International Journal of Banking, Risk and Insurance
13 (3) 2025, 78-93
www.publishingindia.com/ijbri/
https://doi.org/10.21863/ijbri/2025.13.3.008

Submitted: 15 October, 2024
Revisions: 18 November, 2024
Accepted: 28 February, 2025

Exploring the Financial Symphony: Evaluating the Performance of Selected Indian Banks Before and After Merger

Ram Prakash Pandey*, Disha Singh**

Abstract

Within a nation's progress tapestry, the banking sector weaves the most crucial threads, shaping both national and economic advancement. The resilience and adaptability of the banking system serve as a barometer for a country's economic growth. Mergers and acquisitions (M&A) stand as strategic brushstrokes, crafting a canvas of business reconfiguration, boosting competitiveness and amplifying shareholder value by enhancing operational efficiency. The performance of selected Indian banks before and after the merger is evaluated in this article. The study considered five parameters that is Net profit margin, operating profit margin, return on asset, return on equity and cost to income margin. The merger data underwent analysis using various financial ratios, evaluated through a paired T-test before and after the merger. To investigate the link between the variables for both periods, correlation analysis is applied. The result highlight that mergers have no significance impact on the financial performance of the selected banks and the cost efficiency has increased as a result of mergers.

Keywords: Banking Sector, Correlation, Mergers, Paired Sample T-Test

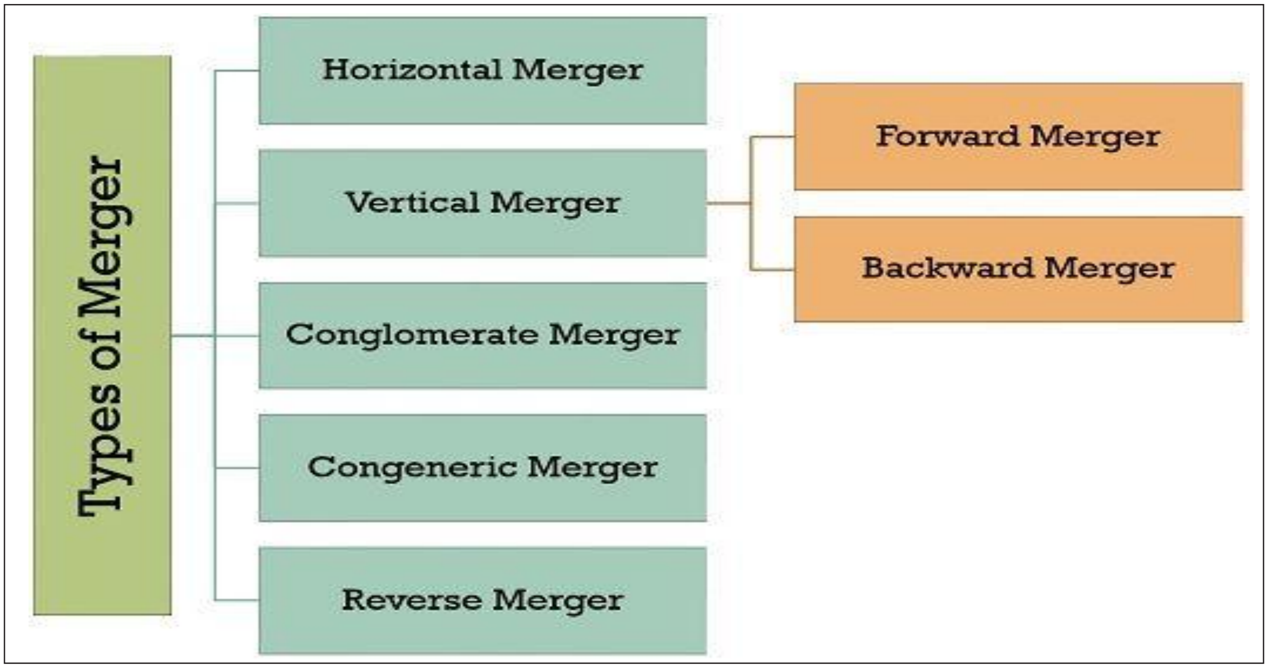
Introduction

Expanding business operations, whether through organic growth or strategic acquisitions, is a critical decision for a company's survival in today's business landscape. Mergers and acquisitions are examples of inorganic or artificial growth, which has garnered interest in all industries and around the globe (Oduro & Agyei, 2013). Mergers and acquisitions represent one avenue for rapid expansion. However, the potential synergies resulting from such actions are widely debated. While certain theories, cantred on efficiency and gaining market dominance, advocate for mergers, many contemporary viewpoints lean against them. Factors like agency costs, integration challenges and the expenses associated with acquiring a firm often dissuade support for mergers, especially in recent times. Within India, the service sector holds substantial importance in driving economic growth, contributing approximately 60% to the country's Gross Domestic Product (GDP). Over time, the banking sector has emerged as a leading force in both fuelling economic expansion and delivering notable returns within the stock markets.

A merger involves the union of two or more companies to create a unified entity. It bears resemblance to an acquisition or takeover, with a key distinction: in a merger, the existing shareholders of both involved companies maintain a joint stake in the new corporation. In contrast, an acquisition occurs when one company procures a significant portion of another company's stock, whether by mutual consent or without it.

A merger is the process of uniting two firms or entities to form a third independent company by the signing of an agreement with the goal of progressing to a respectable market position. To accomplish the goals that they believe they can attain more effectively together by combining their abilities rather than working independently. However, the merger can take place only if both organisations freely decide and agree on the same clauses as specified in the agreement. According to the Industrial Disputes Act of 1947, if an employee has worked for more than a year, his or her rights and benefits shall not be impaired by a merger.

* Research Scholar, Faculty of Commerce, Banaras Hindu University, Uttar Pradesh, India. Email: prakashp683@gmail.com
** Research Scholar, Faculty of Commerce, Banaras Hindu University, Uttar Pradesh, India. Email: dishasingh235@gmail.com



Source: theinvestorsbook.com

Fig. 1: Types of Mergers

Banking acts as a crucial financial intermediary and is critical to the smooth operation of the economy. Economic growth, on the other hand, can alter the efficiency of financial intermediation. Furthermore, the failure of a bank might precipitate a full-fledged crisis. The profitability of the banking sector is critical in strengthening the economy and allowing it to withstand severe external financial shocks, hence supporting economic stability (Istan & Fahlevi, 2020).

A Reserve Bank of India periodical claims that, on average, banking mergers in India have benefited the banking industry since the acquirers' efficiency and financial performance improved after the merger. Despite the lack of available data, these findings also apply to recent bank mergers that occurred in 2019–2020. The analysis covered all recorded mergers and acquisitions in the Indian commercial banking sector between 1997 and 2020. The number of merger cases in the sample was reduced to 17 from 1997 to 2017 and 5 from 2019 to 2020.

Table 1: List of Bank Mergers in the Year 2019

Sr. No.	*Banks Merged*	*Anchor Bank*	*Market Capitalisation (in Crores)*
1	Allahabad Bank	Indian Bank	55,508.39
2	Oriental Bank of Commerce + United Bank of India	Punjab National Bank	98,240.28
3	Syndicate Bank	Canara Bank	77,300.09
4	Vijaya Bank+ Dena Bank	Bank of Baroda	115,631.66
5	Corporation Bank+ Andhra Bank	Union Bank of India	87,652.20

Source: Authors compilation.

