Impact of mergers on operating efficiency: A comparative study on Pre and post mergers in the Indian banking sector

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Abstract

The banking system in India should not only be hassle free but also be able to meet the new challenges posed by the technology and any other external and internal factors. For the past three decades, India's banking system has had several outstanding achievements to its credit. In the Indian banking sector, Mergers and acquisitions have become an admired trend throughout the country. A large number of public sector bank, private sector bank, and other banks are engaged in mergers and acquisitions activities in India. Merger and acquisition encourage banks to gain global reach and better synergy and allow large banks to acquire the stressed assets of weaker banks. Merger in India between weak banks should grow faster so that they could rehabilitate providing continuity of employment with the working force, utilization of assets blocked up in the weak banks and adding constructively to the prosperity of nation through increased flow of funds. The small and medium-size banks are working under threat from the economic environment which is full of problems for them, viz, the inadequacy of resources, outdated technology, on-systemized management pattern, uncertain marketing efforts, weak financial structure and lack of product innovations. Therefore, restructuring through mergers and acquisitions could offer re-establishment of those in feasible banks of most advantageous size with a global presence. In the Indian banking sector, merger and acquisition have been taking place with a view to providing the safeguard and hedging weak banks and also to achieve the objective of universal banking. As per the trend and scenario in Indian baking sector in terms of mergers, this study identified three public and private sector acquirer banks. These are Bank of Rajasthan merger with ICICI, Ganesh Bank Kurandwad merger with Federal Bank, CenturionBank merger with HDFC, South Gujrat Local area Bank merger with Bank of Baroda, Bharat Overseas merger with Indian Overseas Bank and Global Trust Bank merger with Oriental Bank of Commerce. The study has brought into sharp focus on the reasons and impact of merger and evaluating the performance of the selected banks during pre-merger and post-merger periods. To analyse the performance of the selected banks this study considered operating profits, net profits, Capital Adequacy Ratio, Return on equity, Net interest margin, Return on investments etc. as these are the very important parameters to evaluate the performance of the banks and also considered relevant statistical tools for analyzing and interpreting the results. The study period considered for analysis is five years prior to the merger and five years after merger depending upon the year of merger took place to know the *operational performance of merged banks pre and post-merger and also factors influencing the operational performance of those banks. This study is descriptive in nature and used secondary data which is collected from the official website f the Reserve bank of Indi. Based on the analysis made, the researcher has given the summary of findings. The findings of this paper will be useful to the banks to take a certain policy decision in the future.*

Keywords

Mergers and acquisitions, performance evaluation, the banking sector, Net interest margin, operating profits, return on equity, Capital Adequacy Ratio etc.

Introduction

Banking is an important segment of the tertiary sector and acts as a backbone of economic progress. The banks render vital services to the masses belonging to the various sectors of the economy like Agriculture, industry whether small-scale large scale. The increasing horizon of commercial banks identifies itself with the problems and responsibilities for making banking an instrument for bringing about social and economic transformation of a developing country. The operations of commercial banks record the economic pulse of the economy of almost all countries big or small, rich or poor, socialist or capitalist and they are faced with the problem of regional disparities in economic development. Thus, banking is a basic industry, which not only caters to the development of trade, commerce, and industry but also helps in removing many obstacles in the way of economic development. A large number of public sector bank, private sector bank, and other banks are engaged in mergers and acquisitions activities in India. The Main motive behind Mergers and acquisitions in the banking sector is to harvest the benefit of economies of scales and also a restructuring process. Prudential norms which were introduced at the time of financial sector reforms in the year 1991 by the Narasimham Committee led many banks to think over abut banks financial soundness and quality of the assets they maintain. In the Indian banking sector, Mergers and acquisitions have become a popular trend throughout the country. Mergers and acquisitions are considered as a relatively fast and efficient approach to expand into new markets and incorporate new technologies and the main motive behind strategic decision to strengthen the banks in terms of sound financial health and sustain their position in the marketplace. Mergers and acquisitions have played a major role in corporate restructuring and the financial services industry. Pressures on the employees of banks around the world have been numerous across, entry of new players and products with superior technology, globalization of financial markets and changing demographics of customer behavior, consumer pressure for wider choice and low-cost service, shareholder wealth demands, reduction in margins. The key driving force for merger activity is severe competition among the banks which focus on economies of scale, cost efficiency, and profitability. Due to such reasons, there is great merger activity took place as all associates of State Bank of India merged into SBI in recent past in the year 2017. In the history of Indian Banking sector as far as mergers and acquisitions are concerned it is a sweeping decision taken by the bankers.

