2018-19	1.75	15.9	5.39	8.8
2019-20	2.59	23.4	12.42	21.32
2020-21	3.25	29.3	22.33	41.04
2021-22	4.66	41.7	45.96	84.16

Source: RBI Annual Reports 2020-21 and 2021-22

The phenomenal growth in retail digital payments through IMPS and UPI spurred by the transformational behaviour change as a result of the pandemic can be seen in Table 1.

It can be seen that the UPI has been one of the major drivers of the digital payments system in the retail payments space. In a recent IMF Country Focus paper titled 'How India's Central Bank Helped spur a Digital Payments Boom' for IMF, the authors Jeff Kearns and Ashlin Mathew note that:

India's digital payments volume has climbed at an average annual rate of 50% over the last five years. That itself is one of the world's fastest growth rates, but its expansion has been even more rapid- about 160% annually- in India's unique, real-time, mobile-enabled system, the Unified Payments Interface.

The Payments Vision 2025, put out by the Reserve Bank of India, identifies the core theme as 'E-Payments for Everyone, Everywhere, Everytime', and the vision is to provide 'every user with safe, secure, fast, convenient, accessible and affordable e-payment options'. The Vision document provides a series of measures to deepen inclusion. These include enabling geotagging of digital payments infrastructure, upscaling customer outreach and awareness, and strengthening grievance redress mechanisms. Another game-changing proposal is the plan to link credit cards and credit components of banking products to UPI. Being able to use the Kisan Credit Cards (KCC) over the UPI can bring about a transformational change to farmers' financial transaction behaviour. One can therefore see an inclusive digital payments system as an even more important bulwark of the financial inclusion journey going forward.

Although the non-traditional instruments are gaining ground, the financial inclusion efforts are propelled by the regular agents – the banking system and the NBFCs. A lot of innovations in their operations, enabled by the digital revolution, intervention of Fintechs and changes in the regulatory environment, have taken place. The trend of banks playing a major role in lending to the microfinance segment borrowers directly continued, although their share declined from 58.4% in 2021 to 56 % in 2022. They also have exposures through lending to the NBFC MFIs and acquiring such assets through securitisation. The number of active loans in the MFI segment reduced from 112 million in 2020-21 to 108 million in 2021-22, the reduction in the number being driven by the resolution of restructured COVID time loans. The delinquencies in the segment measured by PAR 30 days had declined from 16.7% in June 2021 to 5.3% in March 2022, indicating that the MFI segment is coming out of the COVID pandemic-induced stress.

As mentioned earlier, the number of banking outlets saw a phenomenal increase led by the use of business correspondents. A CAGR of 46% and over hundred per cent through the 11-year period of 2010-2021 in the number of rural and urban BCs is by itself an outstanding development, but the fact that much of the increase has happened during the last three years is vindication of the recent policy initiatives of the government and the RBI. The number of PMJDY deposit accounts increased from ₹ 0.42 billion in March 2021 to ₹0.47 billion by mid-December 2002. The total deposits in these accounts increased from ₹1455 billion to ₹1796 billion during the same period taking the average deposit per account from ₹3,499 to ₹3,766. The number of RuPay Cards issued to such account holders stood at ₹0.32 billion as of mid-December 2022. (PMJDY website, Government of India)

Priority sector lending is an important instrument of financial inclusion both in terms of activities covered and the intended borrower beneficiaries. It is worth noting that PSL achievement of all classes of banks recorded growth during the year 2021-22 over 2020-21. While PSL as a percentage of ANBC increased from 41.06 to 42.45 in 2021-22 for PSBs, in the case of PVBs, it increased from 40.62 to 43.27 and for foreign banks from 41.02 to 42.28. Except for foreign banks, the absolute amount outstanding in the Priority Sector loans witnessed growth. While in the case of PSBs, the growth was 8.6%, in the case of

PVBs it was a healthy 17.6%. The introduction of PSLCs was a process of creating a market mechanism to incentivise specialisation in priority sector lending. It enables banks that have excess PSL over their target to sell the excess PSL portfolio for a fee. The acquiring bank only gets the priority sector tag on the exposure it has paid a fee for but not the portfolio risk, which remains with the originating bank. This enables banks specialising in PSL to make an earning in the form of a fee while the acquiring banks can achieve their targets without taking credit exposure. The PSLC trading volume in 2021-22 stood at ₹66.2 million, registering a growth of 12.4% over the levels in 2020-21.

MSMEs play a significant role in the economy in terms of contribution to GDP, employment and exports. The outstanding bank credit to the MSME sector increased from ₹17.83 trillion as of March 2021 to ₹ 20.22 trillion as of March 2022. However, there was a reduction in the number of accounts from 42 million to 26.5 million, which is attributed to the mandatory Udyami registration requirement under the new MSME. Guidelines. While several schemes for rescuing the MSME units impacted by COVID have helped the sector, several concerns still need to be addressed.

This year's Inclusive Finance India Report covers some of these and other important developments in greater detail through chapters written by various authors who are experts in the respective areas. While this edition has some of the regular chapters that encompass the financial inclusion arena- like the role of banks, the MFI sector, lending to the MSME sector, the SHG Bank linkage programme as also the role of the digital revolution on the financial inclusion reach and quality, the authors have provided newer perspectives and suggestions for further improvement. Besides, this edition has a separate chapter on one of the unsung heroes in the financial inclusion journey - the Regional Rural Banks. The chapter highlights the role played by this specialised set of banking institutions whose significant contribution to the financial inclusion agenda gets lost in the noise over their viability. While not undermining the fact that, as a class of institutions, RRBs failed to achieve their target for agriculture both in 2020-21 and 2021-22, many individual RRBs have done well. They are, as a class, better at serving the weaker sections. This edition of the report also includes a separate chapter on WASH Financing, a crucial part of sustainable development. The chapter highlights how water, sanitation and hygiene financing is at a very nascent stage and calls for a regulatory push for diverting formal credit to this sector. It must be added that in the context of overall climate risks, there is a need for more attention to this segment. The role of WASH financing in preventing poor hygiene-induced sickness is of great significance for inclusive finance. The report also contains a chapter on a methodology for evaluating the outcomes of inclusive finance efforts. Developing a robust methodology to evaluate the effects of public policy interventions is important to assess whether the intended objectives are achieved and make necessary corrections. While the FI index introduced by RBI is a significant step, the alternative model suggests ways to measure the impact in terms of the behaviour of the beneficiaries. As mentioned, the model needs to be reinforced through a more survey-based analysis covering other states but obviously highlights that impact analysis needs to go beyond publicly available data.

The cooperative finance system is an important cog in the financial inclusion wheel. Like the RRBs, their contribution to deepening financial inclusion gets clouded by issues of their viability. It is necessary to make a detailed assessment of their role in financial inclusion. This is for two reasons. First, in terms of serving farmers at the bottom of the economic pyramid, the rural cooperatives are a significant set of players. This can be seen from the average loan size of PACS as compared to other lenders in the formal sector. For instance, the rural cooperatives had a 45% share in Kisan Credit Cards issued as of March 2020 with an average outstanding per card of ₹47,250 as against ₹1,11,470 in the case of RRBs and ₹1,71,327 in the case of commercial banks. As PACS are not banks and not regulated directly, their role has been less recognised. However, with NABARD bringing those availing refinance under a regulatory framework, this should change. Second, the rural cooperative system, through the DCCBs or the State Cooperative Bank where DCCBs do not exist, provides savings products. In semi-urban and urban areas, Urban Cooperative Banks provide both savings and credit products. Some of them are even providing online banking facilities. The decision of the Reserve Bank to raise the PSL target for them to 75%, like in the case of SFBs, will enhance their role in purveying credit to the less included and the excluded. A proper analysis of the role of rural cooperatives in the financial inclusion space would call for more intense data collection and access to such reliable information.

Deepening financial literacy is an integral part of any financial inclusion efforts. While increased access to financial services improves the supply of financial products, financial literacy and awareness enhance the demand for such products. The Reserve Bank and the Government have taken a host of measures to

spread awareness about financial products across the country. Financial Literacy Centres (FLC) are playing a crucial role in improving financial awareness. A survey of 80 FLCs showed perceptibly higher financial literacy among those exposed to the programme and found that such persons had a greater likelihood of using the banking system for their savings. The RBI intends to expand the reach of the Centre for Financial Literacy (CFL) programme as a key segment of the measures to ramp up financial literacy.

Now that the IMF FINDEX Report 2017-21 has been published, a reference to some of its findings is appropriate. Globally, there has been an increase in the bank account ownership, with 71% of the adult population owning accounts. India saw bank account ownership increasing from under 40% in 2011 to about 83% in 2021. The COVID pandemic catalysed growth in digital payments. In India, for instance, 80 million people made their first digital payment during the pandemic. Of course, as pointed out earlier, there has been no looking back since then. The Report alludes to a relatively high percentage of adults not having accounts in 2021, which must have come down with the target of account opening under PMJDY moving to include all adults from the earlier intent of covering every household. There are important lessons for policymakers in the report, which in a way, are also coming out through various chapters of this edition of the IFR.

Financial inclusion is a journey and not a destination. India has pursued a mix of policies and instruments to expand the reach of financial services. The process has been aided by significant innovations in the payment space as also in the use of technology to improve credit delivery. Given the vastness and the diversity of the population in terms of levels of economic well-being, nature of economic activities and regional specificities, there is a need for a wide spectrum of institutions, products, instruments and processes to enhance financial inclusion. This is why banks of different types, NBFCs of various kinds and other institutions, including civil society organisations, play a crucial role in this effort. The National Strategy for Financial Inclusion 2019-24 recognises this by aiming 'to make financial services available, accessible, and affordable to all the citizens in a safe and transparent manner to support inclusive and resilient multi-stakeholder led growth'. There is no gainsaying the fact that the task is enormous, but equally important to acknowledge that the progress made so far is no less insignificant.

It is my view that the IFR should evolve with the change in financial inclusion dimensions and recognise the role of different agents and systems in furthering the cause of financial inclusion. This is the reason we have a new set of chapters in this edition. As the contents of this report will reveal, the pandemic threw several challenges, and the authorities responded to these emerging developments. Some of the outcomes have been transformational, and some of the measures need redesigning or reinforcements to help persons at the bottom of the economic pyramid to become more resilient. It is hoped that this year's IFR, like the earlier ones, will be of interest to the policymakers, the strategists, the experts and actual ground-level players in the financial system as well as everyone else who is already connected with or intends to connect with inclusive growth, as a reference point for developments in the financial inclusion space in India and the way forward.

Let me conclude by thanking all the authors for their scholarly contributions and the staff at ACCESS for their immense support.

N. S. Vishwanathan

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Microfinance:
Overcoming the Pandemic Gloom

N. Srinivasan

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In the last year's report, we highlighted how 'credit inclusion of marginalised people is a higher order need in financial inclusion'. While MFIs took up the challenge of financing vulnerable people without collateral, in the recent past, banks also joined in, providing direct loans to this segment of the population. The response of the borrowers has been exemplary, not just in keeping up repayments but also in the disciplined application of loans to valid purposes that enhance their incomes and livelihoods.

In the broad microfinance sector, which includes banks, SFBs, MFIs, NBFCs and NGOs/non-profit forms, the number of active loans is about 108 million, and the gross loan portfolio amounted to Rs. 2637 billion[1] (Table 1.1). The microfinance sector grew by about 5% in the loan portfolio in 2022 over 2021;the growth rate is much less than bank credit which grew at 9.7% during the year. The fact to note is that the growth rate in FY 22 was on the base of 9% and 29% growth rates of the previous two years. Microfinance loans as a proportion of bank credit (Scheduled commercial banks)were about 2.21% in March 2022, which is a significant step up from less than 0.25% of bank credit about 10 years back.

FY 22 witnessed a marginal decline in the number of loan accounts, driven by the resolution of a number of restructured Covid period loans. At the same time, an increase in unique clients indicates new customer acquisition is now gathering pace. During FY 2022, MFIs acquired 11.7 million new clients, which was well above the previous year's level of 6.5 million.

Across the country, the average number of loans per client which was about 1.65 in FY 2018, had steadily increased to reach 1.85 in FY 2021 but declined to 1.77 in FY 2022. Delinquencies measured by PAR 30 days+ were declining from high levels post-demonetisation of FY 2017, but with the onset of COVID-inflicted disruptions, which started increasing in FY 2020. In FY 2022, the PAR increased further during the year, reaching the highest level of 16.7% in June 2021, as the stressed loans came out of the moratorium and showed up as delinquent. By the end of the year (March 2022), delinquencies came under a measure of control, as seen from the much lower level of 5.3% PAR 30 days. This has further declined to 5.07% in June 2022. A detailed analysis of delinquencies is made in a later section.

Table 1.1. The Broad Microfinance Sector

	2017-18	2018-19	2019-20	2020-21	2021-22
Outreach - loan a/cs (million)	76	96	110	112	108
Outreach - unique clients (million)	46	56	63	60	61
Loan Outstanding (₹ billion)	1373	1885	2342	2538	2637
Amount disbursed (₹ billion)	1416	2075	2411	1733	2548
PAR 30+ days (%)	7.7	5.6	6.6	9.7	5.3

Source: Sa-Dhan Bharat Microfinance Report, different issues.

Last year we observed the trend of structural change in the sector in terms of players in the market. A large major change was about six years ago when leading MFIs became banks and SFBs, reducing the footprint of MFIs. MFIs had reversed the trend in market share during FY-22, and the shift of portfolio towards MFIs was distinct; while the share of outstanding loans of all banks decreased from 58.4%in 2021 to 56% in 2022, that of MFIs increased from 30.6% to 36%. Banks still have about 56% share, with non-profits and NBFC-MFIs losing share. SFBs, which had 21% of the portfolio in 2018, saw an erosion of their share to 17%. Banks have used MFIs and others as BCs to build a sizeable MF loan book. The BC loan book of banks through MFIs has consistently registered growth, from Rs 79.84 billion in 2016 to Rs 305.17 billion in 2022. The BC loan exposure, which is 11.5% of industry loans, is reported under the banks' portfolio.

Table 1.2. MFIs Recover Lost Space

	Share of outstanding loans				
	2018	**2019**	**2020**	**2021**	**2022**
Banks	30.4%	32.8%	39.4%	42.0%	39%
SFBs	21.3%	18.8%	19.1%	16.4%	17%
MFIs	36.8%	36.3%	30.1%	30.6%	36%
Others	11.5%	12.2%	11.5%	11.0%	8%

Source: CRIF-Highmark _ Microlend- Quarterly Publication – different quarters and Bharat Microfinance Report – 2022

The microfinance sector grew at a faster pace post-AP crisis in 2010-11 (Figure 1.1). The sector was severely affected by demonetisation disruptions in 2016-17 and also the account of some MFIs becoming banks and their data getting excluded from the MFI segment. The sector bounced back with high growth for the next two years. A nature-made problem, the COVID pandemic lasting almost two years (2019-2021) had a deep impact on livelihoods and there by on microfinance sector. In the latter part of FY 2022, COVID had ceased to be a major factor in the health and economic activity of vulnerable people. But the microfinance sector was dealing with the long tail of Covid-impacted loans, given that its clientele was wholly comprised of people vulnerable to disruptions caused by such events. MFIs had to deal with the resolution of accounts emerging from the moratorium and the restructured accounts during the year with incremental provisions and write-offs. The MFIs did bounce back from loan delinquencies with a higher level of write-offs and provisions; and, more importantly, brought more capital to ensure a healthy Capital Adequacy ratio. Some MFIs that could not shore up their networth suffered.

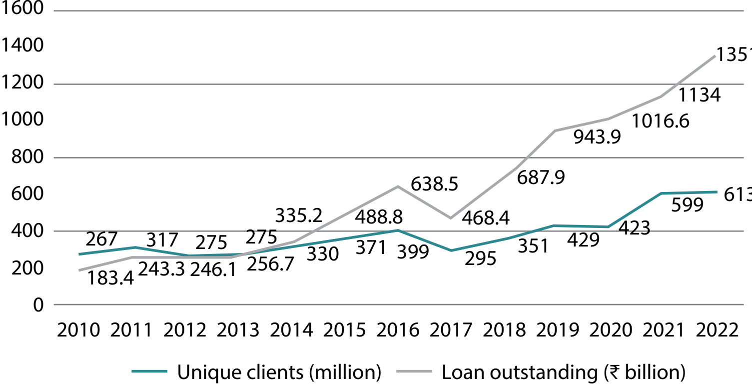


Figure 1.1. MFI Performance Over the Years

Source: Data from Sa-Dhan reports several years. The numbers are that of MFIs only

1.1. PERFORMANCE OF MFIs[2]

MFIs operated in 602 districts of the country across all the states. The number of branches increased by about 11% (compared to 5% in FY 2021) to 22428 branches across the country,and there was a net increase in staff employed by about 7%. Staff attrition during the year was about 40%. Against about 65000 staff who left MFIs, 97000 were recruited, indicating a strong growth momentum. Staff strength grew by 20% in FY 2022 over the previous year.

Table 1.3. Select Indicators of MFIs

Indicator	2022	2021	Growth rate(%)
Client outreach (million)	44.8	42.2	6.1
Gross loan portfolio (₹ billion)	1351	1134	19.1
Of which own portfolio (₹ billion)	927	781	18.6
Average loan per borrower (₹)	20789	18894	10.0
Women client (%)	99	98	-
Income generation loan (%)[3]	96	90	-

Source: Bharat Microfinance Report 2022, Sa-Dhan

The portfolio outstanding in the books of MFIs increased by 19.1%, while the own portfolio (excluding the managed portfolio[4] on behalf of others) increased by 18.6%. About 69% of the portfolio outstanding was 'own' portfolio of MFIs, at the same level as last year. The growth in average loan size was about 10%; clearly the growth in the loan

portfolio was not generated by increasing the loan size. The proportion of women customers increased marginally; at 99%, the microfinance sector has shown that it is possible to take affirmative action from a gender point of view without extraordinary policy or fiscal measures. MFIs have demonstrated that it is commercially feasible as a private sector effort to focus credit exclusively on women.

1.2. FINANCIAL PERFORMANCE

There was an all round improvement in financial performance despite the higher credit costs absorbed by the MFIs. Operating costs increased by 46 basis points over last year, mostly attributable to high attrition rates[5] and the increased new staff enrolment. Discussions with sector practitioners reveal that recovery activities of MFIs, which entailed pursuing a large number of delinquent accounts, also pushed up operating costs. Financial costs continued to decline. In FY 2021, financial costs declined to 10.92% from the previous year's level of 11.9%, helped to a large extent by the RBI and GOI dispensation to improve liquidity and keep costs low. In FY 22, financial costs declined by 27 basis points. The reduction in finance costs seems to have been passed on to customers, as reflected in the reduction in yield by 30 basis points. Margins have shown improvement, which is a welcome sign for all the stakeholders. Net-owned funds as a proportion of total resources increased from 14.3% in FY 21 to 23% in FY 22, which is a material factor in margin improvement.

Table 1.4. Select Indicators of Financial Performance

Indicator	2022 (%)	2021(%)
Operating cost	6.96	6.40
Financial cost	10.65	10.92
Yield	16.50	16.80
Margin	9.04	8.40
ROA	1.11	0.64
OSS	114	105

Source: Bharat Microfinance Report 2022 – Sa-Dhan

Return On Assets (ROA) also increased, though the return on equity, despite an improvement by 1.4 percentage points over last year, was still at a low level of 4.3%. Operating Self Sufficiency (OSS) Ratio had increased to 114% from 105%, a clear indication that the sector is getting stronger and is able to post revenues well above its costs.

In terms of client outreach, four out of five large MFIs of last year continued at the top of the table (Table 1.5). Fusion Microfinance entered the top 5, with Spandana dropping out.In case of outstanding loans, Fusion Microfinance and Muthoot Microfin made an entry into the Top five table; Satin Creditcare and Spandana dropped out. SKDRDP, acting as a BC for many banks in the State of Karnataka,continued to lead the table with the highest outreach to clients and highest Gross Loan Portfolio (GLP) by the end of March 22. SKDRDP accounted for about 7% of clients and 12% of the portfolio of microfinance, focusing on one state - Karnataka.

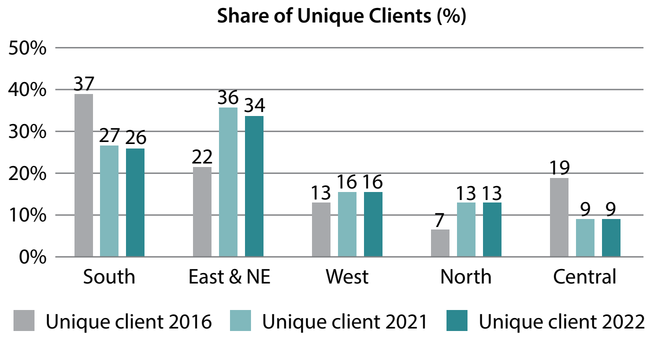
Table 1.5. Top MFIs in Outreach

Name of MFI	Clients (millions)	Name of MFI	GLP (₹ billion)
SKDRDP	3.2	SKDRDP	167.12
CA Grameen	2.9	CA Grameen	137.32
Fusion	2.7	Asirvad	70.02
Asirvad	2.6	Fusion	66.54
Satin Creditcare	2.5	Muthoot	65.67

Source: Bharat Microfinance Report 2022, Sa-Dhan

The top 10 MFIs accounted for 54% of all clients and 61% of outstanding loans. The concentration in the hands of the top ten MFIs had declined in FY 22 from levels of two-thirds of clients and 75% of loans outstanding in FY 21.

The changes in regional/geographical spread[6] have been rapid. The last five years have seen a shift in the concentration of portfolio and incremental acquisition to the Eastern region. While the wider geographical spread helps to reduce concentration risk in the Southern region, the vulnerabilities are increasing in the East and North-East[7]. The Central region has seen an erosion of its share. North and western regions seem to be stagnating in terms of clientele. However, these are the two regions that have posted increased shares in the portfolio. Compared to 2016 and 2021, South and East have recorded a decline in portfolio share. Between 2016 and 2022, South lost 13% share in clients and 12% share in loans (Figure 1.2). East and Northeast, with a share of 38% of outstanding loans,showed a decline from the 41% share last year. The reduction of the Southern region's share is a positive development as it reduces concentration risk. But the increased concentration in East and North East can be a cause for concern, with the continuing embers of the Assam crisis serving as a reminder.



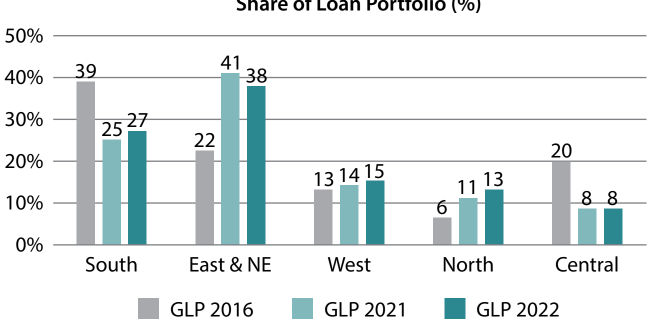


Figure 1.2. Changes in Regional Shares
Source: Bharat Microfinance Report 2016, 2021 and 2022 - Sa-Dhan

In terms of state-wise distribution of microfinance, the top 5 states accounted for 59% of outstanding loans in FY 22, which is lower than the level of 62% in 2021 (Table 1.6); this decline indicates wider dispersion of MFI loans and thereby reduced concentration risk. Assam, recovering from the recent years of crisis, posted a negative growth of 32.6%. Extreme state action results in a scarcity of credit for microfinance customers; this was the experience of AP and Telangana after the 2010 crisis. Against the national growth rate of 19% in portfolio outstanding, two major states recorded very low growth – West Bengal (2.72%) and Punjab (3.36%).

Table 1.6. Top Five States by MFI Portfolio

State	Portfolio share 2021	Portfolio share 2022
Karnataka	23%	23%
TamilNadu	12%	12%
Bihar	11%	10%
Uttar Pradesh	9%	7%
Madhya Pradesh	7%	7%

Source: Bharat Microfinance Report 2022, Sa-Dhan

Client penetration ratios were calculated across the different states. Table 1.7 shows the list of five states with the highest penetration ratio. A small state, Tripura has a very high penetration ratio; its share of MFI clients is double its share of the population in the country.

In terms of the extent of credit outstanding too, Tripura had a high level of exposure. The share of the credit of Tripura was well above its share of unique clients. Among the larger states, Tamil Nadu had a client penetration ratio of 2.11, indicating its share of credit was more than double its share of unique clients.

Table 1.8. High Penetration States – Portfolio (March 2022)

State	Portfolio Share (%)	Credit Penetration Ratio
Tripura	0.86	2.72
Tamil Nadu	13.31	2.11
Odisha	6.00	1.69
Karnataka	8.83	1.68
Kerala	3.99	1.52

Source: Author's calculations

It was pointed out in last year's report 'the assumption that a large underlying population constitutes effective demand for microfinance loans is not a valid one' (Table 1.9). Despite competition in the market, lenders tend to focus on geographies that offer 'addressable demand' as defined by them. Despite the large underlying population, UP, Andhra, Gujarat and Telangana have low client penetration. The differences between states in the south and northern parts of the country are attributable to a well-developed banking backbone, an existing credit and enterprise culture and the fact that microfinance started early in the south.

Table 1.7. High Penetration States - Clients[8] (March 2022)

State	Unique Clients Share (%)	Population Share (%)	Client Penetration Ratio[9] 2022
Tamil Nadu	12.95	6.31	2.05
Tripura	0.62	0.32	1.97
Odisha	5.55	3.55	1.56
Karnataka	8.05	5.25	1.53
Bihar	13.49	9	1.39

Source: Author's calculations

Table 1.9. Large States with Low Penetration - Clients (2022)

State	Unique Clients Share (%)	Population Share (%)	Penetration Ratio
Himachal Pradesh	0.06	0.57	0.10
Uttarakhand	0.52	0.88	0.59
Telangana	0.9	2.88	0.31
Andhra Pradesh	1.05	6.92	0.15
Uttar Pradesh	9.62	17.46	0.55

Source: Author's calculations

The recent changes in regulatory guidelines provide space for MFIs to set interest rates without caps or floors. New geographies entail higher opex and risk costs in the initial stages. If expansion is a very small effort, MFIs do not have to examine their costs and yields. Since entry into a new district or block is thought out as a strategy, including setting up a full staff structure and all the necessary investments to ensure diligent processes, MFIs do have to figure out the pricing and the margins. The new guidelines offer flexibility; hence, geographical expansion is likely to gather momentum.

1.3. PURPOSE OF LOANS

Mostly MFI loans are provided for income-generating purposes. In FY 22, the income-generating loans were 96% of outstanding, the highest level in the last 10 years. In the last year,income-generating loans were 90% of the total loans. Post-COVID, the borrower appetite seems to have turned towards income activities. A preponderant majority of loans are for agriculture and livestock, reflecting the rural nature of business.

Table 1.10. Purpose of MFI Loans

Purpose	Share of Loans (%)
Agriculture	41
Animal husbandry	19
Trading	12
Transport	1
Agro enterprises	3
Other enterprises	7
Handicrafts	1
Others	14

Source: Bharat Microfinance Report 2022, Sa-Dhan

While the loans are meeting valid requirements, whether the loan structure (EMI-based loans) is aligned to the cash-flow requirements of the purposes is a larger question remaining unanswered by the sector. As had been observed by several commentators, EMI loans are suitable for several activities where income generation is regular on a daily (dairying,etc.), weekly (vegetable cropping, etc.), and monthly (tradesmen, etc.) basis. Where the income is bulked and not with predictable periodic, other types of loan structures might be needed – balloons with repayment at the end of the term. Further, some of the loan needs are long term requiring 36 to 60 months for the investment to come to fruition, while most of the current MF loans are for 24 months.

1.4. QUALITY OF LOAN PORTFOLIO

In most years in the last two decades, the sector has posted recovery rates of above 99%. With some seasonal and event-based exceptions, net non-performing assets have been less than 1% in the last twenty years. The portfolio at risk (30+ days) for the sector as a whole increased from 1.39% in March 2020 to 9.01% in March 2021and then fell to 5.27% in March 2022. Portfolio at Risk (180+ days) increased from 1.05% to 8.35% during the same period. The spike in 2021 and 2022 was attributable to loans under moratorium, and subsequent restructuring falling due for payment but had a difficult livelihood situation that made loan service impossible.

If the PAR 180+ is netted out (as these are usually fully provided for as per industry practice), the residual PAR 30+ days is of the order of 5.27%. The potential losses to be absorbed in the form of loans overdue beyond 180 days, amounting to about

Table 1.11. PAR Comparison Between Sector and MFIs (Weighted Averages)

Purpose	2018	2019	2020	2021	2022
PAR 30+ days (Sector)	1.39	0.92	1.78	9.01	5.27
PAR 30 + days (MFIs only)	-	1.05	1.77	7.12	8.35
PAR 90+ days (Sector)	0.81	0.41	0.88	4.10	2.48
PAR 90+ days (MFIs only)	-	0.66	0.75	2.03	3.08

Source: Bharat Microfinance Report; different years – Sa-Dhan

₹40 billion,[10] will continue to be a drag on profit and loss accounts of MFIs during FY 2023 too.

Assam, Jammu, Kashmir and West Bengal had significantly higher delinquency ratios compared to the national level. Among the top five states in the sector portfolio, two (Tamil Nadu and West Bengal) also figured among the top five in terms of PAR 30+. Uttar Pradesh, with the fifth highest portfolio outstanding in the sector, figured among states with the lowest PAR 30+ ratios. In the case of Assam, the delinquency levels have declined by 50% over the last year in a welcome development. There are residual issues of the Government of Assam funding the restructuring and waiver of loans. Once this is completed, Assam delinquency levels will fall further. Overall, with a better economic environment and Covid well behind, FY 2023 should see a return to near normalcy in terms of portfolio quality.

Table 1.12. Top and Bottom Five States in PAR

State	PAR 30+ (%)	State	PAR 30+ (%)
Jammu and Kashmir	17.97	Telangana	1.00
Assam	15.29	Himachal Pradesh	1.31
West Bengal	8.93	Andhra Pradesh	2.21
Kerala	8.11	Uttar Pradesh	2.48
Tamil Nadu	6.43	Haryana	2.83

Source: Bharat Microfinance Report 2022, Sa-Dhan

Among institutional types, banks had high delinquency ratios and NBFCs (that were not MFIs) had the lowest delinquency ratios. MFIs in company form were reasonably placed but still had a higher delinquency ratio than in the previous three years.

Multiple borrowing from different institutions as also low ability to service the loans impact portfolio quality. CRIF-Highmark, in their analysis, has brought out that multiple borrowing decreased during FY 22. 14.1% of unique clients had three or more loans by the end of March 2022,compared to 36.3% of unique clients in FY 2021. Only 4% had four loans or more, and 10.1% had three loans. Risks emanating from multiple borrowing seem to be coming under control. Among states, Tamil Nadu had the highest proportion (9.2%) of clients having 4 loans or more. The matter needs attention, given that Tamil Nadu has the largest outstanding portfolio (~₹350 Billion) in the country. West Bengal had the lowest proportion (0.8%) of clients having 4 loans or more. With the proposal by RBI to harmonise the guidance on avoidance of excessive debt across all microfinance providers, including banks, this problem is likely to come under a measure of control. The move to determine the eligibility of the borrower for microfinance loans and the size of loans through analysis of debt service capacity will also reduce risks.

1.5. CHALLENGES AND RESPONSES DURING THE YEAR

Most MFIs faced problems dealing with staff attrition and ramping up business while continuing with the vigorous recovery of delinquent loans. According to Sa-Dhan[11], the productivity of credit officers, measured by the Active Borrowers per Credit Officer (ABCO) ratio, was at its highest in 2019 at 509 borrowers. This has been declining over the last four years and has reached a level of 384 borrowers per credit officer (an erosion of about 25%). While financial costs continued to decline during the year, there are signs that an increase is in store, as the inflationary trends in the macro economy lead to higher policy rates with cascading effect on market interest rates. On the Operational costs front, MFIs are facing higher costs after a decline last year. Operating costs declined from 7.01% in 2020 to 6.4% in 2021, only to increase to 6.96% in 2022.

The borrowers continued to face difficulties in restarting their livelihoods and income flows after a protracted period of disruptions. MFIs responded by disaggregating the customers by the extent of their problems and the possibility of customers resuming activity with some support. With restructuring,

Table 1.13. Bucket-wise PAR Comparison Across Institutional Types

Type of Institution	FY 2021				FY 2022			
	30+	60+	90+	180+	30+	60+	90+	180+
NBFC-MFIs	3.45%	2.53%	1.65%	7.77%	3.75%	2.65%	1.89%	7.35%
Banks	7.10%	5.22%	2.25%	12.75%	6.43%	4.31%	2.92%	11.82%
SFBs	5.36%	3.33%	2.02%	10.88%	6.89%	4.53%	3.05%	10.05%
NBFCs	2.51%	1.67%	1.02%	3.61%	3.20%	1.89%	1.18%	4.25%
Non-profits	3.29%	1.91%	1.30%	11.13%	2.41%	1.26%	0.80%	8.82%

Source: Sa-dhan, Quarterly Monitoring - Report March 2022

some MFIs offered additional loans that helped customers to restart.

As detailed in last year's report, the COVID crisis was a catalyst for operational improvements and accelerated integration of IT processes in MFIs. Many MFIs invested in increased digitalisation to improve customer analytics, asset-liability management systems, loan origination and KYC validation systems, as also risk management systems.

1.6. SOURCES OF FINANCE FOR MFIs

The data on borrowings for MFIs is not complete. Neither MFIN nor Sa-Dhan were able to pool in the information from all their members. However, information that is about 95% of the sector presence has been collected from MFIs by MFIN. MFIs carry out their business of lending with their net worth (substantially equity capital) and borrowing in the form of bulk funds. About 23% of resources were in the form of net worth (₹226 billion). 60% of all equity was held by large MFIs with at least ₹20 billion in Assets Under Management (AUM). Fresh equity was mobilised by MFIs during FY 2022 to the extent of ₹19.6 billion. Of this, 95% was raised by large MFIs. Access to equity and the ability to raise capital remained a problem for small and most medium-sized MFIs.

Borrowed funds outstanding were about 77% (₹763 billion). Borrowings raised during the year FY 2022 were much higher at ₹479 billion. The corresponding borrowings flow during FY 21 was only ₹369 billion. Banks had provided 71% of resources borrowed by large MFIs (with AUM of at least ₹20 billion); 29% was provided by other lenders. In the case of medium and smaller MFIs, 50% of borrowings were from lenders other than banks. Bank finance to small and medium MFIs showed remarkable improvement from 10% of resources raised in FY 21 to 50% in FY 22.

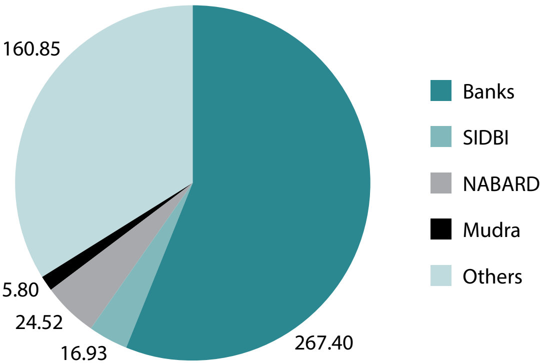


Figure 1.3. Sources of Funds for MFIs
Source: Bharat Microfinance Report 2022, Sa-Dhan

1.7. POLICY AND REGULATION

Reserve Bank of India issued a consultation paper on the regulation of microfinance in June 2021. Based on the feedback received and several consultations with the sector, RBI finalised the regulatory framework for microfinance that was made applicable to all Regulated entities in March 2022. The new regulation aims at reducing debt leverage levels of borrowers, enhancing customer protection, enabling competition to bring down interest rates through the removal of interest caps and providing flexibility to MFIs to scale up to meet demands for credit.

1.8. NEW RBI REGULATIONS – A SUMMARY

1. A microfinance loan is defined as a collateral-free loan given to a household[12] having an annual household income of up to ₹3,00,000. *(Clause 3.1)*
2. Each Regulated Entity (RE) shall put in place a board-approved policy for the assessment of household income. *(Clause 4.1)*
3. Each RE shall have a board-approved policy regarding the limit on the outflows on account of repayment of monthly loan obligations of a household as a percentage of the monthly household income. This shall be subject to a limit of a maximum n50 percent of the monthly household income. *(Clause 5.1)*
4. Each RE shall provide timely and accurate data to the CICs and use the data available with them to ensure compliance with the level of indebtedness. *(Clause 5.4)*
5. Each RE shall put in place a board-approved policy regarding the pricing of microfinance loans. *(Clause 6.1)*
6. Each RE shall disclose pricing-related information to a prospective borrower in a standardised simplified factsheet. *(Clause 6.3)*
7. A fair practices code (FPC) based on these directions shall be put in place by all REs with the approval of their boards. *(Clause 7.1.1)*
8. Each RE shall have a board-approved policy regarding the conduct of employees and the system for their recruitment, training, and monitoring. *(Clause 7.2.1)*
9. Outsourcing of any activity by the RE does not diminish its obligations, and the onus of compliance with these directions shall rest solely with the RE. *(Clause 7.3.1)*
10. Each RE shall put in place a mechanism for the identification of the borrowers facing repayment-related difficulties, engagement with such borrowers, and providing them with necessary guidance about the recourse available. *(Clause 7.4.1)*

11. Recovery shall be made at a designated/central designated place decided mutually by the borrower and the RE. However, field staff shall be allowed to make a recovery at the place of residence or work of the borrower if the borrower fails to appear at the designated/central designated place on two or more successive occasions. *(Clause 7.4.2)*
12. The REs shall have a due diligence process in place for the engagement of recovery agents, which shall, inter alia, cover individuals involved in the recovery process. *(Clause 7.5.2)*

The new regulatory framework is applicable to all lenders to microfinance clients – whether banks, NBFCs, not-for-profits or MFIs. The application of the framework to all REs, RBI had levelled the playing field and removed the regulatory arbitrage possibility. The revised definition of clients of microfinance focuses more on debt servicing ability derived from an assessment of household income. This will implicitly improve portfolio quality. The removal of interest rate caps will bring in sound pricing practices such as risk-adjusted pricing and cost-adjusted pricing. Remoter geographical areas that are sparsely covered now will get more attention in future expansion by MFIs. It will be possible to have a uniform code of conduct. The new regulatory framework has been welcomed by all parts of the sector. The two SROs and their members have approved of a uniform code of conduct that is aligned withthe new regulations.

In complying with the new regulations there have been teething problems that are being sorted out. The income assessment at the household level required the skilling of field officers. Credit decisions based on debt servicing capacity needed the inclusion of relevant tools in the appraisal formats. Competition increased on account of increasing the level of microfinance loans that can be given by NBFCs (from 10% of total assets earlier to 25% now). The relaxation in the level of non-microfinance loans to 25% of total assets (from 15% earlier) requires MFIs to design new products and set up new business units; and also provides a pathway to reduce concentration risk. The new framework is a pathbreaking advancement over the earlier regulations. The sector was granted most of its wishes, with greater flexibility, a level playing field, improved competition and elimination of regulatory arbitrage. The customer benefits from better transparency, increased protection levels, and possible favourable loan terms on account of the competitive environment created.

1.9. CONCLUSION

The sector has put the COVID disruptions firmly behind and is going ahead with positive intent. The future outlook seems much better, as indicated by industry leaders. The changes to the operating environment and regulatory framework require MFIs to learn new skills faster and realign themselves to emerging possibilities. With several pathways available such as business correspondents, mergers, transforming into banks and foray into non-microfinance loans, MFIs have a lot of work to do as they ride into the future. The initial work on advanced digitisation started in several MFIs during COVID is nearing completion and is likely to introduce cost efficiencies and increase productivity. While the financial cost pressures are a near-term threat, there are distinct signals of operating costs and risk costs abating. Equity interest in MFIs has returned, as also NCD funders' appetite. All this augurs well for the sector. MFIs that are nimble, with the capacity to innovate and adapt to a more competitive market, are bound to register good growth and prosper. But the need to grow larger puts pressure on many medium and small MFIs. While many are doing business in remote areas under severe constraints, financial sector policy is bound to be neutraland not affirmative in promoting the interests of institutions just because they are small. DFIs and AIFIs have the opportunity and responsibility of designing a road map for the smaller MFIs to graduate to larger ones or seek other viable solutions such as acquisitions or mergers.

Customer protection is a major foundational aspect of new regulations. The values of transparency, fairness and promptitude in resolving complaints are well recognised,butthese may not be enough in the context of customer satisfaction. Improvements to loan products, aligning loan features to the purposes for which loans are taken and responsiveness to changing needs of customers are all priorities of a future in which customer centricity will be a prime driver of competitive differentiation. Industry leaders are full of ideas, and MFIs are on the drawing board. We wait with eager expectations of what might emerge from the sector.

APPENDIX A.1.1

Client Penetration and Credit Penetration Ratios Over the Last Two Years

State/UT	Client Penetration Ratio FY 21	Client Penetration Ratio FY 22	Credit Penetration Ratio FY 21	Credit Penetration Ratio FY 22
Tripura	2.56	1.97	4.13	2.72
Tamil Nadu	2.3	2.05	2.17	2.11
Orissa	1.61	1.56	1.74	1.69
Karnataka	1.74	1.53	1.69	1.68
Kerala	1.48	1.32	1.57	1.52
Puducherry	1.94	1.59	1.74	1.50
West Bengal	1.43	1.10	2.12	1.44
Bihar	1.41	1.39	1.29	1.36
Jharkhand	0.98	1.03	0.91	0.97
Madhya Pradesh	1.1	1.05	1.01	0.95
Assam	1.33	0.77	1.67	0.90
Haryana	0.97	0.96	0.86	0.87
Maharashtra	0.82	0.81	0.79	0.79
Rajasthan	0.85	0.86	0.8	0.77
Punjab	0.98	0.94	0.82	0.77
Chhattisgarh	0.92	0.89	0.83	0.77
Sikkim	1.02	0.79	1.3	0.76
Uttarakhand	0.6	0.59	0.65	0.59
Gujarat	0.67	0.64	0.55	0.54
Uttar Pradesh	0.53	0.55	0.45	0.50
Goa	0.52	0.43	0.56	0.38
Mizoram	0.46	0.30	0.33	0.25
Dadra and Nagar Haveli	0.26	0.24	0.32	0.22
Manipur	0.35	0.26	0.25	0.18
Telangana	0.3	0.31	0.1	0.16
Nagaland	0.2	0.15	0.21	0.16
Andaman & Nicobar Islands	0.12	0.16	0	0.15
Chandigarh	0.19	0.17	0.12	0.14
Delhi	0.2	0.15	0.18	0.14
Meghalaya	0.24	0.17	0.23	0.12
Daman and Diu	0.15	0.13	0	0.09
Andhra Pradesh	0.15	0.15	0.08	0.08
Himachal Pradesh	0.09	0.10	0.06	0.08
Arunachal Pradesh	0.1	0.11	0.08	0.08
Jammu & Kashmir	0.03	0.03	0.07	0.07
Lakshadweep	0	0.00	0	0.00

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END NOTES

1. Data sourced from Microlend - quarterly publication on microfinance lending – Volume XV – March 2021 – by CRIF Highmark.
2. The data used in this section is drawn from Bharat Microfinance Report 2022- Sa-Dhan
3. See the section on Purpose of Loans in a later part of this chapter for a details.
4. Managed portfolio is not on MFIs books, but on bulk lenders' (such as banks) books (in the form of assignments, securitised debt or BC exposure); loan origination, monitoring and recovery is managed by the MFI on behalf of the bulk lender.
5. Skilling the new person entails costs and productivity losses in the initial period of new entrants service also push up costs.
6. This section relating to geographical concentration and penetration is based on the broad sector data – not MFIs alone.
7. While the Region comprises all states in East and Northeast, only Assam in Northeast has a significant presence. Other NE states have very low share of outreach and portfolio.
8. Microfinance penetration is usually seen as resulting from supply side effort. There are many other factors on the demand side as well the local economy and socio-cultural environment. A detailed discussion on the subject is not carried out here.
9. The ratio calculates the proportionality of share of clients to share of population of the state. Equitable distribution is 1 at which value the state is having a normal level of penetration – ratio value of more than 1 indicates that state has higher level of penetration – value less than 1 indicates lower level of penetration, meaning fewer people in the state will have access to credit.
10. Cited from Sa-Dhan BMR 2022.
11. Bharat Microfinance Report 2022, Sadhan.
12. For this purpose, the household shall mean an individual family unit, i.e., husband, wife, and their unmarried children

The Banking System: Driving the FI Juggernaut

R. Bhaskaran

2

2.1. INTRODUCTION

In the last decade, more than 1,250 million Savings Bank accounts have been opened[1], including 607 million Basic Savings Bank Deposit Account (*basic account)* and 646 million Standard Savings Bank accounts. Obviously, efforts taken to drive financial inclusion have borne fruit.

Financial inclusion is about access to banking for all people, more particularly the poor and rural populations. Planned financial inclusion efforts in India have been on for over a decade. Financial Inclusion cannot be achieved in the absence of adequate banking outlets, branches and business correspondents in the rural areas and identified urban locations. Another essential ingredient is the ease with which transactions can be made. The last but not the least important aspect is ensuring financial literacy such that included people take informed financial decisions.

Since the nationalisation of some banks in 1969, there have been many programs in the past to increase banking and credit outreach in India. The current phase of financial inclusion efforts began with the announcement of no-frill Savings Bank accounts. In this regard, it is observed that since the announcement of PMJDY (2015) and demonetisation (2016), the speed of opening *basic accounts* has been sharp, thanks to the increased availability of Business Correspondent (BC) outlets. This, coupled with UPI and increased availability of Point of Sale (POS), Mini ATMs, QR codes etc., and the resultant ease of putting through transactions have hastened financial inclusion.

In this background, this chapter reviews financial inclusion efforts and achievements based on recent data[2] and review of literature available in the public domain.

2.2. ENABLING INFRASTRUCTURE

Overall performance under financial inclusion has been very good. A large number of *basic accounts* have been opened, and transactions recorded in these accounts are reaching record levels. This has been possible on account of the steady growth in the number of BC outlets in rural and urban centres. In the last two years (Table 2.1), there has been a spurt in the number of BCs, which has helped people to manage their personal or business transactions during COVID-19 induced lockdown. It is observed that during this period, nearly 1.3 million BC outlets have been added in the villages, and 1.3 million new locations have been served by BCs in urban and metropolitan areas.

During the period 2010-2021, the annual increase (growth rate) in the number of BCs has not been even. However, the overall growth is impressive, as evidenced by a Compound Annual Growth Rate (CAGR) of 41.46% for the number of BCs in the villages and a 101% CAGR for urban locations.

An individual, a business unit employing customer service personnel, or a financial institution like a MFI or NBFC, could be a BC. In recent years it is observed that, a number of NBFCs and Fintechs

Table 2.1. Progress in Infrastructure: Branches and BCs

Particulars	Mar-10	Dec-19	Dec-20	Dec-21
Number of Rural Branches	33,000	54,000	55,000	53,000
Number of BCs in Villages (million)	0.034	0.51	1.19	1.84
Total Banking Outlets in Villages (million)	0.068	0.56	1.25	1.90
Urban Locations Covered Through BCs (million)	0.0004	0.55	0.32	1.41

Source: RBI Annual report, various years

have started working as BCs. Also, a large number of shops and businesses in villages and cities have been roped in as BCs. These shops use POS and QR codes to make transactions easy and cashless and these transactions need an underlying bank account.

While the number of BCs is increasing, the number of branches is not increasing despite Private Banks and Small Finance Banks opening rural branches in recent years. In fact, as of December 2021, overall, there is some decrease in the number of branches which can be attributed to consolidation (merger) among some Public Sector Banks (PSBs) and Regional Rural Banks (RRBs).

As of December 2021, there were nearly 1.85 million[3] BC/BC outlets in villages, i.e. 3 BCs per village (Census, 2011). In addition, there were about 53,000 Rural Branches and about 65,000[4] Primary Agricultural Societies in villages. This, coupled with the availability of POS, QR codes etc., in BC outlets and shops and the rapid adoption of digital payments, in recent years, has ensured the availability of good banking infrastructure in villages. Reportedly, there is some reduction in the BC outlets of Public Sector Banks which have – nevertheless- the highest share (more than 60%) of BC outlets in villages[5]. The number of BCs with Regional Rural Banks has also decreased. Regarding urban centres, it is seen that nearly 1.4 million urban[6] locations (what constitutes a location and population covered are not indicated) are served by BCs. It is reported that BCs in urban areas could include small shops, fintech and MFIs, which are possibly more focused on transactions. There is no public information on the banking sector-wise share of BCs, but a report indicates that Public Sector Banks have a higher share of rural BCs while Private Banks have a higher share of Urban BCs[7].

A perusal of the literature on the subject indicates that rural BCs (most of which belong to PSBs) are mostly basic models which are focused on the opening of accounts and undertaking transactions, including operations in the Kisan Credit Card (KCC). On the other hand, the urban BCs are more focused on transactions, and less on opening accounts, possibly because urban centres have better connectivity and a larger number of retail transactions. In recent years BCs have been very active in remittances, and other transactions commonly referred to as Domestic Money Transfer[8]. Most of the transactions/remittances do not attract any fee.

Generally, a BC is exclusive to a bank. Some of them carry on other business activities as well. It is noticed that the number of *basic accounts* with branches are not increasing, possibly a deliberate strategy to push *basic accounts* to BCs. In the initial years, a BC being an extended arm of the bank, handled account opening and transactions in deposit accounts, transfer, and balance enquiry to the customers of the bank. The introduction of interoperability in the payment systems and the emergence of biometric-based identification and transactions have allowed BCs to offer more types of transactions. Also, some BCs undertake credit-related and remittance-related transactions.

Apparently, the viability of BC is an issue. BC's viability is a function of fees earned, opening basic accounts, offering various services for the same and undertaking transactions for customers. The fee income could be low, and viability could be challenged due to the proliferation of POS & QRs in merchant establishments which has impacted the non-cash transactions with BCs. Further, in the matter of transactions, they face competition from branches as well. In view of this, the limit of 4 withdrawal transactions per month allowed in a *basic account* will definitely limit the fee income and hence impact the viability of BCs.

Another critical issue is that BCs need to arrange/borrow cash from the bank, which has cost and viability implications; this is different from merchant establishments which have cash from business. Also, BCs should have an office set up, albeit small and meet relevant costs. Another factor that would impact the viability of BCs is the introduction of apps by commercial banks that enable customers to do all transactions, including those earmarked for BCs. It is now possible for the excluded population to open a savings account and do all transactions by using these apps. All these aspects impact the viability of BCs. In order to improve the viability of BCs, banks may consider earmarking certain specific and exclusive activities and products for BCs. This aspect is emphasised because there is a strong need to keep BCs viable because they still are the backbone of the inclusive finance infrastructure.

Some of the BCs are involved in credit-related transactions[9] in respect of Kisan Credit Card (KCC), Over Draft (OD) and General Collateral (GC). The share of credit-related transactions in the overall transactions in BCs is not known. It is, however, reported that 'during 2016-20, the CAGR for credit-related transactions at BC outlets for Private Banks and RRBs were 66.91% and 31.81% respectively. During this period, credit-related transactions for PSBs declined marginally by 1.86%'. Only 5% of the total KCCs were sourced or opened through BCs, that too mostly for Private Banks.

BOX 2.1. VIABILITY OF BCs

Operating models of BCs range from individuals working as BC to small firms/organisations or NBFC, Fintech, MFI etc., becoming corporate BCs using their technological prowess and employing Customer Service Points to deliver financial inclusion. NBFC and Fintech BCs have better capabilities and skills to originate credit proposals and also sanction and monitor credit more effectively than other BCs. They have access to their own funds, which helps in reducing the cost.

Evidently, BC can be an important part of the individual bank's strategy to implement financial inclusion and manage a rural business. It is noteworthy that SBI has announced that it manages entire rural credit from an exclusive department with outsourcing as the main business strategy.

The use of Business Correspondents for financial inclusion has been prescribed by RBI. In the past, RBI had looked askance[10] at Direct Selling Agents and Direct Marketing Agents, who are akin to BCs. But this time, the use of BC has possibly been prescribed because of the difficulties and costs involved in increasing the rural branch network. The benefit of lower costs due to such branchless banking, availability of appropriate and better technologies and willingness of NBFCs etc., to don the role of BCs should enable the banks to easily reach the rural clientele. That banks could, in this method, efficiently service small deposits and small loans is an important point in favour of BCs.

Given this, for BC to be sustainable, fee income from business volumes in terms of the number of *basic accounts*, credit and transactions should be adequate. The fee paid by a bank to its BC has to cover the costs of running a BC outlet and ensure a reasonable return to the BC. In this regard, BIRD (2021) has observed that 'While the BC organisations[11] have been experiencing business growth in terms of client outreach and transaction volumes, many are struggling to remain financially viable. BC agents (CSPs) who are crucial to the success of the model are also struggling to meet their costs and maintain viability'. Another study *Financial Modelling for Business Sustainability- A Study of Business Correspondent Model of Financial Inclusion in India* (Sage 2019), says that 'The financial analysis of the existing BCs with the existing products and services in practice shows a very diffusive break-even of more than seven years. Such a long time taken to reach the break-even point can be a potential threat to the sustainability of new and struggling entrepreneurs like a Customer Service Point (CSP)'. The study has further observed that 'high cost and low volume of transactions at the CSP points are two major causes of the long break-even'.

As indicated earlier, BCs face stiff competition from banks' own apps, which have the ability to reach the client directly. It is reported that bank branches are reluctant to deal with their BCs. Transactions through BCs could be declining on account of mobile banking, which has removed the need to visit a BC for transactions through a BC outlet could be in the near vicinity.

At the same time, BCs are emerging as strategic partners of Banks. Needless to say, banks will have to address the viability issue of BCs, which is critical for the growth of *basic account* and for ensuring efficient service to the account holders.

2.3. NUMBER OF ACCOUNTS AND AMOUNT OF DEPOSIT

The financial inclusion programme was launched in 2010, with banks being asked to open no-frills accounts. Later, these accounts came to be known as Basic Savings Bank Deposit Accounts (*basic account)*. Apparently, the Know Your Customer (KYC) and account opening processes are simpler than the standard savings account[12]. These accounts can be opened through digital processes as well.

Table 2.2. Number of Savings Accounts (million) & Amount of Deposit (₹ Billion)

Particulars	Mar-10	Dec-19	Dec-20	Dec-21	CAGR
Number of basic accounts through Branches	60	256	271	271	14.0%
Basic Account: Deposits in Branches	44	907	1212	1186	33.2%
Number of basic accounts through BCs	13	341	367	392	34.5%
Basic Account: Deposits in BCs	11	621	783	950	47.4%
Number of Basic Accounts - Total	73	597	638	663	21.1%
Deposits in Basic Accounts - Total	55	1528	1995	2136	37.5%

Source: RBI Annual report, various years

There were 663 million *basic accounts* as of December 2021 with deposits of ₹2.13 trillion (average balance of ₹3,221). There is a steady growth in the overall number of accounts, amount of deposits and average deposits. It is observed that, of late, BCs are opening more *basic accounts* than branches indicating, possibly, a shift in strategy by banks. At the same time, it is noticed that the average balance in *basic accounts* with BCs is lower than that with the branches. This is not surprising given that BCs open *basic accounts* for poor and vulnerable sections of the population. A number of basic accounts have been shifted to standard Savings Bank accounts as the number of transactions notwithstanding the small size of transactions – in the basic accounts have been more than 4 per month. It has been reported that banks shift *basic accounts* to standard accounts to augment their fee income (fee for not keeping minimum balance-IIT Madras study-2017). Given the small value/amount of deposits in the accounts, the majority of transactions will be small in size. As such, the limit of 4 transactions is a major constraint for *basic account* holders. If such small transactions were to be limited, persons who are keen on using the accounts for their economic activities would prefer a standard savings account. IIT[13] Mumbai has stressed the need to proactively remove the condition so that customers will be encouraged to make more use of these accounts.