Overview of the Bank Mergers Stated in Our Study

Merger of Punjab National Bank, Oriental Bank of Commerce and United Bank of India

- Punjab National Bank (PNB) will take over Oriental Bank of Commerce (OBC) and United Bank of India (UBI) on April 1, 2020, making it the nation's second-largest lender following the State Bank of India (SBI) in terms of branch network and business volume.
- The convergence following the amalgamation will birth a next-generation powerhouse, PNB 2.0, poised to compete on the global stage. The bank asserted this in an official statement, further emphasising that every customer, including depositors, will be embraced as a valued member of the PNB community.
- Following the amalgamation of United Bank of India and Oriental Bank of Commerce, PNB has revealed a new logo. The new logo will showcase distinct symbols representing all three public sector lenders.

Merger of Canara Bank and Syndicate Bank

- Effective April 1st, 2020, Andhra Bank and Corporation Bank merged into Union Bank of India.
- After the integration of Andhra Bank and Corporation Bank, Union Bank has risen to become the nation's fifth-largest public sector lender. As of Wednesday, the merger has commenced, combining their rich individual legacies to build a dynamic shared future.
- The merger is anticipated to produce cost and revenue synergies amounting to INR 2,500 crores over the upcoming three years.
- Together, they rank as the fifth-largest public sector bank and the fourth-largest banking network in India. Debit/credit cards, account numbers, IFSC codes and login credentials for online and mobile banking platforms will all be the same to minimise any inconvenience.

Merger of Bank of Baroda, Vijaya Bank and Dena Bank

- On September 17, 2018, the government led by Narendra Modi revealed intentions to merge three public sector banks: Dena Bank based in Mumbai, Vijaya Bank headquartered in Bengaluru and the Bank of Baroda with its main office in Vadodara, Gujarat. The combined entity holds legal assets exceeding Rs 14 lakh crore, positioning itself as India's third-largest lender, following the State Bank of India and HDFC Bank.
- The government's approval of approximately Rs 5,042 crore to fortify Bank of Baroda's financial stance follows the merger. This consolidation propels Bank of Baroda to the second position in India concerning branch count. Concurrently, the RBI's prompt corrective action framework now encompasses four banks.
- The primary aim behind this merger was to mitigate Non-Performing Assets (NPA). Prior to the merger proposal, Bank of Baroda, Vijaya Bank and Dena Bank held gross NPA ratios of 12.4%, 6.9% and 22%, respectively. Post-merger, Bank of Baroda anticipated a 40% increase in deposits, a 44% rise in loans and a significant 70% expansion in distribution.

Merger of Indian Bank and Allahabad Bank

- As of April 1, 2020, Allahabad Bank officially merged into Indian Bank. The merger had been announced by Finance Minister Nirmala Sitharaman during the Budget 2020 session held in March the previous year, involving the consolidation of various public sector banks.
- The Indian banks disclosed a swap ratio, offering 115 equity shares valued at Rs 10 each for every 1,000 shares also valued at Rs 10 each from Allahabad Bank. Under this plan, Allahabad Bank was assimilated into Indian Bank, joining nine other PSBs that merged into four entities.
- The merger included the disclosure of an equitable share exchange ratio, with a fair allotment of 115

equity shares valued at Rs 10 each for every 1000 shares valued at Rs 10 each from Allahabad Bank.

Merger of Union Bank of India, Andhra Bank and Corporation Bank

- Andhra Bank and Corporation Bank merged to form Union Bank of India on April 1, 2020.
- Union Bank is now the fifth-largest public sector lender in the country following the merger of Andhra Bank and Corporation Bank.
- Following the merger, all employees, customers and branches associated with Andhra Bank and Corporation Bank will seamlessly integrate into Union Bank of India. This consolidation is anticipated to yield cost and revenue synergies amounting to INR 2,500 crores within the upcoming three years.
- Upon amalgamation, they form India's fourth-largest banking network and the fifth-largest public sector bank.

Literature Review

The banking sector has undergone extensive analysis, particularly concerning acquisitions and mergers. Numerous studies have examined the impact of M&As on financial metrics like profitability, return on investment/ assets and stock prices. Previous research indicates that mergers and acquisitions within banks have resulted in a mix of positive and negative outcomes in their performance during the post-merger period.

Indian Perspective

Ojha (1987) conducted an analysis of the effectiveness and performance of public sector banks in India. Upon examining a range of profitability and productivity indicators, the study concluded that, despite an increase in productivity, there was minimal improvement in bank profitability. The research suggested implementing a broader and more varied approach to improve efficiency and financial success in the Indian banking industry. Athma (2000) conducted a study to evaluate how well the public sector commercial banks are performing, with particular attention on the State Bank of Hyderabad. Athma delved into the evolution and advancement of commercial banking in India, scrutinised patterns in deposits, different facets of profits for SBH, analysed changes in asset composition, evaluated customer satisfaction and made comparisons between SBH's performance and that of other Public Sector Banks (PSBs), such as the Associate Banks of the State Bank of India (SBI). Devarajapp (2012) Utilised financial metrics to evaluate the financial status of HDFC Bank Limited and Centurion Bank of Punjab and assessed the banks' performance before and after their merger based on information from the last 3 years. The analysis's findings showed that while net profit, return on capital and operating profit remained unchanged, the mean value of gross profit and the mean value of equity increased. Singh and Tondon (2012): The researcher conducted an examination of the financial performance of SBI and ICICI banks, utilising secondary data spanning from 2007–2008 to 2011–2012. To evaluate the financial performance of these banks, the researcher employed the ratio analysis method. To assess the patterns in bank profitability, statistical techniques such as calculating the mean and compound growth rate (CGR) were applied. Patel (2014), the impact of mergers and acquisitions on Indian banks has been found to be positive, with some public sector banks being more advantageous than private sector banks, according to an investigation into the assigned banks' finance and equity returns. According to Ghosh (2016), it evaluated liquidity, efficiency and profitability and performance metrics of the Oriental Bank of Commerce. It was found that the acquiring bank's profitability and efficiency got better following the merger, but the Oriental Bank of Commerce's liquidity position stayed the same. Gurbaksh Singh (2016) the examination of State Bank of India shows no major enhancement following the merger. The research shows that banks experienced a positive impact when comparing the period before and after mergers. Patel and Shah (2016), utilised the economic value added approach along with other financial measures such as mean net profit margin, return on net worth, return on assets, return on long-term fund, interest earned and total assets to assess banks' financial performance pre- and post-merger. Varghese and Thaha (2017) focused on assessing the post-merger performance of banks. Considering foreign banks can further expand the scope of this study. Considering micro-level performance indicators using the CAMELS model can result in a more detailed version of the study. Subhashree et al. (2018), it has been proposed that the adoption of a merger and acquisition strategy has the potential to enhance the overall functioning of banking institutions. Such strategic moves hold significance within the banking sector due to their capacity to augment financial benefits. Merger and acquisition strategies offer significant advantages to banking institutions, as they enable these organisations to elevate their growth and development in the market while simultaneously mitigating management-related risks and reducing operational costs. Gandhi et al. (2020) evaluate the financial performance after mergers of private and public sector banks and also examine their comparison. The research indicates that both private and public sector banks have demonstrated enhanced financial performance after mergers in some aspects of the CAMEL model. Mihir Dash (2022) five mergers/ acquisitions that occurred in the post-liberalisation period were examined for the study. The evaluation involves examining financial statements and conducting ratio analysis with data from the five years before and after the merger. Dhanalakshmi (2023): The research aims to assess the financial performance of specific pharmaceutical companies before and after a merger using different ratios that are compared before and after the event periods.

