International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 6, No. 06 Nov-Dec; 2024 Page. No. 169-178

To cite this article: Dr. Khushboo Singh and Dr. Anup Kumar Roy (2024). A COMPARATIVE STUDY OF PRE AND POST MERGER ASSET QUALITY OF SELECTED INDIAN BANKS, International Journal of Research in Commerce and Management Studies (IJRCMS) 6 (6): 169-178 Article No. 311 Sub Id 588

A COMPARATIVE STUDY OF PRE AND POST MERGER ASSET QUALITY OF SELECTED INDIAN BANKS

Dr. Khushboo Singh[1] and Dr. Anup Kumar Roy[2]*

[1]Assistant Professor, Geneva Business School, Yangoon, Myanmar.
E-mail: Khushboo.gh@gmail.com

[2]Assistant Professor, Department of Commerce, Guru Ghasidas Vishwavidyalaya, Bilaspur, India.
Email: royanupkr86@gmail.com
*Corresponding author

DOI: https://doi.org/10.38193/IJRCMS.2024.6615

ABSTRACT

This paper investigates Asset Quality based on CAMEL Model of selected Public Sector Commercial Banks in India. For the purpose, the study employs a descriptive research design The Banks, which were part of mega-merger took place on August 2019 with effect from April 1, 2020 are selected for the study. Secondary data from 2016-17 to 2023-24 is used, covering ten banks for the pre-merger period (2016-17 to 2019-20) and four banks for the post-merger period (2020-21 to 2023-24). Asset Quality is assessed using indicators such as Gross NPA to Total Assets, Net NPA to Total Assets, Gross NPA to Total Advances, Net NPA to Total Advances, and the Provisioning Coverage Ratio. Paired t-tests is applied to determine if there is a significant difference in Asset Quality of the banks between the pre- and post-merger periods. The study finds that the merger has an overall positive effect on Asset Quality of the banks and enhanced the Risk Management practices of the banks.

KEYWORDS: NPA; Non-Performing Assets, Bank Merger, Indian Banking Sector, Ratio Analysis.
JEL Classification: E44, G34.

1. INTRODUCTION

The Indian banking sector has experienced a significant use of mergers in recent years. The banks, including commercial banks, are governed and regulated by the Government of India through Reserve Bank of India (RBI). A major challenge facing by Indian public sector banks is the rising of non-performing assets (NPAs), which grow alongside their core business operations (Mathur, 2017). This weakens their financial standing, prompting mergers and acquisitions. In 2017, India had 27 public sector banks, but because of growing NPAs, the Government of India initiated two rounds of mergers as a solution (J Ishwarya, 2019). The first phase involved the merger of Bhartiya Mahila Bank and five associate banks with the State Bank of India in 2017, followed by the merger of Vijaya Bank and

Dena Bank with Bank of Baroda in 2019 (Hindustan Times, 2019). The second phase was the announcement of a major merger involving ten public sector banks into four entities in August 2019, which become effective from 1st April 2020. Indian Government in its press release specified that the adoption of best practices across these merged entities would help improve cost efficiency and risk management (PIB, 2020). After passing of more than four years since this major consolidation, the studies assessing its impact show mixed results. Some suggest that NPAs of weaker merging banks reduced by 10%, largely due to fewer strategic defaults (Kashyap et al., 2022), while others argue that the mergers were not based on efficiency and brought minimal post-merger benefits (Das and Kumbhakar, 2022). This paper aims to conduct an analytical comparison of the asset quality of the acquiring banks before and after the mergers.