Basic Account V/S Standard Savings Bank Accounts

As of March 2021, commercial banks had about 1.88 billion Savings Bank accounts with deposits amounting to ₹ 59 trillion. As indicated earlier, between 2010 and 2021, nearly 646 million *basic accounts* and 609 million standard Savings Bank accounts have been opened. Apparently, the pace of opening a *basic account* and a standard Savings Bank account is almost similar. Possibly many of these standard Savings Bank accounts could come under financial inclusion but for rather a sharp definition of *basic accounts*. Many new customers may not like to constrain themselves with a number of withdrawals being pegged at 4 per month. This is an avoidable condition for street vendors and small shops as their transactions are very small in size but large in number. They have to pay daily for their trade purchases and have many receipts in a day.

Share of *basic accounts*, as of March 2021, was about 34% of the total Savings Bank accounts, but the amount of deposits in *basic accounts* was only about 3.5% of the total deposits in the Savings Bank accounts. It is seen that the average balance in the *basic account* is very small, i.e. in the range of ₹ 3,500 – 4,000. Evidently, transaction amounts will also be very small.

In the background of the impressive growth in the number of accounts but the low balances therein,[14] there is, as indicated above, a need to revisit the guidelines on *basic account*. Going forward, the endeavour could be to credit link a large number of *basic accounts* to enable the account holders to start or grow their economic activity.

The data published by Department of Financial Services, Government of India (see Table 2.3) has certain additional information on *basic accounts,* namely,

i. The share of women having *basic accounts* increased from 50.2% in March 2015 to 55.4% in March 2021.

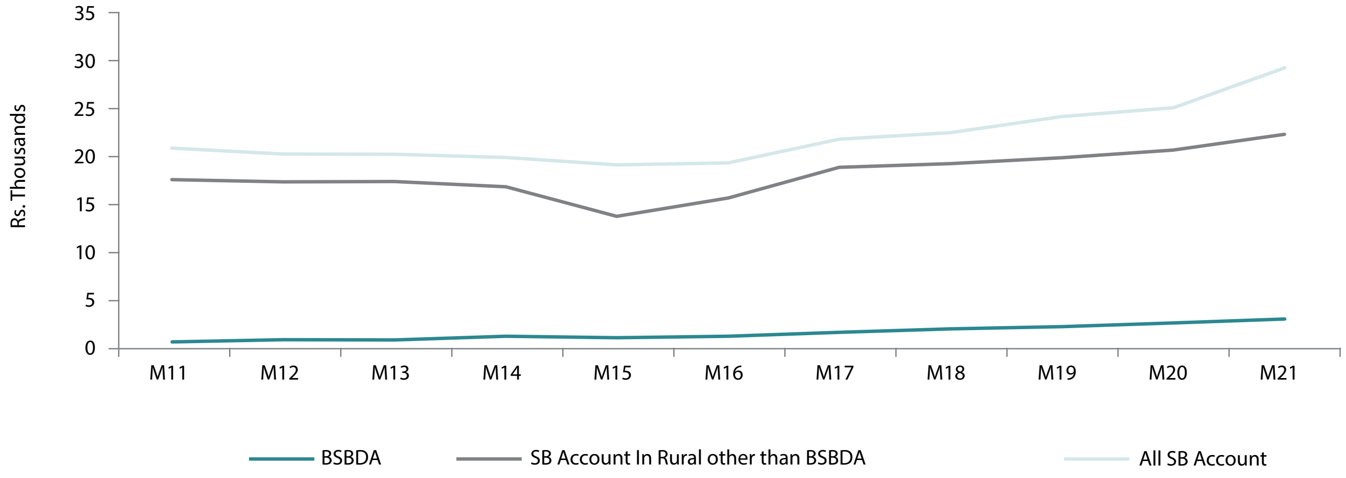

Figure 2.1. Average Deposits Basic Accounts and Normal SB Accounts
Source: RBI Annual report, various years

Table 2.3. Financial Inclusion: Progress PMJDY Accounts

Year	Number of Accounts (million)					Deposit (₹ Billion)
	Male	Female	Rural	Urban	Total	
March 2015	71.5	73.9	86.8	58.6	145.4	146.41
March 2017	136.7	144.9	168.7	112.9	281.6	629.72
March 2019	165.3	187.4	209.0	143.7	352.7	961.07
March 2021	188.2	233.8	278.5	143.5	422.0	1455.51

Source: Department of Financial Services https://financialservices.gov.in/financial-inclusion

ii. The share of *basic accounts* in rural areas in the total *basic accounts* as of March 2021 was 66%, as against 59% as of March 2015.
iii. The average deposits in *basic accounts* as of March 2021 was ₹3,449 as against ₹994 in March 2015

It is reported that the push given to financial inclusion has resulted in almost every rural household having access to formal banking services. It has given a platform for the poor and excluded populace to avail low-value credit, insurance and pension schemes. Digital payment infrastructure has ensured that transactions can take place smoothly, even during situations like the COVID-19 pandemic.

From the time the PMJDY was launched, the share of BCs in the number of *basic accounts* has been increasing. PSBs with more than 85% of the accounts had the highest share of *basic accounts*. However, the share of branches in the number of *basic accounts* has reduced from 82.19% in March 2010 to 41.18% as of March 2021. Also, PSBs' share in the amount of deposits has come down from 80% (2010) to 57.4% (2021).

The impact of financial inclusion efforts can be inferred from the fact that between 2001 and 2011, the overall number of Savings Bank accounts in the banking system, including *basic accounts* recorded a CAGR of 1.19%, whereas it increased to 11.66% for the years 2011 to 2021. It is noteworthy that the CAGR of the number of accounts and amount of deposits in *basic accounts* was 21.92% and 39%, respectively, during the period 2011 to 2020.

During the last ten years, a large number of Savings Bank/*basic accounts* have been opened. Evidently, (a) demonetisation (2016) and (b) the availability of digital payment modes more particularly mobile apps and UPI, (c) financial inclusion thrust and (d) the very high adoption of digital payment by public and businesses necessitating an underlying bank account are some of the important factors driving this growth. The CAGR of number of Savings Bank accounts in the rural area for the period 2001-2011 was negative, whereas it was 14.95% in the period 2011 to 2021, a clear indication of the impact of financial inclusion efforts.

It is reported that though Private Banks have a larger share in the overall number of BCs, their share in the number of *basic accounts* was the lowest. Apparently, private banks did not focus their BC strategy on mobilising *basic accounts*. Private Banks' focus was on enabling transactions.

Table 2.4. Savings Bank Accounts in the Banking System[15] CAGR

					Average Balance in Savings Bank Account		
	2001-2011		2011 to 2021		2001	2011	2021
	No. of Accounts	Amount	No. of Accounts	Amount	Amount ₹	Amount ₹	Amount ₹
Rural	-1.20%	9.48%	12.70%	14.95%	4,904	11,831	14,420
Semi-Urban	-0.45%	11.01%	13.04%	14.97%	6,993	18,857	22,328
Urban	1.83%	16.67%	9.27%	14.01%	10,044	29,924	45,739
Metropolitan	4.63%	22.98%	9.68%	15.88%	14,144	44,252	76,701
All-India	1.19%	18.39%	11.66%	15.08%	8,294	23,497	31,770

Source: RBI Annual report, various years

Table 2.5. Financial Inclusion: Credit Facilities Extended

Particulars	Mar-10	Dec-19	Dec-20	Dec-21	CAGR
OD availed in BSDBAs (No. in ₹ Million)	0.2	6.2	5.9	6.4	35.17%
OD availed in BSDBAs (Amt. in ₹ Million)	100	4,550	5,050	5,560	41.82%
KCC – (No. in million)	24	48	49	47	6.08%
KCC – (Amount in ₹ Billion)	1,240	7,094	6,790	6,936	16.15%
GCC - (No. in million)	1	20	19.8	8.7	20.70%
GCC - (Amount in ₹ Billion)	35	1,849	1,751	1,991	42.11%

Source: RBI Annual report, various years

2.4. CREDIT

Credit inclusion is important to achieve economic growth. It would be a real achievement if a *basic account were* to graduate as a regular Savings Bank account on account credit inclusion and the economic progress of account holders. There exist a number of credit products, such as *Kisan* Credit Card (KCC), General Credit Card (GCC), Overdraft (OD) etc., for achieving credit inclusion. Among these, only OD for *basic accounts* is an exclusive product under the PMJDY. Priority Sector lending also contributes to financial inclusion.

Currently, the overall number of clients covered by the above products is good, with the exception that OD for *basic accounts* has not made much headway.

2.4.1. Kisan Credit Card

Progress under KCC by commercial banks shows 47.3 million accounts with a credit outlay of ₹ 6.9 trillion. In addition, there are 30.1 million KCCs outstanding with cooperative banks with a credit outlay of ₹ 1.46 trillion. The average credit limit under KCC is seen as around ₹ 145,000, which is closer to the collateral-free limit of a loan. Possibly farmers limit their loans to less than ₹ 160,000 so as to avoid offering collateral to banks. The average credit under the KCC limit by Commercial Banks is about 3 times higher than that of Cooperative Banks. It is reported that about 5% of KCCs have been sourced through BCs, pointing out to a very low utilisation of the BC model for sourcing KCC.[16]

2.4.2. Overdraft

Overdraft (OD) to eligible *basic account* customers is a major objective under financial inclusion. Currently, the progress under this head is very low as out of nearly 660 million basic accounts, only 6.4 million accounts have been extended OD facility.

Generally, an overdraft facility is extended in current accounts for businesses based on business performance as discerned from a balance sheet, profit and loss accounts and/or transactions (credits) in the account etc. It needs no emphasis that if OD is given without any business idea, it would be difficult to recover it back unless the accounts have sufficient balance. As such extending OD without any business prospects is not a viable banking idea. OD extended by banks in the current account is often supported by financial collaterals,

BOX 2.2. FINANCIAL INCLUSION: OD IN THE BASIC ACCOUNT

Basic accounts have a provision for offering

- Overdraft limit ranging from ₹ 5,000 to ₹ 15,000 to any one account holder per household. Female members of a household are preferred for this facility.
- OD will be sanctioned only after six months from the date of the opening of *basic account*.
- OD under Financial Inclusion can be used for both business and consumption needs.

To be eligible for OD,

- The account holder should have a good transaction record and good credit history (!).
- The account holder can avail herself of an OD facility up to ₹ 5,000. This can go up to ₹ 15,000 if the transaction history is very good in the preceding six months and if the account holder/s have maintained a good balance in the *basic account*.

whereas under *basic account* it will be unsecured. In view of this, some of the issues that could constrain sanctioning OD are:

- *Basic accounts* are opened by poor and hitherto financially excluded, i.e. those who may not have sufficient money to keep the minimum balance etc. As such, the eligibility conditions that there should be adequate transactions and a good balance in *basic accounts* will severely limit the possibility of OD.
- Another stipulation for being eligible for OD is that these customers should have a good credit history. This is not practicable as prior to opening the basic account majority of these customers could not have had any credit relationship with formal financial institutions. In most cases, they might have had some informal credit which is difficult to ascertain and use as credit information.
- BCs are neither trained nor used to originate OD loans. Of late, some banks use BCs in collecting or sourcing applications for their other loan schemes.
- A perusal of the websites of banks shows that no bank has publicly placed the eligibility criteria and/or the norms adopted by them for OD, as such customers may not be aware of the availability of this facility.

In view of the above, the number of OD accounts under financial inclusion is low. However, it is reported that, in the last two or three years, there has been a noticeable thrust on credit inclusion by private banks[17]. Private Banks could be using NBFC/ Fintech BCs for originating loans under financial inclusion. As of March 2020, the share of Private Banks in credit/ OD through BC outlets was 97% of the total ODs under financial inclusion.[18]

The following points could be considered to improve the number of OD accounts:

- There is a possibility that many *basic account* holders may be carrying on some economic activity, albeit very small and informal, like a small tea shop, vegetable or food vending in hand carts, single cow dairy, pan shop etc. As such, if banks were to, in addition to the details on the performance in the account, seek economic and/or business details of the family, understand their business and cash flows, it should be possible to sanction OD.
- In the last decade, a large number of *basic accounts* have been opened. The overall transaction volumes are impressive. As such, if banks were to scrutinise the accounts closely, there could emerge a sufficient number of accounts where transactions are good for sanctioning OD. In addition, banks could also capture other information about the customer by involving branches and BCs. As they interact with customers, it will be easy to get such information. If banks were to use all this information as a credit eligibility matrix, it would enable offering OD facilities to those account holders who will fulfil the internally developed criteria.
- It was mentioned earlier that some banks are working with fintech and NBFC BCs to originate ODs. It should be possible, based on their experience, to arrive at a practicable way of assessing the credit needs and digitally monitoring the accounts. This will help extend credit to the unreached.
- Group lending could be attempted by facilitating groups for basic account holders. BCs could be trained in group/microfinance methodology. Banks may identify BCs for this purpose based on some internal rating.
- That ODs are collateral free is an important point to reckon with. Banks could be given some space to innovate the OD product with some overall credit exposure norms. Also, appropriate credit insurance could be added to the financial inclusion basket to manage the credit risk that banks may face in the ODs and other credit limits under financial inclusion.

2.4.3. General Credit Card (GCC)

General Credit Card (GCC) is similar to KCC but sanctioned to the non-farm constituents in rural and semi-urban areas. GCC limit is based on the assessment of income and cash flow of the borrowing household without any insistence on security. GCC could be in the form of an Artisan Credit Card, Laghu Udyami Card, Swarojgar Credit Card, Weaver's Card etc. Currently, there are about 20 million GCC with a credit outstanding of ₹ 1.5 trillion. As of March 2020, Private Banks accounted for nearly 98% of the total number of GCCs sanctioned through BCs. There is a noticeable dip in the number of GCC accounts as of December 2021 compared to December 2020.

2.4.4. Priority Sector Lending

Priority Sector (PS) includes KCC, GCC, MSME, and OD under FI. The share of agriculture and MSME in the PS in the total loans of the banking sector is about 45% of the number of accounts and about 30% of the amount outstanding. MSME includes loans sanctioned under MUDRA.

Table 2.6. Financial Inclusion: Achievements Under Priority Sector (Accounts in million and Amounts in ₹ Trillion)

	Mar-19		Mar-20		Mar-21	
Credit Extended to	**Accounts**	**Amount**	**Accounts**	**Amount**	**Accounts**	**Amount**
Agriculture	89.7	14.83	97.2	15.66	101.5	17.53
MSME Sector	41.8	18.39	36.6	16.18	31.8	15.21
Weaker Section	56.4	8.35	116.2	11.47	104.1	10.05
Total Credit by Commercial Banks	232.3	98.97	272.5	105.18	298.3	110.78
% of Agri and MSME to Total PS	56.62	33.57	49.10	30.27	44.69	29.55
% of Weaker section to Total PS	24.28	8.44	42.65	10.91	34.90	9.07
Average Credit Per Account (₹)						
Agriculture		165,313		161,163		172,719
MSME		439,628		441,647		477,883
Weaker Section		252,548		237,960		245,571

Source: RBI Annual report, various years

Table 2.7. Details of Size-wise Credit

	2011			2021		
Credit Limit Range	**No. of Accounts (million)**	**Credit Limit (₹ Billion)**	**Amount Outstanding (₹ Billion)**	**No. of Accounts (million)**	**Credit Limit (₹ Billion)**	**Amount Outstanding (₹ Billion)**
Loan up to ₹ 25,000	43	568	474	60	735	473
% to Total Accounts	35.9	0.7	1.2	19	0.4	0.4
₹ 25,000 - 200,000	59	4,574	3,365	170	13,315	9,645
% to Total accounts	48.7	5.9	8.3	57.2	7.8	8.7
₹ 200,000 - 500,000	13	4,089	2,986	40	13,325	8,966
% to Total Accounts	10.4	5.3	7.3	13.2	7.8	8.1
Total up to ₹ 500,000	110	9,231	6,825	270	27,376	19,084
% to Total Accounts	95	11.9	16.8	89.4	16	17.2
Average Loan Limit and Average Outstanding (₹)						
Loan size up to ₹ 25,000		13,104	10,941		12,963	8,342
Above ₹ 25,000 and below ₹ 200,000		77,748	57,195		78,011	56,508
₹ 200,000 – 500,000		325,554	237,733		337,215	226,904
Up to ₹ 500,000		80,470	59,496		102,563	71,500

Source: Basic Statistical Returns 1 (Annual) DBIE, RBI

Small loans can be reckoned as a measure of credit inclusion. It is observed that there are about 270 million accounts (nearly 90% of the loan accounts with banks) with a ticket size up to ₹ 500,000 with a share of 17.2% in the overall credit outstanding. This includes loans for all purposes, including consumer loans, gold loans etc. As such, all of these loans may not be for productive purposes. The number of basic account customers who have been extended OD limits is very small.

In the three credit sizes analysed, the average size of loans ranges between ₹ 8,342 and ₹ 226,904. The number of accounts in the less than ₹ 25,000 range has recorded less than 3% CAGR over the 11-year period between 2011 and 2021. The following two ranges have recorded a growth of 11-12%.

In view of the small amount of balances in the basic accounts, OD, if sanctioned will also be for a very small amount. Size of the OD limit should not be a reason for not sanctioning these limits because

Table 2.8. Small Borrowal Accounts: Borrower-Wise Distribution (%)

Population Group	2011						2021					
	Loans to Individuals				Others		Loans to individuals				Others	
	Men		Women				Men		Women			
	N	A	N	A	N	A	N	A	N	A	N	A
Rural	76.8	79.2	19.2	17.4	4.0	3.4	46.1	59.6	47.0	35.1	6.9	5.3
Semi-urban	72.9	76.3	22.3	20.4	4.7	3.3	48.0	58.2	38.8	34.7	13.2	7.0
Urban	69.2	76.1	17.9	19.2	12.9	4.6	49.4	57.3	36.9	34.2	13.8	8.5
Metropolitan	73.6	79.5	19.7	15.3	6.6	5.2	72.3	66.4	19.3	24.1	8.3	9.5
All-India	74.0	77.8	20.0	18.3	6.1	3.9	54.3	59.8	35.8	33.3	9.9	6.9

N = Number of Accounts. A = Amount Outstanding

Source: Basic Statistical Returns 1 (Annual) DBIE, RBI

Table 2.9. Some Indicators

	2012	2021
Share of Credit in Rural Area to Total Credit[19]	9.7%	9.8%
Share of Credit in Semi Urban Area to Total Credit	13.7%	11.0%
Share of Agricultural Credit in Total Credit	11.7%	13.7%
Share of Agri-credit in Rural & Semi Urban Area to Total Agri Credit	69.4%	76.8%

Source: Basic Statistical Returns 1 (Annual) DBIE, RBI

howsoever small is the amount sanctioned, any flow of credit to the excluded population should be welcome. Simplification of the sanction process and provision of adequate credit is essential to ensure that this segment of the population remains with the formal credit system and that the informal credit levels are contained.

An analysis of the gender divide in the loan portfolio shows that between 2011 and 2021, the share of women borrowers has increased in the overall small loan (less than ₹ 200,000) portfolio. Some of this increase could be attributed to a few MFIs becoming banks.

Despite the financial inclusion push, there is hardly any change in the percentage of agriculture credit in the total credit by the banking sector. The share of rural areas in the total credit has also remained range bound.

2.4.5. Non Performing Assets Under Priority Sector

The share of priority sector NPA in total NPA of the banking sector is about 40%. A mention must be made here that the borrowers under the priority sector and financial inclusion have poor cash flows and are more vulnerable to cash flow infirmities than non-priority sector loans. This is because farmers and micro and small enterprises are at the lowest end of the payment flow in the supply chain. Whenever the supply chain is impacted, the cash flow to the lowest level is relatively more impacted. In recent years businesses have faced disruption on account of events such as demonetisation, the introduction of GST and lockdowns due to the Pandemic.

As stated above that, credit flow under financial inclusion needs a big thrust. One constraint in this regard could be the Income Recognition, Asset Classification and Provisioning (IRACP) norms which are more or less uniform despite clients belonging to different economic backgrounds, areas and different business sizes. Credit to small clients is arrested even if the delinquency could be due to external factors or for the sector as a whole.

Table 2.10. Banking Group Wise Share (%) in NPA as of March 2021

Bank Group	Priority Sector	Others	Of Priority Sector		
			Agriculture	MSME	Others
PSBs	44.76	55.24	19.98	17.64	7.13
PVBs	27.04	72.96	10.11	12.56	4.38
FBs	17.67	82.33	3.23	11.7	2.74
SFBs	83.31	16.69	25.28	34.32	23.7
All SCBs	40.45	59.55	17.44	16.47	6.54

Source: Basic Statistical Returns 1 (Annual) DBIE, RBI

These external event risks mentioned above have been recognised by the RBI. It has on a number of occasions in the past few years, allowed relaxations in IRACP/NPA norms to smoothen the impact of delinquency on banks on account of such events. These relaxations are in the form of keeping NPA norms in abeyance on the restructuring of loans. Though restructuring guidelines help banks to manage NPA position, it may not result in a flow of credit to the borrowers. Once the relaxation period is over, the accounts could immediately relapse to be an NPA. However, businesses which were closed due to lockdowns could take time to reach back to normal business levels. From a small-loan perspective, event risks are difficult to manage. Also, it is observed that banks are generally hesitant to nurse or fund NPA accounts or extend fresh credit as it could immediately increase provisioning requirements. It is noticed that guidelines allow postponing the instalment and extending loans by the number of instalments. This may not be sufficient. Additional credit and reworked repayment schedules are needed so that credit flow is not hindered for genuine persons affected by event risks. If this is not done, once the relaxation period is over, accounts will slip back to NPA. It is recommended that in the case of rescheduled/restructured accounts, instead of postponing the instalments, banks may re-assess cash flow and the period of loan is reworked, notwithstanding the small size of an account. This is important because it takes time for small borrowers to extinguish the impact of event risk.

2.5. TRANSACTIONS

The ability to do small transactions helps build up savings and reduces cash handling. For this, it is essential that payment system should be technology-based and appropriate, i.e. it should be able to handle small and large transactions/payments seamlessly and efficiently.

The electronic/digital payment and settlement system in India are very well developed and offer multiple instruments/access points to customers. The UPI is a unique success. Due to this, mobile-based digital payments have seen a massive increase in volumes in recent years. In this regard, a study by NPCI has reported that 'Digital payment adoption is now very well entrenched. Overall, one-third of Indian households are using it in some form or the other. It is heartening to note that almost a quarter of the households, in the bottom 40% income group, are using it as well, and it has not remained a rich or well-educated person's preserve'.

Currently, the banking system is digitally very well connected to users, including lower income groups, via Aadhaar linkages and SMS facilities. Familiarity with ATMs is very high, and the Direct Benefit Transfer (DBT) system works exceedingly well. It has been reported that in July 2022, the number of UPI-based transactions was 6.28 billion involving ₹10.62 trillion. In fact, now the retail payment and settlement system in India is possibly the largest among various countries.

Today, a range of digital payment products like UPI, BHIM, RuPay, NETC, AePS, Bharat Bill-Pay,

BOX 2.3. LET A MILLION QR BLOOM: THE UPI IMPACT[20] AND FINANCIAL INCLUSION

Across the country, there are a large number of very small shops, hand cart vendors, pavement shops etc., that receive payment for their sales using Quick Response (QR) codes. This happens everywhere in the country! Thirty-six-year-old vegetable vendor[21] in a Mumbai suburb has two QR code stickers. They are randomly placed for scanning in the midst of a scattering of potatoes and onions. Even in a noisy market, the vendor's ears are alert to the sound box near his cash box, which frequently plays the 'payment received' voice notification. At times, customers also flash their mobile screens with the now-very-familiar 'payment successful' message. The sound box, which saves him from customers showing fake confirmation receipts, costs some monthly rent. But the vendor doesn't mind the expense.

The QR code, which uses UPI technology, allows money transfers in seconds to the vendor's bank account. UPI enables seamless money transfers between different banks and payment networks. Today, 80% of the vendor's daily sales happen through QR codes. He also makes payments via UPI at the mandi, or wholesale market, where he picks up his goods. And they don't mind it either. He quips in Hindi, 'nowadays, banks have also started calling me to offer loans'!

A news item on this says, 'As the UPI juggernaut rolls on, the six-year-old real-time payment system is set to disrupt big-ticket credit card, debit card and remittance payment ecosystems, and even cash in the system'.

NFS, NACH, CTS, IMPS etc., is available to facilitate safe and secure digital payments. These products facilitate the transfer of funds/money from:

i. Person to Person
ii. Person to Business payments.
iii. Business to Person
iv. Person to Government
v. Government to person payment.

Table 2.11. Financial Inclusion Payment & Settlement Infrastructure (No. in million)

	Dec-12	Dec-19	Dec-20	Dec-21
ATMs	0.1	0.21	0.21	0.21
POS	0.66	4.25	5.78	5.5
Micro ATMs	0.0	0.0	0.36	0.59
Bharat QR	0.0	0.0	3.2	4.65
Credit Cards	17.65	55.33	60.4	68.95
Debit Cards	278.28	805.32	885.66	937.74

Source: Payment system indicator, RBI

From the Table 2.11, it can be seen that the number of ATMs has remained range bound in recent years. This is because the need for cash for retail payments is reduced due to the use of cards in POS and the ease with which mobile payments can be made.

It can be seen from Figure 2.2 that during the COVID-19 period, i.e. since March 2020, there has been a spurt in UPI-based transactions. Naturally, the volume and value of transactions in basic accounts have been equally impressive.

It is evident that managing the impact of COVID-19 induced lockdown and consequent slowdown in business has resulted in new ways of doing daily financial transactions, which are mobile and 'Apps' oriented. Nowadays, most retail payments

Table 2.12. Financial Inclusion Progress ICT Transactions in BC Outlets

Particulars	Mar-10	Dec-19	Dec-20	Dec-21	CAGR
Total Transactions (No. in million)	27	2,250	2,329	2,109	46.08%
Total Amount Transacted (₹ Billion)	7	6,066	6,150	6,622	81.46%

Source: NPCI and Payment system indicator RBI

are made through digital mode, which needs an underlying bank account. This has contributed substantially to the success of financial inclusion. Between 2016 and 2020, ICT transactions through BCs recorded an overall CAGR of 60.27%. PSBs have registered the highest growth in remittance (ICT) transactions, with a growth rate of 29.30%. At the same time, the growth in transactions with PVBs and RRBs was 24.82% and 23.31%. It is reported that urban BCs, most of which are facilitated by Private Banks, are mainly engaged in remittance activities. It is noteworthy that private banks allow all customers, including those financially excluded, to open accounts online.

Overall, there is a steady increase in the number of accounts. Transaction volumes are good. The average numbers, however, tell a different story. They point out that there is a need to deepen financial inclusion.

Table 2.13. Financial Inclusion: Transactions Averages (Amount in ₹)

Particulars	Mar-10	Dec-19	Dec-20	Dec-21
Average Balance per Basic Account	748.30	2561.19	3125.05	3221.93
Average OD Amount Per Account	500.00	733.87	855.93	868.75
Average Amount in KCC	51,667	148,095	138,584	146,638
Average ICT Transaction Per BC	2.08	6.60	6.34	5.38

Source: Calculated through various tables in the report

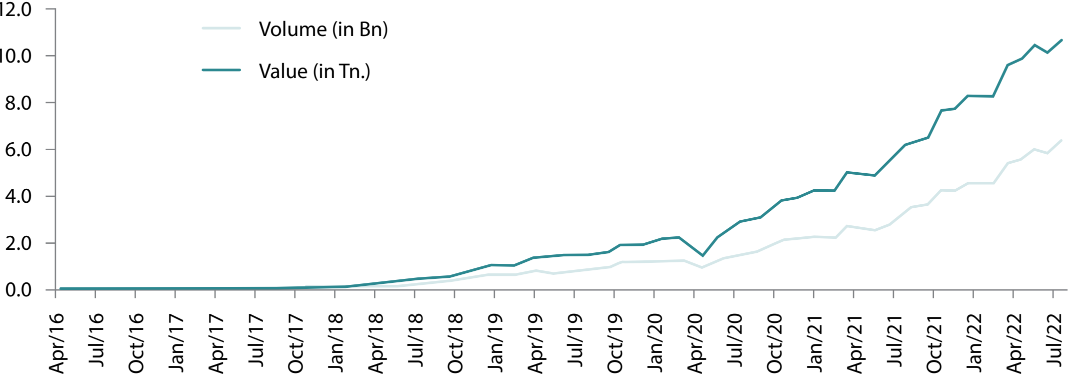

Figure 2.2. UPI Based Payments
Source: NPCI and Payment system indicator RBI

In this regard, it is observed that:

i. The average balance in the basic account is lower in the case of BCs than that of branches. It is 1/4th of the average balance recorded in standard Savings Bank accounts. This can be increased if more transactions are permitted, as limited transactions may result in account holders keeping larger cash with them.
ii. The average amount of OD (though only 1% of the accounts had OD) is abysmally low. It is necessary that banks take proactive decisions to increase the number of OD accounts.
iii. In a number of places, the need to remove the restriction of 4 transactions has been made. In this connection, the average ICT transaction at 5+ per basic account (annual) points out that relaxation of the rule may not affect many *basic accounts*.

2.6. FINANCIAL LITERACY

Financial inclusion efforts have resulted in more people having access to banking services. People of all economic backgrounds, including poor and rural people, use digital payments. Yet for inclusion efforts to bear fruit, people must know how to manage their bank account and finances, however small the amount may be. Financial literacy gives one the ability to effectively save and manage finance and transact in the financial market. From the banking perspective, financial literacy is about educating customers about the nuances and conditions of *basic accounts* and helping them to use the accounts and achieve economic growth.

The Government of India and regulators are constantly working towards growth by organising financial literacy courses, workshops and schemes. The GOI has arranged an exclusive set-up for national financial literacy[22]. Under this, a National Centre for Financial Education (NCFE) has been set up with (currently) 1,495 financial literacy centres (FLCs) across the country. These centres have organised 5,122 programmes during the year 2021-22. As per the annual report of NCFE, till March 2022, nearly 0.2 million people have been covered under various programmes. Major initiates of NCFE are:

i. Financial Education Program for Adults (FEPA), which covers SHG Members, ASHA and Anganwadi workers, housewives, MGNREGA Beneficiaries etc.
ii. Financial Awareness and Consumer Training (FACT) focused on college students
iii. Financial Education Training Programme (FETP) for school teachers, and
iv. Money Smart School Programme (MSSP) for school children

NCFE has also developed resource and capacity-building material on finance and financial education, including various aspects of money, banking and finance, which include (i) a financial education Handbook in many languages on various products offered under financial inclusion and (ii) a financial education Handbook for MSME. Further, RBI has published a booklet on the modus operandi of fraudulent transactions and precautions to be taken to avoid the same.

It is reported that as a result of all these, the financial literacy rate among country's young and adult population has been increasing. It should be added here that one of the contributory factors for increased financial literacy is the use of digital transactions. Digital transactions are not possible unless one understands the products, their use and their security features.

For financial inclusion to be successful, customers of banks should know the why and how of banking. Banking is a set of strictly defined rules and regulations, and often customers are put to difficulties because they do not know the Dos and Don'ts and could also fall prey to fraudsters. Regarding *basic accounts*, the important rules are about KYC, number of withdrawals (debit) and transactions permitted in a month/year, amount of money that can be drawn or transferred, limits for a single transaction, rate of interest, and there is no minimum balance stipulated in basic accounts etc. There are also rules about the use of ATM/ RUPAY cards etc. Customers with *basic accounts* should know this set of rules. Similarly, they should be aware of the advantages and costs of insurance schemes attached to the *basic account.* Knowledge about who is eligible for OD and how the OD requirement is evaluated etc. could generate demand for OD. Knowledge about how to use credit optimally is also important. Awareness about how to save and manage finance is important too. Indeed, a large canvass of information and knowledge needs to be passed on to customers. It is in these aspects that financial literacy can play an important role. It must be added here that some of the programmes of NCFE account holders of banks are as well.

Banks have also been making efforts to educate customers about financial inclusion, *basic account* etc., by organising financial literacy programmes, training and information meetings. Banks also display financial inclusion-related information on their websites.

It is important that banks' financial literacy efforts are also focused on educating the BCs and branch staff about (i) the objectives of and how to go about including people, (ii) helping these customers to transact in the account and (iii) certain Do's and Don'ts and code of conduct, and, (iv) how to originate loans etc. Simultaneously customers should be educated about how to use bank accounts, how to put through transactions etc.

2.7. CONCLUSION

Good progress has been recorded under financial inclusion in terms of the number of BCs being established, the number of *basic accounts* opened, the total amount of deposits mobilised and a well-entrenched payment and settlement system. Indeed impressive progress. Substantial use of digital payments and initiatives of some Private Banks in using NBFCs, Fintech and MFIs as BC for originating credit under Financial Inclusion are positive developments that have sustained the momentum in financial inclusion efforts.

The average deposit amount per *basic account* in BCs is much lower than in branches. The number of digital transactions per *basic account* through BCs is also low. Yet, in both these two aspects, there is discernible growth. It is reported that a large number of *basic accounts* are inactive and near dormant status[23]. There is a need for banks to make these accounts active and encourage the customer to save and make transactions. The low balances in the basic accounts indicate the need to proactively review the products and make improvements. There is a need to focus some development efforts on these matters.

Prima facie financial inclusion is happening at a good pace. But credit inclusion needs to be increased quickly.

The number of withdrawal transactions being restricted to 4 in *basic account* is a constraint that has been highlighted in studies. An almost equal number of regular Savings Bank accounts are being opened, and customers' acceptance of mobile banking points out that financial inclusion could be faster and more effective if the products are appropriate and easy to use.

Even as doubts about the viability of BCs have been raised, the announcement by SBI[24] that Financial Inclusion and Micro Markets (FIMM) banking - essentially mandated programmes like financial inclusion, rural credit and micro credit - will be managed by a new vertical which could work on an outsourcing model, suggests that BCs could be, in future, a strategic partner in inclusive banking.

Development guidelines on financial inclusion cannot be inflexible as such guidelines impact customers who are from different economic regions and their businesses are of different types and sizes. The need for more bespoke products for customers in the lower economic strata can be hardly overemphasised. Although this chapter has time and again repeated the limit on the number of transactions as a constraining factor, the regulatory requirements are minimum expectations and innovation, which does not bar the customers from those specifications such as the provision of chequebooks, non-insistence of minimum balances etc., but provide more facilities should be focussed on by banks.

Financial literacy efforts could be improved. In addition to training, banks could also think of other ways of reaching information on financial inclusion to prospective customers.

COVID-19 and UPI have brought about a change in the way the common man accesses his daily transaction needs. People have, during this period, discovered the power of technology and the use of apps for digital transactions. The Government programs like Jan Dhan Yojana, PM schemes for street vendors, Direct Benefit Transfer, mandating NETC FASTag for tolling, etc., have hastened the use of digital payments. Guidelines on E-KYC, contactless payments, online payments, recurring payments on cards and UPI, standardisation of QR and expanding BBPS categories etc., have helped in the process. UPI and the availability of many apps on mobile phone is a huge factor that has changed the way transactions are done. Banks, Fintechs, business houses and Business Correspondents have found business sense in adopting digital initiatives. Today apps by banks and other payment apps jostle with each other, offering digital products to reduce the gaps between consumers and merchants. That street vendors, vendors on highways, small shops etc. accept electronic payments and proudly display one or two QR codes is a testimony to the acceptance of online payments. Essentially there is a very strong consumer nod in favour of digital payments and online banking driven by a very well-developed ecosystem. Shops no more hesitate to accept digital payments as transactions are instantly confirmed. For small loans, financial statements are no more necessary for obtaining credit. Digital transactions leave an easily accessible record of business which helps banks, NBFCs, and fintech do appraisals based on digital transactions, GST etc. It will be unreasonable to expect a cashless society. As of date, the country has moved from the early

adopter stage to full use of digital payments. Today a majority of the population, including lower-income groups, use digital payments. This is an irreversible trend. This, indeed, is the real success of financial inclusion efforts._This should be used to hasten credit inclusion.

Yet there could be issues as fraudsters still play around. It is hoped that the steps being taken by the regulator to plug gaps in technology and financial literacy campaigns will address these issues. Today there is a conscious effort towards empowering users with specific know-how on 'how to use', as well as problem-solving.

The progress attained in financial inclusion shows that a focused thrust, opening of dedicated BC outlets, appropriate changes in the banking rules and practices, which would allow poor and economically weaker people to open bank accounts and secure, affordable, and accessible electronic/ digital payment systems is necessary for ensuring ease of banking and ease of transactions.

Financial inclusion is a journey. It needs some more time to realise its full potential. Evidently, the last decade has laid the foundation for financial inclusion in India. There is a clear possibility that within a large number of included households, there could be many clients who, if banks were to delve deeper, would show the promise of entrepreneurship. In the coming years, banks should devote efforts to deepen financial inclusion by increasing credit.

END NOTES

1. The number of Savings Bank accounts as of March 22 were 1.87 billion. As of March 2011, it was 0.62 billion. Source of data: RBI
2. Source RBI and DFS GOI
3. As per Census 2011 there were 0.641 million villages in India.
4. NAFSCOB has reported that about 96,000 PACS exist. Of which it is estimated that 65,000 may be functional.
5. Ibid
6. the country has a total of 39 cities that each have populations exceeding one million residents. Mumbai and Delhi have populations that exceed 10 million. The country also has smaller but still very populated cities, including 388 that have populations exceeding 100,000, and a whopping 2,483 cities with populations of over 10,000. https://worldpopulationreview.com/countries/cities/india

   No frills account pay heavy penalty for exceeding withdrawal limit IIT Mumbai study quoted by. Business Standard 28/02/22
7. RBI Bulletin September 2021
8. RBI bulletin September 2021
9. Extract from RBI internal study. RBI Bulletin September 2021
10. The Reserve Bank of India has banned the use of direct selling agents (DSAs) to source retail loans and carry out physical verification of documents of borrowers. https://economictimes.indiatimes.com/markets/stocks/news/rbi-banks-use-of-agents-to-chase-loans/ article show/ 71699214. cms?utm_source =content of interest &utm_medium =text&utm_campaign=cppst
11. https://birdlucknow.nabard.org/wp-content/uploads/2021/12/Study-18_Business-Model_BIRDwebsite_webupload.pdf
12. There is a need to indicate in terms of specific documents what is simple KYC.
13. https://www.moneylife.in/article/banks-harass-no-frills-account-holders-by-freezing-or-converting-their-account-to-regular-ones-iit-study/54171.html
14. Data RBI published statistics
15. Includes basic accounts as well
16. RBI Bulletin September 2021 "Only 5% of the total KCCs were sourced/opened through BCs in 2020
17. An article on FI in RBI Bulletin September 2021
18. A report in RBI bulletin September 2021 "Similarly, share of PVBs in credit/ OD transactions at BC outlets rose progressively from 82% in 2016 to 97% in 2020
19. Source BSR 1.1.7 (pre 1.11)
20. https://www.businesstoday.in/interactive/longread/-15-09-2022
21. Name not disclosed
22. National Strategy for financial education 2020-2025
23. https://www.moneylife.in/article/banks-harass-no-frills-account-holders-by-freezing-or-converting-their-account-to-regular-ones-iit-study/54171.html
24. https://www.business-standard.com/article/finance/sbi-to-raise-share-of-financial-inclusion-to-20-by-mar-22-120110901178_1.html

Regional Rural Banks: Anachronistic or Aligned in the Current Schema

Gaurav Gupta

‘गांव का पानी गांव में, गांव का पैसा गांव में ऋद्ध’[1]

3

3.1. INTRODUCTION

With their ownership split between the Government of India, respective state governments and sponsor banks in the ratio of 50%, 15% and 35%, Regional Rural Banks (RRBs) were set up from 1975 onwards as an institution that combined the local feel and familiarity with the rural problems which the co-operatives possessed and the professionalism of commercial banks with a view to reaching the rural poor more extensively[2]. While the number of RRBs today stands at 43, with most states having one RRB each, between 1987 and 2005, each state had several smaller RRBs totalling 196 across the country.

The financial performance of RRBs over the years has been a mixed bag. Different committees and working-groups[3] have evaluated their performance and made recommendations regarding the future of RRBs. These recommendations and the subsequent action have mainly revolved around merging two or more RRBs. Recently, there has been a revival of debate around the privatization of Public Sector Banks (PSB) and RRBs[4].

Are RRBs different from commercial banks in the public and private sectors? Does the provision of finance for social objectives and financial viability go hand-in-hand? What had RRBs set out to achieve, and where do they stand today against those objectives? Is Return on Equity (ROE) a justified measure of evaluating the performance of RRBs? Is it time to write-off RRBs? These are a handful of questions this chapter attempts to discuss. Of the two financial institutions in India that operate with a primarily rural focus, i.e., Regional Rural Banks (RRBs) and Rural Co-operative Banks (RCB), this chapter focuses only on the former.

Before diving into various issues related to RRBs, a few background facts regarding rural India are considered. The farm sector in India is characterized by economically unviable small farm holdings that lead to a vicious cycle of lack of credit, low agricultural productivity, and insufficient incomes that in turn exacerbate the poor credit-worthiness of households dependent on agriculture as the primary source of income. This eventually leads to reliance on consumption-driven informal borrowing (RBI, 2019).

The focus of policymakers in India has disproportionately been on cities as drivers of growth at the expense of rural development (Chatterjee et al., 2016). However, the rural economy in India needs attention as structural transformation in India has not happened as predicted by economic theories. India's economy continues to have close to half of its population involved in Agriculture even though its share in GDP at 16% is now very small (State of Working India, 2018). Rural areas contribute half of India's GDP and employ more than two-thirds of the workforce (Chand et al., 2017). The importance of the non-farm sector has increased in rural economies over the years- its contribution up from 27% and 62% in 2005 in employment and GDP respectively to 42% and 67% in 2015 (Basole, 2017; Chand et al., 2017). The service sector (excluding construction), which is less employment intensive[5], has gained at the expense of manufacturing, whose contribution to rural non-farm employment has steadily declined from 32% in 1994 to 22% in 2010 to 17% in 2017 (Basole, 2017).

The above discussion highlights the need to focus on non-farm livelihoods in rural areas. While the National Bank for Agricultural and Rural Development (NABARD) has been working intensely with RRBs and RCBs to further the cause of livelihoods in the rural economy, as this chapter

discusses, a re-doubling of efforts, especially by RRBs, would be required in the times to come for the rural economy in India to thrive. This chapter builds a strong case for further strengthening of RRBs as the main financial institution for those at the base of the pyramid and shows that while it is unfair to evaluate the performance of RRBs with the standard commercial lens, they have not performed as poorly as perceived.

3.2. PERFORMANCE OF RRBs

This section uses the standard commercial lens to evaluate the performance of RRBs. A discussion on their balance sheet composition is followed by a current year and long-term performance evaluation. The focus here is on RRBs as a group and not on individual RRBs, although a summary table with individual RRB-level performance on various parameters is provided in appendix 3.2.

3.2.1. Balance Sheet

Table 3.1 presents the combined balance sheet of all RRBs. A similar balance sheet for all PSBs is in appendix 3.1. The balance sheets of PSBs and RRBs differ mainly on two fronts: in the mix of loans and investments on the assets side and in the composition of deposits and borrowings on the liabilities side.

Investments in Statutory Liquidity Ratio (SLR) securities are above the hitherto mandated level of 18%[6] for both categories of banks, with RRBs at 31% and all PSBs at 24%. A higher Investments-to-Credit ratio for RRBs at 86% versus 54% for all PSBs signals higher risk aversion as RRBs choose to park more of their available funds/deposits in investments rather than giving more credit. This problem is especially acute for some banks that have been loss-making (current or accumulated)- refer to appendix 3.2.

RRBs are often referred to as institutions with poor credit-deposit (CD) ratios. While there is room for improvement, the CD ratio for all RRBs at 61% is not too far behind that of all PSBs in India at 64%[7]. Nonetheless, as in figure 3.1, the CD ratio of RRBs has remained in the range of 60-70% for the last 10 years. There is a huge variation in the CD ratios of different RRBs. As shown in appendix 3.2, some RRBs have CD ratios in excess of 100%, i.e., they give out more loans than they collect as deposits, and some loss-making RRBs have CD ratios less than 30%, i.e., for every ₹100 of deposits collected they are able to give out loans worth ₹30 or less.

Rural credit is a public good with multiplier effects on the rest of the economy. Rural savings escape parts of rural India with low credit-deposit ratios and are not made available for productive activities within that region/ state. Capital-adequacy norms[8] also have

Table 3.1. Aggregate Balance Sheet of RRBs (FY22)

Assets			Liabilities		
	₹ billion	**Percentage**		**₹ billion**	**Percentage**
Loans	**3,425**	**49%**	**Deposits**	**5,625**	**81%**
			Current accounts	120	2%
			Savings accounts	2,944	42%
			Time Deposits	2,561	37%
Investments	**2,957**	**42%**	**Borrowings**	**739**	**11%**
Deposits with sponsor banks	183	3%	NABARD	671	10%
Deposits with other banks	534	8%	Sponsor bank	39	0.6%
SLR securities	2,152	31%	Others	29	0.4%
Non-SLR securities	87	1%			
Fixed and others assets	**248**	**4%**	**Provision & other liabilities**	**197**	**3%**
Cash & cash equivalent	**334**	**5%**	**Capital**	**402**	**6%**
Cash	253	4%	Initial investment	149	2%
Call money / short notice balances	81	1%	Reserves	344	5%
			Accumulated losses	-91	-1%
TOTAL	**6,963**	**100%**	**TOTAL**	**6,963**	**100%**

Source: NABARD (2022)

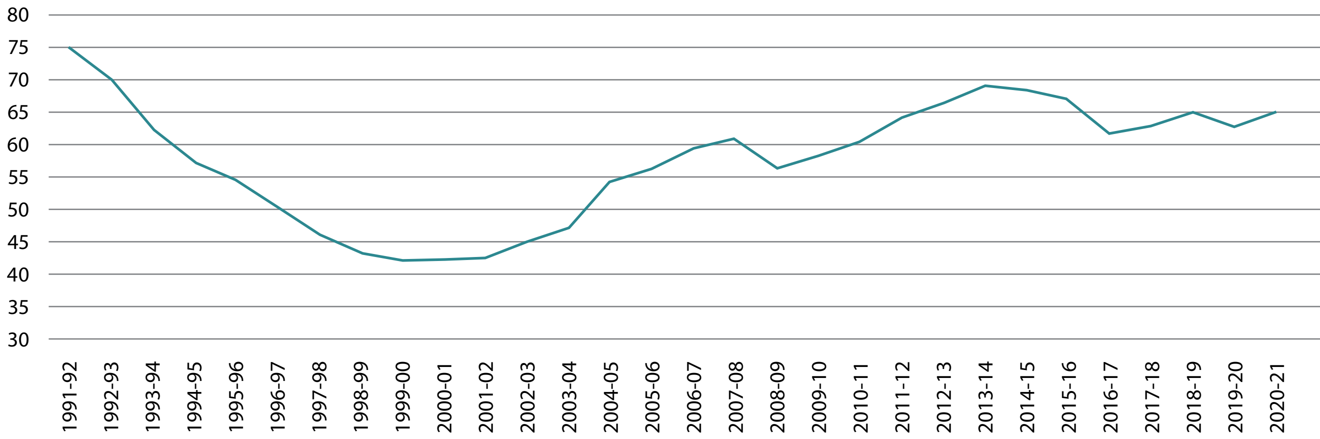

Figure 3.1. Credit-Deposit Ratio of RRBs (1992-2021)

Source: Table 58, Handbook of Statistics on the Indian Economy- RBI, 2021. Available here: https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/58T398C-637CB6A64E57AC16A8973B464104.PDF

a role to play in risk aversion by RRBs- risk weight for government securities (G-secs) is 2.5% versus 100% or more for retail lending.

For the financial year ending (FYE) 2022, RRBs placed ₹717 billion as deposits with other banks, including sponsor banks. These deposits are low-yielding assets for RRBs and act as a source of low-cost funds for the bigger banks[9].

On the liabilities side of the balance sheet, borrowings make up 11% of all liabilities for RRBs, most of which are from NABARD to facilitate targeted and subsidized lending. Overall, borrowings for all PSBs are lesser at 6% of their balance sheet. RRBs have a high share of low-cost deposits at 44%, most of which is from savings accounts at 42%. Current account deposits are minuscule at 2%, reflecting the fact that RRBs primarily cater to retail clientele in rural areas. Time deposits form 37% of all liabilities for RRBs versus 49% for all PSBs.

3.2.2. Operating Performance

A large-scale amalgamation exercise was undertaken in the early 2000s with a view to strengthening RRBs. The RRB franchise has been consistently profit-making since 1997-98, except in 2018-19 and 2019-20, owing to provisions made for pensions to their staff based on court rulings.

With a purely commercial lens, the overall performance of RRBs measured by ROE as a composite measure of return to shareholders has been unimpressive. For FYE22, RRBs delivered an ROE of 8%.

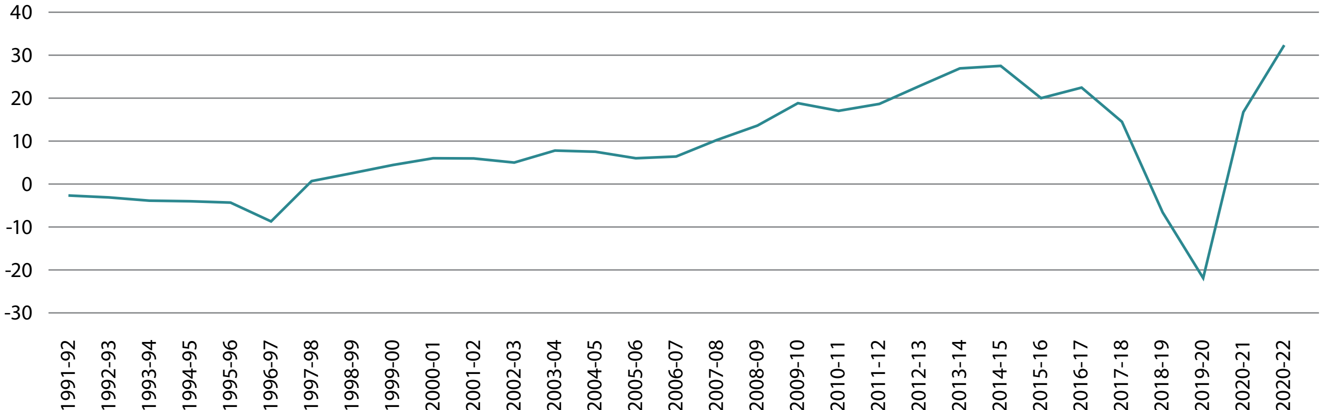

Figure 3.2. Net Profit/Loss of RRBs, in ₹billion (1992-2022)

Source: Antil (2020), Annual Report Department of Financial Services- Government of India and NABARD (2022)

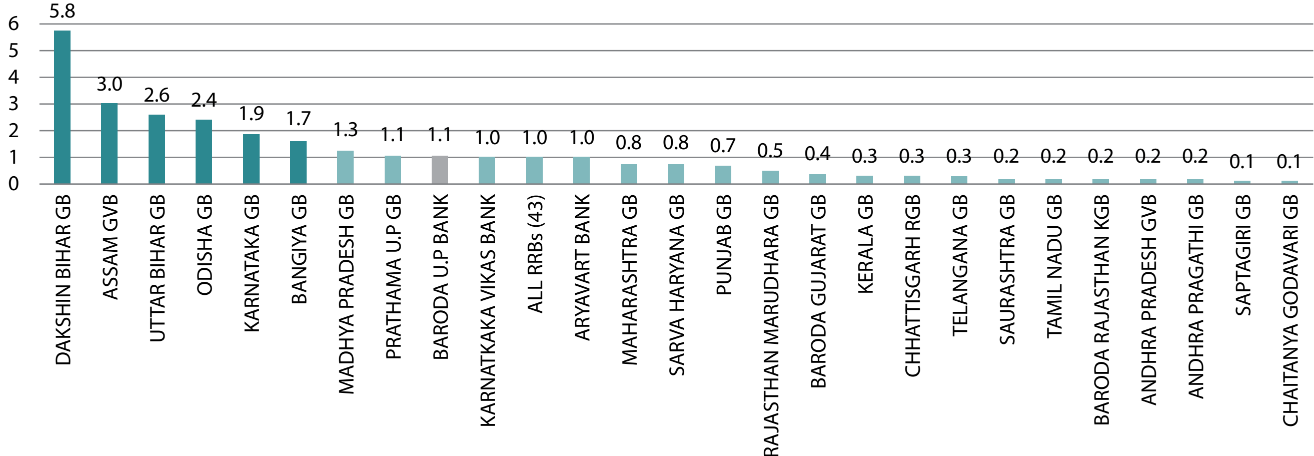

Figure 3.3. Share in NPA/Share in Loans of RRBs[11] (2022)

Source: Author's calculations based on NABARD (2022)

For the year-ending March 2022, overall NPA levels were at 9.15%. NPAs, however, were concentrated mainly in a few RRBs. Figure 3.3 shows the ratio of each RRB's share in NPA and share in loans. Banks in Bihar, Assam and Odisha contribute more than twice to overall RRB NPAs than they do to overall gross loans of RRBs. Besides agriculture, NPAs are high in MSME and education loans. In the state with the highest contribution of 24.3% to NPAs of RRBs, i.e., Bihar[10], NPAs in all categories of loans are high for the two RRBs operating there-agricultural loans at 55% and 24%, MSME loans at 64% and 25%, education loans at 55% and 60% and housing loans at 5.5% and 26%.

3.2.3. Yields on Loans and Rates Paid on Deposits

Considering that their borrowers have lower credit-worthiness compared with the majorly urban clientele of other banks in India owing to less secure livelihoods, lower average incomes, and high levels of NPAs, contrary to what one might expect them to do, RRBs charge relatively lower interest rates as shown in figure 3.4. Between FY20 and FY22, the maximum difference between yields from investments mainly in risk-free government securities and much riskier loans, mainly to individuals, was 271 basis points in FY21.

On the other hand, in line with the extant regulations applicable to all banks, including RRBs though the threshold criteria are different for RRBs and other scheduled commercial banks, the pricing of deposits is biased[12] against the poor and small savers in rural India. For example, in FY22, the average cost of deposits for RRBs was 4.11%. Net of inflation, these rates are low (or negative), especiallyin the context that for savers in rural India deposits are the primary instruments of saving.

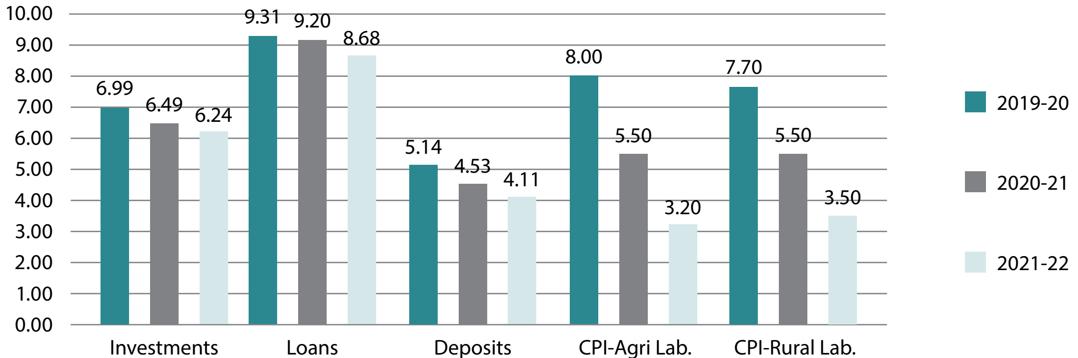

Figure 3.4. Pricing of Loans and Deposits and Rural Inflation (2020-22)

Source: NABARD (2022) and Economic Survey (2022).

