A STUDY ON THE PRE AND POST MERGER PERFORMANCE ANALYSIS OF SBI

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Abstract: A major perspective of RBI's banking policy is to encourage competition, consolidate and restructure the system for financial stability. Of all the ways of consolidation, M&A has become an admired trend in the country This study is an analysis of the mergers happened in the State Bank Of India from 1990 to this date and to have an objective evaluation of whether these mergers have served its purpose or not. M&A in the banking sector needs to be examined in the changing banking scenario and global environment. The series of mergers happening in the Indian banking industry renders a contemporary relevance to this topic.

***Index terms* – Mergers & Acquisitions, SBI, Consolidation, Performance analysis, Issues.**

I INTRODUCTION

Recently we are experiencing a merger wave in our country. The present government is giving utmost importance for the merger plans of public sector banks in India. Even though the researchers have harmony regarding the pros and cons of merger activities, they never had a consensus regarding the methods to be adopted for a merger process. This article seeks to deeply analyse the case of SBI's Merger activities over the previous decades. Evolving into the India's largest bank post merger, SBI can be a better benchmark for the assessment of success or failure of the mergers.The remaining portion of this article deals with the literature review, objectives, methodology and the results.In MERGER, one bank gets merged with the other losing its own identity by way of share transactions/asset/liability transfers. It refers to finding an acceptable partner, determining upon how to pay each other and ultimately creating a new company, which is a combination of both the companies.ACQUISITION refers to buying out another company and taking it into the fold of the acquiring company. This is done by paying the acquired company, the value of its capital and depending upon the circumstances, a premium over the capital amount.

II OBJECTIVES OF THE STUDY

- To understand the reasons of merger and acquisition trends in Indian banking industry
- To assess the pre and post merger performance of SBI
- To comment on the need for mergers from the observed results.

III HYPOTHESIS

The main objective is to examine whether the performance of the bank has improved or not after the mergers. Accordingly, the following hypothesis has been formed.
H_0 : There is no significant change in the performance of SBI after mergers
H_1 : There is significant change in the performance of the bank after mergers.

IV.METHODOLOGY

The performance of the bank is analysed using the financial ratios computed from the balance sheets of the bank for the respective years. Profitability ratios, Solvency ratios, Efficiency and earning capacity of the banks and growth rate of the total assets are the major indicators included in the study. Data about the indicators are collected for the years from 2005 to 2019.Statistical devices like averages, ratio and percentage analysis are used in this study.

V.ANALYTICAL FRAMEWORK

A comparison of the pre and post-merger performance allows measuring of the impact of the mergers. The financial data for the each merger of the SBI are collected for a total of 6 years(three years before and three years after the merger).The financial data of the year in which the merger activity took place is omitted in the study. The average values of the selected financial parameters for the periods $T_{-3,}$ $T_{-2,}T_{-1}$ are compared with the average values of $T_{+1,}T_{+2,}T_{+3,}$ for each merger of the bank except for the final merger in 2017 for which three year post merger data is not available. In the next step, a paired student's *t*-test is performed to check the statistical significance of the two means of pre and post merger periods.

The formula for the paired sample *t*-test is

$$T=\frac{\sum i=_{1}^{n}(x0-x1)}{n}\sigma\surd/N \qquad \text{........(1)}$$

Where

X_0 =Pre merger performance of bank

X_1=Post merger performance of bank

N=Number of parameters used in the sample

Ϭ=the standard deviation of the distribution of change in the performance of the merging banks.

Using the formula (1)pre merger and post merger performance of the individual merging bank is measure for each of the performance indicators.