2. LITERATURE REVIEW

An asset, including a leased asset, becomes non-performing Asset (NPA) when it ceases to generate income for the bank (RBI, 2021). In other words, NPAs are loans or advances in default or arrears and create severe financial stress on the banks. The RBI has laid brief criterion regarding the definition of NPAs for different classes of assets. The efficiency and profitability of banks are significantly affected by their NPAs. A negative relationship between Net profit and Gross NPAs is found in Indian banks (Kiran et al., 2020). Several Studies reveal that NPA affects: profitability and efficiency of banks (Gaur & Mohapatra, 2021; Singodiya et al., 2022; Tandon et al., 2017); banks' overall financial health (Das & Uppal, 2021a); lending capacity, and value of the banks. Hence, if the NPAs are not managed effectively it may lead to bank failure. The banking sector in India has widely witnessed the problem of rising NPAs. In the existing literatures, the authors pointed out several factors both at micro and macro level behind the rising NPAs, namely: aggressive lending; poor monitoring mechanism; business cycle turning down (Bardhan & Mukherjee, 2016); poor operational efficiency (Dutta, n.d.); high interest rates (Arpita Ghosh, n.d.); faulty earning management (Das, 2023); weak banking regulation and supervision; adverse economic conditions etc. When the NPAs keeps on rising and reaches certain level it becomes crucial to take remedial measures to overcome the issue. (Sharma & Dhiman, 2021) Few such measures are restricting of corporate debts, one time settlement schemes, dealing with asset reconstruction companies etc. But when the issue becomes severe, merger and acquisition come to play. (Anuja Barge, 2012; Cyree, 2010; Du & Sim, 2016) When banks with high levels of NPAs merge with stronger, more stable banks, the merged organisation may benefit from better capital reserves, improved management, and operational efficiencies. (Dhananjaya, 2021; Kanoujiya et al., 2022; Pradhan Tanmay Kumar, 2012; Sahut & Mili, 2011; Tetsuya, 2005) Theoretically, high levels of NPAs can lead to two different avenues: more mergers that firms are using as a strategy to manage financial distress or less because of the added risk and complexity of integrating two weakened firm's assets. Some studies in the existing literature reveal that banks with high NPAs are more likely to merge, while others suggest that healthier banks are more likely to seek out mergers to capitalize on opportunities. This paper aims at finding a linkage with the rise in NPAs and the occurrence of mergers in the banking sector of India.

2.1 Problem Statement

High levels of NPAs undermine the financial stability of banks by eroding profitability and efficiency (Anuja Barge, 2012; Das & Uppal, 2021b; Sankalpa, 2017; Sharma & Dhiman, 2021). In response, mergers have been suggested as a possible strategy to manage and mitigate the effect of NPAs. This study aims to evaluate NPAs before and after mergers, and to determine if the mergers have had any significant effect on NPAs.

3. OBJECTIVE

The main aim of the study is to assess the performance of certain public sector banks under study in India with respect to Asset Quality, both before and after their mergers. The sub objective are as follows:

1. To examine the GNPA (Gross Non-Performing Assets) ratio of selected banks pre- and post-merger.
2. To examine the NNPA (Net Non-Performing Assets) ratio of selected banks pre- and post-merger.
3. To examine the Provisioning against NPAs (Non-Performing Assets) in selected banks pre- and post-merger.

4. RESEARCH METHODOLOGY

This study is descriptive and analytical in nature, focusing on the Asset Quality of selected public sector banks by comparing NPA levels before and after their mergers. The study relies on secondary data gathered from the annual reports of banks that merged as of April 2020. Data spanning four years prior to the merger (2016-17 to 2019-20) and four years following the merger (2020-21 to 2023-24) are utilized. Statistical tools, including paired t-tests, are employed to analyse the data and draw conclusions regarding the impact of mergers on the Asset Quality of these public sector banks. The study measures Asset Quality using five ratios: Gross NPAs to Total Assets (GNPA-TA), Net NPAs to Total Assets (NNPA-TA), Gross NPAs to Gross Loans (GNPA-GL), Net NPAs to Gross Loans (NNPA-GL), and the Provision Coverage Ratio (PCR). All ratios in the study are expressed in times.

