25

The CAMEL Model Analysis of Pre Merger and Post Merger Profitability of State Bank of India Ltd. and its Associates

Dr. Shaifali Mathur*
Aditi Sharma**

Introduction

Banking System is central to a nation's economy as it caters to the needs of credit for all the sections of the society. Development of banking contributes to the development of the economy. An efficient financial system is an indicator of the strength of the economy which in turn depends upon the sound banking policies and system. Mergers and Acquisitions are leading part of a corporate growth blueprint. Merger is a legal consolidation of two entities into one entity whereas Acquisition occurs when one entity takes ownership of other. Mergers and Acquisition emerged as one of the most effective and common methods of corporate restructuring and strengthening Banks. Now banks enter into the era of Mergers and Acquisition to empower their business. Indian Banking Sector has been gone through the storm of mergers in recent years. The main aspect of Merger and Acquisition is the synergy that firm could gain after combination and thereby maximize shareholders value. Economies of scale, ability to earn more revenue and the potentials for tax gains are the outcome.

State Bank of India is an Indian Multinational, Public Sector Undertaking and Financial Services Company. It is government owned corporation headquartered in Mumbai Maharashtra. Evolution of SBI takes place in earlier 19th Century. The Bank of Calcutta founded in 1806 and was renamed in 1809 as The Bank of Bengal under the Bengal government. Furthermore the Bank of Bombay and the Bank of Madras came into existence. Then these three banks were joined together and amalgamated

* Assistant Professor, Department of Financial Studies, IIS deemed to be University, Jaipur, Rajasthan, India.
** Student, Department of Financial Studies, IIS deemed to be University, Jaipur, Rajasthan, India.

to form Imperial Bank of India on 27th January, 1921 which in turn becomes State Bank of India in 1955. The Government of India took control over Imperial Bank with 60% stake held by the Reserve Bank of India which was taken back by the government in 2008. The State Bank of India (Subsidiaries Act) was passed by the government in 1959 permitted the bank to make eight former state associated Banks as its subsidiaries. These subsidiaries include:

- State Bank of Bikaner and Jaipur (SBBJ)
- State Bank of Hyderabad (SBH)
- State Bank of Indore (SBIR)
- State Bank of Mysore (SBM)
- State Bank of Patiala (SBP)
- State Bank of Saurashtra (SBS)
- State Bank of Travancore (SBT)

The following table shows the sequence of the mergers taken place under SBI from foremost till the latest one:

2008	SBI merged with State Bank of Saurashtra
2010	SBI merged with State Bank of Indore
2016	State Bank of Bikaner and Jaipur, State Bank of Hyderabad, State Bank of Mysore, State Bank of Patiala and State Bank of Travancore, and Bharatiya Mahila Bank were merged with State Bank of India with effect from April 01, 2017.

Review of Literature

Susmitha, M., Mouneswari, V., (2017), Financial Performance Analysis of Syndicate Bank Using Camel. This paper attempts to evaluate the financial performance of the Syndicate bank using CAMEL model. It is found out that all ratios under CAMEL Model were satisfactory. Therefore, overall financial performance of Syndicate bank was satisfactory.

Dr.Tanwar, Nidhi, (2017), Performance analysis of Indian banks using camel approach. This paper examines the impact of mergers and acquisitions on the financial and operating performance of banks that have been merged during post liberalization period by using a camel model. Further, the Government should not promote merger between strong and distressed banks as a way to promote the interest of the depositors of distressed banks, as it is unfavorable for the asset quality of the stronger banks.

Dr. K.P, Veena, Prof., Patti, S.N., (2016), Financial Performance Analysis of Pre And Post Merger In Banking Sector. This is the study with reference to ICICI Bank Ltd. this study is to highlights the theoretical background and impact on pre and post-merger financial performance of ICICI bank Ltd. and to look at the profitableness

quantitative relation analysis of pre and post-merger monetary performance in ICICI bank Ltd and to check the liquidity quantitative relation analysis of pre and additionally post-merger financial performance in ICICI bank Ltd. This study concludes the post-merger monetary performance is best compared to the pre-merger monetary performance of ICICI bank Ltd.

Kaur, Jagjeet, Dr. Kaur, Vineet, Harsh, (2016), Camel analysis of selected public sector banks. The main aim of this paper was to assess the financial performance of Indian public sector bank using the camel model. Under this study, it is concluded that CBI is the only bank which is not performing well either individually or as a composite.

Research Methodology

- **Objectives of the Study**
  - To analyze the Pre-Merger and Post-Merger financial performance of the SBI and its associate banks using the CAMEL approach.
  - To Compare the Pre-Merger and Post-Merger profitability of SBI.

