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Paradigm Shift in the Credit Pattern and Lending Behaviour of Public Sector Banks (PSBs) in India: An Analytical Approach

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Executive Summary

The banking sector plays an important role in promoting the economic development of the country by providing financial resources to the individuals or businesses. In India, the banks, especially public sector banks have traditionally been the primary source of credit. Over the last decade, significant changes have come in the financial sector such as the rise of fintech companies, growth in Non-Banking Financial Companies (NBFCs), rising digitalisation, increasing financial awareness and tightening regulatory policies. On the backdrop of all these developments, how the credit pattern and lending behaviour have shifted for public sector banks, needs exploration.

Against this backdrop, this study examines the credit pattern in public sector banks in India. The 5 major public sector banks were selected based on their market capitalisation, i.e. State Bank of India, Bank of Baroda, Canara Bank, Punjab National Bank and Union Bank of India. The analysis was conducted to examine the sectoral credit pattern from 2012 to 2025. This study also takes into account the trend in priority sector lending and its relationship with banks' profitability. Considering the growth of digital banking in the country, this study also investigated into the growth of mobile banking, to understand its association with lending activities.

The findings reveal that retail lending has increased significantly. The rise of mobile banking has shown a statistically significant influence on increasing lending. The growth of banks' mobile apps and their convenience of use have made it easy for account holders to apply for loans. Rising household incomes, increasing financial inclusion, Government initiatives, easy access to credit have created demand for credit. At the same time, following the rising corporate Non-performing Assets (NPAs), banks also increased retail lending to reduce concentration risk. Improvements in credit scoring, digital loan processing and centralized credit appraisal systems further enabled banks to expand retail lending efficiently. In contrast, the results indicate decline in MSME share over the study period. Bank-wise, some banks show increase and some steady increase, due to which overall impression does not suggest increase in lending.

Agricultural lending also showed a gradual increase over the study period. This could be due to increased efforts to promote rural development and rural inclusion. However, the pace of growth remained comparatively moderate as the agriculture sector continues to be affected by seasonal income patterns and climate risks.

Under the priority sector lending, the MSME share does not exhibit statistically significant rise. This may be due to associated high risk. Priority lending shows a negative relationship with profitability and a positive relationship with gross non-performing assets. Regulatory mandates under the Priority Sector Lending (PSL) framework required banks to allocate a prescribed proportion of their credit to MSMEs. In addition, policy initiatives such as the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), revised MSME classification, Emergency Credit Line Guarantee Scheme (ECLGS) and various refinance and interest subvention schemes encouraged banks to increase credit flow to this sector. Despite these

policy measures, the analysis suggests that higher MSME lending is accompanied by relatively higher levels of stressed assets because MSMEs remain vulnerable to market fluctuations and resource constraints.

Another significant trend observed during the study period was the rapid expansion of mobile banking. The increasing adoption of smartphones, affordable internet connectivity, digital financial services, substantially accelerated the use of mobile banking services. Digital platforms simplified customer onboarding, loan applications, documentation, account verification and loan servicing, thereby reducing transaction costs and processing time. Also, the digitalisation has improved the reach of financial services. Consequently, the simultaneous growth in mobile banking and lending activities indicates that digital banking has become an important facilitator of credit expansion by improving accessibility and operational efficiency.

Overall, the analysis demonstrates that the lending strategy of Public Sector Banks has evolved significantly during the study period. The increasing share of retail lending reflects consumer's credit inclusion and banks' preference for diversified loan portfolios. The steady credit pattern in MSME and agricultural lending reflects the continued commitment of banks towards financial inclusion and economic development under the Priority Sector Lending framework, while following risk aversion approach. However, the need to increase lending to MSMEs and agriculture has been seen. Furthermore, the rapid expansion of mobile banking reflects the transformative role of digital technology in improving credit accessibility and delivery.

Conclusively, these findings indicate that Public Sector Banks are increasingly balancing risk management and developmental objectives through diversified lending strategies supported by digital transformation.

Abstract

Public Sector Banks (PSBs) have historically formed the backbone of India's credit delivery architecture, playing a critical role in financial intermediation, priority sector lending and inclusive growth. Over the last decade, however, the lending landscape has undergone a fundamental transformation, shaped by regulatory reforms, digital disruption, fintech partnerships and intensifying competition from private banks and Non-Banking Financial Companies (NBFCs). This working paper investigates the paradigm shift in credit patterns and lending behaviour of PSBs in India between 2012–13 and 2024–25, focusing on sectoral category shifts, evolving risk appetites and technology adoption. Employing trend analysis and panel regression and qualitative review of bank disclosures and their annual reports—the study systematically examines how PSBs have rebalanced their credit portfolios. The findings show that share of retail lending has increased significantly over the years, unlike the MSME share. The agriculture lending share also recorded gradual growth. The share of MSME lending in Priority Sector Lending (PSL) shows insignificant results. Further, the PSL share is positively related to Gross Non-Performing Assets (GNPA) and negatively related to profitability. The increase in mobile banking volume has resulted in increasing credit accessibility.

The findings hold policy relevance for multiple stakeholders. For regulators, to refine capital and PSL frameworks; for PSB management, to strengthen strategic positioning and digital underwriting; and for researchers, a detailed study on decadal credit pattern of public sector banks. Ultimately, the study aims to contribute to a deeper understanding of how Government-owned banks adapt their credit behaviour in response to systemic, regulatory and technological shocks.