Global Perspective

Healy et al. (1992), the research revealed that the growth in post-merger cash flows did not jeopardise the merging companies' long-term sustainability, as the surveyed firms continued to invest in capital expenditure and research and development at levels consistent with their respective industries. Additionally, the study indicated that the rise in industry-adjusted operating returns was linked to an increase in asset turnover, rather than a boost in operating margins. According to Husain (2002), acquisitions become economically justified when a company's "Private Market Value" surpasses its market capitalisation. However, if takeovers are employed to suppress competition, it can have detrimental effects on the economy. Therefore, it is essential to establish appropriate checks and balances to ensure that the facilitation of takeovers primarily contributes to enhancing overall economic efficiency. Feroz et al. (2005), investigated the effects of mergers on financial health. Husain (2002) deals with non-performing loans of banks. *Daily Dawn Newspaper*, 1-11. Prowess of American businesses, demonstrating that in the aftermath of these corporate unions, 82% of the examined organisations demonstrated a significant increase in managerial adeptness. Choi and Harmatuck (2006) showed that there was a slight improvement in operating performance over time, although it was not statistically significant. Majumdar et al. (2007) conducted an analysis of how mergers influenced the financial performance and operational efficiency of telecommunications companies in the United States. The findings revealed a decrease in cash flows following the mergers, along with a negative impact on efficiency and synergy. Kumar (2009) a study was conducted on the post-merger operational performance of acquiring companies engaged in mergers in India from 1999 to 2002. The data found that, on average, there was no improvement in the acquiring companies' post-merger profitability, asset turnover, or solvency when compared to their pre-merger performance. Ismail et al. (2011) highlighted how Egyptian companies in the technology and construction sectors performed after merging; it was determined that mergers in technology were unsuccessful, while mergers in construction led to higher profits. Kemal (2011) studied the financial results of the Royal Bank of Scotland in Pakistan from 2006 to 2009 after its merger, revealing that RBS exhibited enhanced profitability, liquidity, asset quality, reduced leverage and improved cash flow conditions in the period before the merger as opposed to the period after the merger. Bertrand and Betschinger (2012) turns out those Russian acquirers are unable to leverage value due to a lack of M&A knowledge and capability, particularly when making cross-border purchases. Oduro and Agyei (2013) conducted an accounting-focused investigation into mergers and acquisitions involving companies listed on the Ghana Stock Exchange. The study revealed significant alterations in profitability when comparing the periods before and after the mergers, with an adverse effect on the companies' overall profitability. Additionally, the research identified a substantial negative correlation between firm size and risk level with firm performance, while an increase in debt capital and firm expansion had a positive influence on firm profitability. Deng and Yang (2015) through the application of resource dependence theory (RDT), researchers investigated the key factors that impact the extent of cross-border mergers and acquisitions (M&As) initiated by emerging market firms (EMFs) in both established and developing nations. Their findings revealed that these M&A activities played a pivotal role in enabling EMFs to access superior resources. Notably, in developed economies, patents and knowledge assets emerged as the primary drivers behind M&As, while in developing economies, natural resources assumed a central role in propelling such transactions. Harvey (2015), the outcomes of the research showed that growth and shareholder value maximisation, not profit maximisation, were the primary drivers behind the acquisition.

Research Gap

The study examines the long-term consequences of mergers in the banking industry. Most studies focus on short-term financial indicators. Analysing how mergers affect the banks' performance, stability and market position several years after the merger could reveal significant insights. The study also evaluates the financial performance and efficiency of merged banks in India. Analyse the key financial metrics such as net profit margin, return on assets, cost to income ratio, return on equity and operating profit margin in pre-as well as post-merger time frames.

Motivation Behind the Study

Since the early 1990s, the banking sector has seen significant restructuring driven by deregulation, liberalisation, the divestment of public sector banks, the entry of foreign banks and numerous mergers both within India and globally. This study delves into the realm of mergers and acquisitions within the Indian landscape, specifically honing in on a public sector bank. Its aim is to assess banks' financial performance before and after mergers, offering insights into their transformative impact.

Objective of the Study

- To quantify the influence of mergers on the profitability metrics of the selected banks before and after mergers.
- To examine the factors influencing the dynamics of mergers and acquisitions.

Hypotheses of the Study

- There is no significant impact of mergers on profitability of the selected banks during the year 2019.
- There is significant impact of mergers on profitability of the selected banks during the year 2019.

Methodology of the Study

- *Sampling Design:* This research takes an analytical approach, with emphasis on systematic evaluation and critical investigation.
- *Period of Study:* The period of analysis is four years pre- and post-merger.
- *Source of Data Compilation:* The data is obtained from secondary sources using money control, annual reports and various articles and research papers.
- *The Factors Explored in Our Study:* The variables in our study compile with the previous studies in this area (Khan, 2011; Patel, 2018) study uses net profit margin, operating profit margin, return on asset, return on equity and cost to income to measure the pre- and post-effect of mergers.
- *Tools and Technique Used in Study:* These tools and techniques can vary widely depending on the field of study, the research question and the methodology being employed. The pre- and post-effect of the banking sectors are examined in the study using correlation analysis, paired sample T-test and descriptive statistics.
- In this analysis, we have used a paired T-test to estimate the long-run relative profitability before and after the merger. This statistical method is essential to evaluate the comparative results and has been widely used by researchers in previous studies. Some examples which support the studies are (Shanmugam & Nair, 2004; Demirbag et al., 2007; Mantravadi & Reddy, 2008; Kumar, 2009; Ramakrishnan, 2010; Dobre et al., 2012; Vulanovic, 2017; Patel, 2018).

Data Analysis and Interpretation

The findings have been categorised in three tables each; firstly, the variables have been calculated and represented, followed by trends. Secondly, graphical representation has been shown to be related to the ratios of each bank. Thirdly, we have analysed the variables through paired sample t-tests. The findings and interpretation of each bank have been discussed separately.

