#### A Study on Indian Banking IndustryPerformance in Pre and Post Merger and Acquisition

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#### Abstract

In today's age of competition to get bigger market share, profitability and economies of scale etc., Mergers and Acquisitions have become the most widely used business strategy. The present paper is to explore various reasons of merger in Indian banking industry. This includes various aspects of bank mergers. It also compares pre and post merger financial performance of merged banks with the helps of financial parameters like, Gross Profit ratio, Net Profit ratio, operating Profit ratio, Return on Capital Employed, Return on Equity, and Debt Equity Ratio.

The present paper analyses the financial performance of the selected three banks based on the financial ratios from the perspective of pre and postmerger. To analyze the impact of merger paired t-test was applied to the various financial ratios for before and after merger data. The findings received from the analysis of the pre and post merger and acquisition periods clearly shows that the banks performance is significantly good after the merger than before the merger.

**Key words:**Merger & Acquisition, Banking, Financial Performance, Indian Banks. **Classification Code:** L10

### **INTRODUCTION**

Banking industry plays a very important role in the economic growthof a country. Mergers and Acquisitions have become a positive way for growth in the size of banks which in turn play a significant role in entering the competitive global financial market. The Indian banking sector can be divided into two eras, the pre liberalization era and the post liberalizationera.In preliberalization era government of India nationalized forteen banks on19 July 1969 and later on six more commercial banks were nationalized on 15 April1980.Inthe year1993 government merged The New Bank of India and The Punjab National Bank and this was the only merger between nationalized Banks, after that the numbers of nationalized Banks reduced from twenty to nineteen .In postliberalization regime, government had initiated the policy of liberalization and licenses were issued to the private banks, which lead to the growth of Indian Banking sector. Mergers and Acquisitions in Indian banking sector have been initiated in response to the various economic reforms introduced by the government of India since 1991, in its move towards liberalisation, privatisation and globalisation. On the recommendation of Narshimam Committe I (1991), Narshimam committee II (1997) and Verma Committee (1999) policy makers cautiously introduced various reforms in the Indian Banking Sector. The main objective of these reforms was to improve the efficiency of the Indian banks and to promote a diversified and competitive financial system.

#### LITERATURE REVIEW

To provide an insight into Merger and Acquisition an extensive review of literature was done. Several studies have been conducted to examine the impact of M & A on different aspects of the banking sector.

VardhanaPawaskar(2001)studied the impact of mergers on corporate performance.It compared the pre- and post-mergeroperating performance of the corporations involved in merger between 1992 and 1995 to identify their financial characteristics and identified the profile of the profits.

Tambi(2005) evaluated the impact of mergers on the performance of acorporation of India.

Mehta Jay, Kakani Ram Kumar (2006)probed into various motivations behind mergers and acquisitions in the Indian Banking sector. The paper also looked at the international mergers and acquisition scenario and compared it with the Indian scene.

Dewan Astha (2007)evaluated the post merger financial performance of the acquirercompanies in India.

Abook titled, "Mergers & Acquisitions in the BankingSector-The Indian Scenario", written bySelvam.M(2007)has analyzed the implications of stock price reactions to mergers and acquisitions activities taken place in banking industry with special reference to private and public sector banks.

Hijzen Alexander et al., (2008) studied the impact of cross border Merger and Acquisitions (M&As) and analyzed the role of trade cost, and explained the increased in the number of cross border Merger and Acquisitions (M&As) and used industry data of 23 countries over a period of 1990 -2001.

Badreldin Ahmed and Kalhoefer Christian (2009)in their study measured the performanceof Egyptian banks, by calculating their return on equity using the basic Return On Equity (ROE) scheme that had undergone mergers and acquisitions during the period 2002-2007. The findings of the paper suggest that bank M&A in Egypt has not shown significant improvement in performance and ROE.

Bhan Akhil (2009)in his paper gives an insight into the motives and benefits of the mergersin Indian banking industry. The study examined eight merger deals of the Indian banks during the period 1999 to 2006.