1. Introduction

Public Sector Banks (PSBs) have historically played a pivotal role in the Indian banking system, particularly in the domain of credit intermediation, financial inclusion and directed lending to priority sectors. In recent years, however, the credit environment, regulatory architecture, technology adoption and risk–reward calculus have evolved significantly. These changes have included (but are not limited to) recapitalisation drives, stricter regulatory norms (e.g., under the Insolvency & Bankruptcy Code, asset-quality review), digital lending platforms, changing corporate governance, increased competition from private and foreign banks and the growth of Non-Banking Financial Companies (NBFCs).

Against this backdrop, there appears to be a paradigm shift in the credit pattern and lending behaviour of PSBs in India. This shift may manifest in the sectors to which PSBs lend (e.g., MSME, retail, agriculture), in changes in risk appetite, in the relative volumes of advances and Non-Performing Assets (NPAs), in technology adoption (credit scoring, automated underwriting).

The purpose of this Working Paper is to analytically examine how PSBs' credit patterns and lending behaviour have changed over time, what the drivers of this shift are, the implications for bank performance and financial stability and the future trajectory. The analysis covers the period 2012–2025 to capture structural changes and conducts regression analysis to examine the statistical significance of results.

The findings will be of interest to regulators, bank management, researchers and banking professionals, particularly in the context of IIBF's interest in professional education and capacity building.

Further, the paper is organized as follows: section 2 is Review of literature, section 3 is Theoretical framework, section 4 is Research problem statement, section 5 specifies Objectives of the study followed by Data and methodology in section 6, section 7 mentions Limitations of the study, section 8 is Analysis, section 9 is Discussion, section 10 is Conclusion and lastly, References in section 11.

2. Review of literature

The available literature on credit pattern and lending policy of banks in India reveals that it is determined by an array of factors including ownership pattern, size of the banks, their credit policies, risk taking behavior and target of profitability etc. Though there are many determinants of lending behavior of banks, the ownership of banks has been identified as a very crucial determinant (Bhaumik & Piesse, 2008). Their study highlights the basic differences between foreign banks and private banks in their lending behavior. It is seen that foreign banks prefer more securitized and low risk credit, whereas the private banks follow a persistent yet risk averse lending. In the case of state-owned banks, they were following a 'lazy banking' and they increased credit along with reforms. The three patterns reflect the way in which ownership can exert its impact in risk taking, regulatory compliance and volume of credit allocation.

The study undertaken by Panda et al. (2017) revealed that priority sector lending is influenced to a great extent by ownership size and performance. The authors disclosed that in the field of agriculture and weaker sections lending, public sector banks performed well, whereas in the effectiveness of Priority sector lending target, private banks excelled well. The study established that there exists a positive relation between bank size and performance of priority sector lending and a negative relationship in the case of lending efficiency of banks with regard to priority sector lending.

Boparai (2025), by using Compound Annual Growth Rate (CAGR) and Kruskal Wallis Test analyzed decade long secondary data on priority sector lending from 2013 to 2022, revealed that private banks are lending in priority sector lending and whereas lending efficiency of banks depicts a negative relationship with priority sector lending.

The study undertaken by Rajkumar (2023) shows how policy phases - like nationalization, financial reforms, priority sector norms and monetary policy changes - influenced credit deployment. The study further reveals that credit deposit ratio exerts a great influence in lending behavior and economic activity.

The study done by Das et al. (2016) highlighted India's evolving lending landscape and they have documented a significant shift in Cash Reserve Ratio (CRR) and repo policies showing how reserve requirements and policy rates jointly shape credit growth and banks' lending behavior. They have also put on record the rising branch level importance, urban and rural disparities and consolidation of banks.

Using a matched sample difference-in-differences approach, Das et al. (2022) documented a shift by state owned banks from their riskier industrial lending toward safer household credit

especially non-housing loans. The study also adds more clarity by linking this portfolio shift to real economy impacts exhibiting reduced district level credit growth and Gross Value Added (GVA) growth following the AQR induced shock.

An innovative data-driven examination of moral hazard has been attempted by Gopalakrishnan et al. (2018). They have explained whether public sector banks have lent liberally to riskier firms or private sector banks and also identified the mechanism used for attaining this target. Using a novel firm-bank level data set (2011-2016) and external credit ratings as an ex-ante risk measure, they employ very relevant econometric modules to isolate lender behavior spearing it from borrower misconduct. The ultimate findings of the study reveal that PSBs lend disproportionately to riskier firms across loan types, collateral structures and firm sizes. It also discloses that the client relation rate and organizational potential and capability of PSBs are weaker compared to private banks thus leading to impaired market discipline. The study also revealed that public sector banks are driven by political interference and weak incentives and governance constraints are the hall mark of its operation which culminated in the stressed banking sector creating the need for stronger accountability, close monitoring and policy reforms.

By resorting cosine-based similarity measures and clustering methods, Reddy et al. (2025) proven that how mergers and pandemic-driven lending shifts intensify systematic risk within Indian banks. They have focused mainly on systemic risk from portfolio similarity and bank interconnectedness.

The shift from industrial to consumer credit as the outcome of demographic, economic and regulatory changes and creating concerns in its sustainability and implications for long-term investment and financial stability has been well presented by Sengupta and Vardhaman (2021).