Research Design

The present study is a descriptive research study**.** Descriptive research is a study designed to depict the participants in an accurate way. As the name implies, descriptive research methods are used when the researcher wants to describe specific behaviour as it occurs in the environment.

Sampling

- **Sample Size:** State Bank of India Limited and its 5 subsidiaries are taken for an analysis of pre merger and post merger profitability of these merged firms.

Sources of Data

The secondary data used for this study has been taken from the annual reports of the Banks.

Period of the Study

As merger of SBI and its associates took place in the year 31st March 2017. Therefore, one year Pre-Merger and Post-Merger data is taken for purpose of the study:

Pre-merger year- 2015-16

Post-Merger year- 2017-18

Research Technique

CAMEL Model is used for measuring the Pre-Merger and Post-Merger financial performance of Banks. The traditional approach of ratio analysis under the CAMEL approach is preferred for the purpose of calculation. Average values of Pre-Merger data of all the SBI associates banks have been calculated on the basis of their

individual financial statements for the purpose of the study. Also, the pre-merger average values of SBI and its associates have been taken for comparing the pre-merger and post-merger financial performance of the bank.

Statistical Analysis

Two sample t-test. A two-sample t-test is used to test the difference between two population means. A common application is to determine whether the means are equal.

Hypothesis

H_0: There is no significant difference in the financial performance of SBI before and after merger.

H_1: There is significant difference in the financial performance SBI before and after merger.

Conceptual Framework of CAMEL Model

- **C- Capital Adequacy**

Capital base of financial institutions facilitates depositors in forming their risk perception about the organization. Also, it is a significant structure for financial managers to maintain adequate levels of capitalization. Capital adequacy is very useful for a bank to conserve & protect stakeholders' confidence and prevent the bank from bankruptcy. In accordance with this following ratios are considered:

- **Capital Adequacy Ratio(CAR)**

Reserve Bank of India prescribes banks to maintain a minimum Capital to risk-weighted Assets Ratio (CRAR) of 9 % with regard to credit risk, market risk and operational risk on an on-going basis, as against 8 % prescribed in Basel documents. It is the combination of Tier I and Tier II capital.

Formula**:** Formula for calculating this ratio is:

$$\text{CAR} = \frac{\text{Tier I capital + Tier II capital}}{\text{Risk Weighted Assets}} \text{ x100}$$

Analysis: The higher ratio is preferable**.** It shows that the bank is adequately capitalized.

- **Advances to Total Assets Ratio**

This ratio indicates that how many assets have been given as the advances. An aggressive bank will try to earn more profits by giving out more advances.

Formula:

$$\text{Advances to Total Assets Ratio} = \frac{\text{Advances}}{\text{Total Assets}} \text{ x100}$$

Analysis: The higher ratio for advances to total assets is preferable.

- **Asset Quality**

Asset quality determines the soundness of financial institutions against loss of value in the assets as asset impairment risks the solvency of the financial institutions. The weakening value of assets has a spillover effect, as losses are eventually written-off against capital, which eventually expose the earning capacity of the institution. With this framework, the asset quality is assessed with respect to the level and severity of non-performing assets, adequacy of provisions, distribution of assets etc. Apart from this it also hampers profitability as the provision has to be made on Gross NPAs. Following ratios are calculated with regard to this:

- **Gross NPA To Gross Advances**

This ratio represents the status of NPA without deducting the provision.

Formula:

$$\text{Gross NPA To Gross Advances} = \frac{\text{Gross NPA}}{\text{Gross Advances}} \text{ x100}$$

Analysis: Lower ratio is preferable.

- **Net NPA to Net Advances**

Net NPA is calculated by reducing the cumulative balance of provisions outstanding at the period end from gross NPA. This ratio shows how much loans has been turned to bad debts as against total amount given as loan.

Formula:

$$\text{Net NPA to Net Advances} = \frac{\text{Net NPA}}{\text{Net Advances}} \text{ x100}$$

Analysis: Lower ratio is preferable as non-payments leads to losses to the bank and poor quality of assets but sometimes increased assets is the cause of lower ratio.

- **M- Management Capability of the Banks**

The M component represents the ability of the management to identify, measure, monitor and control the risk. The ratios calculated under the acronym M are:

- **Business per Employee**

This ratio indicates how well the employees of the banks are working. Basically it shows input output relationship of employee and business.

Formula:

$$\text{Business per Employee} = \frac{\text{Total Business (Deposits + Advances)}}{\text{No. of Employees}}$$

Analysis: Higher ratio indicates the greater efficiency of the employees.

