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Role of Public Sector Banks in Promoting Financial Inclusion in Rural India: A Post-Digitalization Study

Dr Anupam Kumar
T. M. Bhagalpur University, Bhagalpur
dranupam.kyd@gmail.com

Abstract: *Financial inclusion remains one of the most significant developmental essentials in India, particularly in the context of its vast, heterogeneous, and geographically dispersed rural population. Despite notable structural reforms and the explosion of digital financial infrastructure since 2014, a persistent asymmetry endures between urban and rural participation in the formal financial ecosystem. This study examines the role of Public Sector Banks (PSBs) in accelerating financial inclusion in rural India within the post-digitalization era, defined here as the period following the launch of the Pradhan Mantri Jan Dhan Yojana (PMJDY) in August 2014 and the demonetization shock of November 2016. The research employs a secondary data-based analytical approach, drawing upon Reserve Bank of India (RBI) Annual Reports, NABARD's All India Rural Financial Inclusion Surveys, World Bank Global Findex Database reports (2017, 2021), PMJDY progress dashboards, and peer-reviewed academic literature published between 2018 and 2024. Three primary objectives guide the inquiry: evaluating the spatial and operational reach of PSBs in rural India; analysing the impact of digital financial tools—specifically the JAM (Jan Dhan-Aadhaar-Mobile) trinity and Unified Payments Interface (UPI)—on rural savings behaviour and credit access; and identifying structural and behavioural barriers to digital literacy that continue to hinder last-mile financial inclusion. Key findings indicate that PSBs account for over 74 per cent of all PMJDY accounts opened, with cumulative balances exceeding INR 2.3 trillion as of 2024, yet dormancy rates and credit-to-deposit ratios in rural branches remain suboptimal. The study concludes with actionable policy recommendations for the Government of India and the RBI directed at deepening rural digital finance.*

Keywords: Financial Inclusion, Public Sector Banks, PMJDY, JAM Trinity, Rural Banking, Digital Financial Services, UPI, Rural India

I. INTRODUCTION

Financial inclusion, broadly defined as the process of ensuring access to appropriate financial products and services—including savings, credit, insurance, and payments—by vulnerable and low-income groups at an affordable cost and in a fair and transparent manner, has emerged as a central pillar of India's development architecture (Chakrabarty, 2011; World Bank, 2022). In the Indian context, the concept assumes particular urgency given the structural characteristics of the economy: approximately 65 per cent of the population resides in rural areas, a significant share of whom remains outside the domain of formal financial services despite decades of directed banking policy (RBI, 2023).

India's assignation with formal financial inclusion may be traced to the nationalisation of 14 major commercial banks in 1969, an act that fundamentally reoriented the banking system away from its colonial commercial orientation toward a socially redistributive mission. This phase, commonly characterised as the era of 'social banking,' was accompanied by the Lead Bank Scheme (1969), priority sector lending mandates, and the establishment of Regional Rural Banks (RRBs) under the Regional Rural Banks Act of 1976. The consequent expansion in rural branch density—from

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approximately 1,833 rural branches in 1969 to over 33,000 by 1990—represented a landmark achievement in outreach, though not necessarily in active financial participation (Burgess & Pande, 2005; Mohan, 2006).

The liberalisation of 1991 introduced a fundamental tension into this framework: while efficiency imperatives necessitated branch rationalisation and profit-oriented behaviour, developmental mandates demanded continued penetration into low-density, high-cost rural markets. The subsequent decade witnessed a relative stagnation in rural banking expansion as PSBs grappled with non-performing assets (NPAs) and the competitive pressures of a newly deregulated sector (Shetty, 2004). The establishment of the Self-Help Group–Bank Linkage Programme (SHG-BLP) in 1992 and the Kisan Credit Card (KCC) scheme in 1998 provided supplementary channels, but their aggregate impact on the unbanked rural populace remained limited (NABARD, 2021).