The trends in non-performing assets of Indian commercial banks were well taken up by Kanyan and Singh (2024). The study proves that PSBs report higher Gross NPAs in both priority and non-priority sectors compared with private and foreign banks. Whereas in the case of private and foreign banks, non-priority sector constitutes a major share of GNPA's. The study also identified that MSME and agriculture constitute a major chunk of NPAs in the case of all public sector, private sector and foreign banks creating persistent stress and impact in the critical segments of the economy. Several studies indicated that priority sector lending is directly linked to bank ownership, size, performance and risk considerations. Empirical evidence revealed that compliance in Priority Sector Lending and greater efficiency is bestowed to a greater extent by smaller private sector banks, at the same time, PSBs exhibit challenges such as political interface, higher NPAs and lower lending.

Misra and Dhal (2009) by using panel regression methods has undertaken a comprehensive empirical analysis of pro-cyclical nature of NPAs of PSBs. The study has proven some basic determinants of NPAs like credit terms, size of the bank and their efficiency and macro-economic conditions in the economy. The study introduced the concept of credit culture for reducing the intensity of business cycle and also revealed that in the credit culture, the role of loan materials, interest rates and capital buffers are of extremely importance. The findings of the study strongly support the policies that we followed as a post-reform agenda and provide enough insights into bank management and regulation for strengthening the credit management practices.

Bhat et al. (2024) identified the key drivers of NPAs of public sector banks. They have resorted to the method of soft budget constraint framework for eliciting the key drivers. The study has proven that public sector banks in India maintains a strong lending base towards large firms, at the same time, credit rationing is weakly assigned with borrower risk. Moral hazard, speculation, over greening of loans and grievance failures are identified as key drivers of NPAs and also observed that though regulatory intervention such as asset quality review and insolvency and bankruptcy code have introduced some risk-based discipline, but it cannot exert an influence in reducing NPAs indicating persistent structural inefficiencies.

The rigorous policy relevant reappraisal of priority sector lending in India by combining empirical evidence, primary survey insights and macroeconomic reasoning were undertaken by Jain et al. (2015). The outcome of the study culminated in providing forward looking recommendations that balance financial stability, growth and inclusion. The study further concludes that innovation positively influences banking performance by improving productivity, efficiency and service quality. Technology-driven retail lending has, therefore, become one of the major growth drivers for Indian commercial banks.

Chhabra (2019) observed that technological innovations such as internet banking, mobile banking, digital loan processing, credit scoring models and core banking solutions significantly improved operational efficiency and facilitated rapid expansion of retail banking. Product innovations and process automation enhanced customer convenience while improving banks' profitability.

The available literature on Indian banking provides very interesting insights on shift in the credit pattern and lending behavior of public sector banks focusing on asset quality, deterioration of priority sector lending, regulatory intervention, lending behavior based on ownership and moral hazard. Earlier literature provides variety of aspects and determinants connected with lending behavior like procyclical risk taking (Chavan & Gambacorta, 2016), politically biased and develop oriented lending (Lahiri & Neelakantan, 2024), inefficient governance and moral hazard (Gopalakrishnan et al., 2018; Bhat et al., 2024) and structural inefficiencies leading to higher NPAs among PSBs (Misra & Dhal, 2009; Kanyan & Singh, 2024). Major chunk of work related to lending behavior and credit pattern also examines directed lending through priority sector mandates, highlighting ownership effects, regional disparities, efficiency concerns and mixed implications for asset quality (Jain et al., 2015; Batra & Kumar, 2021; Kumar & Kumar, 2025). Regulatory shocks like asset quality review, shift in credit portfolios, systematic risk from interconnectedness and changing sectoral credit composition have also been well focused in the recent studies.

Even though comprehensive literature is available on credit pattern and lending behavior of Public Sector banks, it is pertinent to note that only very few studies specifically trace how credit pattern and lending behavior of PSBs have evolved overtime across sectors and borrower categories and how it connected to policy triggers like recapitalization, Basel norms, governance reforms, digitization and technological change. The existing literature is totally fragmented focusing either on NPAs, PSL, ownership effects or specific regulatory episodes without resorting to an integrated and holistic analytical framework which brings disruptive mapping of credit allocation with rigorous econometric assessment of behavioral change in PSBs. It is also equally important to note here that there exist specific vacuum and gaps in the studies relating to the evolving role of digital lending, fintech partnerships, alternate credit

appraisal mechanism and changing business model of PSBs. These are the unearthed areas in the field of PSBs lending behavior and this gap underscores the need for undertaking a comprehensive study on the “Paradigm shift in credit pattern and lending behavior of PSBs in India: An analytical approach”.

3. Theoretical Framework

The working paper adopts a multi-theoretical framework by collecting insights from the basic banking theory, institutional economics and behavioural finance. It was felt that isolated attempts, depending on one theory, cannot elicit the complexity of PSBs changing role in the Indian financial ecosystem. When an array of forces including market forces, regulatory roles, developmental dictates and behavioural traits interacts simultaneously, it is seen that each theoretical perspective acts as a typical conceptual lens to comprehend the likely changes in credit allocation, risk management and lending strategy of PSBs.