Azhagaiah&Kumar(2011), in their study tested hypothesis concerning whether there is significant improvement in the corporate performance of Indian manufacturing corporate firms following the merger event using pairedt-test. The study findings indicate that Indian corporate firms involved in M&A have achieved an increase in the liquidity position, operating performance, profitability, and reduce financial and operating risk.

Azha gaiah and Sathish Kumar(2011), in their study related to short-run profitability of acquirer firms in India, selected 10 acquiring firms from chemical industry evaluated them based ratios such as Gross profit ratio, Operating profit ratio and Net profit ratio.

Antony Akhil (2011), in an analysis "Post-merger Profitability of Selected Banks in India" examined the impact of the banks merged in India from 1999 to 2011.Between 1999 and 2011,around18 M&A took place in the Indian banking sector.

Khan Azeem Ahmad (2011) evaluated the performance of banks after merger in terms of Gross Profit Ratio, net profit ratio, operating profit ratio, return on capital employed, debt equity ratio and return on equity.

Ramon, A.A., Onaolapo and Ajala, O. Ayorinde (2012)examined the effects of merger andacquisition on the performance of selected commercial banks in Nigeria. Gross earnings, profit after tax and deposit profile was chosen as financial efficiency parameters for thepurpose of study. The findings indicated an enhanced financial performance leading to improved financial efficiency.

Devarajappa S (2012)in their research explored various motives of merger in the Indianbanking sector. It further compared pre and post merger financial performance of merged banks by using various financial parameters. The result suggested that post merger, the financial performance of the banks have improved, particularly, the return on equity, debt-equity ratio and Gross Profit ratio have shown significant improvement after the merger. Saluja Rajni, Sharma Sheetal, Dr. Lal Roshan (2012)evaluated the impact of merger on thefinancial performance of HDFC Bank by using CAMEL Model. The study concluded that financial performance of HDFC Bank improved in post merger period in almost all parameters of CAMEL Model that is capital adequacy, asset quality, management capability, earning quality and liquidity.

Sharma M.C. and Rai Mahima (2012)in their study identified the objectives of mergers and acquisition in the Indian Banking sector. Further they analyzed the financial performance of the merged banks through the model of EVA. The study concluded that there was positive effect of mergers although it takes some time to show.

Gupta Himani (2013)analyzed the impact of mergers and acquisition on financial efficiency of banks in India by comparing selected pre and post merger indices. Gross earnings, profits after tax and net assets of the selected banks were taken as indices for comparison.

#### **OBJECTIVE OF THE STUDY**

The objective of the paper is to study the result of merger and acquisitions on the financial performance of the selected banks in India. Pre and post merger comparison is conducted on selected variables to analyse the effectiveness of mergers and acquisitions on the banks.

- 1. To analyze the impact of merger of Bharat Overseas Bank on the financial performance of Indian Overseas Bank.
- 2. To analyze the impact of merger of Centurian Bank of Punjab on the financial performance of HDFC Bank.

3. To analyze the impact of merger of Bank of Rajasthan on the financial performance of ICICI Bank.

### **RESEARCH HYPOTHESIS**

The following null and alternate hypotheses have been formulated to test the objectives of the study:

**Ho**: There is no significant difference between pre-merger and post-merger financial performance of the banks.

Ho1: There is a significant difference between pre-merger and post-merger financial performance of the banks.

# **RESEARCH METHODOLOGY**

For the purpose of analysis of the study data is collected from merger and Acquisition (M&As) of Indian Banking Industry. The data of banks is collected from banks annual reports to examine the impact of merger on financial performance of the banks.

To test the result, a comparision of the pre and post performance of the selected banks after the merger has been adopted by using following financial ratios such as Gross Profit ratio, Net Profit ratio, Return on Capital Employed, Return on Equity and Debt Equity Ratio excludingthe year of merger in each case. The pre merger (three years prior) and post merger (after three years) of the financial ratios being compared. The year of merger is considered as base year and denoted as 0 and it is excluded from the evaluation. Keeping in view the purpose and objective of the study independent T-test being employed under this study. Pairedt-test is applied to find whether there is significant difference in ratios before and after merger of the selected banks.