3.3. CONSTRAINTS FACING RRBs

The analysis in the previous section is incomplete without a discussion on the difficult operating environment and the several constraints which are unique to RRBs.

RRBs suffer in terms of both the economies of scale and scope. The operations of an RRB are restricted to a specific state and, as is discussed in the next section, are primarily focused on the rural agricultural economy, which in India's case has not done well for several decades, barring a few instances of states led by the Green and White revolutions (Economic Survey 2016; OECD/ ICRIER 2018). Their directed credit portfolios do not enjoy the diversification necessary for a bank to mitigate credit risk. Political influence (Cole, 2008)and risks from frequent natural disasters exacerbate the difficult operating environment. Pricing and credit subsidy are highly distorted in favour of short-term credit, implying limited scope for productivity-enhancing investments by borrowers (RBI, 2019).

Compared to a commercial bank, RRBs' operations are purely domestic, lending is extensively balance sheet consuming, and there is limited scope for cross-selling other products that can generate fee/other income. For the banking sector in India, off-balance-sheet assets[13], which generate non-interest income and have lower capital requirements compared to on-balance-sheet products, are more than 100% of the value of on-balance-sheet assets. For RRBs[14], the percentage of off-balance-sheet products, if at all, is less than 1% of on-balance-sheets assets.

RRBs deal in simple lending products and have limited inter-linkages with the rest of the domestic or international banking sector. Yet RRBs are subjected to capital requirements at par with other commercial banks[15]. Retail lending is the sine qua non for RRBs in rural areas, and lending to this segment attracts 100% or more risk-weighting versus investments in G-Secs at 2.5%.

Considering their involvement on the Boards of Directors of RRBs, owners take little interest in the running and oversight of operations. Government of India has not nominated independent directors on the boards of RRBs. Even in the case of some of the well-performing RRBs, State Government nominee directors have not attended a single board meeting throughout the entire financial year. The Chairman of the Board is also the senior most executive of the bank and is deputed from the sponsor bank along with a small team of other senior officers.

Dependence on sponsor banks is high and bordering on being exploitative. A case in point is the reliance of PSBs on RRBs to meet their PSL targets by the purchase of Priority Sector Lending Certificates (PSLC). The credit risk of this over-achievement of PSL targets is entirely borne by RRBs in the case of the sale of PSLC.

RRBs below a certain threshold level of profitability[16] and capital are not allowed to offer internet and mobile banking (Tankha, 2015). Even the clientele of RRBs is not necessarily very tech-friendly, so migration of transactions to low-cost channels is challenging with a view to reducing operational costs.

Health of RRBs depends on the vagaries of nature, and the geography they operate in also plays a key role in their fortunes. Risk cost and poverty profile of regions/ states of operation are positively related, i.e., relatively less-well-performing RRBs are in states with higher levels of poverty.

3.4. WHY ARE RRBs IMPORTANT?

3.4.1. The Focus of RRBs is Mainly on Rural India

Almost 70% and 90% of all RRB branches are in rural and rural and semi-urban areas combined respectively (table 3.2). RRBs contribute to 14% of

Table 3.2. Branches by Bank-type[17] and Area (March 2022)

	Rural	Semi-urban	Urban	Metropolitan	Total
PSB	28,845	24,123	18,744	18,452	90,164
PVB	7,862	12,036	8,225	10,649	38,772
SFB	1,036	2,150,	1,488	1,117	5,791
RRB	15,425	4,837	1,636	438	22,336
LAB	8	42	17	14	81
Payments	33	293	325	70	721
Total	53,209	43,481	30,435	30,740	1,57,865

Source: RBI's database on Indian economy/ Bank Branch Statistics (Quarterly/ Bank-wise and Population Group-wise Number of FunctioningOffices of Commercial Banks). Available here- https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications

all bank branches in India and to 29% of all bank branches in rural India. PSBs with 55% share are clear leaders in the share of branches in rural and rural and semi-urban combined. Next, with a 21% share, each private sector banks (PVBs) and RRBs have almost the same number of branches in rural and semi-urban combined. However, PVBs are focused more on semi-urban and RRBs more on rural areas.

3.4.2. RRBs are an Important Institution for the Financial Inclusion of the Rural Poor

RRBs are the primary publicly-owned institution driving the financial inclusion of the rural poor. As in table 3.3, RRBs carry higher targets[18] with respect to social priorities compared to other classes of banks, i.e., commercial and small finance banks (SFB). Commercial banks have a target of 40% of their advances (Adjusted Net Bank Credit- ANBC) to PSL, whereas SFBs and RRBs both carry a target of 75%. Both Commercial Banks and SFBs carry lower targets for lending to the weaker sections.

What further differentiates RRBs from other banks is that their actual achievement of PSL targets is way higher than the minimum requirement. Achievement for FY22 stood above 90%, 46% and 79% for overall PSL, direct advances to agriculture and weaker sections respectively. No other institution comes close to this achievement of RRBs.

3.4.3. RRBs Perform Better Than Other Categories of Banks in Rural Areas and Aspirational Districts

RRBs have a deeper reach in rural areas and aspirational districts and perform better on this front compared to PSBs, PVBs and SFBs. RRBs contribute to 3.1% of total bank loans outstanding in India and a much higher 10.4% of total bank loans outstanding in aspirational districts. Considering only rural areas, from tables 3.4 and 3.5, the share of RRBs of total bank outstanding in all districts is 21% and in aspirational districts is 30%.

Aspirational districts contribute to 11.1% and 16.8% of all lending in rural areas by SCBs (ex-RRBs) and RRBs respectively. PVBs and SFBs have low or negligible shares and, clearly, the focus of RRBs on rural and hitherto deprived regions is much more. It must, however, be noted that SFBs as a category of institutions are relatively new and came into existence only in 2015[19].

Looking at district-level[20] data from RBI, of the 713 districts covered, in 111 districts, the share of RRBs in total bank lending was higher than that of PSBs- RRBs had lent ₹641 billion in comparison with ₹182 billion by PSBs. In the 23 aspirational districts of these 111, RRBs had lent ₹138 billion in comparison with ₹76.4 billion by PSBs.

RRBs and PSBs have shares of 22% and 42% in the total number of borrower accounts. The same numbers for PVBs and SFBs stand at 32% and 3% respectively. If one looks at total lending, the share of RRBs and PSBs is 21% and 60% respectively, clearly indicating the small borrower focus of RRBs. On the other hand, the share of private sector banks and SFBs in overall lending (in rural areas) is 18% and 1%, much lower than their shares in the number of accounts. Average outstanding per borrower account for RRBs is ₹115,472, whereas that for PSBs is 54% higher at ₹177,880.

As far as savings are concerned, RRBs have a 17% share[21] in total deposits of ₹18 trillion of all scheduled commercial banks from rural India

Table 3.3. Targets for Social Priorities (as of March 2022)

	Commercial Banks	SFB	RRB	Achievement- FY22
Priority sector adv to total adv.	40%	75%	75%	90.1%
Direct agri adv to total adv.	18%	18%	18%	46.4%
Small & marginal farmers (within agri)^	9%	9%	9%	26.8%
Micro-enterprises	7.5%	7.5%	7.5%	12.0%
Weaker section adv to total adv. @	11%	11%	15%	78.9%

^ Targets till FY22 | @ Targets for Domestic Commercial Banks and SFBs till FY22 |adv.- advances

Source: https://m.rbi.org.in/scripts/BS_ViewMasDirections.aspx?id=11959#Targets

Table 3.4. Share of Banks in Rural Areas, All Districts (March 2021)

Rural areas only All districts	Accounts (million)	Limit (₹ billion)	Outstanding (₹ billion)	Limit per acct. (₹ '000)	O/s per acct. (₹ '000)	Limit utilisation (%)	Share in accts. (%)	Share in o/s (%)
FB	0.1	55	24	631	276	44%	0.1%	0.2%
PVB	28.3	2,783	1,948	98	69	70%	32.4%	18.0%
PSB	36.5	9,517	6,489	261	178	68%	41.7%	60.0%
RRB	19.6	2,794	2,266	142	115	81%	22.4%	20.9%
SFB	3.0	134	91	44	30	68%	3.4%	0.8%
Total	87.5	15,283	10,817	175	124	71%	100.0%	100.0%

Source: RBI, Basic Statistical Returns-1

Table 3.5. Share of Banks in Rural Areas, Only Aspirational Districts (March 2021)

Rural areas only Aspirational districts	Accounts (million)	Limit (₹ billion)	Outstanding (₹ billion)	Limit per acct. (₹ '000)	O/s per acct. (₹ '000)	Limit utilisation (%)	Share in accts. (%)	Share in o/s (%)
FB	0.002	0.2	0.2	114	110	96%	0.02%	0.02%
PVB	2.4	259	167	108	70	65%	20.9%	13.1%
PSB	4.7	872	718	184	151	82%	41.4%	56.0%
RRB	3.7	454	380	123	102	84%	32.4%	29.6%
SFB	0.6	23	16	39	27	68%	5.3%	1.2%
Total	11.4	1,609	1,281	141	112	80%	100.0%	100.0%

Source: RBI, Basic Statistical Returns-1

3.4.4. RRBs Have a Higher Share in Lending to the Weaker Sections

State-specific comparison of the performance of RRBs with other banks using State-level Bankers' Committee (SLBC)[22] data from West Bengal (WB)[23], Uttar Pradesh (UP)[24], Andhra Pradesh (AP)[25] and Gujarat (GJ)[26] provides a comparison of RRBs with other banks and further demonstrates the role played by RRBs as an institution of the poor. For each of the states in table 3.6, where available, the first two columns provide the state-specific share of all categories of banks in borrower accounts as well as in amounts borrowed.One can consistently note that RRBs are an important institution for those in agriculture and those who belong to the weaker sections of society. RRBs share of lending to MSMEs is low. For weaker sections, RRBs provide 14.2%, 26.4%, 18.5% and 6.5% of all credit made available to them in WB, UP, AP and GJ respectively.

Table 3.6. Share of banks for Priority Sector Loans for select states (as of March 2021)

WB	Total advances		Agriculture		MSME		Weaker sections		Minority		SC/ST	
	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount
PSBs	26.5%	57.5%	32.7%	53.9%	42.8%	57.4%	35.5%	48.2%	18.3%	54.2%	15.0%	41.1%
PVBs	50.2%	35.2%	29.4%	21.6%	37.4%	38.0%	42.4%	31.3%	69.1%	38.1%	66.4%	40.1%
SFB	4.0%	0.6%	3.4%	1.3%	4.9%	0.4%	5.3%	3.3%	4.1%	1.2%	6.5%	2.6%
RRBs	5.8%	2.6%	9.7%	12.7%	14.1%	3.5%	6.0%	14.2%	5.2%	6.3%	8.0%	10.4%
Co-ops	13.5%	4.0%	24.7%	10.6%	0.9%	0.6%	10.8%	3.1%	3.4%	0.3%	4.2%	5.7%

Table 3.6. Share of banks for Priority Sector Loans for select states (as of March 2021)

UP	Total advances		Agriculture		MSME		Weaker sections		Minority		SC/ST	
	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount
PSBs	-	62.8%	50.4%	60.0%	-	68.4%	-	59.4%	39.0%	69.3%	-	-
PVBs	-	26.0%	8.0%	9.2%	-	27.7%	-	12.2%	28.4%	14.0%	-	-
SFB	-	0.7%	3.5%	0.5%	-	0.4%	-	2.1%	4.2%	0.8%	-	-
RRBs	-	8.4%	28.7%	25.2%	-	3.5%	-	26.4%	28.4%	15.9%	-	-
Co-ops	-	2.1%	9.4%	5.1%	-	0.0%	-	0.0%	0.0%	0.0%	-	-

AP	Total advances		Agriculture		MSME		Weaker sections		Minority		SC/ST	
	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount
PSBs	55.2%	68.6%	58.7%	63.8%	70.1%	61.7%	-	73.5%	-	64.3%	-	73.3%
PVBs	15.4%	18.7%	4.7%	9.8%	8.1%	33.8%	-	6.9%	-	11.1%	-	5.8%
SFB	1.3%	0.2%	1.4%	0.2%	0.2%	0.2%	-	0.1%	-	0.2%	-	0.1%
RRBs	15.3%	7.4%	19.1%	15.8%	20.9%	4.2%	-	18.5%	-	18.8%	-	15.3%
Co-ops	12.9%	5.0%	16.0%	10.3%	0.7%	0.1%	-	1.0%	-	5.7%	-	5.6%

GJ	Total advances		Agriculture		MSME		Weaker sections		Minority		SC/ST	
	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount	A/c (#)	Amount
PSBs	28.6%	47.0%	37.3%	49.9%	48.4%	41.4%	38.4%	57.5%	36.8%	49.7%	49.1%	72.2%
PVBs	50.6%	46.7%	22.0%	23.3%	40.4%	55.8%	28.5%	19.8%	31.6%	40.5%	25.1%	14.6%
SFB	8.1%	1.1%	8.8%	1.9%	7.3%	1.6%	18.3%	5.2%	28.6%	6.3%	19.5%	4.8%
RRBs	3.7%	1.5%	9.4%	7.5%	2.2%	0.6%	6.1%	6.5%	2.1%	2.4%	2.7%	3.8%
Co-ops	8.9%	3.6%	22.5%	17.3%	1.7%	0.5%	8.8%	11.1%	0.9%	1.1%	3.6%	4.6%

Source: SLBC documents

3.4.5. Higher Proportion of Loans to Exclusively Women-Member SHGs

Under the SHG-Bank Linkage program, till March 2022, Commercial Banks, RRBs and Co-operative Banks have together linked 11.9 million SHGs with savings balances of ₹307 billion, ₹138 billion, and ₹27 billion respectively. Of these 11.9 million SHGs, 6.7 million are credit-linked, with a total of ₹ 1.5 trillion in credit.

RRBs have a share of approximately 30% number of SHGs linked, savings mobilization and credit provided to SHGs. Slightly less than 10% of all loans given by RRBs are to exclusively women-member SHGs. RRBs also have the lowest % of NPAs in their SHG credit portfolio at 3.14% (table 3.7). In their SHG portfolio, 96% of all mobilized savings and 98% of all credit provided by RRBs is to exclusively women SHGs. The same figures for Commercial Banks stand at 86% and 93% and for Co-operatives are at 92% and 96%.

Table 3.7. Share of Banks[27] in SHG Savings and Credit (as of March 2022)

All SHGs	Share in savings		Share in loans		NPA
	No. of SHGs	Amount	No. of SHGs	Amount	% of SHG loans
Commercial banks	57.9%	65.0%	62.0%	68.0%	3.23%
RRBs	30.1%	29.2%	30.1%	26.1%	3.14%
Co-operative banks	12.0%	5.8%	7.9%	5.9%	13.29%
Total	100.0%	100.0%	100.0%	100.0%	3.80%

Source: NABARD, Status of Microfinance in India (2021-22)

Table 3.8. ROE of RRBs (FYE2022)

	No. of RRBs	Total Profits (₹ billion)	Total Owned Funds (₹ billion)	Average ROE	Cumulative Average ROE
>= 25%	2	2.0	6.9	28.5%	
>= 20% & < 25%	4	10.8	45.8	23.7%	24.3%
>= 15% & < 20%	4	11.4	67.2	16.9%	20.2%
>= 10% & < 15%	7	9.5	75.2	12.6%	17.3%
>= 0% & < 10%	17	7.5	183.8	4.1%	10.9%
Negative ROE	9	-9.0	23.0	-39.1%	8.0%
All RRBs	43	32.2	401.8	8.0%	

Source: Author's calculations based on NABARD (2022)

3.5. RRBs PERFORMANCE: A LONG-TERM VIEW

In the context of the recent revival of debate around the privatization of PSBs in general and of RRBs in particular, the purpose of this section is to highlight that RRBs should not be brushed aside as a category of unsuccessful institutions. Some RRBs with a small amount of infused capital have generated a surplus multiple times of the funds invested. Given the leverage in the banking business, this creates huge multiplier effects on the local/ regional rural economies.

In an earlier section, it was highlighted that in FY22, RRBs generated an ROE of 8%, which is low. This overall number, however, masks the huge variation in profitability of individual banks and the overall performance is pulled down by a few RRBs in areas/ states that have high poverty levels, a high proportion of landless labour in agriculture and are prone to frequent natural disasters. Table 3.8 breaks down the performance of RRBs into different categories of ROE. The top performing 10 and 17 RRBs generated an average ROE of 20.2% and 17.3% respectively in FY22. Barring the 9 loss-making RRBs in FY22, 34 RRBs generated an overall ROE of 10.9% in FY22. This, by no means, can be classified as poor performance, given the constraints that RRBs operate under.

The total capital infused in RRBs by all owners from 1975 to 2022 is ₹148.8 billion. Using this, through their operations over the years, RRBs have been able to accumulate ₹253 billion of incremental reserves. Thus, the total capital available for lending business, i.e., Total or Net Owned Funds, is ₹401.8 billion.

Table 3.9 presents a simple picture of the long-term performance of the 43 RRBs that exist today. RRBs have been classified into 3 buckets according to the absolute amount of capital infused in each of them, i.e., ₹0-1 billion, ₹1-5 billion and more than ₹5 billion each. The other two key variables in this table include the absolute amount of capital infused by RRBs owners and the ratio of net owned funds to infused capital. This ratio measures how much a rupee of investment by owners has grown into and is now available as total capital to the bank for carrying out its business. For all RRBs, this ratio stands at 2.7 after considering the latest round of investment of ₹64.9 billion in FY22.

Almost 50% (21 out of 43) of all RRBs are in the less than ₹1 billion bucket of infused capital. These 21 banks have totally had ₹9.17 billion, that is 6%, of all capital infused in the 43 RRBs of ₹148.8 billion. In this category, the best-performing bank,i.e., Chaitanya Godavari Bank in Andhra Pradesh, with a ratio of Net Owned Funds to Infused Capital at 103.2, now has a total available capital base of ₹7.7 billion against an investment of merely ₹74 million by all its owners.

The problem with respect to the poor financial performance of RRBs, if any, lies in a handful of banks and states. Most of the poor-performing RRBs are in the last bucket, with each bank having received more than ₹5 billion of capital. These 9 institutions have consumed 70% of all capital infused in RRBs from 1975 till 2022. To summarize, the well-performing institutions have required very small amounts of investment by the owners and only where problems have persisted because of geography, political institutions and overall growth/ development-related issues which are beyond the direct influence of RRBs, the owners have had to infuse more capital to keep the banks in business. The entire RRB franchise, therefore, cannot be labelled as poor performing.

Table 3.9. Ratio of Net Owned Funds to Infused Capital (2022)

Capital buckets	Regional Rural Bank	Ratio of Net Owned Funds to Infused Capital	Infused Capital (₹ million)	% Total Infused Capital
₹ 0-1 billion	Chaitanya Godavari GB	103.2	74	
	Telangana GB	84.9	181	
	Andhra Pragathi GB	75.4	423	
	Meghalaya RB	72.6	26	
	Saptagiri GB	65.3	178	
	Karnataka Vikas GB	51.1	240	
	Andhra Pradesh GVB	51.1	941	
	Punjab GB	46.8	254	
	Sarva Haryana GB	38.6	463	
	Tamil Nadu GB	35.1	470	
	Prathama U.P GB	34.2	605	
	Saurashtra GB	26.4	245	
	Himachal Pradesh GB	9.8	154	
	Puduvai Bharathiyar GB	6.0	135	
	Baroda Gujarat GB	6.0	783	
	Mizoram RB	5.1	547	
	Uttar Banga KGB	2.1	908	
	Arunachal Pradesh RB	0.7	601	
	Nagaland RB	0.2	237	
	Manipur RB	0.2	731	
	J&K GB	0.1	972	
	Total		**9,167**	**6%**
₹ 1-5 billion	Karnataka GB	18.0	1,176	
	Baroda U.P. Bank	11.7	2,079	
	Aryavart Bank	8.8	2,631	
	Baroda Rajasthan KGB	6.7	3,093	
	Rajasthan Marudhara GB	4.8	1,819	
	Tripura GB	4.6	2,656	
	Chhattisgarh RGB	4.5	2,159	
	Maharashtra GB	2.1	3,126	
	Jharkhand RGB	1.9	2,508	
	Uttarakhand GB	1.7	1,531	
	Assam GVB	0.7	4,767	
	Paschim Banga GB	0.2	4,898	
	Ellaquai Dehati Bank	-0.0	2,938	
	Total		**35,382**	**24%**
> ₹ 5 billion	Kerala GB	2.4	6,359	
	Madhya Pradesh GB	0.8	12,780	
	Dakshin Bihar GB	0.7	10,537	
	Uttar Bihar GB	0.4	14,456	
	Bangiya GVB	0.4	15,069	
	Madhyanchal GB	0.4	8,758	
	Odisha GB	0.2	14,092	
	Utkal GB	0.1	14,487	
	Vidharbha Konkan GB	-0.2	7,713	
	Total		**104,252**	**70%**
	All RBBs		148,801	

Source: Author's calculations based on NABARD (2022)

3.6. THE ROAD AHEAD: POLICY RECOMMENDATIONS

RRBs should continue to focus on a double bottom line instead of just on profits. As the above analysis has demonstrated, several individual RRBs have managed to fulfil and overachieve their financial inclusion obligations as well as remain profitable to fund future growth.

Individual RRBs have spent decades in their respective geography of operation. Instead of continuing to depend on sponsor banks, individual RRBs should focus on becoming independent and become leaders and guide other institutions on rural lending in their specific states/ regions.

RRBs, as well as NABARD, should think about augmenting their contributions by further focusing and developing capabilities to increase lending towards the rural non-farm economy. Lending to PSUs operating in the state should be routed through RRBs- at least some share. As part of compensation for their contributions to the local rural economies, RRBs should have accounts of local bodies as well as get a share of state governments' business.

Even though their clientele may not be as tech-friendly as the urban clientele, RRBs should be given the freedom to offer basic facilities such as mobile and internet banking. In the times to come, they will face stiff competition from SFBs and Payments Banks, who will be targeting the assets and liabilities side of their business respectively. Both these types of banks do not face the same stringent constraints as the RRBs do and are also free to expand in all parts of the country.

Setting up an umbrella entity for RRBs on the lines of the proposed National Federation of Urban Co-operative Banks and Credit Societies Ltd. could help RRBs lower costs by consolidating operations processing. This would bring in the much-needed economies of scale given the small-ticket nature of RRBs' business on both the assets and liabilities side of the business. This umbrella entity could also act as a common internet and mobile banking provider for the clientele of RRBs.

Finally, RRBs as an institution need more liberal support from the owners- in capital contribution where required as well as in the strengthening of their Boards. Private sector initiative on lines similar to RRBs has already failed, i.e., local area banks. For the poor, un(der)-served and financially excluded, the private sector cannot be the only ray of hope. As the analysis in this chapter has shown, these publicly owned institutions may not have addressed all the challenges, but they have surely contributed in the right direction. The future holds promise for the rural economy, and RRBs can be influential partners in this journey of transformation. It may be too soon for the government to give up on RRBs and steer them towards possible privatization. The Kiss of Death Can Wait.

APPENDICES

APPENDIX A.3.1. Balance Sheet of All PSBs (FY21)

Assets			Liabilities		
	₹ billion	Percentage		₹ billion	Percentage
Loans	**63,488**	**54%**	**Deposits**	**99,008**	**84%**
			Current accounts	6,845	6%
			Savings accounts	34,629	30%
			Time Deposits	57,534	49%
Investments	**34,009**	**29%**	**Borrowings**	**7,189**	**6%**
Deposits with other banks		0%			
SLR securities	27,900	24%			
Non-SLR securities	6,109	5%			
Fixed and others assets	**8,489**	**7%**	**Provision & other liabilities**	**4,033**	**3%**
Cash & cash equivalent	**11,329**	**10%**	**Capital**	**7,085**	**6%**
Cash	5,391	5%	Initial investment	593	1%
Call money / short notice balances	5,937	5%	Reserves	6,491	6%
			Accumulated losses		
TOTAL	**1,17,314**	**100%**	**TOTAL**	**1,17,314**	**100%**

Source: RBI, Report on Trend and Progress of Banking in India (2021)

APPENDIX A.3.2. RRB Level Summary of Performance- Key Statistics

Regional Rural Bank	Infused Capital (₹ million)	Gross Loans (₹ million)	Net Profit-FY22 (₹ million)	Net Owned Funds to Infused Capital	Share in Infused Capital	Gross NPA	Share in Loans (%)	Share in NPA (%)	Share in NPA/ Share in Loans	CD-ratio (%)	ROE
Chaitanya Godavari GB	74	73,933	1,623	103.2	0.1%	0.91%	2.04	0.20	0.10	101	21.1%
Telangana GB	181	1,12,729	3,732	84.9	0.1%	2.39%	3.11	0.81	0.26	100	24.3%
Andhra Pragathi GB	423	2,01,294	4,169	75.4	0.3%	1.47%	5.55	0.89	0.16	104	13.1%
Meghalaya RB	26	9,469	226	72.6	0.0%	7.62%	0.26	0.22	0.83	27	12.0%
Saptagiri GB	178	71,467	2,010	65.3	0.1%	1.29%	1.97	0.28	0.14	77	17.3%
Karnataka Vikas GB	240	13,109	319	51.1	0.2%	9.37%	3.61	3.70	1.02	72	2.6%
Andhra Pradesh GVB	941	2,39,549	8,138	51.1	0.6%	1.74%	6.60	1.25	0.19	87	16.9%
Punjab GB	254	87,121	1,086	46.8	0.2%	6.61%	2.40	1.74	0.72	67	9.1%
Sarva Haryana GB	463	1,18,348	1,407	38.6	0.3%	7.19%	3.26	2.56	0.79	59	7.9%
Tamil Nadu GB	470	1,56,173	2,293	35.1	0.3%	1.89%	4.30	0.89	0.21	90	13.9%
Prathama U.P GB	605	1,73,350	605	34.2	0.4%	9.99%	4.78	5.22	1.09	70	2.9%
Saurashtra GB	245	55,976	1,850	26.4	0.2%	2.19%	1.54	0.37	0.24	72	28.6%

Karnataka GB	1,176	2,43,218	475	18.0	0.8%	17.26%	6.70	12.65	1.89	71	2.2%
Baroda U.P. Bank	2,079	20,811	629	11.7	1.4%	9.78%	5.73	6.13	1.07	37	2.6%
Himachal Pradesh GB	154	28,043	46	9.8	0.1%	5.74%	0.77	0.48	0.63	37	3.0%
Aryavart Bank	2,631	2,02,135	627	8.8	1.8%	8.81%	5.57	5.36	0.96	63	2.7%
Baroda Rajasthan KGB	3,093	1,83,312	5,020	6.7	2.1%	1.77%	5.05	0.98	0.19	80	24.1%
Puduvai Bharathiyar GB	135	9,330	103	6.0	0.1%	2.07%	0.26	0.06	0.23	89	12.7%
Baroda Gujarat GB	783	58,543	292	6.0	0.5%	3.57%	1.61	0.63	0.39	53	6.2%
Mizoram RB	547	25,103	494	5.1	0.4%	5.29%	0.69	0.40	0.58	59	17.6%
Rajasthan Marudhara GB	1,819	1,02,597	954	4.8	1.2%	4.61%	2.83	1.43	0.50	64	11.0%
Tripura GB	2,656	28,124	1,431	4.6	1.8%	6.78%	0.78	0.57	0.74	36	11.7%
Chhattisgarh RGB	2,159	52,111	275	4.5	1.5%	2.56%	1.44	0.40	0.28	37	2.8%
Kerala GB	6,359	1,92,791	1,241	2.4	4.3%	3.08%	5.31	1.79	0.34	85	8.1%
Uttar Banga KGB	908	27,677	451	2.1	0.6%	6.15%	0.76	0.51	0.67	72	23.7%
Maharashtra GB	3,126	80,290	51	2.1	2.1%	7.19%	2.21	1.74	0.79	53	0.8%
Jharkhand RGB	2,508	40,068	733	1.9	1.7%	6.42%	1.10	0.78	0.70	43	15.5%
Uttarakhand GB	1,531	27,908	68	1.7	1.0%	7.21%	0.77	0.61	0.79	41	2.7%
Madhya Pradesh GB	12,780	12,242	-1,253	0.8	8.6%	11.74%	3.36	4.32	1.28	69	-12.9%
Arunachal Pradesh RB	601	2,573	123	0.7	0.4%	3.86%	0.07	0.03	0.42	23	28.1%
Dakshin Bihar GB	10,537	1,05,787	-2,986	0.7	7.1%	52.74%	2.92	16.81	5.77	40	-39.3%
Assam GVB	4,767	50,441	0	0.7	3.2%	27.74%	1.39	4.22	3.03	37	0.0%
Uttar Bihar GB	14,456	1,04,202	-877	0.4	9.7%	23.95%	2.87	7.52	2.62	54	-14.3%
Bangiya GVB	15,069	74,756	286	0.4	10.1%	15.18%	2.06	3.42	1.66	37	5.1%
Madhyanchal GB	8,758	32,236	327	0.4	5.9%	17.90%	0.89	1.74	1.96	30	10.4%
Nagaland RB	237	430	-10	0.2	0.2%	1.93%	0.01	0.00	0.21	34	-23.1%
Manipur RB	731	2,221	-35	0.2	0.5%	17.55%	0.06	0.12	1.92	48	-27.0%
Paschim Banga GB	4,898	34,395	-996	0.2	3.3%	10.42%	0.95	1.08	1.14	55	-116.6%
Odisha GB	14,092	62,040	49	0.2	9.5%	22.29%	1.71	4.17	2.44	38	2.1%
J & K GB	972	28,786	-274	0.1	0.7%	5.28%	0.79	0.46	0.58	59	-224.3%
Utkal GB	14,487	31,010	23	0.1	9.7%	21.79%	0.85	2.04	2.38	35	3.1%
Ellaquai Dehati Bank	2,938	5,658	-340	-0.0	2.0%	14.53%	0.16	0.25	1.59	40	
Vidharbha Konkan GB	7,713	32,124	-2,203	-0.2	5.2%	12.40%	0.89	1.20	1.36	54	-143.8%
All RRBs	1,48,801	36,28,380	32,185	2.7	100%	9.15%	100	100	1	61	8%

Source: Author's calculations based on NABARD (2022)

APPENDIX A.3.3. Market Share of Banks (Rural and Semi-Urban Areas)

Rural + semi-urban All districts	Accounts (million)	Limit (₹ billion)	Outstanding (₹ billion)	Limit per acct. (₹ '000)	O/s per acct. (₹ '000)	Limit utilisation (%)	Share in accts. (%)	Share in o/s (%)
FB	0.3	173	103	646	383	59%	0.2%	0.4%
PVB	52.6	9,330	6,527	177	124	70%	32.3%	25.1%
PSB	73.1	21,224	15,804	291	216	74%	44.9%	60.9%
RRB	25.6	3,735	3,080	146	121	82%	15.7%	11.9%
SFB	11.3	645	451	57	40	70%	7.0%	1.7%
Total	162.9	35,128	25,965	216	159	74%	100.0%	100.0%

Rural + semi-urban Aspirational districts	Accounts (million)	Limit (₹ billion)	Outstanding (₹ billion)	Limit per acct. (₹ '000)	O/s per acct. (₹ '000)	Limit utilisation (%)	Share in accts. (%)	Share in o/s (%)
FB	0.02	5	3	326	182	56%	0.1%	0.1%
PVB	5.5	849	607	155	111	71%	26.3%	20.8%
PSB	9.2	2,187	1,768	237	192	81%	44.2%	60.5%
RRB	4.6	589	494	128	107	84%	22.1%	16.9%
SFB	1.5	73	52	47	33	70%	7.4%	1.8%
Total	20.9%	3,704	2,923	178	140	79%	100.0%	100.0%

Source: RBI, Basic Statistical Returns-1

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END NOTES

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3. https://rbidocs.rbi.org.in/rdocs/content/PDFs/78971.pdf
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5. Employment intensity of a sector is defined as its percentage contribution to overall employment divided by its percentage contribution to overall GDP.
6. Source: https://www.rbi.org.in/ and https://rbidocs.rbi.org.in/rdocs/PublicationsPDFs/44TF2910755D03B4ECFA38E07F37FD1BB42.PDF
7. Please note that the aggregate financials for RRBs are for the financial year ending March 2022 while those for all PSBs are as of the financial year ending March 2021.
8. https://www.nabard.org/auth/writereaddata/file/Report%20of%20the%20Working%20Group%20on%20RBS.pdf
9. The CRR and SLR requirements for such excess deposits which are further invested with other banks fall on RRBs alone. Refer to exempted categories here:https://www.rbi.org.in/Scripts/BS_ViewMasCirculardetails.aspx?id=9905
10. What is curious in the case of one of these banks in Bihar, i.e., Uttar Bihar Gramin Bank, is that the average amount of education loan given at ₹263,447 is 127% higher than the average housing loan at ₹115,979.
11. GB refers to Gramin Bank, GVB refers to Gramin Vikas Bank, and KGB refers to Kshetriya Gramin Bank.
12. As per RBI's Master Directions on Interest Rate on Deposits (updated as on September 16, 2022), RRBs are free to provide differential rates of interest on savings bank balances above ₹ 0.1 million as well as on bulk term deposits (defined as term deposits above ₹1.5 million). As an example, Baroda Rajasthan Kshetriya Gramin Bank offers higher rates for higher balances that can be only maintained by the richer classes, i.e., for savings account balances above ₹2.5 million and one-time deposits above ₹20 million which goes against the basic premise of RRBs as an institution of the poor. Rates available here: https://www.brkgb.com/interest-rate-deposits.html
13. Appendix Table IV.2, Report on Trend and Progress of Banking in India, Dec 2021. Available here: https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=Trend%20and%20Progress%20of%20Banking%20in%20India
14. Source: Annual reports of individual RRBs
15. It must be noted, however, that RRBs are 35% owned by sponsor banks which operate in global financial markets or geographies and are required to comply with the Basel norms.
16. RBI Master Directions on Internet Banking Facility for Customers of Regional Rural Banks. Available here: https://www.rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=10128
17. PSB = Public sector banks, PVB = Private sector banks, SFB = Small finance banks, LAB = Local area banks, Payments = Payments banks
18. RBI Master Directions on Priority Sector Lending-Targets and Classification (updated as of 2nd August 2022). Available here: https://m.rbi.org.in/scripts/BS_ViewMasDirections.aspx?id=11959
19. While data for urban, rural and aspirational districts have not been analysed separately and over time for SFBs, they have the highest proportion, i.e., 95% of small borrower accounts with credit limits less than ₹ 0.2 million. This is the highest among all bank groups including RRBs. The average amount outstanding per account in Table 3.4 isthe lowest for SFBs, in line with their originas MFIs and PSL mandate that is similar to that for RRBs (A. Neti, Inclusive Finance India Report 2021).
20. Basic Statistical Returns-1 returns for March 2021 filed by banks with RBI
21. Basic Statistical Returns -2 returns for March 2022 filed by banks with RBI
22. It must be noted here that SBLC data, though made available on the internet, is available as scanned copies of paper documents and not provided in a user-friendly format for most states.
23. https://slbcbengal.pnbindia.in/pdf/156th_SLBC_Agenda_Notes.pdf
24. http://www.slbcup.com/Agenda/SLBC%20Booklet%20March%202022.pdf
25. https://www.slbcap.nic.in/pages/SLBC%20Meetings/219%20%20Agenda.pdf
26. https://slbcgujarat.in/wp-content/uploads/2022/06/173-SLBC-Agenda_Final.pdf
27. As far as direct exposure to microfinance is concerned, banks have the highest share among all lender categories, including MFIs, and this has been growing consistently since 2018 (N. Srinivasan, Inclusive Finance India Report 2021).

MSME Finance:
Need for a New Push, Post the Pandemic

H. K. Pradhan and Sunil Puliyakot

4

Micro Small and Medium Enterprises (MSMEs) continue to remain the main drivers of economic growth and inclusive development, the sector providing employment to over 110 million people, contributing 40% of exports and 28% of GDP[1]. MSMEs utilise local resources and entrepreneurial skills across sectors such as agri-business, manufacturing and services, including retail and wholesale trade, and contribute significantly towards regional development. The MSME sector remains central to the Government's 'Make in India' strategy fostering the spirit of local entrepreneurship and innovation. The sector is considered significant to the Government's focus on increasing India's GDP to touch USD 5 trillion by 2027.

The enactment of the MSME Development (MSMED) Act 2006 for the first time provided the legal framework classifying them into three tiers of enterprises - Micro, Small and Medium - and paved the way for an investment-based classification. The revised classification, effective July 1, 2020, adopts a composite criterion based on investment and turnover, with both manufacturing and service sectors getting the same treatment level (Table 4.1). As per this classification, MSMEs are eligible for priority sector advances by banks. The Ministry of MSMEs further allowed Udyam registration for retail and wholesale trade, effective July 2021.

At the time of amending the MSME classification, an online registration process for the enterprises was introduced under the Ministry of MSME as 'Udyam Registration', which replaced the erstwhile process of filing the Udyog Aadhaar Memorandum. Udyam Registration also simplified the registration process requiring only the Permanent Account Number (PAN) and Aadhaar. At the time of writing this report, there are 12.32 million units registered under the Udyam portal, comprising 96.2% as micro, 3.5% as medium and 0.3% as medium units[2]. The portal thus provides an idea about the composition of the MSME sector and its regional presence. About 66% of the units registered are in the services sector, which has assumed growing significance in the Indian economy, with the balance of 34% being in the manufacturing sector. The top registrations belonged to the industries classified as food products, textile, apparel, and construction. The registrations were the highest from the state of Maharashtra (21%), followed by Tamil Nadu (11%), Gujarat (9%), Rajasthan (8%), Uttar Pradesh (7.5%), Karnataka (5.5%), Madya Pradesh and Bihar (4%) and the rest. The diversity has come about with the inclusion in the MSME sector of retail and wholesale trade with effect from July 2021 and urban street vendors from August 2021.

Table 4.1. Revised Classification Applicable w.e.f 1 July 2020

Classification	Micro	Small	Medium
Manufacturing & Services	Investment in Plant and Machinery or Equipment: Not more than ₹ 10 million & Annual Turnover: Not more than ₹ 50 million	Investment in Plant and Machinery or Equipment: Not more than ₹ 100 million & Annual Turnover: Not more than ₹ 500 million	Investment in Plant and Machinery or Equipment: Not more than ₹ 500 million & Annual Turnover: Not more than ₹ 2.5 billion

Source: https://msme.gov.in/know-about-msme

As per the Fourth All India MSME Census (2006-07), of the total 36.17 million enterprises, the registered MSME segment comprised 1.54 million units or just 4.3% of the total. The International Finance Corporation (IFC) study in 2018 reported 55.8 million MSMEs, with 85% as unregistered, based on the classification as per MSMEs Development Act, 2006[3]. Therefore, the Udyam Registration so far captures about 20% of units, leaving still a vast majority uncovered. Registration to the portal remains a slow starter. The main reasons may be the requirement for GSTIN (which is scrapped subsequently), lack of awareness and grim economic realities post-pandemic. In addition, there are significant regional variations in the distribution of the number of MSMEs, with 8 states (Maharashtra, Madhya Pradesh, Tamil Nadu, Gujarat, Rajasthan, Uttar Pradesh, Karnataka and Punjab) having 77% of total enterprises. Similar trends in regional distribution would be observed in investment, employment, and output of the MSME sector. The flows of credits would naturally follow the same pattern of regional variations determined by the MSME concentration in the states.

4.1. MSME DEVELOPMENT FRAMEWORK

The Government of India has taken significant steps over the years in providing an ecosystem for MSME development with financial incentives, guarantees, interest subventions, including legal and regulatory framework and addressing their credit constraints (Figure 4.1). These take the form of lending framework design, formation of credit information companies, ease of doing business such as online invoice discounting on TReDS, asset reconstruction Company for the SMEs, and empowering with ICT tools, thereby facilitating MSMEs achieve economies of scale and seize the market opportunities. The evolving MSME lending framework has consistently tried to remove significant barriers to accessing formal credit and extended other alternative innovative products and funding sources to this sector. To unleash their growth potential, targeted policy interventions across the areas of finance, technology, and business development have been undertaken over the years.

4.2. RESPONDING TO THE PANDEMIC

The onset of the pandemic in early 2020 affected several sectors of the Indian economy, with a severe impact on the MSME sector. Successive lockdowns and supply chain disruptions affected the business continuity as well as market access for the MSMEs. Since there was a very low level of digitalisation at the beginning of the pandemic, credit monitoring and collections halted as these were depended on

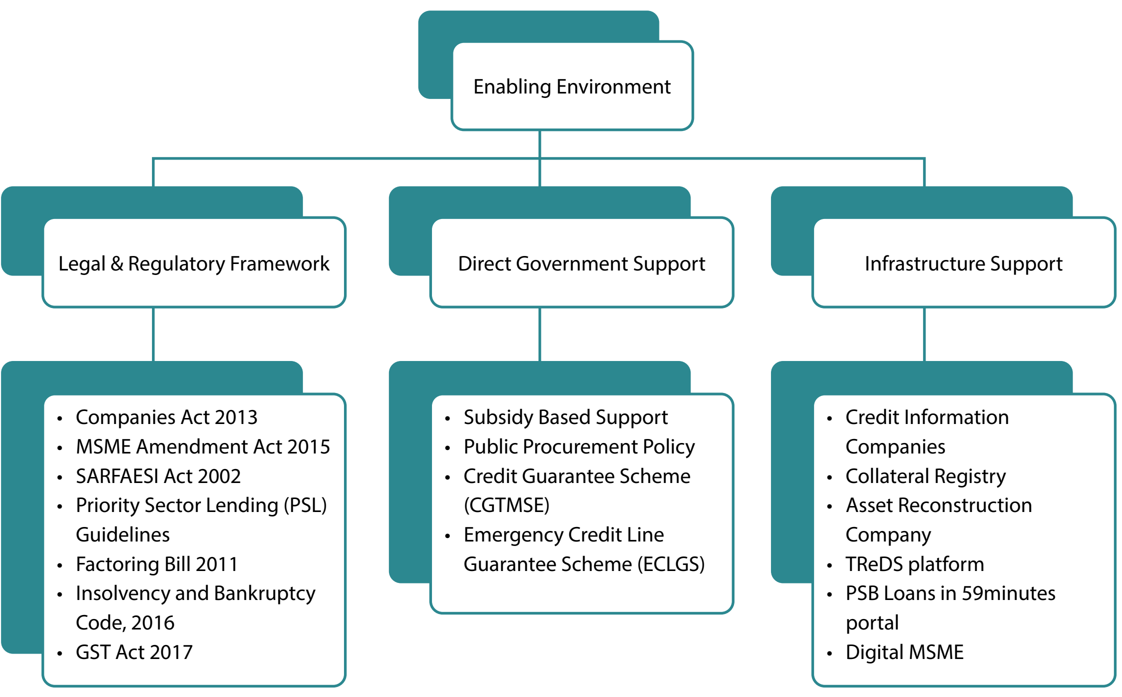

Figure 4.1. MSME Development Framework in India

the interaction between bankers and borrowers. Especially in the rural and semi-urban areas, MSME business largely depended on physical interaction with the customers, and with lower technology penetration, the impact was more severe than the other sectors of the economy. In the aftermath of COVID, the large-scale migration across the nation, and more specifically from urban to rural areas, had enormously affected small businesses.

The responses of the Union Government through Atmanirbhar Bharat Abhiyan and the Reserve Bank's liquidity support measures were to keep the MSMEs afloat by providing financial support, removing credit constraints by way of guarantees and refinancing as well as recognition of asset quality for the lenders and address the specific needs arising out of the peculiarity of the situation. The support measures involved the following:

- Emergency Credit Line Guarantee Scheme (ECLGS) was initiated by the Government of India in May 2020 to provide a guarantee to lending institutions at a concessional rate of 7%. Loans of ₹ 3.67 trillion were sanctioned under ECLGS till August 2022.
- ₹ 200 billion Credit Guarantee Scheme for Subordinate Debt (CGSSD) was introduced for Stressed MSMEs with a partial guarantee or non-performing asset (NPA) accounts. The scheme supported only ₹ 817.8 million to 756 borrowers as of December 31, 2021, according to the Ministry of MSMEs.
- A one-time restructuring of existing loans to MSMEs, which were in default but 'standard' as on January 1, 2019, without an asset classification downgrade.
- Special refinance facilities for all India financial institutions, which included ₹ 150 billion to SIDBI for on-lending/refinancing to the MSME sector;
- A corpus of ₹ 100 billion was provided to leverage an equity infusion of ₹ 500 billion for MSMEs on 5th August 2020.
- Introduction of on-tap Targeted Long-Term Repo Operations (TLTRO) in October 2020 for reviving specific sectors, including MSMEs, for the Small Finance Banks (SFBs).
- Permitting bank lending to NBFCs (other than MFIs) for on-lending to agriculture, MSMEs, and housing to be classified as priority sector lending (PSL);
- Permitting banks to deduct up to ₹2.5 million of the credit disbursed to new MSME borrowers from NDTL for their calculation of CRR, in order to incentivize incremental credit flow to MSMEs.
- 2% interest subvention for all GST-registered MSMEs on incremental credit.
- Increase in interest rebate from 3% to 5% for exporters who receive loans in the pre-shipment and post-shipment period.
- Companies with turnover of more than ₹ 5 billion were to be brought on the Trade Receivables e-Discounting System (TReDS) to access credit based on receivables.
- Central Public Sector Undertaking (CPSUs) units to make mandatory procurement of 25% instead of 20% from MSEs.
- Public procurement through Government e-Marketplace (GeM) to facilitate Government Departments to procure products/services.

As observed from Table 4.2, there was a fall in the number of MSME accounts for all SCBs during the pandemic year 2020-21, which was primarily driven by private and foreign banks. Although the public sector banks have maintained the volume of outstanding credit to MSMEs, their share in total MSME credit outstanding has witnessed a secular decline since 2017-18, with a corresponding increase in the share of private banks.

Emergency Credit Line Guarantee Scheme (ECLGS) announced in May 2020 to provide credit guarantee to MSMEs, which was revamped and extended till March 2023 with an outlay of ₹5 trillion, helped restore the credit demand swiftly. An analysis of the borrower behaviour and flow of credit was undertaken by the TransUnion CIBIL[4], which reveals that 83% of the borrowers who availed of the scheme were from the micro-enterprise category, with 54% of borrowers having an exposure up to ₹1 million. Sectors that immensely benefitted from the scheme are the contact-intensive, mobility and consumption-dependent ones like services, traders and construction, as well as labour-intensive sectors such as textiles and food processing. As of March 2022, the NPA rate of the borrowers who availed the scheme was 4.8% compared to the NPA rate of 6.1% for the eligible borrowers who had not availed the scheme. The ECLGS scheme had actually benefitted the borrowers who already had relationships with a bank rather than new borrowers, responding to which the Reserve Bank in February 2021 permitted a deduction of loans given to new borrowers in the MSME sector from the cash reserve ratio (CRR) maintenance by banks. The regulatory forbearance measures as presented above helped the sector to overcome the difficulties of the pandemic, and the sector appears currently on track. According to a study undertaken by SIDBI of a sample comprising 1,029 MSMEs spread across 20 States and 2 Union

Table 4.2. Credit Flow to the MSME Sector from SCBs
(Number of accounts in million, the amount outstanding in ₹ trillion)

		2017-18	2018-19	2019-20	2020-21
PSBs	No. of accounts	11.10 (-0.86)	11.29 (1.76)	11.08 (-1.89)	15.07 (36.05)
	Amount Outstanding	8.64 (4.30)	8.80 (1.79)	8.93 (1.51)	9.08 (1.72)
PVBs	No. of accounts	14.83 (24.03)	20.53 (38.41)	27.06 (31.82)	26.68 (-1.41)
	Amount Outstanding	4.10 (-4.69)	5.63 (37.23)	6.46 (14.78)	7.92 (22.42)
FBs	No. of accounts	0.22 (6.28)	0.24 (9.09)	0.27 (14.17)	0.26 (-5.11)
	Amount Outstanding	0.48 (33.91)	0.66 (36.94)	0.73 (9.47)	0.83 (13.57)
All SCBs	No. of accounts	26.15 (11.95)	32.06 (22.61)	38.41 (19.80)	42.01 (9.37)
	Amount Outstanding	13.24 (2.15)	15.10 (14.08)	16.13 (6.81)	17.83 (10.56)

Note: Figures in the parentheses indicate y-o-y growth rates
Source: RBI, Report on Trend and Progress of Banking in India 2020-21, Page 111.

Territories released in January 2022, 65% of the MSMEs surveyed had availed the benefits under the Emergency Credit Line Guarantee Scheme (ECLGS) and around 36% availed loans under the Credit Guarantee Fund Trust for Micro and Small Enterprises Scheme (CGTMSE)[5].

4.3. TRENDS IN MSME FINANCING

Access to credit is central to the promotion of Micro, Small and Medium size Enterprises (MSMEs). India had evolved a strong and effective credit architecture for the MSMEs, with the banking sector at its fulcrum. The banking sector continues to remain the main channel for credit delivery, with the Priority Sector Lending (PSL) guidelines of the Reserve Bank of India and the refinancing mechanism available from the apex financial institutions like SIDBI and NABARD, supported by the policy directions of the Ministry of MSMEs. Banks with their large and deep branch networks dominate the MSME lending space with around 40% market share as of December 2021, and NBFC-MFIs following closely with a 36% market share. NBFC-MFIs, who are required to have a minimum of 85 per cent of their net assets in microfinance loans by regulation, provide collateral-free small-ticket loans. RBI data reveals that the banking institutions together offer about 17% of the industrial credit to the MSME sector and 40% of the PSL lending. Banks cater directly to every credit need of the MSMEs, such as working capital loans, term loans for fixed assets, overdrafts and collateral financing, as well as to NBFCs and SFBs and NBFC-MFIs for on-lending to certain priority sectors.

But what is noteworthy is the emerging and significant role of NBFCs and NBFC-MFIs in targeting the credit needs of this emerging segment (Figure 4.2). NBFCs, with their unique ability to assess the risk profile of diverse small borrowers, product customisation and lower transaction costs, through the use of technology, have emerged as a significant player. Small finance banks, which are late entrants to the field, also have acquired a significant share of 17%, poised to enhance the presence going forward. The emergence of such specialised segments and diversification away from commercial banks is a welcome sign in terms of achieving better risk management capabilities and expanding the reach and access.

Banks and Non-Banking Financial Companies (NBFCs) report their credit flows by economic

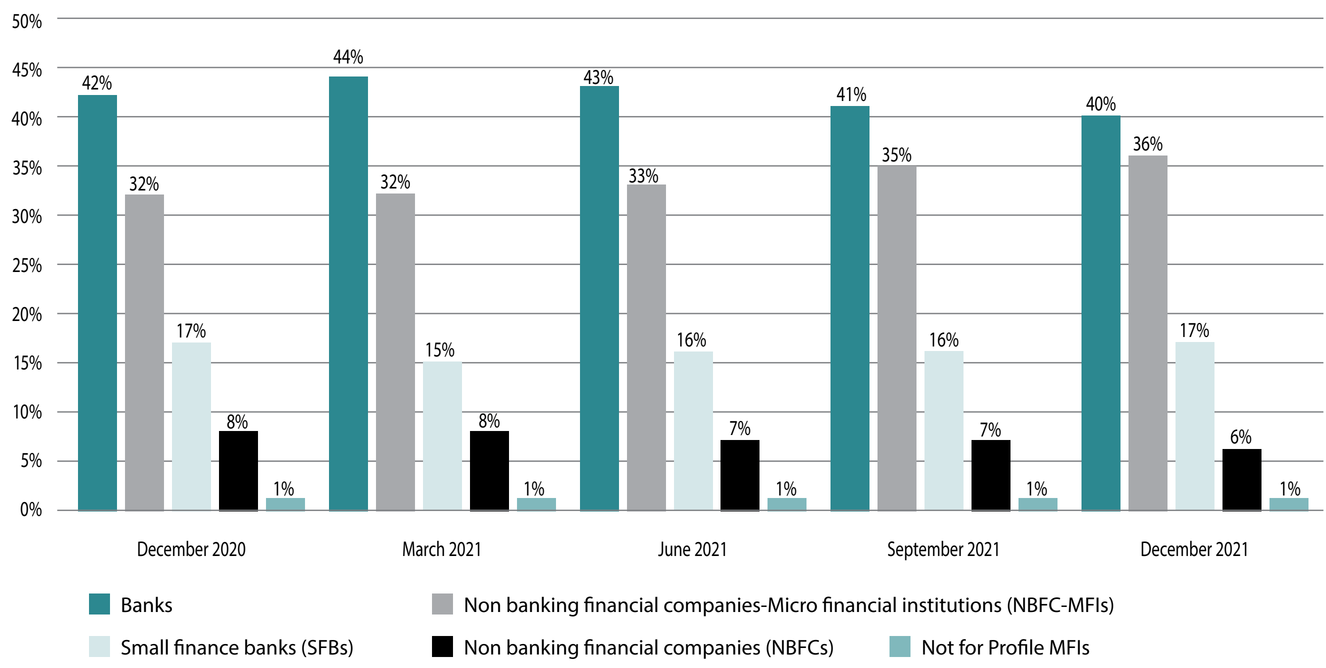

Figure 4.2. Market Share of Lenders for MSME India 2019-2021, by Lender Type

Source: SIDBI; TransUnion CIBIL Limited
(sourced from https://www.statista.com/statistics/1243029/india-market-share-of-lenders-for-msme/)

Table 4.3. Bank Credit to MSMEs (Number in million, Amount in ₹ billion)

Year	Micro Enterprises		Small Enterprises		Medium Enterprises		MSMEs	
	No. of Accounts	Amount Outstanding	No. of Accounts	Amount Outstanding	No. of Accounts	Amount Outstanding	No. of Accounts	Amount Outstanding
December 2019	32.89	7,043	2.38	6,359	0.30	2,081	35.58	15,483
December 2020	39.44	7,631	2.32	6,523	0.53	2,709	42.30	16,863
March 2021	38.79	8,210	2.78	6,630	0.44	2,999	42.01	17,839
March 2022	23.98	8,878	2.20	7,258	0.32	4,090	26.51	20,226

Source: RBI, Annual Report 2020-21 & 2021-22

sector to the Reserve Bank of India. Based on the RBI data for the banking sector, the credit outstanding was ₹ 20 trillion for the MSMEs serving 26.5 million borrowers as on March 31, 2022 (Table 4.3). What is also noteworthy is the increase in the amounts financed across all segments during FY22, taking the total amount financed to ₹ 20.22 trillion, which is a growth of nearly 13.40%. There is a drop in the number of accounts in all segments; the highest drop is seen in the micro-segment, with only 24 million accounts in FY22 as compared to 39 million accounts in FY21. This suggests that nearly 15 million accounts have been excluded from the bank credit framework in a year, possibly as many firms got excluded from accessing credit due to business disruptions on the demand side or accounts turning NPAs on the supply side.

