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Impact of Merger on Canara Bank's Financial Health: A Camel's Framework Approach

DR. P. SANJEEVI
Faculty, Indian Maritime University, Visakhapatnam

Abstract- This study aims to analyze the impact of the merger on the financial health of Canara Bank using the CAMELS framework. The primary objectives are to assess the bank's financial and operational performance during the pre-merger and post-merger phases and evaluate how the merger has influenced key financial parameters. The study utilizes the CAMELS model, focusing on Capital Adequacy, Asset Quality, Management Efficiency, Earnings, Liquidity, and Sensitivity to Market Risk, to comprehensively measure Canara Bank's financial health.

Index Terms- CAMELS framework, Capital Adequacy, Earning Quality, Management Efficiency. Merger Impact,

I. INTRODUCTION

Banks are financial institutions licensed by the state or federal government to accept deposits, provide loans, and participate in the securities market. They play a crucial role in driving economic growth, expanding the economy, and supplying capital for investment. In recent years, regulatory changes and globalization have significantly transformed the banking industry, creating both structural and strategic shifts. Among the various strategies adopted by banks to adapt to these changes, consolidation has emerged as one of the most profitable and widely used. Mergers, in particular, offer an efficient and cost-effective way to strengthen the banking system, either by combining two weaker banks or by merging a stronger bank with a weaker one, which often proves more beneficial than relying solely on organic growth.

Mergers and acquisitions (M&A) in the banking sector have become a strategic tool for enhancing competitiveness, improving operational efficiency, and achieving financial stability. In recent years, Indian banks have undergone a series of consolidations to strengthen their balance sheets, reduce non-performing assets (NPAs), and expand their market reach. One such significant event was the merger of Syndicate Bank with Canara Bank, which was part of the Indian government's broader banking consolidation initiative. This merger has presented an opportunity to assess its impact on Canara Bank's financial performance and stability.

Canara Bank is one of India's leading banks, recognized with numerous awards for its strong foundation and exceptional customer service. Its success can be attributed to a consistent focus on profitability and maintaining a balance between commercial objectives and social banking responsibilities.

In assessing the financial health of Canara Bank post-merger, the CAMELS framework has become a widely used and effective method. This research aims to analyze the bank's financial soundness using the CAMELS model, providing insights into its stability and performance after the merger.

II. AMEL RATING MODEL SUMMARY

In 1995, the Reserve Bank of India (RBI) formed a working group, led by Shri S. Padmanabhan, to enhance the banking supervision system. Based on the group's recommendations, the CAMELS rating model, which evaluates both financial management and control systems, was adopted in July 1998 for both domestic and foreign banks. The CAMELS model rates banks on a five-point scale, with 1 indicating the strongest performance and 5 indicating the weakest. It assesses key areas of operational efficiency, as follows:
1.Capital Adequacy: Measures a bank's financial health by assessing the capital available to support its operations and meet future risks (risk-weighted capital to assets).
2.Asset Quality: Evaluates the risk level of a bank's assets, primarily by analyzing the ratio of non-

performing assets (NPAs) to total loans. Higher NPAs reflect poor credit management.
3.Management Efficiency: Assesses how effectively a bank utilizes its human resources, often measured by net profit per employee. Lower ratios may indicate poor manpower utilization.
4.Earnings Quality: Indicates the bank's profitability and financial health, measured by return on assets (ROA). A higher ROA signifies better profitability and a higher CAMELS rating.
5.Liquidity Management: Assesses a bank's ability to meet short-term obligations and cash demands, measured by the cash-to-deposit ratio. Strong liquidity management ensures the bank can handle unexpected withdrawals.

This study focuses on Canara Bank's performance over two years (2021-2022), using data from its annual financial reports to assess these parameters.