Indian Bank

Table 2: Analysing Indian Bank Financial Metrics: A Pre- and Post-Merger Scenario

Indian Bank	*Before*				*After*			
	2015	*2016*	*2017*	*2018*	*2020*	*2021*	*2022*	*2023*
Net Profit Margin %	6.34	4.37	8.76	7.35	3.51	7.68	10.15	11.75
Operating Profit Margin %	-2.25	-6.58	-5.02	-6.7	-11.95	-7.86	-7.64	-4.14
Return on Asset %	0.52	0.34	0.64	0.49	0.24	0.47	0.58	0.74
Return on Equity %	8	5.27	9.72	7.95	3.94	11.88	10.52	12.61
Cost to Income %	27.99	30.6	32.61	37.96	41.12	41.47	43.03	42.4

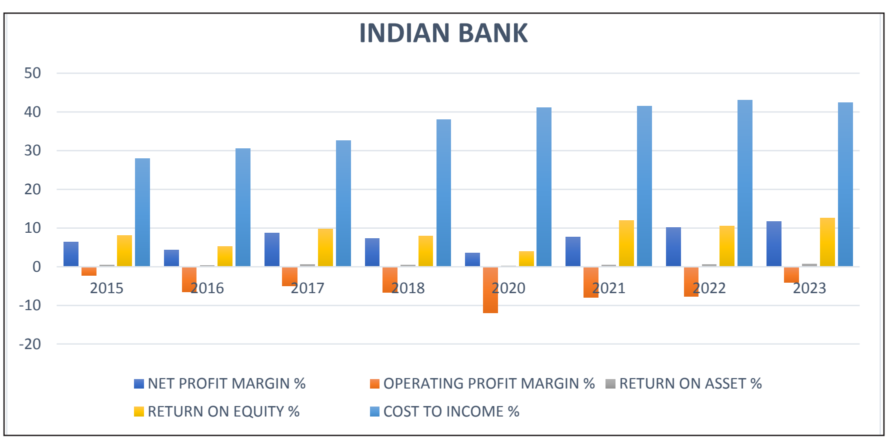
Source: Authors compilation.

The table above shows the various financial metrics with respect to pre-and post-mergers of Indian Bank. Starting with the net profit margin, return on assets shows a mixed trend for the pre-merger period, whereas an increasing trend is seen during the post-merger era. Operating profit margin shows a mixed trend during the pre-merger era whereas an increasing trend is seen for the post-merger, return on equity shows a mixed trend for bot time periods. The cost to income ratio shows an increasing trend for the pre -merger period, whereas a mixed trend is observed for the post-merger period.

Table 3: Tabular Depiction of the Trends Pre- and Post-Merger for Indian Bank

Time Horizon	*Net Profit Margin %*	*Operating Profit Margin %*	*Return on Asset %*	*Return on Equity %*	*Cost to Income %*
Pre	Mixed Trend	Mixed Trend	Mixed Trend	Mixed Trend	Increasing Trend
Post	Increasing Trend	Increasing Trend	Increasing Trend	Mixed Trend	Mixed Trend

Source: Authors compilation.



Source: Authors compilation.

Fig. 2: Shows the Trends from the Year 2015-2018 and 2020-2023 (Except Year 2019 Due to Merger Year)

Table 4: Assessing Profitability Ratios in the Pre- and Post-Merger Eras of Indian Bank

		Mean	*Std. Deviation*	*T-Value*	*P-Value*	*Correlation*
Net Profit Margin %	Pre-Merger	6.705	1.846122	-0.984	0.398	0.464
	Post-Merger	8.2725	3.589358			
Operating Profit Margin %	Pre-Merger	-5.1375	2.071527	1.078	0.360	-0.886
	Post-Merger	-7.8975	3.194228			
Return on Asset %	Pre-Merger	0.49	0.15	-0.086	0.937	0.109
	Post-Merger	0.5075	0.20998			
Return on Equity %	Pre-Merger	7.735	1.837834	-0.851	0.457	-0.213
	Post-Merger	9.7375	3.960845			
Cost to Income %	Pre-Merger	32.29	4.226795	-5.236	0.014	0.659
	Post-Merger	42.005	0.871034			

Source: Authors Calculations using SPSS.

Interpretation: The net profit margin, return on asset, return on equity and cost to income shows a positive effect for the mean during post-merger era whereas Operating profit margin shows a Negative effect. The standard deviation shows a positive shift for all the parameters except the cost to income ratio. The paired T-test is used with SPSS to see if there is a significant difference between the financial ratios before and after the merger. The p value for net profit margin, operating profit margin, return on asset, return on equity is more than 5 percent, which shows that these ratios do not significantly differ from one another before and after merger whereas cost to income shows p value less than 5 percent and hence it shows a significant difference between pre- and post-merger.

Union Bank

Table 5: Analysing Union Bank Financial Metrics: A Pre- and Post-Merger Scenario

	Before				*After*			
	2015	*2016*	*2017*	*2018*	*2020*	*2021*	*2022*	*2023*
Net Profit Margin %	5.55	4.19	1.69	-16.02	-7.78	4.22	7.7	10.44
Operating Profit Margin %	-5.42	-7.08	-13.5	-31.26	-21.91	-12.26	-10.73	-7.67
Return on Asset %	0.46	0.33	0.12	-1.07	-0.52	0.27	0.44	0.65
Return on Equity %	9.71	6.65	2.36	-20.9	-9.46	4.87	7.94	11.68
Cost to Income %	28.6	29.56	35.38	51.78	46.11	41.34	43.59	40.85

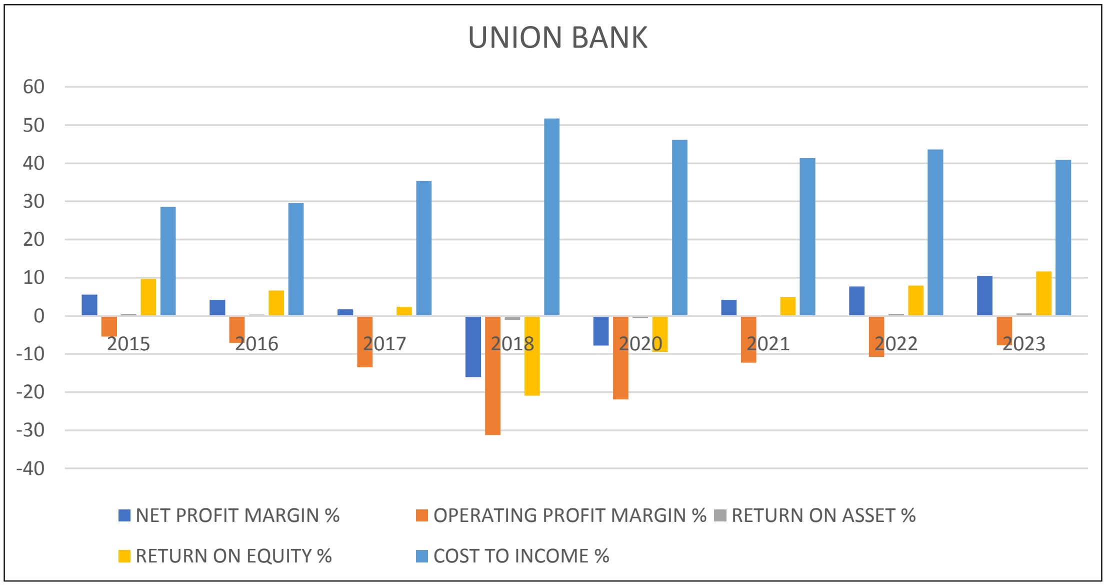
Source: Authors compilation.

The table above indicates that in the case of pre-merger era, all the four parameters that is net profit margin, operating profit margin, return on assets, return on equity shows a decreasing trends whereas cost to income shows an increasing trends. In case of post-merger time period net profit margin, operating profit margin, return on assets, return on equity shows and increasing trends whereas cost to income shows a mixed trend.

