CREDIT RISK EXPOSURE IN SELECTED PUBLIC SECTOR BANKS BEFORE MERGER: A COMPARATIVE STUDY

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ABSTRACT

The Banks play a pivotal role in improving the country's financial health. In India, under the RBI guidelines, the banks try to reach the unreachable segment of the society, thus improving the standards of living by providing them the loans in different sectors which boosts the economic activity. The study examines the credit risk exposure of selected public sector banks—Bank of Baroda, Vijaya Bank, and Dena Bank—during the pre-merger period from 2013 to 2018. Using a quantitative research design, secondary data on Non-Performing Assets (NPA) ratios and Loan-to-Value Ratios (LVR/Loan Loss Provision Ratios) were collected from published annual reports and Reserve Bank of India sources. Trend analysis was applied to observe the movement of these indicators over time, and paired t-tests were used to compare the differences in credit risk among the banks. The findings indicate that Vijaya Bank maintained relatively lower NPAs and steady provisioning, reflecting effective credit risk management. Dena Bank exhibited the highest NPA levels and sharply rising provisions, highlighting significant financial stress and a cautious approach to loan loss management. Bank of Baroda showed moderate and consistent NPAs and provisioning, suggesting a balanced approach to credit risk. The study concludes that significant differences existed in credit risk exposure and provisioning practices among the three banks prior to the merger. These insights are valuable for understanding the financial conditions that influenced consolidation decisions and for informing future risk management strategies in the banking sector.

Keywords: CRE, NPA, L/V Ratio, PSB, Pre-Merger Analysis, Bank Consolidation

INTRODUCTION

Credit risk refers to the possibility that a borrower or counterparty will fail to meet their contractual obligations to repay the principal amount or interest on a loan as agreed. In the

banking context, credit risk primarily arises from lending activities, including loans, advances, and other credit exposures such as guarantees and letters of credit. Since lending is the core function of banks, credit risk represents one of the most significant risks faced by financial institutions. Credit risk arises when borrowers are unable or unwilling to repay due to factors such as business failure, economic downturns, poor financial management, or unexpected external shocks. If not properly managed, credit risk leads to an increase in Non-Performing Assets (NPAs), which directly affect a bank's income, liquidity, and capital position. Higher NPAs reduce interest income, increase provisioning requirements, and weaken the overall financial health of banks.

Effective credit risk management is therefore essential for maintaining the stability and profitability of banks. Banks assess credit risk through credit appraisal processes, borrower evaluation, credit scoring, and continuous monitoring of loan performance. Regulatory authorities such as the Reserve Bank of India (RBI) also prescribe prudential norms related to asset classification, provisioning, and capital adequacy to ensure that banks maintain sufficient buffers against potential credit losses. In the broader economic context, high levels of credit risk can threaten the stability of the banking system and negatively impact economic growth by restricting the flow of credit to productive sectors. Conversely, well-managed credit risk enhances investor confidence, improves financial resilience, and supports sustainable economic development. Thus, understanding the concept of credit risk and its importance is crucial for analyzing the financial soundness and performance of banks, especially in periods preceding major structural changes such as mergers and consolidations.

Select Public Sector Banks-Pre-Merger Scenario

This section presents a brief overview of the three selected public sector banks Bank of Baroda, Vijaya Bank, and Dena Bank with particular focus on their operational background and credit risk position in the pre-merger period. Understanding the individual profiles of these banks before consolidation is essential for evaluating the differences in their financial strength, asset quality, and risk exposure, and for justifying the need for their merger.

Bank of Baroda was one of India's largest and financially stronger public sector banks prior to the merger. It had a wide domestic and international presence, a diversified loan portfolio, and relatively better capital adequacy compared to many other PSBs. Although Bank of Baroda also experienced stress in asset quality during the period of rising NPAs in the Indian banking

system, it maintained comparatively lower NPA levels and stronger provisioning coverage. As a result, Bank of Baroda was considered a stable anchor bank in the merger process.