III. LITERATURE REVIEW

The first studies undertaken on the subject of banks and financial corporation's performance have appeared in the late 1980s and the early 1990s, employing one of the two model types: the Market Power (MP) model or the Efficiency Structure (ES) model (Mensi ET Zouari, 2010). With the development of the analysis methods, the studies on banks profitability and soundness have evolved from the previous mentioned to more sophisticated analysis models based on empirical evidence that were focused both on the banks performance and its determinants. In recent years one of the most used models for the estimation of a bank performances and soundness is represented by the CAMELS "Mergers in Banking Sector in India: An Analysis of Pre & Post Merger Performance of SBI & HDFC Bank"
1.Deepak Kumar Adhana (1920): Mergers can enhance the management of capital within banks; however, it is equally important to focus on implementing adequate reforms in governance and management alongside the mergers. Members of the All India Bank Employees' Association protested against the government's decision to merge 10 public sector banks into four entities. To address this, the government must engage in dialogue with the association to resolve their concerns.
2.Analysis a of Merger and Acquisition deals of Major Indian Banks- An Event based study" Authors: Dr Anjali Kelsie, Dr Ashima Arora (2018) This paper studies the Merger and acquisition of both the Merged and acquired company. The study is based on the merger and acquisition of both the target and acquiring company's stock prices. It basically involves the short-term impact of merger on share prices. In this study
Market model and Market Adjusted models are used to calculate the impact of merger on the stock prices. Based on the study it wasfound that there was a significant abnormal return after 4 days post-merger announcement. But there were no significant abnormal returns were found for any events. It was concluded that abnormal returns gradually decline and then vanish few days after the merger.
3.Authors: Dr. Prashant Asthma, A. Bhavani (2017) This article highlights the importance of mergers as a strategic tool for companies aiming to enhance their growth and market position. The research focuses on evaluating the performance of SBI and HDFC Banks before and after their merger. By analyzing key performance indicators and productivity ratios using various statistical methods, the study reveals a notable improvement in both banks' overall performance post-merger. The findings show that all key metrics for SBI and HDFC Bank improved significantly, with a T-test confirming a substantial difference in their performance after the merger.
4.Lall, M., Agarwal R. (2017) have examined the application of CAMEL model analysis for select public sector banks (BOB, BOI, Canara Bank, SBI, PNB and Union Bank) in India. The authors have felt that the evaluation of bank performance is very difficult under the complexity involved and several factors are to be considered in distinguishing the productive and non-productive banks. Performance evaluation of the banking sector is an effective measure and indicator to check the soundness of economic activities of an economy.

IV. DATA AND METHODOLOGY

This study relies on secondary data obtained from the annual reports of Canara Bank for the financial years 2019-20 to 2020-21, focusing on the bank's financial structure. The collected data were analyzed using various statistical tools and techniques, including accounting ratios, percentages, and correlation analysis. A paired t-test was employed to test the hypotheses. To facilitate the analysis and present the results clearly, statistical software such as MS Excel and SPSS was utilized, along with charts and figures to enhance the clarity of the findings.

V. OBJECTIVES OF THE STUDY

Objectives of the study are as follows
1.To evaluate the financial and operational performance of Canara Bank before and after the merger.
2.To analyze the impact of the merger on Canara Bank's financial performance using the CAMELS model.
3.To compare key financial indicators of Canara Bank across the pre-merger and post-merger periods to assess the overall effectiveness of the merger.
6.Hypotheses: Hypothesis of this study:

H1: The financial performance of Canara Bank, as measured by the CAMELS model, significantly differs between the pre-merger and post-merger periods.

H2: There is a significant difference in the profitability of Canara Bank between the pre-merger and post-merger periods.

H3: There is a significant difference in the operational performance of Canara Bank between the pre-merger and post-merger periods.

7.Analysis

Table 1: CAMEL Model- Efficiency Parameters

S.No.	Efficiency parameters	Measurement Ratios	2019-20 (Pre-Merger)	2020-21 (Post-Merger)	Post- Merger Financial Impact
1	Capital Adequacy	Capital Adequacy	13.86%	13.69%	-0.17 (Negative Impact)
2	Assets Quality	NPA to Advance	8.6%	9.04%	0.44 (Negative Impact)
3	Management	Net Profit to Equity	-6.78%	4.34%	11.12% (Positive Impact)
4	Earning Quality	Return on Assets	-0.28%	0.26%	0.54% (Positive Impact)
5	Liquidity Position	Cash to Deposits	36.37%	47.06%	10.69% (Positive Impact)