Mergers in Indian banking Sector-An overview

Mergers in India in broad-spectrum have experienced an amplified number in diverse sectors particularly after the New Economic Policy in the year 1991 which has opened the *doors* for markets worldwide and there is need to compete with foreign banks which are very much established in India. Banking Sector in India has witnessed many Mergers after the financial sector reforms for various reasons such as Restructuring of Weak Banks, Economies of Scale, Expansion of Market, Business Consolidation etc. I consider the history of Mergers in Banking Sector in India, initially they have taken place as a measure to protect the interests of the customers of the weak banks as they are backbone for the sustainability of any business but subsequently a few Mergers also have taken place voluntarily in the Post Liberalization period between various banks for several reasons like expansion, maintain a strong customer base, sustainability, Competition etc. The Indian economy, which is one of the fastest growing economies in the world, is balanced to maintain its leading position, despite the global financial disaster and economic slowdown. India has managed to beat the global financial disorder due to sound regulation, prudent financial supervision, and proactive policies and majorly introduction of financial sector reforms in the year 1992. India's growth is driven predominantly by domestic consumption and investment and the Indian banking system had no direct exposure to the US sub-prime mortgage assets or to the failed institutions. During this period two mergers have taken place in Indian Banking Sector one between two profit making Public Sector Banks in the lines of consolidation and the other one was between two profit-making Private Sector Banks for the synergies of the merger. In this context, the study of the performance of the banks that have merged voluntarily assumes importance.

Review literature

An attempt has been made to summarize the important research literature on the Mergers and Acquisitions carried so far in order to find out the research gap and also to define the statement of the problem to proceed with the present study. Evaluating the performance of banks involved in Mergers and Acquisitions has become a subject matter of a great deal of research. Many researchers were contributed to this area to throw light on the motives behind the merger and acquisitions in the banking sector. **Berger and Humphrey (1994)** reported that most studies that examined pre-merger and post-merger financial ratios found no impact on operating cost and profit ratios. The reasons for the mixed evidence are the lag between the completion of the merger process and realization of the benefits of mergers, selection of sample and the methods adopted in financing the mergers. **Pilloff and Santomero (1997)** conducted a survey of the empirical evidence and reported that most studies fail to find a positive relationship between merger activity and gains in either performance or stockholder wealth. **Laxman G (2004)** in his research article "Impact of Merger and Acquisitions on Financial Performance of Private Sector Banks", has made an attempt to asses the impact of merger on financial performance in terms of CAR, NPAs, Interest income, Interest Expenditure, Operating expenditure, Provisions and Contingencies, Spread, Gross Profit, Net profit as percentage to total assets before and after merger. The study concluded that there is a decreasing trend in spreads and increasing tendency in NPAs of the target bank. But these indicators are more or less remained the same when compared to average indicators of the Private Sector Banks during the period under study. **Wheelock and Wilson (2004)** find that expected merger activity in US banking is positively related to management rating, bank size, competitive position and geographical location of banks and negatively related to market concentration. Substantial gains from mergers are expected to come from cost savings owing to economies of scale and scope. **Sathya Swaroop Debasish5 (2005)** in her study "Merger in Indian Banking – Case of ICICIBank and Bank of Madura" has analyzed the conceptual overview of the series of recent merger and acquisitions. It suggested that the removal of entry barriers saw the emergence of private sector banks (both old and new) in India and how market forces are compelling these to conglomerate and consolidate their competitive abilities. **Kavitha Bhatnagar7 (2006)** in her study entitled on "M&A in Indian Banking Sector", discussed the India Banking Association document "Banking Industry Vision 2010". It is visualized that the merger in India either between the public sector banks, or public sector and private sector banks is the logical thing to happen in the competitive race. The study concluded that the merger and acquisition route is providing a quick step to acquire competitive size, an opportunity to share markets and reduce the cost of product development and delivery. **Schiereck Dirk et al., (2009**), explained the relationship between bank reputation after Merger and Acquisitions and its effects on shareholder's wealth. It is found in the study of **Bhaskar A Uday et al., (2009)** that Banking sector witness of Merger activities in India when banks facing the problem of losing an old customer and failed to attract the new customers. **Benkard C Lanier et al., (2010)** studied the simulating the dynamic effect of horizontal merger and took the case the case of US Airlines. **Aharon David Y et al., (2010)**, analyzed the stock market bubble effect on Merger and Acquisitions and followed by the reduction of pre-bubble and subsequent, the bursting of bubble seems to have led to further consciousness by the investors and provide evidence which suggests that during the euphoric bubble period investors take more risk. **Goyal K.A. & Joshi Vijay (2011)** in their paper entitled "Mergers in Banking Industry of India: Some Emerging Issues" gave an overview on the Indian banking industry and highlighted the changes occurred in the banking sector after post liberalization.

