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Mergers and Acquisitions in Banking A study on Financial Performance and Capital Structure Changes

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Abstract

This research focuses on contrasting the financial performance of banks before and after engaging in mergers and acquisitions (M&A). It involves a comprehensive analysis of specific banks' annual reports for two years preceding and two years following M&A transactions, utilizing financial tools such as leverage and ratio analysis, as well as examining changes in their capital structure, including debt-to-equity ratios, the allocation of long-term and short-term debt, and overall financial leverage. The study aims to shed light on how these financial strategies impact a bank's stability and success. Understanding the influence of M&A transactions on capital structure can equip banks to make informed decisions and adapt their financial strategies to thrive in the competitive financial industry landscape.

Keywords: *Capital structure, Banking, Mergers and Acquisitions, Financial Performance*

1. Introduction

In the financial sector, mergers and acquisitions (M&A) are a common strategic approach employed by banks for a range of purposes, including expanding their geographical presence, acquiring new products or services, establishing market dominance, and realizing cost efficiencies through economies of scale [1]. These M&A activities in the financial sector encompass both horizontal mergers, where banks of similar sizes and product portfolios join forces to create larger entities, and vertical mergers, where larger banks acquire smaller banks operating in different industry segments or offering complementary goods and services [2].

Given the tightly regulated nature of banks, government oversight of M&A transactions within the financial sector is essential. The approval process for mergers and acquisitions includes a thorough evaluation of potential impacts on market competition, financial stability, and customer safety [4]. This scrutiny ensures that the capital structure and financial integrity of the combined entities are in line with regulatory standards.

Recent years have witnessed a significant upsurge in M&A activities within the Indian banking sector, driven by the imperative to bolster operations, achieve economies of scale, and maintain competitiveness in a rapidly evolving market. The Reserve Bank of India (RBI) and the Competition Commission of India play pivotal roles in overseeing M&A activities in the Indian financial sector, with the RBI issuing guidelines and regulations that encompass aspects of capital structure, due diligence, disclosure, and regulatory authority clearance for M&A transactions within the banking industry [5].

The recent mergers and acquisitions in the Indian banking sector have predominantly been motivated by the need to fortify the industry in the face of intensifying competition and shifting market dynamics, with some mergers aimed at fostering growth, expansion, and diversification within the sector. However, post-M&A challenges persist, including navigating complex legal and regulatory requirements, addressing cultural differences, and grappling with the intricacies of valuing merged entities, all of which have implications for the capital structure and financial stability of the banks involved [6].

Section 2 provides a concise overview of the existing literature on mergers and acquisitions. Following that, Section 3 outlines the research methodology, including the variables considered, the list of public sector banks selected for merger and acquisition analysis, and details regarding the data utilized for the study. Section 4 delves into the analysis of the findings, while Section 5 offers insights into the conclusions drawn from this study.

2. Literature Review

In recent decades, the banking sector has witnessed significant transformations, with merger and acquisition (M&A) activities serving as a prominent catalyst for this evolution. Mergers and acquisitions have emerged as pivotal strategies for banks, enabling them to achieve expansion, diversification of services, enhanced market presence, and improved financial performance. This is especially evident in the context of the Indian banking industry. This literature review examines a multitude of studies conducted on the subject of M&A within the banking and financial sector.

Qamar Abbas, Ahmed Imran Hunjra, Rauf I Azam, Muhammad Shahzad Ijaz, and Maliha Zahid (2014) conducted an examination of the financial well-being of banks in Pakistan following merger and acquisition activities. They utilized accounting and financial data spanning a decade from banking financial statements. The study encompassed a pre-and-post analysis of both efficiency and profitability, as well as the assessment of leverage and liquidity ratios. The results revealed no significant positive enhancement in the financial performance of the selected institutions.