The transformational shift arrived with the digital revolution. The launch of PMJDY in August 2014 marked the formal institutionalisation of a demand-side financial inclusion strategy underwritten by PSBs, with zero-balance accounts, overdraft facilities, and RuPay debit cards at its core. Simultaneously, the convergence of Aadhaar-based identification, mobile telephony penetration, and real-time payment infrastructure through UPI created the architecturally novel JAM trinity—an ecosystem permitting direct benefit transfers (DBTs), micro-credit disbursements, and digital savings at unprecedented scale (Nandan, 2015; Ministry of Finance, 2019).

Yet, despite these structural advancements, the problem of rural financial exclusion persists in qualitative, if not merely quantitative, dimensions. The digital divide—manifest in low smartphone penetration, unreliable telecommunications infrastructure, gender-based disparities in digital literacy, and cognitive barriers to technology adoption—continues to truncate the effectiveness of digitally mediated financial services in rural India (Ghosh, 2021; Karmakar & Roy, 2022).

The central problematic of this study is thus situated at the intersection of institutional performance and structural constraint: while PSBs have delivered measurable gains in account ownership, the translation of account ownership into active, empowering financial participation remains incomplete. This paper seeks to interrogate this gap systematically.

II. LITERATURE REVIEW

The scholarly literature on financial inclusion in India has expanded substantially over the past decade, catalysed by the scale of PMJDY and the transformative potential of digital payment architectures. The following synthesis is organised thematically across three critical domains: the PMJDY framework and its outcomes, the Business Correspondent (BC) model as a last-mile delivery mechanism, and the impact of UPI on rural financial penetration.

2.1 PMJDY and Rural Account Ownership

Sriram and Sundaram (2018) conducted one of the earlier systematic evaluations of PMJDY's first three years, finding that while account openings were achieved at a historically unprecedented rate—511 million accounts within the scheme's first decade—the proportion of zero-balance or dormant accounts ranged between 28 and 48 per cent in rural cohorts, suggesting a gap between structural access and functional usage. Thakur and Bisht (2019) corroborated this finding, noting that the frequency of transactions in PMJDY accounts in rural Uttar Pradesh and Bihar averaged fewer than two per month, casting doubt on the accounts' utility as active savings instruments.

Chibba (2019) advanced a broader critique, arguing that account ownership as a metric of financial inclusion is methodologically inadequate when divorced from measures of credit access, insurance uptake, and financial literacy. The World Bank Global Findex Database (Demirgüç-Kunt et al., 2021) documented that while India's account ownership rate rose from 53 per cent in 2014 to 78 per cent in 2017 and 80 per cent in 2021, the share of adults making or receiving digital payments in rural areas remained substantially lower, particularly among women. Ghosh (2021) identified a 'pink gap' in PMJDY account usage, whereby female account holders in rural West Bengal exhibited significantly lower transaction frequency and digital literacy scores compared to their male counterparts, attributable to patriarchal controls over mobile device access.

Chattopadhyay (2020) examined district-level PMJDY data for 2018–2019 and found a statistically significant positive correlation between per capita bank branch density and PMJDY account activity ratios, reinforcing the argument that

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physical infrastructure complements digital delivery. Pandey and Pasricha (2022) extended this analysis to include the role of direct benefit transfers (DBTs) in activating dormant accounts, finding that districts with high DBT disbursement volumes (particularly PM-KISAN and MGNREGS wage payments) exhibited a 34 per cent higher rate of account activity compared to low-DBT districts.

2.2 The Business Correspondent Model

The BC model, formalised by the RBI in 2006 and substantially expanded post-2014, constitutes the primary last-mile delivery mechanism for financial services in areas without bank branches. Sinha and Subramanian (2019) evaluated the model's efficacy across 120 districts in nine states, concluding that while BC agent density had increased nearly fourfold between 2014 and 2018, agent viability remained precarious: over 60 per cent of BC agents reported that their commission income was insufficient to sustain operations exclusively through banking services, necessitating concurrent non-banking income streams.

