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Impact of Merger & Acquisitions on Financial Performance of Public Sector Bank: An Application of Camel Model

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Abstract

A vibrant economic system reflects economic well-being, which is closely tied to ethical banking practices and procedures. A robust banking system ensures timely fulfilment of depositor obligations and promotes the optimal utilisation of resources. Mergers and acquisitions have become a vital strategy for expanding geographically. Acquisitions usually occur when a corporation buys a controlling interest in an existing company to gain administrative control. On the other hand, mergers involve the combination of two or more existing firms into a single entity.

The purpose of the study is to examine the financial performance of four acquirer banks that have gone under M & A with effect from 01.04.2020 by applying CAMEL Models. For evaluating financial performance, CAMEL Model has been used which measures the financial performance of banks on the basis of five parameters such as Capital adequacy, Assets quality, Management, Earning quality, and Liquidity. The Annual report of banks from 2017-18 to 2022-23 has been used for evaluation of financial performance that has been collected from the website of concerned banks. Data from 2017-18 to 2019-20 has been considered as pre-merger period and Data from 2020-21 to 2022-23 has been considered as post-merger period.

F-test and T-Test has been used for analyzing and comparing pre-merger financial performance and post-merger financial performance. The analysis concludes that all the acquirer public sector banks have had a substantial enhancement in terms of financial performance indicators based on CAMEL Models. In accordance with the ongoing worldwide trend of consolidation and convergence, it is imperative that the Indian banking industry undergoes restructuring through mergers and amalgamations expeditiously. This will enhance its capitalization, technological advancement, thereby fostering a more amicable and competitive environment.

Keywords: - Banking, Merger & Acquisition, Corporate Restructuring, Financial Performance, CAMEL Model, Public sector banks, Government, Reserve bank of India

I. INTRODUCTION

The banking industry is crucial in the current ecosystem as finance plays a pivotal role in facilitating and empowering economic activity. The banking sector is widely acknowledged for its substantial impact on economic growth. The importance of banking institutions in strengthening a nation's modern economy is widely acknowledged. These institutions play a crucial role in times of economic hardship, meeting the financial needs of both individuals and organisations. In addition, they play a crucial role in driving the overall growth of the economy. The expansion of the banking industry plays a significant role in driving overall economic growth.

The business environment of the banking sector has experienced rapid changes due to globalisation, increased competition from both domestic and international entities, and the emergence of modern technologies. Several financial organisations have implemented restructuring methods, such as mergers, acquisitions, and takeovers, to take advantage of economies of scale, lower costs, broaden their geographic presence, and strengthen their customer base. These solutions have been successfully utilised to address the above challenges.

Mergers and acquisitions (M&A) have become an essential strategy for achieving global geographical expansion in today's business landscape. Acquisitions occur when a corporation gains control over another established company by purchasing a majority stake in it. Usually, a merger entails combining multiple established businesses into one organisation, whether it's an existing company or a newly created one. Merger and acquisition activities are a strategic approach used by companies to expand their presence in the global market and gain a competitive edge.
In a move that reflects a deep understanding of the economic landscape, the Finance Minister of India made a significant announcement on August 30, 2019. It had been revealed that ten public-sector banks would undergo a merger, resulting in the formation of four stronger entities. This would reduce the number of nationalised public sector banks from 27 in 2017 to 12. For the current fiscal year, the Indian government has allocated a substantial amount of Rs. 55,250 Cr to stimulate the economy. If these banks were to merge, it could potentially lead to cost reduction, enhanced efficiency, and the ability to leverage economies of scale.

For evaluation of financial performance, CAMEL Model has been used which measures the financial performance of banks on the basis of five parameters such as Capital adequacy, Assets quality, Management, Earning quality, and Liquidity. In this paper, it has been tried to analyse the impact of Merger and Acquisition on the financial performance of the anchor banks by applying CAMEL Model.

Following Cases of M & A have been selected for the purpose of analysis.
1. Case I. Merger of Allahabad Bank with Indian Bank
2. Case II. Merger of Syndicate Bank with Canara Bank
3. Case III. Merger of Andhra Bank and Corporation Bank with Union Bank of India
4. Case IV. Merger of Oriental Bank of Commerce and United Bank of India with Punjab National Bank.

The remaining part of the paper has been structured as follows: section 2 contains the literature review; section 3 addresses the research gap; section 4 outlines the objectives; and section 5 describes the research methodology. The testing of hypotheses is elaborated upon in Section 6, while the presentation of results and analysis occurs in Section 7. Section 8 of the paper comprises the conclusion and recommendations, while section 9 comprises the references.

II. REVIEW OF LITERATURE

Kalaichelvan (2011) analysed the financial performance of banks that engaged in mergers and acquisitions throughout the era of financial sector reform from 1993-1994 to 2004-05. The analysis also examines the impact of stock prices following the announcement of merger and acquisition choices made by the study units, as well as the view of employees regarding the impacts of mergers in the combined banks. The results indicate that the financial performance of both public and private sector banks, when it comes to acquiring private limited banks, does not lead to significant enhancements in their liquidity situations or levels of profitability. According to the CAMELS assessment of the selected combined banks, private sector merged banks have superior performance compared to their public counterparts.

Kumar M. (2015) examined the impact of mergers on the performance of banks. He conducted a comparative analysis of the financial performance of Indian banks from 2000 to 2010 to assess the impact of mergers on their performance. The study findings indicate that mergers and acquisitions have a positive impact on a bank's return on equity (ROE). It demonstrates that the use of borrowed capital reduces a business's profitability, yet the size and growth of the firm are strongly and positively correlated with its profitability.
Bansal & Kakkar (2018) conducted a comprehensive analysis of the merger and acquisition (M&A) deals between Bharatiya Mahila Bank and the five affiliate banks of the State Bank of India. After conducting a financial performance analysis, the researchers additionally examined the performance of banks before and after mergers and acquisitions (M&As). The merger of SBI with its partner banks led to an expansion of the balance sheet and the realisation of economies of scale. Consequently, SBI became one of the top 50 banks globally.
Jha and Natarajan (2021) conducted a comparative analysis of the financial performance of State Bank of India (SBI) and Punjab National Bank (PNB) in the public sector, as well as Industrial Credit and Investment Corporation of India (ICICI) and AXIS Bank (AXIS) in the private sector. The analysis was carried out using the CAMEL Model and covered the period from 2011 to 2018. The bank's financial performance has been reviewed and ranked based on the CAMEL rating. The data is acquired from the annual reports of the individual banks. The ICICI bank demonstrated exceptional performance and achieved the top rank among four banks. AXIS bank, SBI, and PNB were ranked second, third, and fourth, respectively. Nevertheless, PNB exhibits subpar performance in the comprehensive composite ranking. The financial performance of public sector banks is comparatively inferior to that of private sector banks and requires close monitoring to maintain their sustainability.
Joshua O. (2022) conducted a comparative analysis of the impact of mergers and acquisitions on the financial efficiency of Nigerian banks. The user analysed the pre-mergers and acquisitions indices and compared them with the post-mergers

and acquisitions indices for the specified time. This analysis involved assessing the financial efficiency of the selected banks using gross earnings, profit after tax, and net assets as indicators. For this experiment, three Nigerian banks were selected using a combination of convenience and judgmental sampling procedures. The data was obtained from the annual reports and financial statements of the chosen banks and subsequently evaluated using statistical tools for the social sciences, specifically employing t-test statistics. Research has established that the period after mergers and acquisitions is more financially effective than the period before them. However, according to the study, banks should adopt a more assertive approach to generating profits in order to enhance their financial situation and maximise the benefits of post-merger and acquisition offers.