Research gap and the Statement of the problem

The above review of literature points to the fact that, studies have been made on Mergers relating mainly to the performance of select banks; analyze the problems of mergers; benefits to the stakeholders; Financial performance of the transferee bank after the merger. However, an analysis relating to certain key parameters which indicate sound financial health and profitability of the banks prior to the merger and after the merger. This study is undertaken to fill the research gap by considering different banks in different time periods as per the banks year merger. It really gives the insight to understand and measure the impact of mergers.

Objectives of the study

This study is attempted to meet the following objectives

1. To study the financial health and profitability conditions of the acquirer banks under the study.
2. To study the impact in terms of financial and profitability conditions of the selected banks with respect to pre and post mergers.

Methodology

This study is descriptive in nature and purely based on secondary data collected from the official website of the Reserve Bank of India. Six banks are selected for the study, three from the public sector and three from the private sector. These are Bank of Baroda, Oriental bank of commerce, Indian Overseas Bank and ICICI, Federal Bank, HDFC from the public sector and private sector respectively. Operating profits, Net Interest Margin, Return on Assets, Return on equity, Return on Investments and Capital Adequacy Ratios were considered as parameters for analyzing and evaluating pre and post-merger effect on the efficiency of the selected banks. Prior to merger five years and post-merger five years period are considered for the study depending upon the date of merger of each respective bank considered. Percentages, Mean, Standard Deviation and t-test are used as statistical tools for analyzing the data.

The hypothesis of the study

In order to meet the objectives of the study the following hypothesis formulated:

Null Hypothesis: Ho_1: There is no significant impact of the merger on the operational efficiency of the banks

Alternative Hypothesis: Ho_2: There is a significant impact of the merger on the operational efficiency of the banks

Results and discussions

Analysis and interpretation of the results give a clear understanding of the statement of the research problem and it also helps readers to give a clear insight about the study. Therefore, a proper analysis of the data is the heart of any research study. To assess the impact of merger activity on the operating efficiency of the selected, banks considered Operating Profit, Net interest margin, Return on assets, Return on equity, Return on investment and Capital Adequacy Ratio as parameters and the following banks are selected three banks from public sector and three banks from private sector and the merger activity took place in different years for different reasons. **Table:1** indicates the details about the banks which are selected for the analysis.

Table: 1 Bank covered under the study

Sl.No.	Acquirer Bank	Target Bank	Year	Reasons	Type
1.	Bank of Baroda	South Gujrat Local area Bank	2004	Restructuring of Weak Bank	Forced Merger
2.	Indian Overseas Bank	Bharat Overseas	2007	Restructuring of Weak Bank	Compulsory merger
3.	Oriental Bank of Commerce	Global Trust Bank	2004	Restructuring of Weak Bank	Forced merger
4.	ICICI	Bank of Rajasthan	2010	Expansion of size	Voluntary Merger
5.	Federal Bank	Ganesh Bank of Kurundwad	2006	Restructuring of Weak Bank	Forced merger
6.	HDFC	Centurion Bank	2008	Expansion of size and benefits of scope economics	Voluntary Merger

Table:2 Pre-merger ratio analysis of Bank of Baroda (South Gujrat Local area Bank)

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
1999-00	1.24	2.35	7.03	0.31	10.57	10.47
2000-01	1.34	2.86	9.69	0.44	12.23	10.35
2001-02	2.18	2.84	18.4	0.78	10.68	9.52
2002-03	2.33	2.86	18.81	1.05	12.65	10.01
2003-04	3.08	3.18	20.32	1.2	13.91	8.6