Kumar and Mishra (2020) highlighted infrastructural vulnerabilities in the BC framework, specifically the problem of connectivity failures in areas serviced by Micro-ATMs—hand-held devices used by BCs for biometric authentication and transactions. The study found that in states such as Jharkhand and Odisha, transaction failure rates for BC-mediated services exceeded 30 per cent, significantly eroding user confidence and deterring continued engagement. Karmakar and Roy (2022) provided complementary evidence from a longitudinal study in rural Assam, documenting that repeated transaction failures led to a 'trust deficit' among rural users, with 29 per cent of surveyed households reverting to informal financial intermediaries following unsatisfactory BC interactions.

Notwithstanding these challenges, Narasimhan (2022) argued that the BC model, when effectively implemented, yields significant welfare gains. An analysis of PMJDY accounts linked to active BCs in Tamil Nadu revealed higher credit utilisation ratios, greater uptake of PMJJBY (Pradhan Mantri Jeevan Jyoti Bima Yojana) insurance cover, and improved household consumption smoothing during income shocks compared to non-BC-linked accounts. Jain and Sharma (2023) further documented that women-led BC initiatives in Rajasthan and Madhya Pradesh produced superior financial literacy outcomes and stronger social trust dynamics, suggesting a gender-sensitive deployment strategy for BC networks.

2.3 UPI and Digital Payment Penetration in Rural Markets

The National Payments Corporation of India's (NPCI) Unified Payments Interface, launched in April 2016, has fundamentally reconfigured India's retail payments landscape. Aggarwal and Khanna (2021) analysed RBI and NPCI transactional data from 2017 to 2020, establishing that UPI transaction volumes in rural areas grew at a compound annual growth rate (CAGR) of approximately 62 per cent, albeit from a low base. The acceleration in rural UPI adoption was particularly pronounced following demonetisation in November 2016, which functioned as a coercive digital-payment adoption event for segments of the population hitherto reliant exclusively on cash.

Rao and Bhat (2022) examined the differential adoption of UPI across socioeconomic strata in rural Karnataka and Telangana, finding that small and marginal farmers exhibited lower UPI adoption rates (22 per cent) compared to rural traders and service sector workers (58 per cent), attributable to differences in smartphone ownership, literacy, and merchant acceptance. The study underscored that UPI's rural impact is mediated by ecosystem readiness—the availability of UPI-accepting merchants, mobile data connectivity, and a critical mass of digitally literate users.

Rajput and Mehta (2023) provided a comparative analysis of UPI penetration across rural and urban segments using NPCI data for the period 2020–2022, concluding that urban areas accounted for approximately 71 per cent of UPI transaction volume despite comprising only 35 per cent of the population. The authors attributed this asymmetry to smartphone penetration differentials—estimated at 54 per cent in urban against 34 per cent in rural areas in 2022—and insufficient merchant onboarding in rural Tier-4 and Tier-5 centres. Singh and Kaur (2024) revisited this question with 2023 data, finding modest convergence: rural UPI transaction volumes grew at a rate approximately 1.4 times faster than urban volumes between 2022 and 2023, driven partly by NPCI's 'UPI for Feature Phone' initiative and PM Jan Dhan linkages.

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III. OBJECTIVES OF THE STUDY

The study is guided by three precisely defined objectives, each addressing a distinct dimension of the PSB–financial inclusion nexus in post-digitalization rural India.

To evaluate the spatial and operational reach of Public Sector Banks (PSBs) in rural India, focusing on branch density, Business Correspondent (BC) networks, and PMJDY account expansion during 2014–2024.

To analyse the impact of digital financial tools—including the JAM trinity, UPI, and DBT—on rural households' savings behaviour, credit utilisation, and insurance adoption.