Vijaya Bank was a medium-sized public sector bank with a moderate branch network and a reasonably balanced credit portfolio. Prior to the merger, Vijaya Bank had relatively better asset quality and lower NPAs compared to many PSBs, reflecting prudent lending and risk management practices. However, its limited scale and capital base restricted its ability to compete effectively in an increasingly competitive and technology-driven banking environment, making consolidation a strategic necessity.

Dena Bank, on the other hand, faced severe financial stress before the merger. It recorded high levels of gross and net NPAs, low profitability, and weakening capital adequacy. Dena Bank was placed under the Prompt Corrective Action (PCA) framework by the Reserve Bank of India due to its deteriorating financial indicators. Persistent credit risk exposure and operational inefficiencies significantly affected its financial stability, making it a key candidate for merger as a revival and restructuring measure.

The contrasting financial positions of these three banks with Bank of Baroda being relatively strong, Vijaya Bank moderately stable, and Dena Bank financially stressed formed the basis for their consolidation. The merger aimed to combine the strengths of Bank of Baroda and Vijaya Bank with the restructuring of Dena Bank to create a stronger, more resilient banking institution. Therefore, a comparative analysis of their pre-merger credit risk exposure provides valuable insights into the effectiveness and rationale of the consolidation strategy.

REVIEW OF LITERATURE

Author Name	Year	Purpose	Methodology	Findings	Conclusion
Berger & DeYoung	1997	To examine the relationship between problem loans and cost efficiency in commercial banks.	Econometric analysis using U.S. bank data to test "bad management" and "bad luck" hypotheses.	The study found a strong relationship between inefficiency and increased problem loans. Banks with poor management	The research concludes that inefficiency and non-performing loans have a bidirectional relationship, where poor management increases NPAs and rising NPAs

				practices tend to have weaker loan monitoring, resulting in higher credit risk.	further reduce operational efficiency.
Saha & Ravisankar	2000	To evaluate the financial soundness of Indian commercial banks using the CAMELS framework.	CAMELS-based analysis using composite ratings to assess capital adequacy, asset quality, management efficiency, earnings, liquidity, and market sensitivity.	The study identified significant variation in asset quality and capital strength across banks. Banks with weaker asset quality showed lower profitability and efficiency.	The CAMELS framework is effective in identifying financially stressed banks and acts as an early warning tool for regulators and bank management.
Ghosh	2017	To analyze the impact of corporate governance reforms on bank performance in India.	Panel data analysis comparing bank performance before and after governance reforms.	Strong governance practices were associated with improved operational efficiency and lower levels of NPAs. Banks with stronger governance also exhibited better capital positions.	Institutional governance reforms are essential for improving efficiency, controlling credit risk, and strengthening the stability of the banking sector.
Srinivasan & Kumar	2017	To investigate the determinants of non-performing assets in Indian banks.	Panel data analysis examining macroeconomic and bank-specific variables such as GDP growth, credit expansion, and	Economic slowdown and aggressive lending significantly increased NPAs, while weak management efficiency also	Macroeconomic stability and prudent lending practices are crucial for controlling credit risk and managing NPAs in the banking sector.

			operational efficiency.	contributed to asset quality deterioration.	
Reserve Bank of India	2018	To assess the stability and resilience of the Indian financial system with emphasis on banking sector risks.	Financial system stability analysis using sector-wide data on asset quality, capital adequacy, and liquidity.	The report highlighted rising stress in public sector banks due to high NPAs and weak profitability. It also emphasized regulatory measures like Prompt Corrective Action.	Sustained regulatory reforms, timely recognition of bad loans, and capital strengthening are necessary for maintaining financial stability.
Acharya & Kulkarni	2019	To examine how government guarantees influence risk-taking behavior in Indian banks.	Bank-level panel data analysis studying lending patterns, capitalization, and asset quality before and after policy interventions.	Banks with stronger government backing tended to take higher credit risks, leading to deterioration in asset quality and increased NPAs.	Government guarantees may stabilize banks in the short term but can create moral hazard and increase systemic credit risk in the long run.
Joshua & Ranjan	2019	To analyze the effectiveness of credit risk management practices in public sector banks.	Secondary data analysis and ratio analysis of credit risk indicators such as NPAs, capital adequacy, and provisioning norms.	Weak credit appraisal systems and delayed recovery mechanisms were identified as major causes of high NPAs. Improved monitoring reduced credit losses.	Strengthening internal credit risk management frameworks is essential for improving asset quality and financial stability of banks.
Mishra & Pradhan	2019	To study the impact of non-performing assets on the	Regression analysis examining the relationship between NPAs and profitability	Rising NPAs had a significant negative effect on profitability due to increased provisioning and	Effective NPA management and stronger recovery mechanisms are necessary for improving