VI. WHY DO WE NEED BANK MERGERS IN INDIA?

There is no single reason to elucidate why Indian banks want mergers. It is driven by a fancy set of motives. Within the context of India and other Asian economies, it is desirable to possess massive sized banks to meet the current and future challenges They embrace

- Capital adequacy norms-Every asset in the balance sheet is funded by both deposits and capital funds. Higher this ratio, it increases the gain, solvency and improves the confidence of the depositors. Their growth are adversely affected unless they augment their capital resources and therefore these banks have no other alternative but to go for mergers.
- At present all the banks across the globe has to comply with the implementation of the Basel III accord, whereby the minimum capital requirements of the banks have increased. In Basel I standardised approach was used. Larger banks always had better risk management systems and this paved way for the smaller banks to consolidate themselves with the large banks through mergers.
- Flow of capital funds becomes easier and a robust domestic financial system can be attained in a state of full capital account convertibility. The flow of big funds in riskier ventures should be safeguarded. It is possible solely with large banks having the capacity to soak up unexpected shocks. Thus small banks ought to join their hands with large banks so as to improve their role in the financial economy of the country.
- A study by Bhattacharya et al shows that Herfindahl-Hirschman Index of the private sector banks in India is declining, which implies an increasing trend in the competitive pressure of the industry. This trend will hamper the profitability and operational potency and hence consolidation is important for the banks in India.
- Government along with RBI gives utmost importance to the policy of financial inclusion whereby the advantages of the banking services are made available to the common people at lower costs. Instead of competing in the existing markets, it is high time that the banks in the country should be properly channelized to focus on the unexplored areas .This will improve its geographical and financial penetration and it is easily possible by way of mergers. Also large and consolidated banks can mitigate the costs better and penetrate into SME sectors as well.
- Monetary policy is a process by which the central bank controls the supply of money to target inflation or interest rate of the economy. The credit view of the monetary policy assures that there are imperfections in the financial markets which increase the price of bank loans and lower the availability of bank credit. Empirical research has shown that large size banks are more capable than others to offset the shocks arising out of monetary policy induced decrease in deposits or increase in cost of funds, because they can fund borrowings more easily.
- Another major reason is the increasing accumulation of NPAs in the banking industry. A *non -performing asset* (***NPA***) refers to a classification for loans or advances that are in default or are in arrears on scheduled payments of principal or interest .At a time when NPAs are high, and banks are putting more effort in recovery, the ability to recover by smaller number of banks will be higher though a individual bank's exposure may go up.

This is because there are smaller number of voices in the joint lenders' forum today there are too many voices and each lender has a differential right with the borrower and they often not agree to a common recovery programme. With consolidation the recovery will be far more focused. Thus consolidation could decrease incidence of NPAs in India

VII.ANALYSIS AND INTERPRETATION

A Paired t test is performed in the 2008 and 2010 merger of the SBI to find its impact on the important performance ratios of the banks .Ratio analysis of the 2017 mega merger is carried out in the subsequent section of this article

Table 7.1 *Definitions of performance ratios used in analysis of merged banks*

Profitability indicators (i)Return on assets(RoA)	*Measure overall performance* Ratio of profit after tax to total assets	$\frac{P}{T.A}$
(ii)Return on Equity(RoE)	Ratio of net profit to average shareholders' equity	$\frac{Net\ profit}{shareholder\ equity}$
Solvency indicator (i)Capital Adequacy Ratio(CAR)	*Measure the bank's ability to meet its obligations relative to its exposure to risk* Ratio of tier I & tier II capital to capital weighted assets.	$\frac{Tier\ I + Tier\ II\ Capital}{risk\ weighted\ assets}$
Efficiency indicators (i)Spread	*Measure the bank's ability to generate income ,pay expenses and measure the productivity of employees* Net Interest income as a percentage of total assets	
(ii)Operating cost per asset	Total operating expenses as a percentage of total assets.	$\frac{OC}{TA}\times 100$
(iii)Profit per employee	Ratio of net profit to the number of employees	$\frac{net\ profit}{no.of\ employees}$
Growth Indicator (i)Asset growth rate	*Measure the bank's changes in assets* Change in book value of total asset as a percentage of book value of total assets in the previous year	$\frac{TA_1 - TA_0}{TA_0} \times 100$