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table:3 Post merger ratio analysis of Bank of Baroda (South Gujrat Local area Bank)

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2004-05	2.56	3.31	12.58	0.75	12.61	7.96
2005-06	1.84	3.05	12.28	0.79	13.65	8.05
2006-07	1.88	2.79	12.45	0.8	11.8	**7.31**
2007-08	1.81	2.42	14.58	0.89	12.94	6.95
2008-09	2.12	2.52	18.62	1.09	14.05	6.87

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 4 Hypothesis results and analysis of Bank of Baroda

Parameters	MEAN		VARIANCE		t-test	Decision
	PRE	POST	PRE	POST		
Operating Profit	2.0340	2.0420	0.5788	0.0988	0.0217	No significant impact
Net Interest Margin	2.8180	2.8180	0.0885	0.1360	0.0000	No significant impact
Return on Equity	14.8500	14.1020	36.4958	7.2515	0.2529	No significant impact
Return on Assets	0.7560	0.8640	0.1457	0.0186	0.5958	No significant impact
Capital Adequacy Ratio	12.0080	13.0100	1.9776	0.7801	1.3492	No significant impact
Return on Investment	9.7900	7.4280	0.5784	0.3059	5.6166	Significant impact
Critical value at 5% level of significance is 2.3060						

Table:2 and 3 show the Pre and Post merger operating efficiency of Bank of Baroda as per the ratios considered for the study. As per the Table:2 Pre-merger ratio analysis showing that there was significant growth in terms of all the ratios presented in the table (i.e from 1999-00 to 2003-04). As per the Table:3 Post merger ratio analysis also stating that there is a slight increase in the growth rate except for Return on Investment. The hypothesis results from the above table: 4 show that there is no significant impact of the merger on the Bank of Baroda at 5% level of significance. To test the impact of operating efficiency of the acquirer bank, it considered six parameters and except one parameter, (i.e return on investment) remaining all five parameters are stating that there is no significant impact of the merger on Bank of Baroda in terms of operational efficiency. In all the cases t-test value is less than critical value at 5% percent level of significance. Therefore, no significant change or impact of the merger on the Bank of Baroda. This has happened may be due to the bank's operating efficiency, strong customer base, level of activities and constant growth rate.

Table: 5 Pre-merger ratio analysis of Indian Overseas Bank

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2002-03	2.07	3.19	32.1	1.01	11.3	9.88
2003-04	3	3.62	28.96	1.08	12.49	9.38
2004-05	3.05	3.78	27.98	1.28	14.2	9.04
2005-06	2.44	3.75	27.23	1.32	13.04	8.81
2006-07	2.2	3.62	28.14	1.36	13.27	7.94

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 6 Post-merger ratio analysis of Indian Overseas Bank

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2007-08	2.17	2.66	27.15	1.3	11.93	7.65
2008-09	2.26	2.57	22.07	1.17	13.2	7.23
2010-11	1.85	2.72	12.73	0.71	14.55	6.88
2011-12	1.77	2.52	9.88	0.52	13.32	7.57
2012-13	1.64	2.26	4.47	0.24	11.85	7.48

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 7 Hypothesis results and analysis of Indian Overseas Bank

	MEAN		VARIANCE		t-test	Decision
	PRE	POST	PRE	POST		
Operating Profit	2.5520	1.9380	0.2044	0.0706	2.6184	Significant impact
Net Interest Margin	3.5920	2.5460	0.0559	0.0316	7.9093	Significant impact
Return on Equity	28.8820	15.2600	3.6137	84.8794	3.2380	Significant impact
Return on Assets	1.2100	0.7880	0.0241	0.1966	2.0087	No significant impact
Capital Adequacy Ratio	12.8600	12.9700	1.1417	1.2520	0.1590	No significant impact
Return on Investment	9.0100	7.3620	0.5199	0.0975	4.6900	Significant impact
Critical value at 5% level of significance is 2.3060						