Table 6: Tabular Depiction of the Trends Pre- and Post-Merger for Union Bank

Time Horizon	*Net Profit Margin %*	*Operating Profit Margin %*	*Return on Asset %*	*Return on Equity %*	*Cost to Income %*
Pre	Decreasing Trend	Decreasing Trend	Decreasing Trend	Decreasing Trend	Increasing Trend
Post	Increasing Trend	Increasing Trend	Increasing Trend	Increasing Trend	Mixed Trend

Source: Authors compilation.



Source: Authors compilation.

Fig. 3: Shows the Trends from the Year 2015-2018 and 2020-2023 (Except Year 2019 Due to Merger Year)

Table 7: Assessing Profitability Ratios in the Pre- and Post-Merger Era of Union Bank

		Mean	*Std. Deviation*	*t-Value*	*p-Value*	*Correlation*
Net Profit Margin %	Pre-Merger	-1.1475	10.04304	-0.579	0.603	-0.674
	Post-Merger	3.645	8.030697			
Operating Profit Margin %	Pre-Merger	-14.315	11.82178	-0.139	0.898	-0.745
	Post-Merger	-13.1425	6.148612			
Return on Asset %	Pre-Merger	-0.04	0.700809	-0.446	0.686	-0.707
	Post-Merger	0.21	0.510882			
Return on Equity %	Pre-Merger	-0.545	13.90082	-0.4	0.716	-0.718
	Post-Merger	3.7575	9.241199			
Cost to Income %	Pre-Merger	36.33	10.72677	-1.078	0.360	-0.601
	Post-Merger	42.9725	2.407992			

Source: Authors calculations using SPSS.

Interpretation: The net profit margin, return on asset, return on equity, operating profit margin and cost to income shows a positive effect for the mean during post-merger. The standard deviation shows a negative shift for all the parameters. There is no significant difference between these ratios before and after the merger, as indicated by the p values for net profit margin, operating profit margin, return on equity, return on asset and cost-to-income ratios all being greater than five percent.

Canara Bank

Table 8: Analysing Canara Bank Financial Metrics: A Pre- and Post-Merger Scenario

	Before				*After*			
	2015	*2016*	*2017*	*2018*	*2020*	*2021*	*2022*	*2023*
Net Profit Margin %	6.17	-6.38	2.71	-10.23	-4.56	3.69	8.18	12.56
Operating Profit Margin %	-4.22	-17.46	-15.54	-27.06	-20.53	-18.38	-15.58	-9.66

	Before				*After*			
	2015	*2016*	*2017*	*2018*	*2020*	*2021*	*2022*	*2023*
Return on Asset %	0.49	-0.5	0.19	-0.68	-0.3	0.22	0.46	0.78
Return on Equity %	10.21	-10.75	3.96	-14.51	-6.78	5.05	9.85	16.03
Cost to Income %	23.83	35.68	33.31	48.4	40.83	43.52	43.3	38.37

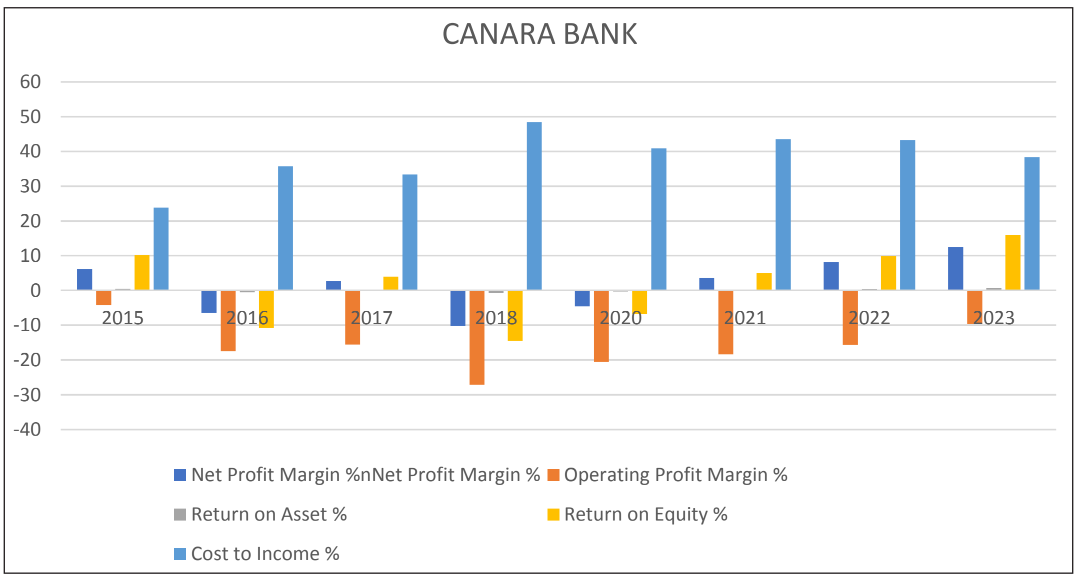
Source: Authors compilation.

The table above indicates that in case of pre-merger era, net profit margin, return on assets, return on equity, cost to income shows a mixed trends whereas operating profit margin shows a decreasing trends. In the case of post-merger time period net profit margin, operating profit margin, return on assets, return on equity shows and increasing trends whereas cost to income shows a mixed trend.

Table 9: Tabular Depiction of the trends Pre- and Post-Merger for Canara Bank

Time Horizon	*Net Profit Margin %*	*Operating Profit Margin %*	*Return on Asset %*	*Return on Equity %*	*Cost to Income %*
Pre	Mixed Trend	Decreasing Trend	Mixed Trend	Mixed Trend	Mixed Trend
Post	Increasing Trend	Increasing Trend	Increasing Trend	Increasing Trend	Mixed Trend

Source: Authors compilation.



Source: Authors compilation.

Fig. 4: Shows the Trends from the Year 2015-2018 and 2020-2023 (Except Year 2019 Due to Merger Year)

Table 10: Assessing Profitability Ratios in the Pre- and Post-Merger Era of Canara Bank

		Mean	*Std. Deviation*	*t-Value*	*p-Value*	*Correlation*
Net Profit Margin %	Pre-Merger	-1.9325	7.655762	-0.996	0.392	-0.712
	Post-Merger	4.9675	7.31144			
Operating Profit Margin %	Pre-Merger	-16.07	9.370443	-0.005	0.997	-0.905
	Post-Merger	-16.0375	4.709978			
Return on Asset %	Pre-Merger	-0.125	0.555608	-0.882	0.443	-0.731
	Post-Merger	0.29	0.455339			

		Mean	Std. Deviation	t-Value	p-Value	Correlation
Return on Equity %	Pre-Merger	-2.7725	11.7655	-0.883	0.442	-0.734
	Post-Merger	6.0375	9.654855			
Cost to Income %	Pre-Merger	35.305	10.12053	-1.078	0.360	-0.492
	Post-Merger	41.5050	2.419786			

Source: Authors calculations using SPSS.

Interpretation: The net profit margin, return on asset, return on equity, operating profit margin and cost to income shows a positive effect for the mean during the post- merger. The standard deviation shows a negative shift for all the parameters. The p value for net profit margin, operating profit margin, return on asset, return on equity and cost to income ratio is more than 5 percent, which shows that these ratios remain unchanged before and after the merger, showing no significant difference.