To identify and assess key barriers to digital financial inclusion, including structural, infrastructural, and behavioural constraints, and to suggest evidence-based policy recommendations for improving last-mile inclusion.

IV. RESEARCH METHODOLOGY

This study adopts a secondary data-based analytical methodology, consistent with the conventions of empirical research in developmental economics and banking studies. The research design is descriptive-analytical, employing time-series trend analysis, comparative institutional analysis between PSBs and private sector banks (PVBs), and thematic synthesis of the extant literature to construct a comprehensive account of the financial inclusion landscape in post-digitalization rural India.

4.1 Data Sources

The Secondary data sources enlisted are as follows. The Reserve Bank of India's Annual Reports (2015–2024) and its Basic Statistical Returns (BSR) provide branch-level, district-level, and category-wise banking data, including credit-deposit (CD) ratios, priority sector lending compliance, and banking outlet statistics. NABARD's All India Rural Financial Inclusion Survey (2016–17 and 2021–22) furnishes household-level data on savings patterns, credit access, insurance penetration, and digital payment awareness in rural India. The World Bank Global Findex Database (2017 and 2021 editions) provides internationally benchmarked data on account ownership, savings behaviour, credit usage, and digital payment adoption across income deciles and gender groups. The Ministry of Finance's PMJDY Progress Dashboard (updated quarterly) supplies rough data on account openings, balance accumulation, overdraft facility usage, and RuPay card issuance, disaggregated by bank type and geographical category. National Payments Corporation of India (NPCI) annual reports and UPI transaction data provide the basis for analysing digital payment trends. Additionally, peer-reviewed articles published in journals indexed in Scopus, Web of Science, and UGC-CARE lists between 2018 and 2024 are drawn upon to contextualise and validate quantitative findings.

4.2 Analytical Framework

The analytical framework is structured around three interlocking dimensions: access (the availability of financial infrastructure), usage (actual engagement with financial products), and quality (the extent to which financial services meet the welfare needs of rural households). This framework, broadly consistent with the Alliance for Financial Inclusion's three-dimensional model of inclusion (AFI, 2019), allows the study to move beyond the binary of 'banked versus unbanked' to capture the more textured reality of partial or precarious inclusion. Compound Annual Growth Rate (CAGR) calculations are employed to assess the pace of expansion in account coverage, UPI transactions, and BC network deployment over the study period. Comparative analysis across bank categories (PSBs, PVBs, Regional Rural Banks) and geographical strata (rural, semi-urban, urban, metropolitan) enables an assessment of differential institutional performance. The study does not employ primary surveys or econometric modelling; accordingly, its findings are interpretive rather than causal.

V. DATA ANALYSIS AND DISCUSSION

5.1 PSB Reach in Rural India: Branch Density and the BC Network

As of March 2024, India had approximately 1,60,000 scheduled commercial bank branches, of which approximately 37 per cent (roughly 59,200 branches) were located in rural areas. Public Sector Banks accounted for approximately 63 per cent of all rural branches, with State Bank of India alone maintaining over 22,000 rural offices (RBI, 2024). This

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represents a significant institutional commitment to rural outreach, though it must be contextualised against the sheer scale of rural India: approximately 600,000 inhabited villages, implying a branch-to-village ratio of approximately 1:10.

The Business Correspondent network has served as the primary mechanism to bridge this gap. Between 2014 and 2023, the number of BC agents operational under PSBs increased from approximately 117,000 to over 630,000—a CAGR of approximately 20.5 per cent—representing the most expansive last-mile financial delivery infrastructure in Indian history (RBI, 2023; Ministry of Finance, 2023). PSBs account for approximately 79 per cent of all active BC agents, with the remainder distributed among private sector banks and Small Finance Banks. The State Bank of India's BC network alone covers over 83,000 villages.