As per the Table:5 and Table:6 analysis of ratios are indicating operational efficiency of the Indian Overseas Bank based on certain parameters which are considered for the study. There is a decline in operating profit, Interest Margin, Return on equity, return on assets, Capital Adequacy Ratio and Return on Investment and very importantly there is a drastic decline in terms of return on equity and return on assets. As per the Table: 7 hypothesis results showing the impact of the merger on the operational efficiency. The T-test values at 5% level of significance and critical value 2.3060 also showing that there is a significant impact of the merger on Indian Overseas Bank with respect to operating profit, Net Interest Margin, Return on equity and Return on Investment as calculated value is more than the tabulated value. But there is no significant impact on Return on Assets and Capital Adequacy Ratio. Bankers are able to maintain the required amount of capital as per the Basel norms. It has happened because Bharat Overseas bank is declared as the weak bank in terms of its operational efficiency and in the process of offsetting the losses and making financially strengthen, that impacted the results of acquirer bank.

Table: 8 Pre-merger ratio analysis of Oriental Bank of Commerce

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
1999-00	1.5	3.68	13.79	0.15	9.15	15.73
2000-01	2.07	3.06	13.63	0.8	12.08	12.17
2001-02	3.09	3.28	20.23	1	11.82	10.99
2002-03	3.51	3.64	24.51	1.3	14.04	11.25
2003-04	4.09	3.88	28.67	1.7	14.47	10.35

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 9 Post-merger ratio analysis of Oriental Bank of Commerce

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2004-05	2.59	3.21	24.19	2.01	9.21	9.52
2005-06	2.11	2.84	13.11	1.39	11.04	9.19
2006-07	1.95	2.55	10.78	1.21	12.51	8.73
2007-08	1.48	2.03	6.21	1.02	12.12	8.43
2008-09	1.64	1.96	13.51	0.88	12.98	8.17

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 10 Hypothesis results and Analysis of Oriental Bank of Commerce

Parameters	MEAN		VARIANCE		t-test	Decision
	PRE	POST	PRE	POST		
Operating Profit	2.8520	1.9540	1.1154	0.1880	1.7588	No significant impact
Net Interest Margin	3.5080	2.5180	0.1095	0.2833	3.5322	Significant impact
Return on Equity	20.1660	13.5600	43.6413	43.7382	1.5802	No significant impact
Return on Assets	0.9900	1.3020	0.3355	0.1938	0.9590	No significant impact
Capital Adequacy Ratio	12.3120	11.5720	4.4843	2.2562	0.6373	No significant impact
Return on Investment	12.0980	8.8080	4.5497	0.3022	3.3398	Significant impact
Critical value at 5% level of significance is 2.3060						

As per the Table: 8 and Table: 9 shows the financial performance of the Oriental Bank of Commerce pre and post-merger activity. There is a decline indicating in all the parameters which are considered for the study and t-test results at 5% level of significance are showing that there is a significant impact of merger on the acquirer bank with respect to Net Interest Margin and Return on Investment and there is no significant impact of the merger with respect to Operating Profit, Return on Equity, Return on Assets and Capital Adequacy Ratio. Therefore, it is clear that merger activity impacts the acquirer bank's efficiency when mergers take place to restructure the weak bank. This could be one of the reasons for a huge decline in the ratio of return on equity after the post-merger activity.

Table: 11 Pre-merger ratio analysis of ICICI

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2005-06	1.86	2.25	14.33	1.3	13.1	6.05
2006-07	1.97	1.89	13.17	1.09	11.69	6.13
2007-08	2.14	1.96	11.63	1.12	13.96	7.37
2008-09	2.29	2.15	7.80	0.98	15.53	6.90
2009-10	2.62	2.19	7.96	1.13	19.41	5.77

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 12 Post-merger ratio analysis of ICICI

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2010-11	2.35	2.34	9.65	1.58	19.54	6.19
2011-12	2.32	2.40	11.20	1.50	18.52	6.58
2012-13	2.57	2.7	13.1	1.7	18.14	6.65
2013-14	2.93	2.91	14.02	1.78	17.72	7.48
2014-15	3.18	3.07	14.55	1.86	17.02	6.32

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 13 Hypothesis testing results and analysis of ICICI

