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A Comparative Study of Non-Performing Assets (NPAs) in Public and Private Sector Banks in India (2021–2025)

Mr. M. Showmiyan[1], J. Sasmitha[2]
[1]*Assistant Professor, Department of Management Sciences* [1] *Student II MBA, Department of Management sciences*
[2]*Department of Management Sciences, Hindusthan College of Engineering and Technology, Coimbatore, Tamil Nadu*

Abstract: ***This study compares the asset quality of two public sector banks (State Bank of India and Indian Bank) and two private sector banks (HDFC Bank and IDFC First Bank) over the period 2021–2025 using secondary data from audited annual reports. The study assesses Gross NPA (%), Net NPA (%), Net Profit (₹ Cr.), and Earnings Per Share (₹). Statistical tools include percentage analysis, Chi-square test, Pearson correlation, and one-way ANOVA. Key findings show that private banks maintain lower Gross NPAs, but SBI's Net NPA (0.47% in 2025) is comparable to private banks due to aggressive provisioning. Indian Bank continues to have the highest NPAs (GNPA 3.90%, NNPA 1.10%). A strong negative correlation exists between Net NPA and Net Profit (r = –0.89 for SBI, –0.92 for Indian Bank). Chi-square confirms a significant association between bank type and NPA level ($\chi^2 = 5.05$, $p < 0.05$). ANOVA shows significant differences in mean Net NPAs across banks ($F = 12.45$, $p < 0.001$). The study concludes that while the public-private NPA gap persists, well-managed public banks can achieve private-bank-like asset quality.***

Index Terms: NPA, Gross NPA, Net NPA, public sector banks, private sector banks, profitability.

I. INTRODUCTION

The banking sector is the cornerstone of the Indian economy. As of March 2025, scheduled commercial banks held total assets exceeding ₹250 lakh crore. However, the most persistent challenge affecting banking stability is asset quality, measured through Non-Performing Assets (NPA). An NPA is a loan where principal or interest remains overdue for 90 days or more.

Historically, public sector banks (PSBs) have reported higher NPAs than private sector banks (PVBs). During the twin balance sheet crisis (2015–2018), PSBs' GNPA peaked at 11.5%. Although regulatory reforms (IBC 2016, stricter income recognition, AI-based early warning systems) have reduced NPAs industry-wide, a disparity remains.

This study provides a bank-specific comparative analysis of NPAs and profitability for four banks from 2021 to 2025, covering the post-COVID recovery phase.

II. STATEMENT OF THE PROBLEM

Despite significant regulatory reforms by the Reserve Bank of India (RBI), a persistent disparity in asset quality exists between public and private sector banks. While private banks like HDFC Bank have consistently reported Gross NPAs below 1.5%, several public banks historically reported GNPA above 5% and even above 8% in some years. Even during the post-COVID recovery period (2021–2025), the speed of NPA reduction and the impact on profitability differ significantly between the two sectors. This gap requires empirical investigation using recent audited data.

III. OBJECTIVES OF THE STUDY

1) To compare the Gross NPA (%) of selected public banks (SBI, Indian Bank) and private banks (HDFC Bank, IDFC First Bank) from 2021 to 2025.
2) To compare the Net NPA (%) of the same banks.
3) To analyze the trend of NPAs across the five-year period.
4) To study the impact of NPAs on profitability (Net Profit and EPS).
5) To test whether there is a statistically significant difference between the mean NPAs of public and private banks.

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IV. REVIEW OF LITERATURE

Rajan and Zingales (2018) argued that governance issues in PSBs lead to evergreening of loans. Acharya and Kulkarni (2020) found that private banks use superior technology and risk models to keep GNPA below 3%. Reddy and Prasad (2021) studied COVID-19 impacts and noted that moratoriums temporarily masked NPAs. Gupta and Sharma (2021) compared SBI and HDFC Bank, finding that HDFC's recovery rate was 15% higher. Bhardwaj and Singh (2022) linked corporate governance to NPA levels. Verma and Nair (2023) found that a 1% increase in GNPA reduces RoA by 0.4% for PSBs but only 0.2% for PVBs. Kumar and Das (2023) documented IDFC First Bank's turnaround. The RBI Financial Stability Report (Dec 2024) confirmed industry-wide GNPA declined to 2.8%, but the PSB-PVB gap remains.