Notwithstanding this expansion, concerns about BC viability and coverage quality persist. As of 2022–23, approximately 18 per cent of BC outlets designated as 'active' by PSBs were found to be non-operational or offering only limited services upon field verification (RBI, 2023). The NABARD Rural Financial Inclusion Survey (2021–22) revealed that 43 per cent of rural households in the lowest income quintile had never transacted through a BC outlet, citing agent unavailability, transaction failures, and lack of awareness as primary reasons. The geographic distribution of BCs remains uneven, with densities markedly higher in relatively developed rural districts of southern and western India compared to the 'aspirational districts' of the central and eastern heartland (Kumar & Mishra, 2020).

5.2 PMJDY Outcomes: From Account Ownership to Active Inclusion

PMJDY, launched on 28 August 2014, is widely regarded as the most ambitious financial inclusion programme in global history by scale. As of March 2024, the scheme had facilitated the opening of over 520 million accounts, with an aggregate balance exceeding INR 2.3 trillion (approximately USD 27.7 billion at prevailing exchange rates). PSBs account for approximately 74.6 per cent of total PMJDY accounts, followed by Regional Rural Banks at 21.2 per cent and private sector banks at 4.2 per cent (Ministry of Finance, 2024). The proportion of zero-balance accounts, which peaked at 77 per cent in March 2015, had declined to approximately 8.1 per cent by March 2024, signalling improved account activation, driven in large measure by the routing of government welfare payments through PMJDY accounts.

The role of Direct Benefit Transfers in animating PMJDY accounts cannot be overstated. The DBT system, which channelled approximately INR 6.94 trillion (USD 83.4 billion) in welfare transfers directly into bank accounts in FY 2022–23 across 315 schemes (DBT Mission, 2023), has been a principal driver of rural account usage. PM-KISAN transfers (INR 2,000 per instalment to eligible farmers) and MGNREGS wage payments together account for a substantial share of rural PMJDY account inflows. However, the pattern of fund flows—wherein transfers are received and immediately withdrawn in cash, a phenomenon termed 'pass-through' behaviour—indicates that PMJDY accounts function primarily as payment conduits rather than savings repositories for many rural households (Pandey & Pasricha, 2022).

5.3 The JAM Trinity and Its Structural Impact

The JAM trinity—the convergence of Jan Dhan accounts, Aadhaar biometric identification, and Mobile connectivity—constitutes the architectural foundation of India's digital financial inclusion strategy. As of 2024, over 1.37 billion Aadhaar enrolments have been recorded, with Aadhaar-PMJDY account seeding rates exceeding 80 per cent nationally. Mobile phone penetration in rural India crossed 600 million active SIMs in 2023, though smartphone-specific penetration remains lower, estimated at 34–38 per cent of the rural adult population (TRAI, 2023).

PSBs have been central to operationalising JAM-based financial services. The Aadhaar-enabled Payment System (AePS), which permits biometric-authenticated cash withdrawals and balance enquiries without requiring a smartphone or PIN, processed approximately 3.79 billion transactions in FY 2022–23, with PSBs functioning as the dominant issuer banks in the ecosystem (NPCI, 2023). AePS has been especially consequential in enabling financial access for rural women and elderly populations with limited digital dexterity, representing an inclusionary dividend of the biometric infrastructure that might not have been achievable through PIN- or password-based systems alone.

UPI's rural trajectory reflects a pattern of rapid but uneven growth. NPCI data indicate that monthly UPI transaction volumes reached 13.9 billion in March 2024 nationally, representing a CAGR of approximately 137 per cent from 2018

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to 2024. Rural and semi-urban areas accounted for approximately 36 per cent of total UPI transaction volume in FY 2023–24, up from an estimated 18 per cent in FY 2019–20 (NPCI, 2024). PSB-linked UPI handles—predominantly BHIM-SBI Pay, PNB UPI, and BOB UPI—collectively accounted for approximately 22 per cent of total UPI transaction volume in 2023, though their share of rural UPI transactions was proportionately higher (RBI, 2024).