Qamar Abbas, Ahmed Imran Hunjra, Rashid Saeed, Ehsan-Ul-Hassan, and Muhammad Shahzad Ijaz (2014) conducted a study to investigate the impact of mergers and acquisitions (M&A) on the financial performance of Pakistani banks. They analyzed data from the State Bank of Pakistan's financial statement analysis covering the years 2006 to 2011. Employing 15 financial ratios for comparison between the pre- and post-M&A periods, the research concluded that there was no significant difference in financial performance. These findings hold significance for Pakistani bankers and policymakers, particularly those within the banking industry considering M&A as a strategic response to an uncertain economic environment.

Robert DeYoung, Douglas D. Evanoff, and Philip Molyneux (2009) conducted a comprehensive review of 150 literature studies on recent bank mergers and acquisitions. Their analysis demonstrated the impact of geographical and product diversification, as well as the adverse effects on specific types of lenders, depositors, and various external shareholders stemming from such actions as mergers and acquisitions.

Adel A. Al-Sharkas, M. Kabir Hassan, and Shari Lawrence (2007) assessed the U.S. banking sector by examining the cost and profit efficiency implications of bank mergers. Their research scrutinized the production structure of merged and regular banks using data envelope analysis. The findings indicated that merged banks exhibited technological and systematic efficiency, suggesting that these mergers had the potential to generate improvements in technology and efficiency within the sector.

As highlighted in the existing literature, mergers and acquisitions (M&A) have shown positive effects on the financial performance, market leadership, and financial stability of Indian banks. Nonetheless, it's noteworthy that M&A activities can have adverse repercussions on asset quality and institutional liquidity. These conclusions underscore the importance of conducting thorough assessments to evaluate the potential risks and advantages associated with M&A endeavors within the banking sector.

3. Materials And Methods

In a similar vein, to evaluate the financial health of banks following merger and acquisition operations, this study employs a combination of three different analytical approaches. In addition to the customary pre-and-post merger analysis using ratio analysis, the study also incorporates two additional methodologies for assessing the impact of organizational mergers and acquisitions. These include the paired sample t-test, which compares the financial performance before and after mergers, and the use of Data Envelopment Analysis (DEA). Consequently, in order to assess the financial performance of the selected institutions before and after merger and acquisition activities, the researcher in this study primarily relies on ratio analysis.

The Indian banking sector has witnessed several significant mergers, including the merger of the State Bank of India with Bhartiya Mahila Bank and its associate banks in 2017, the amalgamation of Indian Bank and Bank of Baroda with Allahabad Bank, Dena Bank, and Vijaya Bank in subsequent years (2018), the merger of Oriental Bank of Commerce and United Bank of India with Punjab National Bank, Canara Bank's merger with Syndicate Bank, and the consolidation of Union Bank with Andhra Bank and Corporation Bank.

Table 1: list of select Merger and acquisition of banks in India

Name of Acquiring Bank	Name of Banks Merged
Punjab National Bank (PNB)	Oriental Bank of Commerce United Bank of India
Canara Bank(CANBK)	Syndicate Bank
Union Bank of India(UNIONBANK)	Andhra Bank Corporation Bank
Indian Bank(INDIANB)	Allahabad Bank
Bank of Baroda (BANKBARODA)	Dena Bank Vijaya Bank
State Bank of India (SBI)	State Bank of Bikaner & Jaipur State Bank of Mysore State Bank of Patiala Bhartiya Mahila Bank State Bank of Travancore State Bank of Hyderabad

The study relied on accounting and financial data extracted from the organizations' annual reports as its primary data source. For a precise and consistent assessment, financial ratios (as shown in Table 3) were employed in the analysis, encompassing the two-year periods both before and after the mergers (as shown in Table 2). This approach was chosen to ensure the accuracy and reliability of the findings. The decision to limit the scope of the M&A analysis to a two-year period before and after the merger was deliberate, as studying longer timeframes could introduce potential distortions stemming from external economic variables. By focusing on the two years preceding the merger and the subsequent two years, the research effectively scrutinized the financial performance of the selected institutions in the aftermath of merger and acquisition transactions.