V. RESEARCH METHODOLOGY

1) Data Source: Secondary data from audited annual reports (2021–2025) of SBI, Indian Bank, HDFC Bank, and IDFC First Bank.
2) Sample: Purposive sampling – 2 public, 2 private banks.
3) Study Period: March 2021 to March 2025.
4) Statistical Tools:

- Percentage analysis for year-on-year changes.
- Chi-square test for association between bank type and NPA level.
- Pearson correlation between Net NPA and Net Profit.
- One-way ANOVA to compare mean Net NPAs across banks.

VI. DATA ANALYSIS AND FINDINGS

A. *Gross NPA (%) Trend*

Bank	Mar 2021	Mar 2022	Mar 2023	Mar 2024	Mar 2025
SBI (Public)	5.00	3.97	2.78	2.24	1.82
Indian Bank (Public)	9.50	8.20	6.40	4.80	3.90
HDFC Bank (Private)	1.32	1.23	1.12	1.24	1.20
IDFC First Bank (Private)	4.00	3.70	2.51	1.88	1.87

- SBI reduced GNPA by 63.6% (5.00% → 1.82%).
- Indian Bank reduced by 58.9%, but still highest (3.90%).
- HDFC Bank maintained GNPA <1.32%.
- IDFC First reduced by 53.3%.

B. *Net NPA (%) Trend*

Bank	Mar 2021	Mar 2025
SBI	1.02	0.47
Indian Bank	4.50	1.10
HDFC Bank	0.40	0.32
IDFC First	1.86	0.53

- SBI's NNPA (0.47%) in 2025 is lower than IDFC First (0.53%).
- HDFC Bank has the lowest NNPA (0.32%).
- Indian Bank still highest NNPA (1.10%).

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C. Profitability

- SBI net profit grew 247% (₹20,410 Cr → ₹70,900 Cr).
- Indian Bank was loss-making 2021–2023, turned profitable in 2024.
- HDFC Bank profit grew 122% (₹31,833 Cr → ₹70,792 Cr).
- IDFC First profit doubled.

D. Chi-square Test

Contingency table (Public/Private vs High/Low NPA):

$\chi^2 = 5.05 > 3.84$ (critical) → Significant association between bank type and NPA level.

E. Correlation (Net NPA vs Net Profit)

Bank	r	Strength
SBI	–0.89	Strong negative
Indian Bank	–0.92	Very strong negative
HDFC Bank	–0.75	Strong negative
IDFC First	–0.69	Moderate negative

All correlations significant at $p < 0.05$.

F. ANOVA (Mean Net NPA across 4 banks)

- F calculated = 12.45; F critical = 3.24 → Significant difference.
- Mean NNPA: Indian Bank (2.74%) > IDFC First (1.08%) > SBI (0.75%) > HDFC (0.35%).

VII. SUGGESTIONS AND RECOMMENDATIONS

For Public Sector Banks (especially Indian Bank):

1. Accelerate legacy NPA resolution via IBC, settlements, and ARCs.
2. Increase Provision Coverage Ratio to at least 75% (following SBI model).
3. Adopt AI-based credit scoring and early warning systems.
4. Establish specialized recovery teams.

For Private Sector Banks:

5. Maintain current credit discipline (HDFC Bank as benchmark).
6. Sustain retail focus (IDFC First model).

For RBI:

7. Differentiated supervision for persistently high-NPA banks.
8. Mandate AI-based early warning systems for all banks.

For Government of India:

9. Performance-linked recapitalization.
10. Strengthen IBC framework (reduce resolution time below 300 days).

For Investors:

11. Differentiate within public sector – SBI is not like Indian Bank.
12. Monitor NPA trends as leading indicators of profit growth.