5. Analysis, Interpretation and Discussion:

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 6, No. 06 Nov-Dec; 2024 Page. No. 169-178

Table 1: Comparative Asset quality of PNB

Variables	Pre -Merger				Post- Merger	% change
	PNB	OBC	United Bank of India	Combined	PNB	
GNPA-TA	0.0944	0.0906	0.0844	0.0923	0.0607	-34.26
NNPA-TA	0.0445	0.0454	0.0449	0.0448	0.0192	-57.17
GNPA-GL	0.1650	0.1528	0.1898	0.1647	0.1094	-33.56
NNPA-GL	0.0779	0.0764	0.1007	0.0799	0.0349	-56.27
PCR	0.5174	0.5043	0.4874	0.5109	0.7012	37.23

Authors' Calculation from the data

During the pre-merger period, the average Asset Quality, as measured by Net NPAs to Total Assets and the Provision Coverage Ratio, was relatively better in PNB compared to the Oriental Bank of Commerce (OBC) and United Bank of India. However, when considering the 'GNPA-GL' and 'NNPA-GL' ratios, OBC outperformed the other two banks. In terms of 'Gross NPAs to Total Assets,' the United Bank of India had better asset quality than the other two banks, as shown in Table 1. A comparison of the combined pre-merger asset quality with the post-merger asset quality of PNB reveals that the asset quality of the banks improved across all selected parameters.

Table 2: Comparative Asset quality analysis of Union Bank of India

Variables	Pre-Merger				Post Merger	% change
	Union Bank of India	Andhra Bank	Corporation Bank	Combined	Union Bank of India	
GNPA-TA	0.0888	0.1068	0.0876	0.0929	0.0570	-38.62
NNPA-TA	0.0399	0.0416	0.0434	0.0412	0.0155	-62.44
GNPA-GL	0.1498	0.1706	0.1575	0.1569	0.1005	-35.97
NNPA-GL	0.0671	0.0668	0.0783	0.0694	0.0274	-60.48
PCR	0.5278	0.5942	0.4941	0.5386	0.7907	46.82

Authors' Calculation from the data

The analysis of pre-merger asset quality among the Union Bank of India (UBI), Andhra Bank and Corporation Bank shows that UBI had better average asset quality compared to Andhra Bank and Corporation Bank in terms of NNPA-TA and GNPA-GL. Andhra Bank, however, outperformed the other two banks in NNPA-GL and the PCR. In terms of GNPA-TA, Corporation Bank held a slightly stronger position during the pre-merger period, as indicated in Table 2. A comparison of the combined

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 6, No. 06 Nov-Dec; 2024 Page. No. 169-178

pre-merger asset quality with the post-merger asset quality of Union Bank of India reveals that asset quality improved across all selected parameters.

Table 3: Comparative Asset quality analysis of Indian Bank

Variables	Pre-Merger			Post Merger	% change
	Indian Bank	Allahabad Bank	Combined	Indian Bank	
GNPA-TA	0.0463	0.1039	0.0741	0.0445	-39.95
NNPA-TA	0.0238	0.0402	0.0319	0.0104	-67.42
GNPA-GL	0.0748	0.1771	0.1220	0.0750	-38.54
NNPA-GL	0.0386	0.0674	0.0525	0.0178	-66.16
PCR	0.5385	0.5820	0.5680	0.7773	36.85

Authors' Calculation from the data

As the table-3 shown, the average asset quality of Indian Bank was better than Allahabad Bank except provisioning coverage ratio during the pre-merger period under study. However, the percentage change signified that the asset quality of Indian bank has also improved after merger.

Table 4: Comparative Asset quality analysis of Canara Bank

Variables	Pre-Merger			Post Merger	% change
	Canara Bank	Syndicate Bank	Combined	Canara Bank	
GNPA-TA	0.0605	0.0726	0.0643	0.0394	-38.67
NNPA-TA	0.0354	0.0354	0.0353	0.0139	-60.65
GNPA-GL	0.1000	0.1154	0.1045	0.0677	-35.17
NNPA-GL	0.0585	0.0557	0.0573	0.0241	-58.04
PCR	0.4174	0.4981	0.4477	0.6279	40.26

Authors' Calculation from the data

Table 4 reveals that, on average, Canara Bank had better asset quality than Syndicate Bank in terms of GNPA-TA and GNPA-GL. However, during the pre-merger period, Syndicate Bank was stronger in NNPA-GL and the Provision Coverage Ratio. Similar to the other four banks studied, Canara Bank's asset quality improved following the merger.