### ANALYSIS AND INTERPRETATION

# Merger of the Indian Overseas Bank (acquirerbank) and Bharat Overseas Bank (acquired bank) on 31Mar,2007

Indian Overseas Bank (IOB) was founded on 10<sup>th</sup> February1937 by Shri MC Chidambaram Chettyar, with the twin objectives of specialising in foreign exchange business andoverseas banking, with three branches at Chennai, Karaikudi and Rangoon. The status of IOB as on March 31, 2012 is, the Total income stood at Rs19,578.13 crore as against Rs 13,326.56 crore registered during the same period last financial year. For the full year, the total business went up by 24 percent to Rs 3,21,707 crore from Rs2,59,020 crore.

The table 1 presents the data of various financial ratios of Indian overseas bank. In the premerger scenario for the considered four years, the following financial ratios Gross profit ratio, Operating profit ratio and Debt equity ratio exhibited mixed trend but the Net profit ratio, Return oncapital employed and Return on equity showed an increasing trend.

In the post merger scenario, it was seen that Gross profit ratio, Net profit ratio, Operating profit ratio and Return on capital employed showed decreasing trend for the considered period but Return on equity and Debt equity ratio showed a mixed trend.

	Before merger4 years				Aftermerger4 years			
Financial	Ason	Ason	Ason	Ason	Ason	Ason	Ason	Ason
Ratios	31Mar'	31Mar	31Mar'	31Mar'20 06	31Mar'	31Mar'	31Mar'	31Mar'
	2003 (-4)	'2004(- 3)	2005 (-2)	(-1)	2008 (+1)	2009 (+2)	2010 (+3)	2011 (+4)
Gross	77.44	78.48	77.63	75.45	87.14	89.79	79.43	79.06
Profit								
Ratio								
NetProfit	11.93	13.65	16.48	17.77	15.08	13.75	6.90	8.86
Ratio				8				
Operating	62.52	58.75	57.39	58.92	77.00	73.95	68.27	68.93
Profit								
Returnon	1.01	1.08	1.28	1.31	1.18	1.09	0.53	0.59
Capital								
Employed								
Returnon	93.54	94.11	119.55	143.78	220.69	243.35	129.76	173.33
Equity								
Debt-	83.30	77.48	82.29	94.10	166.44	195.78	219.85	265.99
Equity								
Ratio								

Table1. Financial Ratios of Indian Overseas Bank Pre& Post Merger

Source:Financial statement of Indian Overseas Bank retrieved from money control.com

		Mean	S.D	t-value	p-value
GrossProfitRatio	Pre	77.26	1.27	-2.146	0.121
	Post	83.86	5.44		
NetprofitRatio	Pre	14.97	2.66	3.872	0.031*
	Post	11.15	3.90		
OperatingProfitRatio	Pre	59.40	2.18	-4.531	0.020*
	Post	72.05	4.17		
Returnon Capital	Pre	1.17	0.16	3.363	0.044*
	Post	0.85	0.34		
Employed					
Returnon Equity	Pre	112.75	23.99	-4.390	0.022*
	Post	191.79	50.61		
Debt-EquityRatio	Pre	84.29	7.12	-5.487	0.012*
	Post	212.02	42.10		

**Table2.** AnalysisofFinancialRatiosofIndian Overseas Bank

# Note:\*Significantat 5 percent

Table 2 presents the descriptive statistics and analysis of the various ratios of Indian overseas bank. The average ratios of Gross profit ratio, Operating profitratio, Return on equity and Debt equity ratio of post merger was found to be more compared before merger. This indicates that in the post merger scenario the financial performance of the Indian overseas bank has improved in terms of these ratios. However, them ean ratios of Net profit ratio and Returnon capital employed of post merger were found to be less compared to pre merger.