- **Profit per Employee**

This ratio indicates the contribution of each employee in the profitability of the banks.

Formula:

$$\text{Profit per Employee} = \frac{\text{Net Profits}}{\text{No. of Employees}}$$

Analysis**:** Higher ratio is preferable

- **Return on Assets (ROA)**

This Ratio indicates how profitable a bank is in relation to its total assets.

Formula:

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}} \text{ x100}$$

Analysis: The higher ROA is better.

- **Return on Equity (ROE)**

This ratio indicates ability of the banks to generate profits from its shareholder's wealth.

Formula:

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Shareholder's Wealth}} \text{ x100}$$

Analysis: The higher ratio is preferable.

- **E-Earnings Quality**

The quality of earnings is a very important criterion that determines the ability of a bank to earn consistently. It basically determines the profitability of bank and explains its sustainability and growth in earnings in future. Banks depend on their strong capability of earnings for performing the activities like funding dividends, maintaining adequate capital levels, providing for opportunities of investment for bank to grow, strategies for engaging in new activities and maintaining the competitive outlook.

- **Operating Profits to Total Assets**

This ratio indicates how much operating profits are generated through utilizing assets of the bank.

Formula:

$$\text{Operating Profits to Total Assets} = \frac{\text{EBIT}}{\text{Total Assets}} \text{ x100}$$

Here, EBIT stands for Earning before Income and Tax

Analysis: The higher ratio is preferable as it indicates the assets the being utilised to full capacity thus giving maximum profits.

- **Net Profits to Total Assets**

This ratio indicates how much profit is left after paying off interest and taxes. Again it is calculated against total assets.

Formula:

$$\text{Net Profits to Total Assets} = \frac{\text{Earning after interest and taxes}}{\text{Total Assets}} \text{ x100}$$

Analysis: The higher ratio is preferable.

- **L-Liquidity**

Risk of liquidity is curse to the image of bank. Bank has to take proper care to hedge the liquidity risk; at the same time ensuring good percentage of funds are invested in high return generating securities, so that it is in a position to generate profit with provision liquidity to the depositors. The following ratios are used to measure the liquidity:

- **Liquid Assets to Total Assets**

This ratio indicates the % of liquid assets in the total assets of the bank balance sheet. This ratio measures the overall liquidity position of the bank. The liquid assets include cash in hand, money at call and short notice, balance with Reserve bank of India and balance with banks. The total assets include the revaluation of all the assets.

Formula:

$$\text{Liquid Assets to Total Assets} = \frac{\text{Liquid Assets}}{\text{Total Assets}} \text{ x100}$$

Analysis: Higher ratio will be considered better .

- **Liquid Assets to Total Deposits**

This ratio measures the liquidity available to the depositors of a bank. It is calculated by dividing the liquid assets with total deposits.

Formula:

$$\text{Liquid Assets to Total Deposits} = \frac{\text{Liquid Assets}}{\text{Total Deposits}} \text{ x100}$$

Analysis: Higher ratio will be preferable.

Data Analysis and Interpretation

Table 1: Capital Adequacy (CAR)

Capital Adequacy	Pre-merger	Post-merger
Capital Adequacy Ratio	12.38%	12.60%
Advances To Total Assets Ratio	65%	56%

Interpretation

Table 1 clearly indicates Pre-Merger average ratio of CAR of SBI and its associate's is12.38% and Post-Merger CARof SBI is 12.60%. Both the ratios are higher than the standard ratio prescribed by Basal II and RBI guideline. Hence, we can say that SBI and its associates were able to manage the requirement of minimum CAR. It shows that the banks are adequately capitalized before and after merger. Also the Pre-Merger average ratio of Advances to Total Assets for SBI and its associates is 65%. The ratio decreased to 56% after the merger indicating less advances given by SBI out of its total assets.

Table 2: Asset Quality

Asset Quality	Pre-merger	Post-merger
Gross NPA to Total Advances	6.47%	11.00%
Net NPA to Net Advances	3.61%	5.73%

Interpretation

Table 2 indicates Pre-Merger average ratio of Gross NPA to Total advances for SBI and its associates is 6.47%.Gross NPAs of SBI has increased after merger which results in increase in its Gross NPA ratio up to 11 %. Also, Pre-Merger average ratio of Net NPAs to Net Advance of SBI and its associates is 3.61% which increases to 5.73%due to increase in non-performing assets after merger .