Additionally, a paired t-test is employed to determine whether the change in asset quality of the selected banks is statistically significant.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 6, No. 06 Nov-Dec; 2024 Page. No. 169-178

Table - 5: Paired t-test result- Gross NPA to Total Assets

Banks	Merger	Mean	S.D.	d.f.	p-value	Significant	% change
PNB	pre	0.092327	0.012778	3	0.0363971	yes	-34.260
	post	0.060696	0.01721	3			
UNION	pre	0.092941	0.012837	3	0.0421184	yes	-38.617
	post	0.057050	0.019719	3			
INDIAN	pre	0.074066	0.004492	3	0.0242561	yes	-39.951
	post	0.044476	0.013021	3			
CANARA	pre	0.064275	0.00791	3	0.0137508	yes	-38.667
	post	0.039422	0.009462	3			

Authors' Calculation

Table-5 depicts that the average GNPA-TA of PNB, UBI, Indian Bank, and Canara Bank decreased post-merger with negative changes of -34.260%, -38.617%, -39.951% and -38.667% respectively. The p-value, being less than 0.05, indicates that the GNPA-TA ratio of all the banks under study significantly improved post-merger

Table - 6: Paired t-test result- Net NPA to Total Assets

Banks	Merger	Mean	S.D.	d.f.	p-value	Significance	% change
PNB	pre	0.044806	0.012711	3	0.0050826	yes	-57.170
	post	0.019190	0.010190	3			
UNION	pre	0.041176	0.008106	3	0.0131398	yes	-62.442
	post	0.015465	0.007530	3			
INDIAN	pre	0.031922	0.006174	3	2.498E-05	yes	-67.424
	post	0.010399	0.006375	3			
CANARA	pre	0.035343	0.006648	3	0.0040392	yes	-60.646
	post	0.013909	0.005343	3			

Authors' Calculation

Table 6 reveals that the average NNPA-TA ratio for the merged public sector banks experienced substantial changes of -57.170%, -62.442%, -67.424%, and -60.646%, respectively. The p-value for

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 6, No. 06 Nov-Dec; 2024 Page. No. 169-178

all selected banks is found below 0.05, signifying a significant improvement in the NNPA-TA ratio post-merger.

Table - 7: Paired t-test result - Gross NPA to Gross Loans

Banks	Merger	Mean	S.D.	d.f.	p-value	Significance	% change
PNB	pre	0.164739	0.024703	3	0.0526071	no	-33.563
	post	0.109448	0.034852	3			
UNION	pre	0.156915	0.023782	3	0.0719983	no	-35.972
	post	0.100470	0.038926	3			
INDIAN	pre	0.121969	0.007500	3	0.0370665	yes	-38.542
	post	0.074959	0.024930	3			
CANARA	pre	0.104474	0.011214	3	0.0272789	yes	-35.171
	post	0.067730	0.019552	3			

Authors' Calculation

It can be observed from Table 7 that the p-values for PNB and Union Bank are more than 0.05, indicating no statistically significant change in the GNPA-GL ratio, despite a decline of -33.563% and -35.972% in the average GNPA-GL ratio. Conversely, GNPA-GL ratio of Indian Bank and Canara Bank show a significant improvement.

Table - 8: Paired t-test result- Net NPA to Gross Loans

Banks	Merger	Mean	S.D.	d.f.	p-value	Significance	% change
PNB	pre	0.079910	0.023248	3	0.0075629	yes	-56.266
	post	0.034948	0.019289	3			
UNION	pre	0.069411	0.014224	3	0.0198853	yes	-60.484
	post	0.027428	0.014358	3			
INDIAN	pre	0.052511	0.009893	3	6.144E-05	yes	-66.164
	post	0.017767	0.011352	3			
CANARA	pre	0.057338	0.009775	3	0.0045251	yes	-58.037
	post	0.024061	0.010408	3			

Authors' Calculation

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 6, No. 06 Nov-Dec; 2024 Page. No. 169-178

Table 8 shows that the average NNPA-GL ratio of the merged banks decreased notably. The p-values for all the banks indicate a substantial and significant reduction in the NNPA- GL ratio post-merger, reflecting an improvement in asset quality.