		profitability of Indian banks.	indicators such as ROA, ROE, and NIM.	reduced lending capacity.	banking sector profitability.
Reserve Bank of India	2019	To review the overall performance and health of the Indian banking sector during 2018–19.	Sectoral analysis using banking data on credit growth, asset quality, profitability, and capital adequacy.	The report observed continued stress in public sector banks due to high NPAs and provisioning requirements, although early signs of stabilization were seen.	Structural reforms, capital strengthening, and bank consolidation are necessary to improve the resilience of the banking system.
Kaur & Kaur	2020	To examine the relationship between asset quality and profitability of public sector banks.	Panel data analysis using indicators such as GNPA, NNPA, ROA, and ROE.	The study found a strong negative relationship between NPAs and profitability. Higher provisioning requirements further reduced profit margins.	Maintaining strong asset quality is critical for sustaining profitability and financial stability in public sector banks.
Sharma & Mahendru	2020	To examine the objectives, rationale, and challenges of bank consolidation in India.	Analytical review of recent public sector bank mergers and their expected impact.	Bank consolidation can improve economies of scale and risk diversification but also presents challenges such as cultural and technological integration.	Mergers can enhance efficiency if supported by proper post-merger integration and improved governance practices.
Aditya, Kumar &	2025	To analyze the impact of bank	Fixed and random effects regression	Mergers significantly improved	Bank mergers combined with improvements in

Akash Dahire		mergers on financial performance of selected public sector banks in India.	models using quarterly panel data (2015–2024).	profitability indicators such as NIM, ROA, and ROE. Asset quality and cost-to-income ratio negatively affected performance, while capital adequacy improved returns.	operational efficiency can enhance profitability and resilience of public sector banks.

RESEARCH GAP

Existing literature on the Indian banking sector has extensively examined issues related to non-performing assets, credit risk determinants, bank performance, and consolidation policies. Studies such as Saha and Ravisankar (2000) focus on bank performance measurement, while Srinivasan and Kumar (2017) analyze the macroeconomic and bank-specific drivers of NPAs. Sharma and Mahendru (2020) discuss the broader rationale and challenges of bank consolidation, and RBI (2019) provides system-level assessments. However, there is limited empirical research that specifically compares the pre-merger credit risk exposure of the individual banks involved in a single consolidation event, particularly for the merger of Bank of Baroda, Vijaya Bank, and Dena Bank. Most studies either analyze aggregate trends across banks or evaluate mergers only in the post-merger context. There is a lack of focused, comparative, bank-wise analysis using credit risk indicators such as NPAs, provisioning, and capital adequacy in the pre-merger period to understand the financial asymmetries that motivated consolidation. This study attempts to fill this gap by conducting a structured comparative analysis of the selected banks before the merger.

RESEARCH QUESTIONS

1. What were the differences in credit risk exposure among Bank of Baroda, Vijaya Bank, and Dena Bank in the pre-merger period as measured by key indicators such as NPAs, Provision Coverage Ratio, and Capital Adequacy Ratio?
2. To what extent did variations in pre-merger credit risk indicators justify the consolidation of Bank of Baroda, Vijaya Bank, and Dena Bank?

OBJECTIVES OF THE STUDY

The main aim of the study is to realize the following objectives:

1. *To examine the trends in Non-Performing Assets (NPA) and Loan Vision Ratio (LVR)ratio of Bank of Baroda, Vijaya Bank, and Dena Bank before the merger.*
2. *To compare the credit risk indicators (NPA and LVR Ratio) of the three selected banks in the pre-merger period.*

HYPOTHESIS OF THE STUDY

Broader Hypothesis

H0: There is no significant difference in the credit risk indicators (NPA ratio and Loan-to-Value Ratio) of the three selected banks in the pre-merger period.