III. RESEARCH GAP

After performing a review of the current literature, it has been found that certain studies concentrate on assessing the effects of mergers and acquisitions (M&A) on the financial performance of acquiring banks using CAMEL Models. Multiple studies concentrate on comparing the financial performance of banks in the public sector with those in the private sector. However, there is a lack of study on the effects of mergers and acquisitions on the financial performance of anchor institutions, specifically in relation to recent occurrences of mergers and acquisitions involving public sector banks. So, this study is based on analysing and evaluating the impact of merger and acquisition on the financial performance of selected banks (as Indian Bank, Canara Bank, Union Bank of India, and Punjab National Bank).

IV. OBJECTIVE OF THE STUDY

- To analyse the impact of M & A on the financial performance of the Indian bank.
- To assess the impact of M & A on the financial performance of the Canara bank.
- To evaluate the impact of M & A on the financial performance of the Union Bank of India.
- To examine the impact of M & A on the financial performance of the Punjab National bank.

V. RESEARCH METHODOLOGY

I. Research Design: - The present study is a descriptive and analytical research study.

II. Sources of Data: - Secondary data has been used for this study which has been collected from the annual reports of selected banks.

III. Research Technique: - CAMEL Model has been used for this study for analysing financial performance of 3 years pre-merger and 3 years post-merger.

CAMEL Parameters	Ratios
Capital Adequacy	Capital Adequacy Ratio (%)
	Advances to Total Assets Ratio (%)
	Govt. securities to Total Investment ratio (%)
Assets Quality	Gross NPA to Gross Advances (%)
	Net NPA to Net Advances (%)
	Secured advances to total assets (%)
	Priority sector advances to total assets (%)
Managerial Efficiency	Return on assets (%)
	Return on advances (%)
	Total advances to total deposits (%)
Earning Quality	Operating profits to total assets (%)
	Net profits to total assets (%)
Liquidity Position	Liquid assets to total assets (%)
	Liquid assets to total deposits (%)
	Liquid assets to demand deposits (%)
	Credit-deposit ratio (%)

IV. Statistical tools: F-Test and T-test has been used for analysis.

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V. HYPOTHESIS OF THE STUDY

For testing the significance difference between pre-merger and post-merger Capital adequacy, following hypothesis has been tested.

$H_0$1: There is no significant difference between the pre-merger Capital Adequacy Ratio and post-merger Capital Adequacy Ratio.

$H_0$2: There is no significant difference between the pre-merger Advances to Total Assets and post-merger Advances to Total Assets.

$H_0$3: There is no significant difference between the pre-merger Government Securities to Total Investment and post-merger Government Securities to Total Investment.

For testing the significance difference between pre-merger and post-merger assets quality, following hypothesis has been tested.
$H_0$1: There is no significant difference between the pre-merger Gross NPAs to gross advances ratio and post-merger Gross NPAs to gross advances ratio.

$H_0$2: There is no significant difference between the pre-merger Net NPAs to Net advances ratio and post-merger Net NPAs to Net advances ratio.
$H_0$3: There is no significant difference between the pre-merger Secured advances to Total assets ratio and post-merger Secured advances to Total assets ratio.

$H_0$3: There is no significant difference between the pre-merger Secured advances to Total assets ratio and post-merger Secured advances to Total assets ratio.

For testing the significance difference between pre-merger and post-merger management efficiency, following hypothesis have been tested.
$H_0$1: There is no significant difference between the pre-merger Return on assets and post-merger Return on assets.

$H_0$2: There is no significant difference between the pre-merger Return on advances and post-merger Return on advances.

$H_0$3: There is no significant difference between the pre-merger Total advances to total deposits and post-merger Total advances to total deposits.

For testing the significance difference between pre-merger and post-merger earning quality, following hypothesis have been tested.
$H_0$1: There is no significant difference between the pre-merger Operating profits to Total assets and post-merger Operating profits to Total assets.

$H_0$2: There is no significant difference between the pre-merger Net profits to Total assets and post-merger Net profits to Total assets.

For testing the significance difference between pre-merger and post-merger liquidity position, following hypothesis has been tested.
$H_0$1: There is no significant difference between the pre-merger Liquid assets to total deposits ratio and post-merger Liquid assets to total deposits ratio.

$H_0$2: There is no significant difference between the pre-merger Liquid assets to demand deposits ratio and post-merger Liquid assets to demand deposits ratio.

$H_0$3: There is no significant difference between the pre-merger Liquid assets to total assets ratio and post-merger Liquid assets to total assets ratio.
$H_0$4: There is no significant difference between the pre-merger Credit-deposits ratio and post-merger Credit-deposits ratio.

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VI. RESULTS AND ANALYSIS

The results and analysis of this study has been categorized under four headings

CASE I. MERGER OF ALLAHABAD BANK WITH INDIAN BANK

The RBI announced on 28.03.20, that when the Allahabad bank will merge with Indian Bank, all of Allahabad Bank's branches will become branches of Indian Bank. From April 1, 2020, Allahabad Bank will no longer operate as it does now. Instead, it will merge with Indian Bank.

The Amalgamation of Allahabad Bank into Indian Bank Scheme, 2020, dated March 4, 2020, was issued by the Government of India, and published in the Gazette of India under Extraordinary Part II-Section 3-Subsection (i), allowing the Amalgamation of Allahabad Bank into Indian Bank under section 9 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970 (5 of 1970).

(1.1) Analytical Table of capital adequacy of Indian Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	CAR(%)	11.74	16.12	4.38	37.30	4.237	0.336	0.406	Equal	(-) 2.801	0.048	Significant
2.	A/TAR(%)	61.01	60.14	(-) 0.87	(-) 1.42	9.925	9.724	0.7904	Equal	0.319	0.765	Non-Significant
3.	GS/TIR(%)	84.69	81.06	(-) 3.63	(-) 4.28	37.11	7.68	0.641	Equal	0.768	0.485	Non-Significant

From table 1.1, following results has been observed about 3 ratios of capital adequacy:

- **Capital adequacy ratio**: Average values of pre-merger and post-merger are 11.74 and 16.12 respectively. An increase of 37.30 % has been recorded in the average value after the post-merger. Here, **t** is 2.801 with **p-value** of 0.048 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Capital adequacy ratio.

- **Advances to Total Assets ratio** : Average values of pre-merger and post-merger are 61.01 and 60.14 respectively. A decrease of 1.42 % has been recorded in the average value after the post-merger. Here, **t** is 0.319 with **p-value** of 0.765 which is greater than 0.05, i.e., null hypothesis is accepted. So,
- there is no significant difference between pre-merger and post-merger Advances to total assets ratio.

- **Government securities to total investment ratio** : Average values of pre-merger and post-merger are 84.69 and 81.06 respectively. A decrease of 4.28 % has been recorded in the average value after the post-merger. Here, **t** is 0.768 with **p-value** of 0.485 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Government securities to total investment ratio.

(1.2) Analytical Table of assets quality of Indian Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	GNPA(%)	11.99	9.16	(-) 2.83	(-) 23.60	30.61	0.952	0.257	Equal	0.681	0.533	Non-Significant

2.	NNPA (%)	5.21	2.82	(-) 2.39	(-) 45.87	4.033	0.605	0.551	Equal	1.545	0.197	Non-Significant
3.	SA/TA (%)	47.58	47.19	(-) 0.39	(-) 0.81	10.35	1.901	0.605	Equal	0.154	0.884	Non-Significant
4.	PSA/TA(%)	20.81	18.87	(-) 1.94	(-) 9.32	11.59	0.224	0.203	Equal	0.757	0.491	Non-significant

From table 1.2, following results has been observed about 4 ratios of assets quality:

- **Gross NPA to Gross Advances ratio**: Average values of pre-merger and post-merger are 11.99 and 9.16 respectively. A decrease of 23.60 % has been recorded in the average value after the post-merger. Here, t is 0.681 with **p-value** of 0.533 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Gross NPA to Gross Advances ratio.