Table - 9: Paired t-test result - Provisioning Coverage Ratio

Banks	Merger	Mean	S.D.	d.f.	p-value	Significance	% change
PNB	pre	0.510937	0.101111	3	0.0043685	yes	37.229
	post	0.701155	0.102362	3			
UNION	pre	0.538572	0.112973	3	0.0135352	yes	46.822
	post	0.790741	0.128134	3			
INDIAN	pre	0.567983	0.082022	3	0.0001292	yes	36.854
	post	0.777310	0.082820	3			
CANARA	pre	0.447667	0.065520	3	0.0022814	yes	40.265
	post	0.627919	0.059321	3			

Authors' Calculation

The Provisioning Coverage Ratio from Table-9 shows that the ratio rose significantly by 37.229%, 46.822%, 36.854%, 40.265% respectively of the banks after the merger, with p-value of less than 0.05.

6. FINDINGS AND CONCLUSION

The analysis of the study highlights the positive impact of mergers on the asset quality and financial health of PNB, UBI, Indian Bank, and Canara Bank. Post-merger, these banks showed significant improvements in critical asset quality metrics. The study notes that while most asset quality metrics showed significant improvement post-merger, Punjab National Bank and Union Bank of India did not achieve statistically significant changes in their Gross NPA to Gross Advances ratio. This indicates that, while their overall loan quality improved, this particular metric did not show a substantial enough change to be deemed statistically significant. The Provisioning Coverage Ratio (PCR), which measures the bank's ability to cover non-performing assets with provisions, increased after the merger. This higher ratio suggests that the banks are better prepared to manage potential loan defaults, which enhanced their financial stability. In summary, the mergers helped these banks strengthen their asset quality and improve risk management, resulting in greater financial resilience and stability.

REFERENCES

1. Anuja Barge. (2012). NPA management in banks: an Indian perspective. IBMRD's Journal of Management and Research, 1(1), 88–91. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=d4df3e95f03149330f87c239ce750df9cbf74db0
2. Arpita Ghosh. (n.d.). Asset Quality of banks: Evidence from India.
3. Bardhan, S., & Mukherjee, V. (2016). Bank-specific determinants of nonperforming assets of Indian banks. International Economics and Economic Policy, 13(3), 483–498. https://doi.org/10.1007/s10368-016-0344-4
4. Cyree, K. B. (2010). What do bank acquirers value in non-public bank mergers and acquisitions? Quarterly Review of Economics and Finance, 50(3), 341–351. https://doi.org/10.1016/j.qref.2010.02.002
5. Das, S. K. (2023). NPAs in India's banks: trends and determinants. Journal of Money and Business, 3(2), 147–158. https://doi.org/10.1108/jmb-09-2022-0043
6. Das, S. K., & Uppal, K. (2021a). NPAs and profitability in Indian banks: an empirical analysis. Future Business Journal, 7(1). https://doi.org/10.1186/s43093-021-00096-3
7. Das, S. K., & Uppal, K. (2021b). NPAs and profitability in Indian banks: an empirical analysis. Future Business Journal, 7(1), 53. https://doi.org/10.1186/s43093-021-00096-3
8. Dhananjaya, K. (2021). Corporate Distress and Non-performing Assets in India. Global Business Review, 22(3), 780–796. https://doi.org/10.1177/0972150918812553
9. Du, K., & Sim, N. (2016). Mergers, acquisitions, and bank efficiency: Cross-countryevidence from emerging markets. Research in International Business and Finance, 36, 499–510. https://doi.org/10.1016/j.ribaf.2015.10.005
10. Dutta, S. (n.d.). RELATIONSHIP BETWEEN THE NON-PERFORMING ASSETS AND MACROECONOMIC VARIABLES-A PANEL DATA ANALYSIS OF INDIAN BANKING SECTOR.
11. Gaur, D., & Mohapatra, D. R. (2021). Non-performing Assets and Profitability: Case of Indian Banking Sector. Vision, 25(2), 180–191. https://doi.org/10.1177/0972262920914106
12. Hindustan Times. (2019, August 30). Finance Minister announces mega merger of 10 state-run banks into 4 banks | Latest News India -. Hindustan Times. https://www.hindustantimes.com/india-news/finance-minister-nirmala-sitharam-announces-mega-mergers-ten-public-sector-banks-merged-into-four-mega-banks/story-cFJqMgvAzut9oOcMD8N1NP.html
13. J Ishwarya. (2019). A Study on Mergers and Acquisition of Banks and a Case Study on SBI and its Associates. Conference Proceeding Published in International Journal of Trend in Research and Development, 2394–9333. http://www.ijtrd.com/papers/IJTRD20776.pdf
14. Kanoujiya, J., Rastogi, S., Venkata, &, Bhimavarapu, M., & Mrudula Bhimavarapu, V. (2022).