Table 2: Period taken for Pre and Post analysis

BANKS	DATE	PRE	POST
PNB	01-04-2020	2018-2019	2021-2022
CANBK	01-04-2020	2018-2020	2021-2022
UNIONBANK	01-04-2020	2018-2021	2021-2022
BANKBORODA	01-04-2019	2017-2018	2020-2021
INDIANB	01-04-2019	2017-2018	2020-2021
SBI	01-04-2017	2015-2016	2018-2019

Table 3: List of Variables:

FINANCIAL RATIOS	FORMULE
PROFITABILITY & EFFICENCY	Return on Equity (ROE) = Net profit after tax / Total equity
	Return on Assets (ROA) = Net profit after tax / Total Assets
	Net Interest Margin (NIM) = Interest earned- interest expense / Total Assets
	Earnings Per Share (EPS) = Net profit after tax / No. of ordinary shares
	Interest expense to Interest Income (IETII) = Interest expense / Interest Income
LIQUIDITY RATIO	Cash & Cash equivalent to total assets (CTTA) = Cash & Cash equivalent / Total assets
	Total Liabilities to total assets (TLTTA) = Total Liabilities / Total assets
LEVERAGE RATIO	Debt to Equity Ratio (DER)= Total Debt / Total Equity
	Capital Ratio (CR) = Total Equity / Total Assets

3. Results and Discussion

To assess the alterations in the financial performance of specific banks prior to and following mergers, an analysis of the financial indicators outlined in Table 3 is conducted. These metrics are derived from the fluctuations observed during the pre- and post-merger periods within the selected institutions.

Table 4: Pre and Post merger analysis of ROE

Bank	PRE	POST	Rate of Change
PNB	-0.26396	0.03288	112%
CANBK	-0.04568	0.066931	247%
UNIONBANK	-0.11453	0.059358	152%
BANKBORODA	0.041334	0.015635	-62%
INDIANB	0.078269	0.061915	-21%
SBI	0.087364	-0.00285	-103%

Table 4 presents the pre and post-merger analysis of Return on Equity (ROE) for six banks: Punjab National Bank (PNB), Canara Bank (CANBK), Union Bank, Bank of Baroda (BANKBORODA), Indian Bank, and State Bank of India (SBI), along with the corresponding rate of change in their ROE.

The results are derived by calculating the rate of change between the pre- and post-merger periods of these banks. A positive rate of change indicates an improvement in financial performance resulting from merger and acquisition activity, whereas a negative rate of change suggests a decline in financial performance due to this activity.

Examining the data in Table 4 leads to several key observations. Among the six banks, three—PNB, CANBK, and Union Bank—experienced a significant increase in their ROE following the merger, with relative ROE shift rates of 112%, 247%, and 152%, respectively. This signifies an enhancement in their financial performance as a result of the mergers.

Conversely, the remaining three banks—BANKBORODA, Indian Bank, and SBI—saw a decrease in their ROE after the mergers, with relative rates of change in ROE of -62%, -21%, and -103%. This suggests a negative impact on their profitability following the mergers. However, it is essential to consider that external factors might have influenced the declining ROE in these cases.

In addition to these findings, it's important to recognize the potential implications on the capital structure of these banks resulting from the changes in financial performance. Positive changes in ROE, as observed in PNB, CANBK, and Union Bank, may indicate improved financial stability and a stronger capital base, while negative changes, as seen in BANKBORODA, Indian Bank, and SBI, may raise concerns about the capital structure and liquidity position. Ultimately, the data underscores that the effects of mergers and acquisitions on a bank's financial performance, including capital structure, can be diverse and depend on various factors, such as strategic decisions, management, market dynamics, and external influences.

Table 5 shows the pre- and post-merger Return on Assets (ROA) for six banks: Punjab National Bank (PNB), Canara Bank (CANBK), Union Bank, Bank of Baroda (BANKBORODA), Indian Bank, and State Bank of India (SBI), as well as the associated rate of change in ROA.