Credit extended by both the banking and NBFC sector are provided by the TransUnion CIBIL, disaggregated by micro, small and medium enterprises with loan sizes. The total commercial credit exposure by banks and NBFCs stood at ₹ 19.19 trillion as on March 31, 2021 (Table 4.4). The difference between the data as reported by RBI and TransUnion CIBIL will represent the contribution of the NBFCs, although there is a possibility of

Table 4.4. Commercial Credit Exposure by Banks and NBFCs (₹ trillion)

	Very Small	Micro1	Micro2	Small	Medium1	Medium2	Large	Overall
	< ₹ 1 million	₹ 1- 5 million	₹ 5-10 million	₹ 10-100 million	₹ 100-250 million	₹ 250-500 million	> ₹ 500 million	
Mar'19	0.86	2.18	1.49	7.44	3.65	2.96	54.10	72.68
Jun'19	0.86	2.14	1.47	7.38	3.58	2.88	53.77	72.09
Sep'19	0.88	2.20	1.50	7.42	3.58	2.87	53.27	71.72
Dec'19	0.92	2.25	1.52	7.54	3.61	2.86	53.39	72.10
Mar'20	0.96	2.31	1.56	7.64	3.65	2.85	54.93	73.88
Jun'20	0.94	2.27	1.52	7.51	3.65	2.85	55.06	73.81
Sep'20	0.93	2.34	1.59	7.84	3.73	2.91	50.33	69.65
Dec'20	0.97	2.37	1.61	7.95	3.80	2.94	52.06	71.70
Mar'21	1.02	2.47	1.67	7.15	3.88	3.00	54.15	74.36

Source: TransUnion CIBIL

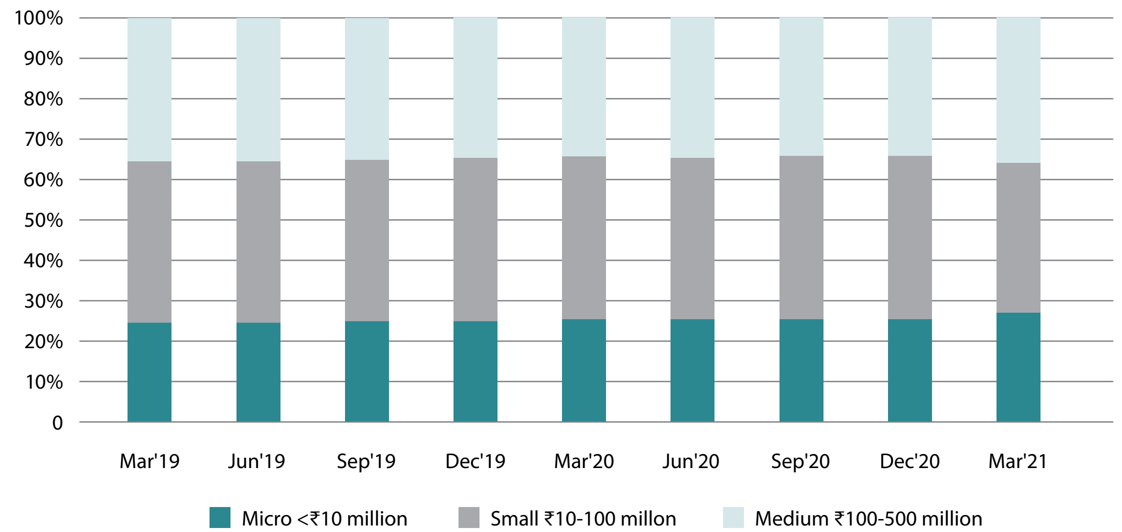

Figure 4.3. Evolving Share of MSME Credit Segments 2019-21
Source: TransUnion CIBIL

overlapping to the extent of co-lending between banks and NBFCs. As can be observed from Figure 4.3, the credit exposures across segments have remained somewhat stagnant across segments, with the loan accounts of microenterprises up to ₹ 10 million at 26.9%, for the small enterprises between ₹ 10-100 million at 37.3% and, for the medium enterprises between ₹ 100-500 million at 20.2% as of March 2021. Out of the 26.9% for the micro segment, loans below ₹ 1 million accounted for 5.3%, loans between ₹ 1-5 million at 12.9% and those between ₹ 5-10 million at 8.7% of the total outstanding. Public sector banks remain the dominant source of credit providers to the Micro segment borrowers.

4.4. FINANCING BY NBFCs

Lending portfolios of Non-Banking Finance Companies (NBFCs) include fixed assets and working capital loans, which gained traction with the support provided by the Reserve Bank as part of the pandemic packages. The 'co-lending model' introduced in November 2020 between banks and NBFCs in the priority sector lending (PSL), which was valid initially until March 2022, has the

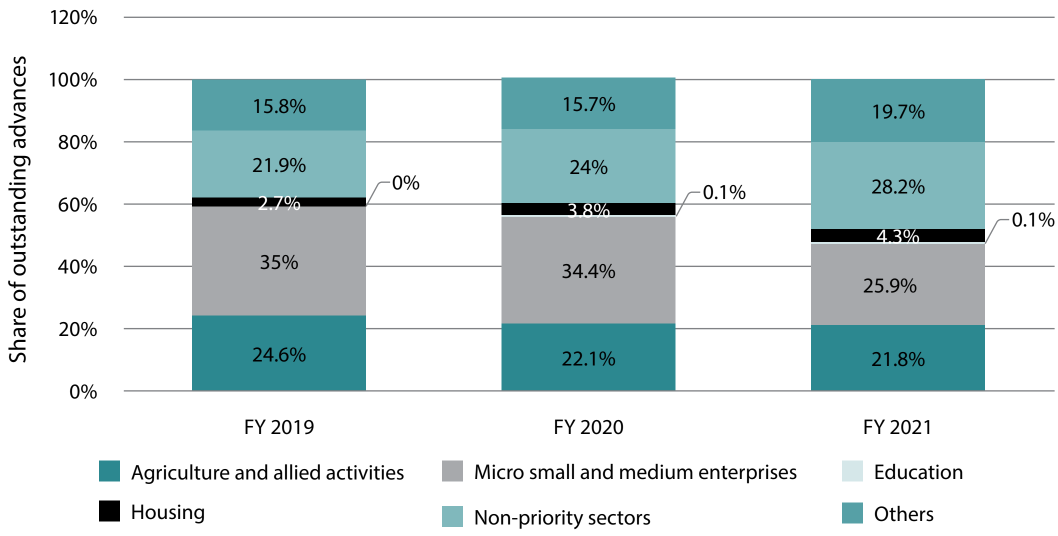

Figure 4.4: Share of Outstanding Advances of SFBs During 2019-21

Source: RBI Report on Trend and Progress of Banking In India 2020-2021, Page 94

potential of greater NBFC involvement in MSME credits. This arrangement envisaged to bring in synergy between the low-cost funding of banks and the reach of the NBFCs, thereby further enhancing the credit access of MSMEs. The co-lending model allowed banks to extend credit to NBFCs (other than NBFC-microfinance institutions) for on-lending to MSMEs, which were classified under PSL. These efforts have been encouraging though the share of NBFCs in the MSME lending was just 6% (Figure 4.4). As of September 2021, NBFCs had a gross advance of ₹ 10.63 trillion of which ₹ 513 billion, or 4.8% were for the MSME sector[6]. NBFCs, in general, are cautious in lending to the MSME segment given their asset quality concerns, but the regulatory relaxations adopted by RBI and the Government was responding to the pandemic, such as moratorium, change in NPA classification, one-time restructuring option, ECLGS, and the credit guarantee scheme for subordinate debt (CGSSD) have helped NBFCs maintain their lending flows to the MSMEs. NBFCs have shown immense lending growth through emerging digital and innovative modes ode.

4.5. FINANCING BY SMALL FINANCE BANKS

The MSME lending space benefitted with the entry of the Small Finance Banks (SFBs) in 2015, to focus primarily on financing at the bottom of the pyramid. SFBs have the mandate to lend 75% of its Adjusted Net Bank Credit (ANBC) to the Priority Sector compared to 40% for the commercial banks. SFBs were permitted to lend to registered NBFC-MFIs and other MFIs for the purpose of on-lending to the priority sector, which has a gross loan portfolio of up to ₹ 5 billion as on 31 March 2021, to address the emergent liquidity position of smaller MFIs during the pandemic. SFBs, which traditionally extended loans to the low-income population, could utilise their expertise in the MSME segment. SFBs have expertise in lending small ticket loans, as 8 out of 12 SFBs were MFIs previously. SFBs are required to ensure that at least 50% of their loans should constitute loans and advances of up to ₹ 2.5 million. During 2020-21, the MSMEs accounted for nearly 26% of the total outstanding advances for SFBs, which has actually come down from 35% in the previous two years. The emergence of FinTech companies, which are typically registered as NBFCs, have significantly facilitated financing in the MSME segment synergistically using innovative payment solutions.

4.6. MUDRA LOANS

Micro Units Development & Refinance Agency Ltd (MUDRA), a wholly owned subsidiary of SIDBI, has been engaged in refinancing lending institutions (Banks, MFIs, NBFCs and SFBs). The MUDRA was launched along with Pradhan Mantri MUDRA Yojana (PMMY) in April 2015 to offer collateral-free loans up to ₹ 1 million to non-corporate, non-farm small and micro enterprises. In fact, as per RBI's direction in 2015, all lending to MSMEs lower

than ₹1 million by scheduled commercial banks are required to be uncollateralised. MUDRA does not directly offer loans to MSMEs which are availed of from the branch of a bank, NBFC, or MFIs, with either MSME Registration or Udyam Registration.

The three categories of loans envisaged under the scheme are Shishu (up to ₹ 0.05 million), Kishore (up to ₹ 0.5 million) and Tarun (up to ₹1 million). The PMMY target for 2020-2021 was ₹ 3.50 trillion which was distributed across various lending institutions based on their outreach and presence. The performance of the three categories of the scheme for the financial year 2021-22 is given in Table 4.5. The category-wise performance is also presented against their overall targets for FY21 and achievements of FY20.

For the year 2021-22, MUDRA extended loans of ₹ 3.37 trillion, 35% of which for public sector banks (including SBI), 27% to the private sector banks, 17% to the MFIs, 12% to NBFCs, and the remaining 9% to SFBs (Table 4.6). For the year 2021-22, loans provided under the Shishu category had 77% of accounts, with 37% of the disbursed amount. Nearly 37% of all assistance under various categories has been directed towards enterprises started by SC/ST/OBC, 50% of the amount towards women entrepreneurs and 20% toward new entrepreneurs. MUDRA's approach has been inclusive, with its mission statement being 'Funding for Unfunded'. The U.K Sinha Committee envisaged a greater role

Table 4.5. MUDRA - Institution-Wise Performance (₹ in trillions)

Category	Target (FY21)	Sanctioned Amount (FY21)	Sanctioned Amount (FY20)
Public Sector Banks (incl. Regional Rural Banks)	1.28	1.29	1.17
Private Sector Banks (incl. Foreign Banks)	0.91	0.93	0.91
Small Finance Banks	0.29	0.19	0.29
Micro Finance Institutions	0.59	0.46	0.57
NBFCs	0.40	0.31	0.40
Total	3.50	3.21	3.37

Source: PMMY Annual Report 2020-21; Page 05, Sourced From https://www.mudra.org.in

Table 4.6. Mudra Loan by Size Categories

(A/Cs in million & Amount in ₹ billion)

Bank Type Name	Shishu (Loans upto ₹ 50,000)		Kishore (Loans from ₹ 50,001 to ₹ 500,000)		Tarun (Loans from ₹ 500,000 to ₹ 1 million)		Total	
	No. of A/Cs	Disburse-ment	No. of A/Cs	Disburse-ment	No. of A/Cs	Disburse-ment	No. of A/Cs	Disburse-ment
Total	41.72	1239	11.09	1334	0.99	740.4	53.8	3314
SBI and Associates	1.2%	0.9%	2.5%	6.0%	21.1%	25.8%	1.8%	8.6%
Public Sector Commercial Banks	7.2%	4.1%	15.2%	24.5%	43.4%	43.8%	9.5%	21.2%
Private Sector Commercial Banks	45.3%	43.1%	49.5%	39.4%	18.1%	15.4%	45.6%	35.4%
Regional Rural Bank	1.3%	1.4%	6.2%	9.7%	6.2%	5.4%	2.4%	5.6%
Micro Finance Institutions	3.0%	1.5%	0.0%	0.0%	0.0%	0.0%	2.3%	0.5%
NBFC-Micro Finance Institutions	26.9%	29.8%	13.7%	7.5%	0.0%	0.0%	23.6%	14.2%
Non Banking Financial Companies	3.1%	4.8%	2.3%	5.6%	8.6%	7.1%	3.0%	5.6%
Small Finance Banks	12.0%	14.4%	10.6%	7.2%	2.6%	2.3%	11.5%	8.8%
Percentage Share by Categories								
General	46.0%	47.6%	53.9%	63.8%	84.3%	86.3%	48.3%	62.8%
SC	18.8%	18.1%	13.4%	9.6%	2.6%	2.3%	17.4%	11.1%
ST	7.0%	6.5%	5.1%	3.9%	1.7%	1.5%	6.5%	4.3%
OBC	28.1%	27.8%	27.7%	22.7%	11.4%	10.0%	27.7%	21.8%
Women Enterpreneurs	73.0%	72.0%	71.2%	51.5%	9.6%	8.8%	0.3%	49.6%
New Enterpreneurs/Accounts	11.2%	10.2%	13.2%	19.6%	39.1%	40.7%	0.1%	20.8%

Source: PMMY Annual Report 2020-21; Page 05, Sourced From https://www.mudra.org.in

MUDRA in extending credit and other support for the credit-starved micro-enterprises as:

'MUDRA and National Credit Guarantee Trustee Company (NCGTC) must focus on catalysing the markets – where it may otherwise be risk averse to participate. They must evolve into financial Institutions which can provide for the MSME sector, risk management support through participation in a whole suite of structured finance products. These institutions can provide a whole suite of specialised products and investment approaches such as the following to boost risk-taking by Member Lending Institutions (MLIs) in previously underserved regions and sectors. By adopting such a strategy, MUDRA and SIDBI can serve MLIs by catalysing a new base of capital markets investors. These products could include credit enhancements of various types, including investments in junior tranches of securitisation transactions'[7].

NPAs as a cumulative percentage of total Mudra loans disbursed in FY22 decreased to 3.17% from 3.61% in FY21 though still above 2.53% in FY20. As a percentage of credit disbursed, PSBs hold the largest share of NPAs with 4.41%, followed by SFBs at 1.92% and private banks clocking a share of 1.14% and NBFC – MFIs at 1.01%. MFIs and NBFCs report the lowest NPAs, with 0.67% and 0.07%[8]. The increase in value of NPAs in FY21 by a whopping 30%, from ₹ 260.78 billion in FY20 to ₹ 340.90 billion can be attributed to a combination of factors such as the COVID-related stress as well as relaxed appraisal and monitoring standards by PSBS.

4.7. ROLE OF SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA (SIDBI)

SIDBI, as the apex financial institution for the MSMEs, has played a very significant role in the promotion, financing, and development of the sector as well as in coordinating the implementation of government schemes. Much of SIDBI's financial support is in the form of refinancing banks, small finance banks and NBFCs, through assistance in the form of direct lending and equity infusion. Both direct and indirect financial assistance from SIDBI has witnessed significant growth in FY22; indirect assistance through NBFCs has witnessed a substantial increase as compared to the rest (Table 4.7). Also, SIDBI has been a pioneer in developing digital interventions like 'PSB Loans in 59 minutes' and Receivables Exchange of India (RXIL), which operates the Trade Receivables Discounting System (TReDS) platform for receivables discounting[9].

Table 4.7. Direct and Indirect Credit Extension by SIDBI (₹ billion)

Year	Amount Disbursed (₹ billion)			
	Direct Assistance	Indirect Assistance (Institutional Finance)		
		Banks	NBFC	MFI
FY21	40.07	816.37	78.02	25.83
FY22	56.73	1,223.35	126.67	28.93

Source: SIDBI Annual report, 2021-22 (https://www.sidbi.in/files/financialreport/SIDBI-AR-2021-22_English_Part-I-for-web-upload_171022.pdf; Page 10)

4.8. NPAs IN MSME LOAN PORTFOLIOS

Table 4.8 presents the recent trends in non-performing assets (NPAs) by the type of borrowers and lenders, respectively, according to data provided by TransUnion CIBIL. The total MSMEs credit exposure was said to be to the tune of ₹ 18 trillion as of March 2019 with an NPA rate of 9%. The total credit exposure as of March 2022 increased to ₹ 23.12 trillion, with an NPA rate of 12.8%, a considerable increase compared to the pre-pandemic period. Since the pandemic, the largest impact of NPAs was felt in the micro segment as compared to small

Table 4.8. Trends in NPAs (Percentages)

	FY20-Q4	FY21-Q1	FY21-Q2	FY21-Q3	FY21-Q4	FY22-Q1	FY22-Q2	FY22-Q3	FY22-Q4
By MSME Segment									
Micro	9	10	9	9	10	13	12	12	12
Small	9	10	9	9	10	11	11	10	10
Medium	2.41	2.54	2.42	2.42	2.62	3.04	3.1	3.01	2.95
By Categories of Institution									
Public Sector Banks	17.3	17.9	16.4	16.1	17.8	20.9	21.1	20.8	20.8
Private Sector Banks	5.5	6	6.3	5.9	6.4	6.2	6.8	6	5.6
NBFCs	8.2	8.3	8	8.5	8.8	10.9	10.2	10	9.6

Source: SIDBI-TransUnion CIBIL, MSME Pulse, August 2022

and medium segments, indicating that the business disruptions have impacted the micro units a lot more compared to small and medium units.

Table 4.9 presents a snapshot of the deteriorating risk profile of MSMEs during FY22. This is based on the CIBIL MSME Rank transition for the period March 21 to March 22, which shows 36% and 35% downgrades from lower risk categories of CMR 1-3 and CMR 4-6, respectively to the corresponding higher risk categories. 71% of the ranked entities faced a downgrade, whereas the upgrades were limited to 22%. Corroborating the above figures, a recent report by CRISIL Ratings reveals that though the relief measures did help contain NPAs during the last fiscal, this segment saw the most restructuring at 6%, compared with 2% for the overall banking sector. Their analysis predicts that a fourth of the MSME accounts currently have the potential to turn into NPAs eventually[10]. The reason why MSMEs are more vulnerable is the nature of their work, as these units are embedded in supply chains. These face delayed payments from larger firms which constrain liquidity and hence face difficulty repaying loans.

Table 4.9. Deteriorating Risk Profile of MSMEs

		CMR as on March 2022			Down-grades	Up-grades
		CMR 1-3	CMR 4-6	CMR 7-10		
CMR as on March 2021	CMR 1-3	64%	26%	10%	36%	
	CMR 4-6	9%	57%	35%	35%	9%
	CMR 7-10	1%	11%	87%		13%

Source: SIDBI-TransUnion CIBIL, MSME Pulse, August 2022

Sustaining the credit growth of MSMEs requires quick resolution of NPAs. Several initiatives were taken recently by various agencies to address the NPA problem of the MSME Sector. The measures that are in trend for bank loans to MSMEs include an extension of the period of NPA recognition, the interest rate subvention @ 3% on loans that are healthy and not NPAs, a moratorium period of 6 months for repayment of MSME loans that had 'no change' in the credit rating during the said period, assistance from the Credit Guarantee Scheme for Subordinated Debt (CGSSD) for the revival of those MSMEs whose accounts have become stressed, but units are operational, etc. MSME receivables due from the Government and central PSUs were to be released within 45 days to address their liquidity woes. Based on the reports available with TransUnion CIBIL, 0.27 million accounts were tagged as restructured in the MSME sector that had aggregate outstanding of less than ₹ 0.5 billion as of March 2022, which constituted 2.3% of the total live accounts and 1.5% of MSME outstanding. The NPA rates in FY22, as compared to FY21, would have been worse without the loan moratorium and restructuring. The scheme of 'Distressed Assets Fund- - Subordinate Debt for Stressed MSMEs' announced in June 2020 (extended up to March 2023) intended to provide credit facility through lending institutions to the stressed MSMEs and NPA accounts that are eligible for restructuring.

With RBI increasing the repo rates by 225 basis points during May – December 2022, MSME risk profiles may undergo further deterioration on account of increased borrowing costs as well as further delays in receivables. Increasing crude prices leading to increases in the overall cost of production, the inability to pass on increased costs as a result of softening aggregate demand resulting from strict inflation control measures are some of the macroeconomic headwinds likely to have an adverse impact on the risk profiles.

4.9. INNOVATIVE TRENDS

In recent years several innovative products that have the features of unbundling several forms of risks and cash flow characteristics have been launched in the MSME lending space. These structured products using the asset-based financing route have the potential to scale-up access to institutional finance by linking repayments to cashflows. One such example is in the sphere of asset-based finance, wherein an MSME can get funding on the strength of assets like accounts receivables instead of collaterals or ratings. Another form is trade credits typically extended by the suppliers themselves, which has certain advantages over bank credit as the supplier can better assess the creditworthiness of the MSME buyer due to their historical business relationship. Lease financing of capital equipment and technology is another option comparable to bank loans as the leasing company typically emphasises more on the cash flow generating capacity rather than its credit history, collateral, or net worth. The emergence of new-age fintech, data analytics and credit scoring have significantly transformed the lending space with innovative tools. These innovations have huge potential for enhancing credit access. Two such innovations, the Trade Receivables Discounting System (TReDS) and the credit enhancement technique using guarantee, are presented in the following sections.

4.9.1. Receivables Financing

To address the issue of delayed payments, the MSME Development Act, 2006 made a provision of penalty if payment of dues to MSMEs by buyers were delayed beyond 45 days, making it liable to pay interest to MSME suppliers. The Government launched an online portal, SAMADHAAN, in October 2017, enabling MSMEs across the country to directly register their cases relating to delayed payments. Till now, the portal has received 0.13 million applications filed by micro and small units, of which nearly 50% (64,000 cases) are under various stages of consideration. Reserve Bank launched an electronic platform called the Trade Receivables Discounting System (TReDS) in 2017, where discounting trade receivables of the MSMEs due from corporates and government departments are settled using a competitive auction process. This platform offers the MSMEs a facility to discount receivables from multiple financiers drawn against large buyers (Companies/PSUs/Government). The MSMEs benefit from competitive rates due to the auction mechanism and seamless data flow in addition to the elimination of paperwork.

Presently there are four TReDS platforms operating in the market, namely Invoicemart, M1xchange, RXIL and C2FO, which facilitate working capital financing to MSME businesses using bill discounting. The number of invoices uploaded and invoices financed during the last five years are noteworthy, as seen in Table 4.10. A number of initiatives are underway to popularise TReDS usage. The Central Government in 2018 made it mandatory for companies with turnover over ₹ 5 billion to register on TReDS. In January 2020, the Government- mandated all Central Public Sector Enterprises (CPSEs) to bring their entire vendor network on TReDS and not to delay payments beyond 45 days. RBI has incentivised banks to participate in this platform by allowing them to classify financing through TReDS under the priority sector. The government has permitted the non-factor NBFCs and other entities to offer factoring services to the MSMEs.

The progress of TReDS platforms is observed to be slow and not on the expected lines. The procedural guidelines are restrictive as the buyer is required to relinquish any rights to dispute the service or goods delivered at the time it accepts the invoice to be discounted. Secondly, many corporate buyers already have corporate treasury departments that operate their own reverse factoring programs for their supplier ecosystem. Hence, the traction is low. Thirdly, till the enactment of the Factoring (Amendment) Act 2021, only a limited set of NBFCs apart from banks were allowed to finance through TReDS platforms restricting the supply of funds.

Table 4.10. Progress in MSME Financing Through TReDS (Invoices in number, amount in ₹ billion)

Year	Invoices Uploaded		Invoices Financed	
	Invoices	Amount	Invoices	Amount
2017-18	22,704	10.94	19,890	8.14
2018-19	2,51,695	66.99	232,098	58.54
2019-20	5,30,077	130.88	477,969	111.65
2020-21	8,61,560	196.69	786,555	170.80

Source: RBI, Annual Report 2021-22

4.9.2. Credit Guarantee Schemes

Government launched the credit guarantee scheme under a Trust named Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) in August 2000, jointly set up by the Ministry of MSME and SIDBI. The CGTMSE guarantees loss incurred by a lender of the sanctioned amount of the credit facility in the event of an MSE borrower defaulting on a collateral-free term loan or working capital up to ₹ 20 million, which can be extended to both new and existing MSEs. Coverage of the guarantees ranges from 75% in all eligible cases to 85% in the case of micro-enterprises for credit up to ₹ 0.5 million. A 50% guarantee is available for retail activity. The eligible lenders include Banks, NBFCs, Small Finance Banks other lending institutions.

Table 4.11 gives details about the assistance provided under this scheme during the past five years. Although CGTMSE has seen increased coverage in terms of guarantees approved, the average ticket size of the guarantees remains much lower contrasted with the eligible ticket size of ₹ 20 million. The operation of credit guarantee schemes

Table 4.11. Progress of CGTMSE During 2018-22

S. No.	Financial Year	Total Number of Cases	Credit Guarantee Extended Amount (₹ billion)	Total Claims Settled	
				Number	Amount (₹ billion)
1	2018-19	435,520	301.68	36,606	7.64
2	2019-20	838,947	452.15	39,937	8.80
3	2020-21	619,687	313.49	26,427	5.65
4	2021-22	709,883	552.17	32,963	7.42
5	2022-23	544,938	459.21	27,609	5.46

Source: Ministry of MSME

helped in the reduction in NPA rates across MSME credit segments. An SBI study found that the CGTMSE portfolio of banks have over 55% recovery rate, low portfolio delinquency and low loan loss provisions.

To enable liquidity support to Business Enterprises/MSMEs adversely impacted by the pandemic, the Government launched another scheme called the Emergency Credit Line Guarantee Scheme (ECLGS) in May 2020. ECLGS scheme provides for 100% guarantee coverage to Banks & NBFCs to meet their additional term loan and working capital. As on date four versions of the schemes are operated, to include a 100% guarantee for the MSMEs with 20% extra for credits outstanding up to ₹ 0.5 billion, including MUDRA borrowers and individual loans for business purposes, and a moratorium period of up to one year. Table 4.12 presents the comparatives of the CGTMSE and ECLGS schemes.

For the year 2020-21, the total disbursement of bank credit was to the extent of ₹ 9 trillion, which was significantly higher than the year 2019-20 of ₹ 6.8 trillion, attributed to the credit guarantee schemes operationalised by the agencies. A study undertaken by the SBI[11] revealed that the ECLGS was able to save 1.35 million MSME units, 93.7% of which belong to micro and small categories, restore 15 million jobs and 14% of outstanding MSME loans turning into NPA during the pandemic. The success of the credit guarantee schemes notwithstanding, there are operational issues if addressed would significantly improve credit access of MSMEs. The coverage of CGTMSE was found to be limited to below 10% of MSME loans, due to the complexity of the product, the extent of the guarantee premium, and the manual operations. The scheme will be popular if the operations are migrated to a digital platform that provides end-to-end solutions from onboarding to recovery. Another suggestion has been to include all microenterprises compulsorily in the CGTMSE scheme, which accounts for over 90% of the MSME sector.

4.10. CONCLUSION

The onset of the pandemic in early 2020 affected several sectors of the Indian economy, with a severe impact on the MSME sector. Realising the seriousness of the situation, the entire policy machinery sprang into action to ensure business continuity and to address financing and operating constraints faced by MSMEs. Arguably, the immediate and most important among them was the ECLGS announced as a part of *Atmanirbhar Bharat Abhiyan*. Supporting the availability of credit to MSMEs was the hugely expansionary liquidity infusion by the Government, and the RBI, which improved the overall credit flows in the economy. The resilience thus exhibited by the financial system has undoubtedly improved the quantity and quality of credit availability to the underserved sectors of

Table 4.12. Comparatives of the CGTMSE and ECLGS Schemes

Difference in CGTMSE & ECLGS		
Features	**CGTMSE**	**ECLGS**
Guarantee Coverage (% of loan)	50% -85%	100%
Annual Fees on outstanding amount	1% - 2.0% + risk premium of 0-25% + GST	Nil
Eligible Borrower	All micro and small enterprises (except SHG, those giving loans to education institutions)	₹ 0.5 billion (Fund based outstanding as on 29, Feb 20)
Guarantee cover	Up to ₹ 10 million (retail trade) up to 20 million (others)	20% of outstanding as on 29, Feb'20
Interest rate	Card Rate (no separate rates recommended)	9.25% for banks and 14% for NBFC
Tenure	Term Loan up to 10 years	4-6 years
Nodal Institute	CGTMSE	NCGTC

Source: SBI, Research Study of the ECLGS Scheme, January 2022

the economy. Though the overall picture shows one of improved credit availability and off-take, a closer look at the pattern of distribution shows that micro-enterprises still face serious constraints, which calls for a more decentralised strategy and approach for appraisal and delivery. The progress achieved thus far, has come about with the exclusion of a large swathe of the sector, which points to the need for a thorough revamp of the delivery system.

Although banks will continue to be key players in the MSME credit delivery, it requires a simultaneous push from multiple institutions of varying types to effectively address the credit gap. The new age of fintech, data analytics, and credit scoring institutions is playing a significant role in transforming the lending system that was primarily based on physical collateral. A shift toward cash-flow-based and asset-based loans and credit scoring tools are some of the innovations helping credit access to constrained borrowers. Bank–NBFC co-lending space and peer-to-peer lending opportunities are also emerging areas of blockchain and decentralised finance which promise significance. Efforts are required to establish an enabling ecosystem for the non-conventional ways of financing to take roots and thrive.

END NOTES

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Self-Help Groups: Beyond 3 Decades, Finding a Good Way Forward

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5

5.1. SHG Story: The Origins

Having started in the 1970s, the story of women's groups is older than their currently known avatar of Self-Help Groups (SHGs). During 1970-80, women's savings groups were developed, which first saved food grains to use in the months of scarcity. These groups gradually began fostering women's empowerment. A growing realization of women's improving financial capabilities, when saving in a group rather than as individuals, formed the foundation of the SHG movement. The SHGs first began cash savings, inter-loaning, and then availed loans from NGOs. Experiments with the banking sector began in the 1980s, and in 1991, the Reserve Bank of India became the first central bank in the world to permit banks to extend loans to a non-registered entity, Self Help Groups. Figure 5.1 outlines a brief history of SHGs.

1970s	• Women's solidarity groups started by NGOs- for education, savings in kind and cash, empowerment
1980s	• NGO groups started moving from savings in kind to cash • NABARD and NGOs started pilot projects or Action Research Project
1990s	• NABARD launched SHG-Bank Linkage, then RBI accepted SHGs as bank clients permitting collateral free bank loans to SHGs. • Government provided subsidies through SGSY to Women's group
2000s	• The year 2005 is designated as 'International Year of Micro Credit' by UN • NABARD provided support as a Development Financial Institution (DFI)
2010s	• SGSY restructured as NRLM • NABARD role as DFI enhanced • FPOs begin being formed • E-SHAKTI Portal launched for digitization of SHG records
2020s	• Digital Financial Inclusion continues • NRLM largest SHG-BL facilitator • FPOs proliferate

Figure 5.1. A Brief Timeline of SHGs

Source: Adapted from Premchander et al. 2009 and NABARD 2022

Over the past 30 years, there have been many models of development of SHGs. NGOs began to realize that some women are more entrepreneurial than others, and so could absorb enterprise credits. Bank loans were earlier given in proportion to the savings of the SHGs, later the link between savings and loan amounts became less strict, up to ₹20,000-25,000 per woman member, and loan sizes increased to about ₹200,000-250,000 per group.

5.1.1. A Snake and Ladders Game

The sustenance of SHGs has always been perceived differently by NGOs and women SHG members. When SHGs faced leadership or money management issues, they dissolved and reformed the groups, bringing in more cohesion among the members. In the early years of starting SHGs, many NGOs used to encourage groups in tribal areas of Jharkhand (then Bihar) to divide their savings and interest amounts every year. This gave women a sense of having created financial capital and motivated them to start saving again[2]. However, many banks that extended credit viewed this negatively, as savings indicated creditworthiness, and division of money indicated a lack of cohesiveness of such groups.

Although the snakes and ladders feature of SHGs has continued, literature has not studied this well, because of reluctance to recognize groups that close, or are struggling to survive, as they are viewed as dysfunctional, or defunct. There is little data available on the number of groups that divide, or reform, every year.

At the end of March 2021, out of 9.72 million accounts of exclusive women SHGs, only 7.67 million accounts (79%) were operative. This means that in over 2 million SHG accounts, there have not been any customer-induced transactions in the last two years. Many of these SHGs likely are either dormant or defunct (Inclusive Finance India Report 2021, 2021)

5.2. TWO ROADS DIVERGED

The SHG Bank linkage model enabled women members to save, perform intra-loaning, open savings account for group, avail loan from commercial banks, Regional Rural Banks (RRBs) and cooperative banks.

With the Joint Liability group (JLG) model, women members could not pool in savings but could avail loans from a Non-Banking Financial Company Microfinance Institution (NBFC-MFI) for an individual without the group maintaining credit account or reaping profits from it.

The two models grew side by side for over 2 decades but diverged by 2011. THE NBFC model provided credit to individual women through JLG for micro-businesses with interest rates between 21-26% for 1-2 years, and SHG bank linkages provided loans to groups at marginal interest rates for 1-3 years.

The loan sizes for the SHG bank linkage model are smaller, and timely repayment rates are lower than JLG model. It also provides the members of the group with better decision-making potential about group funds.

The JLG model spread due to the dynamic incentives in terms of repeated cycles of loans from the NBFCs. In contrast, the SHG bank linkage model is considered more empowering, emphasizing participation in groups or cluster-level federations, and providing agency besides access to low-cost finance.

The focus of this chapter is the SHG model of microfinance, particularly on SHG-Bank linkages, financial inclusion of SHG members, sustainability of SHGs, and some recent information on their livelihoods impact and an examination of whether the process of financial inclusion will make SHGs redundant, and if not, how can SHGs continue to be impactful.

5.3. TRENDS OF GROWTH, STATE-WISE SPREAD, SAVINGS, LOANS AND REPAYMENTS

The SHG Bank Linkage model has grown and become the largest model in India.

Today, the SHG-Bank Linkage model has emerged as the largest such initiative in the world. The bank-linked SHGs grew from 255 in 1992 to 11.9 million SHGs in 2022. The credit disbursement to SHGs also grew from ₹2.9 million in 1992 to ₹1,511 billion in 2022 (NABARD 2022).

The year-on-year growth of the bank-linked SHGs was 9.5% in the year 2020-2021, but the growth in 2021-22 was only 6%. This slowing yearly growth could signify the saturation or slowing down of SHG growth in many regions.

The total number of bank-linked SHGs in March 2022 was 11.9 million, of which 10.40 million (87%) were exclusively women's SHGs, 7.18 million (60%) of the total SHGs were from the National Rural Livelihoods Mission (NRLM) programme, and 0.6 million (0.5%) were under the National Urban Livelihoods Mission (NULM) programme. 10% of SHGs under the program do not have a savings account with any bank.

DAY-NRLM has emerged as the single largest promoter of SHGs, accounting for nearly 60% of the total bank-linked SHGs. The financial inclusion of SHGs can be largely attributed to the NRLM programme, with 7.18 million NRLM-SHGs having bank accounts; 10% of SHGs under the program do not have a savings account with any bank.

5.3.1. Trends of SHG Savings

As a promising option for the poor to save, SHGs initiate savings discipline immediately as they are formed. Most SHGs agree upon contributing a fixed 'compulsory savings' per member. This fixed amount acts as a quasi-equity. The accumulation of compulsory savings and the velocity of internal lending decide the growth of SHGs. However, over the years, credit-availed has overridden the 'savings first' approach.

The total SHG savings have increased to ₹472.40 billion. The exclusive women SHGs contribute to 89% of the total savings of the SHGs. Non-exclusive women's SHGs and men's SHGs form only 13% of the total SHGs.

Of these savings, commercial banks have a 65% share, followed by RRBs (29%) and cooperative banks (6%). The average savings per group increased from ₹33,392 in 2021 to ₹39,721 in 2022. Figure 5.2 provides a break-up of the total savings of SHGs, according to banking agencies, from 2020 to 2022.

In March 2020, commercial banks had 60% of the savings, which increased to 65% as of 31st March 2022. The share of RRBs increased from 30% in 2020 to 29% in 2022. The third set of agencies, cooperative banks, had a 10% share in 2020, rising to 14% in 2021 and reducing to 6% in 2022. While the savings of SHGs with banks have increased over the last three years, the savings of SHGs in cooperative banks have declined by 49% in 2022.

Figure 5.3 shows the trend of region-wise SHG bank linkages in terms of the number of SHGs from each region of India.
Of the total savings-linked SHGs in 2022, 36% of the SHGs belong to the Southern region of India, followed by the Eastern region (27.4%) and the Western region (11.4%).

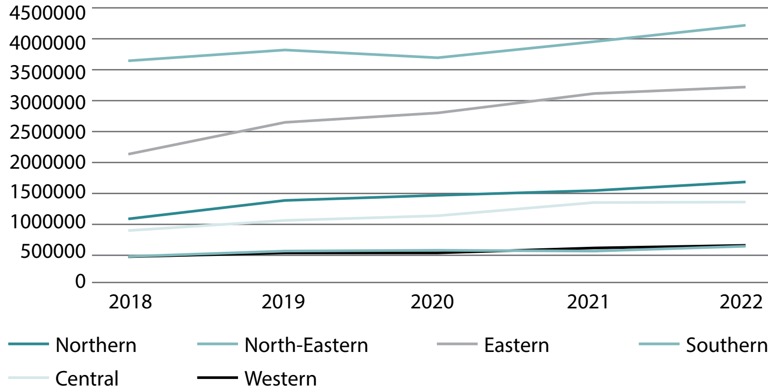

Figure 5.3. Region-wise Number of SHGs With Bank Linkage (2018-22)
Source: Status of Microfinance in India, NABARD 2022

In terms of the number of SHGs savings linked with banks, there has been a growth across all regions in FY 2021-22. However, during the year 2021-22, there has been a notable rise in the savings of SHGs, by 75.3% in the Eastern region of India, followed by 53.7% in Central India, and 28% in the North-eastern region. The savings of western region decreased by 12% during 2021-22. Figure 5.4 shows the analysis of SHG savings by programme.

When analyzed by programme, the savings per SHG is the highest for NULM at ₹44,739, followed by exclusive women SHGs at ₹40,485 and then by SHGs under DAY-NRLM at ₹38,388. The trend may reflect the difference in the earning potential of the

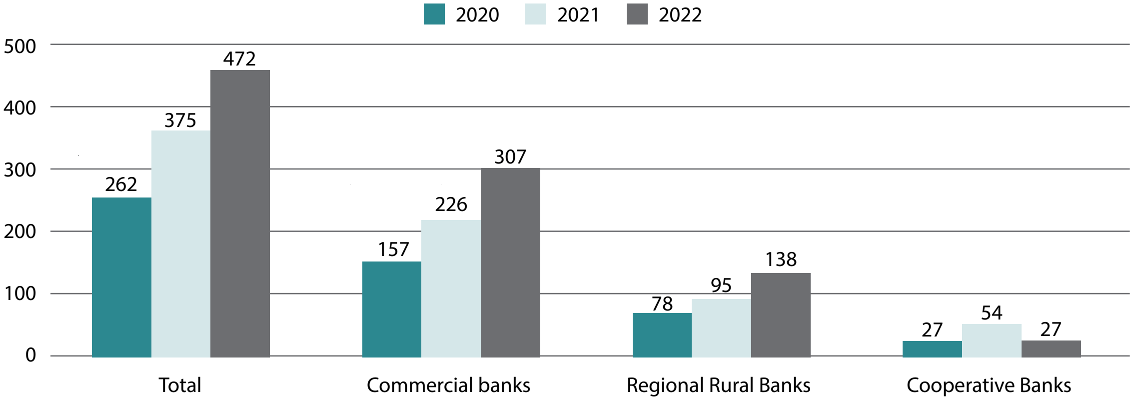

Figure 5.2. Agency-wise Savings of SHGs Over the Past 3 years (in ₹ billion)
Source: Status of Microfinance in India, NABARD 2022

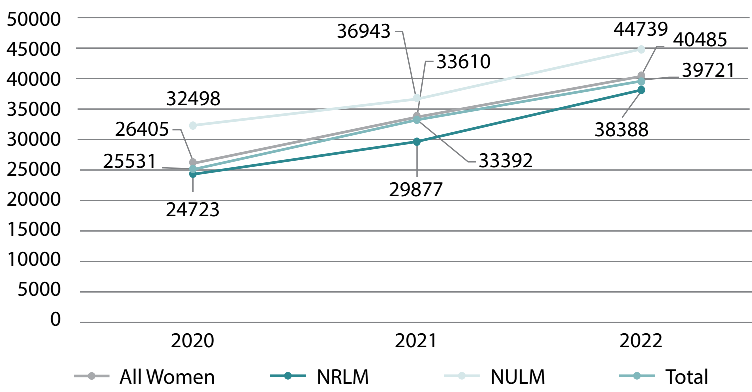

Figure 5.4. Savings per SHG Under Different Programmes (in ₹)
Source: Status of Microfinance in India, NABARD 2022

SHGs under NULM and NRLM programmes, or the difference between potential earnings in urban and rural areas.

The per capita SHG member saving at all India level is ₹3,328. The average saving per member is highest in commercial banks at ₹3,649, which is 10% above the all-India average. By contrast, saving per member in cooperative banks is ₹1,581, which is 52% lower than the all-India average. It implies that SHGs with accounts in commercial banks have a higher earning and saving potential, while the clientele of the cooperative banks may largely belong to the low-income and low-saving strata. This further supports the analysis that the clientele of cooperative banks withdrew their savings after the pandemic more rapidly, owing to their low-income status; thereby, the deposits in the cooperative banks shrunk by 49% in 2022 over 2021, even though the number of SHGs with accounts in cooperative banks reduced by only 5%. Another reason for the reduction of savings could well have been decreasing confidence in cooperative banks, in the wake of the recent failure of some of the Urban cooperative banks. The average saving per SHG in cooperative banks was ₹17,767 in 2020, which rose to ₹35,838 in 2021 and shrunk to ₹19,143 in 2022.

5.3.2. Trends of SHG Loans

In this section, we analyze first the loan disbursed over the previous year and then the total loans outstanding as of March 31, 2022.

Loan Disbursements in 2021-22

Over the past 5 years, except for a slight reduction experienced in 2020-2021, the total loans disbursed have been growing. In 2021-22, banks disbursed loans of ₹997 billion to 3.39 million SHGs in 2022. Over the previous year, there was an 18% rise in the number of SHGs taking loans, the loan disbursed increased by 72%, and the loan disbursed per SHG increased by 46%, from ₹201,117 in 2020-21 to ₹293,470 in 2021-22.

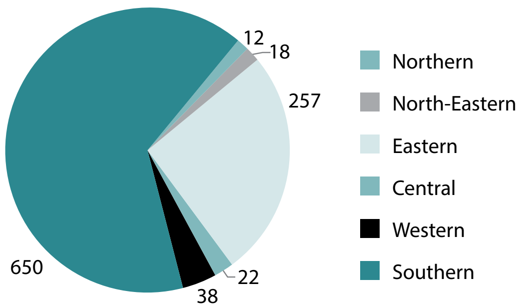

Figure 5.5. Region-wise Loans to SHGs (2021-22)
Source: Status of Microfinance in India, NABARD 2022

Figure 5.5 shows the regional distribution of loans to SHGs for 2021-22. The disbursement was highest in the Southern region, with ₹650 billion provided to 1.5 million SHG, which forms 65% of the total credit and 44% of the total SHGs that were provided credit in 2021-22.

The Eastern region follows, with loans disbursed of ₹256.9 billion (26%) provided to 1.3 million (38%)

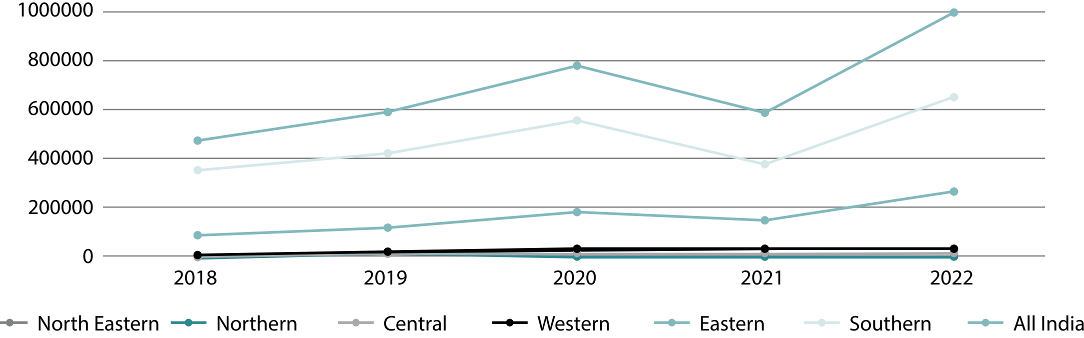

Figure 5.6. Region-wise Trends of Average Loan Disbursed to SHGs in Past 5 Years
Source: Status of Microfinance in India, NABARD 2022

SHGs. The Southern and Eastern regions together account for over 91% of the SHGs, and 82% of the total credit disbursed in the year 2021-22.

Examining further, the trends of region-wise average loan disbursement are shown in Figure 5.6.

The SHGs from the southern region have consistently availed the highest loans, with the average loan per SHG being ₹4,33,894. The Eastern region follows, with the average loan per SHG being ₹1,97,385 loan per SHG. Among the other regions, the central region doubled the loan disbursed from 10.5 billion to 128,617 SHGs in 2021, 21.6 billion to 184,322 SHGs in 2022, improving the average loan per SHG from ₹81,971 per SHG loan in 2021 to ₹1,17,720 per SHG in 2022. The trend was upward in the northern, north-eastern, and western region too.

Commercial banks continue to be the largest agency for the disbursement of credit to the SHGs.

Figure 5.7 shows the year-on-year share of agencies in credit disbursed to SHGs.

As of March 2022, commercial banks contribute to 61% of the credit amount disbursed to SHGs, followed by RRBs (33%) and cooperatives (6%). The loan disbursed to SHGs by commercial banks decreased in 2021, whereas the same of RRBs and cooperatives continued to increase. This may signify that SHGs had better access to these agencies over commercial banks.

Currently, over 93% of the credit-linked SHGs are exclusively women SHGs, and 73% of credit-linked SHGs are supported by two major government programmes, NRLM and NULM. The year-on-year difference of total loans disbursed to SHGs under NRLM and NULM exhibits growth in FY 2021-22 by almost 117%, whereas the same for exclusive women SHGs is 72%. The credit disbursed per group of SHG is illustrated in Figure 5.8.

The credit disbursed per SHG group for the year 2022 amounts to ₹293,470 over ₹201,117 in 2021. The credit per SHG is the highest for those under NULM, amounting to ₹316,835, followed by exclusive women SHGs at ₹297,817 and DAY-NRLM SHGs at ₹275,411.

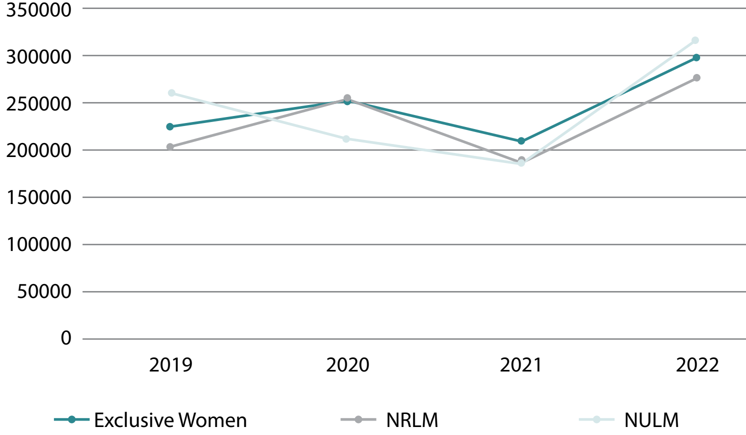

Figure 5.8. Credit Disbursed Per Group in the Last 4 Years in ₹ Million
Source: Status of Microfinance in India, NABARD 2022

While all the data above provides insights into those SHGs which have bank accounts, there is insufficient data on SHGs with no bank accounts. SHPIs which promote SHGs find it difficult to open bank accounts for SHGs, due to delays in getting the documents needed and/or lack of interest by banks or members.

Although these figures are available for the group accounts, there is no data on the number of SHG members who have individual bank accounts or Jan Dhan accounts. As such, it is difficult then to find out how many individual SHG members are financially included, receive DBTs, or any other support from any government scheme.

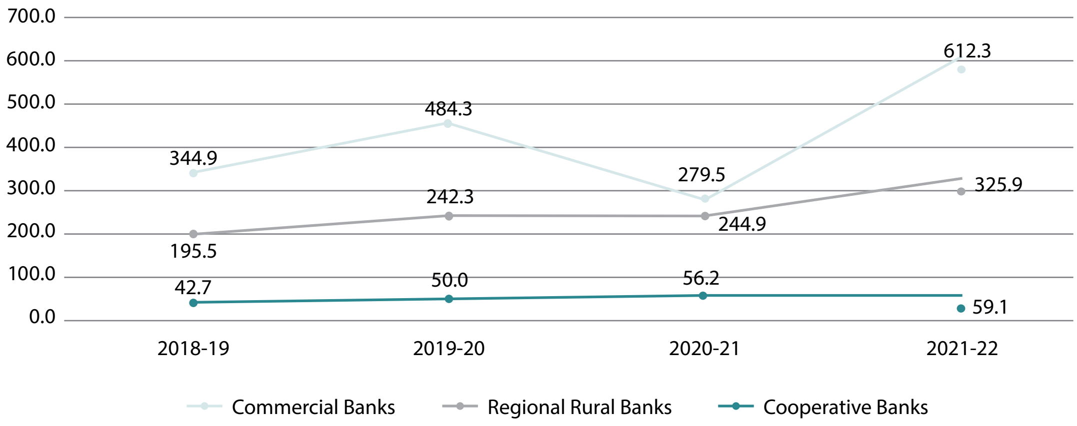

Figure 5.7. Year-on-Year Share of Agencies in Credit Disbursed to SHGs (in ₹ Billion)
Source: Status of Microfinance in India, NABARD 2022

Loan Outstanding as of 31 March 2022

At the end of March 2022, the total loan outstanding against 6.7 million SHGs was ₹1,510.51 billion, which records the highest credit outstanding per SHG in the last three years. Figure 5.9 shows the agency-wise share of the loan outstanding against SHGs from Banks.

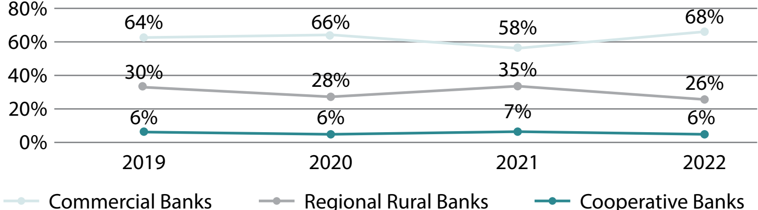

Figure 5.9. Agency-wise Share of the Loan Outstanding Against SHGs
Source: Status of Microfinance in India, NABARD 2022

Of the 11.9 million bank-linked SHGs as of March 2022, 56.3% have outstanding loans. Figure 5.10 shows the category-wise SHG loan outstanding.

Nearly 93% of the SHGs that have outstanding loans are exclusively women SHGs, 71% of these SHGs are covered under government programmes. If the SHGs are promoted by an NGO, not under the NRLM programme, banks are reluctant to open their accounts, as they fear that the SHGs will take loans and not repay. In Varanasi, when Sampark requested the lead bank of the district to open accounts for 100 SHGs, the bank manager declined, stating that the repayment record of the SHGs who have received loans has been very poor in that district. With constant discussion and explanations to the bank officials, only 17 groups have been able to open bank accounts in the Chiraigaon block.

Credit to Savings Ratio of SHGs in 2022

The overall credit-to-savings ratio in India is 2.1, which shows that banks are willing to extend loans more than the amount of savings kept in the SHG accounts. While this is not mandated by RBI, it is a good indication of the trust banks place in SHGs. The credit-to-savings ratio is analyzed region-wise in Figure 5.11.

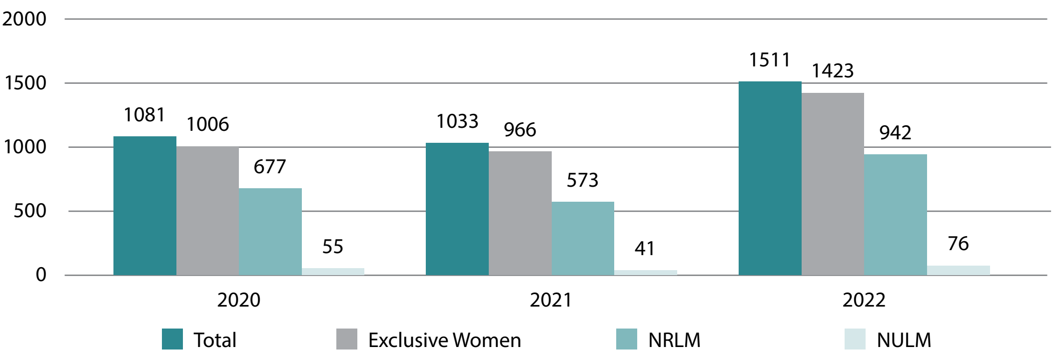

Figure 5.10. The Loan Outstanding Against SHGs in the Past 3 Years (in ₹ Billion)
Source: Status of Microfinance in India, NABARD 2022

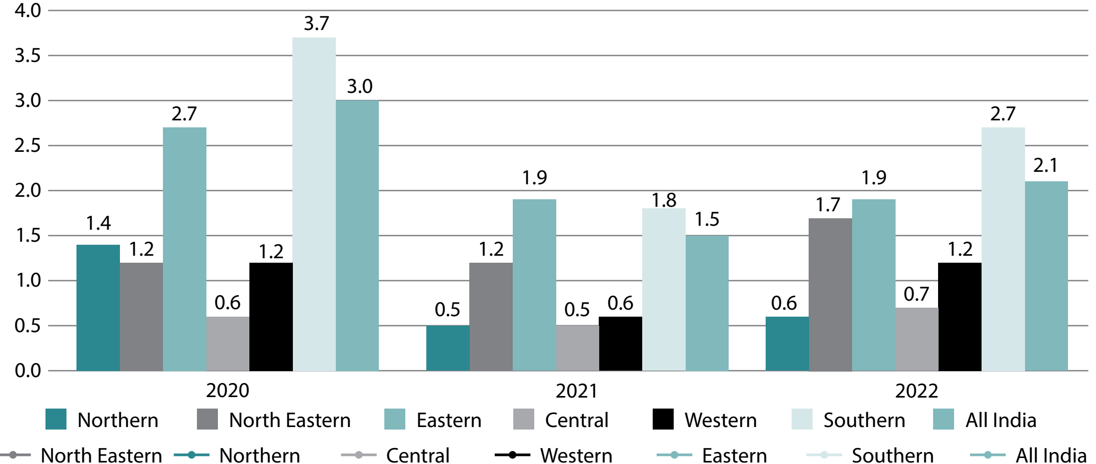

Figure 5.11. Region-wise Credit to Savings Ratio of SHGs
Source: Status of Microfinance in India, NABARD 2022

Data shows that the credit-to-savings ratio of the Southern region (2.7) has consistently remained above the all-India levels (2.1), and shows that the ratio of the Eastern region (1.9) is close to the national ratio. The northern and central region have the lowest credit-to-savings ratio, at 0.6-0.7, which shows that banks in these regions are risk averse, lending on an average, less than the savings collected from the SHGs. Only 0.25 million out of 1.49 million (17%) of the bank-linked mixed and only men's groups have availed loans, compared to 87% of exclusive women's SHGs. The credit-to-saving ratio of exclusive women SHGs has grown from 1.7 in 2021 to 2.2 in 2022, whereas for the mixed or only men's groups has the ratio increased from 0.76 in 2021 to 1.15 in 2022. There appears to be little difference in credit-to-savings ratio of the SHGs under DAY-NRLM or DAY-NULM programmes, which may be due to the fact that these programmes have only exclusive women SHGs.