Sub-Hypotheses

H0: There is no significant difference of NPA ratio between the BOB and Vijaya Bank Before merger

H0: There is no significant difference of NPA ratio between the BOB and Dena Bank Before merger

H0: There is no significant difference of Loan Aversion ratio between the BOB and Vijaya Bank Before merger

H0: There is no significant difference of Loan Aversion ratio between the BOB and Dena Bank Before merger

SCOPE OF THE STUDY: The present study focuses on analyzing the credit risk exposure of selected public sector banks in India during the pre-merger period, specifically Bank of Baroda, Vijaya Bank, and Dena Bank. The scope of the study is limited to a comparative examination of key financial indicators related to credit risk, namely the Non-Performing Assets (NPA) ratio and the Loan-to-Value Ratio (LVR). The analysis is confined to the period prior to the merger and does not extend to post-merger performance or other public and private sector banks. The study aims to assess and compare the extent of credit risk exposure among the selected banks using secondary financial data, thereby providing insights into the financial conditions that prevailed before consolidation. By concentrating on these specific banks and variables, the study seeks to directly evaluate the nature and degree of credit risk that may have contributed to the merger decision.

RESEARCH METHODOLOGY

Research Design: The study adopts a quantitative research design to objectively analyze and compare the credit risk exposure of the selected public sector banks. This approach enables numerical measurement of financial indicators such as NPA and LVR ratios and facilitates statistical comparison across banks. Quantitative analysis helps in identifying patterns, variations, and differences in credit risk levels over the selected period. It also ensures objectivity and replicability of results. Hence, it is appropriate for financial and ratio-based studies.

Sample Period: The study covers a period of five years, from 2013 to 2018, representing the pre-merger phase of Bank of Baroda, Vijaya Bank, and Dena Bank. This period captures the financial conditions and credit risk exposure prior to consolidation. It includes years of rising NPAs and regulatory interventions in the Indian banking sector. Analyzing this timeframe helps in understanding the financial stress that existed before the merger. The period is selected to ensure consistency and relevance.

Type of Data: The data collected is based entirely on secondary data, as it relies on already published financial information. Secondary data ensures reliability, consistency, and comparability across banks. It allows access to audited and standardized financial figures reported by the banks. The use of secondary data is appropriate for financial performance and risk analysis. It also makes the study cost-effective and time-efficient.

Data is collected from the published annual reports of Bank of Baroda, Vijaya Bank, and Dena Bank for the years 2013–2018. Additional information is obtained from Reserve Bank of India publications and financial databases where required. The collected data includes figures related to NPAs and loan values necessary for computing ratios. Care is taken to ensure data accuracy and consistency across sources. Only pre-merger data is considered for analysis.

Variables of the Study: The study focuses on two key variables representing credit risk exposure: Non-Performing Assets (NPA) ratio and Loan-to-Value Ratio (LVR). NPA ratio reflects the quality of assets and level of default risk, while LVR indicates the risk associated with the loan portfolio. These variables are widely used indicators of credit risk in banking. They enable effective comparison of risk exposure among the selected banks. Hence, they are suitable for fulfilling the objectives of the study.

STATISTICAL TOOLS EMPLOYED

Trend Analysis: Trend analysis is used to examine the movement and direction of credit risk indicators over the selected period from 2013 to 2018. It helps in identifying whether the NPA and LVR ratios show an increasing, decreasing, or stable pattern before the merger. This method enables the study to understand how credit risk evolved over time within each bank. It also provides a basis for comparing the risk trends across the selected banks.

Paired t-Test: The paired t-test is employed to compare the mean values of credit risk indicators between two banks at a time during the same period. It helps in determining whether the differences in NPA and LVR ratios among Bank of Baroda, Vijaya Bank, and Dena Bank are statistically significant. This test is suitable because the observations are matched year-wise across banks. It supports objective comparison and hypothesis testing.

DATA ANALYSIS AND DISCUSSION

OBJECTIVE 1 To examine the trends in Non-Performing Assets (NPA) and Loan Vision Ratio (LVR)ratio of Bank of Baroda, Vijaya Bank, and Dena Bank before the merger.