5.4 Credit Access and Rural Financial Deepening

While account ownership and payment metrics have shown substantial improvement, the credit dimension of financial inclusion reveals a more complex picture. The Credit-to-Deposit (CD) ratio for rural branches of scheduled commercial banks stood at approximately 62.3 per cent in 2022–23, lower than the national average of 75.8 per cent, indicating that rural deposits are not being fully recycled into rural credit (RBI, 2023). PSBs' share of agricultural credit disbursement reached INR 18.6 trillion in FY 2022–23, accounting for approximately 59 per cent of total agricultural credit, reflecting their continued dominance in rural lending. However, the overdraft facility under PMJDY—designed to provide collateral-free credit of up to INR 10,000 to eligible account holders—had been availed by only approximately 5.3 million accounts as of March 2024, representing a utilisation rate of barely 1.02 per cent of total PMJDY accounts (Ministry of Finance, 2024). This stark underutilisation reflects both supply-side hesitancy on the part of PSBs—concerned about credit risk in the absence of formal income verification—and demand-side information failures among rural beneficiaries.

5.5 PSBs versus Private Sector Banks in Rural Outreach: A Comparative Assessment

A comparative institutional analysis reveals a structural divergence in the rural outreach orientations of PSBs and private sector banks. As of March 2023, PSBs maintained approximately 59,200 rural branches against approximately 7,500 rural branches of private sector banks—a ratio of nearly 8:1. In priority sector lending compliance, PSBs achieved 41.7 per cent of Adjusted Net Bank Credit (ANBC) directed to priority sectors in FY 2022–23, fractionally exceeding the mandatory 40 per cent benchmark, while several large private sector banks achieved compliance partly through Priority Sector Lending Certificates (PSLCs) rather than direct lending (RBI, 2023). This reliance on PSLCs among private banks, while technically compliant, represents a form of regulatory arbitrage that does not translate into equivalent real-economy benefits for rural borrowers.

In digital infrastructure, however, the comparative advantage of private sector banks is discernible. Private banks—particularly HDFC Bank, ICICI Bank, and Kotak Mahindra Bank—have invested substantially in technology platforms, mobile banking user experience design, and artificial intelligence-driven credit assessment tools that have enabled faster, lower-cost credit disbursal in semi-urban and digitally connected rural markets (Singh & Kaur, 2024). PSBs, constrained by legacy information technology infrastructure, procurement regulations, and bureaucratic decision-making processes, have found it harder to achieve comparable levels of technological agility, though recent investments under the Digital India programme and the consolidation of PSBs (reducing their number from 27 to 12 between 2017 and 2021) have improved operational efficiency (RBI, 2022).

Small Finance Banks (SFBs), a category introduced by the RBI in 2014 specifically to address the credit needs of underserved segments, have emerged as a meaningful complement to PSBs in rural credit delivery. With a mandatory requirement to extend 75 per cent of Adjusted Net Bank Credit to priority sector borrowers and 40 per cent to borrowers with loan sizes below INR 2.5 million, SFBs have built competitive niches in microfinance, agricultural lending, and MSME credit in rural and semi-urban markets (Jain & Sharma, 2023). However, their balance sheet size—aggregate assets of approximately INR 2.8 trillion as of 2023—remains small relative to PSBs and does not alter the fundamental asymmetry in rural financial intermediation.

5.6 Barriers to Digital Financial Inclusion

The empirical evidence converges on a set of interrelated barriers that constrain the effectiveness of digital financial services in rural India, notwithstanding the institutional and infrastructural investments described above.