- **Net NPA to Net Advances ratio** : Average values of pre-merger and post-merger are 5.21 and 2.82 respectively. A decrease of 45.87 % has been recorded in the average value after the post-merger. Here, **t** is 1.545 with **p-value** of 0.197 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Net NPA to Net Advances ratio.

- **Secured Advances to total assets ratio** : Average values of pre-merger and post-merger are 47.58 and 47.19 respectively. A decrease of 0.81 % has been recorded in the average value after the post-merger. Here, **t** is 0.154 with **p-value** of 0.884 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Secured Advances to total assets ratio.

- **Priority sector advances to total assets ratio:** Average values of pre-merger and post-merger are 20.81 and 18.87 respectively. A decrease of 9.32 % has been recorded in the average value after the post-merger. Here, **t** is 0.757 with **p-value** of 0.491 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Priority sector advances to total assets ratio.

(1.3) Analytical Table of Management Efficiency of Indian Bank

S. N.	**Parameters**	**Mean**		**Change**	**Relative Change (%)**	**Variance**		**F**	**Equal/ Unequal Variance**	**t**	**p**	**Results**
		Pre	**Post**			**Pre**	**Post**					
1.	ROA (%)	(-) 1.19	0.56	1.75	147.05	3.503	0.0084	0.0726	Equal	(-) 5.741	0.0045	Significant
2.	Return on Advance (%)	8.05	6.92	(-) 1.13	(-) 14.03	0.143	0.162	0.7307	Equal	3.381	0.027	Significant
3.	TA/TD(%)	71.89	66.61	(-) 5.28	(-) 7.34	16.886	2.184	0.514	Equal	1.679	0.168	Non-significant

From table 1.3, following results has been observed about 3 ratios of management efficiency: -

- **Return on Assets** : Average values of pre-merger and post-merger are (-) 1.19 and 0.56 respectively. An increase of 147.05 % has been recorded in the average value after the post-merger. Here, **t** is 5.741 with **p-value** of 0.0045 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Return on Assets.

- **Return on Advances** : Average values of pre-merger and post-merger are 8.05 and 6.92 respectively. A decrease of 14.03 % has been recorded in the average value after the post-merger. Here, **t** is 3.381 with **p-value** of 0.027 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Return on Advances.

- **Total Advances to total deposits ratio** : Average values of pre-merger and post-merger are 71.89 and 66.61 respectively. A decrease of 7.34 % has been recorded in the average value after the post-merger. Here, **t** is 1.679 with **p-value** of 0.168 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Total advances to total deposits.

(1.4) Analytical Table of earnings quality of Indian Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	OP/TA (%)	(-) 0.63	1.85	8.516	0.00245	0.104	0.0112	0.0249	Unequal	(-) 1.707	0.186	Non-Significant
2.	NP/TA (%)	(-) 1.15	0.53	3.258	0.005	0.378	0.00045	0.0575	Equal	(-) 1.242	0.281	Non-Significant

From table 1.4, following results has been observed about 2 ratios of earning quality:

- **Operating profits to total assets** : Average values of pre-merger and post-merger are (-) 0.63 and 1.85 respectively. An increase of 0.00245 % has been recorded in the average value after the post-merger. Here, **t** is 1.707 with **p-value** of 0.186 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Operating profits to total assets.

- **Net profits to total assets**: Average values of pre-merger and post-merger are (-) 1.15 and 0.53 respectively. An increase of 0.005 % has been recorded in the average value after the post-merger. Here, **t** is 1.242 with **p-value** of 0.281 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Net profits to total assets.

(1.5) Analytical Table of Liquidity position of Indian Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	LA/TD (%)	7.78	11.76	3.98	51.15	3.003	5.78	0.518	Equal	(-) 2.391	0.075	Non-significant
2.	LA/DD (%)	172.25	214.02	41.77	24.25	1459.77	6.37	0.097	Equal	(-) 1.456	0.218	Non-significant
3.	LA/TA (%)	6.61	10.27	3.66	55.37	2.248	5.248	0.448	Equal	(-) 2.442	0.071	Non-significant
4.	CDR (%)	71.89	66.61	(-) 5.28	(-) 7.34	16.886	2.184	0.514	Equal		0.168	Non-Significant

										1.67 9		

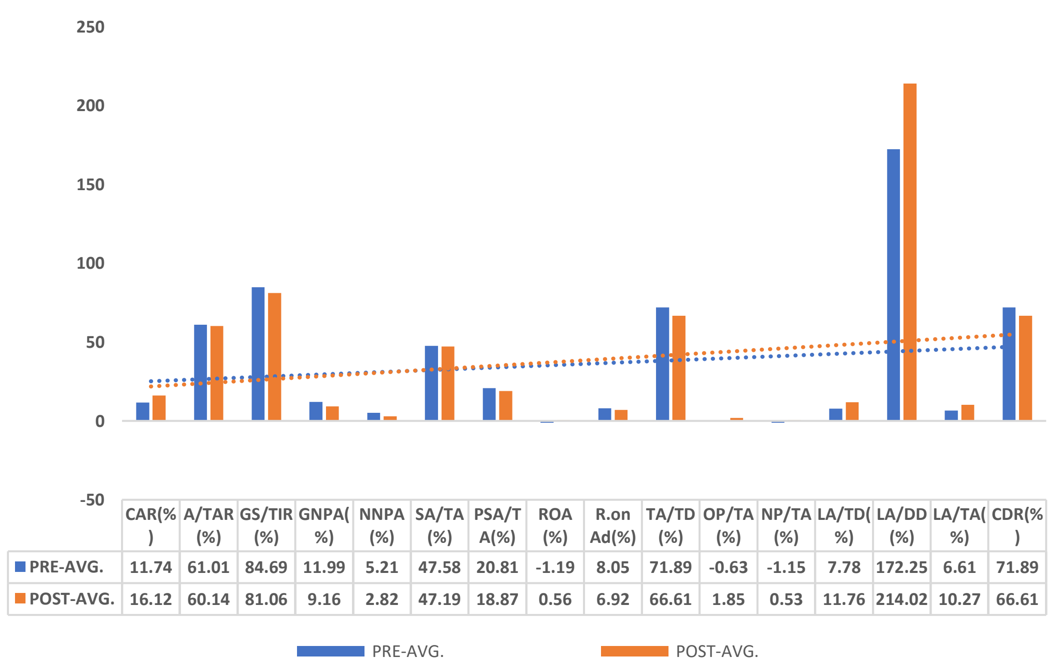
From table 1.5, following results has been observed about 4 ratios of Liquidity position:

- **Liquid assets to total deposits ratio**: Average values of pre-merger and post-merger are 7.78 and 11.76 respectively. An increase of 51.15 % has been recorded in the average value after the post-merger. Here, **t** is 2.391 with **p-value** of 0.075 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to total deposits ratio.

- **Liquid assets to demand deposits ratio** : Average values of pre-merger and post-merger are 172.25 and 214.02 respectively. An increase of 24.25 % has been recorded in the average value after the post-merger. Here, **t** is 1.456 with **p-value** of 0.218 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to demand deposits ratio.

- **Liquid assets to total assets ratio** : Average values of pre-merger and post-merger are 6.61 and 10.27 respectively. An increase of 55.37 % has been recorded in the average value after the post-merger. Here, **t** is 2.442 with **p-value** of 0.071 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to total assets ratio.

- **Credit-Deposits ratio:** Average values of pre-merger and post-merger are 71.89 and 66.61 respectively. A decrease of 7.34 % has been recorded in the average value after the post-merger. Here, **t** is 1.679 with **p-value** of 0.168 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Credit-Deposits ratio.



