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Measuring Net NPA's of Public Sector Banks: A Study of Indian Public Sector Banks from 2017 to 2023

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ABSTRACT

This study was conducted to assess the net NPA's of Public sector banks in India. The paper reviews the trends in net NPA's of Public sector banks in India and then suggests the strategy for optimising the NPA's level in public banks of India. The study covers the area of performance evaluation of Indian banking sector during the pre and post covid period. The paper studied the post-merger performance of merged banks with the help of non-performing asset's structure. The data for the purpose is taken for 2016-17 to 2022-23 period. Using ANOVA test, the study found that the Net NPA of public sector banks have decreased as they merged other banks during the period of 2020-21. Further, the difference between Net NPA before is statistically significant at 5% level of significance. Thus, the alternative hypothesis is accepted and we can say that NPA's have significantly changed in Indian public sector banks for the selected period of study.

Keywords*: Total Assets, NET NPA, Pre- and post-COVID, Indian public sector Banks,*

Introduction

The financial services sector has also experienced merger surges, which have led to the establishment of extremely large banks and financial institutions. Mergers and acquisitions have become a critical technique of corporate reorganisation worldwide. The primary motivating factor behind merger activity is the intense competition among enterprises in the same sector, which emphasises economies of scale, cost efficiency, and profitability. These studies have implemented one of the two opposing methodologies for analysing merger-related advantages in the banking sector. The initial approach involves assessing the long-term success of mergers by analysing accounting data, including efficiency ratios, operational expenses, and return on assets. It is anticipated that a merger will enhance performance if the accounting-based performance change surpasses the performance changes of comparable institutions that did not engage in merger activity. An alternative approach is to evaluate the stock price performance of the bidder and the target company both prior to and following the announcement event. A merger is defined in this context as an increase in the combined value of the vendor and target institutions, and an acquisition is deemed to have value when its stock prices reflect its net present value after the merger is announced.

From April 1, 2019, to September 30, 2019, the Reserve Bank of India recorded a total of INR 95,760.49 crores in forgeries committed by Public Sector Banks (PSBs) in the 2018-19 fiscal year. In the Indian banking sector, PSBs hold a disproportionate stake of 85 percent, which is significantly greater than their proportional business share. An initial investigation of these incidents has revealed the involvement of not only mid-level staff, but also high-level management, as well as political intervention and the "pro-corporate" ideology of decision-makers. The financial sector is experiencing a significant increase in nonperforming assets (NPAs), which is a cause for concern. It is indicative of the financial difficulties faced by borrower clients, including Vijay Malaya, Nirav Modi, and Dewan Housing, as well as the inefficiencies in transmission processes.

Problem statement

Within a brief period, the banking system in India has undoubtedly achieved numerous significant accomplishments for the world's largest and most diverse democracy. In order to reposition and integrate India's banking sector into the global financial system, the government has implemented a strategic plan that includes reforming the banking sector. Changes in the Indian banking sector, as well as numerous successful mergers and acquisitions, have all played a role in its expansion. For this reason, it is crucial to quantify the extent of nonperforming assets (NPAs) and to ascertain their influence on the banking sector as a whole.

The total amount of forgeries recorded by Public Sector Banks (PSBs) in the 2018-19 fiscal year, which spans from April 1, 2018 to September 30, 2019, is INR 95,760.49 crores, according to RBI. A disproportionate stake of 85 percent, which is significantly greater than their proportional business share, is held by PSBs in the Indian banking context. The involvement of not only mid-level staff, but also high-level management, as well as political intervention and the "pro-corporate" mentality of decision-makers, has been revealed in an initial investigation of these incidents. High levels of nonperforming assets (NPAs) are a cause for concern in the financial sector. Only two of India's twelve public sector banks, the Central Bank of India and Punjab & Sind Bank, experienced a net loss during the fiscal year. The combined profit of Rs. 31,817 crores of the PSBs was primarily due to the resolution of their historical bad loan crisis. In addition, there are numerous benefits, such as reduced operational expenses, reduced fund costs, and increased profits on bond portfolios in spite of declining bond rates.

LITERATURE REVIEW

Kaur, G., & Bala, A. (2023)[i] investigates the factors that precipitated Dena Bank's collapse, which resulted in its merger with Bank of Baroda and Vijaya Bank (the resulting entity is now referred to as Bank of Baroda). The scope of Dena Bank's financial performance and profitability deviations from 2007–08 to 2017–18 is assessed in this paper. The study's results suggest that the financial position of the bank that has collapsed is negatively affected by the growth of non-performing assets and expenditures. Additional post-merger analysis from 2018–19 to 2021–22 indicates that Bank of Baroda successfully implemented the modifications. The discovery would be beneficial to policymakers, academicians, practitioners, and investors, as it would enable them to evaluate the bank's financial status and obtain a better understanding of the factors that contributed to its merger.