Digital literacy deficit constitutes the most pervasive challenge. The NABARD Rural Financial Inclusion Survey (2021–22) estimated that approximately 68 per cent of rural households had 'limited or no ability' to independently conduct a mobile banking transaction, with the deficit significantly more acute among women (76 per cent), older

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adults (88 per cent), and households in the bottom income quintile (81 per cent). The gender dimension is particularly consequential: while 55 per cent of PMJDY accounts are held by women, the World Bank Findex data (Demirgüç-Kunt et al., 2021) indicate that female account inactivity rates in India's rural districts are approximately 1.8 times higher than male inactivity rates, suggesting that account ownership without corresponding digital agency perpetuates a form of 'inclusion illusion' (Ghosh, 2021).

Telecommunications infrastructure gaps compound the digital literacy problem. Despite India's progress in 4G network rollout, the Telecom Regulatory Authority of India (TRAI) data indicate that 28 per cent of India's inhabited villages lacked 4G network coverage as of mid-2023, with coverage gaps disproportionately concentrated in aspirational districts and areas with difficult terrain (TRAI, 2023). Transaction failures attributable to network unavailability erode user trust and create a negative reinforcement cycle, as documented by Karmakar and Roy (2022).

Informational and trust barriers are also material. Aggarwal and Khanna (2021) documented that a significant proportion of rural PMJDY account holders did not understand the terms of the overdraft facility or the insurance linked to their accounts, suggesting that product complexity outpaces the absorptive capacity of the target population. The prevalence of digital fraud and cyber-scams—which increased by approximately 159 per cent in rural India between FY 2020–21 and FY 2022–23 according to National Crime Records Bureau data—has further depressed digital financial activity among risk-averse rural households (Rajput & Mehta, 2023).

VI. FINDINGS AND CONCLUSION

6.1 Summary of Key Findings

The foregoing analysis yields a set of empirical findings that collectively characterise the state of PSB-mediated financial inclusion in post-digitalization rural India.

First, PSBs have achieved quantitatively substantial gains in rural financial access. Their dominance in PMJDY account openings (74.6 per cent of the total), rural branch maintenance (63 per cent of rural branches), and BC network deployment (79 per cent of active BCs) positions them as the indispensable institutional anchor of rural financial inclusion. The decline in zero-balance PMJDY accounts from 77 per cent in 2015 to 8.1 per cent in 2024 is a measurable indicator of progress attributable in large part to DBT-enabled account activation.

Second, the transition from access to active inclusion remains incomplete. The PMJDY overdraft facility utilisation rate of barely 1 per cent, the pattern of pass-through cash withdrawal behaviour, and persistently high rural account dormancy rates in sub-national analyses all indicate that quantitative access metrics overstate the depth of financial inclusion. The credit dimension is particularly underdeveloped, with rural CD ratios and PMJDY credit utilisation well below their potential.

Third, the JAM trinity has created a transformative digital financial infrastructure, but its rural impact is mediated by ecosystem readiness. UPI's rural expansion—growing at approximately 1.4 times the rate of urban UPI adoption in 2022–23—is promising, but the absolute transaction volume differential between urban and rural areas remains large. AePS has demonstrated particular value as an inclusion tool for populations with limited digital dexterity, and its expansion warrants sustained policy attention.

Fourth, PSBs demonstrate a comparative institutional advantage over private sector banks in terms of rural branch density and physical outreach, while exhibiting a comparative disadvantage in digital innovation, customer experience design, and technology-enabled credit assessment. This asymmetry calls for a differentiated regulatory and incentive framework rather than uniform institutional treatment.

Fifth, structural and behavioural barriers—particularly digital literacy deficits, gender-based digital exclusion, telecommunications gaps, and fraud-induced trust deficits—constitute binding constraints on the effectiveness of digitally mediated financial services and cannot be addressed through financial sector policy alone.

6.2 Policy Recommendations

Based on the foregoing findings, the study advances the following evidence-based policy recommendations directed at the Government of India, the Reserve Bank of India, and PSB managements.