IMPACT OF M & A ON FINANCIAL PERFORMANCE OF INDIAN BANK

CASE II. MERGER OF SYNDICATE BANK WITH CANARA BANK

The Amalgamation of Syndicate Bank into Canara Bank Scheme, 2020, which was issued by the Government of India on March 4, 2020, was published in the Gazette of India under Extraordinary Part II-Section 3-Subsection (i), allowing the Amalgamation of Syndicate Bank into Canara Bank under Section 9 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970 (5 of 1970). The plan will go into effect on April 1, 2020.

(2.1) Analytical Table of capital adequacy of Canara Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	CAR(%)	12.89	14.04	1.15	8.92	1.102	1.479	0.661	Equal	(-) 1.206	0.294	Non-Significant
2.	A/TAR(%)	63.58	56.36	(-) 7.22	(-) 11.35	4.78	1.901	0.853	Equal	4.134	0.014	Significant
3.	GS/TIR(%)	90.10	92.68	2.58	2.86	1.341	0.911	0.9405	Equal	(-) 2.679	0.055	Non-Significant

From table 2.1, following results has been observed about 3 ratios of capital adequacy:

- **Capital adequacy ratio**: Average values of pre-merger and post-merger are 12.89 and 14.04 respectively. An increase of 8.92 % has been recorded in the average value after the post-merger. Here, **t** is 1.206 with **p-value** of 0.294 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Capital adequacy ratio.

- **Advances to Total Assets ratio** : Average values of pre-merger and post-merger are 63.58 and 56.36 respectively. A decrease of 11.35 % has been recorded in the average value after the post-merger. Here, **t** is 4.134 with **p-value** of 0.014 which is less than 0.05, i.e., null hypothesis is rejected.
So, there is significant difference between pre-merger and post-merger Advances to total assets ratio.

- **Government securities to total investment ratio** : Average values of pre-merger and post-merger are 90.10 and 92.68 respectively. An increase of 2.86 % has been recorded in the average value after the post-merger. Here, **t** is 2.679 with **p-value** of 0.055 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Government securities to total investment ratio.

(2.2) Analytical Table of assets quality of Canara Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	GNPA(%)	10.89	8.22	(-) 2.67	(-) 24.51	1.92	1.0082	0.956	Equal	2.367	0.077	Non-Significant
2.	NNPA (%)	6.322	3.235	(-)3.087	(-) 48.89	0.758	0.684	0.824	Equal	4.144	0.014	Significant
3.	SA/TA (%)	54.162	44.125	(-)10.037	(-) 18.53	17.644	1.566	0.429	Equal	3.139	0.034	Significant
4.	PSA/TA(%)	24.845	27.025	2.18	8.77	7.298	0.732	0.455	Equal	(-) 1.058	0.349	Non-significant

From table 2.2, following results has been observed about 4 ratios of assets quality:

 Gross NPA to Gross Advances ratio: Average values of pre-merger and post-merger are 10.89 and 8.22 respectively. A decrease of 24.51 % has been recorded in the average value after the post-merger. Here, t is 2.367 with **p-value** of 0.077 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Gross NPA to Gross Advances ratio.

 Net NPA to Net Advances ratio : Average values of pre-merger and post-merger are 6.322 and 3.235 respectively. A decrease of 48.89 % has been recorded in the average value after the post-merger. Here, **t** is 4.144 with **p-value** of 0.014 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Net NPA to Net Advance ratio.

 Secured Advances to total assets ratio : Average values of pre-merger and post-merger are 54.162 and 44.125 respectively. A decrease of 18.53 % has been recorded in the average value after the post-merger. Here, **t** is 3.139 with **p-value** of 0.034 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Secured Advances to total assets ratio.

 Priority sector advances to total assets ratio: Average values of pre-merger and post-merger are 24.845 and 27.025 respectively. An increase of 8.77 % has been recorded in the average value after the post-merger. Here, **t** is 1.058 with **p-value** of 0.349 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Priority sector advances to total assets ratio.

(2.3) Analytical Table of management efficiency of Canara Bank

S.N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	ROA (%)	0.31	0.35	0.04	12.91	0.682	0.0312	0.311	Equal	(-) 0.076	2.776	Non-significant
2.	Return on Advance (%)	7.88	7.47	(-) 0.41	(-) 5.21	0.1947	0.13005	0.9472	Equal	1.121	0.325	Non-significant
3.	TA/TD(%)	75.06	63.98	(-)11.08	(-) 14.76	12.734	1.201	0.442	Equal	4.075	0.015	Significant

From table 2.3, following results has been observed about 3 ratios of management efficiency: -

 Return on Assets : Average values of pre-merger and post-merger are 0.31 and 0.35 respectively. An increase of 12.91 % has been recorded in the average value after the post-merger. Here, **t** is 0.076 with **p-value** of 2.776 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Return on Assets.

 Return on Advances : Average values of pre-merger and post-merger are 7.88 and 7.47 respectively. A decrease of 5.21 % has been recorded in the average value after the post-merger. Here, **t** is 1.121 with **p-value** of 0.325 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Return on Advances.

 Total Advances to total deposits ratio : Average values of pre-merger and post-merger are 75.06 and 63.98 respectively. A decrease of 14.76 % has been recorded in the average value after the post-merger. Here, **t** is 4.075 with **p-value** of 0.015 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Total advances to total deposits.

(2.4) Analytical Table of earning quality of Canara bank

S. N.	Paramet ers	Mean		Chan ge	Relati ve Chang e (%)	Variance		F	Equal/ Unequ al Varian ce	t	p	Results
		Pre	Post			Pre	Post					

1.	OP/TA (%)	1.287	1.805	0.518	40.62	0.0924	0.0112	0.499	Equal	(-) 2.224	0.091	Non-Significant
2.	NP/TA (%)	(-) 0.502	0.325	0.83	162.74	0.453	0.0364	0.4094	Equal	(-) 1.616	0.181	Non-Significant

From table 2.4, following results has been observed about 2 ratios of earning quality:

- **Operating profits to total assets** : Average values of pre-merger and post-merger are 1.287 and 1.805 respectively. An increase of 40.62 % has been recorded in the average value after the post-merger. Here, **t** is 2.224 with **p-value** of 0.091 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Operating profits to total assets.

- **Net profits to total assets**: Average values of pre-merger and post-merger are 0.502 and 0.325 respectively. A decrease of 162.74 % has been recorded in the average value after the post-merger. Here, **t** is 1.616 with **p-value** of 0.1812 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Net profits to total assets.

(2.5) Analytical Table of Liquidity position of Canara Bank

S.N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	LA/TD (%)	8.76	17.10	8.34	95.20	3.719	0.572	0.557	Equal	(-) 5.626	0.0049	Significant
2.	LA/DD (%)	205.59	352.68	147.09	71.54	3013.77	149.99	0.324	Equal	(-) 3.543	0.023	Significant
3.	LA/TA (%)	7.44	15.14	7.7	103.49	3.0379	0.198	0.3704	Equal	(-) 5.831	0.0043	Significant
4.	CDR (%)	75.06	63.98	(-)11.08	(-) 14.76	12.734	1.201	0.442	Equal	4.075	0.015	Significant