Table 5: Pre and Post merger analysis of ROA

Bank	PRE	POST	Rate of Change
PNB	-0.01386	0.002442	118%
CANBK	-0.00271	0.00366	235%
UNIONBANK	-0.00824	0.003528	143%
BANKBORODA	0.002524	0.001102	-56%
INDIANB	0.006026	0.002788	-54%
SBI	0.005136	-0.00033	-107%

The statistics in Table 5 provide some important insights into the impact of mergers on these banks' financial performance, with a particular focus on changes in capital structure as impacted by the ROA. First, among banks, PNB had a significant growth in ROA, with a rate of change of 118%. This means that its assets will be used more efficiently after the merger, which may benefit its capital structure. A greater ROA shows that the bank is earning more money in relation to its assets, potentially improving its capital position.

CANBK also had a significant increase in ROA, with a rate of change of 235%. This rise indicates increased asset utilisation, which may improve the bank's capital structure by earning higher returns from the same asset base. Union Bank's ROA changed in a positive direction, with a rate of change of 143%. This suggests that the bank's operating efficiency increased following the merger, perhaps leading to a stronger capital structure. BANKBORODA, Indian Bank, and SBI, on the other hand, saw a fall in ROA following the mergers, with rate changes of -56%, -54%, and -107%, respectively. These negative ROA fluctuations indicate a reduction in asset efficiency, which may put their capital structures at risk. A lower ROA indicates fewer profits from assets, which may impact the bank's ability to maintain a strong capital position.

In a nutshell the statistics show that the impact of mergers on a bank's capital structure, as determined by the ROA, may vary greatly. Positive changes in ROA, such as those seen at PNB, CANBK, and Union Bank, may result in a stronger capital structure. Conversely, the dropping ROA of BANKBORODA, Indian Bank, and SBI may raise worries about the sustainability of their capital structures. Asset efficiency and the capacity to produce earnings from assets are important factors in defining these banks' capital structures following mergers and acquisitions.

Table 6 shows the pre- and post-merger Net Interest Margin (NIM) analysis of six banks: Punjab National Bank (PNB), Canara Bank (CANBK), Union Bank, Bank of Baroda (BANKBORODA), Indian Bank, and State Bank of India (SBI), as well as the associated rate of change in NIM.

Table 6: Pre and Post merger analysis of NIM

Bank	PRE	POST	Rate of Change
PNB	0.020852	0.023119	11%
CANBK	0.020653	0.021591	5%
UNIONBANK	0.021112	0.02339	11%
BANKBORODA	0.02164	0.024958	15%
INDIANB	0.060667	0.024783	-59%
SBI	0.047458	0.023919	-50%

An examination of the data in Table 6 gives significant insights into the impact of mergers on the financial performance of these banks, with a particular emphasis on changes in capital structure as impacted by the NIM. Starting with PNB, the bank had a moderate growth in NIM, with a rate of change of 11%. While this represents a minor increase in the net interest margin, it may have an influence on the bank's capital structure by potentially increasing interest income. Similarly, CANBK had a minor increase in NIM, with a 5% rate of change. This minor improvement indicates a beneficial impact on the bank's interest income, which may add to its capital structure.

The NIM of Union Bank increased by 11%. This alludes to an increase in the bank's net interest margin, which might boost its revenue and, as a result, its capital structure. BANKBORODA saw a more significant increase in NIM, with a rate of change of 15%. This suggests a significant increase in the net interest margin, which might have a significant influence on the bank's revenue and capital structure. In contrast, both Indian Bank and SBI saw their NIM fall following the mergers, with rate adjustments of -59% and -50%, respectively. These big decreases in NIM may have a negative impact on their capital structures since they may signal a decline in revenue earned from interest profits.

In a nutshell the statistics show that the impact of mergers on a bank's capital structure, as influenced by the NIM, may be fairly different. Increases in NIM, as seen at PNB, CANBK, Union Bank, and BANKBORODA, may help to strengthen the capital structure. The significant declines in NIM for Indian Bank and SBI, on the other hand, may raise worries about the robustness of their capital structures. NIM is a crucial predictor of a bank's income, and changes in this statistic can have a considerable influence on the capital position of a bank following mergers and acquisitions.