Table 3: Management Efficiency

Management Capability of the Banks	Pre-Merger	Post-Merger
Business per Employee	14.92	16.22
Profit Per Employee	235	-243
Return on Asset	0.31%	-0.19%
Return on Equity	6.4%	-3.78%

Note- Business per Employee and Profit per Employee

Interpretation

Table 3indicatesPre-Merger average ratio of business per employee increases when compared to Post-Merger ratio for SBI. It is Rs.14.92 before merger and Rs.16.22 after merger. So we can say the ability of the board of directors and senior managers to identify, measure, monitor and control risks associated with banking somewhat increases after the merger. But when we see the profit per employee ratio for pre and post merger of SBI it shows a gradual declination of contribution of employees in the profitability of SBI from 235 to -243. Similarly declination trend can also be shown in ROA and ROE ratios from 0.31% to -0.19% and 6.4% to -3.78% respectively.

Table 4: Earning Quality

Earnings Quality	Pre-Merger	Post-merger
Operating Profits to Total Assets	1.16%	-0.45%
Net Profits to Total Assets	0.36%	-0.19%

Interpretation

Table 4 indicates both Operating Profits to Total Assets and Net Profits to Total Assets ratio decreased after merger i.e. from 1.16% to -0.45% and 0.36% to -0.19% respectively. Profitability of SBI is highly affected due to merger with less profitable and even unprofitable (State Bank of Patiala) associates.

Table 5: Liquidity

Liquidity	Pre-Merger	Post-Merger
Liquid Assets to Total Assets	4.98%	12.87%
Total Deposits to Total Assets	88.12%	78.33%

Interpretation

Table 5 indicates improvement in liquidity position of SBI as Liquid Assets to Total Assets ratio is increased from 4.98% to 12.87%.Whereas Total Deposits to Total Assets ratio decreases from 88.12% to 78.33% which indicates decrease in the efficiency of SBI to provide sufficient liquidity to its depositors.

Consolidated Table of CAMEL Model Analysis

Table 6: Business per Employee and Profit per Employee

Ratio(Rs.000)	Profit per employee	Business per Employee
Pre-Merger	14.92	235
Post-Merger	16.22	-243

Business per Employee and Profit per Employee (Rs.000 omitted)

Graph1: Business per Employee and Profit per Employee (Rs.000 omitted)

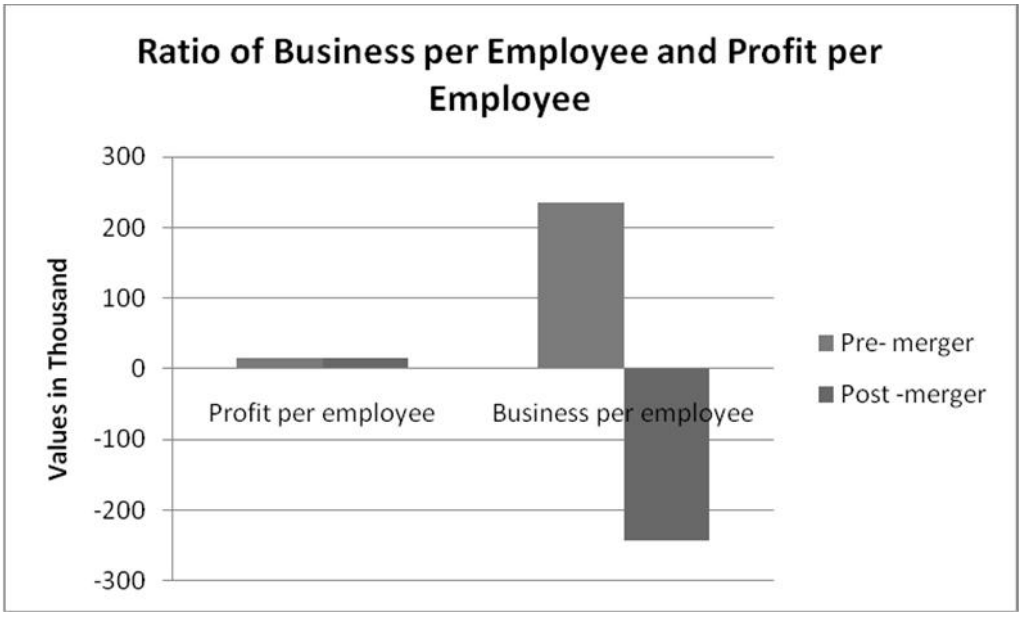
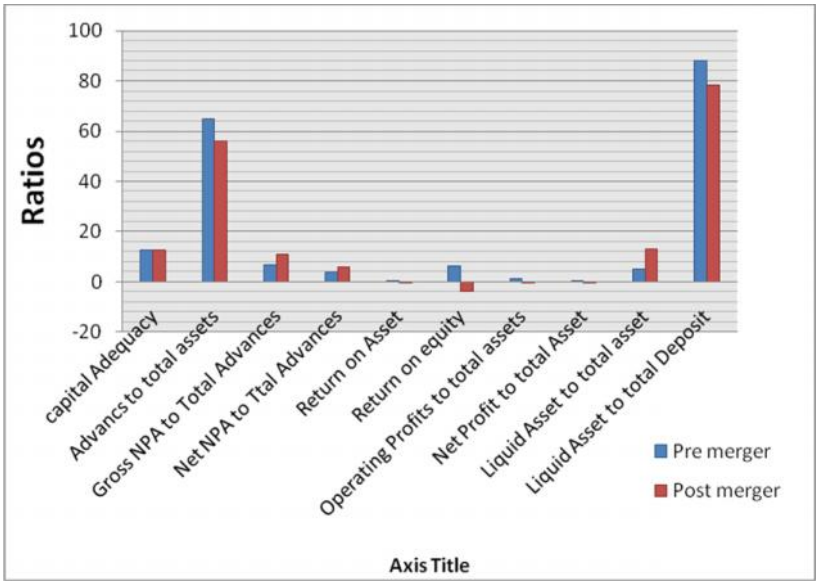