Tiwari, R., Chauhan, A. S., & Singh, P. (2022)[ii] stated that the fragmented and inefficient banking system has been a hindrance to achieving sustainable and equitable development in India. In order to fully capitalise on the advantages of economies of scale, scope, and inclusiveness, the world's greatest democracy requires a strong, efficient, and technologically advanced financial system. HDFC bank has declared its intention to merge with HDFC. The researchers analyse the influence of leadership on the long-term viability of HDFC Bank, specifically in the context of sustainability within the Indian banking industry. The analysis of leadership's stance on sustainability is examined using public sources pertaining to the founding managing Director and HDFC Bank. The evaluation of the effect of a merger news on stock price is conducted by analysing the daily returns both before and after the announcement. It has been discovered that sustainability has become an integral component of the work culture at HDFC Bank, under the leadership of the visionary Mr. Aditya Puri. Following the news of the merger, there was a substantial decrease in the daily stock price returns of both HDFC Bank and HDFC. The combination has the capacity to provide enduring and all-encompassing economic expansion in the far future.

Sharma, A., & Mahapatra, S. S. (2022)[iii] The literature has been used to emphasise the evolution of mergers in the banking industry. In the context of India, this article examines the recent developments surrounding public sector banks and banking mergers. The objective of this article is to summarise the advancements in the banking sector's mergers. This article offers researchers a perspective on the merger's specifics in this section. Additionally, they disclosed that the Indian banking system is currently experiencing a distressing situation as a result of the rise in non-performing assets. This is the result of a lack of proper management, lenient lending policies, diminishing asset quality, and an insufficient loan recovery mechanism. It has been noted that the NPA problem is more prevalent in public sector banks than in private sector banks. This is due to the fact that the internal management of private sector banks is more robust than that of public sector banks. Private banks are subject to rigorous loan recovery policies and are well-regulated. Bureaucracy, corruption, and technological laggardism are more prevalent in public sector banks. The issue of NPA must be addressed promptly, as the bank will be unable to concentrate on the benefits of the merger if it has an excessive amount of strained assets to manage. The government must establish stringent regulatory provisions to recover loans and implement remedial measures to reduce NPA.

Gupta, S., Kadyan, S., & Bhasin, N. K. (2021)[iv] disclosed that the Indian banking industry plays a critical role in the nation's financial development. the Indian finance industry has undergone a plethora of transformations over the past three decades. The banking industry is divided into two categories: Scheduled business banks and Non-planned business banks. The planned business banks, which are further classified as public-area banks, private part banks, and remote banks, are those that have been enrolled in accordance with the Schedule II of the Save Bank of India Act, 1934. Nationalised banks, including the State Bank of India and its associate banks, Regional Rural Banks, are identified as open sector banks. The Private division banks are a combination of the former Private segment banks and the new Private part banks. Local provincial banks are operational in rural regions and are subsidised by the state government, focal government, and specific institutions. One of the noteworthy instruments for achieving development is the merger and acquisition. The merger, as defined by Godbole (2013), is the "combination of the substantial number of benefits, liabilities, advances, and business of at least two organisations with the objective of ensuring that one of them endures." In recent times, the Indian Banking Industry has experienced significant growth as a result of the following: an increase in retail credit demand, the proliferation of ATMs and credit cards, a decrease in non-performing assets (NPAs), improved large-scale financial conditions, an increase in loan cost spreads, and administrative and organisational changes.

Jasrotia, S. S., & Agarwal, T. (2021)[v] elucidated that India experienced the most significant consolidation of public sector banks in order to address the increased funding requirements and the rise in non-performing assets (NPAs). Major economic reforms were implemented in Indian banking to address the issue of surging NPAs, which has been a long-standing concern in India. The consolidation of recent mergers has resulted in a significant policy concern: the availability of loans for lesser businesses. The paper examines the effects of bank consolidation on the Indian economy by examining both the positive and negative aspects of bank mergers. The paper also provides a historical overview of Indian banking and suggests a course of action.

Das, S. K., & Uppal, K. (2021)[vi] elucidated that the performance of their lending is a critical source of income for commercial banks in their capacity as financial intermediaries. Recent years have seen a significant increase in the proportion of non-performing advances, which has had a detrimental effect on their profitability as a result of the increasing number of loan failures. The paper has investigated the relationship between profitability and nonperforming assets (NPAs) by estimating the determinants of profitability for 39 public and private banks from 2005 to 2019. We discovered that the profitability rate of Indian banks is adversely affected by NPAs, as indicated by a variety of bank-specific and macroeconomic predictors. The research posits that in order to enhance their profitability, banks must decrease their operating costs and non-performing assets (NPAs).