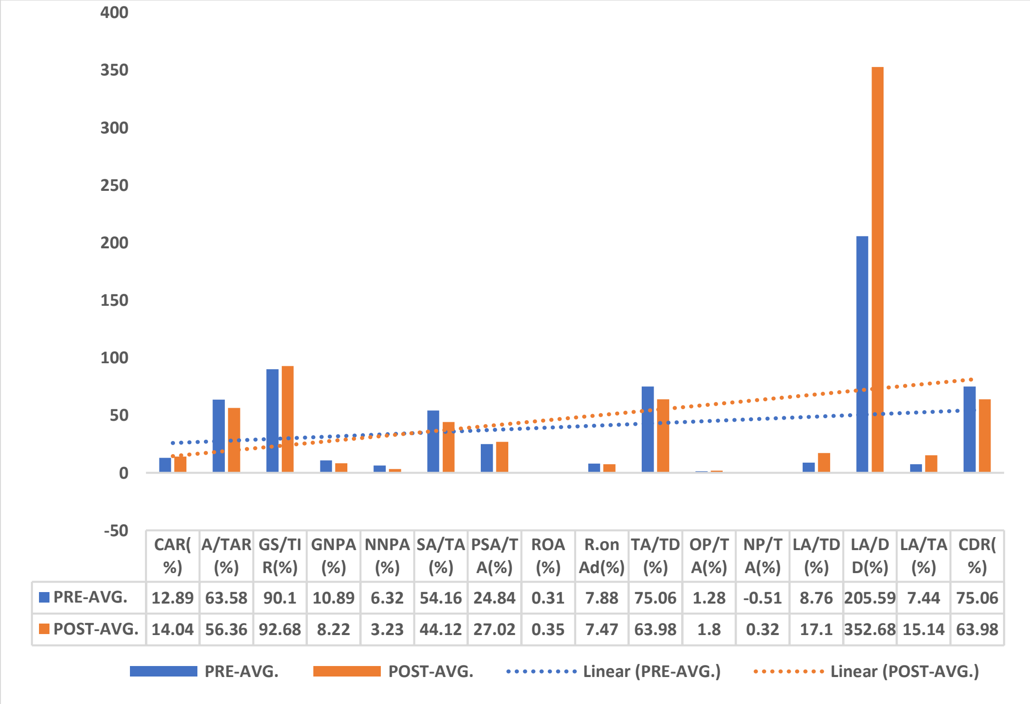
From table 2.5, following results has been observed about 4 ratios of Liquidity position:

- **Liquid assets to total deposits ratio**: Average values of pre-merger and post-merger are 8.76 and 17.10 respectively. An increase of 95.20 % has been recorded in the average value after the post-merger. Here, **t** is 5.626 with **p-value** of 0.0049 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Liquid assets to total deposits ratio.

- **Liquid assets to demand deposits ratio** : Average values of pre-merger and post-merger are 205.59 and 352.68 respectively. An increase of 71.54 % has been recorded in the average value after the post-merger. Here, **t** is 3.543 with **p-value** of 0.023 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Liquid assets to demand deposits ratio.

- **Liquid assets to total assets ratio** : Average values of pre-merger and post-merger are 7.44 and 15.14 respectively. An increase of 103.49 % has been recorded in the average value after the post-merger. Here, **t** is 5.831 with **p-value** of 0.0043 which is less than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to total assets ratio.

- **Credit-Deposits ratio:** Average values of pre-merger and post-merger are 75.06 and 63.98 respectively. A decrease of 14.76 % has been recorded in the average value after the post-merger. Here, **t** is 4.075 with **p-value** of 0.015 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Credit-Deposits ratio.



IMPACT OF M & A ON FINANCIAL PERFORMANCE OF CANARA BANK

CASE III. MERGER OF ANDHRA BANK AND CORPORATION BANK WITH UNION BANK OF INDIA

The Amalgamation of Andhra Bank and Corporation Bank into Union Bank of India Scheme, 2020, dated March 4, 2020, and issued by the Government of India, was published in the Gazette of India under Extraordinary Part II-Section 3-Sub-section (i), approving the merger of Andhra Bank and Corporation Bank into Union Bank of India under section 9 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970 (5 of 1970) and section 9 of the Banking The plan will go into effect on April 1, 2020. So, as of April 1, 2020, all of the branches of Andhra Bank and Corporation Bank will become branches of Union Bank of India.

(3.1) Analytical Table of capital adequacy of Union Bank of India

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	CAR(%)	11.61	13.54	1.93	16.62	2.284	1.921	0.802	Equal	(-) 1.586	0.1637	Non-Significant
2.	A/TAR(%)	59.23	42.24	(-)16.99	(-) 28.68	11.86	332.82	0.0064	Unequal	1.309	0.415	Non-Significant
3.	GS/TIR(%)	81.97	74.58	(-) 7.39	-9.01	72.04	5.611	0.417	Equal	1.158	0.291	Non-Significant

From table 3.1, following results has been observed about 3 ratios of capital adequacy:

- **Capital adequacy ratio**: Average values of pre-merger and post-merger are 11.61 and 13.54 respectively. An increase of 16.62 % has been recorded in the average value after the post-merger. Here, **t** is 1.586 with **p-value** of 0.1637 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Capital adequacy ratio.

 Advances to Total Assets ratio : Average values of pre-merger and post-merger are 59.23 and 42.24 respectively. A decrease of 28.68 % has been recorded in the average value after the post-merger. Here, **t** is 1.309 with **p-value** of 0.415 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Advances to total assets ratio.

 Government securities to total investment ratio : Average values of pre-merger and post-merger are 81.97 and 74.58 respectively. A decrease of 9.01 % has been recorded in the average value after the post-merger. Here, **t** is 1.158 with **p-value** of 0.291 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Government securities to total investment ratio.

(3.2) Analytical Table of assets quality of Union bank of India

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	GNPA(%)	16.12	12.43	(-) 3.69	(-) 22.89	0.891	3.432	0.213	Equal	3.951	0.0075	Significant
2.	NNPA (%)	7.82	4.15	(-) 3.67	(-) 46.93	5.184	0.441	0.435	Equal	2.145	0.0756	Non-significant
3.	SA/TA (%)	53.49	47.49	(-) 6.0	(-) 11.21	38.28	3.864	0.472	Equal	1.288	0.245	Non-significant
4.	PSA/TA(%)	25.27	27.72	(-) 2.55	(-) 10.09	8.858	1.531	0.611	Equal	1.127	0.302	Non-significant

From table 3.2, following results has been observed about 4 ratios of assets quality:
 Gross NPA to Gross Advances ratio: Average values of pre-merger and post-merger are 16.12 and 12.43 respectively. A decrease of 22.89 % has been recorded in the average value after the post-merger. Here, t is 3.951 with **p-value** of 0.0075 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Gross NPA to Gross Advances ratio.

 Net NPA to Net Advances ratio : Average values of pre-merger and post-merger are 7.82 and 4.15 respectively. A decrease of 46.93 % has been recorded in the average value after the post-merger. Here, **t** is 2.145 with **p-value** of 0.0756 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Net NPA to Net Adv. Ratio.

 Secured Advances to total assets ratio : Average values of pre-merger and post-merger are 53.49 and 47.49 respectively. A decrease of 11.21 % has been recorded in the average value after the post-merger. Here, **t** is 1.288 with **p-value** of 0.245 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Secured Advances to total assets ratio.

 Priority sector advances to total assets ratio: Average values of pre-merger and post-merger are 25.27 and 27.72 respectively. A decrease of 10.09 % has been recorded in the average value after the post-merger. Here, **t** is 1.127 with **p-value** of 0.302 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Priority sector advances to total assets ratio.

(3.3) Analytical Table of management efficiency of Union Bank of India

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	ROA (%)	(-)1.51	0.37	1.88	124.50	0.781	0.02	0.241	Equal	(-) 2.838	0.0296	Significant
2.	Return on Advance (%)	8.51	7.17	(-) 1.34	(-) 15.74	0.492	0.00245	0.107	Equal	2.564	0.042	Significant
3.	TA/TD(%)	69.45	63.99	(-) 5.46	(-) 7.86	9.493	0.00125	0.0174	Unequal	2.378	0.041	Significant

From table 3.3, following results has been observed about 3 ratios of management efficiency: -

- **Return on Assets** : Average values of pre-merger and post-merger are (-) 1.51 and 0.37 respectively. An increase of 124.50 % has been recorded in the average value after the post-merger. Here, **t** is 2.838 with **p-value** of 0.0296 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Return on Assets.