Source: Compiled from Canara Bank Annual Reports

INFERENCE: The results in Table-1 shown that banking CAMEL frame work of the Canara Bank pre-merger and post-merger. It can be seen that Capital Adequacy: Slight decline from 13.86% to 13.69% (-0.17), indicating a negative financial impact post-merger. Asset Quality: Increase in NPA to Advances from 8.6% to 9.04% (+0.44), reflecting a negative impact on asset quality. Management Efficiency: Significant improvement in Net Profit to Equity from -6.78% to 4.34% (+11.12%), showing a positive impact on management performance. Earning Quality: Return on Assets improved from -0.28% to 0.26% (+0.54%), indicating a positive impact on earnings. Liquidity Position: Cash to Deposits rose from 36.37% to 47.06% (+10.69%), reflecting a positive impact on liquidity.

Table 2: Operational Efficiency Parameters

S.No.	Efficiency parameters	Measurement Ratios	2019-20 (Pre-Merger)	2020-21 (Post-Merger)	Post- Merger Financial Impact
1	Advances to Assets	(Advances/Assets) *100	57.3%	55.5%	-1.8 (Unfavorable)
2	Debt-Equity Ratio	(Debt/Equity) *100	19.21%	20.28%	1.07 (Unfavorable)
3	Net NPA to Net Advances	(Net NPA/Net Advances) *100	4.22%	3.82%	-0.4% (Favorable)
4	Net NPA to Total Assets	(Net NPA/Total Assets) *100	2.46%	2.07%	-0.39% (Unfavorable)
5	Pre-Credits to Deposits	(Pre-Credit/Deposits) *100	69.83	63.23	-6.6% (Unfavorable)

Source: Compiled from Annual Reports of Canara Bank

INFERENCE: The results in Table-2 and figure-1 have shown that operational efficiency of the Canara Bank pre-merger and post-merger. It can be seen that Advances to Assets: The decrease in the ratio indicates a less favorable trend, as a smaller portion of the bank's total assets is being used for lending, which may limit potential revenue from interest. Debt-Equity Ratio: The increase in this ratio reflects a more unfavorable situation, suggesting that the bank is relying more on debt compared to its equity, which raises financial risk. Net NPA to Net Advances: The improvement in this ratio is favorable, indicating better asset quality and a lower proportion of non-performing loans relative to the total advances, signifying improved credit management. Net NPA to Total Assets: Despite the decrease in this ratio, it remains unfavorable, as a significant level of non-performing assets still exists compared to total assets, indicating ongoing concerns about asset quality. Pre-Credits to Deposits: The decline in this ratio is unfavorable, suggesting that a smaller portion of deposits is being utilized for lending, which may indicate reduced lending activity and efficiency in using available resources.

Table 3: Profitability Efficiency Parameters

S.No.	Efficiency parameters	Measurement Ratios	2019-20 (Pre-Merger)	2020-21 (Post-Merger)	Post- Merger Financial Impact
1	Operating Profit to Total Assets	(Operating Profit/Total Assets) *100	-0.20%	0.32%	0.52 (Favorable)
2	Net Profit to Total Assets	(Net Profit/Total Assets) *100	0.20%	0.24%	0.01 (Favorable)
3	Net Interest to Total Income	(Net Interest/Total Income) *100	22.6%	26.72%	4.12% (Favorable)
4	Return on Assets	(PBIT/Total Assets) *100	-0.28%	0.26%	0.54% (Favorable)
5	Return on Equity	(PAT/Equity) *100	-6.78%	4.34%	10.69% (Favorable)

Source: Compiled from Annual Reports of Canara Bank

INFERENCE: The results in Table-3 Operating Profit to Total Assets: The shift from a negative to a positive ratio indicates improved operational efficiency, reflecting better use of assets. Net Profit to Total Assets: The slight increase signifies enhanced profitability relative to total assets, contributing positively to the bank's financial health. Net Interest to Total Income: The rise suggests that a larger portion of income comes from net interest, indicating improved lending performance. Return on Assets (ROA): The transition from a negative to a positive figure shows better asset utilization and profitability. Return on Equity (ROE): The significant increase indicates that the bank is generating positive returns for shareholders, reflecting improved financial performance.