Table 7.2 MERGER OF STATE BANK OF SAURASHTRA WITH SBI IN 2008

Financial ratios	Period	Mean	Standard deviation	t-value (two tailed)	Remark
RoA	*Pre-merger*	0.934	0.070	1.291	*Not significant*
	Post-merger	0.818	0.132		
RoE	*Pre-merger*	16.76	1.801	2.031	*Not significant*
	Post-merger	16.76	2.029		
CAR	*Pre-merger*	12.74	0.749	-0.580	*Not significant*
	Post-merger	13.02	0.696		
Spread	*Pre-merger*	4.69	0.932	-1.114	*Not significant*
	Post-merger	5.70	1.134		
OC/TA	*Pre-merger*	2.47	0.422	3.715*	*Significant*
	Post-merger	2.01	0.204		
Profit per employee	*Pre-merger*	0.23	0.077	-4.956	*Not significant*
	Post-merger	0.49	0.096		
Growth rate of assets	*Pre-merger*	14.14	7.971	0.294	*Not significant*
	Post-merger	13.25	3.850		

(excel results)

The paired sample *t*-test, sometimes called the dependent sample *t*-test, is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. In a paired sample *t*-test, each subject or entity is measured twice, resulting in *pairs* of observations .All the ratios taken into account were found to be statistically insignificant except operating costs to total assets ratio. Even though an improvement in the means are shown by some of the indicators, the impact of the merger on these ratios were not so strong enough to make it significant at 95% confidence level

The squeeze on the profitability has been driven from the expenditure side, like the increase in the interest costs of deposits, growing functional diversification of the banks,accelerated promotions and growth in wages and salary of the staff etc. The insignificant coefficients of the profitability parameters and solvency ratios had an impact on the growth performance in terms of the asset growth rates of the firm.

Table 7.3 MERGER OF STATE BANK OF INDORE WITH SBI IN 2010

Financial ratios	Period	Mean	Standard deviation	t-value	Remark
RoA	*Pre-merger*	0.932	0.087	1.844	*Not significant*
	Post-merger	0.728	0.853		
RoE	*Pre-merger*	15.32	1.511	2.036	*Not significant*
	Post-merger	11.94	3.247		
CAR	*Pre-merger*	13.08	0.957	0.155	*Not significant*
	Post-merger	12.97	0.662		
Spread	*Pre-merger*	4.198	0.218	-10.334	*Not Significant*
	Post-merger	6.17	0.430		
OC/TA	*Pre-merger*	2.20	0.235	2.976*	*significant*
	Post-merger	1.90	0.064		
Profit per employee	*Pre-merger*	0.34	0.123	-2.673	*Not significant*
	Post-merger	0.54	0.074		
Growth rate of assets	*Pre-merger*	18.47	11.533	3.191*	*significant*
	Post-merger	13.08	3.321		

(excel results)

The merger of State bank of Indore with State bank of India had a significant impact on the variables like operating costs to assets ratio and growth rates of the assets at 5% significance level. By default,Asset holding of the bank post merger will increase. Other variables did not exhibit a significant change during the post merger period. This implies that the merger of the State bank of Indore with SBI was not as successful as expected. Major variables like RoE and RoA which determines the profitability of the bank has not shown any difference. The mean of all variables except spread and profit per employee has gone down which is not a good sign.

(iii) RATIO ANALYSIS OF MERGER OF SBI WITH ITS 5 ASSOCIATE BANKS AND BHARATHIYA MAHILA BANK

This was a much celebrated merger as it made SBI to become the largest bank in the country in terms of asset holding. The impact of the merger is difficult to capture as there is no enough data available for analysing the post merger performance. However a detailed ratio analysis is possible along with some descriptive statistics to show how the merger, at the very outset has impacted the performance of the bank.State Bank of Mysore, State Bank of Hyderabad, State Bank of Travancore ,State Bank of Patiala ,State Bank of Bikaner and Jaipur along with Bharatiya Mahila Bank was merged on 1st April 2017.