Punjab National Bank

Table 11: Analysing Punjab National Bank Financial Metrics: A Pre- and Post-Merger Scenario

	Before				After			
	2015	2016	2017	2018	2020	2021	2022	2023
Net Profit Margin %	6.61	-8.38	2.8	-25.59	0.62	2.5	4.61	2.94
Operating Profit Margin %	-6.1	-22.88	-16.13	-44.09	-16.61	-13.36	-11.83	-11.31
Return on Asset %	0.5	-0.59	0.18	-1.6	0.04	0.16	0.26	0.17
Return on Equity %	8.12	-11.2	3.47	-32.85	0.58	2.41	3.9	2.74
Cost to Income %	37.13	48.18	40.22	63.44	41.81	44.1	43.07	45.35

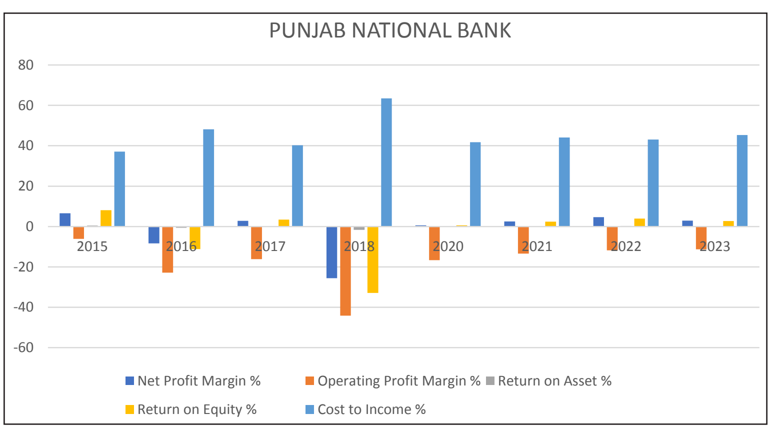
Source: Authors compilation.

The table above indicates that in the case of the pre-merger era, net profit margin, operating profit margin, return on assets, return on equity, cost to income shows a mixed trends, whereas operating profit margin shows a decreasing trends. In the case of the post-merger time period, net profit margin, return on assets, return on equity, cost to income shows a mixed trends, whereas operating profit margin shows an increasing trend.

Table 12: Tabular Depiction of the Trends Pre- and Post-Merger for Punjab National Bank

Time Horizon	Net Profit Margin %	Operating Profit Margin %	Return on Asset %	Return on Equity %	Cost to Income %
Pre	Mixed Trend	Mixed Trend	Mixed Trend	Mixed Trend	Mixed Trend
Post	Mixed Trend	Increasing Trend	Mixed Trend	Mixed Trend	Mixed Trend

Source: Authors Compilation



Source: Authors compilation.

Fig. 5: Shows the Trends from the Year 2015-2018 and 2020-2023 (Except Year 2019 Due to Merger Year)

Table 13: Assessing Profitability Ratios in the Pre- and Post-Merger Eras of Punjab National Bank

		Mean	*Std. Deviation*	*T-Value*	*P-Value*	*Correlation*
Net Profit Margin %	Pre-Merger	-6.14	14.44306	-1.187	0.321	-0.192
	Post-Merger	2.6675	1.639906			
Operating Profit Margin %	Pre-Merger	-22.3	16.07948	-1.004	0.389	-0.764
	Post-Merger	-13.2775	2.385978			
Return on Asset %	Pre-Merger	-0.3775	0.934608	-1.114	0.347	-0.244
	Post-Merger	0.1575	0.090323			
Return on Equity %	Pre-Merger	-8.115	18.43118	-1.116	0.346	-0.271
	Post-Merger	2.4075	1.375727			
Cost to Income %	Pre-Merger	47.2425	11.75891	0.708	0.530	0.954
	Post-Merger	43.5825	1.505133			

Source: Authors calculations using SPSS.

Interpretation: The net profit margin, return on asset, return on equity, operating profit margin show a positive effect, whereas the cost to income margin shows a negative effect for the mean during post-merger. The standard deviation shows a negative shift for all the parameters. In order to ascertain whether there is a noteworthy distinction between the financial ratios prior to and following the merger, a paired T-test is utilised with SPSS. The net profit margin, operating profit margin, return on equity, return on asset and cost to income ratios all have p values greater than 5%, these ratios remain unchanged before and after the merger, showing no significant difference.

Bank of Baroda

Table 14 : Analysing Bank of Baroda Financial Metrics: A Pre- and Post-Merger Scenario

	Before				*After*			
	2015	*2016*	*2017*	*2018*	*2020*	*2021*	*2022*	*2023*
Net Profit Margin %	7.91	-12.24	3.27	-5.57	0.71	1.17	10.4	15.74
Operating Profit Margin %	-2.33	-23.59	-12.73	-20.82	-12.85	-16.36	-6.02	4.55
Return on Asset %	0.47	-0.8	0.19	-0.33	0.04	0.07	0.56	0.96
Return on Equity %	8.53	-13.42	3.43	-5.6	0.76	1.07	8.46	14.36
Cost to Income %	29.96	47.15	38.58	48.92	43.13	48.69	45.26	37.41

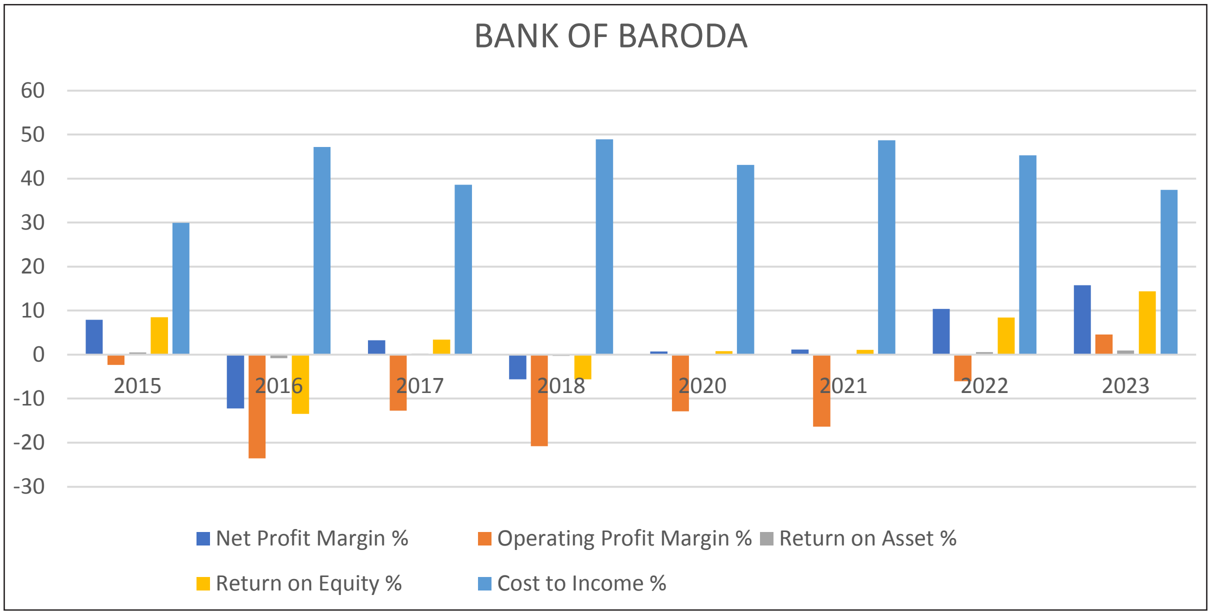
Source: Authors compilation.

