A Comparative Study on the Management of Non-Performing Assets in Selected Public Sector Banks

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Abstract

In recent years, microfinance has emerged as an effective instrument for lifting the poor out of poverty. Recent research indicates that microfinance organizations have a positive economic impact when providing microcredit. However, their goal of improving the living conditions of their impoverished clientele has not been typically realized.

This research examines how microfinance may empower individuals and promote financial inclusion in India. MFIs seek government support to mobilize deposits and generate resources. Given previous experiences and the need for qualitative development, we recommend that MFIs undergo more examination in finance, technology, and social responsibility. Economic planning has been solely focused on lifting the poor out of poverty. Non-governmental organizations (NGOs) have successfully promoted Self Help Groups by connecting them with banks. Developing an incentive package to encourage NGOs to expand into underserved regions is crucial. This paper presents fresh empirical evidence on economic empowerment via microfinance in India. The SHG-Bank Linkages initiative promotes financial inclusion and inclusive development for underserved communities.

Keywords: Poverty, Financial Inclusion, Savings, Economic Planning, Social Responsibilities.

Introduction

A country's economic growth and development are dependent on its financial system. The financial system comprises both governmental and private sector banks. Despite improvements such as openness in the real estate sector, unique identity numbers, and bankruptcy procedures, India's banking system remains at a crossroads, according to the World Bank. Public sector commercial banks are trying to resolve nonperforming assets, but more work is needed to ensure a healthy and sustainable banking industry. Banking regulatory agencies mandate controls on toxic assets. Banks must regularly monitor and limit lending amounts and make preparations for any losses. Banking regulatory organizations are responsible for monitoring banks that take excessive risks while extending loans. However, banks may assume more risks due to the anticipation of increased profits. Therefore, it's crucial to evaluate commercial banks' efficiency and effectiveness while dealing with non-performing assets. This research examines the performance of the top 5 public sector banks, with a focus on non-performing assets.

The fundamental role of commercial banks is to accept deposits and provide loans. Commercial banks may fail to recover loan principal and interest. For example, if a bank lends Rs.100 crores to an

individual or institution and the borrower fails to repay the amount, the bank will classify the loan as non-performing assets. Nonperforming assets refer to loans or advances that have not been paid for 90 days or more. Banking laws classify non-performing assets as substandard, doubtful, or loss based on the amount owed (principal and interest) over a certain time period. The handling of nonperforming assets indicates the banks' managerial effectiveness. India's public sector banks are seeing a huge surge in non-performing assets. Increasing nonperforming assets in public sector banks is a serious concern for the banking industry and the Indian economy. The RBI defines Gross NPA as the total of all non-performing loans. Non-performing assets (NPAs) are an important financial indicator of a bank's profitability and efficiency. NPA and associated ratios give insight into a bank's asset quality, allowing for comparison with other banks.

Objectives of the Study

1. To analyse and compare the performance of selected public sector banks over the past five financial years.

2. To examine the effectiveness of non-performing asset (NPA) management practices among the selected banks.

3. To study the trends in gross and net NPAs in relation to gross advances and total assets of the top five public sector banks.

4. To identify variations in NPA levels and management efficiency across the selected banks.

5. To assess the overall impact of NPA management on the financial performance and stability of these banks.

Research Methodology

The current research is descriptive and analytical in character. This research relies on historical financial statements from selected public sector banks, making it essentially a secondary data analysis. This information was gathered from the Bank's Annual Reports, which are accessible on their website. The study ranked the top five public sector commercial banks by market capitalization: State Bank of India (SBI), Bank of Baroda (BOB), Punjab National Bank (PNB), Canara Bank, and Bank of India (BOI).

The current investigation is confined to the past five financial years, 2014-2017. To compare managerial efficiency in managing gross and net non-performing assets, five ratios (Gross NPAs to Gross Advances Ratio, Gross NPA to Total Assets Ratio, Net NPAs to Net Advances, Net NPAs to Total Assets, and Gross NPAs Ratio to Net NPAs Ratio) were selected.