The financial intermediation theory by Franklin Allen and Douglas Gale (2004) focuses mainly on the role of banks in reducing transaction costs, managing liquidity and tackling information asymmetry. This theory is highly relevant in the context of structural changes that occurred in the credit pattern over time in the case of Public Sector banks. The traditional lending pattern of PSBs were catering to the interest of large corporate and infrastructure sectors. But with the advent of digital technologies, financial innovation and encouraging expectation from private sector and foreign banks, they began to adopt an intermediation function. This intermediary role is very well reflected in the recent shift of PSBs towards MSME financing, retail lending and digital platform. Further, it is also noted that the use of big data, use of credit appraisal techniques and fintech collaborations have accelerated the efficiency in allocating resources. Thus, the financial intermediation theory provides a specific framework to analyse how PSBs adapt their credit pattern and designing policies in tune with the changing financial ecosystem of the country, especially in the context of technical change and evolving risk-return considerations.

The unique institutional nature of PSBs in India with a typical perspective is very elaborately discussed in the Direct Credit or Development Banking Theory (Lahiri & Neelakantan, 2010). The theory says that PSBs have a historic responsibility of boosting inclusive growth and nurturing and supporting priority sectors such as agriculture, MSMEs and rock bottom sections of the society. The theory added that unlike private sector banks, PSBs are committed with the goal of socio-economic development and not solely of profit maximisation. This theory enables to explain why PSBs lending behaviour often diverges from purely market-driven models. It is seen that even today the financial inclusion initiative and directed credit lending schemes of Government of India affects the credit allocation and lending pattern of PSBs. It is also equally important to note that PSBs also have to maintain financial sustainability and competitiveness. Therefore, the directed credit theory provides a dual framework to analyse both sustainability and change thereby matching the dual target of developmental goals on the one side and attaining and addressing commercial imperatives on the other. The theory is very useful in projecting the best replication of the genuine strategic shift in the case of PSBs catering the community interest with priority concern and the survival strategy of earning minimum profitability.

The lending behaviour and asset quality dynamics of banking institutions has been well explained in the risk-return trade-off framework developed by Gambacorta (2009). The theory

is based on the dictum that banks' lending decision are shaped by the trade-off between expected returns and associated risks which often varies across business cycles. In the Indian context, it is very well explained with the historical approaches of following aggressive lending to large corporate and infrastructure projects during economic booms, followed by creating very high levels of NPAs during depression and recession. They also justify the need for diversified lending schemes on the part of PSBs catering the requirements of MSME and retail lending including housing loan, vehicle loan etc. The theory focusses on the influence of regulatory oversight, strict practical norms and robust risk managements system that exerted an indomitable role in devising a cautious lending strategy on the part of PSBs. By linking credit growth, underwriting standards and asset quality, the risk-return framework enables to understand whether PSBs have changed toward more lasting and countercyclical lending behaviour, thereby strengthening financial stability and financial ecosystem.

A macroeconomic perspective on the evaluation of the banking sector was furnished in the financial liberalisation theory of McKinnon (1973) and Shaw (1973). The theory identifies the determinants that directly augment financial efficiency and resource allocation. It includes deregulation, market-oriented reforms and increased competition. The Financial Liberalisation Theory reveals that the post liberalised reforms in India, created a competition among private banks and foreign banks, and it also reduced state control and promoted innovations in financial services. This has resulted in a radical change from traditional policy driven lending to more competitive and market-oriented strategies. The Financial Liberalisation Theory thus provides a contextual backdrop in identifying the pressures and incentives, driving the paradigm shift in PSBs lending behaviour.

Psychological dimension to the analysis of banking behaviour has been well explained by the Behavioural Finance Theory (Kahneman & Tversky, 1979). The theory stipulates those behavioural biases in the form of herd behaviour during credit booms, over optimism in project appraisal or excessive risk aversion following periods of financial stress etc. influence PSBs to a great extent. The novelty of the theory is that it has incorporated behavioural finance into the conceptual framework so as to capture the non-rational elements and thereby providing a more nuanced understanding of lending behaviour and its changes overtime.

The blending and mixing of these diverse theoretical perspectives laid a robust and solid conceptual framework for the study. Financial intermediation and risk-return theories highlight the importance of operations and portfolio level changes in lending behaviour, whereas the Institutional reform theories focus the policy and structural dimension typical to PSBs. Information asymmetry and Agency theories nurtures with micro level and governance related inputs and financial liberalisation theory identifies macroeconomic perspectives touching on efficiency and resource allocation. The behavioural finance theory provides an important psychological dimension, and it highlights how behavioural and cognitive biases influence the lending behaviour of PSBs and decision-making process. All the theories taken together provides a holistic view of the paradigm shift in the credits patterns and lending behaviour of PSBs in India enabling the study to make a comprehensive analysis and its implication for financial sustainability and economic development.

4. Research Problem Statement

Public Sector Banks have long served as the cornerstone of India's banking and credit delivery system, fulfilling developmental mandates through priority sector lending, rural outreach and financial inclusion. However, the past decade has witnessed an unprecedented transformation in the credit ecosystem driven by structural reforms, technological disruptions, recapitalisation efforts and intensified competition. These shifts have fundamentally altered the risk-taking behaviour, portfolio composition and operational dynamics of PSBs. Despite their continued dominance in aggregate credit flow, PSBs are increasingly being challenged to balance developmental objectives with commercial viability and asset quality imperatives.