Table 7: Calculated Pre merger and post merger Ratios of SBI Bank Ltd. and its associates in percentage

Ratio(%)	Pre-Merger	Post-Merger
Capital Adequacy	12.38	12.6
Advances to Total Asset	65	56
Gross NPA to Total Advances	6.47	11
Net NPA to Total Advances	3.61	5.73
Return on Asset	0.31	-0.19
Return on Equity	6.4	-3.78
Operating Profits to Total Asset	1.16	-0.45
Net Profit to Total Asset	0.36	-0.19
Liquid Asset to Total Asset	4.98	12.87
Liquid Asset to Total Deposit	88.12	78.33

Pre merger and post merger ratios of SBI and Its Associates

Graph 2: Pre and Post Merger Analysis of Performance of SBI



Hypothesis Testing

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Merger average values of SBI and its associates	-1.4683	12	78.31195	22.60671
	Post- merger values of SBI	34.4025	12	68.01464	19.63413

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-Merger average values of SBI and its associates - Post- merger values of SBI	-35.87083	136.47493	39.39692	-122.58287	50.84120	-.910	11	.382

From the Paired Samples Statistics the results obtain are t--.910, p value= .382

P value is 0.382 which is greater than .05 level of significance, Therefore, Null Hypothesis is accepted (as p value>.05). Merger did not bring any significant changes in the financial position of SBI. There is strong evidence (t = -.910, p = 0.382) that the merger reduces the overall profitability of SBI. In this data set, the average profitability improves only by 35.87.

Findings

- The size of newly merged SBI is a matter of concern because this merger has transformed SBI into such a big entity that now it can lead to problem of Too Big to Fail.
- After the announcement of merger of SBI with its associate banks, the share price of SBI and four of its listed associate banks had soared up to 3-13%.
- Market share of deposits and advances, No. of branches, Staff and customers has increased. Net profit has also shown an increase. Thus leading to advantages of merger.
- It is clear from the above analysis that capital position of SBI suffers after merger with its associate banks. CAR ratio of SBI declines inspite of increase in total capital of the bank after the merger.
- Given the burden of bad assets the associates banks have brought on SBI. While SBI's standalone gross NPAs have increased 11% per cent in FY18.
- This merger fails to generate profitability of bank and also fails to ensure sustainability and growth in earnings after the merger.
- The merger is significant for SBI in terms of liquidity management as the market share of deposits and advances increases after merger.

Limitations

- This study is restricted only to secondary data.
- The Pre-Merger and Post-Merger period is taken for one year i.e. 2015-16 and 2017-18 as the merger takes place with effect from 1st April, 2017.

Conclusion

Banking sector is the Backbone of the economy. The financial performance of banking sector, whether good or bad affects the economy as a whole. Mergers and Acquisition considered as one of the most useful strategy for expansion. Finally, it can be concluded that there is no significant gains from this merger. The possible reason may be consolidation with weaker and less profitable associates that brought more liabilities and NPAs in comparison to deposits and profits. Expansion of SBI seems on a faster pace and elimination of ineffective and unprofitable branches is an effective cost control approach which leads to economies of scale which ultimately means would have more profits over cost.

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