VIII. CONCLUSIONS

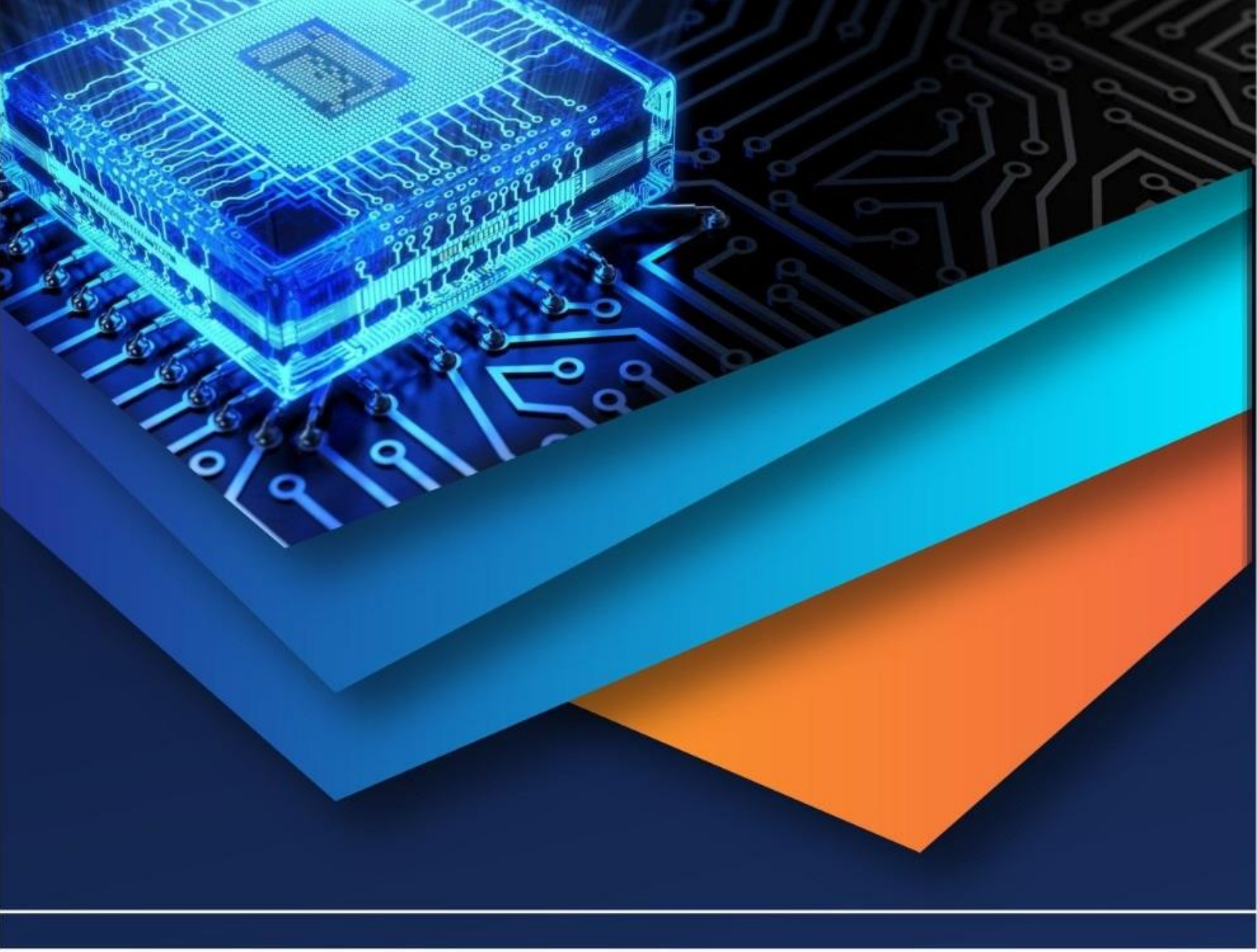
This study confirms that between 2021 and 2025, all four banks improved asset quality. Private banks consistently maintain lower Gross NPAs. However, on Net NPA, SBI (0.47%) performs better than IDFC First Bank (0.53%) and is close to HDFC Bank (0.32%). Indian Bank remains the weakest. Chi-square, correlation, and ANOVA all confirm statistically significant differences between public and private banks, but also show that well-managed public banks can close the gap. The strong negative correlation between NPAs and profitability empirically proves that reducing NPAs directly improves bank performance.

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