The objective aims to identify how the credit risk indicators of the selected banks evolved over the pre-merger period. By analyzing trends in NPA and LVR ratios, the study can highlight periods of increasing or decreasing risk and assess the relative stability of each bank's asset quality. It provides a preliminary understanding of the financial health of the banks before consolidation.

Table –1

Non-Performing Assets Ratio of Vijaya , Dena Bank and Bank of Baroda Before Merger

	Vijaya - Non-Performing Assets (NPA) Ratio	Dena - Non-Performing Assets (NPA) Ratio	BOB - Non-Performing Assets (NPA) Ratio
01 March 2013	1.30	1.39	1.28
01 March 2014	1.55	2.35	1.52
01 March 2015	1.91	1.74	1.89
01 March 2016	4.81	4.04	4.96
01 March 2017	1.76	10.66	4.72

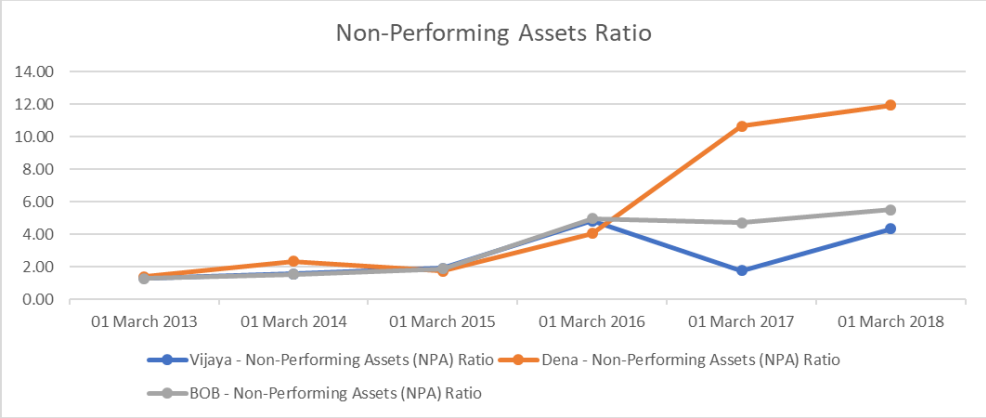
01 March 2018	4.32	11.95	5.49

Source: Annual Reports of BoB, Vijaya and Dena Banks.

The table represents the NPA of three sample banks i.e., before merger of Vijaya and Dena Banks with the BOB period from 2013 to 2018. The following graph reveals the momentum of NPA before merger.

Figure –1

Non-Performing Assets Ratio of Vijaya, Dena Bank and Bank of Baroda Before Merger



Source: Annual Reports of BoB, Vijaya and Dena Banks.

The table presents the Non-Performing Assets (NPA) ratios of Vijaya Bank, Dena Bank, and Bank of Baroda (BOB) from March 2013 to March 2018, highlighting distinct trends for each institution before their merger. The table shows, the **Vijaya Bank** started with a low NPA ratio of 1.30% in 2013, steadily increasing to 1.55% in 2014 and 1.91% in 2015. The table highlights that significant spike to 4.81% in 2016 indicated emerging asset quality issues, followed by a sharp decline to 1.76% in 2017, and a rise again to 4.32% in 2018, suggesting fluctuating credit management effectiveness. The Table data reveals that, **Dena Bank** showed a more volatile pattern, beginning at 1.39% in 2013, rising to 2.35% in 2014, then decreasing to 1.74% in 2015. However, from 2016 onwards, Dena's NPA ratio surged dramatically to 4.04% in 2016, skyrocketed to 10.66% in 2017, and further escalated to 11.95% in 2018, reflecting severe deterioration in asset quality and heightened financial stress. The data shows the **Bank of Baroda (BOB)** maintained a relatively stable trajectory, starting at 1.28% in 2013 and gradually increasing to 1.52% in 2014 and 1.89% in 2015. The ratio continued to rise to 4.96% in 2016, slightly decreased to 4.72% in 2017, and then increased to 5.49% in 2018, indicating moderate but consistent challenges in managing NPAs.