However, the real Credit- to -savings ratio is much higher, when we consider that only a small proportion of SHGs get loans, and about 7:1 on an average. However, as the savings of only the credit-linked groups are not reported, it is not possible to calculate their Credit- to-savings ratio. It is likely that their savings are significantly higher than the SHGs that are not credit-linked.

5.3.3. The Trends of Non-performing Assets (NPAs)

The percentage of Non-Performing Assets (NPA) to loan outstanding for SHGs in India has consistently declined from 4.9% in 2020 to 3.8% in 2022. The decrease in the NPAs to loan disbursed is depicted in Figure 5.12.

The NPA to Loan disbursed ratio of the overall credit-linked SHGs in India declined by 2 percentage points in 2021-22 compared to 2020-21, which indicates that post-pandemic repayment capacities have improved. The Southern and Eastern region have lowest NPA percentage to loan disbursed, at 5%, which is less than the all-India average of 6%. Central India has the highest NPA, although it has decreased significantly from 54% in 2020 to 29% in 2022.

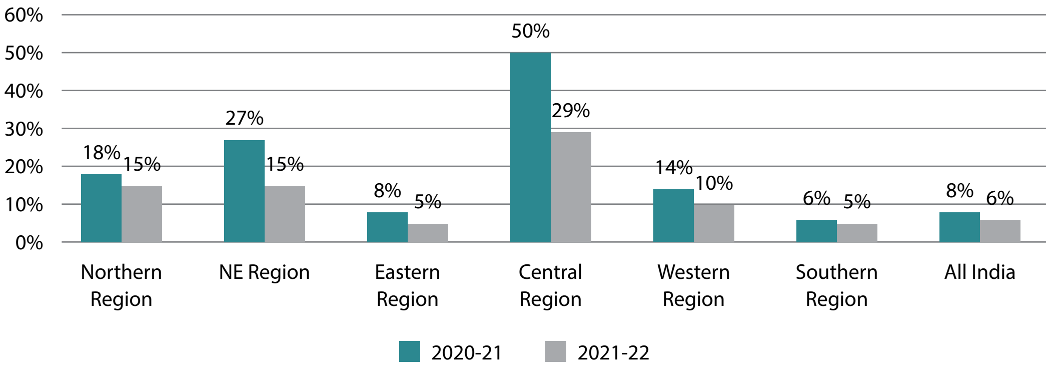

Figure 5.12. NPA as a Percentage to Loan Disbursed 2021 vs 2022
Source: Status of Microfinance in India, NABARD 2022

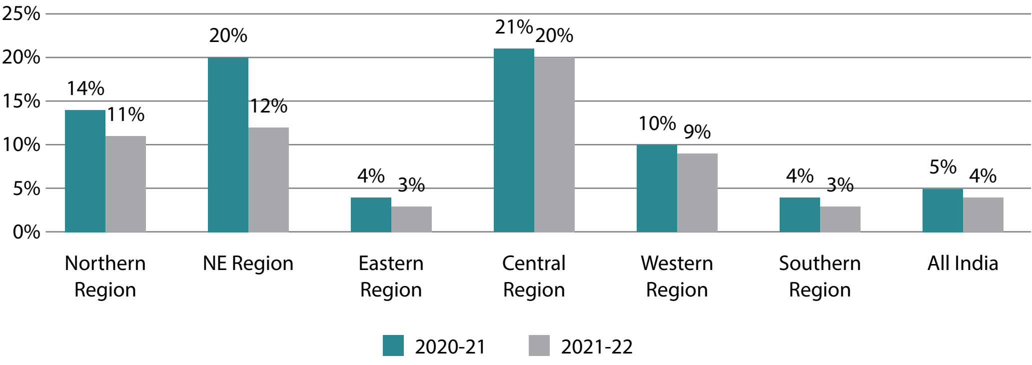

Figure 5.13. Region-wise NPA to Loan Outstanding 2021 vs 2022
Source: Status of Microfinance in India, NABARD 2022

We now examine the repayment performance of SHGs, according to the programmes under which the loans have been disbursed. The NPA for exclusive Women SHGs was 6% in 2022, which is the national average.

The same trend is visible in the NPA to loan outstanding, where the all-India average is 4%. A region-wise comparison of the NPA to loan outstanding can be found in Figure 5.13.

The NPA for loan outstanding in the Eastern and Southern regions, at 3%, is below the national average of 4% (NABARD, 2022). As these two have higher share of loan disbursement and loan outstanding, even a minor change in the NPA levels of these two regions have a major impact on the all-India levels.

The agency-wise NPA as a percentage of loan outstanding is given in Figure 5.14.

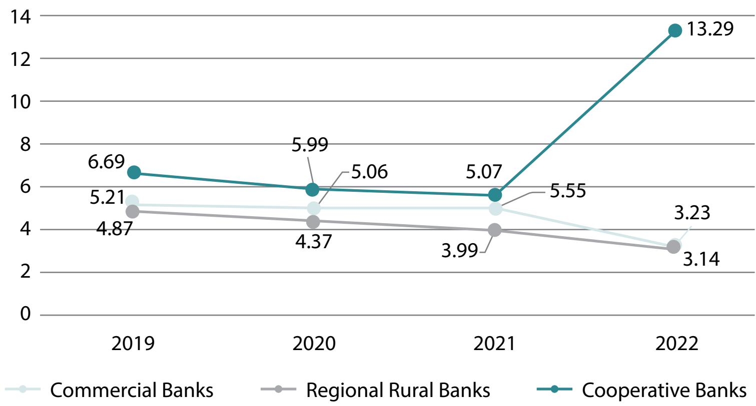

Figure 5.14. Agency-wise NPA as Percentage of Loan Outstanding
Source: Status of Microfinance in India, NABARD 2022

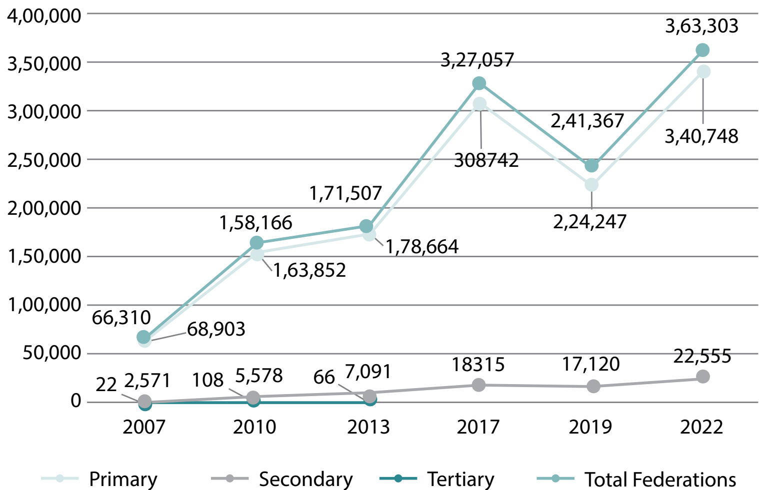

Figure 5.15. Growth of SHG Federations in India
Source: Shylendra (2019), NRLM (2022)

While commercial banks and RRBs have witnessed a decrease in the NPA to loan outstanding in 2021-22, and at 3.23% and 3.14% respectively, are close to the national average of 3%, the NPA for cooperative banks has increased significantly, to 13%. The poor performance of cooperatives' assets could be due to their outreach to a clientele which a lower ability to repay the loans, and/or that the debtors were proportionately more affected by the pandemic or other contextual factors. It could also denote reduced collection efficiency of cooperatives.

5.4. SHG FEDERATIONS

SHG-bank linkage may solve the savings and credit issue, but SHGs need services for good book-keeping, enterprise promotion and linkages to markets. The benefits of collectivization can be realized through federations of SHGs, in terms of improved access to credit, business and SHG sustainability. In the late 1990s, NGO promoters recognized the challenges faced by SHGs and facilitated the creation of SHG federations. Federations can be defined as formal organizations formed at the village/ward level, in which 10-25 SHGs are clustered, to provide services which individual SHGs would be unable to carry out (Reddy 2012). Membership in federations varies from 1,000 to 5,000 members. By creating economies of scale, federations guided SHGs in accounting, audit, and conflict resolution and provided opportunities for SHG leaders to build the capacities of staff recruited. Federations were preferred by financial institutions as they reduced transaction costs for banks and assisted in the reduction of SHG default rates. Federations also assisted in value-added services such as housing loans and insurance for members and livestock. The growth of SHG federations has accelerated over the last 10 years, yet they continue to face challenges in terms of institutional forms, sustainability, and their way forward.

5.4.1. The Number of Federations and Sustainability Issues

Based on their jurisdiction, three types of federations emerged. Primary-level federations (PLF) are formed by SHGs existing in a village or cluster, secondary-level federations (SLF) are the ones formed at block levels by PLFs, and tertiary-level federations (TLFs) are formed at the district level by SLFs. By 2017, there are more than 327,000 such federations across the country.

Figure 5.15 shows the growth of SHG federations in India from 2007 to 2022.

The data show that the number of SHG federations has grown almost 5 times from 2007 to 2022, with more than 50% growth in the recent 10 years. Of the total of 241,367 federations in 2019, 93% are primary federations, and 7% are secondary federations.

In 2019, 2.7 million SHGs, about 41%, were federated. For 2022, data is available only for NRLM groups; 6.22 million SHGs (87%) are federated. The remaining 13% do not have a second-tier organization with which they are affiliated. Under the NRLM programme, federating SHGs into VOs and cluster-level federations is mandatory, and as of March 2022, there were 363,303 federations in India under the NRLM programme. But NRLM SHGs account for only about 60% of the total SHGs. It is not possible to extrapolate from NRLM to the overall percentage of SHGs federated. Suffice it to say that by March 2022, the percentage is likely to have increased from 41%, yet the increase is likely to be much lower than 87%.

A study covering the role of SHG federations in improving the quality of SHGs revealed that on several parameters SHGs, under the umbrella of federations, have shown better or improved performance compared to those without the support of federations (Kumar 2010). SHG Federations provide several financial and non-financial services to the members contributing to SHG sustainability. However, that doesn't mean they are free from challenges, and role clarity, legal form and economic sustainability are the primary challenges (Shylendra 2018).

5.4.2. Institutional Form of Federations

The question of the most appropriate form of registration for the federations has been debated over the past two decades. The institutional form under which SHG federations are registered has varied across states, with most states opting for registering as Societies or Trusts. NRLM SHG federations are registered as cooperatives in only a few states, particularly Andhra Pradesh and West Bengal.

In 2017, the Maharashtra Rural Livelihoods Programme, Umed, set up a task force to examine the institutional form that best serves the needs of an SHG federation. The findings are as per below:

- **Cooperatives:** The strength of the cooperatives is the principle of 'People's money, people's control', reinstating the power of decision-making to its members. But making the cooperatives sustainable requires significant investments in capacity building and a long period of handholding. Interference by government officials and politicians also works as a deterrent to the acceptance of cooperatives as empowering organizations.
- **NGOs:** The procedures to form and register an NGO is relatively simple and can be managed by semi-literate women with little guidance. NGO processes like a quorum for meetings are very adaptable to local rural contexts. But profit-making financial intermediation is difficult to scale up when it is in Societies or Trusts.
- **NBFCs:** NBFCs are legitimate financial intermediaries, and surpluses can be made and distributed to equity holders. NBFCs raise external loans more easily than NGOs and lend loans of higher ticket sizes. However, the cost of formation is high; they are profit- focussed and are not suitable as an organizational form to foster savings and to promote social and political empowerment among women. Since NBFCs require professional expertise to manage the intricate proceedings and compliances, it provides no room for semi-literate women members to manage it. Loans from NBFCs are provided at a high cost, between 18% to 24%, and tend to get unaffordable for women's collectives (SHGs and VOs) and for members.

Based on this analysis, the Umed senior management decided against the registration of federations as cooperatives, as they would find it tough to sustain after the government programme stopped its oversight. NBFCs were also ruled out, considering the management and compliance requirements to be too high for a community-owned organization. So, federations have continued to be registered under the Societies Registration Act, except for West Bengal and Andhra Pradesh, where the SHG federations are registered as cooperatives and have been well supported by the state NRLM programme over the past years.

An additional question came up when Farmer Producer Organizations emerged as a new form of government-supported collective for member-based businesses. The success of FPOs that make value-added products (processed rice, jaggery powder, honey, etc.) hinges on successful production, branding, and marketing. Although some Self-Help Promoting Institutions (SHPIs) worried at first that FPOs may replace SHG federations, it is now clear that FPOs have the same issues as federations, e.g., the oversight on the governance of the FPO remains important, and their sustainability without NGO support is suspect. In general, the link between FPOs and federations remains an unexplored area of study, where further knowledge generation would help the sector.

5.4.3. The Future of SHG Federations

Despite the growth in the number of federations over the past 10 years, they continue to struggle in terms of institutional forms and sustainability.

Resource persons have suggested that DFIs envisage the role, and provide grant support, for the development of federations over 3-5 years. SHG federations need to be envisioned as an organization offering financial services to their SHG members, as well as launching businesses for their own economic sustainability. Federations in the formative phase could focus on the formation and monitoring of SHGs. In the emergent phase, they could foster bank linkages, and identify collective livelihood activities. In their growth phase, they need to pay attention to the market linkages of the collective businesses.

The question of the future of SHGs is thus contingent on whether there are SHPIs or federations which continue to nurture and supervise these grassroots institutions. To prevent them from elite capture or neglect, SHPIs will need grant funds, which have shrunk significantly for the microfinance sector and for the agenda of women's empowerment. The creation of federations in Andhra Pradesh and Maharashtra (the MAVIM CMRC model) offers good examples. The former has seen significant support through World Bank projects and the latter under several rounds of IFAD funding.

The NRLM programme has been very slow in having a vision for collectives of SHGs, and in making a clear strategy for their support. Reportedly, a decision has been taken recently to register all cluster-level federations under the NRLM programme as cooperatives. However, there is not yet a document that clearly outlines the strategy, and we have to wait to see whether these would be financial cooperatives, production cooperatives, or multi-purpose cooperatives, and whether there is long-term SHPI support envisaged.

The authors of this chapter emphasize the need to consolidate SHGs into second-tier federations, emphasize their promotion and capacity building to provide financial and business intermediation and ensure that they have long-term SHPI support, till they become fully accountable and economically viable. Further, they need to make special efforts to include vulnerable households and become truly inclusive organizations with significant livelihoods and empowering impacts.

5.5. SHGs AND LIVELIHOODS

Prof. Rangarajan famously claimed that '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' (Ananth, 2008). The implied Theory of Change around SHGs and poverty reduction is that SHGs provide much-needed access to credit, which would be invested in income-generating activities, which in turn would yield incomes that would bring the members' households out of poverty, creating sustainable livelihoods for rural women (Premchander, Prameela, & Jeyaseelan, 2009). However, a credit-plus approach is needed for the sustainable improvement of livelihoods, with vocational training, enterprise promotion and market linkages being among the key inputs needed.

20-year-old Neha Rai resides in Kotwa village of Varanasi district, with her parents, grandmother and three siblings. The family depends on flower farming and earns a monthly income ₹6,000. Neha's mother is an SHG member for 5 years and runs the SHGs. Neha could not afford to go to school after 11th class due to monetary and social constraints. Neha's involvement with Sampark started when she joined Sampark Digital literacy training. Neha successfully completed the course and she wanted to be associated with Sampark. She showed keen interest in learning the SHG books, helped in book-keeping and became a CRP and got paid for her work. The talent, spark, and dedication of Neha, combined with motivation from the Sampark team convinced her family to send Neha to school. Neha's family, with the additional savings, were able to take one more patch of land on lease and send Neha to school. Neha remains one of the strongest and most motivated young cadres Sampark has come across so far. Neha said, 'I want to become a health sector professional. Be it a doctor or a nurse, I want to work in the health sector in my own village'.

5.5.1. SHGs and Inclusion

The National Rural Livelihoods Mission (NRLM) was launched in 2011 with the objective to reduce poverty by enabling 70 million below-poverty line (BPL) households to access gainful self-employment and skilled wage employment opportunities. It uses a mission approach, to reach out to all the poor in a time-bound manner.

Research on exclusion, with respect to public programmes, highlights that capture of local institutions by the anti-poor, and high transaction costs hamper the inclusion of the poor. A 2011 social

assessment of the National Rural Livelihood Project (NRLP) concluded that Dalit groups, Adivasis, Muslims and migrant labour face many types of exclusion for reasons such as distance, affordability, prejudice, poor voice, and skills. These groups have been also excluded from most public programmes, such as the Right to Education, Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and Public Distribution System (PDS). Gender, and the difficulties women face in linking with these mainstream protection programmes, are not mentioned in the report.

The Particularly Vulnerable Tribal Groups (PVTGs) have traditionally accessed minor forest produce (MFP) and are placed favorably to benefit from an income-generating model, but poor education and awareness and weak 'business skills' pose a serious challenge. Savings and credit involving PVTGs and via failed SHGs, provide lessons that improve intra-group trust, relevant livelihood models, extended CRP intervention and closer supervision by the NRLM management are required for groups to function well.

Dalits experience a different challenge of violence by powerful caste groups. NRLM, with its social mobilization approach, would be able to address the poverty question in these groups if focused on a wider basket of entitlements, including social security programmes, public services, security, and dignity, along with income-generation collectives.

Some communities within Islam, constitute the third tier of Muslim society, and they account for most of the Muslim population across swathes of North India. Most of them are homeless, and they possess no capabilities that households can leverage. They are not covered under the MGNREG scheme and are not included in the BPL list too. These must be factored in, and the challenge for NRLM would be to create conditions for the workers to enhance and make the best of their abilities to reach the markets.

Regarding migrant workers, the challenge would be to create secure livelihoods at/near home, and the risk of families being forced into situations where migration is the only choice for survival can be reduced. This needs to be done through both employment creation (public as well as private) as well as self-employment models (individually or in a group). Specific local NRLM capacity supported by civil society groups and labour associations will be required to make all this a reality.

In summary, the study highlights that NRLM needs to reach 70 million BPL households in 7 million villages, which calls for inclusive livelihood models. NRLM needs to internally focus on recruiting human resources with an understanding of exclusion, and the specific needs of communities to actively drive the mission (Hassan, 2015).

5.5.2. Sustainability of SHGs

SHG bank linkage does not only provide access to financial services, it also has the potential to reduce the incidence of poverty through an increase in income and assets. It can help to empower women, secure livelihoods and revive local economies. However, of late, there are rising concerns about the sustainability of self-help groups being affected by a number of factors, including, among them, irregular savings, dwindling membership, rising loan defaults, inability to access credit (typically second and subsequent bank loans), poor record keeping, limited credit absorption capacity and excessive reliance on promoting institutions (Baland, 2007) (Isern, 2007 AUGUST) (Parida & Sinha, 2010) (Rao, 2017) (Reddy C. S., 2008) (Tankha, 2012).

SHGs are expected to be a means to sustainable livelihoods, but this is possible only when SHGs are themselves sustainable. Sustainability of SHGs, is however, not tracked by most annual reports produced by leading Development Financial Institutions or the government. While experts claim that SHGs that survive for about 7 years have a positive impact of the livelihoods of members, we do not know how many SHGs do in fact survive for 7 or more years.

Intra-lending or intra-group loans refer to the process of self-help group members accessing loans against pooled group savings at pre-decided interest rates. Intra-group loans are mostly extended to members for their day-to-day personal needs, children's education, and for survival needs in case of sickness or death of a family member. To improve their livelihoods, SHGs need external loans from the banking sector, which can be used for income-generating activities or micro businesses.

It is well known that loans from SHG's savings are primarily used for household needs such as education, health, and emergencies. SHGs need external funds from banks for income generating activities, to fulfill the purpose of improved livelihoods.

Banks often evaluate the processes of intra-lending as a proxy for the group's repayment performance. From the women's perspective, group savings are 'own' funds, or 'hot money', which they use

flexibly, repaying when they can, and they do not equate delays, in repayments of loans from savings, with default (Premchander, Prameela, & Jeyaseelan, 2009). An example from SHGs formed by Sampark in the Chiraigaon block of Varanasi district in Uttar Pradesh illustrates this well. The 76 groups, with about 900 members, have sustained for 5 years, saving consistently, and taking loans from their savings.

Banks view the division of savings and starting afresh as an indication of low capacity to repay loans, while women see it as an achievement, in being able to pool savings, do inter-loaning, and manage these transactions independently.

Many women struggle to repay their loans, especially during the COVID-19 period. They discussed the issue of delayed repayments and came to the solution of pooling all the savings, settling loans against individual savings, bringing all outstanding balances to zero, and restarting the savings. At least 5 groups have followed this process to settle their loans and start savings and loan operations afresh. Although Sampark NGO staff constantly counsel the groups against depletion of savings, they facilitate the distribution if the members want it.

Laxmi Mahila Sampark Samuh in Kamauli, Varanasi, UP was formed in the year 2017 by 16 women. Women saved ₹126,000 in 5 years and took loans. 3 women were unable to repay their loans totaling to ₹30,000 taken 4 years ago. Hence the groups decided to help them and split their savings, repay the loans, and start saving afresh.

The long-term needs are emphasized to the group members, and women are guided on livelihood interventions and set up of small enterprises to assist in their family income.

5.6. WILL SHGs BECOME REDUNDANT

It takes time and effort to form and build the capacities of SHGs for self-management. Many continue to need oversight from SHPIs, for which SHPIs receive grant funds from donors and Development Financial Institutions (DFIs). In some government programmes, such as MAVIM, Cluster-level Resource Management Centres (CMRCs) have been created, which fulfil the role of an SHPI in creating bank linkages. Once SHG-BL is formed, many SHGs become a channel for multiple loan cycles from banks. Repeat loans by banks are not certain, and again, no flagship reports carry figures of SHGs who get multiple cycles of loans from banks.

The question arises about when an SHG fulfill its role as an intermediating institution. If every woman SHG member has a bank account where she saves, builds a credit history and transits to an individual loan from a bank, then would it be possible to wind up an SHG?

We cannot answer this question, as the data on how many SHG members have individual bank accounts are not available in the NABARD report. The NRLM site reports that, of the 84.2 million members in the 7.8 million NRLM-SHGs, only 37 million members, 44%, have individual bank accounts. This shows that the financial inclusion of individual SHG members is still not fully achieved, even under the NRLM programme. Not only do SHG members not have independent accounts, they also do not transit seamlessly to individual loans from formal financial institutions. A recent study (Iyer, 2021), focussed on the supply side barriers to individual loans for SHG members. Banks extend individual loans to those who can provide collateral, whether these are women or men. The data on the percentage of SME loans that go to women is scant, and not tracked by most banks, but banks do agree that SME loans from banks go predominantly to men. SHG women who are capable of transiting to individual loans fall between the cracks. There are some of these women who would already be clients of MFIs, which do extend individual loans to JLG members with a good track record of loan repayments. However, these are MFI loans and not bank loans, and so belong to the second track of loans we discussed in Section 2. For women members of SHGs, the transition to individual loans, with or without collateral, continues to be largely non-existent. Some exceptions are from SHPIs, such as the SEWA group, where the staff makes a special effort to get them bank loans as individuals, not just as SHG members (Iyer, 2021).

If the Theory of Change of Financial Inclusion for SHGs is that SHG members would get access to bank accounts, savings, and loans, we find that such access is limited. Under NRLM, which represents 60% of SHG members, only 44% of the members have individual bank accounts. We could assume that women save regularly in these accounts, or their Direct Benefit Transfers are paid into these accounts, but the data on these parameters is not in public domain. Further, we do not know if such access transits to individual loan;, all indications are that they in fact do not have such access from universal banks.

Although official schemes, e.g., MUDRA, are expected to provide finance for growing women's enterprises, these are often limited to those that NBFC-MFIs already offer to their clients, with little additional outreach.

Given the barriers that women SHG members face in accessing formal credit as individuals, the SHG forum will be needed for another decade or two, till formal financial institutions begin to use SHG credit history, to recognize them as potential individual borrowers.

5.7. CONCLUSION

India's SHG Bank linkage model, recognized by the government for the flow of formal credit to low-income households, has created a unique place in the world-- providing lessons for scale, depth of outreach and impact on livelihoods, poverty reduction and women's empowerment.

Even as financial inclusion reaches marginalized women, the Self-Help Group remains an important forum, for many reasons. To begin with, group savings have a different character and meaning from individual savings, enabling women to exercise agency vis-à-vis their group savings. Secondly, group processes promote leadership, accountability, and most importantly, solidarity that goes beyond financial transactions to social interactions and potentially empowers women. A third reason is that group savings are useful for loans for education, health, or emergencies. Finally, bank finance continues to elude women on an individual basis, with less than half of NRLM SHG members having savings accounts, and the data on the remaining 40% SHG members outside of NRLM not available or being tracked. Even if they build credit history through groups, the transition from group loans to individual formal finance for business, is not seamless, creating continued dependence on the SHG loans.

The question arises whether SHGs, in their current form, dominated by the NRLM programme, will sustain beyond the programme and government support. If banks are willing to provide repeat loans to SHGs, then groups will sustain, and continue to serve the purpose of forums that improve women's access to loans, and improved livelihoods. The extent of such access is not known or recorded in industry reports.

SHG sustainability can be promoted through SHG federations, as evident from examples of government programmes such as MAVIM in Maharashtra, with the latter managing the credit linkage with banks. These federations are well on their way to sustainability and offer credit as well as business linkages. Such federations are, however, not scaled up, and are not yet the predominant model across different states, leaving the questions of SHG sustainability, and that of federation viability, wide open. Going forward, it would be very important for the government and other development organizations to have a vision for the collectivization of SHG and enabling sustainable linkages for enterprise loans for the individual members through SHGs, facilitated by their federations.

Finally, for women SHG members to have access to loans from universal banks, attitudes of the latter would need to change, and they would have to use credit histories rather than collaterals to lend. Many other supply-side barriers, such as lending norms, structures, processes, and attitudes, will need to be overcome for not only SHG members, but all women, to have greater access to business loans by formal financial institutions (Iyer, 2021).

In conclusion, although the number of SHGs has grown, they are still highly concentrated in the Southern and Eastern region, and this uneven spread is visible in the savings, credit, and repayment performances. Clearly, the task for the government's flagship programme, NRLM, and NABARD is to balance this uneven spread, and invest in the growth of SHGs, savings and enterprise credit in the Northern, North-Eastern, Central and Western regions of India. There is still ground to cover in promoting the voice of women through federations and in ensuring inclusion of marginalized groups. The SHG movement has come a long way, yet there remains a long way to go before balanced spread, sustainability of self-help institutions, and women's financial inclusion and their livelihoods are achieved.

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END NOTES

1. The authors would like to thank Mr. Praveen, ACCESS for support in finding key data sources for this chapter.
2 Pradan had this practice in early 2000s, in Bihar. Sampark's groups in Varanasi currently use this method, especially post-COVID, when it has been difficult for women to earn and repay their loans to the SHGs.

Digital Financial Services: Propelled by the Pandemic, A Significant Surge

Akshat Pathak, Graham A. N. Wright*

6

6.1. OVERVIEW OF THE CURRENT INFRASTRUCTURE

With a steady rise in internet users, India's digital evolution has witnessed significant changes every three to four years over the past two decades. India had more than 761 million mobile internet users as of March 2022. The number of urban mobile internet users (~416 million) outnumbered rural users (~345 million).[1] The penetration of smartphones among Indians has increased from 26% in 2014 to 61% in 2022.[2] Figure 6.1 highlights the growth in monthly active internet users in India.

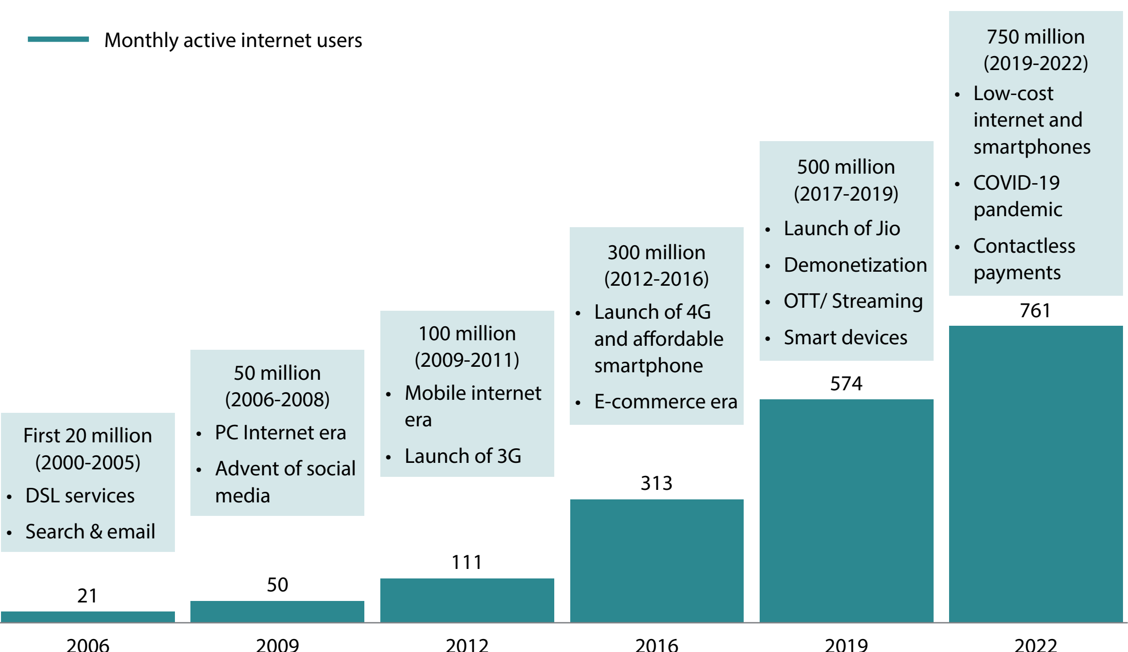


Figure 6.1. Growth in Monthly Active Internet Users in India
Source: Highlights of Telecom Subscription Data as on 30th April, 2022. https://www.trai.gov.in/sites/default/files/PR_No.40of2022_0.pdf

* The authors thank Disha Bhavnani, Surbhi Sood, Ritesh Rautela, Rajarshi Barua, Manali Jain, Pramiti Lonkar, Amit Tiwari, Puneet Khanduja, Aneesh Gulati, Shobhit Mishra, Rishab Agarwal, and Phani Raghuveer Dinavahi for their assistance with drafting this chapter.

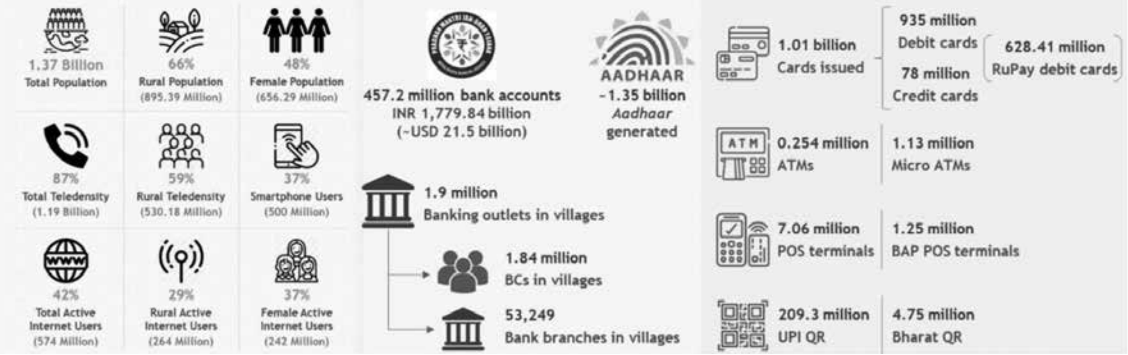


Figure 6.2. Snapshot of India's DFS infrastructure
Source: MSC analysis

Access to content in local languages and the rise in video streaming apps continue to drive internet usage in rural areas. The growth of 4G services has also added many first-time users, with rural India witnessing a 45% increase in new internet users since 2019. On average, a wireless internet subscriber in India consumes 14.97 GB per month at ₹9.91 (~USD 0.13) per GB, which remains the cheapest internet worldwide.[3]

Concerted efforts by the government, regulators, and financial service providers have helped pave the path to India's digital highways to deliver digital financial services (DFS) to the masses. These efforts have focused on creating an open and secure digital ecosystem and shared digital infrastructure, enabling interoperability and building safeguards within digital platforms. Figure 6.2 provides a snapshot of India's DFS infrastructure.

New and innovative DFS have emerged from a combination of factors, such as the increased adoption of smartphones, greater access to the internet, growing comfort with using technology, and improved financial capabilities. These solutions capitalise on India's demographic dividend and allow consumers to fulfil their basic financial needs— 'receive, spend, store, invest, and protect'.

6.2. DFS CONTINUES AS A POLICY PRIORITY IN INDIA

6.2.1. Policy Direction on Direct Benefit Transfers (DBT)

DBT has undergone transformative changes since its initiation in 2013, which led to the removal of fake and ghost beneficiaries, the plugging of leakages, and more efficient benefit transfer. As a result, the Government of India (GoI) has saved ₹ 2,230 billion (~USD 28 billion) as on March 31, 2021.[4] The GoI has also expanded DBT in 318 schemes of 53 ministries, including cash and in-kind schemes.[5]

When DBT started in 2013-14, it had only 28 schemes under its ambit. Transforming how government benefits are delivered under DBT remains an essential pillar for the GoI. In the past five years, between 2017-18 and 2021-22, the total amount distributed through DBT under cash and in-kind schemes increased by 230%. Table 6.1[6] summarises the amount distributed by the GoI through DBT under cash and in-kind social protection programs:

The DBT support under cash and in-kind components increased by 26% and 77%, respectively,

Table 6.1. Amount Distributed Through DBT Under Cash and In-Kind Social Protection Programmes

Type of DBT	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Cash (in billion)	₹ 1,703 (~USD 21)	₹ 2,141 (~USD 27)	₹ 2,397 (~USD 30)	₹ 2,966 (~USD 38)	₹ 2,681 (~USD 34)
In-kind (in billion)	₹ 206 (~USD 3)	₹ 1,157 (~USD 15)	₹ 1,419 (~USD 18)	₹ 2,559 (~USD 32)	₹ 3,621 (~USD 46)
Total (in billion)	₹ 1,909 (~USD 24)	₹3,298 (~USD 42)	₹ 3,816 (~USD 48)	₹ 5,525 (~USD 70)	₹ 6,303 (~USD 80)

Source: https://dbtbharat.gov.in/estimatedgain (accessed on September 2, 2022); a conversion rate of USD 1 to ₹ 79 has been used, as of September 2, 2022

in 2020-21 from 2019-20. This increase is primarily because the GoI launched the COVID-19 relief package under Pradhan Mantri Garib Kalyan Yojana (PMGKY), which included cash and in-kind components.[7] In 2021-22, the cash component decreased as the GoI did not continue the additional cash support provided under the PMGKY. However, the in-kind support further increased by 43% as the GoI extended the in-kind support under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).[8]

6.2.2. Highlights of Measures Undertaken by the Regulator (RBI)

Progress as per RBI's Financial Inclusion Index and Digital Payments Index

The Reserve Bank of India (RBI) developed a Financial Inclusion Index[9] (FI Index) that incorporated details of banking, investments, insurance, postal, and the pension sector in consultation with various regulators (Figure 6.3). The index encapsulates the performance of three key indicators—access, usage, and quality, in values ranging from 0-100.

The FI Index improved by only 4.62%[10] from 53.9 in March 2021 to 56.4 in March 2022, indicating some improvement in all parameters. The FI index comprises 97 indicators under the three broad parameters. Hence, it can be used to measure the national level of financial inclusion and the performance of specific indicators. Regulators and policymakers can assess the results at a micro level and target specific problem areas to improve financial inclusion.

The RBI also developed a Digital Payments Index[11] (DPI) to capture the extent of digitisation of payments in India. It contains five parameters—payment enablers, payment infrastructure—demand-side factors, payment infrastructure—supply-side factors, payment performance, and consumer centricity. The RBI set the DPI score as 100 in March 2018 as the base year. Since then, it has been growing considerably, with a 29% annual growth rate, reaching 349.30 as of March 2022[12]. Figure 6.4 showcases the growth trajectory for DPI.

This growth indicates a steady rise in the acceptance and deepening of digital payments in the country, led predominantly by Unified Payments Interface (UPI). Digital payments' rise in India resulted from the government's efforts to establish digital payments acceptance infrastructure in the country, with a particular focus in non-metro geographies. The DPI is well-rounded as it captures the volume of digital payments conducted

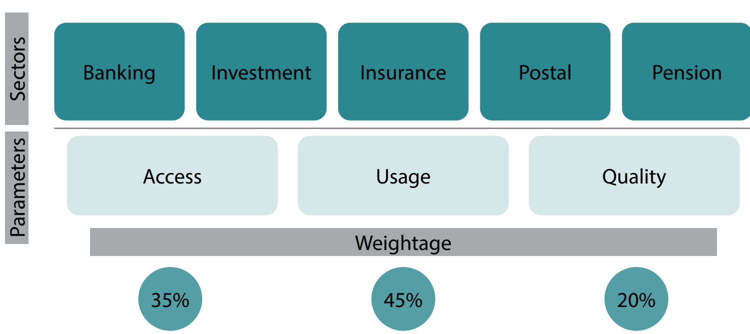


Figure 6.3. RBI's Financial Inclusion Index
Source: RBI. (2021). Reserve Bank of India introduces the Financial Inclusion Index

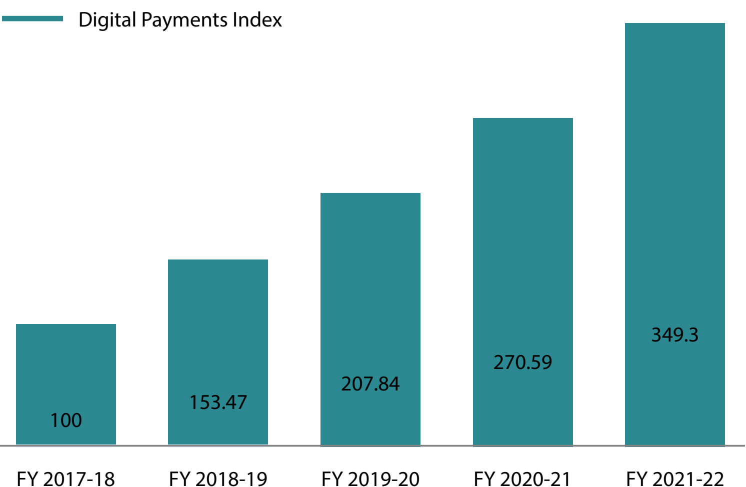


Figure 6.4. Growth in the Digital Payments Index
Source: RBI. (2021). Reserve Bank of India introduces the RBI-Digital Payments Index

and various factors like declined payments, system downtime, and fraudulent cases. This way, it can also capture the quality of digital payments and consumer experience.

Highlights of RBI's Payments Vision 2025 Document

The theme of the RBI's Payments Vision 2025[13] is 'E-Payments for Everyone, Everywhere, Everytime'. As the institution promotes less cash and a less-cards economy, it is also expanding the offering of digital payment options to complement this journey. A behavioural shift has shown increased acceptance and conducting of digital payments, especially during the COVID-19 pandemic. This is evident as RBI's payment systems process more than 260 million digital transactions daily.[14] India has been taking steps to empower all smartphone and feature phone users to make digital payments. The COVID-19 pandemic has increased mobile banking users by 50%[15], indicating the inclusion of a large

population of first-time DFS users. Relevant and favourable policies will maintain this user base and promote sustained usage of advanced DFS.

Update on the Payment Infrastructure Development Fund (PIDF) Scheme

The PIDF scheme[16], created in October 2019 and operationalised in January 2021, subsidises the cost of deploying digital payments acceptance infrastructure in tier 3 to tier 6 geographies in the country, with a particular focus on the North Eastern states. PIDF intends to create 3 million digital payment facilitation points[17]. As of June 2022, 11.4 million digital devices,[18] such as UPI QR and Bharat QR, have been installed. While 91% of these devices are in tier 3 to tier 6 locations, only 4.35% are installed in the North Eastern states.

6.2.3. Role of Differentiated Banks in Furthering DFS

Small Finance Banks (SFBs) and Payments Banks (PBs) were set up as differentiated banks to cater to excluded segments by harnessing technology and using innovative operating models. These banks further financial inclusion by providing low-cost banking solutions to small businesses, low-income households and businesses in the unorganised sector. The 11 SFBs and six PBs operating in the country play a key role in furthering DFS. They encourage and empower customers to conduct banking transactions through digital channels, especially mobile banking.

Many SFBs have recently enabled paperless, handheld device-based loan origination and cashless disbursements. Some have also implemented end-to-end digital account opening processes. Thanks to this technology-led approach to customer acquisition, the consolidated balance sheet of SFBs has been growing at a pace higher than that of Scheduled Commercial Banks (SCBs) since their inception. This also reflects that many SFBs have adopted the organic growth approach. As of March 2022, SFBs catered to more than 14 million customers, and the gross loan portfolio outstanding of SFBs exceeded ₹ 483 billion—a growth of 28% from March 2021.

On the other hand, PBs work on a high-volume-low-value transaction model to facilitate access and ease of usage. They provide last-mile connectivity to customers through mobile phones and agent networks as platforms for banking transactions. The positive effects of using technology to reach the last mile are evident from the growth of PBs since their inception. The PBs have grown by 48.9% in FY21, on top of 17.5% in FY20. The deposits of PBs have increased by more than 100% from ₹ 23 billion in March 2020 to ₹ 46 billion in March 2021.

6.3.MAKING THE POST-PANDEMIC RECOVERY INCLUSIVE AND SUSTAINABLE

6.3.1. Social Assistance Programmes Based on Digital Transfers

In March 2020, the GoI announced an initial COVID-19 relief package of ₹ 1,700 billion (~USD 21 billion) under PMGKY. This package included increased benefits in existing programs (both cash and in-kind) and a new cash transfer programme for women. The 'Inclusive Finance India Report 2021' highlighted that more than 90% of the beneficiaries received benefits under the schemes/programs under the PMGKY.

Although the GoI did not continue with the cash transfer components under the PMGKY, it continued the in-kind food support through the PMGKAY to ensure food security for 800 million people. Further, the GoI extended the PMGKAY under seven phases until November 2022. Cumulatively, the GoI provided more than 100 million metric tons of free food grains, costing the government more than ₹ 3,400 billion (~USD 43 billion).[19]

6.3.2 Regulatory Measures to Enable a Holistic Digital Ecosystem

A conducive policy and regulatory environment have been crucial in developing India's digital financial services ecosystem over the past decade. In recent years, the Reserve Bank of India and other entities have taken several steps to enable users across different target segments and promote innovation digitally. These measures include the development of payment instruments like UPI (Unified Payments Interface), AePS (Aadhaar-enabled Payments System), and Bharat Bill Payment System (BBPS), the creation of the account aggregator (AA) framework, Payment Infrastructure Development Fund (PIDF), Open Credit Enablement Network (OCEN), Open Network for Digital Commerce (ONDC) and regulatory sandbox, expansion of the banking network through cash-in-cash-out (CICO) agents, point of sales (PoS) terminals, and much more. Recent developments include:

Open Network for Digital Commerce (ONDC): The ONDC is an initiative by the Department for Promotion of Industry and Internal Trade (DPIIT)[20] to promote open networks for exchanging goods and services over digital or electronic networks.

ONDC will resolve the challenges of the platform-centric model in e-commerce by bringing all the platforms on an open network and reducing the domination of a handful of prominent players in the e-commerce ecosystem. ONDC enables sellers and buyers to be digitally visible and transact through an open network, regardless of which platform or application they use. ONDC will digitise the entire value chain, standardise operations, promote the inclusion of suppliers, drive efficiency in logistics, and enhance value for consumers.

Account Aggregator Framework: In September 2021,[21] India announced the launch of its Account Aggregator (AA), a consent-based system under IndiaStack that enables data sharing across financial institutions. In this case, account aggregators will serve as consent managers who allow an easy flow of financial data by acting as a conduit between customers' financial information providers and users. The AA framework will enable users to securely link all financial accounts to one data handle and provide consent to share the data with other financial institutions. As of July 2022, 56[22] banks, FinTechs, and NBFCs were live on the system of Account Aggregator. More than 1.1 billion[23] customer accounts are now live on the Account Aggregator system. The AA framework will democratise financial services through easy, secure, and consent-based data transfer, give customers more control over their data and bring processing costs down for banks and NBFCs through better access to data. More recently, the RBI included the Goods and Services Tax Network (GSTN) to the account aggregator (AA) network as a financial information provider (FIP) to facilitate cash flow lending to the micro, small, and medium enterprises without a credit history based on their GSTIN records.

Reserve Bank Innovation Hub: The Reserve Bank Innovation Hub (RBIH)[24] was set up in March 2022 to promote and facilitate an environment that accelerates innovation in the financial services ecosystem. It brings together financial service providers, academics, regulators, entrepreneurs, and innovators. One of RBIH's recent initiatives was the Swanari[25] programme, which brings together entrepreneurs who build sustainable financial solutions for underserved and unbanked women in India, supported by MSC (MicroSave Consulting) and CIIE.CO.

6.3.3. Improvements in the Last-Mile Delivery

As per RBI, India had 3.3 million CICO agent outlets, with 57% of outlets in rural areas[26]. These agents have played a pivotal role in achieving financial inclusion in India. In 2021, agents in India conducted 2.1 billion transactions, which has grown with a 49% CAGR since 2010[27]. CICO agents have helped financially, socially, and economically excluded communities with remittances, cash withdrawals, and enrolments into direct benefit transfer initiatives from the government, among other services. Furthermore, these CICO agents acted as an important channel for delivering direct government benefits to nearly 800 million Indians. They were instrumental in the delivery of social security benefits during the COVID-19 pandemic[28]. CICO agents have become the backbone of last-mile banking and payment service delivery across India.

Today, the perception of a CICO agent is changing from someone who can only deposit and withdraw cash to someone 'who can get things done'. They have started to provide value-added services, such as government and e-government services, various activities in the credit value chain, such as lead generation, documentation support, and GRM, and multiple types of insurance, e-commerce, and wealth management services. The CICO agent of today can be a business-savvy new-age agent who conducts 300 transactions per day and earns upwards of ~USD 250 per month, accessing multiple FinTech platforms to offer various financial and non-financial services while running other adjacent businesses. They could also be a Gramin Dak Sewak and BC Sakhi, who offers door-to-door financial services to the elderly and the differently abled in remote rural areas.

MSC segments CICO agents under five categories (Figure 6.5): i) Traditional agents, ii) BC Sakhi, iii) New-age agents, iv) Payment bank

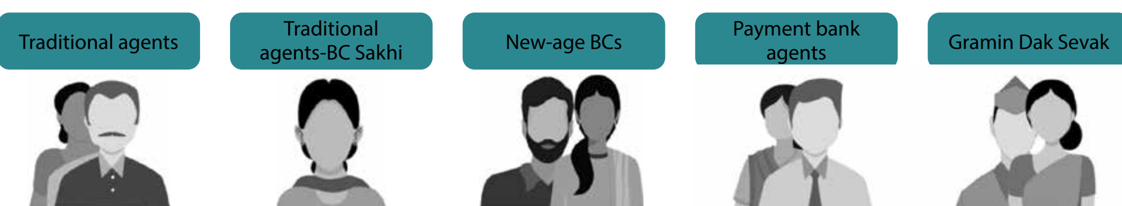


Figure 6.5. MSC's CICO Agent Models in India

Source: Predominant Cash-in Cash-out (CICO) models in India (Delhi: MSC, 2022) https://www.microsave.net/wp-content/uploads/2022/04/220426_CICO-models-and-MSC-pilots_v1.0.pdf

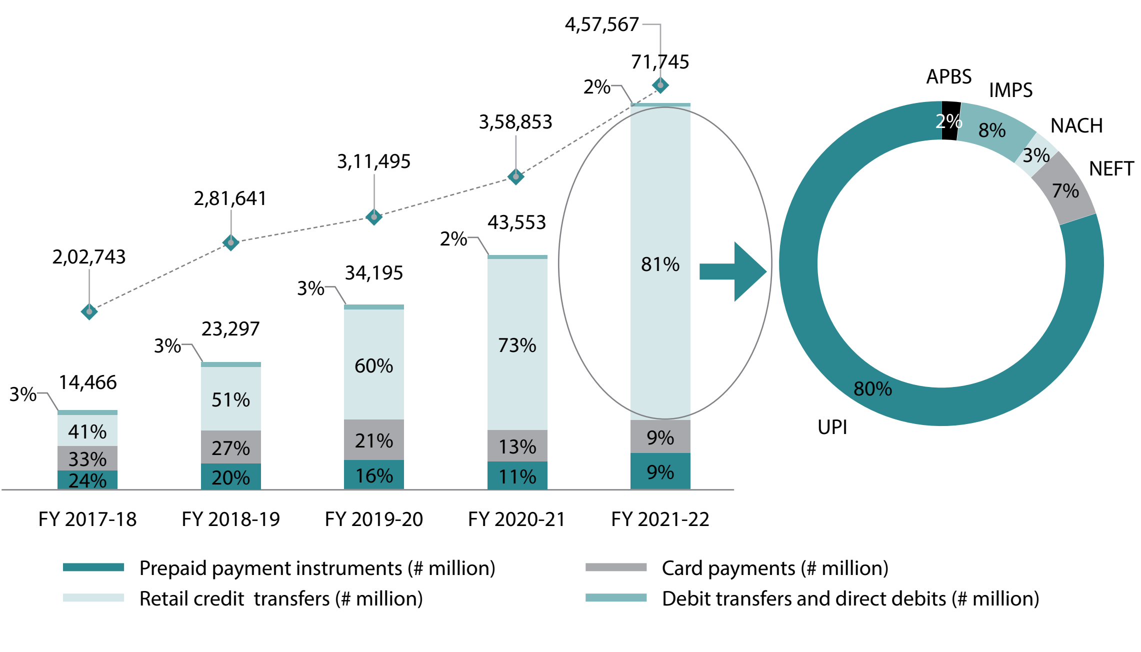
agents, and v) GDS (Post Office Gramin Dak Sevak) agents[29]. BC Sakhis are exclusively female, whereas the other segments comprise male and female agents. These agents differ in terms of physical access points, services they provide, agent economics, and how they manage risk. The challenges and the extent of those challenges vary considerably. MSC has partnered with several financial institutions to address specific challenges these agent segments face.[30] See Section 6.5.1 - Access - for a detailed explanation of the challenges.

6.4. TRENDS IN DIGITAL FINANCIAL INCLUSION

6.4.1. Payments and Payment Channels

Uptake of Digital Payments Co-Exists With the Demand for Cash

India's digital payments landscape has expanded rapidly at a CAGR of 38% by volume and 7.5% by value[31] over the past five years (2017-18 to 2021-22). India clocked ~197 million daily digital transactions in FY 2021–2022. The RBI's digital payments index,



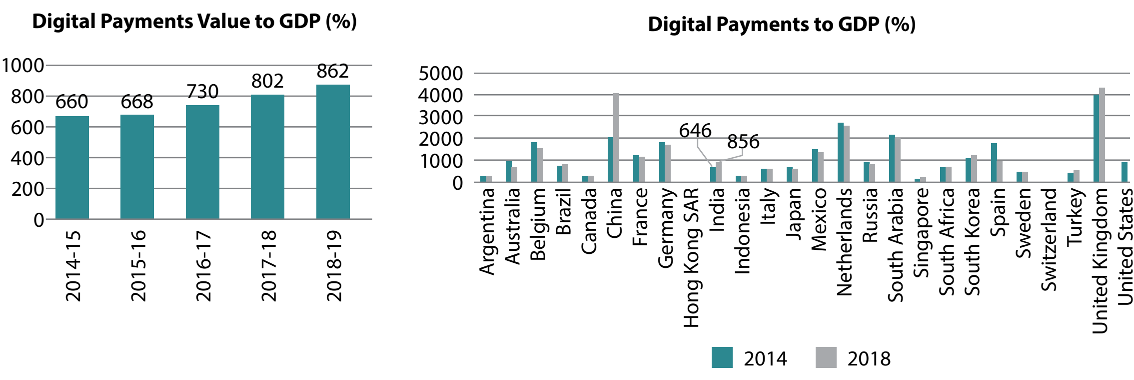


Figure 6.6. Growth in Digital Transactions in India (INR billion)
(Detailed Bifurcation in Appendices)

Source: MSC Payments Instruments Rails. https://microsave.net/pin-rails/#home

which has 2018 as the base year at 100, has risen to 349 in March 2022. The RBI's payment systems process more than 260 million digital transactions[32] daily. Visit the PIN Rails site to view the dashboard tracking the evolution of India's payments system.

The growth in retail credit transfers, especially contactless payments, such as UPI, alongside NEFT and IMPS-enabled transfers, has fast-tracked and mainstreamed digital payments for the masses. The value of digital payments as a proportion of the GDP increased from 660% in 2014-15 to 862% in 2018-19, making the shift to digital payments in India clearly perceptible. India is among the few countries like Argentina, Brazil, China, South Korea, Turkey, and the UK, where digital payments have increased as a percentage of the GDP (Figure 6.6).

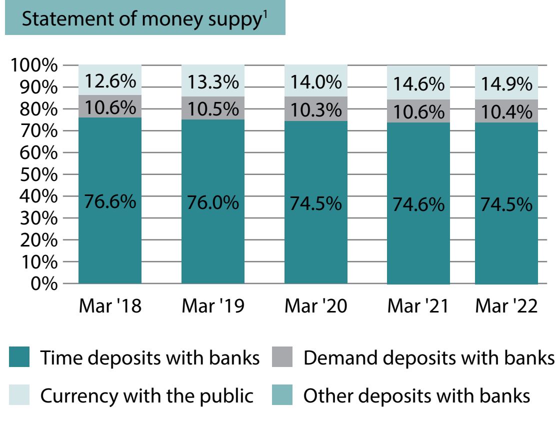
Improvements in payments infrastructure, disruptions in information & communications technology, a conducive policy environment, and a greater focus on customer-centricity have fast-tracked this growth. A combination of factors has aided India's digital revolution, including the increased adoption of smartphones, greater access to the internet, growing comfort with using technology, and improved digital capabilities.

Despite tremendous growth in digital payments, cash and digital payments continue to co-exist due to cash's all-weather acceptance. Users exhibit a strong status quo bias for using cash and lack trust in digital payments, further amplifying this bias. Demand for cash as a 'safe asset' continues to rise amid post-pandemic economic uncertainties, particularly among LMI communities. Currency with the public has grown at a CAGR of 11% in the past five years. The ratio of currency in circulation as a proportion of the GDP touched a new high of 14.9% for FY 2021-22 (Figure 6.7).

Opportunities in the Digital Payments Space

With the COVID-19 pandemic pushing us into a 'new normal', the current trajectory suggests a radical shift in how Indians will use digital payments. The new normal presents significant opportunities for service providers to make digital payments meaningful in users' daily lives.

Targeted interventions with customised use cases across P2B, P2G, P2P, and B2P channels through digital payment solutions, can help address the specific financial needs of the unserved and underserved LMI customer segments. Stakeholders have a considerable upside potential to digitise payments across these four channels[33].