The table above indicates that in the case of the pre-merger era, net profit margin, operating profit margin, return on assets, return on rquity, the cost to income shows a mixed trends whereas operating profit margin shows a decreasing trends. In the case of the post-merger time period net profit margin, return on assets, return on equity, shows an increasing trends whereas operating profit margin and the cost to income show an increasing trend.

Table 15: Tabular Depiction of the Trends Pre- and Post-Merger for Bank of Baroda

Time Horizon	*Net Profit Margin %*	*Operating Profit Margin %*	*Return on Asset %*	*Return on Equity %*	*Cost to Income %*
Pre	Mixed Trend	Mixed Trend	Mixed Trend	Mixed Trend	Mixed Trend
Post	Increasing Trend	Mixed Trend	Increasing Trend	Increasing Trend	Mixed Trend

Source: Authors compilation.



Source: Authors compilation.

Fig. 6: Shows the Trends from the Year 2015-2018 and 2020-2023 (Except Year 2019 Due to Merger Year)

Table 16: Assessing Profitability Ratios in the Pre- and Post-Merger Eras of Bank of Baroda

		Mean	*Std. Deviation*	*T-Value*	*P-Value*	*Correlation*
Net Profit Margin %	Pre-Merger	-1.6575	9.002116	-1.436	0.246	-0.080
	Post-Merger	7.005	7.337132			
Operating Profit Margin %	Pre-Merger	-14.8675	9.544144	-0.982	0.398	-0.221
	Post-Merger	-7.67	9.208681			
Return on Asset %	Pre-Merger	-0.1175	0.562931	-1.420	0.251	-0.076
	Post-Merger	0.4075	0.438739			
Return on Equity %	Pre-Merger	-1.765	9.721476	-1.305	0.283	-0.083
	Post-Merger	6.1625	6.521709			
Cost to Income %	Pre-Merger	41.1525	8.721504	-0.472	0.669	-0.134
	Post-Merger	43.6225	4.732817			

Source: Authors calculations using SPSS.

Interpretation: The net profit margin, return on asset, return on equity, operating profit margin show a positive effect whereas the cost to income margin shows a negative effect for the mean during the post-merger. The standard deviation shows a negative shift for all the parameters. In order to ascertain whether there is a noteworthy distinction between the financial ratios prior to and following the merger, a paired T-test is utilised with SPSS. The net profit margin, operating profit margin, return on equity, return on asset and the cost to income ratios all have p values greater than 5%; these ratios remain unchanged before and after the merger, showing no significant difference.

Factors Shaping the Dynamics of Mergers and Acquisitions

The choice to engage in mergers and acquisitions hinges on multiple rationales. Several influential factors can significantly impact the M&A deal, either directly or indirectly. The factors linked to M&A activity are outlined as follows:

According to Linder and Crane (1993), consider operating income and its three components as the primary focus when assessing the impact of mergers. They discovered that by maintaining cash reserves, banks can efficiently achieve economies of scale and scope. Pinter (2011) emphasises two approaches for the acquirer to assume control of target banks: either through a statutory merger or by acquiring assets. They contend that this strategy could result in increased shareholder value, improved efficiency and heightened operating synergies and managerial incentives. Sufian (2011) mentions mergers and acquisitions are pursued more for the purpose of attaining economies of scope rather than simply economies of scale. Assessing the legal, financial and business risks associated with a merger or acquisition in depth is known as due diligence. All parties involved, including buyers, sellers and participants in a company merger, carry out this crucial analysis (Davis, 2009). According to Hofstede (1993), cultural dynamics refer to the distinguishing characteristics of one group compared to another, which indirectly shape the behaviour within an organisation. When examining mergers and acquisitions, cultural elements encompass both organisational and national cultural perspectives. “Leadership revolves around addressing the requirements of individuals and organisations being led, rather than solely catering to the leader’s personal desires. Constantly experimenting with leadership styles to find the perfect fit for the company isn’t necessary. Instead, it’s crucial to adapt the leadership approach to the specific requirements of the company’s current situation (Murray, 2013). Lodorfos and Boateng (2006) emphasises the cultural disparities within organisations engaging in takeovers and mergers. Research revealed that the issue of cultural integration remained limited, with some instances being reactive. According to Schuler and Jackson (2001) in their study explore the significance and function of human resources (HR) and leadership. The research centres on various factors contributing to failure in mergers and acquisitions, with one of them being the overlooked, HR activities. Hussain et al. (2011) examine how Transformational Leaders affect the acquired company’s employees’ stress levels, either reducing or increasing them and assess how they affect the merger or acquisition’s success or failure. In addition to highlighting the necessity of specific training and a deeper comprehension of leadership dynamics in the context of mergers and acquisitions, the findings underscore the crucial relevance of transformational leaders in managing stress and uncertainty during the acquisition process.

Conclusion

Bank mergers are crucial for both expansion and consolidation. It is essential to the economy as well. The accumulation of NPAs is not the fault of tiny banks but rather of ineffective approaches to handling NPAs. According to (Pandey & Tripathi, 2023) the significant government assistance and bank provisions for reducing the gross non-performing asset (NPA) account for the declining trends in the net non-performing asset position before and after 2019–20.

India needs more global-level banks in order to remain competitive globally. The government handles merger-related issues and will determine if a merger is successful. The banking sector has seen significant mergers and acquisitions in recent years, leading to the emergence of several international companies through these transactions. According to the current study, the profitability ratios of a small number of banks in India did not significantly alter before or after the merger and acquisition of the chosen banks during the study period. However, there are optimistic forecasts for increased profitability in the future. Thus, it can be concluded that the merged banks saw increased levels of cost efficiency as a result of the mergers.

Through mergers, banks are able to obtain tax advantages, direct access to cash resources and a stronger financial foundation. In the financial sector, weaker banks can strengthen their position by merging with larger, more powerful banks. A number of banks are examined in the aforementioned study regarding the impact of mergers and acquisitions. The paper examines the long-term profitability position of the chosen Indian banks before and after the merger using the paired T-test. The findings show that mergers have improved cost efficiency noticeably, but they have not substantially changed the selected institutions’ financial performance.

References

Athma, P. (2000). *Performance of public sector banks-A case study of state bank of Hyderabad* (Doctoral dissertation, Ph. D Thesis, Usmania University Hyderabad).

Badreldin, A. M., & Kalhoefer, C. (2009). The effect of mergers and acquisitions on bank performance in Egypt. *Journal of Management Technology, 25,* 1-15.

Bertrand, O., & Betschinger, M. A. (2012). Performance of domestic and cross-border acquisitions: Empirical evidence from Russian acquirers. *Journal of Comparative Economics*, *40*(3), 413-437.

Choi, J., & Harmatuck, D. (2006). Post-operating performance of construction mergers and acquisitions of the United States of America. *Canadian Journal of Civil Engineering*, *33*(3), 266-277.

Dash, M. (2022). Mergers and acquisitions in the Indian banking sector. *International Journal of Banking, Risk and Insurance*, *10*(1), 29-45.