- **Return on Advances** : Average values of pre-merger and post-merger are 8.51 and 7.17 respectively. A decrease of 15.74 % has been recorded in the average value after the post-merger. Here, **t** is 2.564 with **p-value** of 0.042 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Return on Advances.

- **Total Advances to total deposits ratio** : Average values of pre-merger and post-merger are 69.45 and 63.99 respectively. A decrease of 7.86 % has been recorded in the average value after the post-merger. Here, **t** is 2.378 with **p-value** of 0.041 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Total advances to total deposits.

(3.4) Analytical Table of earning quality of Union Bank of India

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	OP/TA (%)	1.79	1.81	0.02	1.11	0.091	0.00125	0.178	Equal	0.178	0.914	Non-Significant
2.	NP/TA (%)	0.21	0.35	0.02	6.06	3.098	0.0144	0.1035	Equal	0.1035	0.919	Non-Significant

From table 3.4, following results has been observed about 2 ratios of earning quality:

- **Operating profits to total assets** : Average values of pre-merger and post-merger are 1.79 and 1.81 respectively. An increase of 1.11 % has been recorded in the average value after the post-merger. Here, **t** is 0.178 with **p-value** of 0.914 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Operating profits to total assets.

- **Net profits to total assets**: Average values of pre-merger and post-merger are 0.21 and 0.35 respectively. An increase of 6.06 % has been recorded in the average value after the post-merger. Here, **t** is 0.1035 with **p-value** of 0.919 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Net profits to total assets.

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(3.5) Analytical Table of liquidity position of Union Bank of India

S.N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	LA/TD (%)	8.46	10.35	1.89	22.34	5.488	2.976	0.989	Equal	(-) 1.028	0.343	Non-Significant
2.	LA/DD (%)	138.75	148.57	(-) 9.82	(-) 7.07	2527.96	505.93	0.653	Equal	(-) 0.257	0.805	Non-Significant
3.	LA/TA (%)	7.195	8.965	1.770	24.61	3.696	2.398	0.914	Equal	(-) 1.162	0.289	Non-Significant
4.	CDR (%)	69.45	63.99	(-) 5.46	(-) 7.86	9.493	0.00125	0.0174	Equal	2.378	0.041	Non-Significant

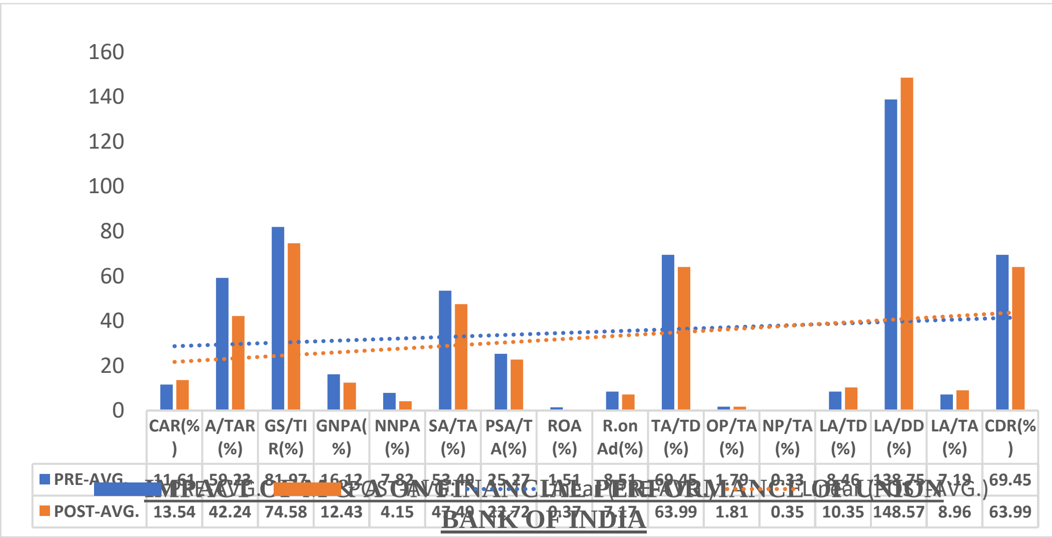
From table 3.5, following results has been observed about 4 ratios of Liquidity position:

- **Liquid assets to total deposits ratio**: Average values of pre-merger and post-merger are 8.46 and 10.35 respectively. An increase of 22.34 % has been recorded in the average value after the post-merger. Here, **t** is 1.028 with **p-value** of 0.343 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to total deposits ratio.

- **Liquid assets to demand deposits ratio** : Average values of pre-merger and post-merger are 138.75 and 148.57 respectively. A decrease of 7.07 % has been recorded in the average value after the post-merger. Here, **t** is 0.257 with **p-value** of 0.805 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to demand deposits ratio.

- **Liquid assets to total assets ratio** : Average values of pre-merger and post-merger are 7.195 and 8.965 respectively. An increase of 24.61 % has been recorded in the average value after the post-merger. Here, **t** is 1.162 with **p-value** of 0.289 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to total assets ratio.

- **Credit-Deposits ratio:** Average values of pre-merger and post-merger are 69.45 and 63.99 respectively. A decrease of 7.86 % has been recorded in the average value after the post-merger. Here, **t** is 2.378 with **p-value** of 0.041 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Credit-Deposits ratio.



CASE IV. MERGER OF ORIENTAL BANK OF COMMERCE AND UNITED BANK OF INDIA WITH PUNJAB NATIONAL BANK

The Amalgamation of Oriental Bank of Commerce and United Bank of India into Punjab National Bank Scheme, 2020, dated March 4, 2020, was issued by the Government of India & published in the Gazette of India under Extraordinary Part II-Section 3-Sub-section (i), approving the merger of Oriental Bank of Commerce and United Bank of India into Punjab National Bank under section 9 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970 (5 of 197). The plan will go into effect on April 1, 2020.

(4.1) Analytical Table of Capital adequacy of Punjab National Bank

S.N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	CAR(%)	11.29	14.41	3.12	27.63	2.83	0.016	0.114	Equal	(-) 2.477	0.047	Significant
2.	A/TAR(%)	53.35	54.43	1.08	2.02	57.008	1.805	0.268	Equal	(-) 0.191	0.855	Non-Significant
3.	GS/TIR(%)	74.51	87.55	13.04	17.51	42.28	0.115	0.079	Equal	(-) 2.691	0.035	Significant

From table 4.1, following results has been observed about 3 ratios of capital adequacy:

- **Capital adequacy ratio**: Average values of pre-merger and post-merger are 11.29 and 14.41 respectively. An increase of 27.63 % has been recorded in the average value after the post-merger. Here, **t** is 2.477 with **p-value** of 0.047 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Capital adequacy ratio.

- **Advances to Total Assets ratio** : Average values of pre-merger and post-merger are 53.35 and 54.43 respectively. An increase of 2.02 % has been recorded in the average value after the post-merger. Here, **t** is 0.191 with **p-value** of 0.855 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Advances to total assets ratio.

- **Government securities to total investment ratio** : Average values of pre-merger and post-merger are 74.51 and 87.55 respectively. An increase of 17.51 % has been recorded in the average value after the post-merger. Here, **t** is 2.691 with **p-value** of 0.035 which is less than 0.05, i.e., null hypothesis is rejected. So, there is no significant difference between pre-merger and post-merger Government securities to total investment ratio.