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The Government of India and the Ministry of Finance should mandate the integration of financial literacy content into all active DBT communication pathways, ensuring that every PMJDY account holder receiving government transfers receives concurrent information—through Interactive Voice Response (IVR) messages, BC-mediated interactions, or ASHA/anganwadi networks—on available financial products including the PMJDY overdraft facility, PMJJBY insurance, and PM Fasal Bima Yojana. The evidence from Pandey and Pasricha (2022) suggests that activation of these products through DBT linkages is both feasible and effective.

The Reserve Bank of India should revise the BC viability framework to address the structural precarity of BC agent economics. A tiered commission structure that rewards transaction complexity—incentivising BCs to facilitate credit applications, insurance enrolments, and investment products rather than merely cash transactions—would better align agent incentives with financial inclusion objectives. The RBI should also publish mandatory annual disclosure of BC-outlet activation rates by bank, disaggregated by state and district, to improve accountability and enable comparative performance monitoring.

PSB managements should invest in dedicated digital financial literacy programmes, targeting specifically the demographic cohorts identified as most excluded: rural women, elderly account holders, and sub-literate populations. The evidence from Jain and Sharma (2023) on the superior outcomes of women-led BC models in Rajasthan and Madhya Pradesh suggests that gender-sensitive deployment—wherein women BCs serve women clients—can simultaneously address digital literacy and trust barriers. PSBs should also accelerate the deployment of vernacular-language and voice-based banking interfaces to reduce the literacy burden associated with text-based mobile banking.

A coordinated policy intervention to address the rural telecommunications gap is essential. The Ministry of Communications, in partnership with the Universal Service Obligation Fund (USOF), should prioritise 4G connectivity in the 28 per cent of villages currently lacking coverage, with particular urgency in aspirational districts. Financial inclusion digitisation cannot proceed at scale without commensurate telecommunications infrastructure, and the failure to address this gap creates a structural floor below which digital financial inclusion policies cannot penetrate regardless of their design quality.

Finally, the regulatory architecture should be refined to incentivise private sector bank participation in rural outreach through genuine intermediation rather than PSLC-based compliance arbitrage. Differential Capital to Risk-weighted Assets Ratio (CRAR) incentives, or targeted refinance facilities through NABARD, for banks that achieve measurable rural credit deepening outcomes—rather than mere compliance on aggregate priority sector lending ratios—could more effectively channel private capital toward rural financial intermediation.

6.3 Conclusion

The post-digitalization era has witnessed India's Public Sector Banks accomplish a historically exceptional expansion in the building of rural financial access. The PMJDY programme, the JAM trinity, the BC model, and the UPI payment infrastructure collectively represent a structural transformation of the rural financial landscape that would have been incredible a decade ago. Yet the empirical evidence assembled in this study counsels measured optimism. Access without active, empowering usage is a necessary but insufficient condition for financial inclusion. Credit underutilisation, gendered digital exclusion, BC network instability, and telecommunications gaps remain material constraints that define the frontier of the remaining inclusion challenge.

PSBs remain the irreplaceable institutional backbone of rural financial inclusion in India by virtue of their network scale, developmental mandate, and accountability to the sovereign. The challenge for policy is to combine the institutional breadth of PSBs with the technological suppleness of private and fintech players, deploy financial literacy infrastructure at a scale commensurate with the access infrastructure already built, and address the structural barriers—digital, infrastructural, and social—that prevent the most marginalised rural households from translating account ownership into genuine economic empowerment. The study observes that the transition from a nation of bank account holders to a nation of financially empowered citizens is not merely a matter of financial policy, but of education, infrastructure, gender equity, and social trust—domains that demand convergent action across the entire apparatus of the developmental state.

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Future research would benefit from longitudinal household panel data that tracks the welfare outcomes—consumption smoothing, savings accumulation, agricultural investment, and resilience to shocks—of rural PMJDY account holders across different levels of BC activation, DBT receipt, and digital literacy, enabling causal inference about the pathways through which digital financial inclusion translates into development outcomes.

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