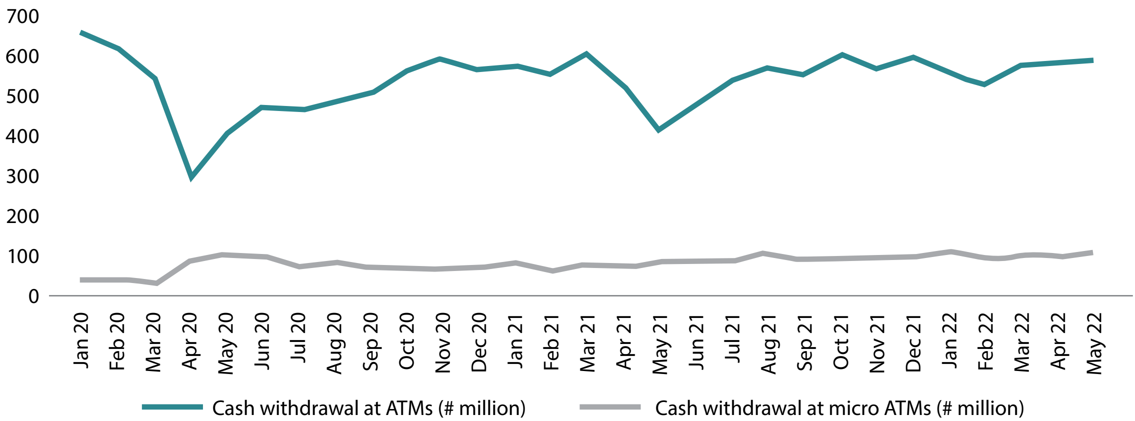


Figure 6.7. Statement of Money Supply and Cash Withdrawal at ATMs And Micro-ATMs
Source: MSC Payments Instruments Rails. https://microsave.net/pin-rails/#home

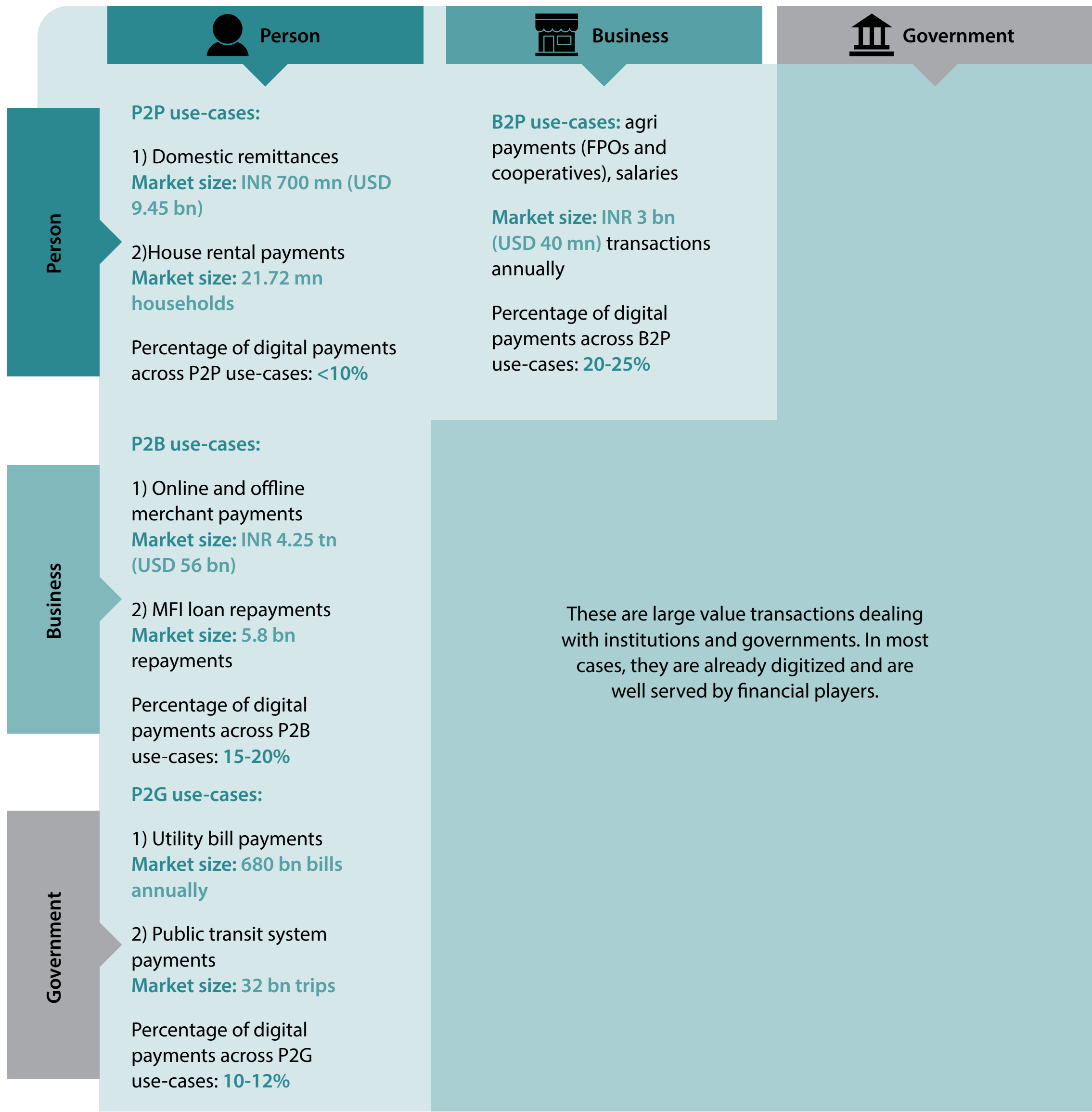


Figure 6.8. Key Retail Payment Use Cases With Potential for Digitisation
Source: How digital payments drive financial inclusion in India (Bhavnani, D. Jain, M. Jena, V. Pathak, A. Menon, S. Sharda, M. (2022).)

Figure 6.8 provides examples of retail payment use cases that are currently underserved and can be impacted.

Promising examples include the digitisation of domestic remittances, house rental payments, cash-on-delivery payments in the e-commerce sector, offline merchant payments, repayment of microfinance loans, recurring payments in agriculture and allied value chains, utility bill payments, and payments in the public transit system.

6.4.2. Credit

Increasing mobile penetration, affordable high-speed internet connectivity, widespread prevalence of the Aadhaar national ID, and bank account penetration are key factors enabling the rapid growth of India's digital ecosystem. In this enabling environment, digital lending is rapidly growing. Estimates indicate digital lending will reach ₹ 280 billion by 2023.

As per RBI's report of the working group on digital lending, including lending through online platforms and mobile apps, banks and non-banking financial companies (NBFCs) have rapidly increased the use of digital channels to disburse loans. Digital lending in India is currently in the form of either balance sheet lending (BSL) or marketplace lending (MPL). Lenders are offering digital credit directly

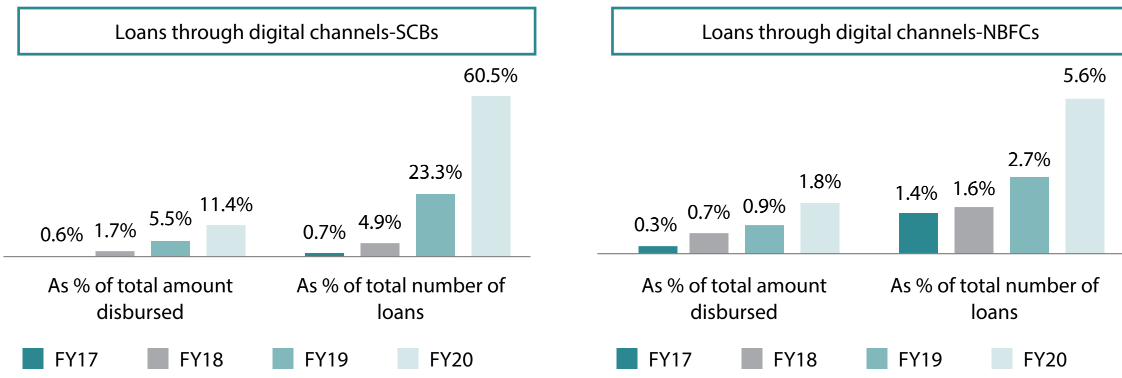


Figure 6.9. Break-Up of Loans Through Digital Channels for SCBs and NBFCs
Source: MSC analysis

to consumers (B2C) via personal loans and small businesses (B2B) in the form of invoice discounting, MSME lending, and PoS-based lending.

Figure 6.9 highlights that the major products disbursed digitally by banks and NBFCs are personal loans and SME loans. Banks and NBFCs disbursed more than 50% of personal loans through digital channels in FY20. The share of SME loans disbursed through digital channels in total disbursement was 16% and 7% for banks and NBFCs, respectively. NBFCs are also disbursing consumer loans through digital channels. Many banks and NBFCs also offer Buy Now Pay Later (BNPL) loans. Regarding loan tenure, most bank loans (87%) disbursed through digital channels were long-term, that is, for more than one year. In contrast, about 77% of digitally disbursed loans of NBFCs were for the short term, that is, for less than one year.

The government and the central bank (RBI) have also taken measures to enable the creation of a marketplace to connect the demand and supply sides. The Open Credit Enablement Network (OCEN), launched in 2020 as a proposed framework of APIs for interaction between lenders, loan service providers, and account aggregators, is already making headways to deliver on its promise. It currently runs pilots with banks like State Bank of India, HDFC Bank and ICICI Bank on the one hand and with FinTechs like JustPay and OK Credit on the other. Once launched, OCEN will connect lenders and marketplaces to use and create innovative financial credit products at scale.

Recent developments have also emerged to protect the demand side from possible unscrupulous practices. The Digital Lenders Association of India (DLAI) developed new guidelines in 2020 to promote responsible lending and ethical collection practices during the COVID-19 pandemic. In August 2022, the Reserve Bank of India issued its first set of Guidelines on Digital Lending based on the recommendations of the Working Group on Digital Lending formed in January 2021. This framework applies to regulated entities (REs) permitted to conduct lending. The central government has shown its intent to protect customers, especially low-income ones who are the most vulnerable to usurious interest rates and fraudulent practices. The Ministry of Finance has asked the RBI to safelist all legal apps so that only these can be hosted on the app stores.

6.4.3. Savings (Short and Long-Term)

At the end of FY 20-21, household savings as a percentage of the GDP stood at 11.6%, up 3.6% from the previous year[34]. This can be attributed to the economic turmoil due to COVID-19, which brought about uncertainty regarding future income and the risk of unemployment. In Q1 FY 22, household savings rose sharply to 14.8% of GDP due to the second wave of the COVID-19 pandemic in India[35].

In Q2 FY22, once the wave eased and economic activity resumed with the promise of vaccination for all, the household savings rate dipped to 6.9% of the GDP[36]. This is the lowest it has been since September 2019. Despite the overall rise in savings compared to the pre-pandemic era, the number of people saving money has reduced over the past few years (Figure 6.10).

The percentage of people who saved any money (aged 15+) is 24% for India compared to the world average of 49%[37] and only 13% saved at a financial institution. The situation is worse for the poorest 40%—only 7% saved at a financial institution[38].

Women are further disadvantaged as they have less access to independent incomes that they could use to save money than men. Despite that, women

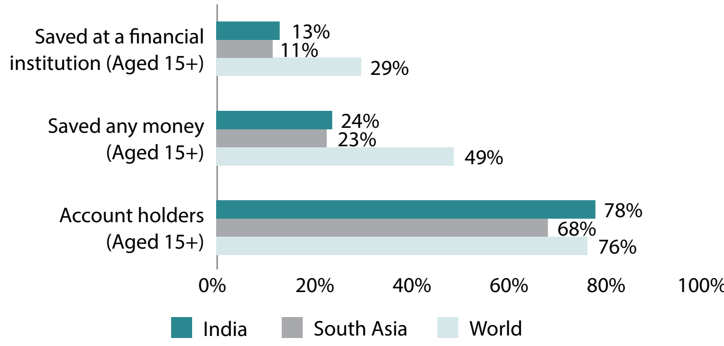


Figure 6.10. Savings Behaviour in India, South Asia and the World
Source: The Global Findex Database 2021

hold a 30% higher average balance than men in PMJDY accounts[39].

A recent study states that public sector banks could attract USD 3 billion in deposits by serving 100 million low-income women alone[40]. Financial institutions have devised innovative ways to use this opportunity through savings products for women.

6.4.4. Insurance and Investments (Pensions, Mutual Funds)

In 2021, the government initiated the Ayushman Bharat Digital Health Mission, which provided digital health identity to facilitate easy access to medical records. When launched fully, the platform will allow easy sharing of medical records with hospitals, clinics, and insurance providers. The share of large hospitals that can provide tertiary care is meagre. The digital health identity can help 'motivate' private hospitals that have stayed away from the Ayushman Bharat—Pradhan Mantri Jan Arogya Yojana (PMJAY), citing low permissible charges, to now contribute actively to the scheme. Table 6.2 provides a snapshot of government-supported life insurance and pension schemes.

In addition, the government-backed Atal Pension Yojana (APY) intends to provide old-age income security to unorganised sector workers. This scheme is available for all savings bank account holders aged between 18 and 40. APY provides guaranteed monthly pensions between ₹1,000 (~USD 12.5) and ₹5,000 (~USD 62) to be given at the age of 60, depending on the policyholder's contributions.

Social security insurance schemes have witnessed year-over-year growth in the number of subscribers (Table 6.3). The performance of PMJJBY and PMSBY has suffered due to the premium ceiling, along with increased operational costs, actuarial performance, and unforeseen events, such as the COVID-19 pandemic. PMJJBY's premium was hiked to ₹436 (~USD 5.5) from ₹330 (~USD 4.1), while it was hiked to ₹20 (~USD 0.25) from ₹330 (~USD 0.15) for PMSBY.

Table 6.2. Snapshot of Government-Supported Life Insurance and Pension Schemes

Particulars	Pradhan Mantri Jeevan Jyoti Bima (PMJJBY)	Pradhan Mantri Suraksha Bima (PMSBY)	Pradhan Mantri Jan Arogya Yojana (PM-JAY)
Coverage	Life cover ₹ 0.2 million (~USD 2,505)	₹ 0.2 million (~USD 2,505) for accidental demise and permanent total disability ₹ 0.1 million (~USD 1,252) for permanent partial disability	Hospitalisation up to ₹ 0.5 million (~USD 6,261)
Individual premium	₹ 436 (~USD 5.5)	₹ 20 (~USD 0.25)	-

Source: extracted from website of Department of Financial Services, GoI.

Table 6.3. The Performance of Jan Suraksha Schemes From the Customer and Provider Perspective

Particulars	Pradhan Mantri Jeevan Jyoti Bima (PMJJBY)	Pradhan Mantri Suraksha Bima (PMSBY)
Premium collected	₹ 97.37 billion (~USD 1.2 bn)	₹ 11.34 billion (~USD 142 mn)
Lives covered	132.3 million	1,089 million
Claims paid (up to March 2022)	₹ 144.44 billion (~USD 1.8 bn)	₹ 2,513 (~USD 315 mn)
Number of claims (up to March 2022)	571,007	336,102
Claim Settlement Ratio (up to Dec 2021)	99.74%	97.67%
Combined ratio (losses and expenses against earned premium) As on March 2022	163.98%	254.71%

Source: extracted from website of Department of Financial Services, GoI.

Under PM-JAY, 171.1 million Ayushman cards have been issued in 33 states and union territories across the country. Till November 2021, the scheme has enabled 24 million hospital admissions worth ₹ 283 billion (~USD 3.54 bn) through a network of approximately 23,000 impanelled healthcare providers.

6.5. KEY OUTSTANDING ISSUES

6.5.1. Access

Cash-in and Cash-Out (CICO) Agents

A typical CICO agent encounters several challenges[41] along their journey, distilled across the six-stage framework called the Agent Life Cycle (ALC), developed by MSC[42] (Figure 6.11). The ALC framework helps organisations delineate agent activities so that targeted interventions can be designed to address specific challenges. Figure 6.12 highlights the challenges across the different CICO agent models.

Challenges around liquidity management, lack of women agents and (most) regulations have their roots in the dirty dozen trust busters undermining agent networks worldwide. Despite these existing challenges, the agents are increasing in number yearly and undercutting each other's margins. With narrowing margins, existing agents fail to expand their business.

Acceptance Infrastructure

The payments acceptance infrastructure in India has improved through various measures taken by the RBI and GOI, including the deployment of a

Figure 6.11. MSC's Agent Life Cycle (ALC) Framework

Source: MSC Global CICO Campaign Catalytic interventions for better CICO management (MSC, 2022)

Traditional agents
- High investment costs, which lengthens the breakeven time period
- Limited product suite (have restrictions imposed from banks)
- Training quality and delivery are inconsistent, resulting in limited training recall
- Agents depend on multiple stakeholders to resolve grievances, increasing TAT for support
- Agents have limited avenues to manage float - overdraft provided is inadequate

BC Sakhi
- Lack of customized processes to recruit and onboard BC Sakhi
- Limited prior exposure to technology or financial services which is not addressed during training
- Knowledge of liquidity management and options available is absent, dependence on family members for support

New-age BCs
- Limited investment in marketing, branding and visibility
- Poor quality of service delivery and liquidity challenges
- Limited incentives for agents to drive their business
- Limited credit to help rotate finances

Payment bank agents
- Limited presence in deep rural geographies
- Inability to reach inaccessible customer segments (e.g. rural women)
- Limited expansion opportunities for agents

Gramin Dak Sevak
- Agents are less inclined to prioritize financial services
- Obsolete training design and dissemination, leading to poor knowledge, especially in case of troubleshooting
- Limited experience with financial services specifically engaging customers
- Network and infrastructure challenges affect transaction experience

Figure 6.12. Challenges Across CICO Agent Models

Source: Predominant Cash-in Cash-out (CICO) models in India (Delhi: MSC, 2022)

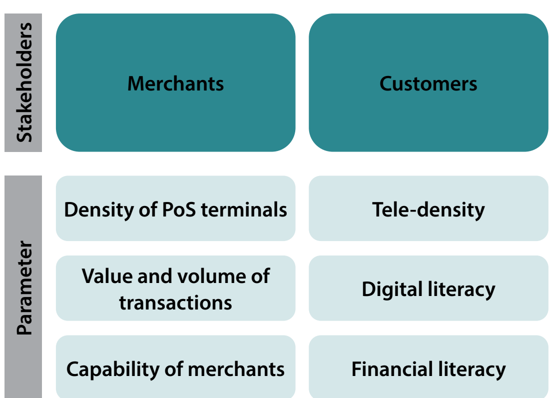


Figure 6.13. Critical Components of Acceptance Infrastructure
Source: MSC analysis

dedicated Payments Infrastructure Development Fund (PIDF) and the launch of PM WANI (Prime Minister Wifi Access Network Interface). However, a report on financial touchpoints per million adult populations[43] shows India lagging in acceptance infrastructure compared to other countries.

The existing financial touchpoints are skewed towards urban regions, as the merchants and LMI segment remain underserved in rural areas. Figure 6.13. showcases the critical components of acceptance infrastructure.

India's digital payments ecosystem excludes more than 80% of the country's merchants[44] due to a shortfall in acceptance infrastructure. The RBI's report on Benchmarking India's Payment Systems[45] highlights this issue. The rise in the density of PoS terminals from 426 people per PoS terminal in 2017 to 296 people per PoS terminal in 2020 needs further acceleration to improve last-mile access to financial services. The high costs of setting up the infrastructure, low volume or value of transactions, recurring charges, and limited understanding and capability of merchants to use digital means restrict the uptake of digital payments.

Rural LMI customer segments are slow to take up digital payments primarily due to low teledensity and limited digital and financial literacy. Wireless teledensity in rural areas remains much lower at 58% than the national level of 83%[46]. The absence of adequate infrastructure leads to higher transaction failures and payment errors, further lowering the acceptance of digital transactions as a safe payment mechanism for the LMI segment. Low levels of financial literacy in rural areas[47] further restrict the uptake of digital payments, especially among women.

Developing offline payment solutions is critical to address demand-side issues in the take-up of digital payments in rural areas. Recent initiatives, such as UPI 123 Pay[48], which offers four payment solutions through feature phones, can provide a suitable alternative in areas with low teledensity. Besides RBI and GOI initiatives, financial service providers are engaging in training initiatives[49] to enhance financial and digital literacy and help improve the uptake of digital financial services among the LMI segment.

Initiatives to address the supply-side issues and increase subsidies to banks under the PIDF[50] scheme will help improve acceptance infrastructure in rural areas by deploying more Point of Sale (PoS) devices, mPoS (mobile PoS) and Quick Response (QR) codes.

Lack of Unified Database and Exclusion

India has separate databases for different programmes. The country lacks a unified and dynamic database that can identify 'who is receiving what' and 'who should be receiving what' at the individual or household level. In the absence of such a database, individuals who are not registered or vulnerable, or both, can remain excluded from one or the other government programme. A unified database would also allow the government to identify and remove ineligible beneficiaries from the system, such as beneficiaries receiving a similar benefit from multiple programmes or in states.

The Ministry of Agriculture and Farmers Welfare is creating a unified and dynamic database of farmers in India. The ministry has finalised the India Digital Ecosystem of Agriculture (IDEA) that details the creation of Agristack in the country[51]. Furthermore, the exclusion of genuine beneficiaries in a government programme can occur at various stages of the programme life cycle, such as beneficiary identification, enrolment process, payment or processing and disbursement of the benefit.

6.5.2. Usage

Digital and Financial Capability

The pandemic might have set the tone for the increased usage of DFS. However, interactions with digital interfaces or the use of sophisticated DFS solutions are demanding for the target segments, such as women, farmers, micro-enterprises, daily wage labourers, and refugees—who often prefer cash-based transactions. Recent data from an MSC study[52] focused on 1,921 female members of collectives in India and found that only 12% of women reported an increase in the use of DFS,

compared to 22% of men. Findings from the study also indicate that only 8.8% of women used ATMs to withdraw money, and just 3.2% of women who owned a smartphone used wallets for other financial transactions.

This inert fear of using DFS is predominant among all first-time DFS users. Moreover, transactions may often fail due to factors, such as poor internet connectivity or application issues. With every failed transaction, these users lose confidence, and it is hard to convince them to keep using DFS. Unfortunately, the Financial Literacy Centres (FLC) have remained archaic and ineffective in addressing these fears.

However, a recently concluded mentor-based digital financial capability (DFC) intervention named 'Jagruti' (piloted by MSC[53] with NITI Aayog's support) has proved highly effective in building confidence among low-income men and women to increase DFS usage. From a supply-side perspective, DFC-specific challenges prevail in the design of multiple interventions. For example, some DFC interventions by design:

i) Lack of an Objective Aligned With the Target Segment's Needs - In some cases, DFC interventions are designed to introduce and measure only a temporary change in user practices or behaviours. For example, some interventions focus only on providing knowledge to help users start using DFS services instead of providing sufficient skills to help users make choices while comparing DFS services.

ii) Are Designed as Single - Dimensional Activities - that become redundant with changes in market environments. For example, due to ongoing cases of fraud, some interventions may focus too much on DFS risk and fraud and thus deter potential users. An effective programme in one location may often fail in another due to variations in digital access or financial needs.

iii) Do not Focus on Pooling Existing Resources or Cross - Learning Among Stakeholders - Some DFC interventions discourage multiple partnerships due to the additional efforts required to manage various stakeholders. The pooling of stakeholder resources like financials, physical and digital infrastructure, outreach and network, the use of each stakeholder's strengths while preventing duplication and inefficiencies lead to more sustainable interventions. Resource sharing can also be achieved by integrating DFC into the design of existing programmes and projects. This will help reduce the cost of implementing DFC interventions and also help build better acceptability of DFC among providers.

Merchant Discount Rate (MDR)

The government aimed to increase the uptake of digital payments and onboard small merchants through zero MDR on RuPay debit cards and UPI from 2019. To compensate banks and payment aggregators for the loss in revenue due to zero MDR, the government announced an incentive scheme[54] to pay a percentage of RuPay debit card and low-value UPI transactions. While the government considers the scheme as an investment towards digital payments infrastructure, it may have a limited impact on the ecosystem. First, the USD 160 million allocation is significantly lower than the industry estimates of loss in revenue from zero MDR[55]. Second, the compensation on RuPay debit card transactions is nearly half the MDR rate typically charged on debit card transactions[56]. Third, the benefits received by payment aggregators depend on the banks, who are the direct recipients of the scheme[57].

The government's plan to link RuPay credit cards to UPI[58] will further test whether zero MDR plays a significant role in increasing the uptake of digital payments. The MDR on UPI transactions through RuPay credit cards is currently in the ideation phase. This linkage would help increase card transactions and provide a use case to monetise UPI transactions. Banks and payment aggregators need to make new agreements with merchants, as, unlike a traditional network, the merchant's consent is implicit while accepting payments through the UPI QR code. Thus, merchants may push back in case of higher uptake of credit transactions through UPI[59].

Grievance Redress Mechanism and Exception Management

Two-way communication remains a weak link in effectively implementing social protection programmes. This includes the government's communication to inform about the scheme and the beneficiaries to register grievances[60]. For example, a national study of Pradhan Mantri Kisan Samman Nidhi Yojana (PM-Kisan) conducted by MSC highlighted that only 11% of the beneficiaries knew of the toll-free number to register their grievances[61]. Only 54% of them have registered their grievances. The significant challenges the beneficiaries face are the availability of a grievance resolution process, awareness of the process to resolve grievances, accessibility to different modes of resolution, and accountability of the system to provide timely resolution.

Equally important is an exception management protocol to handle exceptions during the programme

life cycle and reduce exclusion. For example, in the Public Distribution System (PDS), the government has enabled various exception management options if beneficiaries' Aadhaar authentication fails. These are one-time passwords (OTP) on mobile or iris-based authentication.

6.5.3. Quality

Gender Gap and Lack of Gender-Disaggregated Data

Women fall behind men across several socio-economic indicators, which affect the active usage of financial products and services, strengthening the gender gap. According to the World Economic Forum's Global Gender Gap Report 2021[62], India slipped 28 places to rank 140th in 2021. The gender gap[63] widened from 66.8% in 2020 to 62.5% in 2021. Also, as per the Global Findex report of 2017, about 23% of women in India still lack access to formal financial services, while 55% do not use their bank accounts actively.

More recent data on gender-specific account ownership comes from the AIDIS[64] survey published in September 2021. The survey reports that an average of 81% of women (80.7% rural, 81.3% urban) had a deposit account in banks compared to an average of 88.55% of men (88.1% rural, 89.0% urban)—a gender gap of 7.55% in account ownership in 2021. However, this near-universal access to bank accounts does not translate into their proportional usage, especially by women.

Gender-disaggregated data is critical to improving the country's gender statistics and strengthening the government's efforts to make the schemes more effective. Gender-disaggregated data can reveal the differential impact of policies and programmes on women and men. This enables better allocation of scarce resources to reach those who are being left out.

Most often, policies and development programmes do not consider the existing baseline disparities between men and women in specific indicators and hence cannot ensure gender equality. The National Strategy for Financial Inclusion[65] recommends the availability of consistent, reliable and internationally comparable gender-disaggregated data to help close the gender gap in women's access to formal financial services. It also mentions that understanding regional variations and imbalances in women's access to financial services across the country would also help develop suitable policy interventions to help close the gender gap in financial inclusion.

For example, gender-disaggregated data further disaggregated by geography (state, district, branch level) on the status of accounts on enrollments, the number of accounts, balance in accounts, and the number of RuPay cards issued for PMJDY are not reported publicly. This data point will help categorise the best-performing districts and states on gender indicators in a state and will also boost the low-performing districts and states to do better. The government can also create incentives for states and districts to meet the gender benchmark targets.

Orality and User Interface

Implementing DFS solutions introduces new risks specific to the digital world. One such risk is seen when users interact with non-intuitive interfaces. These complexities can impact the quality of services for vulnerable customer segments as they feel intimidated and apprehensive while interacting with these interfaces. This can lead to financial loss and deter them from using DFS in the future. The illiterate and neo-literate populations in India together form the 'oral' market segment, of which nearly two-thirds are women. As per the 2021 census, around 338 million adults aged 15 or more[66] in India were illiterate, while many millions were 'neo-literate' individuals with very weak reading and writing skills

'Orality' refers to modes of thinking, speaking, and managing information in societies where most people do not know writing and print. Orality encompasses not just speech but a wide range of modes for personal and collective information management that people in oral cultures prefer to text—pictures, tallies, and cash, to apprenticeship, rituals, and song[67]. These ways of communication are known as 'oral information management', and current digital interfaces are yet to incorporate orality[68]. For example:

- The oral population is not expected to read or write text into any interface (ATM, mobile application). So, when a mobile application requires one to enter a digit, it excludes millions of Indians by default. Multiple studies on digital financial service interfaces for illiterates have revealed many such nuances.
- Another difficulty that oral people face is the comprehension of zero and its place value. Our research[69] found that while an illiterate person can understand '4,500' with some difficulty, they almost always fail to comprehend '4,005' or any similar number such as '4,702'. It is worth noting that the FII survey (demand-side survey on access to finance) in Myanmar and Cote d'Ivoire finds a positive correlation between a person's numeracy and access to formal financial services[70].

If these interface-related quality concerns are addressed, it can help increase access to DFS for a range of sub-segments among women, including i) those who depend on male family members or agents to conduct financial transactions on their behalf, and ii) women who limit their usage of DFS to small-ticket transactions due to low confidence. Access to gender-disaggregated data around user experience will help us further increase the quality of financial services with improved intuitive interfaces and experiential learning—not many players are targeting this for now.

Consumer Protection

With rapid advancements in the digital lending landscape and the emergence of new entrants, the need to safeguard the customer's interests has emerged as a growing need. As lenders increasingly rely on third-party FinTech service providers to source and service loans, the risks to customers have grown. These include misselling, breach of data privacy, and unethical business conduct, especially for collections. The RBI has reported a rise in complaints against digital lending apps from January 2020 to March 2021.

Most of these complaints were against entities not regulated by RBI and a few smaller NBFCs with an asset size of less than USD 120 million. As per an RBI report, out of approximately 1,100 lending apps available for Indian Android users across more than 80 application stores, 600 lending apps were illegal. The number of complaints with the Banking Ombudsman (BO) is also increasing, albeit slower. In FY 21, RBI's BO received 341,747 complaints at a year-on-year growth of 11% over FY20 compared to a 66% on-year growth in complaints in FY20. As per the RBI data, the majority of complaints (42.5%) with the BO in FY21 pertained to ATMs or debit cards, mobile and electronic banking, and credit cards.

The RBI is taking numerous measures to safeguard customer interest and address customer complaints. The regulator is creating awareness among customers to register complaints against fraudulent lenders on Sachet. On this online portal, customers can register complaints against fraudulent digital solution providers or unfair practices. Other key measures include the RBI's push to design and roll out the following initiatives:

- 'Fair Practices Code' for banks and NBFCs,
- Code of Conduct to outsource financial services,
- Guidelines on Code of Recovery of outstanding loans for banks,
- Ombudsman Scheme,
- Requirement of Key Fact Statement (KFS) for banks,
- Charter of Customer Rights,
- Guidelines for banks and NBFCs on risks associated with Information Technology, and the
- Consumer Protection Act, 2019.

Digital lending apps are increasingly targeting new-to-credit customers or those in underserved segments. Most of these customers have relatively low financial and digital literacy levels and are prone to fraud. Focused efforts are needed from all stakeholders in the ecosystem, especially from banks and NBFCs, to implement good lending practices that ensure customer protection from fraud and misselling. Digital lenders must also upgrade their IT infrastructure to improve customer service and strengthen cybersecurity features.

6.6. LOOKING FORWARD

6.6.1. Women and DFS

As per Findex[71], 1 billion women lack access to formal financial services due to persistent barriers, such as poor access to identification documents, mobile phones and digital skills. More than 60% of women in India prefer cash to pay[72]. Despite the increasing adoption of UPI, AePS, and prepaid cards among women, supply-side barriers decrease the rate of growth in access to formal financial services. Female customers are more likely to transact with female BC agents[73], but only about 10% of the BC agents in India are women[74].

A stark digital divide drives the gender gap in DFS adoption In India. According to the NFHS 5 survey, on average, less than three out of 10 women in rural India and four out of 10 women in urban India use the internet[75]. Women lack independent access to phones, digital literacy tools, and knowledge of the internet and its benefits. Additionally, women depend more on others for using financial services. According to Findex, women are 5% more likely than men to need help using their mobile money accounts. They have to rely on a family member or a banking agent for assistance in using an account, or they may be more vulnerable to financial abuse. On the supply side, a lack of understanding of women's needs, non-responsive grievance redressal mechanisms, and lack of gender-disaggregated data on the use of DFS and English-dominated digital interfaces hinder adoption.

DFS can reduce the gender gap in account ownership and increase women's use of formal financial services. On the supply side, India needs more female BC agents. BCNMs agree that female BC agents encourage women to become customers by enhancing their comfort levels through better

communication. They would improve the quality of the network as they are less likely to commit fraud. However, recruiting female agents requires more resources and effort. FSPs can adopt a gender-focused strategy, especially during agent identification and recruitment, and provide focused support until the female BC agents become financially sustainable[76].

Providers should create products catering to women-enterprise needs using women-centred design principles. Institutions like Women's World Banking have developed inclusive, iterative and adaptable product development processes using women-centred design principles. Better-served female customers are a ~USD-100 billion opportunity for financial providers in India.

Providers can focus on the SHG ecosystem in India to tap into some of that opportunity. SHGs can be pivotal in driving financial inclusion through the adoption of DFS. NABARD's E-Shakti project offers digital app-based tools to standardise accounts and bring transparency and regularity in its offerings. It is already being implemented with 1.23 million SHGs across 281 districts. Telangana and Odisha governments have collaborated with Facebook for the e-marketing of the products created by SHGs. Several other applications, such as the Bachatgat App, SahaBhagi App, and My SHG, continue to digitise SHGs' processes, reduce TAT, and enable better overall management of the SHGs[77].

6.6.2. DBT

Understanding the Feasibility of Combining DBT Subsidies for Beneficiaries

Combining subsidies provides the GoI with an opportunity to save on the operational and administrative costs of running multiple programs. It will also minimise the inefficiencies that these programs face individually. Universal Basic Income (UBI) can emerge as an approach to replace the current subsidies with a universal subsidy. The Economic Survey 2017-18 discusses the advantages and disadvantages of a UBI[78]. However, such a system will face significant challenges without a unified database and in inter-ministerial and inter-state coordination.

However, an initial approach could be to club various subsidies from a single ministry or department. For example, the Ministry of Agriculture and Farmers Welfare implements 15 schemes under DBT's ambit. The GoI can use the PM-Kisan database to identify and include beneficiaries or wait until the Agristack is developed.

Key Developments Expected Under PFM, Health and Nutrition and WASH

The Government of India supports women and infants through various DBT programs, such as Janani Suraksha Yojana (JSY)[79], Janani Shishu Suraksha Karyakaram (JSSK)[80], and Pradhan Mantri Matru Vandana Yojana (PMMVY)[81] for safe motherhood, to address antenatal & postnatal complications, and reduce maternal and neonatal mortality respectively. Tuberculosis patients receive financial support for their nutrition needs under the Nikshay Poshan Yojana (NPY) of the National Tuberculosis Elimination Programme[82] (NTEP).

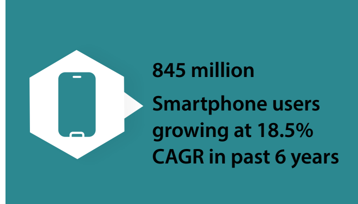
Additionally, the government offers universal health coverage benefits under the PMJAY[83], incentives to Accredited Social Health Activist (ASHA) workers, and free vaccinations for the eligible population under the National COVID-19 Vaccination Programme. In the future, the government intends to expand the scope of some of these programs and offer incentives through DBT to other frontline workers and contract staff.

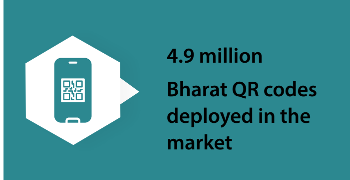
Public Financial Management System (PFMS) is GoI's online financial management system. It records all receipts and payments of the GoI. PFMS integrates with DBT Portal for disbursement and accounting. While significant investment has been made to use JAM, inconsistencies plague the integration, while a centralised beneficiary database remains unavailable. This creates inclusion and exclusion errors, inefficient execution of programs, leakages, and issues while planning for any program. There is an opportunity to build a unified beneficiary registry mapped with family. The beneficiary registry must adhere to the principle of 'single data source'[84] and observability[85].

6.6.3. Payments

QR Code-Based Payments

India has approximately 845 million registered smartphone users[86] (Note: Multiple SIM ownership means that this does not indicate unique users and also includes smart-feature phone users). The number of smartphone users has increased at a CAGR of 18.5%[87] in the past six years, led by developments in the digital infrastructure, increasing affordability of smartphones, low-cost internet, and various government initiatives, among others. QR code-based payments can potentially create significant growth in digital payments, especially among the customer segments with low financial literacy across India.





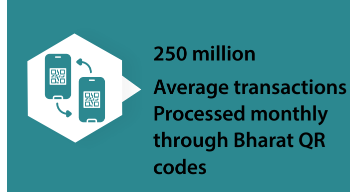


Figure 6.14. Snapshot of the QR Code Ecosystem in India
Source: MSC analysis

QR codes offer an easy on-ramp to digital payments, with low infrastructure requirements, two-way transaction flows, secure transactions, and overall simplicity. So far, QR codes provide multiple use cases in P2P and P2M transactions, such as toll tax payments, payments at grocery stores, mobile app downloads and utility bills, among others. Besides the advantages that QR codes offer, India's regulatory environment is focused on open banking and making all QR codes interoperable to enable customers to pay across different FSPs, wallet players, and other platforms. Currently, about ~4.9 million[88] Bharat QR codes are deployed in the market, through which ~250 million[89] transactions are processed monthly (Figure 6.14).

Alternate Authentication (Iris-Based)

Aadhaar-based payments face high failure rates due to biometric mismatch in the fingerprint authentication mode. Biometric mismatches result from various issues, such as the improper collection of biometrics during Aadhaar enrolment, poor quality of the scanner, foreign material on the scanner, the low fingerprint image quality of the scanned finger, or other authentication errors. The failure rates during COVID were as high as 34%[90] among the total AePS transactions.

In contrast, iris-based authentication provides a safer alternative to fingerprint authentication. It is secure as iris is difficult to forge, hygienic as it is a contactless solution and convenient as it takes fewer attempts to scan compared to fingerprints. Iris-based authentication has a false rejection rate (FRR) of 0.1-0.2%[91] compared to 2-3% for fingerprint authentication. Many banks piloted and used iris devices to reduce failures in Aadhaar-based payments. These include ICICI Bank, Andhra Bank, and Fino Payments Bank. It is time to look at alternate ways of authentication using iris and facial recognition.

UPI 123Pay

UPI's growth, till now, has indicated its mass acceptance among the growing digital middle class of urban India. With record-breaking numbers, it has become the daily choice of payments for digitally savvy Indians in the past two years. UPI123Pay can potentially expand this product to ~400 million feature phone users in rural markets though it will depend on several factors. These include the need for an intuitive interface for target customers with limited digital and numeric literacy, comprehensive marketing and promotion of the product through relevant channels and a robust grievance resolution mechanism, which will be vital in adopting UPI123Pay. Users can initiate payments easily to friends, family, merchants, and pay their utility and bill payments offline. Users can also link bank accounts and set or change their UPI PIN.

UPI123Pay includes four options as below:

i) **App-Based Functionality:** An app would be installed on a feature phone through which several UPI functions, available on smartphones, will also be available.

ii) **Missed Call:** This will allow feature phone users to access their bank account and perform routine transactions, such as receiving and transferring funds, regular purchases, bill payments, etc., by giving a missed call on the number displayed at the merchant outlet. The customer will receive an incoming call to authenticate the transaction by entering their UPI PIN.

iii) **Interactive Voice Response (IVR):** UPI payment through pre-defined IVR numbers would require users to initiate a secured call from their feature phones to a predetermined number and complete UPI onboarding formalities to start making financial transactions without an internet connection.

iv) **Proximity Sound-Based Payments:** This uses sound waves to enable contactless, offline, and proximity data communication on any device.

e-RUPI

In August 2021, NPCI introduced e-RUPI[92] Once implemented, e-RUPI will help subsidy beneficiaries receive their benefits without the hassle. This

focuses on introducing prepaid vouchers that the beneficiaries can redeem at a merchant outlet. The beneficiaries do not need any card, digital payments app or internet banking access as e-RUPI transactions can take place through a simple SMS or QR code.

After its implementation, e-RUPI will serve as a contactless payment and does not require beneficiaries to handle cash or cards, especially those with limited digital and financial literacy. These vouchers can effectively aid beneficiaries and the government in administering G2P payments. e-RUPI's implementation has begun in specific locations of the country for schemes, such as Ayushman Bharat—the country's national health insurance coverage scheme.

6.6.4 Institutions

NPCI and NUE

National Payments Corporation of India (NPCI) currently drives digital payment systems in India. The RBI allowed new players in retail payment systems by establishing guidelines[93] and inviting bids for New Umbrella Entities (NUE) in 2021. NUE provides scope for expanding the digital infrastructure and enhancing retail payment systems but lacks clarity on the revenue model and regulatory guidelines to compete with NPCI[94]. The licensing process has moved slowly due to concerns about data storage, localisation norms and a lack of clarity on the revenue model[95]. Six consortiums of financial institutions, e-commerce entities, and FinTech players have applied for the licence.

FinTechs and Neobanks

The banking industry in recent years has shifted towards a demand-centric approach as financial institutions develop products based on the needs of specific customer segments. FinTechs have been at the forefront of this innovation. They offer flexible products enhanced by the ease of access and availability through technology. Typically, FinTechs in India have worked to onboard customers to facilitate payment transactions, followed by business expansion through product offerings comprising various financial services[96].

However, recent industry trends indicate a shift in FinTech investment from payments to lending and wealth management[97]. The growth of FinTechs in India has enabled neobanks to expand in the market, led primarily by rising adoption by millennials, micro, small and medium enterprises (MSMEs), and underserved segments with sporadic income[98]. By offering a seamless and hyper-personalised customer experience at low costs, neobanks help fill the gap between consumer expectations and the current services provided by traditional banks[99].

India's Neobank market is expected to grow at a three-year CAGR of 50.5% to reach USD 11.65 billion by FY 2025[100]. Neobanks have helped transform the underwriting process to establish customers' credit profiles by using alternate data sources, such as transaction data, social media, and shipping data. Innovations, such as the account aggregator (AA) framework, will further help neobanks' efforts to simplify digital lending[101] through consolidated information on a customer's net worth from a single platform.

The expansion in digital lending by FinTechs and neobanks in India faces two key barriers: competition from traditional banks and regulatory hurdles. Traditional banks have generally been slow to ramp up their digital financial services. Still, major banks (including PSBs) have increased their digital offerings to capture the DFS market outside the payment segment[102]. FinTechs and neobanks may also struggle to compete against traditional banks' extensive customer base and substantial capital. They can use products and services that traditional banks cannot provide to cope with this competition. They can offer spending and saving patterns analysis and design lending products that target underserved segments, among others[103]. RBI's recent guidelines on digital lending, which seek to improve regulatory compliance by FinTechs, would require them to rework their business model. Most FinTechs and neobanks engaged in digital lending in India rely on synthetic securitisation of credit risk[104], which the new guidelines prohibit. Stopping synthetic securitisation could lead to higher compliance costs and compel FinTechs and neobanks to rethink a new strategy.

AgTechs

Over the years, agriculture has typically contributed less than 20% to the GDP[105] while serving as the largest employer comprising 45.6% of India's workforce. The sector provides food security, livelihoods, and supplies to crucial industries of retail, chemicals, packaging, and e-commerce. AgriTech's growth in India has helped address critical issues in agriculture through solutions for farmers to improve access to market linkages, farm inputs and financial services[106]. AgriTech startups in India have grown significantly in the past decade to 1,300 startups with USD 1.6 billion in funding up to 2021.

These startups have benefited smallholder farmers by developing predictive analytics, crop and soil monitoring, better crop cycles and pest

management[107]. Government collaboration through an enabling policy environment has also helped expand AgriTech startups in India. The government announced a dedicated fund to provide capital[108] for startups working on solutions relevant to the farm producers' supply chain. Some state governments have started to work on sharing a repository of agriculture and horticulture data with startups and establishing Agricultural Data Exchanges[109]. Access to digitised land records, fertiliser consumption data, and crop history would enable AgriTechs to develop customised financing solutions for small farmers.

APPENDICES

A.6.1. Performance of Major Digital Products

Aadhaar-Enabled Payment Systems (AePS)

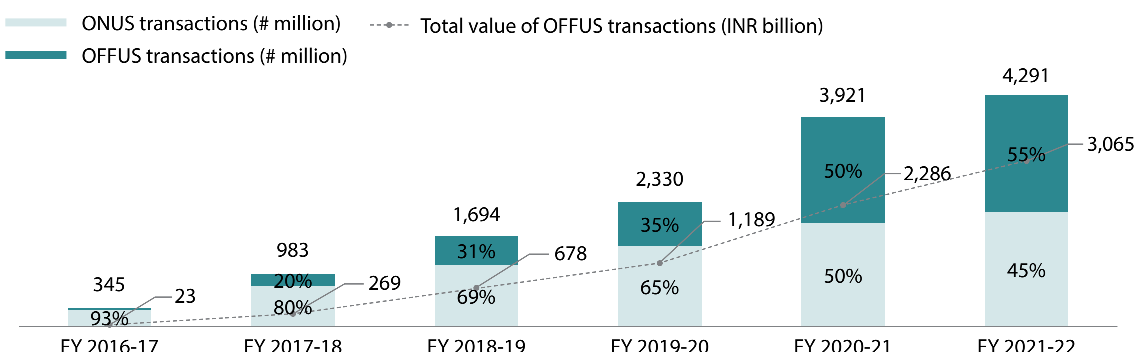


Figure 6.15. Growth in AePS Transactions (number in million, value in ₹ billion)
Source: NPCI product statistics https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics

With ~357 million average monthly transactions[110] in FY 2021-22, Aadhaar Enabled Payment Systems (AePS)[111] has boosted in-cash DBT across rural India. It is prevalent among those who lack smartphones and require assisted access to services. AePS transactions have grown at a CAGR of 34% by volume and 62% by value over the past five years. AePS emerged as a critical cash-out medium for migrants, daily wagers, and other workers in the informal sector, including their families living in rural areas, during the COVID-19 pandemic. Transactions grew considerably to support cash withdrawals that resulted from the domestic remittances and governments' emergency cash transfer programs[112], with an average transaction size of ₹ 757 for FY 2021-22.

BHIM Aadhaar Pay (BAP)

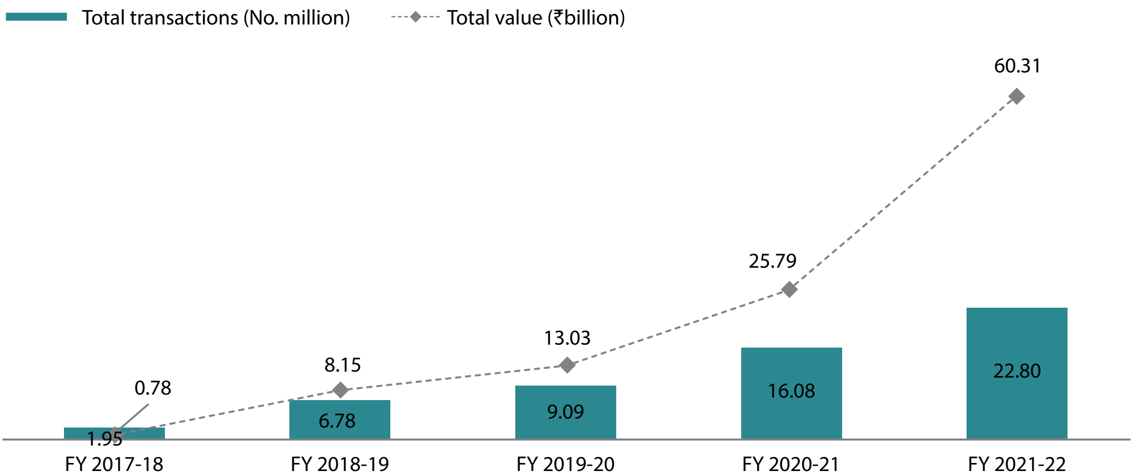


Figure 6.16. Growth in BAP Transactions (number in million, value in ₹ billion)
Source: NPCI BHIM Aadhaar

BHIM Aadhaar Pay[113], the merchant version of AePS, enables merchants to receive digital payments from customers through Aadhaar authentication. BAP transactions have grown rapidly at a CAGR of 70% by volume and 139% by value in the past five years. The average transaction value has steadily

risen from ₹ 481 (~USD 6.5) in FY 2017-18 to ₹ 2,645 (~USD 35.75) in FY 2021-22, which shows people are increasingly using BAP for large ticket-size transactions. Restricted mobility and fear of contracting the virus reduced cash transactions for merchants and increased the adoption of BAP during the pandemic.

Unified Payments Interface (UPI)

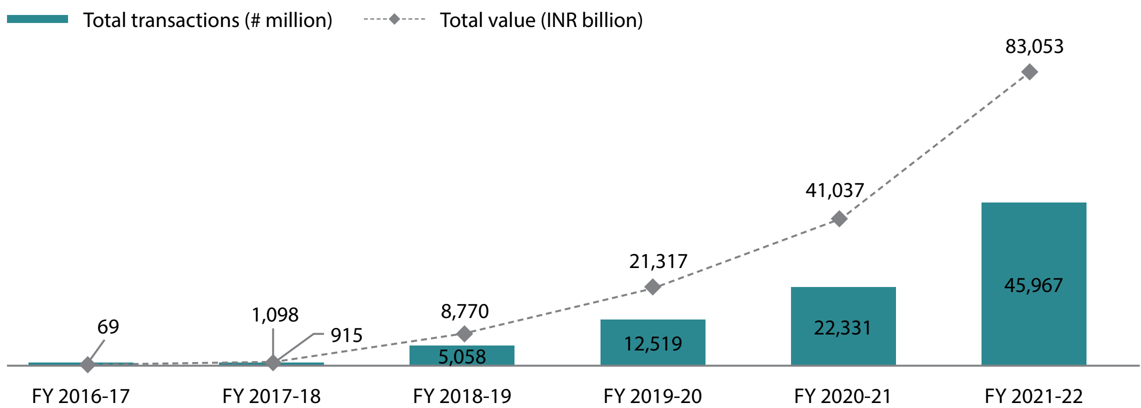


Figure 6.17. Growth in UPI Transactions (number in million, value in ₹ billion)
Source: NPCI product statistics https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics

With 150 million-plus active users[114] and 3.83 billion average monthly transactions[115], UPI drives India's day-to-day digital payments and has become one of the safest and most preferred modes for P2P and P2M transfers. P2P payments account for about 57% of the UPI transactions, while P2M payments account for the remaining 43%. In 2022, NPCI launched UPI123Pay, through which those with feature phones could also use the UPI platform, pointing to further adoption of digital transactions in rural areas where most citizens still do not own smartphones. Global acceptance of UPI has also expanded in recent years. UPI's soft-launched in Singapore in collaboration with NETS. Its rollout is in the advanced stages in South Korea, Bhutan, and the UAE. The most recent partnership includes Lyra Network in France. These initiatives will reinforce the payment alliance between India and partner countries.

Bharat Bill Payment System (BBPS)

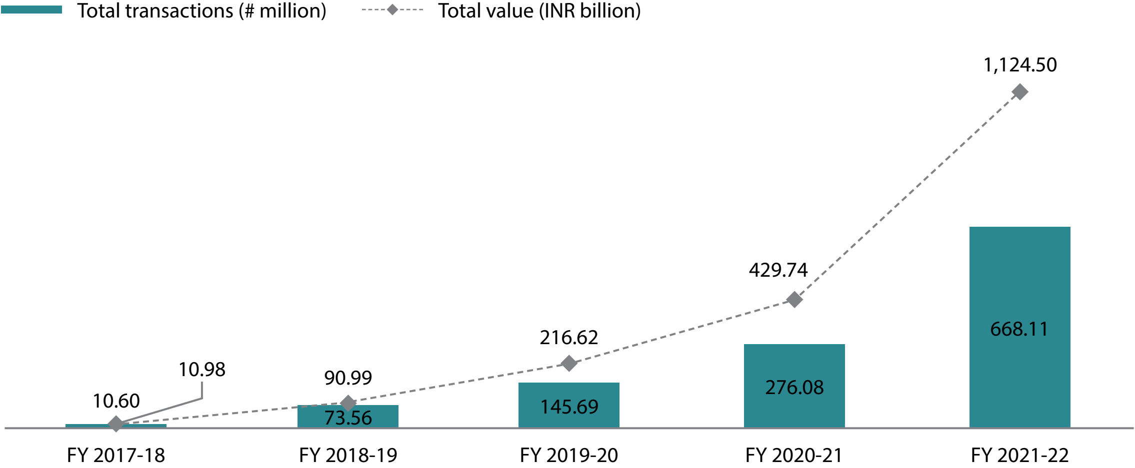


Figure 6.18. Growth in BBPS Transactions (number in million, value in ₹ billion)
Source: NPCI product statistics. https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics

BBPS transactions have grown significantly at a CAGR of 73% by volume and 88% by value in the past four years. The average transaction value has steadily risen from ₹ 1,184 (~USD 16) in FY 2017-18 to ₹ 1,697 (~USD 23) in FY 2021-22, which indicates more customers now prefer to use BBPS for bill payments. BBPS added ~20,416 unique billers by integrating recurring payments in FY 2021-22 across 19 additional categories over utility bills and recharges. These include payment of education fees, loan repayments, insurance premiums, hospital expenses, booking of cooking gas, municipality taxes, subscription fees, FASTag recharge, and credit card bills, among others. In January 2022, BBPS launched the Unified Presentment Management System (UPMS) to ease the process of bill payments for customers. It will automatically fetch the bills from billers and enable customers to set up standing instructions on their recurring bill payments for auto-debit across all channels and modes of digital payments.

RuPay Debit Card

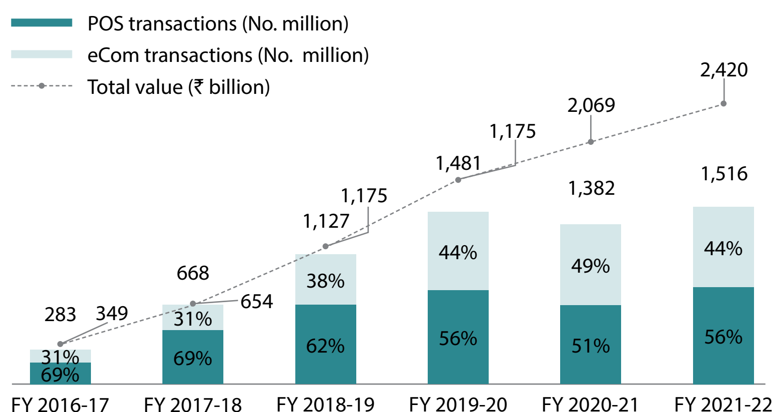


Figure 6.19. Growth in RuPay Debit Card Transactions (number in million, value in ₹ billion)

Source: NPCI RuPay. https://www.npci.org.in/what-we-do/rupay/product-overview

RuPay[116], a home-grown card payment network, offers the value proposition of low processing fees and wide acceptance at ATMs, PoS devices, and e-commerce across India. RuPay's market share in total debit cards issued increased from 17% in 2017 to 60% in 2020, led primarily by issuing RuPay debit cards to PMJDY beneficiaries. RuPay transactions (including PoS and e-commerce) have grown at a CAGR of 17% by volume over the past five years. Merchant payments (offline and online purchases) remain a significant use case for consumers. While RuPay commands 60% of the Indian debit card market, its average transaction value is half the other debit cards. Several factors limit RuPay's uptake, including low active usage, limited use cases, and a poor acceptance infrastructure in rural areas.