(4.2) Analytical Table of assets quality of Punjab National Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	GNPA(%)	17.45	12.95	(-) 4.50	(-) 25.78	14.56	2.737	0.634	Equal	1.556	0.171	Non-Significant
2.	NNPA (%)	9.89	5.26	(-) 4.63	(-) 46.81	14.797	0.432	0.258	Equal	1.611	0.158	Non-Significant
3.	SA/TA (%)	45.03	43.27	(-) 1.76	(-) 3.91	143.97	0.336	0.0733	Equal	0.196	0.851	Non-Significant

4.	PSA/TA(%)	20.99	18.57	(-) 2.42	(-) 11.52	2.0081	1.0804	0.992	Equal	2.172	0.072	Non-significant

From table 4.2, following results has been observed about 4 ratios of assets quality:

- **Gross NPA to Gross Advances ratio**: Average values of pre-merger and post-merger are 17.45 and 12.95 respectively. A decrease of 25.78 % has been recorded in the average value after the post-merger. Here, t is 1.556 with **p-value** of 0.171 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Gross NPA to Gross Advances ratio.

- **Net NPA to Net Advances ratio** : Average values of pre-merger and post-merger are 9.89 and 5.26 respectively. A decrease of 46.81 % has been recorded in the average value after the post-merger. Here, **t** is 1.611 with **p-value** of 0.158 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Net NPA to Net Advances ratio.

- **Secured Advances to total assets ratio** : Average values of pre-merger and post-merger are 45.03 and 43.27 respectively. A decrease of 3.91 % has been recorded in the average value after the post-merger. Here, **t** is 0.196 with **p-value** of 0.851 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Secured Advances to total assets ratio.

- **Priority sector advances to total assets ratio:** Average values of pre-merger and post-merger are 20.99 and 18.57 respectively. A decrease of 11.52 % has been recorded in the average value after the post-merger. Here, **t** is 2.172 with **p-value** of 0.072 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Priority sector advances to total assets ratio.

(4.3) Analytical Table of management efficiency of Punjab National Bank

S. N.	**Parameters**	**Mean**		**Change**	**Relative Change (%)**	**Variance**		**F**	**Equal/ Unequal Variance**	**t**	**p**	**Results**
		Pre	**Post**			**Pre**	**Post**					
1.	ROA (%)	(-)1.29	0.21	1.50	116.27	0.6025	0.00605	0.151	Equal	(-) 2.592	0.041	Significant
2.	Return on Advance (%)	7.66	7.16	(-) 0.51	(-) 6.64	0.0973	0.273	0.308	Equal	1.748	0.131	Non-significant
3.	TA/TD(%)	59.48	62.23	2.75	4.62	150.77	3.228	0.224	Equal	(-) 0.299	0.774	Non-Significant

From table 4.3, following results has been observed about 3 ratios of management efficiency: -

- **Return on Assets** : Average values of pre-merger and post-merger (-) 1.29 and 0.21 respectively. An increase of 116.27 % has been recorded in the average value after the post-merger. Here, **t** is 2.592 with **p-value** of 0.041 which is less than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Return on Assets.

- **Return on Advances** : Average values of pre-merger and post-merger are 7.66 and 7.16 respectively. A decrease of 6.64 % has been recorded in the average value after the post-merger. Here, **t** is 1.748 with **p-value** of 0.131 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Return on Advances.

 Total Advances to total deposits ratio : Average values of pre-merger and post-merger are 59.48 and 62.23 respectively. A decrease of 4.62 % has been recorded in the average value after the post-merger. Here, **t** is 0.299 with **p-value** of 0.774 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Total advances to total deposits.

(4.4) Analytical Table of earning quality of Punjab National Bank

S. N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	OP/TA (%)	1.836	1.695	(-)0.141	(-) 7.65	0.397	0.031	0.419	Equal	0.299	0.774	Non-Significant
2.	NP/TA (%)	(-)1.31	0.210	(-) 1.10	(-) 83.96	1.289	0.005	0.094	Equal	(-) 1.798	0.122	Non-Significant

From table 4.4, following results has been observed about 2 ratios of earning quality:
 Operating profits to total assets : Average values of pre-merger and post-merger are 1.836 and 1.695 respectively. A decrease of 7.65 % has been recorded in the average value after the post-merger. Here, **t** is 0.299 with **p-value** of 0.774 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Operating profits to total assets.

 Net profits to total assets: Average values of pre-merger and post-merger are (-) 1.31 and 0.21 respectively. A decrease of 83.96 % has been recorded in the average value after the post-merger. Here, **t** is 1.798 with **p-value** of 0.122 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Net profits to total assets.

(4.5) Analytical Table of Liquidity position of Punjab National Bank

S.N.	Parameters	Mean		Change	Relative Change (%)	Variance		F	Equal/ Unequal Variance	t	p	Results
		Pre	Post			Pre	Post					
1.	LA/TD (%)	10.41	11.76	1.35	12.96	16.796	5.78	0.834	Equal	(-) 0.427	0.683	Non-Significant
2.	LA/DD (%)	151.91	202.69	50.78	33.42	3721.91	3342.34	0.7736	Equal	(-) 1.028	0.343	Non-Significant
3.	LA/TA (%)	9.07	10.20	1.13	12.45	12.525	3.753	0.784	Equal	(-) 0.416	0.691	Non-Significant
4.	CDR (%)	59.48	62.23	2.75	4.62	150.77	3.228	0.224	Equal	(-) 0.299	0.774	Non-Significant

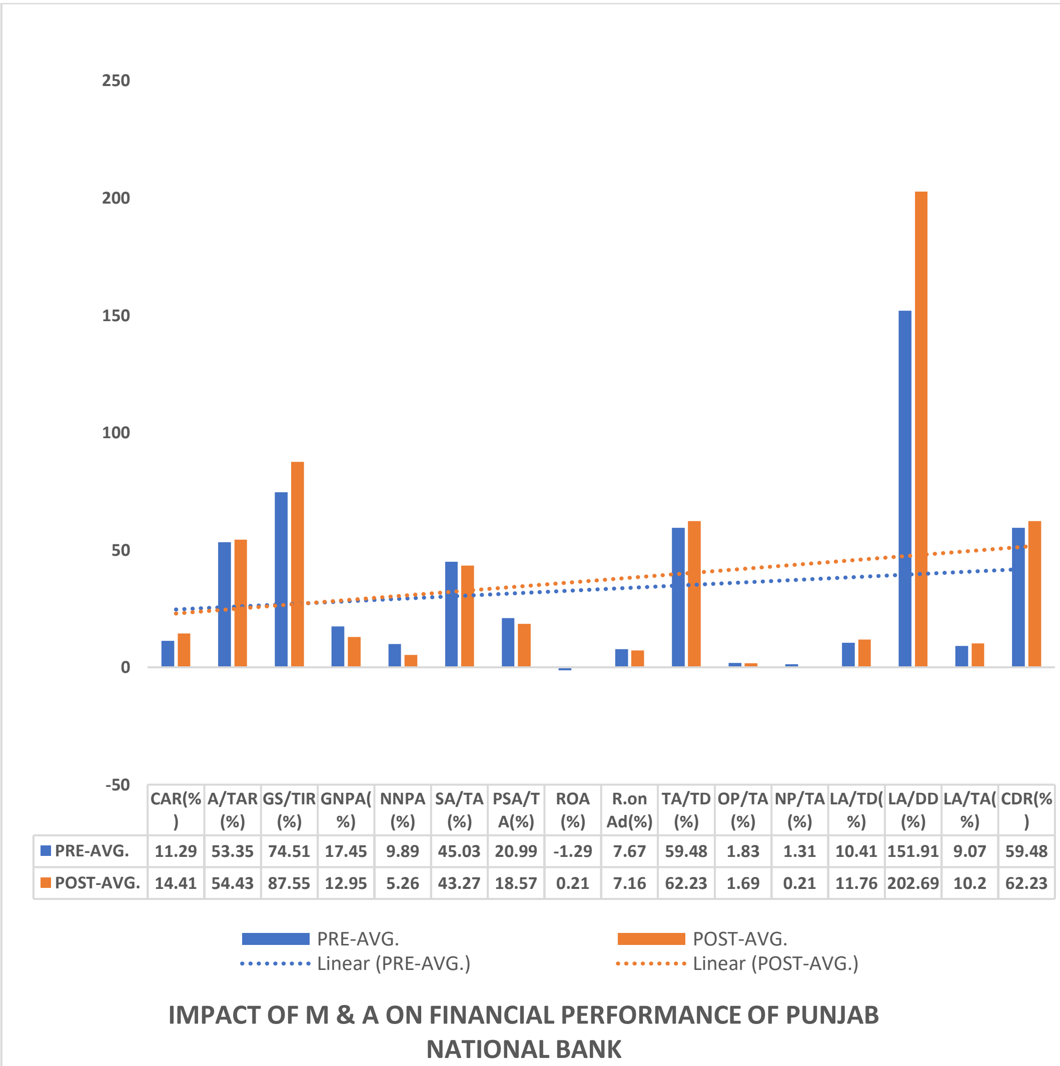
From table 4.5, following results has been observed about 4 ratios of Liquidity position:
 Liquid assets to total deposits ratio: Average values of pre-merger and post-merger are 10.41 and 11.76 respectively. An increase of 12.96 % has been recorded in the average value after the post-merger. Here, **t** is 0.427 with **p-value** of 0.683 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to total deposits ratio.