The problem confronting researchers, policymakers and practitioners is the limited understanding of how and why PSBs' credit patterns and lending behaviour have changed during this period. While existing studies have examined NPAs, asset quality or priority sector lending in isolation, there is a dearth of integrated analysis linking sectoral credit shifts with underlying institutional, regulatory and technological drivers. Specifically, there is inadequate empirical evidence on whether digital adoption have led to measurable improvements in portfolio diversification, risk management, and credit outreach to underserved segments. Moreover, the dynamic interplay between policy directives, fintech collaboration and risk–return recalibration remains underexplored.

This study seeks to address this research gap by systematically analysing the paradigm shift in credit patterns and lending behaviour of PSBs in India from 2012–13 to 2024–25. It investigates changes in sectoral allocation, borrower composition and risk appetite, while examining the influence of institutional reforms and technological adoption by employing both quantitative and qualitative analysis. This study aims to generate evidence-based insights into how PSBs are repositioning their credit strategies amidst systemic and digital transitions, and what this implies for financial stability, profitability and inclusive growth in India.

5. Objectives of the Study

The overarching objective is to analyse and document the paradigm shift in credit patterns and lending behaviour of PSBs in India in the recent period, and to understand the drivers and consequences of this shift.

The specific objectives of the study are:

- To examine the trend in sectoral credit portfolios of PSBs.
- To investigate the effect of priority sector lending on profitability of PSBs.
- To examine the association between technology adoption and gross advances of PSBs.

The proposed hypotheses are:

- H1: There has been a statistically significant increase in the share of advances to MSME, retail and agriculture segments by PSBs.
- H1a: There has been a statistically significant increase in the share of advances to MSME segments by PSBs.
- H1b: There has been a statistically significant increase in the share of advances to retail segments by PSBs.

- H1c: There has been a statistically significant increase in the share of advances to agriculture sector by PSBs.
- H2a: There has been a statistically significant increase in the share of advances to MSME-priority segments by PSBs.
- H2b: Priority lending share is positively associated with gross non-performing assets.
- H2c: Priority lending share is negatively associated with Return on Assets (RoA).
- H3: Mobile banking volume is positively associated with gross advances of PSBs.

6. Data and Methodology

This study examines the change in lending pattern and credit behaviour of public sector banks for the period of 2012-2025. This period captures different phases of banking sector from merger to revisions in priority sector lending. To conduct this study, we have taken five public sector banks: State Bank of India, Bank of Baroda, Canara Bank, Punjab National Bank and Union Bank of India. These public sector banks are having high market capitalisation and caters to a large section of society. These banks together provide glimpse of Indian banking industry. This study is based on the data collected from Reserve Bank of India published data on “Database on Indian Economy” and Annual reports of banks. This study has employed trend analysis and panel regression to examine the credit pattern and lending behaviour of public sector banks. The credit pattern is influenced by various factors, therefore, to mitigate the effect of extraneous factors, various control variables used in the analysis.

7. Limitations

The study is fully based on secondary data collected from open sources, including the Reserve Bank of India (RBI) and Public Sector Banks websites; however, the required data are not available at the expected level of detail and across different relevant dimension, thereby limiting the scope of the analysis of banks’ lending patterns.

8. Analysis

To get a holistic overview of lending pattern, the study begins with assessing the growth in lending among various sectors namely, MSME, Retail and Agriculture. Afterwards, the lending share has been statistically examined using fixed effect regression.

8.1 Sectoral deployment of credit

Overall growth in sector-wise lending

Figures 1, 2 and 3 show the sector-wise growth in three major sectors: MSME, Retail and Agriculture.