Parameter	MEAN		VARIANCE		t-test	Decision
	PRE	POST	PRE	POST		
Operating Profit	2.1764	2.6703	0.0887	0.1404	2.3073	Negligible impact
Net Interest Margin	2.0866	2.6842	0.0237	0.0996	3.8058	Significant impact
Return on Equity	10.9778	12.5041	8.9198	4.1671	0.9434	No significant impact
Return on Assets	1.1240	1.6840	0.0132	0.0213	6.7406	Significant impact
Capital Adequacy Ratio	14.7380	18.1880	8.7584	0.8809	2.4847	Significant impact
Return on Investment	6.4454	6.6437	0.4423	0.2543	0.5312	No significant impact
Critical value at 5% level of significance is 2.3060						

As per the Table: 11 and Table: 12 stating the operating efficiency of the acquirer banks and there is no impact of the merger on ICICI bank. Table: 13 indicating the hypothesis results and the calculated value of the t-test and tabulated or critical value at 5% level of Significance. It is very clear that there is no significant impact on Return on Equity, Return on Investment and a very negligible impact with respect to operating profit. But the above results indicate that there is a significant impact with respect to Net Interest Margin, Return on Assets and Capital Adequacy Ratio. The overall operating efficiency of the ICICI bank is good before and after merger activity because the merger activity took place between ICICI and Bank of Rajasthan for the purpose of expansion of the business in terms of operations and also to develop the strong customer base. Therefore, researcher considered that the Bank of Rajasthan Bank's operational efficiency and financial health is good and does not influence the acquirer bank ICICI.

Table: 14 Pre-merger ratio analysis of Federal Bank

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2000-01	2.28	2.89	15.7	0.69	10.29	11.29
2001-02	3.22	2.9	18.98	0.53	11.23	11.35
2002-03	3.15	3.04	21.5	0.86	11.2	10.2
2003-04	3.20	3.09	23.14	0.90	11.48	8.68
2004-05	2.51	3.15	13.1	0.62	11.27	6.70

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 15 Post-merger ratio analysis of Federal Bank

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2005-06	2.41	3.2	22.82	1.28	13.75	7.59
2006-07	2.68	3.13	21.27	1.38	13.43	7.01
2007-08	2.76	3.01	13.56	1.34	22.46	7.29
2008-09	3.53	3.69	12.13	1.48	20.22	6.32
2009-10	3.07	3.42	10.3	1.15	18.36	6.22

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 16 Hypothesis results and analysis of Federal Bank

Parameters	MEAN		VARIANCE		t-test	Decision
	PRE	POST	PRE	POST		
Operating Profit	2.8720	2.8900	0.1969	0.1834	0.0653	No significant impact
Net Interest Margin	3.0140	3.2900	0.0133	0.0723	2.1096	Significant impact
Return on Equity	18.4840	16.0160	16.9397	31.9261	0.7895	No significant impact
Return on Assets	0.7200	1.3260	0.0247	0.0150	6.7983	Significant impact
Capital Adequacy Ratio	11.0940	17.6440	0.2140	15.8158	3.6581	Significant impact
Return on Investment	9.6440	6.8860	3.8813	0.3595	2.9947	Significant impact
Critical value at 5% level of significance is 2.3060						

As per the Table: 14 and Table: 15 all the ratios considered for the study indicate that there is no impact of the merger on the acquirer bank of Ganesh Bank of Kurundwad. But as per the table 16 results of hypothesis at 5% level of significance and at 2.3060 critical value, for some parameters, there is no significant impact and for some factors, there is a significant Impact of the merger on the Federal Bank. Based on the calculated value and tabulated value, hypothesis results are analyzed and it is indicated that there is a significant impact with respect to Net Interest Margin, Return on Assets, Capital Adequacy Ratio and return on Investment and no significant impact with respect to Operating profit and Return on Equity.