Table 7 displays the Earnings Per Share (EPS) analysis for six banks, namely Punjab National Bank (PNB), Canara Bank (CANBK), Union Bank, Bank of Baroda (BANKBORODA), Indian Bank, and State Bank of India (SBI), both prior to and following the merger. The table also includes the equivalent rate of change in each bank's EPS. Critical insights into the effects of mergers on these banks' financial performance and capital structure as impacted by the EPS may be gained by carefully examining the data in Table 7.

Table 7: Pre and Post merger analysis of EPS

Bank	PRE	POST	Rate of Change
PNB	-42.195	3.085	107%
CANBK	-28.885	27.075	194%
UNIONBANK	-46.925	6.12	113%
BANKBORODA	-0.145	2.82	204.5%
INDIANB	28.77	22.13	-23%
SBI	19.355	-1.38	-107%

PNB's EPS increased significantly, changing at a pace of 107%. This suggests a notable increase in earnings per share, which may draw in additional money and investors and have a beneficial impact on the bank's capital structure. The EPS for CANBK increased significantly, changing at a 194% rate of growth. This noteworthy rise suggests that earnings per share would climb significantly, which might enhance the bank's capital structure. Union Bank's EPS increased significantly, changing at a pace of 113%. This may indicate a rise in earnings per share, which would be advantageous for the bank's capital structure. The EPS for BANKBORODA increased at an impressive rate of change of 204.5%. This significant gain suggests higher profits per share and possible investor appeal, which is good news for the bank's capital structure.

On the other hand, following the mergers, the EPS of SBI and Indian Bank decreased by -107% and -23%, respectively. These EPS reductions might negatively affect the capital structures of the banks since they could deter potential investors and hinder the bank's capacity to raise capital. In a nutshell the data emphasises how mergers may have widely differing effects on a bank's capital structure, as determined by the EPS. As shown with PNB, CANBK, Union Bank, and BANKBORODA, increases in EPS can work in favour of a more robust capital structure. However, the significant declines in EPS for SBI and Indian Bank might make investors less confident in their capital structure's capacity to raise money. A bank's capital position after mergers and acquisitions may be greatly impacted by changes in earnings per share (EPS), a crucial measure of a bank's profitability and investor appeal.

Table 8 shows the pre- and post-merger interest expense to total interest income (IETII) ratios for six banks: Punjab National Bank (PNB), Canara Bank (CANBK), Union Bank, Bank of Baroda (BANKBORODA), Indian Bank, and State Bank of India (SBI), as well as the corresponding rate of change in their IETII.

Table 8: Pre and Post merger analysis of IETII

Bank	PRE	POST	Rate of Change
PNB	0.676366	0.617359	-9%
CANBK	0.689275	0.626293	-9%
UNIONBANK	0.694387	0.612654	-12%
BANKBORODA	0.649308	0.607798	-6%
INDIANB	0.139877	0.622019	345%
SBI	0.352015	0.627782	78%

A comprehensive examination of the data in Table 8 gives significant insights into the impact of mergers on the financial performance and capital structure of these institutions, with an emphasis on the IETII. With a rate of change of -9%, PNB's IETII ratio decreased. This shows that the percentage of interest expenditures to total interest revenue is decreasing, which might benefit the bank's capital structure by potentially improving net interest income and profitability. Similarly, CANBK had a decrease in the IETII ratio, with a rate of change of -9%. This indicates a reduction in interest expenditures compared to total interest revenue, which might improve the bank's net interest income and, as a result, its capital structure.

Union Bank's IETII ratio fell by 12%. This indicates a decrease in interest expenditures as a percentage of total interest revenue, which may benefit the bank's net interest income and capital structure. BANKBORODA's IETII ratio decreased at a -6% rate of change. This shows a decrease in interest expenditures compared to total interest revenue, which might benefit the bank's net interest income and, as a result, its capital structure. In contrast, the IETII ratios of Indian Bank and SBI both increased significantly, with rate changes of 345% and 78%, respectively. These significant increases imply an increasing share of interest expenditures in comparison to total interest revenue, which might have a negative influence on their capital structures by affecting their net interest income and profitability.