Table 7.4 Financial indicators of SBI

Year	*RoA*	*RoE*	*Spread*	*OC/TA*	*profit per employee*	*asset growth rate*	*capital adequacy ratio*	*net profit ratio*
2013	0.65	10.49	5.76	1.99	0.48	14.46	12.96	7.030
2014	0.68	11.17	6.26	1.86	0.6	14.24	12	7.488
2015	0.46	7.74	6.01	1.85	0.47	10.30	13.12	5.187
2016	0.41	7.25	6.36	1.72	0.51	19.78	13.11	4.969
2017	-0.91	-3.78	6.65	1.74	0.24	27.67	12.6	-2.469

(percentages)

The above data is compiled and calculated using SBI's Balance Sheets of the respective years. Net Profit Ratio is the ratio of Net profit after taxes and total income of the bank in the respective year. Rest of the Variable definitions are given in the table.2017 is the year of merger and a total of 5 years (including the merger year) is taken for the ratio analysis and comparison.

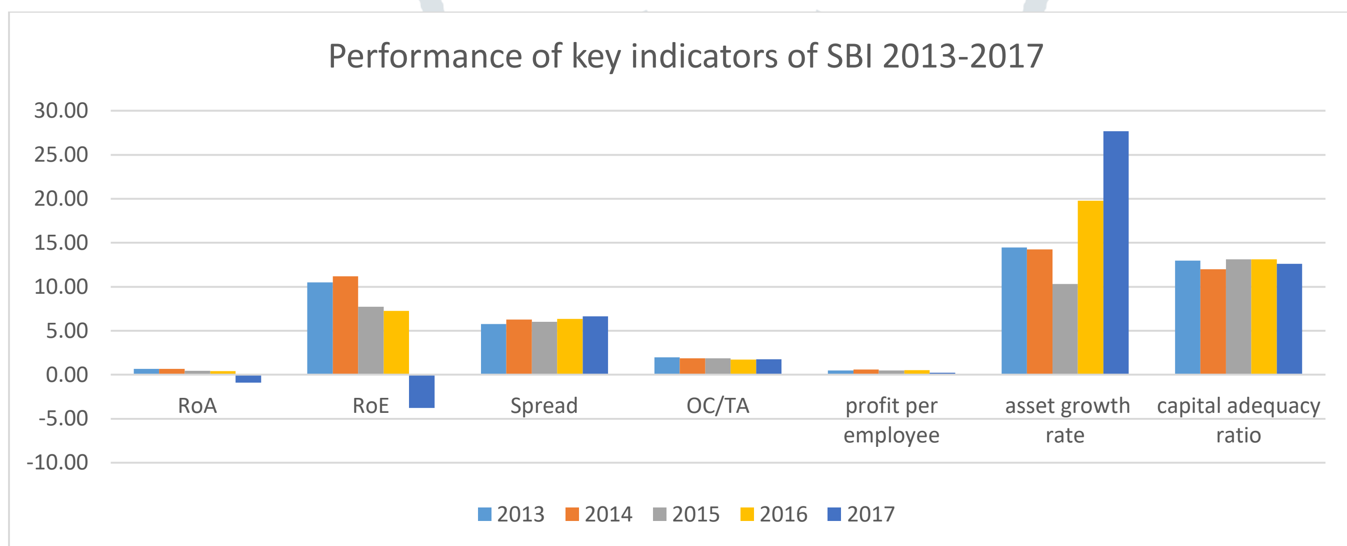

Fig 7.1

The above graphs clearly estimate the trend of the selected financial ratios. **Return on assets** and **Return on equity** are showing a declining trend. Both of them are negative after the year 2016. Net profit ratio also shows a negative growth in the same period. As the SBI's associate banks were merged with the SBI, the profitability ratios have fallen which is not a good sign. This implies that the merger was not serving its primary goal of improving the profits of the bank. The merger had an immediate negative impact upon these set of ratios.