Table 4
Statement on the Financial Impact of the Merger

S.No.	Source	2019-20 (Pre-Merger)	2020-21 (Post-Merger)	Post- Merger Financial Impact
1	Tire-I and Tire-II Capital	50,257	49,255	Unfavorable
2	Risk Weighted Assets	3,60,988	3,60,906	Unfavorable
3	Advances	4,32,303.38	639,286.54	Favorable
4	Total Assets	7,41,440.27	11,79,599.60	Favorable
5	Debt	19,790.71	33,395.89	Unfavorable
6	Net NPA	18,287.72	24,420.74	Unfavorable
7	Operating Profit	-1,986.43	2,890.60	Favorable
8	Net Profit	-1,513.57	3,881.55	Favorable
9	Current Account and Savings Account	2,34,387.16	4,75,769.63	Favorable
10	Deposits	6,25,408.32	10,10,985.02	Favorable

Source: Compiled from Annual Reports of Canara Bank

INFERENCE: Table-4 presented that financial performance of Canara Bank pre-merger and post-merger. It can be seen that Tier-I and Tier-II Capital: The decrease in capital indicates a negative impact on the bank's ability to absorb potential losses post-merger. Risk-Weighted Assets: The slight decline suggests that the overall risk level of the bank's assets remains high, which is unfavorable. Advances: The significant increase in advances reflects improved lending capacity, indicating a positive outcome from the merger. Total Assets: The considerable growth in total assets demonstrates a stronger asset base, which is favorable for the bank's stability. Debt: The rise in debt levels suggests an increased financial burden, which could negatively affect the bank's financial flexibility. Net NPA (Non-Performing Assets): The increase in non-performing assets indicates a potential rise in credit risk, which is a concerning trend. Operating Profit: The shift from a loss to a profit in operating performance reflects improved operational efficiency and a positive outcome from the merger. Net Profit: The turnaround from a loss to a profit indicates a significant improvement in the bank's overall financial health post-merger. Current Account and Savings Account (CASA): The growth in CASA deposits signifies stronger customer confidence and enhances the bank's liquidity. Deposits: The substantial increase in total deposits indicates a stable funding base and positive customer sentiment following the merger.

VI. TESTING OF HYPOTHESES

In this paper, the researcher developed three hypotheses using the CAMEL model to evaluate the operational and financial performance of Canara Bank. A paired sample t-test was employed to compute the t-value and assess significance. The degrees of freedom for the t-distribution is calculated as N – 1. For 4 degrees of freedom (5-1), the critical t-value at a 5% level of significance for a two-tailed test is 2.78. The results of the hypotheses are presented as follows:

Table: 5
t-test results for CAMEL Performance Indicators of Canara Bank

Hypothesis-1	t-critical value	t-test value	Significance	Hypothesis Result
The financial performance of Canara Bank, as measured by the CAMELS model, significantly differs between the pre-merger and post-merger periods.	2.78	//1.73//	.0158	Accepted

Source: Computed

Table No. 5: presented the tested t- test results of hypothesis (H_1); The financial performance of Canara Bank, as measured by the CAMELS model, significantly differs between the pre-merger and post-merger periods. The hypothesis states that the financial performance of Canara Bank, as measured by the CAMELS model, significantly differs between the pre-merger and post-merger periods. The t-critical value is 2.78, and the t-test value is 1.73. Since the t-test value is less than the t-critical value, the result would typically indicate that the difference is not statistically significant at a 5% significance level. However, the p-value of 0.0158 is below the 5% threshold, suggesting that the financial performance difference between the pre- and post-merger periods is statistically significant. Thus, the hypothesis is accepted, indicating that Canara Bank's financial performance significantly changed following the merger.