 Liquid assets to demand deposits ratio : Average values of pre-merger and post-merger are 151.91 and 202.69 respectively. An increase of 33.42 % has been recorded in the average value after the post-merger. Here, **t** is 1.028 with

p-value of 0.343 which is greater than 0.05, i.e., null hypothesis is rejected. So, there is significant difference between pre-merger and post-merger Liquid assets to demand deposits ratio.

- **Liquid assets to total assets ratio** : Average values of pre-merger and post-merger are 9.07 and 10.20 respectively. An increase of 12.45 % has been recorded in the average value after the post-merger. Here, **t** is 0.416 with **p-value** of 0.691 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Liquid assets to total assets ratio.

- **Credit-Deposits ratio:** Average values of pre-merger and post-merger are 59.48 and 62.23 respectively. An increase of 4.62 % has been recorded in the average value after the post-merger. Here, **t** is 0.299 with **p-value** of 0.774 which is greater than 0.05, i.e., null hypothesis is accepted. So, there is no significant difference between pre-merger and post-merger Credit-Deposits ratio.



	CAR(%)	A/TAR (%)	GS/TIR (%)	GNPA(%)	NNPA (%)	SA/TA (%)	PSA/TA(%)	ROA (%)	R.on Ad(%)	TA/TD (%)	OP/TA (%)	NP/TA (%)	LA/TD(%)	LA/DD (%)	LA/TA(%)	CDR(%)
PRE-AVG.	11.29	53.35	74.51	17.45	9.89	45.03	20.99	-1.29	7.67	59.48	1.83	1.31	10.41	151.91	9.07	59.48
POST-AVG.	14.41	54.43	87.55	12.95	5.26	43.27	18.57	0.21	7.16	62.23	1.69	0.21	11.76	202.69	10.2	62.23

IMPACT OF M & A ON FINANCIAL PERFORMANCE OF PUNJAB NATIONAL BANK

VIII. CONCLUSIONS & RECOMMENDATIONS

The results of the analysis of the merger of the Allahabad bank with the Indian Overseas Bank has not shown significant difference with regard to Advances to total assets ratio, Government securities to total investment ratio, Gross Non-performing assets, Net Non-performing assets, Secured advances to total assets ratio, priority sector advances to total assets ratio, total advances to total deposits ratio, operating profits to total assets, net profits to total assets, liquid assets to total deposits, liquid assets to demand deposits, liquid assets to total assets and credit-deposits ratio but there is significant difference in case of capital adequacy ratio, return on assets and return on advances.

The results of the analysis of the merger of the Syndicate bank with the Canara Bank has not shown significant difference with regard to capital adequacy ratio, Government securities to total investment ratio, Gross Non-performing assets, priority sector advances to total assets ratio, return on assets and return on advances, operating profits to total assets and net profits to total assets, but there is significant difference in case of Advances to total assets ratio, Net Non-performing assets, Secured advances to total assets ratio, total advances to total deposits ratio, liquid assets to total deposits, liquid assets to demand deposits, liquid assets to total assets and credit-deposits ratio.

The results of the analysis of the merger of the Andhra bank and corporation bank with the Union Bank of India has not shown significant difference with regard to capital adequacy ratio, Advances to total assets ratio, Government securities to total investment ratio, Net Non-performing assets, Secured advances to total assets ratio, priority sector advances to total assets ratio, operating profits to total assets, net profits to total assets, liquid assets to total deposits, liquid assets to demand deposits and liquid assets to total assets but there is significant difference in case of Gross Non-performing assets, return on assets and return on advances, total advances to total deposits ratio and credit-deposits ratio.

The results of the analysis of the merger of the Oriental bank of commerce and United Bank of India with the Punjab National Bank has not shown significant difference with regard to Advances to total assets ratio, Gross Non-performing assets, Net Non-performing assets, Secured advances to total assets ratio, priority sector advances to total assets ratio, return on advances, total advances to total deposits ratio, operating profits to total assets, net profits to total assets, liquid assets to total deposits, liquid assets to demand deposits, liquid assets to total assets and credit-deposits ratio but there is significant difference in case of capital adequacy ratio, Government securities to total investment ratio and return on assets.

So, it can be said that some banks have shown significant difference with regards to some parameters of capital adequacy, assets quality, management efficiency, earnings quality, and liquidity position. But some banks have not shown significant difference with regards to some parameters of capital adequacy, assets quality, management efficiency, earnings quality, and liquidity position. Through mergers and acquisitions, large financial institutions have the opportunity to acquire the troubled assets of smaller banks. This allows them to expand their global market presence and achieve improved synergistic results. In order to effectively revive struggling or unviable banks, it is essential to expedite the consolidation process among these banks in India. This technique will facilitate the redistribution of resources from financially vulnerable banks, thereby bolstering the state's economic well-being through an increase in incoming funding.

The analysis of my studies on the effects of mergers and acquisitions on financial performance have consistently shown positive and favourable outcomes over the long run. When enterprises merge and acquire, it can significantly affect the economy by making financial services more affordable and accessible in various locations across the country. This phenomenon will result in achieving financial inclusion, thus facilitating global connectivity within the financial industry. The banking sector is a key indicator of the overall health of an economy. Merger and acquisition strategies have proven to be highly beneficial for driving growth and encouraging global expansion in the Indian banking industry. It serves a vital role and is a common phenomenon worldwide. During the post-liberalization era, the advantages of the takeover and its impact on market stability have been significant. During the process of mergers and acquisitions in the banking sector, more robust bidder banks acquire weaker banks that possess a comprehensive understanding of their market position and stability. This is done in order to expand the customer base, increase revenue, boost credit, deposits, and expand the branch network of the acquiring banks. After a merger and acquisition (M&A), acquiring banks may see significant growth in their operations, a notable decrease in expenses, and a reduction in competition due to restrictions on banking participants.

Given the ever-changing landscape of the Indian banking sector, the adoption of mergers and acquisitions has long been a common practice for financially vulnerable institutions to safeguard against potential failure. This approach allows them to adapt to evolving systems, procedures, and strategies. In order to foster a culture of continuous learning and enhance knowledge and expertise, it is imperative to consistently acquire new skills and talents in the present circumstances. Considering the ongoing global trend of consolidation and convergence, it is imperative to promptly restructure the Indian banking sector through the implementation of mergers and amalgamations. This restructuring is crucial for enhancing its capitalization, automation, and technical advancement, while also fostering a more amicable and competitive environment.

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