Figure 1: Growth in lending to MSMEs

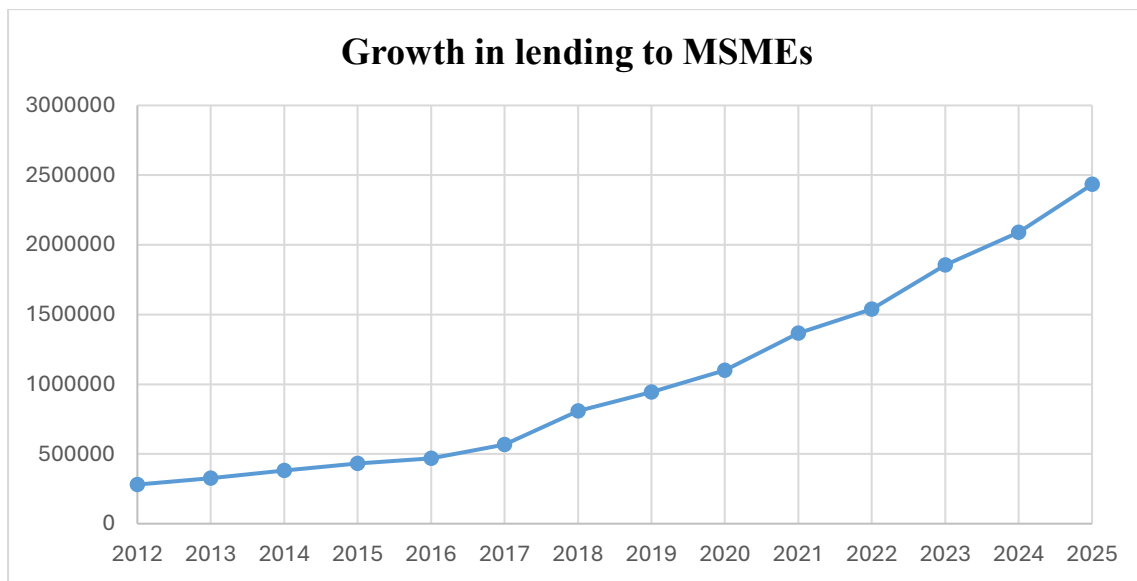
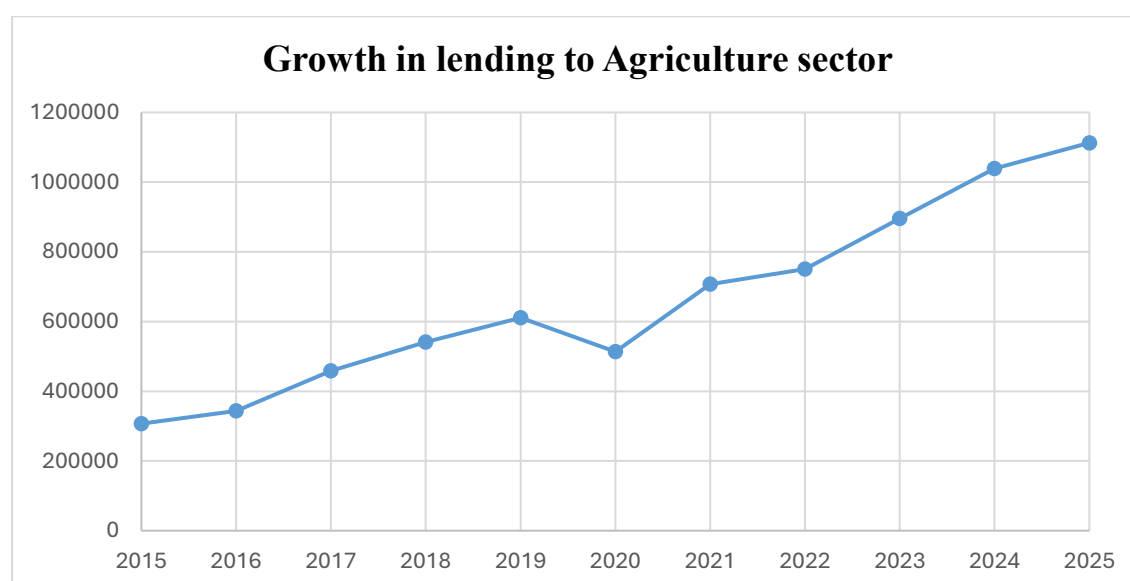


Figure 2: Growth in lending to Retail sector



Figure 3: Growth in lending to Agriculture sector*



*Due to the non-availability of data, the growth for agricultural sector recorded for the period of 2015-2025.

The study reveals a significant expansion in lending across all three major sectors during the study period. Lending to agriculture has increased 262.31%, while Retail lending has recorded the highest growth of 776.39%. MSME advances also registered considerable growth of 162.80% over the period. The increase in lending is evident in every sector, indicating an overall expansion of credit deployment by the public sector banks. However, the relatively higher growth in the retail sector suggests its increasing significance within the bank's lending portfolio.

The growth in retail lending can be attributed to several factors, rising household income, increased financial inclusion have increased the demand for credit by retail segments, whereas the growing adoption of technology and data-driven lending and digital underwriting has improved access to formal credit. These developments have contributed to a more efficient credit ecosystem, thereby supporting its expansion in the retail segment.

This study is further expanded to investigate the share of sectors in overall lending by selected banks. To mitigate the bank-specific effects, the study has employed control variables, log of total assets and Capital-to-Risk-Weighted Assets Ratio (CRAR). Table 1 provides the Descriptive statistics.

Table 1: Descriptive statistics

	Year	MSMEshare	Retailshare	Agrishare
N	70	70	70	55
Missing	0	0	0	0
Mean	2019	17.5	12.0	15.05
Median	2019	17.2	11.8	14.12
Standard deviation	4.06	7.06	4.36	4.81
Minimum	2012	5.75	3.71	7.45
Maximum	2025	36.2	26.2	26.35

MSME share, Retail share and Agriculture share

The study has computed the MSME share in overall lending. Table 2 shows the results. The results indicate that the MSME lending share in the overall credit portfolio of selected banks declines by approximately 2.79 basis points per year, on average, over the study period, resulting in the rejection of H1a hypothesis. This decline suggests a relative shift in the composition of banks' credit portfolio towards other segments.

Table 2: Regression results

Parameters	MSMEshare	Retailshare	Agrishare
Coefficient (β)	-2.79	0.983	0.252
Standard error	1.322	0.0786	0.0973
t-value	-2.11	12.504	2.587
p-value	0.061	<.001	0.013

Retail share

The results exhibit that, on average, the share of retail lending in the overall credit portfolio of selected banks increased by approximately 98 basis points per year, over the study period, thereby supporting the H1b hypothesis. The findings suggest the growing prominence of the retail segment in the overall credit deployment. The findings are aligned with the findings of Sengupta & Vardhan (2021); Das et al. (2022), who reported that credit proportion to consumers holds the largest proportion of the credit portfolio. Retail lending presents immense opportunity for banks in terms of credit expansion and portfolio diversification. India's large population base and expanding middle class provide a substantial pool of potential borrowers, creating opportunities for banks to broaden their credit portfolio. The increasing demand for

housing, personal, education, consumer durables, gold and other products further support the potential for sustained growth in this segment.