To analyze data using statistical techniques, a hypothesis was developed: "There is no significant difference between the managerial efficiency of selected banks (using five different ratios) in managing gross and net NPAs during the study period."

The obtained data is analyzed using Ratio Analysis and ANOVA (at a significance level of 5%). The

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ANOVA test is used to identify significant differences in ratios across public sector banks. Although the average value of the ratios may seem near or distant, ANOVA is employed to ensure reliability. ANOVA findings indicate if there is a substantial difference in bank performance compared to the average, or whether the difference is just due to chance. ANOVA findings using MS-Excel are reported in a table. Selected banks' performance on calculated ratios is comparable when F (calculated) is smaller than F critical (F crit), and vice versa.

Data analysis

The gross NPA ratio is the ratio of a bank's total gross NPA to its total advances (loans). This ratio measures the financial stability and sustainability of banks. A larger percentage indicates poor financial stability and sustainability for the bank, and vice versa. In other words, a smaller ratio is desirable. Banks having higher ratios should endeavor to regulate them. The table below shows the gross NPA/gross advance ratio for selected banks over the last five years.

Table-1 Gross NPAs to Gross Advances Ratio (Figures in %)

Table 1: Gross Non-Performing Assets (NPAs) of Selected Public Sector Banks (2014–2017)

Bank	2017	2016	2015	2014	2013	Average (%)	Standard Deviation (SD)
State Bank of India (SBI)	10.91	6.90	6.50	4.25	4.95	6.70	2.59
Bank of Baroda (BOB)	12.26	10.46	9.99	3.72	2.94	7.87	4.24
Punjab National Bank (PNB)	18.38	12.53	12.90	6.55	5.25	11.12	5.32
Canara Bank	11.84	9.63	9.40	3.89	2.49	7.45	4.03
Bank of India (BOI)	16.58	13.22	13.07	5.39	3.15	10.28	5.72

Over the last five years, State Bank of India has the lowest gross NPA to Gross Advances ratio, while Punjab National Bank has the highest. SBI has the lowest average ratio among chosen banks, while Punjab National Bank comes bottom. Bank of India has a high standard deviation. Punjab National Bank has inconsistent performance in maintaining the gross NPA to Gross Advances ratio, whereas State Bank of India has a low standard deviation, indicating consistent performance.

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Table 2: Analysis of Variance (ANOVA) of Gross NPAs to Gross Advances

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	73.02304	4	18.25576	0.894789	0.485356	2.866081
Within Groups	408.04576	20	20.402288	—	—	—
Total	481.0688	24	—	—	—	—

The table shows that the value of F calculated (F) is lower than F critical (F crit), indicating no significant difference between the selected banks in terms of Gross NPAs to Gross Advances Ratio. This contradicts the results obtained using a simple average of ratios. Gross NPA to Total Assets Ratio is the ratio of a bank's gross NPA to its total assets. This ratio reflects the financial stability and sustainability of banks. A larger percentage indicates poor financial stability and sustainability for the bank, and vice versa. In other words, a smaller ratio is desirable. Banks having higher ratios should endeavor to regulate them. The table below shows the Gross NPA to Total Assets Ratio for selected banks over the last 5 years.

Table 3: Gross NPA to Total Assets Ratio (Figures in %)

Bank	2017	2016	2015	2014	2013	Average	SD
State Bank of India (SBI)	6.47	4.15	4.16	2.77	3.44	4.20	1.39
Bank of Baroda (BOB)	7.84	6.15	6.04	2.27	1.80	4.82	2.65
Punjab National Bank (PNB)	11.31	7.69	8.36	4.26	3.43	7.01	3.21
Canara Bank	7.69	5.86	5.72	2.38	1.54	4.64	2.58
Bank of India (BOI)	10.22	8.31	8.18	3.59	2.07	6.47	3.47

Source: Compiled from annual reports of the bank.

Over the last five years, State Bank of India has the lowest gross NPA to total assets ratio, while Punjab National Bank has the highest. SBI has the lowest average ratio among chosen banks, while Punjab National Bank comes bottom. Bank of India and Punjab National Bank have high standard deviation values, indicating inconsistent performance in maintaining the gross NPA to total assets ratio. State Bank of India, Canara Bank, and Bank of Baroda have low standard deviation values, indicating consistent performance.