A.6.2. Government Savings, Insurance and Pension Scheme

Table 6.4. Pradhan Mantri Jeevan Jyoti Bima Yojana

Year	Lives covered in FY (in million)	Lives covered since the inception (in million)	Growth (in %)	Claims in FY (in '000s)	Number of claims since inception (in '000s)	Increase (in%)
2015-2017	31	31	-	59.1	59.1	-
2017-2018	22.3	53.3	72%	30.6	89.7	52%
2018-2019	5.8	59.1	11%	45.5	135.2	51%
2019-2020	10	69.1	17%	42.9	178.1	32%
2020-2021	33.6	102.7	49%	56.8	234.9	32%
2021-2022	23.8	126.5	23%	336.1	571	143%

Source: extracted from website of department of financial services

Table 6.5. **Pradhan Mantri Suraksha Bima Yojana**

Year	Lives covered in FY (in million)	Lives covered since the inception (in million)	Growth (in %)	Number of claims in FY (in '000s)	Number of claims since inception (in '000s)	Increase (in%)
Till 2017	99.5	99.5		59.1	9.4	
2017-2018	35.3	134.8	35%	7	16.4	74%
2018-2019	19.9	154.7	15%	15.7	32.1	96%
2019-2020	30.7	185.4	20%	7.8	39.9	24%
2020-2021	47.2	232.6	25%	5.5	45.4	14%
2021-2022	49.2	281.8	21%	5.5	50.9	12%

Source: extracted from website of Department of Financial Services, GoI.

Table 6.6. **Atal Pension Yojana**

Year	2015	2016	2017	2018	2019	2020	2021
Number of enrolments (in millions)	1.8	3.7	7.9	13.7	20.6	27.5	36.7

Source: extracted from website of Department of Financial Services, GoI.

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82. Various incentive schemes of NTEP are Nikshay Poshan Yojana (NPY) - To provide nutritional support to TB patients at the time of notification and subsequently during the course of treatment; Transport support for TB patients in notified tribal areas; Incentives for Private Sector Providers and Informants - To provide financial incentives for notification and subsequent follow-up until completion of treatment of TB patients who are diagnosed/treated by the private provider; and Treatment Supporters' honorarium.
83. Ayushman Bharat - PMJAY, a flagship scheme of the Government of India, was launched to achieve the vision of Universal Health Coverage (UHC). It aims to holistically address the healthcare system (covering prevention, promotion and ambulatory care) at the primary, secondary and tertiary level.
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Agritech Innovations: Potential to Drive Green Finance in India?

Hemendra Mathur

7

7.1. BACKGROUND

Climate change is real, with increased occurrences of flood events, droughts and extreme temperatures. Climate change is impacting almost all spheres of the economy, including manufacturing, services and agriculture. A report by Oliver Wyman estimates that losses to financial services firms alone will reach USD 1 trillion on account of climate-related risks[1].

The frequency of droughts, flash floods, and uneven monsoons has increased over a period of time, driving the volatility in agricultural production and commodity prices. If one looks at South Asia – India, Nepal, Myanmar and Bangladesh – there were 232 floods, 129 storms, 48 extreme temperature events and seven droughts in these four countries between 2000 and 2017[2]. These four countries in south Asia account for more than 20% of the world's population, with approximately 1.6 billion people living in this region.

In the last few years, the adjoining areas of the India-Pakistan border witnessed unusually large swarms of locusts causing significant crop damage in both countries. One of the prime reasons for the locust attack is climate change, including an extended rainy season, a change in wind patterns and heightened cyclonic activity in the Indian ocean. While at one end, India and Pakistan witnessed swarms of locust attacks damaging crops, at the other end, we see the honeybee population declining at an alarming rate due to high temperatures and extensive use of chemical pesticides, causing a decline in productivity for many cross-pollinated crops.

Among the various climate-related risks facing Indian agriculture, high dependence on ground and monsoon water for irrigation is a big risk factor. Out of 5,723 groundwater assessment units in India, 839 are over-exploited, and 226 are in a critical state, which can adversely impact the availability of water for millions of farmers[3]. About 80 % of the water consumed in India, estimated at 700 billion cubic meters (BCM), is for agricultural purposes, compared to 55% in China. Indian agriculture also consumes 60% of groundwater resources, where the discharge rate is far higher than the charge rate. It is estimated that 50% of total borewells (about 45 million) will go dry in the next 10 years.

With rising temperatures and unpredictable monsoons, the sowing of crops, crop health and yields are bound to be adversely impacted. This is already showing up in the recent trends in production. The heat wave has reduced India's 2022 wheat production by 4.5% compared to a normal-weather year[4]. In the current Kharif season, farmers delayed sowing many crops, including paddy, because of deficit or delayed rains[5].

The weather risk arising out of climate change is one of the most prominent risks for the sustainability of the agricultural value chain. Both excess and deficient monsoons impact the agricultural output as well as the pricing of commodities. This, in turn, leads to poor farm economics and farmers' inability to pay back loans on time and leaves little cash in the hands of farmers for productive investments.

Almost all sections of society are vulnerable to climate change, but the small and marginal farmers share a disproportionately higher risk. Small and marginal farmers in India, with landholdings of less than two hectares, account for about 85% of the Indian farming population (approximately 120 million). This category of farmers has a huge challenge to derisk themselves from climate change, as do the approximately 450 million 'small-holder' farmers in other parts of the world.

Not only farmers but also processors, distributors, retailers and consumers in the value chain are severely impacted. The deficient monsoon leads to lower production and higher commodity prices. For example, raw material cost is as much as 75% to 85% of the revenue for most MSMEs in the food and agro processing sector, so any spike in raw material prices impacts their ability to buy, utilise capacity and preserve margins.

7.2. ROLE OF INNOVATIONS AND TECHNOLOGY IN DRIVING CLIMATE SOLUTIONS

Solving for climate risk needs a holistic, collaborative approach through policy intervention, catalytic capital and innovation. Above all, innovations are at the fulcrum to bring change. Multiple start-ups and innovators are trying to solve climate risk, adoption and resilience. It is important to note that any innovation, including financial innovations in Indian agriculture, will not scale without a sharper focus on benefitting the small farm holders.

There are three types of innovations from a climate-lens perspective.

7.2.1. Climate Risk Mitigation

Given the vulnerability of small-holder farmers to climate, derisking their income is as important as improving the income. Risk mitigation requires data to model the risk for end users, including farmers and value chain players. The risk modelling is changing with improvements in hardware, availability of cloud storage, the processing power of computers, and the emerging application of deep learning models.

Start-ups in this category can collect precise and timely hyperlocal data and transmit the advisory directly to farmers and the value chain members. Many financial institutions lending to the agriculture sector have adopted these solutions.

Data-centric start-ups with presence in Indian as well as international markets like SatSure, CropIn, RMSI, Satyukt have been able to demonstrate the models on large tracts of farmland covering thousands and millions of hectares using satellite imagery and hyperlocal weather stations; in contrast, ground-truthing startups such as Soilsense, Bharat Agri, Frugal Labs, Plantix, Cultyvate, Yuktix, Fasal are capturing soil, crop or weather data with the use of sensors, IoT, and smartphones for farm advice on the use of the right quantity of water for irrigation, optimal use of fertilisers, the status of crop health and preventive measures to protect crops against weather events and pest attacks. The convergence of these two distinct types of data collection models provides validation and triangulation to drive the accuracy of climate risk prediction for the benefit of farmers and other value chain players.

The data analytics and risk modelling can be accelerated with support and guidance from public institutions such as the Indian Council of Agricultural Research (ICAR), the Indian Space Research Organisation (ISRO), the Indian Meteorological Department (IMD) and state agricultural universities, who have repositories of data available to them. Startups end up spending disproportionate time collecting data which is not their core strength. Availability of data to startups from public institutions for the purpose of training, standardisation and testing their models– through public-private partnerships - is much needed for the development of climate risk mitigation models.

7.2.2. Climate Adaptation

The startups focused on climate adaptation are working on solutions for improving water and soil conservation to make agriculture more productive by improving the input-output ratio. Water use efficiency solutions optimise and regulate the use of water drawn from the ground and surface for irrigation. Soil health improvement solutions to fix NPK (Nitrogen Phosphorus Potash) ratio, deficiency and lack of micronutrients such as Zinc, Copper, and Manganese in soil and continuous decline in organic carbon, microbial count and humus stock for improving the soil fertility. The conservation approaches of water and soil can be complemented by optimising and reducing the use of agrochemicals (estimated at about 60,000 tons per annum in India) with the use of data-driven models, replacement with eco-friendly bio-pesticides, drone application for the spray of agrochemicals and use of integrated pest management. Some examples in this category are:

- Soil testing startups such as Krishitantra, Bhu Parikshak (from Agronxt), SoilSense etc. – provides soil test for macro and micro nutrients, EC, pH, organic carbon etc., with results within 30 minutes
- Borecharger- a low-cost model used for borewell recharging to improve water yield from deeper aquifers
- aQysta – has developed the 'Barsha pump' to use energy from flowing rivers and canals to pump water with zero fuel and electricity use

- EF Polymer- has developed a polymer from bio-waste extracts for increasing water retention in the root zone of crops
- Distinct Horizon- is a startup that developed a machine for deep placement of Urea which reduces urea consumption by 40% as well as helps in reducing GHG emissions with a 10 to 60% increase in crop yield
- AI Genix – is working on the use of artificial intelligence for pest management
- Dharaksha – developing bio-degradable packaging using agricultural waste

For small-holder farmers to adapt climate adaptation solutions, a startup needs to do rigorous validation to establish the credibility of the product and services. Universities and research institutions have an important role to play in the validation process by making their research infrastructure and faculties accessible to startups. Farmer Producer Organisations (FPOs) can be partnered to take these solutions to farmers by educating and training them on climate-resilient practices.

7.2.3. Climate Resilience

The majority of agritech innovations that we see in India in the agricultural supply chain have contributed to making the supply chain transparent, efficient and resilient and thus reducing carbon footprints through demand aggregation, reducing post-harvest losses and shrinkage. For example, many market linkage startups (such as WayCool, FarMart, Farmlink, DeHaat) have brought energy efficiency through demand aggregation, scientific storage of farm produce, temperature-controlled transportation and route optimisation in the supply chain. Some of them are also working directly with farmers to train them on sustainable agriculture practices.

Post-harvest solutions such as dehydration, cold chain, logistics, shelf life improvement and farm-level processing – developed by likes of S4S Technologies, Our Food, Milklane, Promethean, Inficold, Ecozen, New Leaf Dynamics, GreenPod, Tan90, RuKart etc., have also significantly reduced use of energy and fossil fuels.

7.3. ROLE OF AGRITECH IN GREEN FINANCING IN INDIAN AGRICULTURE

Before delving into the opportunity for Green Financing of Indian agriculture, it is important to understand the current status of farmer and value chain financing in the Indian agricultural supply chain.

7.3.1. Status of Farmer Financing and Priority Sector Lending (PSL) in Agriculture

Farmer's access to formal credit continues to be a constant challenge, despite increase in budgetary allocation under PSL for agriculture (approx. INR 18 trillion budgeted for FY22-23)[6]. However, approximately 30% of farmers have access to institutional credit, and the remaining 70% are dependent on informal credit[7].

Small-holder farmers have to depend on informal credit, where the annual interest rate ranges from 24 to 60% in informal credit against 7% under PSL[8]. The exorbitantly high-interest rates charged by local money lenders leave little surplus left with farmers to invest in new technologies.

Bankers are wary of lending to farmers and other value chain players because of the lack of data required for underwriting, lack of market linkages, high transactional cost of lending as well as recovery, along with loan waivers announced by the state governments from time to time, that impact recoveries and credit culture.

7.3.2. Enablers for Green Financing

Green Financing remained more of a concept in the agriculture sector because of a lack of access to accurate and timely data, without which it is not possible to develop such products. Data and digitisation that the Indian agricultural supply chain has seen over the last one decade or so are two core enablers for Green Financing to take off and scale.

A. Access to Data: At the foundational level, 'Farmer identity' and 'Farm identity' are the fundamental data points that bankers need in addition to several other data points for providing crop-linked credit to the farmer. Most banks depend on their branches to collect the data and documents for farmer onboarding. The evolution of agritech has helped capture these data points through alternate channels without necessarily being dependent on the bank's rural branch network.

These two data points also constitute the foundation layer of Agristack, as also covered by the IDEA (Indian Digital Ecosystem for Agriculture) framework developed by the Government of India.

B. Digitisation of Crop Cycle: Post farmer KYC (Know Your Customer) and onboarding, it is important to capture climate-linked parameters such as crop health, input usage, soil health, soil moisture, and estimate of wastage in the post-harvest part of the supply chain for underwriting a Green Finance product.

Underwriting on the basis of climate risks is new to bankers. Any climate-risk related underwriting tool requires digitisation of the underlying assets against which the loan is sanctioned, be it crop standing in the field (for the purpose of crop loans), commodity stored in the warehouse (for the purpose of post-harvest warehouse receipt financing) or the cattle (for the purpose of cattle loans). The asset quality and value, especially in the case of crop loans, can undergo a change in a matter of few hours or days with the change in weather like unseasonal rain, temperature shock etc. The emerging climate risk warrants a more granular and high-frequency digitisation approach for the purpose of risk assessment and mitigation for anyone lending to the sector.

The data and digitisation over the last decade are largely driven by over 2000 agritech startups, who are using digital tools to digitise different parts of the agricultural value chain. The digitisation momentum has picked up with improved broadband and mobile data access in villages and smartphone penetration amongst farmers. The current set of agritech startups has built enough depth to provide data for climate-linked financing for any crop, village or cluster in the country; to make green financing amenable to millions of farmers and value chain players, including input dealers, aggregators, traders, processors and distributors.

7.3.3. Type of Agritech Startups From a Digitisation Perspective

A. Pre-Harvest Digitisation

Any Green Finance product would require historical data, baseline data (at the time of sowing) and harvest data about climate parameters (such as soil moisture, soil health, and organic carbon) during the crop cycle.

Agritech startups digitising the supply chain include startups who are using images captured from satellites (e.g., SatSure, CropIn, RMSI, GreenSat, Dvara E Registry), deploying weather stations for hyperlocal data (e.g., WRMS, Skymet), using drones, sensors & IoT devices installed in the field (e.g., Frugal Labs, Fyllo, Yuktix, Fasal), using images from smartphones (e.g., Plantix, CropDoctor), use of spectroscopy technology (e.g., Agnext, Raav Tech, InfyuLabs), using blockchain, traceability and tagging solutions (e.g., BWS, Tracex, SourceTrace) to capture data about hyperlocal weather parameters, land boundaries, soil and plant health, quality assessment parameters which can help bankers assess, monitor and mitigate risks for the purpose of underwriting green loans.

B. Post-Harvest Digitisation

Post-harvest usage of energy, resources and wastages can help build climate-linked financing products, which also needs to be corroborated with data.

Post-harvest agritech players are enabling financing for the storage of agricultural commodities through a partnership with banks or by launching their own financing vehicles to lend against the warehouse receipts. Some examples of startups in this category are Arya.ag, Origo, Star Agri, NCML, NBHC, Ergos. Almost all the post-harvest supply-chain-focused startups are in the process of adding a digital layer to the physical infrastructure to digitise the entire process from farmer scouting, stock arrival, weighing, quality assaying, receipt and pledge generation in order to make loan disbursal efficient without bankers necessarily doing a physical check, visit or audit of the stocks at the warehouse. Warehouse receipt financing is a classic used case of blockchain application to track and trace stock, as demonstrated by startups like Whrrl. These startups can capture and generate necessary data for developing Green Financing products as well.

C. Digitisation of Ancillary Industries

Livestock, especially cattle, are also big contributors to GHG emissions. Many fintech innovations in the livestock sector for working capital or cattle financing can potentially be pivoted to build climate-linked financing products.

Livestock-oriented startups, including the ones developing solutions in dairy, fisheries, aqua and poultry, are working on solutions to provide working capital loans for the purchase of feed, equipment, processing etc., as well as asset loans (especially in case of cattle). Stellapps, Numer8, Moofarms, Dvara E-dairy, Aquaconnect, DGV are some of the startups that are developing platforms to enable lending to livestock farmers.

D. Startups Creating Farm-Level Infrastructure

There are startups creating farm assets, especially the ones developing and installing low-CapEx processing storage, sorting, grading, packing units, cold rooms, bulk and instant milk chillers etc. (typically farm-level assets costing less than USD 10,000), which is necessary to reduce wastage as well as preserve the quality of agricultural produce. These startups are good candidates for receiving grants, equity, and loans linked to green financing. Many of these startups are also in the process of digitising their operations, and the data generated

can be used for building and implementing Green Financing products for Capex and Opex financing.

Some of the Startups in this category include S4S Technologies, Sickle Innovation, Our Food, Inficold, Promethean, Ecozen, Takachar.

7.4. ENABLERS FOR SCALING GREEN FINANCING THROUGH AGRITECH PLAYERS

Agritech in India is about a decade old solving multi-dimensional problems of farmers' access to markets, inputs, data, and financing. For agritech players to build and scale the business model around Green Financing, they would need catalytic effort, collaborations and partnerships. Some of the key enablers are discussed below:

7.4.1. Farmer Engagement and Education

Most Agritech players who have built supply chain tech-enabled solutions (including farm-to-fork and direct-to-farm models) have the opportunity to work and engage with farmers throughout the crop cycle, from sowing to harvest. The engagement is less in staples and more frequent in case of horticulture farmers due to short duration crop cycles and much more frequent in care of dairy, egg or fisheries supply chain because of daily collection of the produce.

Through an agritech startup, there is an opportunity to work with farmers through the entire crop cycle from the time of selling inputs, purchasing output, providing extension services and facilitating loans and insurance products. Financing is one of the key anchors for perennial engagement with farmers, as demonstrated by the high stickiness of village-level Arhtiyas (local money lenders) with the farmers. The farmer engagement platforms created by agri-techs can be used to educate farmers about climate-resilient practices and implement climate financing products for farmers.

7.4.2. Agritech Startups' Partnership With Banks

Banks find it difficult to integrate the new-age solutions developed by startups in their decade-old legacy systems, software and processes used for farmer onboarding, loan approval, processing of documents, disbursement of loans and collection. Banks face this problem with agritech as well as with fintech solution providers.

Also, most agritech startups are not in a position to provide holistic solutions for the entire loan cycle. The startups providing data for underwriting have no role to play in loan recovery. Banks find it difficult to deal with a number of startups providing solutions in parts for the loan cycle. Many banks do not see enough potential for scale in terms of ability of these solutions to add new farmer accounts and/or increase the amount of loan sanctioned per farmer. Demonstration in the scale of financing is crucial for banks to get excited about the adoption of new-age agri-fintech solutions, especially for new and unproven products. Green Financing products would fall into this category.

Many startups have the capability to design and develop Green Financing products, but they need partnerships with NBFCs and banks to make these products available to farmers. Bank's partnership with agrietch is key in co-developing and piloting this solution. Any agri-fintech solution cannot scale and prosper without active support and participation from mainstream public and private sector banks.

In the month of September 2021, the State Bank of India (SBI) released an RFP (request for proposal) for agritech startups to become Business Correspondents (BC) for the purpose of sourcing, servicing and collection of agri and micro-loans. This was a unique initiative by SBI launching a programme for partnering with startups for creating alternative channels to reach out to a larger number of farmers, reducing transactional costs in the loan lifecycle.

There are other public and private banks, such as Bank of Baroda, ICICI Bank, HDFC Bank, Kotak bank, Yes Bank, RBL bank and IndusInd Bank, who are also partnering with Agri startups to build innovative ways of farmer and value chain financing. These pilots and partnerships will pave the way for developing and executing green financing products.

7.4.3. Growing Equity Base of Agritech

With the growing investors' interest and capital infusion (approx. USD 2.5 billion in the last 36 months out of a cumulative USD 3 billion in the last twelve years) by Venture Capital funds, many agritech startups have developed strong equity base in order to leverage it for developing Green Financing solutions. Irrespective of their intent or ability to launch and manage NBFC, the startups' balance sheet health can drive banking partnerships for loan facilitation. Even investors investing in agritech are keen to invest in climate tech startups.

7.4.4. Need for Guarantee Funds and Blended Finance

Most banks insist on guarantees while approving credit lines to agritech startups for further financing to farmers and the value chain. The FLDG (First

Loss Default Guarantee) typically range from 20% to 50% of the loan amount. FLDG means a guarantee to cover the losses to a certain extent. For example, 20% FLDG would mean that the first 20% losses would be covered by the startup and then any further loss would be borne by the bank. Banks insist on FLDG while providing credit lines to startups to lend further. This is a common requirement in any innovative financing product.

Most startups, especially those undercapitalised or lacking funds, find it hard to give FLDG. There are some institutions like Rabobank that are launching guarantee funds to scale innovative models of financing to derisk funding for bankers to agri startups. However, there is a need for widespread participation from DFIs, multi-laterals, foundations in designing and launching guarantee structures.

7.4.5 Nurturing Talent for Developing and Executing Green Financing Products

The talent for underwriting risk on the basis of technology solutions is missing amongst most mature agritech startups that are pivoting to agri-fintech. Some of them have tried lending from their own books, but it could not scale. Bankers have underwriting skills but do not have experience in data collection, analytics, risk modelling for climate financing. We need institutions to create a talent pool specialised in Green Financing, especially focusing on integrating technology and financing courses.

7.5. POLICY PERSPECTIVE ON CLIMATE AND GREEN FINANCING PRODUCTS

Though innovations are important in solving climate risks, there is a need for a strong policy push to drive climate-linked financing. Some of the possible action points are as follows:

7.5.1. Climate Risk Index (CRI) for the Country

Policies should create awareness and sensitivity to emerging climate risks among the farming community to improve adoption. This is possible through farmers' education, training and capacity building about the subject. Policymakers can conceive and institutionalise the Climate Risk Index (CRI) of all 600,000-plus villages in India - or at least start with CRI for all 15 agro-climatic zones.

CRI can facilitate calibrating the farmer support programmes from the government, PSL lending rate by banks, loan waiver management and deciding on insurance premiums. There is enough technology and data analytics available (specifically from weather stations and satellite imagery) to capture, analyse and build a robust CRI.

7.5.2. Crop Rotation Policy

There is a need to push demand for resource-efficient crops such as millet and shift cropping areas from water-intensive crops like sugarcane and paddy to other climate-resilient crops. There is a need to create economic incentives for farmers, which could be in the form of Minimum Support Price (MSP), procurement support and preferential lending rates for such crops.

7.5.3. Driving Investments for Climate Resilience

There is an opportunity in waiting for investors to invest in business models solving climate risks and driving climate adaptation in the agriculture sector. Climate-linked capital will lead to resource optimisation and productivity improvement and, in the process, will generate value and returns for the investors. It is about re-orienting investors' mindsets to drive climate resilience and unit economics.

7.5.4. Incentives for Farmers

Most farmers, especially small-holder farmers, would need financial incentives to shift from existing practices to adopting new technologies for smart irrigation, soil and water conservation, building water ponds, sowing drought-tolerant seeds, and using integrated pest/nutrient management techniques. These financial incentives can bring behavioural shifts among farmers and change their approach to using natural resources such as water, soil and nutrients. These incentives can be built into crop loans, insurance and post-harvest loans.

The combination of policy, investments, catalytic capital, blended finance and innovations has the potential to solve for climate challenges facing Indian agriculture. Government, policymakers, industry, funds, investors and startups have to work together to build long-term and ever-lasting solutions to make Indian agriculture climate resilient and sustainable.

7.6. FRAMEWORK FOR ENGAGEMENT

For Green Financing to take off and scale, we need engagement between three types of stakeholders:

1. Value chain stakeholders – especially farmers, FPOs, input suppliers, processors, distributors, retailers and consumers
2. Policymakers and financial institutions –

the central and state governments, local administrations, Banks, NBFCs, Multilaterals

3. Agritech startups – who can work with other stakeholders to provide information and a risk management platform.

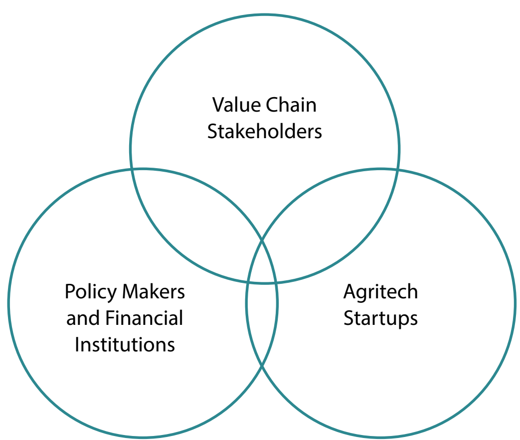

Figure 7.1. Stakeholder Engagement for Green Financing

Agritech strartups can develop an Information and Risk Management platform for climate-linked data collection and provide analytics for risk assessment, management and mitigation. The government can drive enabling policies to achieve climate goals and build sandboxes to pilot innovative models. Government can also initiate a catalytic Agriculture Sustainability Fund to develop climate risk mitigation tools, technologies and infrastructure in partnership with bankers and startups. Bankers and financial institutions can provide farmer and value chain financing modelling risks and rewards basis the data from agritech start-ups.

7.7. CONCLUSION

It's very timely to see an upswing in climate-solving innovations developed by young entrepreneurs for climate risk mitigation, adaptation and resilience. Climate-linked financing and insurance products need a lot of integration of technology for these models to scale. There is a need to build a strong public ecosystem and policy support for climate-solving agritech startups like the kind of interventions we see in other climate risk-related areas such as electric vehicles, mobility and pollution-tech.

Financial inclusion has already been demonstrated to some extent in Indian agriculture by some of these startups. Now is the time to evangelise and demonstrate 'financial innovation' to tap the opportunity in climate-lined financing to help realise Indian agriculture's true potential and make it more sustainable.

There is a huge opportunity for investors to invest in business models solving climate risks. In the last decade, we saw a significant infusion of impact capital to build an agritech ecosystem from scratch to its current state of vibrancy. It's time to build momentum for an infusion of 'climate capital' to conserve natural resources for making agriculture sustainable in the long term.

END NOTES

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Partnering for Climate Resilience:
Funding the WASH Sector

Henrietta Isaac

8

8.1. THE BACKGROUND

After the severe drought in 1966, India worked to find water for its people on a war scale. The country has come a long way from there, thanks to the contribution of International Agencies, notably the United Nations and United Nations International Children's Education Fund (UNICEF), which brought in hand pumps for community water supply and promoted handwash.

According to UNICEF, in 2015, about half of India's population, that is 568 million people, which accounted for 90% of the population in South Asia, defecated in the open. Interestingly India, with 26% of the global population, had a 60% share in global open defecation[1]. This had serious implications in the form of poor health, diarrheal deaths and stunting in children[2]. 38% of children in India are stunted, according to the National Family Health Survey 2015-16.

Access to safe water, sanitation and hygiene is a fundamental human right, according to the UN. Making them available to every individual would be essential in an inclusive society that gives everyone the right to health, well-being and dignity. Financing Water, Sanitation and Hygiene (WASH) through various channels enables the different segments of the population, particularly the low-income group and economically weaker sections gain access to these basic needs.

8.2. PROGRESS MADE

In 2014, the Government of India launched the ambitious Swacch Bharat Mission (SBM), following several schemes in the past, aimed at making India Open Defecation Free (ODF) by 2019. A total budget of USD 21 billion was set aside for rural sanitation and USD 3 billion for urban sanitation.

Out of this, 60% was set aside as incentives for Individual Household Latrines (IHHL), 8% for Information Education and Communication (IEC) and 27% for SLWM (Solid and Liquid Waste Management) to Gram Panchayats. Apart from this, USD 1.5 billion was available from the World Bank, more than 80% of which was linked to reducing

Table 8.1. Utilisation of the Main Components in SBM

SBM Component	2014-15 (6 Months)	2015-16	2016-17	Total	Total Expenditure (in USD million)
Toilet incentive (IHHL)	90.7	97.0	97.9	96.6	4.980
IEC	3.7	1.2	0.3	1.1	56
SLWM	1.2	0.5	0.4	0.5	28
Administration	1.5	0.6	0.2	0.7	26
Other	2.9	0.7	1.3	1.0	65
Total	100.0	100.0	100.0	100.0	5,155
Total (USD million)	663	1,948	2,543	5,155	-

Source: Public Finance at Scale for Rural Sanitation (Mehta M 2018)

open defecation and sustaining the ODF status in villages. However, with the increased funds for sanitation, funds for rural drinking water decreased.

The utilisation of funds under the Swacch Bharath Mission – Grameen (SBM-G) upto 2017 was as provided in Table 8.1.

The government also mobilised corporate funds and raised about USD 118 million under Swacch Bharat Kosh (SBK). Besides, corporates partnered with the government through the Indian Sanitation Coalition (ISC) set up by the Federation of Indian Chambers of Commerce and Industry (FICCI) to achieve SBM goals. According to the ISC, the CSR spend on sanitation for the last two years alone was roughly to the tune of ₹ 30 billion.

In the last 15 years, water.org, through its partners, has been responsible for 2.5 million loans over 23 states, amounting to ₹35 billion (Approximately USD 500 million), enabling 110 million people to access water and sanitation in their own homes[3]. When credit financing was conceptualised and started, it was laughed at since people were so used to having everything subsidy-based, according to FINISH Society. Clearly, there has been a paradigm shift, with households ready to borrow for Water, Sanitation and Hygiene (WASH). Self Help Groups (SHGs) and Joint Liability Groups (JLGs) have been mobilised to spread the message.

Together, all of this has led to the construction of somewhere around 90 million toilets, and India has been declared Open Defecation Free (ODF).

8.3. CLIMATE CHANGE: THE NEW PARADIGM

Access to water and climate change are intertwined. Climate change is increasingly putting undue pressure on already stressed water resources, especially endangering the life and health of vulnerable populations. Water also has human rights dimensions, which could impact the ability of people to live a life of dignity. Floods and the risk of water scarcity due to climate change have added a sense of urgency to WASH initiatives. Besides, the incremental cost of ensuring that new water and sanitation facilities are resilient to climate change is estimated to be between USD 0.9 billion and USD 2.3 billion a year, which is around 1% of baseline investment needs for infrastructure and could potentially reduce the risk of damage to the new facility by 50%[4].

World Water Week in Stockholm in August 2022 drew attention to issues related to water on the theme 'Seeing the unseen – the value of water'. It brought much-deserved attention to innovations and investments in the area of water, reiterating the fact that while there were solutions, radical changes needed to be made. The focus is now on the entire water cycle from 'source to sea', and going forward; all decisions are to be made in light of the importance of water and the need to protect it. Financial constraints were the biggest challenge in addressing water-related issues. According to the UN Environment Program, at the UN Climate Conference (COP 27) in Egypt in 2022, a range of governments and development agencies pledged USD 230 million to help vulnerable communities around the world adapt to climate change[5], which could be tapped into for building climate resilient WASH solutions.

8.4. DISSECTING THE WASH SPACE

Here's a look at the various components under WASH, although in the last few years, it has come to refer to the building of toilets.

8.4.1. Sanitation and Hygiene

According to a UNICEF Report (2018)[6], the focus since 2018 has been on high-burden states, specifically Uttar Pradesh and Bihar, which accounted for the largest number of open defecators - about 120 million. Besides, some areas, like hilly regions, require customised sanitation solutions and are yet to be reached. The focus has now moved to the sustainability of ODF as well.

UNICEF, in its report, also mentioned the need to focus on scaling up WASH in School programs – extending it to pre-schools, Anganwadis and health facilities, which would a) introduce WASH to the next generation and b) through the programs, reach the parents, staff and surrounding communities as well. According to the Joint Monitoring Plan report in 2018[7], only 69% of schools had drinking water, and 78.4% of schools had usable and segregated toilets. Only 54.4% of schools had handwashing facilities with water and soap. This included cash-starved low-fee private schools. Unfortunately, the Universal District Information System for Education (UDISE) does not include hygiene-related elements.

While institutional sanitation facilities can be funded using Public Private Partnerships or CSR funds, private school infrastructure can be funded through Bank loans.

8.4.2. Solid and Liquid Waste Management (SLWM)

According to the Circularity Gap Report of 2021[8], our linear economy is steering us towards a 3 – 6%

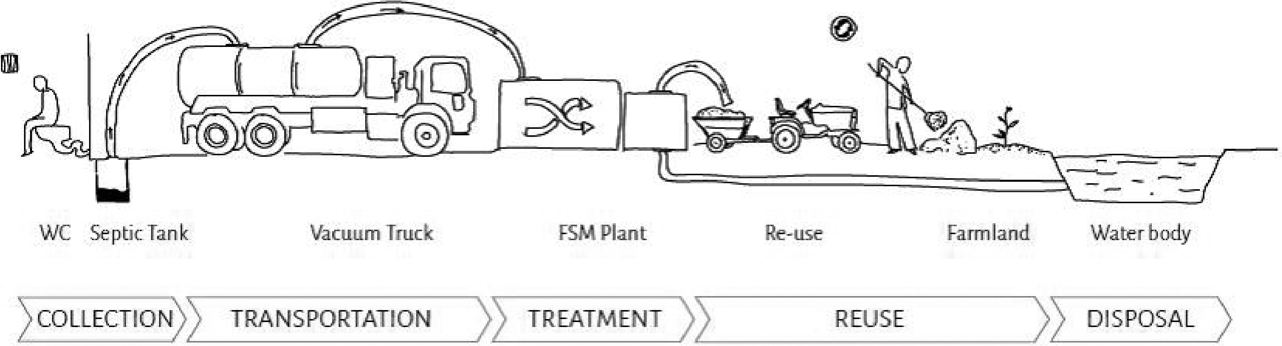

Figure 8.1. Sanitation and Liquid Waste Management Chain
Source: Centre for Policy Research, 2015

increase in temperature. Based on data from Census 2011, the Centre for Policy Research[9] estimated that about 80% of septage and wastewater generated in rural India and about 90% of the wastewater generated in Urban India is discharged into the atmosphere untreated, creating health hazards for the entire population. In countries like Israel, nearly 87% of wastewater is treated and reused[10]. Treating and reusing solid and liquid waste is essentially closing the loop on the Circular Economy.

Compliance with SDG (sustainable development goals) goals involves implementing the entire sanitation cycle, including safe Faecal Sludge Management (SFM). When properly implemented, twin pit toilets coupled with kitchen gardens for grey water use take care of the safe disposal of waste in rural areas. Unlike toilet construction, SLWM will require more technical inputs that will need to come from private enterprises. SLWM will be a bigger problem in urban areas and smaller towns that are densely populated.

Figure 8.1 depicts how a Faecal Waste Management chain looks. While many existing Faecal Sludge Management centres are operating at lower levels than necessary, treated faecal matter combined with organic waste could be used for co-composting and monetised[11]. The lack of policy and funding around this area has led to treated waste lying unused, except in some pockets like Nilgiris, where farmers are co-composting, according to FINISH Society.

The Solid Waste Management Chain is somewhat similar, although more labour-intensive. Segregation at source is an important aspect that is unfortunately still not fully implemented, leading to risks of infection and injury to segregators, apart from improper disposal in landfills. In several municipalities, dried leaves and papers are still burnt, adding to greenhouse gases. According to the report by the Centre for Policy Research, processes for solid waste treatment are composting, vermicomposting, incineration, fuel pelletisation, bio methanation and power generation.

Private enterprises could bring innovative and efficient solutions in this area while generating income. These are low-risk projects and could help build confidence among funders in the sector. Based on their size and returns, parts of this chain can be funded by MFIs, commercial loans or blended finance.

8.4.3. Groundwater Management

According to the UN World Water Report 2022[12], groundwater holds 99% of the world's fresh water and already provides half of the water used for domestic purposes by the population of the world. It has the potential to be an affordable means of access to water in remote rural areas. However, because it is out of sight and therefore out of mind, it tends to be misused, abused and depleted.

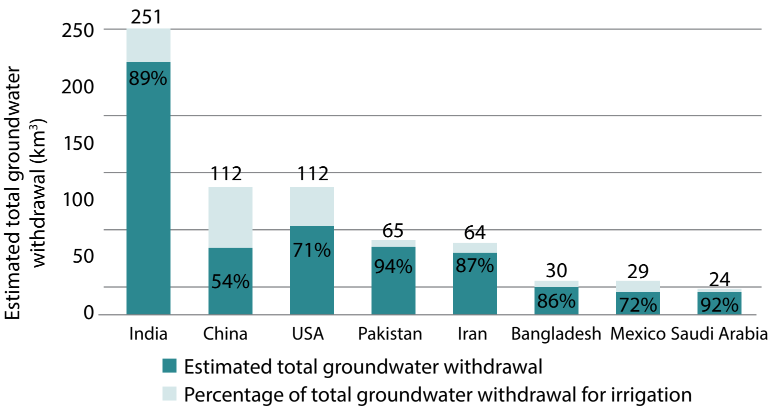

Figure 8.2. Country-Wise Groundwater Withdrawal
Source: UN World Water Development Report 2022
(https://www.unwater.org/publications/un-world-water-development-report-2022)

As can be seen from the Figure 8.2, India is the largest user of groundwater in the world, using around 251 km3 of groundwater annually, 89% of which goes into agriculture. Indiscriminate use of water leads to depletion, especially in semi-arid regions where recharge is difficult.

Apart from agriculture and household use, groundwater is also used by industries for washing their machines and facilities, which results in contaminated water being sent back into the ground. Nitrates found in pesticides and residue from insecticides and fungicides also pollute groundwater, rendering it carcinogenic and toxic – a major area of concern in this country, where it is not uncommon to find arsenic in groundwater due to drilling very deep. Improperly designed or built household sanitation solutions, which could discharge waste into the water table, are not given the serious consideration that is due.

According to the Joint Monitoring Program 2017[14], the economic burden due to waterborne diseases in India is about USD 600 million a year. Niti Aayog's report in 2018 states 70% of India's groundwater is contaminated[15]. Unfortunately, groundwater contamination is irreversible. By virtue of its universal nature, groundwater influences not just SDG 6 but 12 and 13 as well. (UN World Water Report 2022).

Groundwater recharge can be through rainwater harvesting. According to statistics from the Central Water Commission, although India receives a rainfall of 4000 billion cubic meters annually, only 8% of it is captured. Rainwater harvesting (RWH) could make a significant difference in the

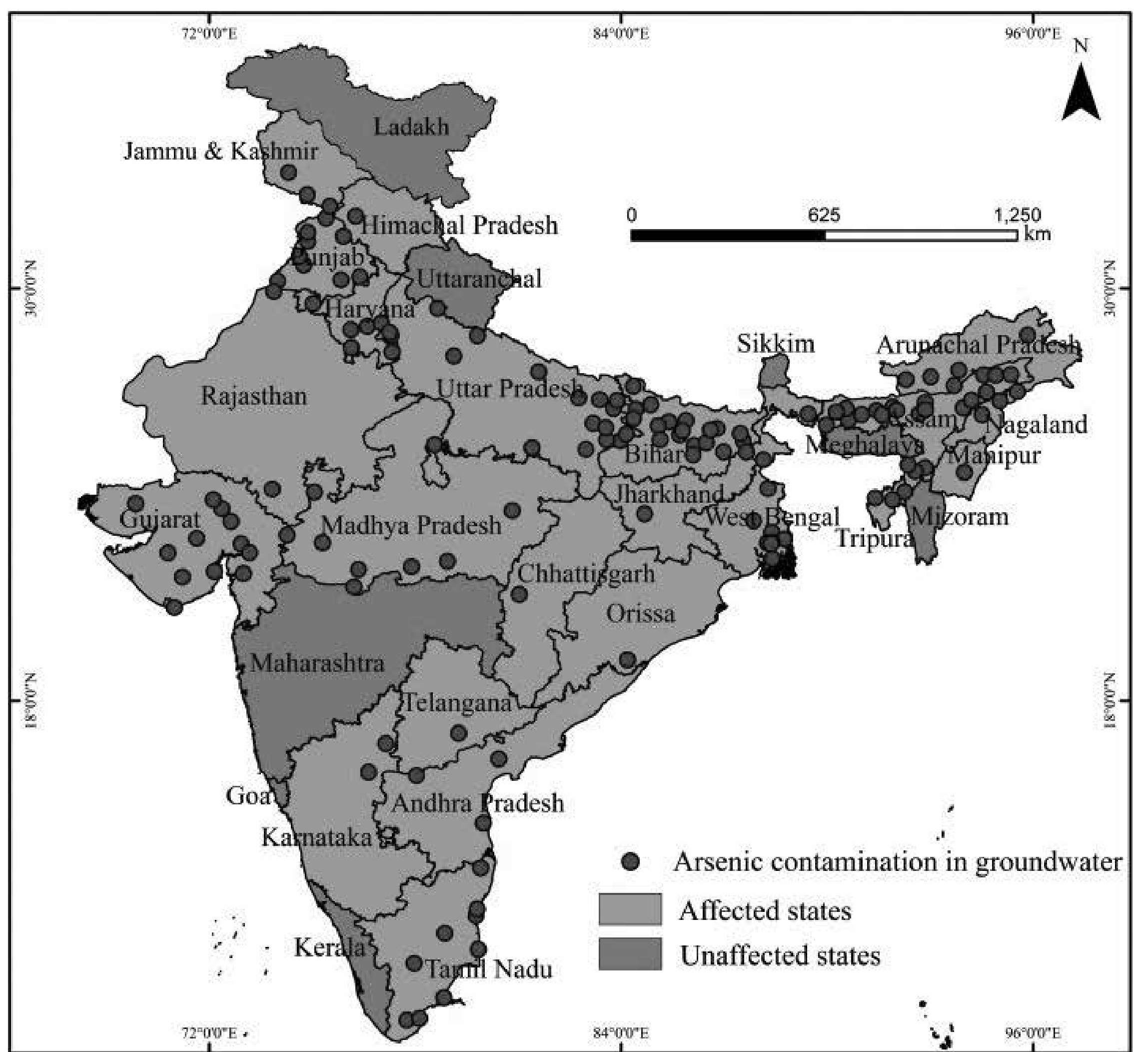

Figure 8.3. Prevalence of Arsenic Contamination in Groundwater

Source: Arsenic contamination of groundwater: A global synopsis with focus on the Indian Peninsula[13]

groundwater situation in the country and can be done at the household level as well. However, in spite of regulation and incentives, the uptake of loans for household Rainwater harvesting has been low. RWH could be integrated into new house construction or home improvement projects to increase uptake. In a partnership between Habitat for Humanity India and Water.org, an integrated lending model for Rain Water Harvesting in homes through MFIs is in the pilot phase.

8.4.4. Water Utilities and Infrastructure

As on August 2017, 96% of rural households had access to safe drinking water. However, according to the National Sample Survey Office of 2018-19, only 26% of rural households and 56.9% of urban households receive potable water through pipes into their homes or yards. Following the shift from Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs), the focus is now on the more challenging goal of providing potable water into homes or yards.

Water utility refers to government-based, municipal or privately-owned facilities that make water available to the public for household or drinking purposes. This includes facilities for extracting and treating water and pipes for the water to reach households. According to Hutton G and Varughese M (2016)[16], the present value of the increased cost of reaching SDG goals by 2030 is around USD 1.7 trillion, not including the cost of maintenance of existing infrastructure. This is about three times the current investment levels.

OECD's report on 'Water growth and finance policy perspectives'[18] recommends that investments in water security should result in social welfare. The term 'water security' is key here.

The process, therefore, starts with a nationwide planning exercise. Starting with identifying and targeting water risks and their drivers, plans will

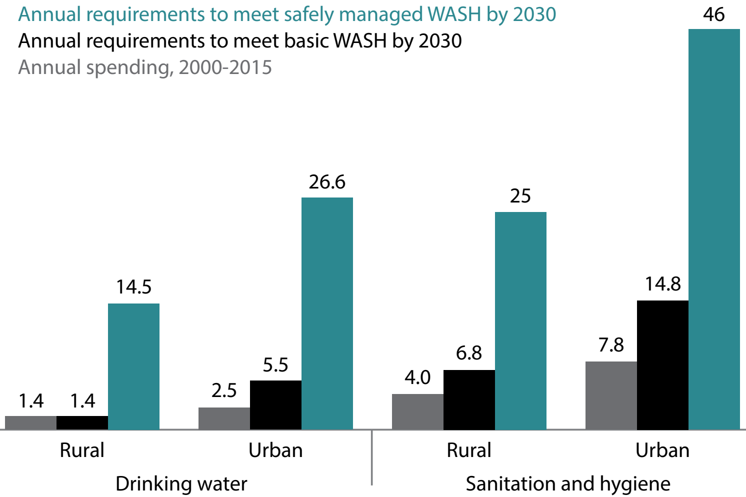

Figure 8.4. Estimating the Gap in Financing SDG Goals
Source: World Bank Group and UNICEF. 2017[17]

need to be drawn up for water-related facilities that will help manage these risks, segregating them into those that could be publicly funded and those that could be privately funded and then looking at funding them appropriately. It also needs to be ensured that community initiative and ownership are factored in to ensure responsibility for Operations and Maintenance. The risk of indiscriminate development of water utilities could create more problems than can be solved.

Water infrastructure is typically capital-intensive and needs a long payback period. Many of the benefits of the infrastructure cannot be easily monetised. Lack of coherence in public policy across sectors like agriculture, industry and urban development can further increase the costs involved. It would be important, therefore, to ensure that policies are well-designed to reduce such barriers to investment in water-related infrastructure.

BOX 8.1. WATER SECURITY

OECD defines water security as maintaining acceptable levels of the following water risks:
Too little water, including droughts – insufficient water to meet the needs of households, agriculture, industry, etc.
Too much water, including floods – 'overflow of the normal confines of a water system'
Too polluted water – lack of water of suitable quality for the specific purpose
Degradation of freshwater ecosystems – 'undermining the resilience of freshwater ecosystems'
These risks will impact and will be impacted by inadequate access to safe water supply and sanitation.

BOX 8.2. EY STUDY FOR WATER.ORG

In a study by Ernst & Young for water.org, the water value chain was analysed in urban and rural India across five states using informant interviews and Focus Group Discussions, apart from secondary data analysis. The states looked at were Punjab, Karnataka, Odisha, Maharashtra and Rajasthan. The key challenges identified by this study were:

- Only 30 – 60% of the cost is recovered by water utilities, mainly because of illegal water connections, the presence of informal private service providers (e.g., water tankers), low or non-existent water tariffs and archaic system of billing and collection systems.
- High power consumption for the operation of the water distribution network
- Water leakages due to ageing water infrastructure

Besides, only 55 out of 500 AMRUT cities have apparently managed to secure investor-grade credit ratings and even fewer issued municipal bonds.

The report concluded that blended finance structures with public and philanthropic capital with private instruments would be useful for financing programs in the water sector. Innovative financing mechanisms suggested included green bonds, blue bonds, water bonds, pensions funds, pooled funds and impact bonds, credit trading, project aggregation, reverse auction, hybrid annuity model and enterprise challenge funds.

Source: Ernst & Young Report for water.org on Assessment of water utility business models to identify scalable solutions for accelerating impact through sustainable water solutions

Swajal, a world bank-assisted project piloted in Uttar Pradesh in 2002, where NGOs support water-related activity through engineering services and capacity building by setting up Village Water and Sanitation Committees[19], was relaunched in 2018. This provides great scope for Public, Private Partnerships.

Another critical piece for ensuring clean and microbe-free water supply is water quality monitoring and information about poor water quality reaching the communities that are using the water. UNICEF is providing Technical Assistance to the Government for revising the Uniform Drinking Water Quality Monitoring (WQM) protocol and for setting up a national-level ranking system of WQM laboratories, which could be set up as small businesses funded by MFIs.

For this purpose, 104 Key Resource Centres have been contracted and trained. Around 11,000 Implementation Support Agencies (ISAs – mainly NGOs) have been identified and trained to support Gram Panchayats[20]. However, funding has been a challenge for the ISAs, considering the time lag between implementation and release of funds under the program. A revolving fund from national funding agencies like NABARD could help support the NGOs. The program also makes a trained woman from the village responsible for regular operation and minor repairs of utilities, opening up avenues for women-led micro and small businesses, whether in repairing or in the distribution of parts that could be funded by MFIs and through SHG-Bank linkages.

8.5. EXISTING CHANNELS FOR FUNDING

The three main sources of funding – Tariffs, Transfers and Taxes could be supplemented by concessional finance and private finance while the WASH sector is in its nascent stage. Apart from actively funding WASH-related activities, financial institutions like lending agencies, banks and insurance companies also have the unique responsibility of ensuring that the activities promoted and incentivised by them do not lead to the detriment of water or other environmental resources.

8.5.1. Small Finance Banks (SFBs), Scheduled Commercial Banks and Private Banks

According to Standard Chartered Bank[21], there is a need for investment of about USD 192.2 billion up to 2030 in India alone to reach universal clean water and sanitation access. Out of this, looking at the average private sector investment of about 10% in the space shows an opportunity of USD 19.2 billion.

In India, Banks are required to lend 40% of their portfolio to Priority sector lending (PSL) specified by the RBI. The revised guidelines for PSL released in July 2015 include water and sanitation. However, not having a target for this sector tends to crowd out WASH lending. If even 1% of PSL was set aside for WASH-related lending, that could convert to USD 4,700 million for that purpose. (Mehta M, 2018)

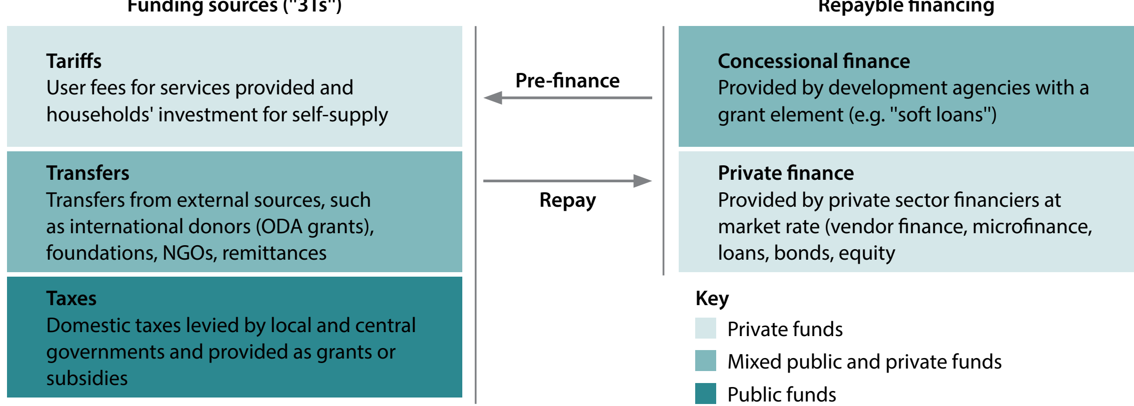

Figure 8.5. Funding Sources and how they may be Leveraged
Source: World Bank Group and UNICEF. 2017

Banks lend to Microfinance Institutions (MFIs) who lend to their clients either on their own books or as Business Correspondents, with the loans on the Banks' books. More and more SFBs are using MFIs to service their target low-income segment for better cost efficiency rather than fund them directly.

8.5.2. Microfinance Institutions

SBM primarily focuses on the population below the poverty line (BPL). Households that do not qualify for the subsidy (of USD 170 per household) or those that do and need more funds to complete the construction of a toilet would need to resort to a loan. Besides, the subsidy was often released only after the construction of the toilet.

MFIs are the natural channel of funding for Low Income and Economically Weaker Sections (EWS). In the last two years alone, water.org, through its MFI partners, has been able to mobilise USD 156 million in Jan – Dec 2021 and USD 183 million in Jan – Sep 2022. These were used to fund microfinance loans for the following purposes:

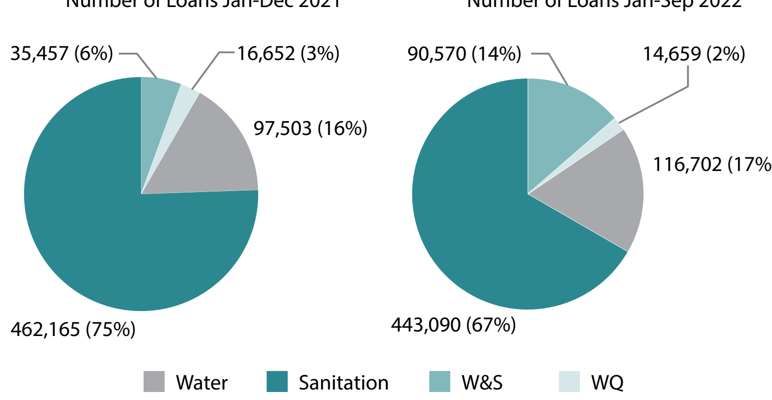

Figure 8.6. Number of Loans Funded for Various WASH Purposes
Source: water.org

'Water' includes pipe connections, bore wells, water tanks and a very small portion for household rainwater harvesting. Sanitation is primarily Individual Household Latrines (IHHL), which is the most common type of loan. 'WQ' refers to water quality and includes water purifiers.

BOX 8.3. UNICEF AND WATER.ORG

Many organisations in the WASH space were originally focused on looking at increasing the demand for water and sanitation alone. However, it became apparent that more of an ecosystem approach was needed to make a necessary and sustainable impact.

Therefore in Maharashtra, UNICEF and water.org partnered to bring in more ecosystem players like government agencies such as Umed (state-owned development organisation) and SBM. Apart from this, Self-help group promoting organisations like MAVIM (government-owned), DHAN Foundation and Microfinance Institutions and Banks were brought in for funding. Convincing the government-based organisations that credit was a necessary part of the exercise, to promote ownership among the households and to meet the shortfall that the government funding could not fulfil was the first step in the process. This helped put in place a system that would take care of supply, maintenance and upgrade when needed. (UNICEF Field Notes 2021)

Apart from Banks, specialised financial institutions like Water Equity also lend to MFIs, who in turn lend to their end clients in loan sizes ranging from ₹10,000 to ₹50,000. Since RBI has allowed Non-Banking Finance Companies (NBFC) Microfinance institutions to lend up to 50% of their qualifying assets for other purposes, MFIs have been able to lend for housing, sanitation, education, etc. This enables households to leverage funds to improve their quality of life while allowing MFIs to meet all the needs of their clients from a lifecycle perspective.

8.5.3. Self-Help Group (SHG) – Bank Lending

The National Bank for Agriculture and Rural Development (NABARD) promotes SHG-bank lending and lends to SHGs directly and through its subsidiaries. As on 31st March 2021, NABARD had sanctioned ₹150 billion and disbursed ₹122.98 billion cumulatively under SBM[22]. Public Sector Banks also fund SHGs based on their rating.

NABARD provides refinance-facility to financial institutions for specific purposes and revolving credit to NGOs working with SHGs. Championed by water.org in 2017, RBI included sanitation loans as a category under which they could lend through the National Rural Livelihood Mission (NRLM), which supports financial inclusion through SHGs. NRLM enables SHG members to get preferential interest rates under such categories. Currently, there are 6.4 million NRLM-supported SHGs in India. (UNICEF Field Notes 2021).

SHGs, apart from being excellent platforms for education and communication, are also tools for community mobilisation and livelihood development. Using Federations, if trained women are integrated into the decision-making bodies of the different government schemes at the village and district level, they will directly contribute to increasing women's agency in locally implemented projects, whether in sanitation, SLWM or water quality and security, which would impact them and their families directly.