The below table reveals the loan aversion ratio of selected sample banks i.e., Vijay and Dena Banks with the Bank of Baroda before the merger period. The ideal ratio observed to be 2:1.

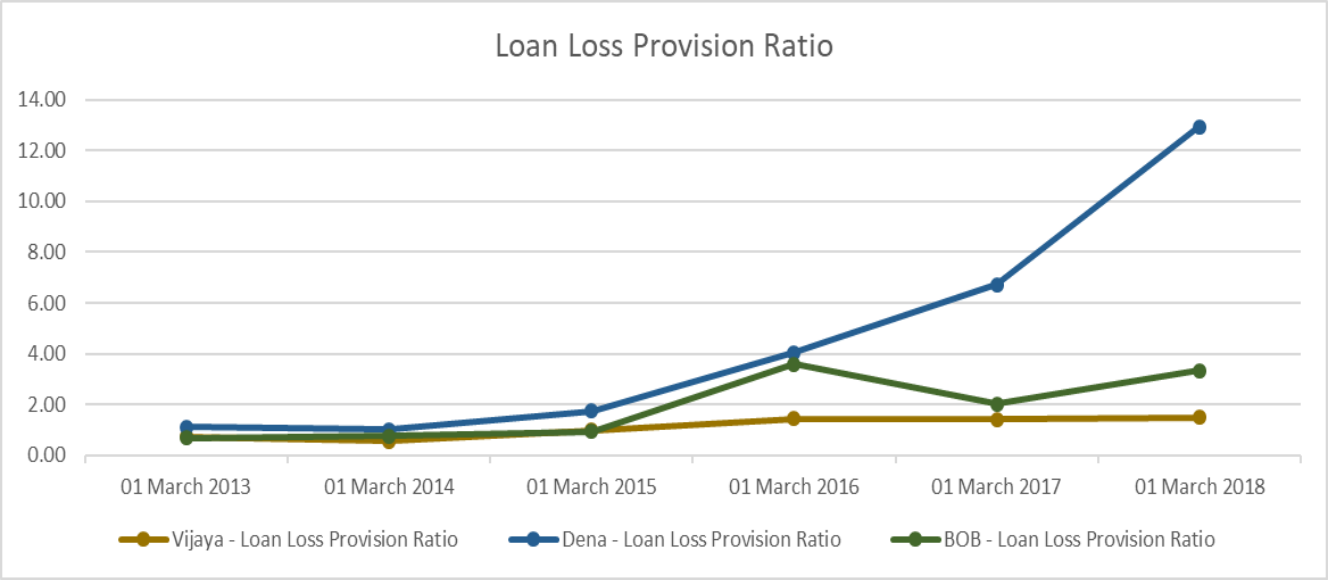
Table –2:Loan Vision Ratio of Vijaya , Dena Bank and Bank of Baroda Before Merger

	Vijaya – Loan Vision Ratio	Dena - Loan Loss Provision Ratio	BOB - Loan Loss Provision Ratio
01 March 2013	0.73	1.12	0.67
01 March 2014	0.55	1.00	0.75
01 March 2015	0.98	1.74	0.93
01 March 2016	1.43	4.04	3.59
01 March 2017	1.41	6.72	2.00
01 March 2018	1.49	12.93	3.32

Source: Secondary Data, Annual Reports of BoB, Vijaya and Dena Banks.

The above table states the loan aversion ratio indicates the Dena Bank loss aversion observed to be obstinate level from 2016 onwards and reached high (12.93) in the year of 2018. The BOB also depicts the higher ratio in the post period of 2016 year onwards. As compared to Dena and BOB the Vijaya bank is observed to be lower. The below graph reveals the momentum of the Loan Aversion Ratio before the merger period of Vijaya and Dena banks with the BOB.

Figure –2 Loan Vision Ratio of Vijaya , Dena Bank and Bank of Baroda Before Merger



Source: Annual Reports of BoB, Vijaya and Dena Banks.