Table:17 Pre-merger ratio analysis of HDFC

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2003-04	2.77	3.68	20.61	1.45	8.1	11.66
2004-05	2.87	3.79	18.45	1.47	12.16	6.79
2005-06	3.17	4.08	17.74	1.38	11.41	6.84
2006-07	3.11	4.21	19.46	1.33	13.08	6.98
2007-08	3.36	4.66	17.74	1.32	13.6	7.18

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 18 Post merger ratio analysis of HDFC

(Values in percentages)

YEAR	Operating Profit	Net Interest Margin	Return on Equity	Return on Assets	Capital Adequacy Ratio	Return on Investment
2008-09	3.27	4.69	17.17	1.28	15.69	7.41
2009-10	3.17	4.13	16.3	1.53	17.44	6.78
2010-11	2.35	2.34	9.65	1.35	19.54	6.19
2011-12	3.05	4.19	18.69	1.77	16.52	7.72
2012-13	3.1	4.28	20.34	1.9	16.8	7.48

(Source: Statistical tables relating to banks in India, Official website of Reserve Bank of India)

Table: 19 Hypothesis testing results and analysis of HDFC

Parameters	MEAN		VARIANCE		t-test	Decision
	PRE	POST	PRE	POST		
Operating Profit	3.0560	2.9880	0.0562	0.1340	0.3486	No significant impact
Net Interest Margin	4.0840	3.9260	0.1493	0.8339	0.3563	No significant impact
Return on Equity	18.8000	16.4300	1.5204	16.7321	1.2404	No significant impact
Return on Assets	1.3900	1.5660	0.0046	0.0707	1.4334	No significant impact
Capital Adequacy Ratio	11.6700	17.1980	4.6914	2.1089	4.7401	No significant impact
Return on Investment	7.8900	7.1160	4.4644	0.3885	0.7856	No significant impact
Critical value at 5% level of significance is 2.3060						

As per the Table: 17 and Table: 18 indicate that there is no impact of the merger on the operating efficiency and financial health of the acquirer bank since all the ratio analysis of the parameters considered for the study is good before and after the merger activity. And also table 19 shows the results of hypothesis at 5% level of significance and at the critical value of 2.3060, very clear that there is no significant impact on the acquirer bank with respect to all the parameters considered for the study. These positive results happen because the HDFC bank acquired the business of centurion bank for the expansion of the size of the business and also to have the benefits of scope economics but not for restructuring or strengthen weak banks. Therefore, there is no point of impact of the merger on the acquirer bank. So, the overall performance of the acquirer bank and the merged bank’s financial health and operational efficiency is good.

Findings of the study

- The ratio analysis and mean values of Bank of Baroda shows that there is an increase with respect to all the parameters considered for the study except return on Investment and also hypothesis results stating that there is no significant impact of the merger on its operating efficiency.

- The mean values and hypothesis results of Indian Overseas Bank have been showing that there is a significant impact of the merger with respect to operating profit, Net Interest Margin, Return on equity and return on investment and there is no impact on Return on equity and Capital Adequacy Ratio.
- The mean values and hypothesis results of Indian Overseas Bank shows that there is a significant impact of the merger on the overall operating efficiency of the banks.
- The mean values of ICICI bank show that there is no impact of the merger on the operating efficiency of the banks.
- The mean values of the Federal Bank show that there is no impact of the merger but hypothesis results show that there is no significant impact with respect to operating profit and return on equity but remaining all other parameters are showing that there is a significant impact.
- The mean values and hypothesis results show that there is no impact of the merger on HDFC in terms of its operating efficiency with respect to all the parameters considered for the study.

Conclusion

The new economic environments of the 1990s and after the introduction of financial sector reforms have facilitated Mergers and Acquisitions between banks which contributed for efficient performance and also the development and development of weak banks in terms of financial performance and operational efficiency. But it can be concluded the improvement in terms of various parameters can be identified with supported relative information of their own. The policymakers have to identify factors which influences the performance of the banks as a base for framing policies relating to Mergers and Acquisitions in the service sector and to identify the areas of improvement for better operational and performance for the banks. The merger, in general, is considered as a strategic tool for the participants in merger activity for gaining certain synergies. The study focused on the pre and post-merger performance of three public sector banks i.e Bank of Baroda, Indian Overseas Bank and Oriental Bank of Commerce and three private sector banks i.e ICICI, Federal Bank and HDFC, who have participated in mergers for different reasons. Overall growth is observed in the performance of both the banks in key parameters, and productivity ratios, and the same is ascertained by employing the statistical tools. There is some impact of the merger on the acquirer banks especially banks participated in the merger activity to restructure the weak banks but there is no impact on the banks which involved in the mergers for expansion of its business. Finally, mergers and acquisition in the Indian banking sector is moving towards the growth and expansion of the banking sector in India and witnessing as a great roadmap for economic development.

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