8.5.4. Government Subsidies

The financial outlay set aside by the government under SBM Phase II focused on SLWM and ODF + is ₹1,416 billion, including the centre's share of ₹364.65 billion.

Under AMRUT 2.0, the fund outlay is ₹2,970 billion, including a central share of ₹767.6 billion. AMRUT 2.0 is expected to promote the circular economy of water by rejuvenating water bodies.

Under Jal Jeevan Mission, from 2021-22 to 2025-26, ₹1,420 billion is made available to Panchayats or Rural Local Bodies as the 15th Finance Commission's 'tied grant' for water supply and sanitation. International funding agencies like UNICEF and the World Bank fund specific projects based on clear criteria through the Central and State governments.

Apart from this, several states are now promoting rainwater harvesting, while Tamilnadu was the first state to promote it through subsidies and incentives in 2001.

8.5.5. CSR Funds

Until 2020, the CSR spend on SBM has been to the tune of ₹ 35 billion. Under SBM II, ISC, primarily in rural areas, is partnering with the Department of Drinking Water and Sanitation (DDWS) to build Public Private Partnerships (PPPs) with corporates to install SLWM facilities across the 0.66 million villages in India.

The Lighthouse project was launched this year and hopes to create model blocks in sanitation across 75 Districts in 15 States – which will act as beacons of learning for the rest of the blocks in the district. This will eventually cover 733 districts in India. In Bihar, for instance, ₹4.5 to 5 million is the estimated expenditure per gram panchayat. About 3% of the capital expenditure will be spent on IEC activities.

8.6. GAPS IN FUNDING

While remarkable progress has been made in terms of funding the different areas through the various channels, some areas have received an abundance of funding, while others have been left by the wayside. One such piece is the cost of operation and maintenance of sanitation facilities. This came out strongly in a webinar on financing sustainable rural WASH, organised by SuSanA India Chapter, Water for People India and IRC (IRC WASH June 2022)[23]. Many sanitation unit or system has failed with a lack of proper maintenance. The funds are required for the lifecycle management of the facilities in addition to the initial costs. While it seems easier to find funds for capital expenditure resulting in new assets, the maintenance of these assets and the funds for it need to be planned even while setting the assets up. According to the World Bank, universally safely managed water and sanitation would require a capital expenditure of approximately USD 114 billion per year. However, the recurring cost of maintaining the infrastructure built is estimated

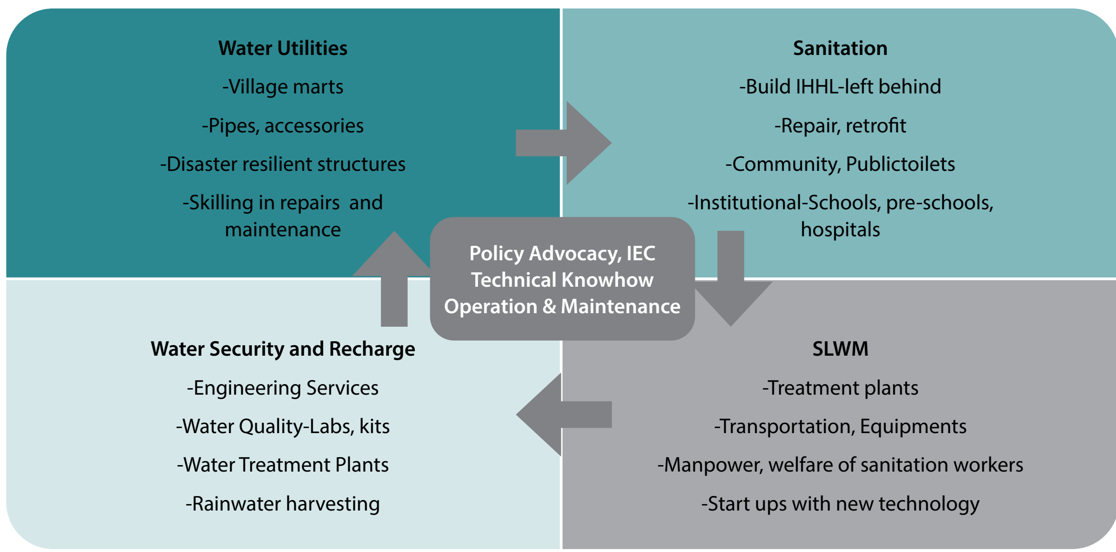

Figure 8.7. Areas for funding in WASH
Source: Author's analysis

to exceed the annual capital cost requirements by approximately 1.5 times[24].

According to the National Annual Rural Sanitation Survey (2019-2020), about 50% of pre-SBM toilets and 30% of post-SBM toilets will need repairs and retrofitting. This will involve an expenditure of ₹ 30 billion (USD 412 million) (Srivastava 2019), which is currently outside the scope of any government funding source. Repairs, retrofitting, and maintenance are primary for ensuring a circular economy.

Figure 8.7 sets out the various areas necessary for a balanced countrywide WASH program based on the water and sanitation lifecycle.

If these areas were to be plotted on a matrix based on need and funding availability – both SLWM and Water Security and Recharge would be at the bottom in terms of availability of funding while being high on need. Sanitation – especially IHHLs has also seemingly moved out of the 'funding available' quadrant on account of the perception that 100% numbers have been achieved. In fact, Microfinance Institutions have had Banks tell them that since 100% sanitation has been achieved, there was no more need for funding sanitation, which might not be the case.

Going forward, many of these gaps can be met in the form of funding for micro, small and medium enterprises that can be contracted by communities or commercial loans for larger businesses. Businesses that promote the use of less water or reuse water or promote or use recycled materials could be incentivised in the form of lower interest rates. Funds for these loans could be raised through appropriate impact funds.

The need for engineering and research and development (R&D) skills and training cannot be over-emphasised and will also need bank funding. Start-ups with new technology could be promoted through accelerators and incubation programs like the ones at IIT Madras or Kanpur, or IIM Ahmedabad. ISC has instituted the Rashid Kidwai Platform and Accelerator for Innovation in Sanitation.

Besides, community-based national and international organisations will need to be donor-funded to take up Policy Advocacy, Awareness creation, Community Mobilisation and Technical Assistance to build capacity and make facilities financially viable. Utility companies can be funded by blended finance to start with. Once the institutional and governance pieces are in place, and the ecosystem is strengthened; eventually, the market systems should be able to take over. However, this takes time and commitment.

8.7. PRE-REQUISITES FOR ENHANCING FLOW OF FUNDS

8.7.1. Policy for Ground Water Security

Considering the importance of securing the future of a country by managing its groundwater soundly, the government needs to regulate the discharge and recharge of groundwater by regulating activities that

will affect it. There needs to be regular monitoring of groundwater quality and quantity and swift action when rules are flouted. Separating and protecting zones for recharge is also necessary. It must be ensured that incentives in areas like industry and agriculture do not adversely affect groundwater, for instance, by promoting water-intensive crops. The UN World Water report recommends more coherent water, energy and food policies that will incentivise the right activities – which will not take away from water while growing and enriching other areas. This can include rationing electricity to farmers (e.g., in Gujarat, Punjab) or metering agricultural electricity where appropriate. Most of these points are found in the National Water Policy (2012) as guidelines and are to be implemented by Jal Shakthi.

8.7.2. Good Governance

In order to attract private and commercial funding, efficiency and transparency are needed. WASH service providers need to improve their performance in technical and financial terms. There needs to be clear accountability and transparency, especially since the sector is prone to corruption. Unless funders are able to believe in the ability of the WASH service providers to deliver value, much-needed commercial funding is likely to continue to be in question.

8.7.3. Egalitarian Society

As brought out by the Indian Sanitation Coalition in an interview, it is important to ensure that gender-related dignity and safety issues are taken into consideration. Skill training for women in sanitation and water-related repairs, apart from other construction-related work through SHGs and Joint Liability Groups (JLGs), will ensure their inclusion. This will also open up the scope for income generation through micro and small enterprises, which can be funded through MFIs and Banks. While these have been piloted in some pockets, they need to be scaled up across the country.

Promoting individual and community ownership and responsibility for the safe disposal of one's own waste requires a more egalitarian mindset as opposed to the traditional attitude where the removal and disposal of waste are allocated to certain communities.

8.8. NEWER MODELS OF FUNDING

Innovative models of funding need to be looked at not just for water and sanitation but water security to build resilient infrastructure for the future.

8.8.1. Blended Finance

In order to bring in commercial loans, blended finance will be needed. Developmental finance can be used strategically to build capacity while de-risking commercial loans. Here's the model World Water Financing Facility used to fund water infrastructure in Africa. The established national-level facilities would leverage the blended finance capital structure to issue bonds to domestic institutional investors such as pension funds and insurance companies.

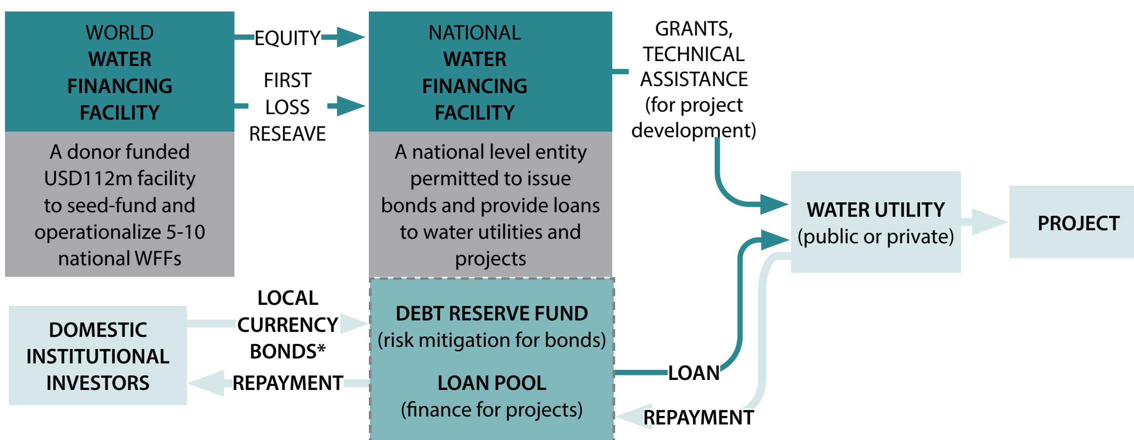

Figure 8.8. Blended Finance Model - World Water Financing Facility
Source: The Global Innovation Lab for Climate Finance[25]

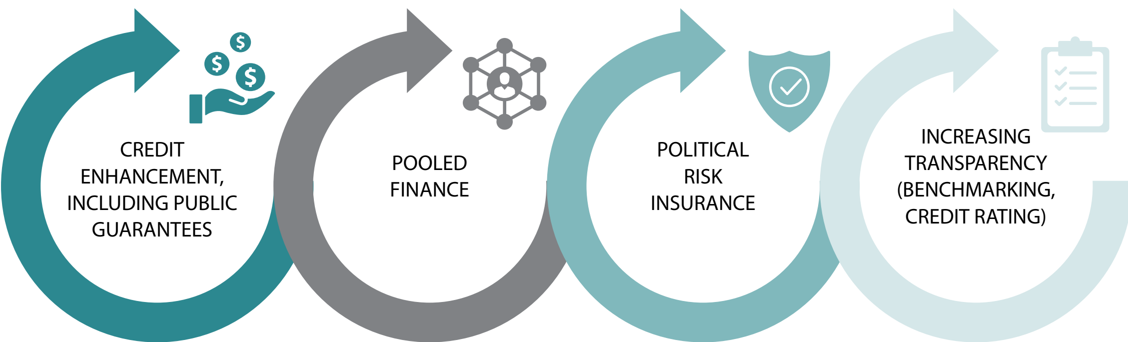

Figure 8.9. Reducing Investment Risk
Source: Financing a Water-Secure Future, OECD[26]

8.8.2. Attracting Investment

Impact investors are already looking for climate-related investment opportunities. Special purpose vehicles and dedicated funds for water security and sanitation could catalyse investment in WASH. One limiting factor is often the difficulty in finding suitable and less-risky investment opportunities. Matching sources of funding with water-related projects will require intermediaries who can build capacity on one hand and assist in risk assessment on the other, enabling both parties to come together. Public funds can also be used to reduce the various risks in the sector, making it more investment-attractive.

8.8.3. Public Private Partnerships (PPPs)

PPPs can be intentionally designed to bring about specific results. The Department of Drinking Water and Sanitation has acknowledged the role of the private sector in SBM thus far and has released the Corporate Collaboration Framework, which suggests how corporates can associate with the SBM (G). The newer P4 model, or the Public-Private-People-Partnership model, includes the community as well.

8.8.4. Community-Based Models

In parts of Africa, the community manages water infrastructure and routinely tests the water quality by sending it to a centralised laboratory network set up with government support and private funding. This helps the community take it up with the appropriate authority if the quality needs to be looked into. Apart from this, water ATMs are available for travellers to access clean drinking water for a small fee.

In the Baltistan region, community-based water management is promoted by the Aga Khan Agency for Habitat. Here, the community pays for 30% of the infrastructure cost and continues to pay a small fee for maintenance[27].

8.9. CONCLUSION

Together, these initiatives will pave the way for more of an ecosystem-based approach involving all players, including private partnerships in tackling mega developmental issues like WASH and climate adaptation. Where possible, creating opportunities for income generation will help build the sector from the ground up, enhancing the capability of small, medium and large businesses. These can be contracted by local entities such as Gram Panchayats and Municipalities, which will keep communities abreast of developments, enabling sustainability. Realistic goals and transparency at all levels will help with greater impact rather than focusing on achieving numbers alone.

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Financial Inclusion Measurement:
Deepening the Evidence

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9

9.1. INTRODUCTION

Financial inclusion is now a policy objective for national governments around the globe, in both advanced and developing economies. For the latter, in particular, it is seen as offering a pathway for the two objectives of growth and development to become simultaneously possible. There has therefore, been considerable interest in the last 15 years or so, especially in developing countries, to craft policies and regulatory frameworks that would stimulate financial inclusion. At the same time, it has become increasingly evident that some measurement method for tracking the effectiveness of such policies is also required. The task of measuring the extent and impact of financial inclusion has naturally lagged the efforts towards financial inclusion, but when performed properly, this task has the capacity also to shape the efforts themselves. This feedback from measurement to policy and practice is extremely important for financial inclusion to be ultimately a beneficial force in the lives of the poor.

This chapter is primarily intended to introduce the reader to a new measurement method developed by researchers in India working at Dvara Research and XKDR Forum. It begins by briefly recounting the history of financial inclusion efforts in India, and then provides some context for the overall measurement strategy employed by this new method. It then describes the method, and the results from a first attempt at deploying the method. Finally, it lays out some learnings from the measurement exercise and concludes with a brief discussion of the policy implications of this method.

9.2. DEFINING FINANCIAL INCLUSION

In India, financial inclusion has been in the making for more than 70 years. The Reserve Bank of India (RBI) was among the first central banks in the world to recognize the need for financial inclusion, albeit not in those terms (but rather in the context of agricultural finance), at the time of its inception in 1935. During the first 4 decades or so after independence, financial inclusion continued to be an important piece of India's overall development strategy, even if the policy priority was always overtly stated as the eradication of poverty. Several private sector initiatives also emerged during these years, to further the financial inclusion agenda. The 1969 nationalization of India's banking system, the setting up of Regional Rural Banks in the 1970s, the founding of SEWA (Self Employed Women's Association) Cooperative Bank in 1974 (predating the 1983 founding of the new-celebrated Grameen Bank in Bangladesh), and the institution of Chit Funds and the National Bank for Agriculture and Rural Development (NABARD) in 1982 – all exemplify India's advance towards financial inclusion prior to the new millennium.

None of these efforts, however, occasioned the advent of the phrase "financial inclusion". That phrase was introduced to the lexicon of development policy in 2003 in a speech by Kofi Annan (Annan 2003), the 7th Secretary General of the United Nations. It quickly found its way into the Indian policymaker's playbook, showing up for the first time in a 2005 speech by Y.V. Reddy, the Governor of the RBI. He defined financial inclusion as "the

* The authors thank Natasha D'cruze, Geetika Palta, and Misha Sharma for their assistance in drafting this chapter. The authors acknowlege the contributions of Sukanta Kumar Sahoo, Ravi Parmar and Muhammed Raneef from Climate Change Vertical, Farm Sector Development Department, NABARD.

process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost in a fair and transparent manner by mainstream institutional players." (Reddy 2005).

In the same year, the Report of the Internal Group to Examine Issues relating to Rural Credit and Microfinance (often referred to as the Khan Committee) announced that banks could open "no frills" accounts for customers that wished to hold zero/low balances. This was followed by the appointment of the Rangarajan Committee (headed by C. Rangarajan, former RBI Governor) to examine the state of financial exclusion in the country, and the Rajan Committee (headed by Raghuram Rajan, who laetr became RBI Governor), to suggest comprehensive financial sector reforms. The 2008 report by the first committee concluded that the poor had been largely marginalised and excluded from the organised financial sector, and that governments and banks would have to work together to bring about financial inclusion for all. The 2009 report by the second committee included a chapter, *Broadening Access to Finance,* that underscored the need for developing a broad-based, inclusive financial sector.

In 2011, the central government launched the *Swabhiman Yojana,* where the first word means self-respect, and the second one project. The scheme focused on carting banking services to rural areas. In 2014, the central government refashioned the *Swabhiman Yojana* into a new scheme entitled *Pradhan Mantri Jan Dhan Yojana* (PMJDY) (Prime Minister's Project for People's Wealth). The PMJDY focused on providing universal access to banking facilities, which included basic bank accounts for savings and remittances, a RuPay debit card (the name deriving from the Indian currency, the 'rupee'), insurance, and a financial literacy program, as well as other offerings such as an overdraft facility and pension schemes. As of this writing, the central government continues to drive a financial inclusion agenda that heavily leans on a state-of-the-art public digital infrastructure. Digital and financial inclusion are now joined at the hip, as it were.

An interesting arc traversed in this long history of financial development is the growing importance of the Indian state as an enabler of markets, especially in the last decade and a half, via the creation of digital public goods such as the Aadhaar ID system. These markets have become steadily populated by for-profit social enterprises, contributing to a thriving startup culture backed by so-called social impact investors. There is now an increased urgency to demonstrate outcomes in the form of social impact. In turn, this is leading to the development of new measurement paradigms that are not only tools of accountability wielded by investors over the heads of their investee companies but also critical for policymakers and regulators to monitor the state of financialisation and its effects on the poor, and to thereby decide on further policy and regulatory actions.

It is to this emerging stream of measurement paradigms that the work of Dvara Research and XKDR Forum, described in this chapter, is a contribution. The next section lays out the broader context for the DR-XKDR method, and the section after that describes the method itself and some preliminary results from its application.

9.3. AN INPUTS/OUTPUTS/OUTCOMES APPROACH

In the early days of measuring financial inclusion, crude macro-economic proxies were used, such as M2 (cash, demand and time deposits) as a percentage of GDP. Later, more systematic data collection began, but such efforts remained anchored to activity in the banking sector, recording the number of bank accounts or bank branches, the number of ATMs, and the aggregate amount of bank deposits. Such measures, however, tend to overstate the extent of financial inclusion (Gupta and Sharma 2021). The RBI also recognises this, as evidenced by the insistence of its policy documents (e.g., RBI 2019) on expanding access to a suite of financial products and services, not only to bank accounts. Yet, access alone is not enough. The usage of those financial products and services, and ultimately, the outcomes that users experience in their financial lives on account of such usage, are also meaningful indicators of financial inclusion. This is acknowledged by the widely cited Global Findex Database, which, despite its focus on bank accounts, nevertheless publishes usage and outcomes data as well (with the outcomes data being included only in the latest edition).

It is becoming common, therefore, to think about financial inclusion in terms of all three aspects – inputs or access to financial products and services, outputs or the usage of those products and services, and impacts or outcomes associated with such usage. This last component, namely impacts or outcomes, is a recent addition to the measurement canon. It is typically referred to as financial well-being, which the United Nations Secretary-General's Special Advocate for Inclusive Finance for Development (UNSGSA) defines as the extent to which a person or family can smoothly manage their current financial obligations and have

confidence in their financial future (Gubbins et al. 2021). Sometimes also called financial health, financial well-being has evolved in definition since its origins at the St. Louis Fed's Center for Household Financial Stability (Emmons and Noeth 2014). An account of this history is beyond the scope of this chapter (see Dasgupta and Palta 2021 for a comprehensive review of the concept and its history), but it is important to note that as the understanding of financial well-being has matured, so too has the realisation dawned that financial inclusion alone cannot ensure financial well-being. Rather, many enabling factors have been identified as critical, such as properly designed and delivered social protection and employment policies (Gubbins et al. 2021). The existence of these factors limits the burden that one can reasonably place on the inputs and outputs dimensions of financial inclusion for guaranteeing traction on the outcomes dimension.

One important nuance in the inputs/outputs/outcomes approach to measuring financial inclusion is whether the reckoning is happening at the level of the individual or at the level of the household. The difference is non-trivial. Whereas economic theory is methodologically individualistic, financial decisions are often made within a household for the household, and the household is, if anything, a social unit. An emerging field of research is beginning to stress the importance of this distinction (Campbell 2006), and yet empirical work documenting the spread and depth of retail finance continues to mostly work with individual-level data. This is because household-level data is not widely available.

In India, however, there are periodic surveys that record economic activity at the household level – such as the National Sample Survey Organization's All India Debt & Investment Survey (decennial, since 1971-72), the People Research on India's Consumer Economy's ICE 360 Degree Survey (conducted in 2014 and 2016), the National Council of Applied Economic Research's India Human Development Survey (conducted in 2004-05 and 2011-12), the Center for Monitoring the Indian Economy's Consumer Pyramids Household Survey (conducted thrice a year since 2014), and the FinMark Trust's FinScope Survey (conducted in 2015). These surveys cover the inputs dimension of financial inclusion insofar as they all record ownership of bank accounts and, in some instances, ownership of other financial products and services also – and access is recorded at the household-level. Only the last of these, record any usage information, and such information is confined to bank account usage. The CMIE's CPHS data can be used to infer usage, since ownership data is collected in a panel form – but such inferences come with significant measurement error. None of the abovementioned efforts records any information on the outcomes dimension. This is not surprising as standardised measures of financial well-being are only now beginning to appear through the efforts of such organisations as the UNSGSA and the Center for Financial Health at the United Nations Capital Development Fund.

There is one measurement method that currently produces data on inputs, outputs and outcomes, and that is the World Bank's Global Findex Survey (conducted globally every 3-4 years since 2011). However, in this instance, the unit of measurement is not the household but the individual, and the field of financial instruments does not extend much beyond bank accounts. We will have more to say about this method in the next section when we compare it to the DR-XKDR method, and therefore it is to this latter method that we turn next.

9.4. THE DVARA RESEARCH-XKDR FORUM METHOD

As with most measurement methods, the DR-XKDR method works with a survey instrument. One of the unique aspects of this instrument is that it asks questions of an individual respondent, but the questions are framed to elicit household-level information. In particular, the respondent is asked about the inputs, outputs and outcomes dimensions of financial inclusion for the household, as well as questions about the household's characteristics, such as each member's age, marital status, type of occupation, level of education, etc. and whether any member of the household has migrated.

On the assets side of the household's balance sheet, a full range of asset groupings is considered, and the list is presented in Table 9.1 below.

Table 9.1. Asset Groupings

Asset Group	Assets
Transactional accounts	Savings bank account or post-office savings account, etc.
Risk-free assets	Fixed and recurring deposits, National Savings Certificate, Kisan Vikas Patra or post-office time deposit account, etc.
Risky assets	Listed shares, mutual funds, or gold ETFs, etc.
Old-age income support schemes	PMVVS, NOAPS, NWPS, NDPS, APY, NPS, PPF, EPF, or Senior Citizens Savings Scheme (SCSS) by post offices, etc.
Life and health insurance	Life insurance (such as Term Life Policy, Whole Life Policy, Endowment Policy, ULIP, or Money Back Plan), health or medical insurance, accident insurance, etc.
General insurance	Shop, cattle and livestock, crop insurance, etc.

The inputs dimension is measured as participation in each of the above asset groupings if at least one member of the household owns at least one instrument in the grouping. For each of the six groupings, then, a household is given a score of 1 if any instrument in the grouping is owned by any household member and 0 otherwise. The inputs score for the household is then calculated as the simple average of the six binary scores and, by construction, therefore, produces a number between 0 and 1 – a higher score signalling greater access.

The instrument also asks questions about the household's liabilities, such as the sources of debt and the number of formal loans held. However, the inputs dimension does not incorporate the liabilities dimension at all. This is due to the multi-faceted nature of the household debt, in terms of source (formal as well as informal), maturity (short term versus long term) and purpose (consumption versus investment). There is a structural difference between credit-based financial instruments, i.e., liabilities, which borrow from future consumption, and other financial instruments, i.e., assets, which push present consumption out to a future date. Given this important difference, the DR-XKDR method has chosen to leave the liabilities side of the balance sheet out of the reckoning for the inputs dimension (and treats this as a matter for future research), even though debt information for the household is collected by the survey instrument.

Like the inputs score, the outputs score also focuses on the six asset groupings and measures the frequency with which the household (any member) uses each of the groupings (any instrument) that it owns. For each grouping, the household receives a score of 0 if the last use was more than a year ago (amounting to no usage), 0.5 if the use frequency is once in 3-12 months (amounting to passive usage), and 1 if the use frequency is once or more in 3 months (amounting to active usage). The outputs score is then computed as a simple average of these six numbers and, by construction, therefore, produces a number between 0 and 1 – a higher score signalling greater usage.

The outcomes score is constructed from the respondent's answers to questions about five dimensions of financial well-being. These are as follows.

- Day-to-day functioning: This dimension records the household's ability to meet basic needs, pay its bills and rent on time, the source of funds for such expenses (whether regular income or savings, borrowings, etc.), and whether the household's incomes exceed its expenditures or not.
- Borrowing: This dimension captures whether the household faces difficulties in managing its debt payments and whether it was contacted by the lender to make repayments after these became past due.
- Resilience: This dimension records whether there exists a buffer of savings that the household can tap into in case of an emergency, how fast it would be able to raise emergency funds and how they might cope in the absence of ready liquid funds.
- Planning: This dimension captures information about how the household plans for long-term goals, particularly whether it is saving for retirement or old age.
- Confidence: This dimension records the confidence that the respondent feels in the household's financial future, given its present financial portfolio. It measures not just the respondent's confidence (on behalf of the household) in existing instruments but also whether any member of the household has had negative experiences with financial service providers or financial products and services, as well as the respondent's sense of financial stability (for the household) based on the amount of savings the household has and how manageable the respondent believes the household's debt is.

The outcomes score is the simple average of fifteen variables, of which five are either 0 or 1, and ten are ordered but nevertheless chosen to fall between 0 and 1. By construction, the outcomes score lies between 0 and 1 – a higher score signalling greater financial well-being. Sub-component scores are also computed for each of the five dimensions of financial well-being, and a higher score for a particular dimension indicates greater well-being along that dimension.

The DR-XKDR method involves partnering with financial service providers (FSPs) to deploy the survey instrument in small samples of their customers and adopts a learn-as-you-go approach, analysing the data collected with an eye toward tweaking the survey questions if needed before deploying them again with a new FSP. There is also the presumption that FSPs will themselves be interested in learning about their customers in this way, and that in time, they will become socialised to following this approach in their regular measurement exercises as well as in the manner in which they report their activities to investors and other stakeholders.

The DR-XKDR method differs quite significantly from other contemporary state-of-the-art methods

for measuring financial inclusion. One such method is the World Bank's Global Findex method, which focuses on individuals rather than households, does not consider a full range of asset instruments, and prefers a large nationally representative survey every few years over a smaller scale DR-XKDR-like approach. Furthermore, there is no attempt in the Findex approach to resolving its survey responses to scores for the three dimensions of financial inclusion. This means that the Findex approach cannot properly relate each of the dimensions to the other two in a quantitative sense. The DR-XKDR approach is able to do this and learn from such an exercise.

9.5. AN ILLUSTRATION OF THE DVARA RESEARCH-XKDR FORUM METHOD'S DEPLOYMENT

The first run of the DR-XKDR method was executed in July and August of 2021 with 210 customers (representing 210 distinct households) of an FSP partner, in the states of Tamil Nadu and Chhattisgarh. Table 9.2 describes some summary statistics for these households.

In Table 9.2 for each survey respondent, 'Physical asset ownership' is a ratio representing how many of six assets are owned by the household (from among real estate, livestock, car, two-wheeler, bicycle, and tractor), while 'Technology exposure' is a variable indicating ownership of a smartphone and access to network and internet.

The analysis of this data finds an average inputs score for these households of 0.22 (translating into ownership of 1-2 asset groupings), an average outputs score of 0.21 (indicating active usage of 1 asset grouping), and an average outcomes score of 0.54 (indicating high levels of financial well-being on two or three of the five dimensions). The sub-component scores were particularly low for the resilience (0.35) and planning (0.16) dimensions, and only 0.50 for the day-to-day functioning dimension. While these numbers may not mean much in themselves, they will acquire significance in comparison with similar numbers constructed from further rounds of the survey with other FSPs. These rounds are underway, and the data are yet to be fully collected and analysed.

The data collected from the first run supports an econometric analysis using regressions to understand the correlates of the inputs, outputs and outcomes dimensions of financial inclusion, after controlling for household characteristics. Tables 9.3 and 9.4 report these regression results. In these tables, three additional variables are constructed for use on the right-hand side of the regressions: physical infrastructure (a binary variable indicating whether a household has a cash-in-cash-out touchpoint within 15 minutes of walking distance), digital infrastructure (a binary variable indicating the availability of digital payments at merchants in the vicinity of the household), and digital infrastructure

Table 9.2. Summary Statistics

Variable	Mean
Monthly income	₹16,662
Monthly expenditure	₹14,365
Physical asset ownership	0.43
Technology exposure	0.78
Household size	4.53
Occupation:	
Casual Labor in Agriculture	8.0%
Casual Labor in Non-Agriculture	7.0%
Regular wage/salary earning	24.4%
Self-employed in Agriculture	17.9%
Self-employed in Non-Agriculture	22.9%
Unemployed	19.9%
Education:	
None	18.9%
Pre-primary (up to 1st standard)	0.5%
2nd to 5th standard	11.4%
6th to 9th standard	16.4%
Completed 10th standard	23.9%
Completed 12th standard	15.4%
Completed diploma/certificate course	1.0%
Completed graduation	10.9%
Completed post-graduate and above	1.5%

Table 9.3. How the Scores Interact With Socio-Economic Features[1]

	Inputs Score	Outputs Score	Outcomes Score
Monthly Income	-0.003	-0.004	0.018*
Technology Exposure	0.005	0.018	0.038
Household Size	-0.001	-0.004	-0.008
Physical Infrastructure	0.005	0.002	0.048
Digital Infrastructure	0.033*	0.037*	0.084***
Digital Infra Usage	0.028	0.050*	-0.029
Physical Asset Ownership	0.117***	0.095*	0.254***
Constant	0.159***	0.155***	0.353***
Observations	192	192	192
Adjusted R-sq	0.018	0.033	0.149

Table 9.4. How the Scores Interact With Each Other[2]

	Outputs Score	Outcomes Score
Inputs Score	0.969***	0.679***
Outputs Score	N/A	-0.447*
Monthly Income	-0.001	0.019**
Technology Exposure	0.013*	0.043*
Household Size	-0.003*	-0.009
Physical Infrastructure	-0.003	0.045
Digital Infrastructure	0.005	0.078***
Digital Infra Usage	0.023**	-0.026
Physical Asset Ownership	-0.018	0.218***
Constant	0.001	0.314***
Observations	192	192
Adjusted R-sq	0.868	0.187

usage (ratio indicating which of five modes of digital payments – transfer money, pay bills, pay merchants, receive a salary, receive government transfers – are used by any member of the household).

In Table 9.3, it is observed that higher levels of physical asset ownership and access to digital infrastructure are associated (in a statistically significant sense) with greater access to financial assets (i.e., a higher inputs score), greater usage of financial assets (i.e., a higher outputs score) and higher levels of financial well-being (i.e., a higher outcomes score). The associations of these conditioning variables are strongest for the outcomes score, with the coefficients being statistically significant at the 1% level. In Table 9.4, it is observed that once the inputs and outputs scores are included, by turn and as appropriate, on the right-hand side of two of the regressions in Table 9.3, then a higher level of financial well-being is positively and strongly associated with greater participation. However, financial well-being is negatively associated with greater usage. This is a puzzle. This could be partly because simple frequency measures of usage do not adequately capture the outputs dimension properly. In reality, there can be other features about the household that are not observed but drive both the observation about their financial participation, usage and well-being. In an attempt to better capture this possibility, the survey instrument has been slightly revised for its future iterations. This illustrates the value of a learn-as-you-go approach in such measurement work.

9.5.1. A Comparison of the DR-XKDR and the Findex Measures

Even though the Findex approach makes it difficult to resolve its data into indices for each of the input-output-outcome dimensions, the DR-XKDR researchers performed such an exercise after making several assumptions that would render the two resolution methods roughly comparable to one another (i.e., in terms of how one aggregates up from data points collected at the individual level for each country to an index number for that country). The full details of this exercise are beyond the scope of this chapter, but it is possible to review the main findings while noting the obvious caveats in such a preliminary and first-pass comparison of numbers from two very different kinds of survey approaches. Just as the DR-XKDR survey data produces an average score on the inputs, outputs and outcomes dimensions for the surveyed households, so also the Findex survey data produces (by the DR-XKDR resolution method) an average score on the inputs, outputs and outcomes dimensions for the surveyed countries – and these are 0.71, 0.45 and 0.42 respectively – and for India in particular – and these are 0.78, 0.19 and 0.30 respectively.

It is noted that the Findex India inputs score is higher than the Findex World inputs score, and this is explained by the Findex approach's focus on bank account ownership. In this area India is known to be a better-than-average performer in the world. Equally, the Findex India outputs score is much lower than the Findex World outputs score, and it corroborates the well-known fact that while bank account ownership in India is widespread, most of these accounts are dormant. The consistency in the comparisons between the Findex India and the Findex World scores on the inputs and outputs dimensions validates the measures emerging from the DR-XKDR method of resolving the Findex country variables into indices. There is some difference between the Findex India inputs score and the DR-XKDR India inputs score: this difference may be attributed once again to the dominance of bank account ownership in the Findex measure versus the coverage of a much wider spread of asset instruments in the DR-XKDR measure. In addition, the DR-XKDR measure has a focus on low-income households, where the success of financial inclusion has mostly been a bank accounts story on the assets side and a credit story on the liabilities side.

In addition to the above explanations for why the DR-XKDR method and the Findex method yield different results, it is also likely that the former

method's choice of states and the socioeconomic status of households within them (as described in Table 9.2) plays a role in the DR-XKDR calculations, relative to the Findex method which surveys a much broader sample that is more representative of the Indian population. This possibility will be taken up for closer study in future work.

9.6. FACTS AND LEARNINGS

Any policy initiative is a combination of an objective followed by implementation. It is, therefore, obvious that the success of such initiatives critically benefits from measurement. In part, measurement helps to validate or invalidate the premise that drives the policy, but more importantly, it also functions as a calibration and feedback mechanism, using which the implementation of the initiative can be continuously tweaked for improvement. A well-known example from India is the Pratham ASER measurement, which was influential in changing policy thinking about elementary education in India by performing the first outcomes measurement of education and monitoring this measure in subsequent years as well. Such structured measurement is particularly important in high-growth economies such as India, where the ecosystem and environment are rapidly changing, and in the domain of financial inclusion, which is a complex interplay of customers with heterogenous circumstances and preferences, and a financial sector with similarly heterogenous compulsions.

The difficulties in establishing such a framework for financial inclusion are evident from the fact that measures of financial inclusion are still evolving even in the global literature. Thus far, measures of financial inclusion have aimed to capture the *growth* of financial participation. The premise of financial inclusion as being beneficial – having a positive consequence for – to consumers of finance still awaits to be widely established. For example, the Findex report provides rich evidence that there are linkages between participation across financial products (for example, that with accounts comes higher usage of digital services or that there is a higher propensity to save with digital payments). But evidence about the *consequence* of financial participation is sparse and limited to small sample studies of growth in savings of individuals in a few countries, with a particular focus on women.

The evidence presented in the previous section, and in other research undertaken by the DR-XKDR researchers, shows that household financial choices do go beyond the bank account, whether in state-level aggregates (Gupta and Sharma 2021) or at the level of households (Palta et al. 2022). Since the method is applied at the household level, the measures allow for the analysis of the consequences of household participation and usage on the household's well-being. This is ongoing work. As the method is applied to a wider set of customers and across years, the measures from this method will provide more robust evidence of the consequences of financial inclusion.

The two limitations of the present work that need to be addressed are as follows: first, the outcomes measure is a household's perception of its well-being, rather than a tangible measure of its resilience to disruptions and shocks. An ideal measurement method would include both the household's perception as well as an objective recording of its ability to sustain a stable level of consumption over time. This opens up several questions about consumption measurement. For example, should all types of consumption be considered when analysing household consumption resilience, or should the focus be restricted only to a subset of basic items such as food? Should the analysis occur at a monthly frequency or at lower frequencies, such as quarterly or annual? Such an analysis could also make use of economic data that has not been traditionally available, but that can be constructed from rapidly evolving alternative datasets such as mobile phone usage, Google mobility data and satellite imagery (Patnaik et al. 2021).

Second, while the present form of the DR-XKDR method does not incorporate information about the borrowings of households, the households covered in the first run all hold some debt. Thus, the observations about the link between financial well-being and financial participation indirectly contain the effects of both financial participation in financial instruments and debt, rather than reflecting the sole effect of financial participation on financial well-being. This is an important distinction. It is well documented that, unlike in developed economies, where debt is used to invest for a higher level of earnings, in emerging economies, households draw upon debt to smooth consumption. Given the ambiguity about why the household chooses to hold debt, it is difficult to disentangle the effect of debt and non-debt financial participation in explaining the positive impact of financial participation on the household's perception of well-being in this work.

Whether a positive link exists between the financial participation of a household in debt and its financial well-being remains an ambiguous matter. In a recent paper, Sane and Thomas (2022), find that

before borrowing, first-time borrower households have a lower level of consumption expenditure relative to households that did not have to borrow, but that after borrowing, the former's consumption expenditure rises to almost equal that of the latter (albeit for a limited period only, before falling back again). Additionally, the first-time borrower households experience a higher level of volatility in their monthly consumption expenditure after borrowing. This re-emphasises the need to capture both observed as well as perceptions of resilience to shocks in measuring outcomes of financial participation, particularly on the liability side.

Work by Morduch and Merfeld (2022) appears to suggest that when the income and consumption patterns of the poor are subject to high-frequency analysis (monthly, as opposed to yearly), then even borrowing to consume does not appear to be such a bad thing after all, as such consumption smoothing tends to reduce the overall poverty headcount.

Future work by Dvara Research and XKDR Forum will seek to address the above limitations while building on the framework that they have developed and that has been described in this chapter.

9.7. THE WAY FORWARD FROM A FINANCIAL INCLUSION POLICY PERSPECTIVE

What are some implications of this work for India's financial inclusion policy? Any policy initiative benefits from having in place a measurement framework which can be used to test the validity of the policy thesis and, on an ongoing basis, can be used to monitor and calibrate the policy process. From this point of view, it has been established that an inputs/outputs/outcomes framework of measurement is to be preferred. The DR-XKDR method delivers on this front, and also it offers an innovation on the traditional measurement framework in having a focus on households as the unit of measuring financial inclusion. However, if this framework is to be useful for both policymakers as well as for FSPs, then the measures have to be useful in two ways:

1. They should be capable of measuring the consequence of a policy intervention or a financial sector innovation on financial inclusion outcomes.
2. They should be capable of identifying the factors (for e.g., household characteristics) that may cause the intervention or innovation to have more or less consequence for some households compared to others. This can serve as a guide for fine-tuning the intervention or the innovation so that it helps all households improve their financial wellbeing.

The above two requirements necessarily point to the adoption of a panel approach in the collection of survey data among households. This will make it possible to identify whether changes in inputs, outputs and outcomes over time are related, and if so, in what manner. Thus, the causal impact of greater access or greater usage on financial well-being can be estimated.

There are few information sources today that capture features about financial participation and usage *at the level of the household*. Further, any given FSP tends to have visibility on how an individual or a household participates in their domain, rather than having visibility on the entire financial asset holdings of the household. Next, most of the data available about the household's participation in financial assets tend to be updated at a much lower frequency than the frequency at which change takes place in the financial sector in India. Finally, once the consequence of financial sector or financial policy innovation is calculated, an understanding about what factors cause different households to benefit differently requires also that various socio-economic-geographic-cultural features about these households be captured.

Table 9.5 shows the datasets that are available for use in measuring financial inclusion. Some of these are collected and published by the government (`pub'), while some of them are by private firms (`pvt'), both international and domestic. While some of the information that is required to measure financial inclusion is available within these to calculate participation in a standarised manner, there remain gaps on usage and outcomes. The DR-XKDR method offers suggestions on what needs to be observed in order to close this gap.

The usefulness for such a measurement system can be maximised when the same financial inclusion measures can be calculated and compared by anyone in the ecosystem readily and with consensus. This requires some thought on standardisation of definition of the variables that are used in the methodology and standarisation of the methods for calculation of the financial inclusion measures. With this in place, any financial inclusion measure published can then become comparable with each other, and can be equally used by investors, researchers, policy makers and financial sector firms.

Table 9.5. Available Datasets, as of 2022

Dataset	Organisation	Years	Frequency	Sample Size (L[3])
AIDIS	Pub.[4]	1971-2012	Decennial	1,10,800 households
FIIS	Pvt.[5]	2013-2017	Annual	47,132 individuals
FS	NPO[6]	2015	One-off	266.66 million adults
IHDS	Pvt.	2004-2005, 2011-2012	Twice	42,152 households
ICE	NPO	2014, 2016	Twice	20,195 households[7]
Findex	Intl.[8] Pub.	2011[9], 2014[10], 2017[11], 2021[12]	Triennial	3,000 households
CMIE CPHS	Pvt.	2014-2002	Triannual	1,73,181 households

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END NOTES

1. ***, ** and * indicate statistical significance at 10% level, 5% level, 1% level respectively
2. ***, ** and * indicate statistical significance at 10% level, 5% level, 1% level respectively
3. L stands for the last period for which data is available
4. Pub. Stands for public body
5. Pvt. Stands for private body
6. NPO stands for Not for Profit Organisation
7. Last period data not available. Previous period data used.
8. Intl. stands for international
9. Data excludes Northeast states and remote islands representing approximately 10% of the adult population.
10. Data excludes Northeast states and remote islands representing less than 10% of the population. In addition, some districts from Assam, Jammu, Kashmir, Uttar Pradesh, Bihar and Jharkhand were replaced due to the deteriorating security situation.
11. Data excludes Northeast states and remote islands representing less than 10% of the population.
12. Included a financial well-being score.

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About the Authors

Dr. R. Bhaskaran is a mentor and trainer in the banking and finance domain with more than 4 decades of experience in these fields, and in training and development. He started his career as an officer with Bank of India. From there he moved on to NABARD where he has worked in project appraisal, credit delivery system, fund and treasury management, Joint Director and Director in charge of Bankers Institute of Rural Development (BIRD) and CGM looking after cooperative banking and later institutional development. He left NABARD and took over as CEO of Indian Institute of Banking & Finance where he worked for 10 years. His transformational leadership of IIBF is widely acclaimed which made the institute possibly the largest and leading institute of bankers in the world. He was able to customise JAIIB and CAIIB the two professional banking qualifications of IIBF for many countries. It is his unstinting belief in technology and efforts that has made IIBF the largest virtual institute in banking space. After IIBF, for a brief period he worked as Director Centre of Excellence in Banking and Finance of NIIT University.

Dr. Indradeep Ghosh is the Executive Director of Dvara Research where he works with the Board to drive its research agenda and leads research priorities in coordination with the practice heads. He has a PhD from MIT, an MA from Cambridge University (where he won the Adam Smith Prize given to the top graduating student in the university), and a BA from St. Stephen's College, all in Economics. After graduating from MIT, Dr. Ghosh pursued an academic career for more than a decade, first at Haverford College in Philadelphia, Pennsylvania, and then at the Meghnad Desai Academy of Economics in Mumbai, India.

Dr. Ghosh brings an interdisciplinary orientation to understanding and solving the problems of financial inclusion and social protection in India, and an enthusiasm for co-creating solutions in a style of constructive engagement with other research organizations, academic researchers, and practitioners (financial service providers, civil society organizations, social enterprises, and non-profits). Dr. Ghosh also interfaces regularly with policymakers and regulators to advocate for sensible pro-poor financial inclusion and social protection policies. In 2020, Dr. Ghosh led the drafting team for the Social Stock Exchange report (by SEBI's Working Group), and in 2021, he served on the Insolvency & Bankruptcy Board of India's Research Guidance Group. He continues to occasionally publish in peer-reviewed journals such as the Economic & Political Weekly and the Journal of Cultural Economy.

Gaurav Gupta is a Programme Manager and Research Fellow with the Azim Premji Foundation. His interests lie at the intersection of financial inclusion, livelihoods in the informal sector and low-income communities. He works closely with the foundation's partner NGOs in the urban poor portfolio and is affiliated with the Centre for Sustainable Employment at the Azim Premji University.

He has two decades of experience, most of which has been in the banking industry. His experience outside banking has been in teaching and with organisations working on issues related to rental housing for migrants and skilling the informal workforce.

An alumnus of the University of Warwick and MDI Gurgaon, he is also a CFA charter holder from the CFA Institute, USA. He has published in The Indian Journal of Labour Economics, Decision and The Asian Journal of Law and Economics. His recent research work has focussed on the impact of COVID-19 on the urban poor in Bengaluru, MGNREGA, the Insolvency and Bankruptcy Code, India's asset reconstruction market, and role of policy measures in exacerbating the global financial crisis of 2007/08.

Henrietta Isaac has over 20 years of experience in Product Design, Sector-wide Research, Financial Services and Strategy Consulting. Henrietta's specialized skills include conceptualizing and rolling out of cutting-edge financial products and services with the appropriate processes and risk management tools and techniques in place. Her expertise also covers Market strategy, with special focus on launching new initiatives while managing change effectively.

Henrietta is currently a part of Opportunity International's Education Finance Team. She was closely involved in the evolution and growth of Low-Income Housing Finance in India as a part of Habitat for Humanity India, heading Technical Assistance Services in Affordable Housing. Working alongside Habitat for Humanity's International team, Henrietta was instrumental in the development of a toolkit for Low Income Housing Finance in India, funded by the International Finance Corporation and the National Housing Bank. Her previous engagements include MicroBuild India, a Housing Finance Company, Growing Opportunity Finance, an implementing partner of Opportunity International, Tata Consultancy Services and the New India Assurance Company Limited. Henrietta earned her MBA from Leeds University Business School, UK, is a Boulder-certified Microfinance practitioner and a Certified Risk Management Professional from RIMS, USA. She also has a Fellowship in General Insurance from the Insurance Institute of India and a Certification in Risk Modeling from Wharton University.

Hemendra Mathur has over 26 years of experience in venture capital, private equity, management consulting and investment banking. Hemendra in his career has invested in several early stage agri-tech and mid-sized companies in the agricultural supply chain. He is an investor, board member and adviser in many foods and agri-tech start-ups.

He is currently working as Venture Partner with Bharat Innovation Fund – investing in early stage deep-tech start-ups across sectors. Hemendra is the co-founder of ThinkAg – a platform for accelerating the adoption of innovations in agriculture space. He is the Chairman of FICCI Task Force on Agri Start-ups. He is also an advisor to a few Foundations, Multilaterals, Corporates and Funds with interest in investing the tech startups in India.

He has authored many papers on the subject and speaks regularly at conferences pertaining to food and agribusiness sector as well as start-up ecosystem. He is a management graduate from IIM (Ahmedabad) and Agricultural Engineer from Rajasthan Agricultural University.

Akshat Pathak is a Senior Manager in MSC's Digital Financial Services domain focused on Payments and Distribution in India. He is responsible for managing MSC's i3 Program in Vietnam. He advises and works with several institutions to restructure their business models to "go digital" and offer a range of technology- enabled financial services for the underserved low- and moderate-income communities to help them manage their financial lives better.

Akshat has more than 13 years of experience in the financial services sector spanning public financial management, banking, small and medium enterprises, digital financial services and alternative delivery channels, Fin-Techs, and microfinance domains. He has implemented large-scale financial inclusion projects in Bangladesh, India, Kenya, Malaysia, Nepal, the Philippines, Sierra Leone, Singapore, Tanzania, Uganda, the USA, Vietnam, and Zambia. Before joining MSC, Akshat was with the Rural and Inclusive Banking group of Axis Bank in India.

Dr. H.K. Pradhan has been Professor of Finance and Economics at XLRI, Xavier School of Management, Jamshedpur, with over 35 years of experience in teaching, research, and consulting. He has a Master's degree from Utkal University, an M. Phil. & Ph.D. from the University of Pune and a Fulbright Post-Doctoral Fellow at the Columbia University Business School, New York.

Dr Pradhan is presently Director on Boards of the Clearing Corporation of India Ltd. and the State Bank of India-DFHI Limited. He served as the YES Mutual Fund Trustee Board, Mumbai, Chairman & Public Interest Director of the Indian Commodity Exchange (ICEX), Mumbai, member of the RBI Technical Advisory Committee (TAC) on Financial Markets, Independent Director of the SBI Mutual Fund, Board member of Micro Credit Rating International Ltd, member of the Index & Option Committee of the National Commodity and Derivative Exchange (NCDEX), including member of the Board of Governors and Chair of Doctoral Program at XLRI Jamshedpur.

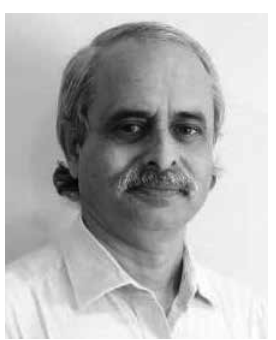
He worked as the Pacific Regional Advisor for the Commonwealth Secretariat, London, while serving concurrently as the Resident Debt Advisor with the Ministry of Finance, Government of Fiji Islands, during 2005-2007. He drafted the United Nation's Doha Development Agenda (2008), consultant to the Asian Development Bank on Indian Municipal Bond, and consultant to the Crown Agents, London, on sub-national debt management. Dr Pradhan has extensively researched in securities market, asset pricing, mutual funds and SME and microfinance.

Dr. Smita Premchander is engaged in the evaluation of policies and programmes, research, and capacity building, strategic evaluations and policy advice. She is a visiting faculty at the Indian Institute of Management, Ahmedabad, engaged in teaching and research on microfinance and gender and development policies and programmes. She is a founder-member of Sampark, which works for the empowerment of women and migrant workers, and Director of the Sampark Livelihoods Promotion Trust (SLPT), which provides consultancy services for research, documentation, evaluation and policy advice.

She is on the board of several NGOs, including Bandhan Konnagar, and of a non-banking financial company. She has done extensive research on microfinance, gender, rural livelihoods, sustainable development, informal and migrant labour, and has published widely on these issues.

She is an expert on multi-stakeholder perspectives in development, trans-disciplinary research, and advice on policy formulation and programme design. She works internationally with several UN and donor agencies, and extensively in the Asian region, including India, Nepal, Bangladesh, Sri Lanka, Myanmar and Thailand.

She holds an MA in Economics from the University of Delhi, an MBA from the Indian Institute of Management, Ahmedabad, and a PhD from Durham University Business School, UK with sponsorship from the University of Berne. She was the chairperson on the International Advisory Board of the United Nations University's Institute of Environment and Human Security (UNU-EHS) from 2014-22), and is currently on the board of the Munich Climate Insurance Initiative (MCII), Bonn, and a reviewer for the Swiss National Science Foundation, Bern.



Dr. Sunil Puliyakot is presently working as an Associate Professor in the area of Economics and Finance at Rajagiri Business School, Kochi. He is a Fellow in Management from XLRI, Xavier School of Management, Jamshedpur.

He also holds a Post Graduate Diploma in Rural Management from Institute of Rural Management, Anand and master's degree in Commerce from University of Calicut, Kerala. His work experiences include various managerial positions in Gujarat Co-operative Milk Marketing Federation, JM Financial and ICICI Bank before taking up academic positions in business schools. His previous assignment was with Amrita School of Business, Coimbatore.

N. Srinivasan has four decades of development finance and 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 career as a development banker, over the last ten 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 in India and Corporate Social Responsibility besides contributing to many other books as a joint author. He currently serves as an independent director on the board of Equitas Small Finance Bank, three other companies and two development trusts. As an international development finance and livelihoods expert, he serves as a consultant and advisor to World Bank, International Fund for Agricultural Development, GIZ, KFW, NABARD, SIDBI, Microsave and other institutions.

Susan Thomas has studied at IIT Bombay and the University of Southern California. She has been faculty at the Indira Gandhi Institute for Development Research.

Her research lies in the areas of finance, markets and the economy. She worked in the design of the NSE-50 ("Nifty") index and the risk management systems of the Indian equity derivatives markets. Her policy engagements with the Ministry of Finance included being a member of the Standing Council of the competitiveness of the Indian Financial Sector (2013), and the Bankruptcy Legislative Reforms Committee (2014). She led the research team that designed and drafted the Insolvency and Bankruptcy Code (2016) and worked with the Ministry of Corporate Affairs on the organisational structure of the Insolvency and Bankruptcy Board of India and the National Companies Law Tribunal.

N.S. Vishwanathan is the Former Deputy Governor of Reserve Bank of India. He joined the Reserve Bank of India (RBI) in 1981 as a Direct Recruit Officer in Grade B, and retired as Deputy Governor in March 2020. During his nearly four-decade service in RBI, he had exposures to core central banking and administrative functions. In this period, he also worked in three external institutions – two domestic organisations and a foreign central bank.

His areas of expertise include regulation and supervision of banking, non-Banking and cooperative banking entities and sector.

Vishwanathan is currently the Chairman of the Academic Advisory Council of the College of Supervisors of Reserve Bank of India. As Deputy Governor he represented RBI/India as the Member, Basel Committee on Banking Supervision (BCBS). Member, Financial Stability Board (FSB) and some of its sub committees, Member and later Co-chair of FSB Regional Consultative Group for Asia (RCG Asia). Mr Vishwanathan was part of several domestic organisations, notably, non-executive Member of the Board of Directors, Securities and Exchange Board of India (SEBI), Member, Bank Board Bureau (BBB), and Member, Governing Council, Institute for Development and Research in Banking Technology (IDRBT). He was also Member / Chairman of several working groups, committees constituted by Government of India and Reserve Bank of India.

Graham A. N. Wright is the Founder and Group Managing Director of MSC. He pioneered the core of the market-led approach implemented by MSC. Graham has over 31 years of experience in emerging markets, underpinned by five years of experience in management consulting, training, and auditing with a leading accounting firm in Europe. He is a reformed Chartered Accountant. Graham has worked with banks, MFIs, telecoms, and regulators across most developing or underdeveloped economies. These include Bangladesh, China, India, Indonesia, Nepal, Pakistan, the Philippines, Vietnam, Zimbabwe, Kenya, Uganda, South Africa, Tanzania, and Zambia. Mr. Graham oversees MSC's Digital Financial Services, Strategic Initiatives, Knowledge Management and Marketing, and Global Insights domains. During his time as MSC's head in Africa, he spearheaded work to transform Equity Bank and Kenya Post Office Savings Bank and collaborated in the design and initial testing of M-PESA. He has led several teams working on digital financial services solutions for banks, mobile network operators, and MFIs in Asia, Africa, and Latin America.