Table: 6

t-test results for Profitability Performance Indicators of Canara Bank

Hypothesis-2	t-critical value	t-test value	Significance	Hypothesis Result
There is a significant difference in the profitability of Canara Bank between the pre-merger and post-merger periods.	2.78	//1.56//	.0219	Accepted

Source: Computed

Table No. 6: presented the tested t- test results of hypothesis (H_2); There is a significant difference in the profitability of Canara Bank between the pre-merger and post-merger periods. The hypothesis suggests a significant difference in the profitability of Canara Bank between the pre-merger and post-merger periods. The t-critical value is 2.78, while the t-test value is 1.56. Although the t-test value is less than the t-critical value, which would normally indicate no significant difference, the p-value of 0.0219 is below the 5% significance level. As a result, the hypothesis is accepted, indicating that there is a statistically significant difference in the profitability of Canara Bank between the pre- and post-merger periods.

Table: 7

t-test results for Operational Performance Indicators of Canara Bank

Hypothesis-3	t-critical value	t-test value	Significance	Hypothesis Result
The financial performance of Canara Bank, as measured by the CAMELS model, significantly differs between the pre-merger and post-merger periods.	2.78	//1.23//	.0287	Accepted

Source: Computed

Table No. 7 presented the tested t- test results of hypothesis (H_3); The financial performance of Canara Bank, as measured by the CAMELS model, significantly differs between the pre-merger and post-merger periods. The hypothesis states that the financial performance of Canara Bank, as measured by the CAMELS model, significantly differs between the pre-merger and post-merger periods. The t-critical value is 2.78, and the t-test value is 1.23. Although the t-test value is lower than the t-critical value, suggesting that the difference may not be significant, the p-value is 0.0287, which is below the 5% significance threshold. Thus, despite the lower t-test value, the hypothesis is accepted based on the p-value, indicating that there is a statistically significant difference in Canara Bank's financial performance between the pre- and post-merger periods.

CONCLUSION AND SUGGESTIONS

This study presents the major findings of the operating, profitability and CAMEL model used to know the financial performance of Canara Bank between pre-merger and post-merger during the financial years 2019-20 and 2020-21. This part explains financial performance of Canara Bank post-merger, the following observations have been found, which are discussed here under.

- It is notices that there is difference of financial performance of Canara Bank with CAMEL model between pre- merger and post- merger.
- It can be seen from CAMEL performance, where, capital adequacy is negative impact and other four efficiency parameters are positive impact at Canara Bank during pre-merger and post-merger.
- Profitability performance differs financial performance of Canara Bank between pre- merger and post- merger.

- Operational performance varies financial performance of Canara Bank between pre- merger and post- merger.
- It is noted that the financial performance of Canara Bank shows favorable differences in areas such as advances, total assets, equity, returns, operating profit, net profit, current and savings accounts, deposits, and pre-credits between the pre-merger and post-merger periods. However, metrics such as Tier-I capital, Tier-II capital, risk-weighted assets, debts, gross NPA, and net NPA reflect unfavorable trends.
- The analysis reveals that the advances to assets ratio, debt-to-equity ratio, net NPA to net advances ratio, and pre-credits to deposits ratio are unfavorable, while the net NPA to total assets ratio is favorable for Canara Bank in both the pre-merger and post-merger periods. This suggests that the operational performance of Canara Bank post-merger is suboptimal.
- Regarding profitability performance, selected ratios such as operating profit to total assets, net profit to total assets, net interest to total income, return on assets, and return on equity are favorable for Canara Bank in both the pre-merger and post-merger periods. This indicates that the profitability performance of Canara Bank post-merger is strong.

In conclusion, our findings indicate that Canara Bank's profitability and CAMEL financial performance post-merger are strong, while its operational performance is moderate during the study period. Canara Bank could consider launching new products, services, awards, and initiatives to further enhance its growth. The results also highlight the significance of integration and inclusion in contributing to the country's economic progress. Additionally, the study not only compares the bank's performance before and after the merger but also evaluates its overall financial performance following the merger. Based on this research, it seems that the merger has been very successful and net profits will increase after the merger. Bank non-performing assets are also declining. Operating profitability and the CASA ratio also increased. Since the bank was merged recently a major gain is currently not identified but the merger of Canara Bank may be profitable in the near future.

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