In a nutshell the data shows that the impact of mergers on a bank's capital structure, as determined by the IETII ratio, can vary significantly. Reduced IETII ratios, such as those seen at PNB, CANBK, Union Bank, and BANKBORODA, may have a favourable impact on the bank's capital structure by potentially increasing net interest income and profitability. Significant rises in the IETII ratio for Indian Bank and SBI, on the other hand, may raise concerns about their capital structures due to the possible impact on net interest income and profitability. Following mergers and acquisitions, the IETII ratio has a significant impact on a bank's capital structure and financial performance.

TLTTA (Total Liabilities to Total Assets) Pre- and post-merger study for six institutions is shown in Table 9. TLTTA is a metric that calculates the proportion of a bank's total assets that are funded by total obligations. The higher the TLTTA, the more debt a bank employs to fund its assets. Table 9 data analysis provides useful insights into the influence of mergers on these banks' financial performance and capital structure, with an emphasis on the TLTTA.

Table 9: Pre and Post merger analysis of TLTTA

bank	PRE	POST	Rate of Change
PNB	0.02232	0.020081	-10%
CANBK	0.030005	0.020408	-32%
UNIONBANK	0.024302	0.016011	-34%
BANKBORODA	0.016827	0.018363	9%
INDIANB	0.008956	0.012671	41%
SBI	0.020405	0.013114	-36%

According to table 9, PNB's TLTTA ratio decreased by -10%. This implies a decrease in total liabilities relative to total assets, which might lead to an enhanced capital structure by lowering financial leverage. Similarly, CANBK had a significant decrease in the TLTTA ratio, with a rate of change of -32%. This indicates a significant decrease in total liabilities relative to total assets, which might have a favourable impact on the bank's capital structure by decreasing financial leverage.

Union Bank similarly saw a reduction in the TLTTA ratio, with a -34% rate of change. This is a considerable decrease in total liabilities relative to total assets, which may have a positive influence on the bank's capital structure by lowering financial risk. BANKBORODA reported a rise in the TLTTA ratio at a rate of 9%. This suggests an increase in total liabilities compared to total assets, which might have a minor influence on the bank's capital structure by raising financial leverage. TLTTA ratios at Indian Bank and SBI, on the other hand, decreased, with rate movements of 41% and -36%, respectively. These considerable fluctuations point to a decrease in total liabilities relative to total assets, which might contribute to a healthier capital structure by lowering financial leverage.

In a nutshell the statistics show that the impact of mergers on a bank's capital structure, as determined by the TLTTA ratio, may be varied. TLTTA ratio decreases, as seen in PNB, CANBK, Union Bank, Indian Bank, and SBI, may have a favourable impact on the bank's capital structure by decreasing financial leverage. While the rise in the TLTTA ratio at BANKBORODA is minimal, it may have a minor influence on its capital structure. The TLTTA ratio is an important aspect in defining a bank's financial risk and capital structure, and changes in this statistic can have a substantial impact on a bank's financial condition after mergers and acquisitions.

Table 10 compares six different banks' CTTAs (cash and cash equivalents to total assets) both before and after their merger. PNB, CANBK, UNIONBANK, BANKBORODA, INDIANB, and SBI witnessed CTTA ratio shifts of -15%, 71%, 4%, -37%, 31%, and -22%, respectively.

Table 10: Pre and Post merger analysis of CTTA

Bank	PRE	POST	Rate of Change
PNB	0.111658	0.094379	-15%
CANBK	0.086506	0.148332	71%
UNIONBANK	0.086078	0.089316	4%
BANKBORODA	0.172279	0.108078	-37%
INDIANB	0.048553	0.063636	31%
SBI	0.071904	0.055998	-22%

After the merging, PNB's CTTA ratio decreased by 15% at a rate of change of -15%. This shows a decrease in capital relative to total assets, which might have an impact on the bank's capital structure. A lower CTTA may result in less capital adequacy, undermining the bank's stability.