Kumar, R. (2022)[vii] stated that the finance sector plays a significant influence in the country's economic development. The banking sector's stability and efficacy have an impact on the country's economic growth. A flourishing economy is impossible for any nation in the absence of a banking system that is both effective and stable. The primary function of banks is lending. Revenue generation for banks is primarily derived from this source. Surplus resources from the public are accumulated by banks and subsequently utilised for investment and lending purposes. In the aftermath of the mega merger of banks, there were 12 public sector banks and numerous private sector banks. Lending entails the risk of payment delinquency, which leads to an increase in non-performing assets. This has an impact on the financial sector and other sectors of the economy. The bank industry's financial viability can be assessed by the magnitude of its Non-Performing Assets. It directly impacts the bank's profitability and performance. For scheduled commercial banks, nonperforming assets (NPAs) are the primary concern. Banks are unable to lend more as a result of the increased nonperforming assets (NPA), which serves as a barrier to the recycling of funds. The profitability of the bank is impacted by the high cost of capital, which in turn affects the liquidity position of the bank and the nonperforming assets (NPAs). A rise in nonperforming assets (NPA) is indicative of a high risk of a substantial number of loan defaults, which can harm the bank's net worth and performance, and may even result in a decrease in asset value. The banking industry's performance and profits are significantly impacted by the significant drawback of increasing non-performing assets (NPA). Consequently, it is imperative that NPA be effectively managed. This research is concentrating on the extent of non-performing loans in Indian banks and their influence on the economy and the performance of the banks. Additionally, the article endeavours to elucidate the impact of the pandemic on the Indian bakery sector and the manner in which it impacted NPA.

Shah & Hasan (2022)[viii] disclosed that the global economy is currently facing a variety of challenging obstacles, such as the eurozone crisis, debt crises in critical nations worldwide, and bank and financial institution collapses. The financial difficulties of the institutions are currently centred around nonperforming assets (NPAs). In an effort to enhance recuperation performance, concrete measures must be implemented. Essentially, there are two types of actions that must be executed. Banks should prioritise the prevention of new nonperforming assets (NPAs) from being recorded in their records through the implementation of an effective presentation evaluation. Subsequently, they should recover funds from accounts that have already failed. The researcher selected three Indian banks and examined their nonperforming assets (NPAs) from 2015-16 to 2019-20 in this study.

Bhasin & Rajesh (2022)[ix] examines the substantial risks that Indian banks encounter, as well as the numerous causes of the increasing number of nonperforming assets (NPAs) and bank forgeries. The article continues to explore the potential of newly emerging digital banking technologies, in conjunction with improved lending and risk management capabilities, to mitigate and regulate risk in order to address the issue of non-performing assets (NPAs) and forgeries. The utilisation of sophisticated technology, data analytics, and MIS reports is required by Indian banks to enhance internal controls associated with loan pre- and post-approval, including credit evaluation and monitoring. It is recommended that bank employees receive continuous training and skill development, as professionals are required to manage risk and make decisions in both lending and technology. It is imperative to enhance the cybersecurity and firewalls to ensure the management of technological risks in order to provide early warning signals.

Goswami & Gulati (2021)[x] has been disclosed that the productivity behaviour of Indian banks in the presence of non-performing assets (NPAs) was examined from 1999 to 2017. The research investigates whether Indian banks can withstand the disruptions of the 2007-2009 global financial crisis (GFC) and preserve their total factor productivity (TFP) levels in the post-crisis economic uncertain era. The sequential Malmquist-Luenberger productivity index (SMLPI) technique, which is both state-of-the-art and unique, is employed to generate reliable estimates of TFP and its components, particularly technological change and efficiency change. In our example, the primary advantages of this method are that it explicitly permits the production of undesired output (NPAs) in conjunction with permissible inputs and outputs during the manufacturing process, thereby reducing the likelihood of technological regression that is misleading. The empirical findings of the study indicate that the Indian banking sector experienced a (1) percent decrease in total factor productivity (TFP) during the specified period. This decline was wholly attributable to efficiency losses. The growth trajectory of the TFP in the Indian finance sector has been affected by the GFC. Public sector banks were the most significantly impacted by the GFC in terms of ownership categories.