Agriculture share

The regression results indicate a positive and statistically significant increase in the share of agricultural advances among the five public sector banks during the study period. The coefficient of Year ($\beta = 0.25$) suggests that, on average, the share of agricultural credit increased approximately by 25 basis points, per year, on average, over the period. This indicates a gradual strengthening of the agricultural component within the overall credit portfolio of the banks over the period under study. Thus, supporting the H1c hypothesis.

8.2 Priority Sector Lending

PSL – MSME share

Table 3: Regression results for priority sector

Parameters	MSMEshare
Coefficient (β)	-0.250
Standard error	1.694
t-value	-0.148
p-value	0.887

Although the estimated coefficient indicates an downward trend in MSME lending share in priority lending over the study period, the relationship is not statistically significant. Therefore, the result does not provide sufficient statistical evidence to conclude that the MSME lending share increased over the study period. Accordingly, the hypothesis H2a is not supported.

PSL share and GNPA

The study has expanded to investigate into the priority sector lending. First, the study has examined the relation between priority sector lending and GNPA ratio.

Table 4: PSL share and GNPA ratio*

Parameters	GNPA ratio
Coefficient (β)	0.358
Standard error	0.0801
t-value	4.466
p-value	<.001

**Due to the non-availability of data, data of PSL share considered for the period of 2015-2025.*

GNPA ratio is calculated to remove the bank size effect.

The regression results indicate that PSL Share has a positive and statistically significant association with the gross non-performing assets ratio of the selected banks (coefficient = 0.3, $p < 0.001$). This suggests that, holding CRAR and bank size constant, an increase of one unit in PSL Share is associated with an increase of 0.3 units in GNPA. The relationship is statistically significant at the 1% level.

CRAR exhibits a negative and statistically significant association with GNPA (-1.1, $p < 0.001$), indicating that higher capital adequacy is associated with lower NPA, after controlling for the other variables. Log Assets also demonstrate a negative and statistically significant coefficient (-6.4, $p = .03$), suggesting that larger banks tend to have lower GNPA ratios, holding the other variables in the model constant. The result shows the positive relationship between PSL share and GNPA ratio (H2b supported). This implies that an increase in Priority lending share increases the GNPA for public sector banks. The result is aligned with the findings of Kanyan & Singh, 2024, who found that priority sectors contribute substantially to gross non-performing assets in public sector banks, with major sub-sectors are industry, agriculture and MSMEs. Priority sectors such as agriculture, small borrowers or industries remain more vulnerable to income volatility, weather-related shocks, market fluctuations and other sector-specific risks, which reduces the paying capacity. This may increase the monitoring and recovery costs.

PSL share and RoA

Table 5: PSL share and RoA

Parameters	ROA
Coefficient (β)	-0.0408
Standard error	0.0134
t-value	-3.056
p-value	.004

**Due to the non-availability of data, data of PSL share considered for the period of 2015-2025.*

The regression results indicate that PSL Share has a negative and statistically significant association with the Return on Assets (ROA) of the selected banks (coefficient = -0.04, $p = 0.004$). This suggests that, holding CRAR and bank size constant, an increase of one unit in PSL Share is associated with a decrease of 0.04 units in ROA. The relationship is statistically significant at the 1% level.

CRAR exhibits a positive and statistically significant association with ROA (0.2, $p = 0.001$), indicating that higher capital adequacy is associated with higher profitability, after controlling for the other variables. In contrast, log assets has a positive but statistically insignificant coefficient (1.2, $p = 0.1$), at the 10%, suggesting less statistical evidence of an association between bank size and ROA in this model. Thus, the results found a negative relationship between PSL share and ROA (H2c supported).

The results suggest that higher allocation of credit to priority sectors may be weakly associated with profitability. Lending to priority sectors is mainly associated with serving priority sectors and achieving the priority sector lending targets rather than purely profitability objectives. It often involves higher transaction costs and high credit risk. These factors can increase the cost

of credit intermediation and provisioning requirements, thereby exerting pressure on profitability.

Further, the study has expanded to investigate the impact of technological developments on lending.

8.3 Whether growth in digital/mobile banking is associated with expansion in bank lending.

First, the study has employed Pearson Correlation to examine the existence of a relationship between mobile banking and bank lending. The correlation between mobile banking and gross advances has been checked, and the result found a significant relationship (0.915; $p = <.001$). The results imply that mobile banking has an effect on gross advances (H3 supported).

Further, regression analysis has been employed to check the statistical significance.

Table 6: Regression results

Parameters	Mobile banking
Coefficient (β)	0.0109
Standard error	0.00757
t-value	1.434
p-value	0.157

The analysis reveals that mobile banking volume has a positive and statistically significant effect on gross advances ($\beta = 0.0109$, $p = 0.1$). This implies that an increase in mobile banking transactions is associated with higher gross advances at 10% significance after controlling for CRAR and bank size. The coefficient of CRAR is also positive and significant (0.02, $p = 0.003$), suggesting that better-capitalized banks tend to extend higher levels of advances. Log Assets has a positive and statistically significant coefficient (0.7515, $p < 0.001$), indicating that larger banks maintain higher gross advances.