Competition and distress in banks in India: An application of panel data. Taylor & Francis, 10(1). https://doi.org/10.1080/23322039.2022.2122177

15. Kiran, K. P., Prasanth Kiran, K., & Jones, & T. M. (2020). EFFECT OF NON-PERFORMING ASSETS ON THE PROFITABILITY OF BANKS-A SELECTIVE STUDY. https://www.researchgate.net/publication/340633871
16. Mathur, R. (2017). A study of impact of mergers and acquisitions on the financial performance of selected banks in India [IIS (Deemed to be University)]. In University. http://hdl.handle.net/10603/393055
17. Pradhan Tanmay Kumar. (2012). Management of NPA in the commercial banks in Odisha, an Empirical Analysis. International Journal of Scientific and Research Publications, 2(9), 1–5. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=d5328bfcb56d8c03a1f3111af96cbd948d0ce8a2
18. RBI. (2021). Master Circular - Prudential norms on Income Recognition, Asset Classification and Provisioning pertaining to Advances. www.rbi.org.in
19. Sahut, J.-M., & Mili, M. (2011). Banking distress in MENA countries and the role of mergers as a strategic policy to resolve distress. Economic Modelling, 28(1–2), 138–146. https://doi.org/10.1016/j.econmod.2010.09.017
20. Sankalpa, B. (2017). Impact of NPA on Profitability and Earnings: A Study on Some Select Private Commercial Banks in India. SANKALP: Journal of Management & Research, 7(2). https://search.proquest.com/openview/b097468703f13c910a93f7a6df0a39de/1?pq-origsite=gscholar&cbl=2043257&casa_token=0cpb9zmEdB0AAAAA:Y9ZGnvjn8eBZ6Gy8a-78Ki6f_wRd9H3uxSHbGP0aCBjBi5Uc8nJyVhojssTap88JZdc1IRXd_A
21. Sharma, P. K., & Dhiman, Dr. B. (2021). Public Sector Banks in India: Growth of NPAs and Restructuring Aspects. International Journal of Scientific Research in Science and Technology, 8(4), 368–381. https://doi.org/10.32628/ijsrst218464
22. Singodiya, K., Jain, S., Farhan, M., & Mansoori, S. (2022). How NPA Affects the Profitability of Indian Bank. S2, 1621–1625. www.migrationletters.com
23. Tandon, D., Chaturvedi, A., & Vidyarthi, H. (2017). Non-performing assets and profitability of Indian banks: an econometric study. In Int. J. Business Competition and Growth (Vol. 6, Issue 1). https://www.rbi.org.in
24. Tetsuya, K. (2005). Client firms and bank mergers: Positive wealth effect of bank mergers on distressed firms. Review of Pacific Basin Financial Markets and Policies, 8(1), 113–130. https://doi.org/10.1142/S0219091505000282
25. Das, A., Kumbhakar, S., C. (2022). Bank Merger, Credit Growth, and the Great Slowdown in India. Economic and Political Weekly, Volume 57, Year 2022, Pages 58-67.
26. Press Release: Press Information Bureau (pib.gov.in), 2020