The CTTA ratio increased significantly at CANBK, with a rate of change of 71%. This shows an increase in capital relative to total assets, which might influence the bank's capital structure by increasing capital adequacy and stability. Union Bank's CTTA ratio increased slightly, at a rate of 4%. This indicates a slight increase in capital compared to total assets, which may contribute to the bank's capital structure by increasing capital adequacy. The CTTA ratio at BANKBORODA decreased significantly, with a rate of change of -37%. This indicates a decrease in capital relative to total assets, which could have an impact on the bank's capital structure. A lower CTTA may raise questions about capital sufficiency and financial stability. Indian Bank's CTTA ratio increased at a 31% rate of change. This shows an increase in capital relative to total assets, which might influence the bank's capital structure by improving capital adequacy and financial stability.

With a rate of change of -22%, SBI registered a drop in the CTTA ratio. This shows a decrease in capital compared to total assets, which might affect the bank's capital structure. A reduced CTTA may have an impact on capital sufficiency and stability.

In a nutshell the statistics show that the impact of mergers on a bank's capital structure, as determined by the CTTA ratio, can vary greatly. Increases in the CTTA ratio, as shown in CANBK, Union Bank, and Indian Bank, may have a favourable impact on the bank's capital structure by improving capital adequacy and financial stability. Reduced CTTA ratios for PNB, BANKBORODA, and SBI, on the other hand, may raise concerns about capital sufficiency and financial stability. The CTTA ratio is an important driver of a bank's capital adequacy, and changes in this measure can have a major impact on a bank's capital position after mergers and acquisitions.

The table 11 below shows the debt equity ratio (DER) of various institutions before and after a merger. The debt equity ratio compares the quantity of debt used to fund a company's assets to the amount of equity. A higher ratio indicates that the company is extensively financing its assets with debt. A close examination of the data in Table 11 reveals important insights about the impact of mergers on the financial performance and capital structure of these banks, with a particular focus on the DER. PNB had a significant fall in the DER, with a rate of change of -38%. This represents a decrease in debt relative to equity, which may have a favourable impact on the bank's capital structure by potentially lowering financial risk and increasing financial stability.

CANBK likewise showed a reduction in the DER, with a -29% rate of change. This implies a reduction in debt relative to equity, which can have a favourable influence on the bank's capital structure by potentially decreasing financial risk and improving financial stability.

Table 11: Pre and Post merger analysis of DER

Bank	PRE	POST	Rate of Change
PNB	0.43215	0.269335	-38%
CANBK	0.526872	0.375917	-29%
UNIONBANK	0.362372	0.269109	-26%
BANKBORODA	0.275754	0.264018	-4%
INDIANB	0.116331	0.2453	111%
SBI	0.347143	0.259	-25%

Union Bank's DER fell by -26%, indicating a decline in the bank's performance. This shows a decrease in debt relative to equity, which might help the bank's capital structure by decreasing financial risk and enhancing financial stability.

The DER in BANKBORODA fell somewhat, with a rate of change of -4%. While the adjustment is minimal, it may have an effect on the bank's capital structure by potentially decreasing financial risk and improving financial stability. With a rate of change of 111%, Indian Bank saw a remarkable gain in the DER. This shows an increase in debt compared to equity, which might have an impact on the bank's capital structure. A greater DER may indicate increased financial risk. SBI's DER decreased by -25% at a rate of change of -25%. This shows a decrease in debt relative to equity, which might have a beneficial impact on the bank's capital structure by potentially lowering financial risk and increasing financial stability.

In a nutshell the statistics show that the impact of mergers on a bank's capital structure, as impacted by the DER, can vary greatly. Reduced DER, as shown in PNB, CANBK, Union Bank, BANKBORODA, and SBI, may have a favourable impact on the bank's capital structure by potentially decreasing financial risk and improving financial stability. The huge increase in the DER for Indian Bank, on the other hand, may raise worries about rising financial risk. The DER is an important indication of a bank's financial risk and capital structure, and changes in this statistic can have a substantial impact on the financial condition of a bank following mergers and acquisitions.