Davis, W. (2009). The importance of due diligence investigations: Failed mergers and acquisitions of the United States' Company. *Ankara Bar Review.*

Demirbag, M., Ng, C. K., & Tatoglu, E. (2007). Performance of mergers and acquisitions in the pharmaceutical industry: A comparative perspective. *Multinational Business Review, 15*(2), 41-62.

Deng, P., & Yang, M. (2015). Cross-border mergers and acquisitions by emerging market firms: A comparative investigation. *International Business Review*, *24*(1), 157-172.

Devarajappa, S. (2012). Mergers in Indian Banks: A study on mergers of HDFC Bank Ltd and Centurion Bank of Punjab Ltd. *International Journal of Marketing, Financial Services & Management Research, 1*(9), 33-42.

Dhanalakshmi, C. (2023). Study on financial performance of Indian pharmaceutical industry: Pre- and post-merger period. *International Journal of Banking, Risk and Insurance*, *11*(2), 9-16.

Dobre, F., Brad, L., Ciobanu, R., Turlea, E., & Caloian, F. (2012). Management performance audit in mergers and acquisitions. *Procedia Economics and Finance, 3,* 309-314.

Feroz, E. H., Kim, S., & Raab, R. (2005). Performance measurement in corporate governance: Do mergers improve managerial performance in the post-merger period? *Review of Accounting and Finance*, *4*(3), 86-100.

Gandhi, V., Chhajer, P., & Mehta, V. (2020). Post-merger financial performance of Indian banks: CAMEL approach. *International Journal of Banking, Risk and Insurance*, *8*(2), 1-13.

Ghosh, S., & Dutta, S. (2016). Mergers and acquisitions: A comparative review of literature. *Industrija*, *44*(1).

Harvey, S. K. (2015). The role of mergers and acquisitions in firm performance: A Ghanaian case study. *Journal of Applied Business & Economics, 17*(1), 66-77.

Healy, P. M., Palepu, K. G., & Ruback, R. S. (1992). Does corporate performance improve after mergers? *Journal of Financial Economics 31,* 135-175.

Hofstede, G. (1993). Cultural constraints in management theories. *Academy of Management Executive, 7.*

Husain, I. (2002). Dealing with non-performing loans of banks. *Daily Dawn Newspaper*, 1-11.

Hussain, M., Aamir Genix Pharma Karachi, M., Wahla, K., Mazhar Hussain, C., & Aamir, M. (2011). The role of transformational leaders in mergers / acquisitions: A case study of Faysal Bank Ltd. *European Journal of Social Sciences, 26*(3), 473-480.

Ismail, T. H., Abdou, A. A., & Annis, R. M. (2011). *Review of literature linking corporate performance to mergers and acquisitions*. SSRN.

Istan, M., & Fahlevi, M. (2020). The effect of external and internal factors on financial performance of Islamic banking. *Jurnal Ekonomi & Studi Pembangunan*, *21*(1), 137-145.

Kemal, M. U. (2011). Post-merger profitability: A case of Royal Bank of Scotland (RBS). *International Journal of Business and Social Science*, *2*(5), 157-162.

Khan, A. A. (2011). Merger and Acquisitions (M&As) in the Indian banking sector in post liberalization regime. *International Journal of Contemporary Business Studies*, *2*(11), 31-45.

Kumar, R. (2009). Post-merger corporate performance: An Indian perspective. *Management Research News, 32*(2), 145-157.

Kumar, S. (2013). Impact of bank mergers on the efficiency of banks: A study of merger of Bharat Overseas Bank with Indian Overseas Bank. *International Journal of Academic Research in Business and Social Sciences*, *3*(12), 221.

Linder, J. C., & Crane, D. B. (1993). Bank mergers: Integration and profitability. *Journal of Financial Services Research*, *7*(1), 35-55.

Lodorfos, G., & Boateng, A. (2006). The role of culture in the merger and acquisition process. *Management Decision, 44*(10), 1405-1421.

Majumdar, S. K., Moussawi, R., & Yaylacicegi, U. (2007). Quest for efficiency: Assessing the impact of mergers on performance in the US telecommunications industry. Available at SSRN 1008601.

Mantravadi, D. P., & Reddy, A. V. (2008, December). Post-merger performance of acquiring firms from different industries in India. *International Research Journal of Finance and Economics, 22,* 192-204.

Murray, A. (2013). *The Wall Street Journal Guide to Management.* Harper Business.

Oduro, I. M., & Agyei, S. K. (2013). Mergers & acquisition and firm performance: Evidence from the Ghana stock exchange. *Research Journal of Finance and Accounting*, *4*(7), 99-107.

Ojha, J. (1987). Productivity and profitability of public sector banks in India: An international comparison. *State Bank of India Monthly Review,* 333-348.

Pandey, R. P., & Tripathi, M. S. (2023). Performance analysis of Pradhan Mantri Mudra Yojana (PMMY) and its impact on NPA of the banking sector in India. *International Journal for Multidisciplinary Research (IJFMR)*, *5*(2), 1-21.

Patel, R. (2014). Pre-merger and post-merger financial & stock return analysis: A study with reference to selected Indian banks. *Asian Journal of Research in Banking and Finance*, *4*(12), 1-9.

Patel, R. (2018). Pre- & post-merger financial performance: An Indian perspective. *Journal of Central Banking Theory and Practice*, *7*(3), 181-200.

Patel, R., & Shah, D. (2016). Mergers and acquisitions - The game of profit and loss: A study of Indian banking sector. *Researchers World*, *7*(3), 92.

Pinter, E. (2011). Merger and acquisition in the financial services industry. *International Journal of Social Sciences and Human Studies, 3*(1), 93-102.

Ramakrishnan, K. (2010). Mergers in Indian industry: Performance and impacting factors. *Business Strategy Series, 11*(4), 261-268.

Schuler, R., & Jackson, S. (2001). HR issues and activities in mergers and acquisitions. *European Management Journal, 19*(3), 239-253.

Shanmugam, B., & Nair, M. (2004). Mergers and acquisitions of banks in Malaysia. *Managerial Finance, 30*(4), 1-18.

Singh, A. B., & Tandon, P. (2012). A study of financial performance: A comparative analysis of SBI and ICICI Bank. *International Journal of Marketing, Financial Services & Management Research*, *1*(11), 56-71.

Singh, G. (2016). Analysis of financial and operational performance of banking sector consolidations: Indian case study with mergers and acquisition. *International Journal of Banking, Risk and Insurance*, *4*(1), 64-74.

Singh, S., & Das, S. (2018). Impact of post-merger and acquisition activities on the financial performance of banks: A study of Indian private sector and public sector banks. *Revista Espacios Magazine*, *39*(26), 25.

Subhashree, K., & Kannappan, M. (2018). Merger and acquisition in banking industry. *International Journal of Pure and Applied Mathematics*, *119*(17), 1009-1022.

Sufian, F. (2011). The nexus between financial sector consolidation, competition and efficiency: Empirical evidence from the Malaysian banking sector. *IMA Journal of Management Mathematics*, *22*(4), 419-444.

Varghese, T., & Thaha, A. (2017). Impact of merger on acquiring bank performance: A case of Kotak Mahindra Bank. *Journal of Commerce and Accounting Research*, *6*(3), 34-43.

Vulanovic, M. (2017). SPACs: Post-merger survival. *Managerial Finance, 43*(6), 679-699.

Website

https://theinvestorsbook.com/merger.html