To know whether there is significant difference in the financial ratios before and after merger, paired t-test is applied using SPSS. The summary of the analysis presented in table2. The Net profit ratio, Operating profit ratio, Return on capital employed, Return on equity and Debt-Equity ratio the p-value is less than 5 percent, it can be concluded that there is significant difference in these ratios before after merger. For Gross profit ratio the p-value was greater than 5 percent so it can be concluded that there is no significant difference before and after merger.

# Merger of HDFC Bank Ltd. (acquirer bank) and Centurian Bank of Punjab (acquired bank) on 23 May, 2008

In 1994, as a part liberalisation of bank in industry by RBI the Housing Development Finance Corporation Limited(HDFC) was the first private bank to receive approval in principle.ThebankwasincorporatedinAugust1994inthenameof 'HDFCBankLimited'.HDFCB ankcommencedoperationsasaScheduledCommercialBank inJanuary 1995.

OnMay 23,2008, themergerofCenturionBankofPunjabwithHDFCBank which is considered as one of the biggest merger indomestic banking was formally approved by ReserveBankofIndia.

Thetable3presentsthedataofvariousfinancialratiosofHDFCbank. Inthepre mergerscenario for theconsidered 3years, the followingfinancialratiosGross profit ratioand showed a declining

trend, Return on equity and Debit equity ratio exhibited increasing trend. However, Operating profit ratioand Return on capital employed showed mixed trend.

	Before	eMerger 3 ye	ears	After merger 3years			
Financial Ratios	As on 31	As on 31	As on 31	As on31	As on 31	As on 31	
Natios	Mar'2005	Mar'2006	Mar'2007	Mar'2009	Mar'2010	Mar'2011	
	(-3)	(-2)	(-1)	(+1)	(+2)	(+3)	
GrossProfit	74.1718	71.1233	69.9402	74.7621	74.6645	76.2925	
Ratio							
Netprofit	21.5148	19.4572	16.5690	13.7454	18.2322	19.7026	
Ratio							
Operating	53.1167	46.0083	47.9309	54.6142	51.1214	54.5386	
ProfitRatio							
Return on	1.2941	1.1846	1.2511	1.2249	1.3255	1.4156	
Capital							
Return on	214.7799	278.0800	357.3843	527.7516	644.1844	843.9674	
Equity							
Debt-Equity	134.3883	192.7486	222.6535	342.0413	393.9357	479.2908	
Ratio							

Table3. FinancialRatios of HDFC Bank

Source:CompilationfromfinancialstatementofBanks retrieved frommoneycontrol.com

Inthepostmergerscenario, it was observed that Grossprofitratio, Net profitratio, Return on capital employed, Return on equity and Debtequity ratio showed increasing trend for the considered period of 3 years but Grossprofitratio and Operating profitrations showed amixed trend.

Table 4presentsthedescriptivestatistics and analysis of the various ratios of HDFC bank. The mean values of almost all the ratios Gross profit ratio, Operating profit ratio,

Returnonequity,ReturnoncapitalemployedandDebitequityratioexceptNetprofit ratiowas found to be more aftermergercompared before merger. This indicates that in the postmergerscenariothefinancialperformanceofHDFCbankhasimproved intermsof these ratios.Toknowwhether there is significant difference in the financial ratios before and after merger, paired t-test is applied using SPSS.

		Mean	Std.Deviation	t-value	p-value
GrossProfit	Pre	71.74	2.18	-4.480	0.046*
Ratio	Post	75.23	0.91		
NetprofitRatio	Pre	19.18	2.48	4.185	0.053
	Post	17.22	3.10		
OperatingProfitR	Pre	49.01	3.67	-2.825	0.106
atio	Post	53.42	1.99		
Returnon	Pre	1.24	0.05	-1.492	0.274
CapitalEmployed	Post	1.32	0.09		
Returnon Equity	Pre	283.41	71.45	-2.923	0.100
	Post	671.96	159.92		
Debt-	Pre	183.26	44.89	-3.365	0.078
EquityRatio	Post	405.08	69.30		

Table4. Analysis of Financial Ratios of HDFC Bank

Note:\*Significantat5percent

Source:FinancialstatementofHDFC Bankretrieved frommoneycontrol.com

Thesummary of the analysis presented in table 4. Except Gross profitratioal lother ratios Net profitratio, Operating profitratio, Returnon capital employed, Returnon equity and Debt-Equityratio the p-value is greater than 5 percent and can be concluded that there is no significant difference in these ratios before after merger.