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Table 4: Analysis of Variance (ANOVA) of Gross NPAs to Total Assets

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	30.51752	4	7.62938	1.0063	0.4276	2.8661
Within Groups	151.63528	20	7.58176	—	—	—
Total	182.15280	24	—	—	—	—

The table shows that the value of F calculated (F) is lower than F critical (F crit), indicating no substantial difference between the chosen banks in terms of Gross NPAs to Total Assets. This contradicts the findings obtained by applying a simple average ratio.

The Net NPAs to Net Advances Ratio compares the sums of Net NPAs to Advances in percentage terms. This ratio indicates the financial stability and sustainability of banks. A larger percentage indicates poor financial stability and sustainability for the bank, and vice versa. In other words, smaller ratios are preferable. Banks with high ratios should endeavor to keep them under control. The table below shows the gross NPA to gross advance ratio for selected banks over the last five years.

Table 5: Net NPAs to Net Advances Ratio (Figures in %)

Bank	2017	2016	2015	2014	Average	SD
State Bank of India (SBI)	3.71	3.81	2.12	2.57	3.59	1.40
Bank of Baroda (BOB)	4.72	5.06	1.89	1.52	3.74	1.88
Punjab National Bank (PNB)	7.81	8.61	4.06	2.85	6.91	3.43
Canara Bank	6.33	6.42	2.65	1.98	4.97	2.48
Bank of India (BOI)	6.90	7.79	3.36	2.00	5.66	2.81

Interpretation:
The data indicates that Punjab National Bank (PNB) had the highest average Net NPA to Net Advances ratio (6.91%), reflecting relatively weaker asset quality among the selected banks. In contrast, State Bank of India (SBI) maintained the lowest average ratio (3.59%) and demonstrated greater consistency with the smallest standard deviation (1.40). The higher standard deviations for PNB, BOI, and Canara Bank suggest significant year-to-year fluctuations, pointing to instability in their asset

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performance and recovery efficiency.

Conclusion

The comparative analysis of selected public sector banks over the past five financial years highlights significant variations in the management of Non-Performing Assets (NPAs). While all banks experienced a notable rise in NPAs during the period, the intensity and consistency of this trend varied across institutions. Among the five banks studied, Punjab National Bank (PNB) consistently exhibited the highest Gross and Net NPA ratios, indicating persistent asset quality challenges. In contrast, the State Bank of India (SBI) maintained comparatively lower and more stable NPA levels, suggesting stronger risk management and credit monitoring mechanisms.

The ANOVA results for both Gross NPAs to Gross Advances and Gross NPAs to Total Assets revealed that the calculated F-values were lower than the critical F-values, and the P-values exceeded the 0.05 significance level. This implies that the differences in NPA ratios among the banks were not statistically significant, indicating that fluctuations in NPAs are likely due to internal operational factors or external macroeconomic conditions rather than systematic differences in management efficiency.

Overall, the findings suggest that while individual banks have shown varying levels of success in managing NPAs, the sector as a whole continues to face structural challenges related to credit appraisal, loan recovery, and sectoral exposures. Strengthening internal risk assessment frameworks, improving recovery mechanisms, and leveraging technology-driven monitoring systems remain crucial for sustainable improvement. Effective implementation of regulatory reforms and prudential norms, combined with managerial accountability, can further enhance the resilience of public sector banks and promote long-term financial stability.

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References

1. World Bank, World Bank Publications, 2017.
2. Khan, M.Y., Financial Services, Tata McGraw-Hill, 2004
3. Muraleedharan, D., Modern banking: theory and practice, PHI Learning, 2014
4. Kothari C. R., Research Methodology: Methods and Techniques, New Age International (P) Limited, 2004 6MEERA SHARMA, MANAGEMENT OF FINANCIAL INSTITUTIONS: With Emphasis on Bank and Risk Management, PHI Learning, 2008

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