9. Discussion

The findings of the study indicate a significant transformation in the lending behaviour of Public Sector Banks (PSBs) in India, driven by changing customer preferences, technological advancements, regulatory reforms and evolving risk management strategies. The results show that retail lending has consistently increased over the years, MSME lending continues to exhibit a significant positive relationship with Non-Performing Assets (NPAs) and the expansion of mobile banking has been accompanied by an increase in lending activities. Collectively, these findings suggest that Indian banks are balancing the objectives of profitability, financial inclusion and operational efficiency while responding to the dynamic economic environment.

The steady growth in retail lending reflects the strategic shift of Public Sector Banks from large corporate exposures towards diversified retail credit portfolios. Following the corporate debt crisis and the surge in stressed assets during the previous decade, banks increasingly preferred retail loans such as housing, vehicle, education and personal loans because of their comparatively lower default risk, better collateral coverage and diversified borrower base. Retail lending has also been supported by rising household incomes, rapid urbanization, increased financial awareness and various Government initiatives promoting affordable

housing and consumer finance. The expansion of retail lending, therefore, represents not merely an increase in credit demand but also a conscious portfolio diversification strategy adopted by banks to improve profitability while reducing concentration risk.

The findings are consistent with Chhabra (2019), who reported that technological innovations, including internet banking, mobile banking, digital loan processing, and automated credit assessment systems, have significantly improved banking efficiency and accelerated the growth of retail banking. These technological developments have reduced transaction costs, shortened loan processing time, enhanced customer convenience and enabled banks to expand retail credit more efficiently. Similarly, Jain et al. (2015) observed that among the various priority sector categories, housing loans were considered by bankers to be the easiest and least risky segment, further explaining the increasing preference for retail lending within Public Sector Banks.

While retail lending has expanded substantially, the results also indicate that MSME lending remains significantly associated with higher levels of Non-Performing Assets. This finding reflects the inherent characteristics of the MSME sector, where they face limitations including limited resources, inadequate documentation, fluctuating cash flows and greater vulnerability to economic shocks. Unlike retail borrowers, MSMEs are highly sensitive to changes in market fluctuations, which affect their repayment capacity. Consequently, although MSME financing contributes substantially to employment generation, industrial development, exports and economic growth, it also exposes banks to relatively higher credit risk.

The observed relationship between MSME lending and NPAs corroborates the findings of Jain et al. (2015), who identified high transaction costs, information asymmetry, monitoring difficulties and credit appraisal challenges as the primary reasons for the relatively higher stress observed in MSME portfolios. Their study also demonstrated that MSME credit contributes positively to economic growth, suggesting that the challenge for banks is not to reduce lending but to strengthen risk assessment, monitoring and recovery mechanisms. Therefore, the findings indicate that sustainable MSME financing requires improvements in credit appraisal techniques, greater use of cash-flow-based lending, digital monitoring systems, credit guarantee mechanisms and early warning systems to contain asset quality deterioration while continuing to support economic development.

Another important finding of the study is the positive association between the growth of mobile banking and lending activities. This relationship highlights the increasingly important role of digital transformation in expanding access to formal credit. Mobile banking has fundamentally changed the lending process by simplifying customer onboarding, facilitating digital documentation, enabling electronic Know Your Customer (e-KYC) verification and significantly reducing loan processing time. Customers can now apply for loans, submit documents, receive approvals and make repayments through digital platforms without physically visiting bank branches. Consequently, banks are able to process larger volumes of loans with greater operational efficiency and lower transaction costs.

The findings support Chhabra (2019), who concluded that innovation in banking services positively influences organizational performance by improving productivity, efficiency, customer satisfaction and business growth. The integration of mobile banking with digital payment systems, account-based credit assessment and data analytics has enabled banks to extend credit to previously underserved customers while improving operational effectiveness.

The expansion of digital infrastructure through initiatives such as Digital India, Unified Payments Interface (UPI), Aadhaar-enabled authentication, Jan Dhan accounts and digital public infrastructure has further strengthened the relationship between digital banking and credit expansion.

Taken together, these findings indicate that the lending landscape of Public Sector Banks is undergoing a structural transformation. Retail lending has emerged as the preferred growth segment because of its favourable risk-return characteristics, while MSME lending continues to fulfill an important developmental role despite its relatively higher credit risk. Simultaneously, technological innovations, particularly mobile banking, have become key enablers of credit expansion by reducing operational costs, improving accessibility and enhancing customer experience. The convergence of these developments demonstrates that modern banking is increasingly driven by digital innovation, diversified lending strategies and improved risk management practices.

Overall, the results align with the broader literature on Indian banking, which suggests that sustainable growth in the banking sector requires balancing commercial objectives with developmental responsibilities.

10. Conclusion

This study seeks to understand the changing landscape of credit delivery among public sector banks. The results show a significant increase in the share of retail lending. The share of agricultural lending has also risen, though at a relatively slower pace. In contrast, the results indicate a decline in the MSME share. Under priority sector lending, the change in the MSME share is not statistically significant. Priority sector lending was found to be positively associated with gross non-performing assets, thereby reducing the bank's profitability. Retail lending strengthens profitability and portfolio diversification, while MSME lending supports inclusive economic growth, employment generation and industrial development. The increasing adoption of mobile banking complements both objectives by expanding credit outreach and improving operational efficiency. Therefore, future banking strategies should focus on leveraging digital technologies to enhance credit assessment and monitoring, thereby promoting responsible lending across the retail, MSME and agricultural sectors while maintaining financial stability and asset quality.

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