### MergerofI C I C I bank(acquirerbank)andBankofRajasthan (acquiredbank)

Table 5 indicates the profile of ICICI Bank and Bank of Rajasthan before merger. Table 6 depicts the post merger financial performance of ICICI bank. Table 7 shows mean and standard deviation of pre-merger and post merger ratios of combined i.e. The Bank of Rajasthan and ICICI bank and the acquiring bank i.e. ICICI bank.

It has been found that the mean value of the net Profit ratio has increased from 6.98% to 16.94% post merger with t-value 4.828 which is statistically significant at 5% significance level as the critical t-value is 2.776. The mean value of return on assets has significantly increased from 0.75% to 1.64% during post merger period as compared to pre-merger period with t-value of 4.546.Net interest ratio has also shown significant increase in the post merger period with mean value increasing from 2.25% to 3.05% and t-value 5.263. The increase in all these three ratios signifies that the profitability of the bank has significantly improved postmerger.

	Banl	c of Rajastl	han	ICICI Bank			
Ratios	As on 31/3/2008	As on 31/3/2009	As on 31/3/2010	As on 31/3/2008	As on 31/3/2009	As on 31/3/2010	
Profitability ratios							
Net Profit Ratio	9.75	7.81	-6.85	10.51	9.74	12.17	
Return on Assets	0.91	0.74	-0.58	1.12	0.98	1.13	
Net Interest Ratio	2.08	2.29	2.04	2.20	2.40	2.50	
Performance indicator							
Total Income/Capital Employed	8.60	9.35	8.83	10.62	9.90	8.90	
Return on Equity	16.62	11.86	-10.31	11.75	7.83	7.96	
CAR(Capital Adequacy Ratio)	11.87	11.50	7.52	13.97	15.53	19.41	
Efficiency indicator							
Credit Deposit Ratio	54.36	51.92	56.36	72.76	76.42	61.16	
CASA%	29.59	27.41	32.79	26.10	28.70	41.70	
Cost to Income	61.14	61.92	106	50	43.40	37	

# Table 5: Profile of financial ratios of The Bank of Rajasthan and ICICI Bank for three financial years prior to merger (in percentages)

Source: Annual Reports of banks, http://www.moneycontrol.com

 Table 6: Profile of financial ratios of The ICICI Bank for three financial years post

 merger (inpercentages)

	ICICI Bank			
Ratios	As on 31/3/2012	As on 31/3/20013	As on 31/3/2014	
Profitability ratios				
Net Profit Ratio	15.75	17.19	17.96	
Return on Assets	1.50	1.66	1.76	
Net Interest Ratio	2.73	3.11	3.33	
Performance indicator				
Total Income/Capital Employed	9.17	9.44	9.65	
Return on Equity	11.20	13.10	14.02	
CAR(Capital Adequacy Ratio)	18.52	18.74	19.08	
Efficiency indicator				
Credit Deposit Ratio	64.12	66.27	69.60	
CASA%	43.50	41.90	42.90	
Cost to Income	42.91	40.50	38.20	

Source: Annual Reports of banks, http://www.moneycontrol.com

Table 7: Mean and Standard Deviation of Pre-merger and Post-merger Ratios of
combined (The Bank of Rajasthan & ICICI Bank) and Acquiring Bank (ICICI Bank)