The table displays the **Loan Vision Ratio** (Loan Loss Provision Ratio) of Vijaya Bank, Dena Bank, and Bank of Baroda (BOB) from March 2013 to March 2018, highlighting their provisioning against non-performing loans. **Vijaya Bank** showed a gradual increase in its Loan Vision Ratio from 0.73 in 2013 to 1.49 in 2018, reflecting a steady improvement in its ability to provision for loan losses. **Dena Bank**, on the other hand, experienced a sharp and concerning rise, starting from 1.12 in 2013, increasing to 6.72 in 2017, and peaking at 12.93 in 2018, indicating significant stress in its loan portfolio. **Bank of Baroda (BOB)** showed fluctuations, with a lower ratio of 0.67 in 2013, increasing to a peak of 3.59 in 2016, then moderating to 3.32 in 2018, suggesting a relatively better control over provisioning compared to Dena Bank but higher stress compared to Vijaya Bank.

OBJECTIVE 2: To compare the credit risk indicators (NPA and LVR Ratio) of the three selected banks in the pre-merger period.

This objective seeks to determine whether there are significant differences in credit risk exposure among the three banks before the merger. Comparing NPAs and LVR ratios statistically using the paired t-test allows the study to measure disparities in asset quality and risk levels. This inference helps justify the rationale for consolidation by highlighting financial asymmetries among the banks.

H0: There is no significant difference of NPA ratios between the BOB and Vijaya bank in Before Merger

H0: There is no significant difference of NPA ratios between the BOB and Dena bank in Before Merger.

Table –3

Paired Samples Test of Non-Performing Assets Ratio in Vijaya, Dena Bank and Bank of Baroda Before Merger

	Paired Differences				t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			

					Lower	Upper			
Pair 1	BOB - Non-Performing Assets (NPA) Ratio - Vijaya - Non-Performing Assets (NPA) Ratio	.70167	1.20006	.08992	-.55772	1.96105	7.803	5	.012
Pair 2	BOB - Non-Performing Assets (NPA) Ratio - Dena - Non-Performing Assets (NPA) Ratio	-2.04500	3.27087	.33533	-5.47757	1.38757	-6.098	5	.036

Source: Annual Reports of BoB, Vijaya and Dena Banks.

The Paired Samples Test for the Non-Performing Assets (NPA) ratios of Vijaya Bank, Dena Bank, and Bank of Baroda (BOB) prior to their merger provides significant insights into differences in credit risk exposure among the banks. The analysis shows that the mean difference in NPA ratios between Bank of Baroda and Vijaya Bank is 0.70167, with a t-value of 7.803 and a p-value of 0.012, indicating a statistically significant difference, as Vijaya Bank maintained lower NPAs and adopted a more conservative approach to credit risk management compared to Bank of Baroda. Similarly, the mean difference in NPA ratios between Bank of Baroda and Dena Bank is -2.04500, with a t-value of -6.098 and a p-value of 0.036, demonstrating that Dena Bank had a significantly higher NPA ratio and therefore faced higher credit risk than Bank of Baroda. These findings suggest that prior to the merger, Vijaya Bank exhibited the lowest credit risk exposure, Bank of Baroda faced moderate risk, and Dena Bank had the highest exposure. Accordingly, the null hypotheses for both comparisons are rejected, confirming that significant differences existed in NPA ratios among the three banks before consolidation.

The study framed the following hypothesis keeping in view of the Loan Aversion Ratio of BOB with the Vijaya and Dena Banks before merger period.

H0: There is no significant difference of Loan Aversion Ratios between the BOB and Vijaya bank.

H0: There is no significant difference of Loan Aversion Ratios between the BOB and Dena bank.

Table –4

Paired Samples Test of Loan Aversion Ratios in Vijaya, Dena Bank and Bank of Baroda Before Merger

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	BOB - Loan Loss Provision Ratio - Vijaya - Loan Loss Provision Ratio	.77833	.97713	0.09891	-.24710	1.80376	7.869	5	.009
Pair 2	BOB - Loan Loss Provision Ratio - Dena - Loan Loss Provision Ratio	-2.71500	3.78224	0.54409	-6.68422	1.25422	-4.990	5	.039

Source: Annual Reports of BoB, Vijaya and Dena Banks.