Spread, Operating costs to total assets ratio and profit for employee are the efficiency indicators used in the study**.** **Spread**, which is an important proxy for capturing the efficiency aspect of the merger is a ratio which shows the spread between rates of deposits that it pays to the consumers and the rate it receives from their loans. The size of the spread is an important determinant as it examines the efficiency by which the bank can reap profits in the future. Even though the profitability ratios showed a drastic negative trend, it is a good sign to see an increase in the spread by 0.3% ,which improves the profit expectations of the bank.

Operating costs to total assets ratio is similar efficiency measure to the cost/income ratio, but it is less directly related to profitability. It is not affected by interest rate changes so it can give a better picture of gains or

deterioration in efficiency at times when rates or spreads have changed significantly. As we can see from the table, the OC/TA expressed as a percentage is declining over the years from 2013.However,in the merger year, we can see a slight increase in the ratio by 0.02%.This can be mainly due to the positive trend in the interest rate spread around the same time period.

Profit per employee is also a showing a declining trend which is an expected outcome as all the profit indicators are falling. The rate of fall of the ratio is high in the year 2017 as compared to the other years of study. This ratio is an indicator, showing how efficient is the bank with its employees. It is favourable to have a higher ratio.

Capital Adequacy Ratio (CAR) also known as Capital to risk weighted assets ratio(CRAR) is a measurement of the bank's capital expressed as a percentage of the risk weighted assets. It helps us in identifying how solvent a bank is at times of financial crisis. According to Basel III norms, it is advised globally to have 9% CRAR. Indian banks' CRAR are usually set at a higher percentage, around 10% and above. From the line graph, it is clear that the CAR ratio of the bank is declining. The ratio has fallen from 13% to 12.6% during the year 2016-2017. Thus ,in the post-merger period, SBI's risk weighted assets has increased and the capital set aside was not up to the best it could achieve. Thus we can clearly understand that the mega merger has questioned the solvency aspects of the bank.

Asset growth rate is used in this study as an indicator of the growth of the bank. The asset growth rate is increasing from 2015. The assets of the bank include investments and advances. The investment in the bank has increased over the time period. Also the asset holding of the bank has increased after the merger. SBI has become the largest bank in the country in terms of asset holding. Both the credit deposit ratio and Credit investment deposit ratios are declining showing the declining stability of the bank.

Table7.5 *Position of SBI and associate banks as on 31 March 2017*

	Deposits(cr)	*Advances(cr)*	*Net Profit(cr)*	*Gross NPA(%)*	*Net NPA%)*
State Bank of India	2044751	1571078	10484	6.9	3.7
State Bank of Bikaner and Jaipur	103662	68774	-1368	15.5	10.5
State Bank of Hyderabad	142955	87715	-2760	20.7	12.8
State Bank of Travancore	114323	52506	-2152	16.8	10.2
State Bank Of Patiala	100507	77100	-3579	23.1	15.5
State Bank of Mysore	77769	38608	-2006	25.7	16.9

The above data shows the status of SBI and its 5 associate banks in terms of the key variables. It is important to take note of **Net profit, gross NPA and net NPA** of the banks as it can provide some insights. According to the data available from the balance sheet of the bank as on 31st march 2017, Parent bank enjoys a net profit of 10484 crores and all the associate banks are running in net losses. This is an important testimony which proves the weaknesses in adopting merger strategies by the government and the RBI. Usually the mergers are proposed by the authorities when they wanted to accommodate the loss making banks. This is strongly criticised by a set of economic experts. It is also evident that the combined losses of the 5 banks adds up to more than the net profit of the parent bank. It is now more clear why the profitability ratios showed a negative trend in the post merger period.