		Mean	Std. Deviation	t-value
Profitability ratios				
	Pre	6.98	3.45	
Net Profit Ratio				4.83*
	Post	16.94	0.92	
	Pre	0.75	0.32	
Return on Assets				
	Post	1.64	0.11	4.55*
	Pre	2.25	0.08	
Net Interest Ratio				
	Post	3.05	0.25	5.26*
Performance indicator			-	
	Pre	9.36	0.35	
Total Income/Capital Employed				
	Post	9.42	0.2	0.25
	Pre	7.25	6.65	
Return on Equity				
	Post	12.72	1.18	1.40
	Pre	13.24	0.24	
CAR(Capital Adequacy Ratio)				
	Post	18.78	0.23	28.68*
Efficiency indicator				
	Pre	61.90	2.25	
Credit Deposit Ratio				
	Post	66.63	2.25	2.57
	Pre	30.95	4.35	
CASA%				
	Post	42.76	0.66	4.66*
	Pre	58.47	6.75	
Cost to Income		10.10		
	Post	40.49	1.92	-4.43*

Note : \* significant at 5 percent,

Source: compilation based on tables 5&6

As of the performance indicators, the mean values of total income/capital employed and return on equity has increased but they are statistically not significant with t-values of 0.248 and 1.402 respectively. Therefore,  $H_0$  (null hypotheses) is accepted which leads us to infer

that there is no significant difference between pre and post merger total income/capital employed and return on equity ratio. Capital Adequacy ratio has shown favourable change after merger, with mean value increasing from 13.24% to 18.78% and t value 28.68 which is statistically significant. So,  $H_0$  (null hypotheses) is rejected leading to the acceptance of  $H_1$ (alternate hypotheses).

In efficiency indicator though the credit deposit ratio has improved from 61.90% to 66.63% with t value 2.568 but the increase is not statistically significant indicating there is no significant difference between pre and post merger performance in terms of credit deposit ratio leading to the acceptance of H<sub>o</sub> (null hypotheses). The performance of bank has also improved in terms of CASA from mean value of 30.95% before merger to 42.76% post merger with t value 4.647 which is statistically significant and consequently H<sub>o</sub> (null hypotheses) is rejected and H<sub>1</sub> (alternate hypotheses) is accepted at 5% level of significance. The increase in CASA signifies a significant enhanced stable low cost deposit base. The pre and post merger average of cost to income ratios have decreased from 58.47% to 40.49%. The change is significant with t value -4.435, resulting in the rejection of  $H_0$  (null hypotheses). The significant decrease in this ratio highlights that post merger the banks' costs are falling as compared to income, hence indicating that after merger the bank is being run more efficiently leading to increased profitability. The aforesaid analysis indicates that as the majority of financial parameters have significantly improved after the merger, so it can be inferred that the merger strategy has been beneficial for Bank of Rajasthan and ICICI Bank.Consequently H<sub>1</sub> (Alternate Hypotheses) is accepted which leads us to conclude that there are significant differences between pre and post merger performance in terms of net profit ratio, Return on assets and net interest ratio.

#### CONCLUSION

Thebankingindustryisoneofthefast growingindustriesinIndia.Ithastransformed itselffromasluggishbusinessentity toadynamicindustry. Thegrowthrateinthissectoris remarkableandithasbecomethemostpreferred banking destinationsforinternational investors. In the last two decades, there has been paradigm shift in Indian banking industries.A dimensionintheIndianbanking relativelynew industry hasacceleratedthroughmergersandacquisitions. Mergersinbankingsectorareaform ofhorizontalmergerbecausethemergingentitiesare involvedin thesamekindofactivity.By thewayof Mergersandacquisitionsin achieve thebanking sector, thebankscan significantgrowth in theiroperations, minimize theirexpenses

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competitorsfrom thebanking industry.Merger is the useful tool for growth and expansion in Indian Banking Sector. It is helpful for survival of weak banks by merging into larger bank. This study shows that impact of merger on financial performance of Indian Banking industry. For this a comparison between pre and post merger performance examined in terms of different ratios. In the present study , most of the ratios have shown the improvement after the merger and for the purpose and objective of the study, we applied ttest for analyzing the pre and post merger performance of banks and result suggested that after the merger the financial performance of the banks have increased.

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