The Paired Samples Test for the Loan Loss Provision Ratio (LLPR) of Vijaya Bank, Dena Bank, and Bank of Baroda (BOB) prior to their merger provides important insights into differences in credit risk management among the banks. The analysis shows that the mean difference in LLPR between Bank of Baroda and Vijaya Bank is 0.77833, with a t-value of 7.869 and a p-value of 0.009, indicating a statistically significant difference. This suggests that Bank of Baroda adopted a more conservative approach by provisioning a higher proportion of its resources for potential loan losses, while Vijaya Bank maintained a lower LLPR, reflecting a less aggressive provisioning stance. Similarly, the mean difference in LLPR between Bank of Baroda and Dena Bank is -2.71500, with a t-value of -4.990 and a p-value of 0.039,

indicating that Dena Bank had a significantly higher LLPR than Bank of Baroda. This implies that Dena Bank took a more cautious approach to credit risk management by allocating greater provisions for potential defaults. Overall, the results indicate significant differences in loan loss provisioning among the three banks, with Bank of Baroda showing moderate provisioning, Vijaya Bank showing lower provisioning, and Dena Bank demonstrating the highest provisioning for loan losses. Accordingly, the null hypotheses are rejected, confirming that substantial differences existed in LLPR across the selected banks prior to the merger.

LIMITATIONS OF THE STUDY

1. The study is limited to only three public sector banks—Bank of Baroda, Vijaya Bank, and Dena Bank—which may not represent the entire Indian banking sector.
2. The analysis is based only on secondary data obtained from published financial reports and official sources, which may have inherent reporting limitations.
3. The study focuses only on selected credit risk indicators such as NPA and LVR ratio, excluding other financial and operational performance variables.

FINDINGS OF THE STUDY

1. The study indicates that Vijaya Bank's NPA ratio, which started at 1.30% in 2013 and fluctuated to 4.32% in 2018, remained relatively lower than the other banks, reflecting better control over asset quality before the merger.
2. The study identifies that Dena Bank's NPA ratio rose sharply from 1.39% in 2013 to 11.95% in 2018, highlighting severe deterioration in asset quality and the highest credit risk exposure among the three banks.
3. The study examines that Bank of Baroda's NPA ratio increased moderately from 1.28% in 2013 to 5.49% in 2018, indicating moderate but consistent challenges in managing non-performing assets.
4. The study found that Vijaya Bank's Loan Loss Provision Ratio (LLPR) increased gradually from 0.73 in 2013 to 1.49 in 2018, reflecting steady improvements in provisioning for potential loan losses while maintaining lower credit risk.
5. The results suggest that Dena Bank's LLPR escalated sharply from 1.12 in 2013 to 12.93 in 2018, indicating significant stress in its loan portfolio and a more cautious approach to credit risk management.

6. The study highlights that Bank of Baroda maintained a moderate LLPR, starting at 0.67 in 2013, peaking at 3.59 in 2016, and moderating to 3.32 in 2018, showing a balanced approach to provisioning between Vijaya Bank and Dena Bank.

CONCLUSION

The study observed that there were significant differences in credit risk exposure among Bank of Baroda, Vijaya Bank, and Dena Bank during the pre-merger period from 2013 to 2018. The analysis of Non-Performing Assets (NPA) ratios revealed that Vijaya Bank maintained relatively lower NPAs, indicating better asset quality and effective credit risk management, whereas Dena Bank exhibited a steep increase in NPAs, reflecting severe deterioration in its loan portfolio and the highest level of credit risk among the three banks. Bank of Baroda showed a moderate and consistent rise in NPAs, suggesting a balanced but ongoing challenge in managing credit risk. Similarly, the Loan Loss Provision Ratios (LLPR) highlighted differences in the banks' approaches to provisioning for potential loan losses, with Dena Bank adopting the most cautious approach, Vijaya Bank showing steady but lower provisioning, and Bank of Baroda maintaining a moderate and balanced stance. Overall, the study demonstrates that the selected banks had varied levels of credit risk and provisioning practices prior to consolidation, providing valuable insights into the financial conditions that may have influenced the merger decisions. These findings emphasize the importance of evaluating pre-merger credit risk exposure to inform effective risk management and policy planning in the banking sector.

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