Haralayya (2021)[xi] gives an explanation, the Indian banking industry has been reforming predominantly in terms of significant actions taken since 1991 to establish a more stable, efficient, vivacious, and healthy banking sector in India. The reform process was compelled by the impact of a highly regulated banking environment on asset quality, productivity, and bank performance. This lead to the adoption of prudential norms for income recognition, asset classification and provisioning, and capital adequacy norms that are in accordance with international best practices. the primary objective of the reform initiatives was to improve asset quality and decrease non-performing assets. This is the context in which the present study objectively evaluates the efficacy of NPA management in the post-millennium era by examining the trend in the movement of nonperforming assets of public sector banks in India from 2000-01 to 2011-12. However, non-performing assets are not solely determined by loan/advance, but also by other bank performance indicators and macroeconomic conditions. In addition to describing the trend in the movement of NPAs, this study also examined the moderating and mediating effects of various macroeconomic factors and bank performance on the incidence of NPAs.

Kashyap & Bansal (2020)[xii] explained that the banking industry in India is confronted with numerous issues and concerns related to non-performing assets, and it plays a critical role in the country's financial performance and economic progress. as revealed. NPAs are currently perceived as a significant concern. The objective of the investigation is to ascertain the magnitude of non-performing assets in the Indian banking sector, as well as the impact of these assets on the financial performance and profitability of Indian banks. This report indicates that non-performing assets have more severely affected public sector banks in India than private sector banks, and the increasing number of NPAs has a detrimental impact on bank profitability.

Research Methodology

The study's scope is restricted to the selected public sector banks that are currently being merged. This includes the Bank of India, Bank of Maharashtra, Canara Bank, Central Bank of India, Indian Bank, Indian Overseas Bank, Punjab National Bank, Punjab & Sind Bank, Union Bank of India, and UCO Bank, which are currently merged with the State Bank of India. Subsequently, the study will encompass the six banks that will operate as public sector banks. The primary source of this research is secondary data regarding the Indian banking system prior to and subsequent to the merger of the banks. The annual reports of institutions will be the source of secondary data regarding their final accounts. Journals, articles, newspapers, and other published works were also considered. The post-merger performance of merged institutions is assessed in this study using the structure of non-performing assets. The data for this purpose is derived from the pre-merger period of 2014-15 to 2018-19 and the post-merger period of 2019-20 to 2022-23.

Statistical tools and financial techniques were employed to analyse the data. The analysis and interpretation of data will have been conducted using a variety of techniques, including statistical and financial models. The hypothesis was tested using an ANOVA test.

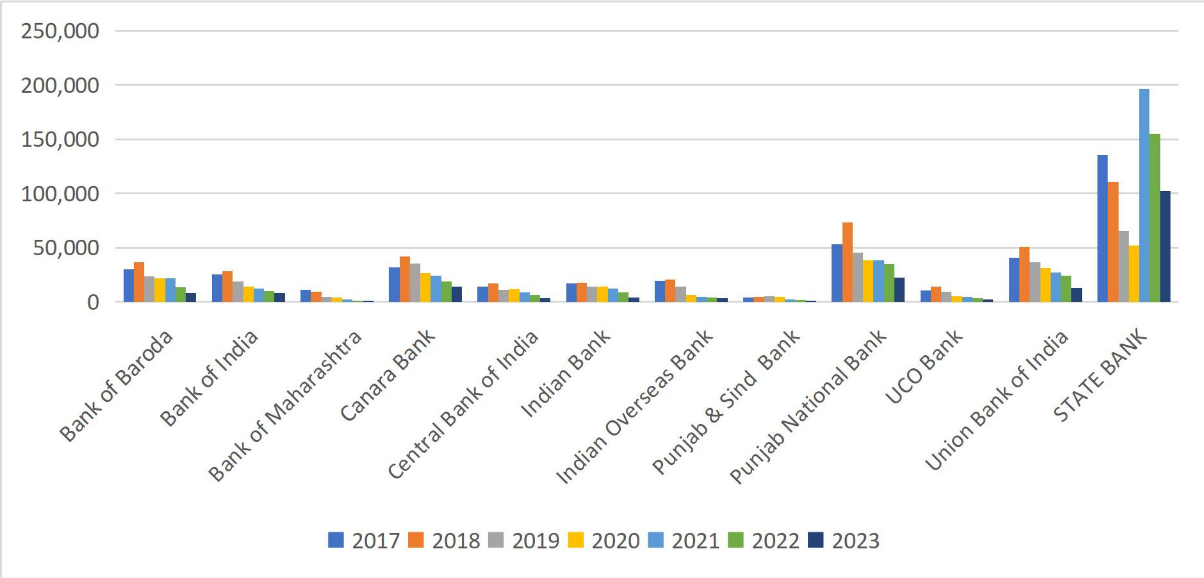
Data Analysis

Net NPA of the banks are classified as under:

This section presents the total assets of the 12 public sector Banks for the period of period of 2026-17 to 2022-23. The balances of the banks data are presented in the table 1 as under:

Table-1: Net NPA of the public sector banks

NATIONALISED BANKS	2017	2018	2019	2020	2021	2022	2023
Bank of Baroda	29,933	36,343	23,795	21,577	21,800	13,365	8,384
Bank of India	25,305	28,207	19,119	14,320	12,262	9,852	8,054
Bank of Maharashtra	11,230	9,641	4,559	4,145	2,544	1,277	435
Canara Bank	32,060	41,781	35,583	26,756	24,442	18,668	14,349
Central Bank of India	14,218	17,378	11,333	11,534	9,036	6,675	3,592
Indian Bank	17,290	17,787	14,212	14,272	12,271	8,849	4,043
Indian Overseas Bank	19,749	20,400	14,368	6,603	4,578	3,825	3,266
Punjab & Sind Bank	4,375	4,608	4,994	4,684	2,462	1,742	1,412
Punjab National Bank	53,412	73,283	45,264	38,319	38,576	34,909	22,585
UCO Bank	10,703	14,082	9,650	5,511	4,390	3,316	2,018
Union Bank of India	40,879	51,040	36,350	31,325	27,281	24,303	12,927
STATE BANK	1,35,633	1,10,855	65,895	51,871	1,96,452	1,54,746	1,02,532



The Net NPA of the selected banks are shown in the table 2 revealed that the Gross NPA have increased for all the banks in 2018 and thereafter it has later reduced gradually except for merged SBI banks while the other banks, those which were not merged have the gradually reduced their Net NPA.

Measuring change in Net NPA's

The Net NPA of the selected banks are shown in the table 1 revealed that the Net NPA have decreased for all the banks, yet Net NPA reduced thereafter needs to be measured that whether there is a constant change happened or it moved in a sequence of reduction. For that purpose, measuring Net NPA following hypothesis is developed:

H_0: NPA's have not significantly changed in Indian public sector banks for the selected period of study.

H_1: NPA's have significantly changed in Indian public sector banks for the selected period of study.

The above hypothesis is analysed with the ANOVA test for the difference for year wise and bank wise differences amongst selected public sector banks. The results are as under:

Table-2: Test result for Net NPA before and after merger

SUMMARY	Count	Sum	Average	Variance
Bank of Baroda	7	155197	22171	88641514
Bank of India	7	117119	16731.29	59885075
Bank of Maharashtra	7	33831	4833	16968992
Canara Bank	7	193639	27662.71	91791341
Central Bank of India	7	73766	10538	21229622
Indian Bank	7	88724	12674.86	23609410
Indian Overseas Bank	7	72789	10398.43	57597714
Punjab & Sind Bank	7	24277	3468.143	2357971
Punjab National Bank	7	306348	43764	2.58E+08
UCO Bank	7	49670	7095.714	19707784
Union Bank of India	7	224105	32015	1.51E+08
STATE BANK	7	817984	116854.9	2.53E+09

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit

Between	3.86E+09	6	6.43E+08	2.638379	0.023539	2.23948
With in	7.48E+10	11	6.8E+09	27.90651	1.21E-20	1.936958
Error	1.61E+10	66	2.44E+08			
Total	9.47E+10	83				

As ANOVA result shows that the value computed for F is above the F crit thus the above stated null hypothesis is rejected in both the cases (of bank wise and year wise) and we accept the alternative hypothesis (F>F crit) and say that NPA's have significantly changed in Indian public sector banks for the selected period of study. Further the mean value analysis revealed that the SBI is having the highest Net NPA among all the banks and year wise in the year 2018 the Net NPA was at the top for all the banks.

Conclusion

The financial sector is beset by high levels of NPAs, which is reason for concern. It represents borrower customers' financial problems, such as Vijay Malaya, Nirav Modi, and Dewan Housing, as well as inefficiencies in transmission processes. According to statistics, India became world's tenth biggest economies in 2018, with the highest bad loan percentage after Italy. This is because it is anticipated that government-controlled lenders own around 90% of such non-performing assets. Our analysis revealed that the Net NPA of public sector banks have decreased as they merged other banks during the period of 2020-21. Further, the difference between Net NPA before is statistically significant at 5% level of significance. Thus, the alternative hypothesis is accepted and we can say that NPA's have significantly changed in Indian public sector banks for the selected period of study.

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