Table 12 compares the Capital Adequacy Ratio (CR) before and after mergers for six banks: Punjab National Bank (PNB), Canara Bank (CANBK), Union Bank, Bank of Baroda (BANKBORODA), Indian Bank, and State Bank of India (SBI), as well as the rate of change in their CR.

The data in Table 12 may be used to get insight into the influence of mergers on these banks' financial performance and capital structure, with a particular focus on the CR.

Table 12: Pre and Post merger analysis of CR

Bank	PRE	POST	Rate of Change
PNB	0.055469	0.074643	35%
CANBK	0.056088	0.054269	-3%
UNIONBANK	0.072308	0.059493	-18%
BANKBORODA	0.061076	0.069976	15%
INDIANB	0.076883	0.058488	-24%
SBI	0.05878	0.052841	-10%

With a rate of change of 35%, PNB exhibited a considerable rise in the CR. This shows an increase in capital adequacy, which may benefit the bank's capital structure by increasing its ability to absorb losses and sustain financial stability. The CR at CANBK fell somewhat, with a rate of change of -3%. This indicates a slight decrease in capital adequacy, which might have an effect on the bank's capital structure by weakening its ability to absorb losses and preserve financial stability.

Union Bank reported a CR reduction with a rate of change of -18%. This indicates a reduction in capital adequacy, which may have consequences for the bank's capital structure by weakening its capacity to absorb losses and sustain financial stability. The CR at BANKBORODA increased at a 15% rate of change. This shows an increase in capital adequacy, which may benefit the bank's capital structure by increasing its ability to absorb losses and sustain financial stability. In contrast, both Indian Bank and SBI had their CR fall, with rate adjustments of -24% and -10%, respectively. These reductions indicate a drop in capital adequacy, which may have negative repercussions for these banks' capital structures by weakening their ability to absorb losses and sustain financial stability.

In conclusion, the data show that the impact of mergers on a bank's capital structure, as impacted by the CR, varies. Increases in the CR, as shown in PNB and BANKBORODA, may benefit the bank's capital structure by improving capital adequacy and financial stability. The minor fall in CANBK's CR, together with considerable declines in the CRs of Union Bank, Indian Bank, and SBI, may raise worries about the capital structure's ability to absorb losses while maintaining financial stability. The CR is an important measure of a bank's capital adequacy and financial stability, and changes in this metric can have a substantial impact on the financial condition of a bank following mergers and acquisitions.

4. Conclusion

The following conclusions after analyzing the prior and post-merger statistics of various financial ratios for six distinct banks: To sum up, this thorough examination of twelve essential financial indicators before and after merger and acquisition (M&A) activity in the banking industry clarifies the complex effects of these deals on the capital structure and financial performance of banks. The research looked at a variety of financial indicators, such as Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NIM), Earnings per Share (EPS), Interest Expense to Total Interest Income (IETII), Total Liabilities to Total Assets (TLTTA), Capital to Total Assets (CTTA), Debt to Equity Ratio (DER), Capital Adequacy Ratio (CR), and others.

The findings show that the impact of mergers and acquisitions on a bank's capital structure and financial performance are not consistent. While some banks saw increases in capital adequacy and profitability following M&A, others encountered difficulties in preserving their financial health. For example, a lower Debt to Equity Ratio (DER) indicated lower financial risk and improved capital structure for some banks, but a greater Total Liabilities to Total Assets (TLTTA) ratio indicated possible financial risk and leverage problems.

These outcomes highlight the necessity of thoroughly analysing key financial measures and their implications for capital structure before and after M&A transactions. When engaging in such transactions, banks and policymakers must take these concerns into account. A comprehensive grasp of how changes in capital structure effect financial stability, which can ultimately influence a bank's capacity to traverse the ever-changing financial landscape, is required for successful M&A endeavours in the banking sector.

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