Another crucial indicator is the gross and net NPAs of the banks. It is very clear form the data that both the percentages are very high for the associate banks. In fact it must be said that the SBI was in a far better position

with less burden of NPAs. Here we can see another imprudent motive of the mergers in India. In our country, merger is the medicine prescribed for those banks ailing with huge NPAs! The last fiscal 2016-17 was one of the worst years for all Abs as both gross and net NPAs were at a historical peak. Thus this mega merger could be effectively viewed as a drag on SBI, which was otherwise strongly positioned in the market.

VIII. FINDINGS AND CONCLUSION

SBI merger has made the State Bank of India amongst the top 50 banks globally regarding assets. State Bank of India's total customer base is now of 37 crores with approximately 24,000 branches and 59,000 ATMs across the country. The new entity will have a deposit base of more than Rs.26 Lakh crore, and about Rs18.50 Lakh crore advances. The merger allows us to leverage operational synergies, enabling the Bank to reach out to new clients, improving our market share to meet the needs of a growing organisation, SBI has a strong operational infrastructure in place. Post-merger, Its ability to successfully process 15,000 transactions per second, versus actual utilisation of 4,600 transactions per second, making the future ready. An increased scale of operations and the rationalisation of common costs are expected to result in meaningful savings. Furthermore, the Bank's productivity is expected to gradually improve from the effective re-deployment of skilled resources.

The crucial question of the study was to find out the impact of the 3 mergers on the financial health of SBI. From the analysis part, we found that the merger process as a whole has not benefitted SBI in any of the time periods under study. In fact SBI'S merger should be seen as a re-organisation of the structure and not as a classical merger exercise.

The associate banks have enjoyed a common identity with that of SBI for so long. They had shared a common logo, a highly visible point of customer recall and a rallying point of group affinity. The SBI has been exercising tight operational control of the Abs from the very beginning. They also shared the same information technology platform as SBI. Associate Banks were always beneficiaries of the common code and linkages. It should also be noted that the treasury operations of the ABs had been integrated with SBI for so long. Major loan decisions of Abs used to be verified first by SBI under centralised control before the proposals received local approval at the concerned AB's board.

Even though the formal merger procedures had come to an end by the end of the FY17Q1 after granular analysis of assets and liabilities, even now the challenges for SBI has not come to an end. The merger process was completed very quickly. But now the job is with SBI to integrate the new arrivals well into the system. The biggest challenge for them is to manage the human resources. With the merger of 2017, it has become the fifth largest employer in India. Integrating this huge number of employees productively is definitely a challenge for SBI. Bloated employee costs along with resistance from the part of the senior officials of the ABs, pension costs and retirement benefits throws more questions to SBI regarding its success of the latest merger. The cumulative bad loans of the associate banks were as high as 35% of the bad loans of SBI alone. Also we have seen the magnitude of NPAs which will definitely worsen the position of SBI. The analysis of the 2008 and 2010 merger also showed us that there is not much significant impact of the merger on the financial indicators of the bank, Hence the rationale of the latest merger even after 2 unsuccessful mergers should be studied. It is important to note that the by merger SBI has lost it regional face which it maintained through its ABs so far. Many branches got relocated. This will limit the exposure of SBI to the regional needs and violates one of the basic principles of bank to provide financial services to the needy ones. Also the bank will take sufficient time to reap the economies of scale from the increased size of the bank

The near-term profitability of State Bank of India is set to take a hit, as there will be need to streamline bad asset declaration norms across associate banks and SBI, which could lead to some spike in bad loan ratios. The higher provisions in such a case will impact profitability. The bank will have to curb future hiring and redeploy the talent within the group for a few years to best tap the benefits of the mergers.

Therefore let us hope that the merger will improve the financial health of the SBI as well as Indian economy in the future. The trickle down of the benefits of the same to the different sections of the public is the only matter of concern

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