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Impact of Merger on Firm's Performance-A Case Study on Select Private Banks

KEYWORDS Mergers and acquisitions, banks, economic value added

Dr. (Mrs.) G.SANTHIYAVALLI	K.ABIRAMI
Professor of Commerce, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore- 641043.	Research Scholar-Dept of Commerce, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore- 641043

ABSTRACT *The primary motive of mergers and acquisitions is to reduce competition and protect existing markets. The study focuses on pre and post merger financial performance of acquiring banks with the help of financial parameters like return on equity, net interest margin, net profit, burden ratio, business per employee, profit per employee, advance deposit ratio, investment deposit ratio and the overall impact of mergers and acquisitions on acquiring bank. Paired t-test is used for testing the statistical significance of the ratios of the select banks. Mergers help banks to strengthen their financial base to expand their operation and reduce their cost of operation. The results of the study indicate that the banks have been positively impacted by the event of mergers and acquisitions. The results suggest that banks had improved efficiency and increased the shareholders value through strategic mergers.*

INTRODUCTION

In the globalized and liberalized business environment, merger and acquisition act as an important strategy for the growth and expansion of the Indian economy. The main motive behind the merger and acquisitions is to create synergy and economies of scale. Merger and acquisitions help companies in getting the benefits of greater market share and cost efficiency. In current business market, only big players can survive as there is a cut throat competition and the success of the merger depends on how well the two companies integrate themselves in carrying out day to day activities. Merger and Acquisitions are business strategy for achieving larger size, increased market share, faster growth, synergy, diversification and financial planning for becoming more competitive through economies of scale. A merger is that when two or more entities join together to form a new entity with the existing owners. On the other hand, when one company takes over another company and clearly well-known itself as the new owner, this is known as acquisition.

The progress of Indian banking sector can be divided between two eras- the pre liberalization and the post liberalization period. In pre liberalization period, the Government of India nationalized 14 Banks on 19 July 1969 and later on 6 more commercial Banks were nationalized on 15 April 1980. In the year 1993 government merged The New Bank of India with Punjab National Bank. This was the only merger between nationalized Banks and that the numbers of nationalized Banks were reduced from 20 to 19. Financial sector reforms set in nation in 1991 have greatly changed the face of Indian Banking. The banking industry has moved from a regulated environment to deregulated environment. The banks in India have set in i) consolidation of players through merger and acquisition ii)gobalisation of operations iii)development of new technology iv) universalisation of banking. The Indian Banking Sector showed a sign of improvement in performance and efficiency after the global crisis in 2008-09. Government has taken various initiatives to strengthen the financial system during the period. The economic recovery gained strength on the back of a variety of monetary policy initiatives taken by the Reserve Bank of India. In the last ten years, the ICICI Bank and the HDFC bank in the private sector, involved themselves as a bidder Banks in merger and acquisitions (M&As) in the Indian Banking Sector. A brief profile of the two banks is presented below.

ICICI Bank Ltd

ICICI Bank Ltd is the leader among the private sector commercial banks and the second largest bank in India. ICICI Bank Ltd was incorporated in the year 1994 as a part of the ICICI group as ICICI Banking Corporation Ltd. In September 10, 1999, the name of the bank was changed to ICICI Bank Ltd. In March 10, 2001, ICICI Bank acquired Bank of Madura, an old private sector bank, in an all-stock merger. In April 2007, Sangli Bank Ltd merged with the ICICI Bank with effect from April 19, 2007. In August 2010, as per the scheme of amalgamation, Bank of Rajasthan with its 463 branches was amalgamated with the ICICI Bank with effect from the close of business on 12 August 2010. ICICI Bank has a network of 3,800 branches and 11,162 ATM's as on March 2014.

HDFC Bank Ltd

HDFC Bank Ltd was incorporated on August 30, 1994 by Housing Development Finance Corporation Ltd as part of the RBI's liberalization of the Indian Banking Industry. HDFC Bank commenced operations as a scheduled commercial bank in January 1995.In February 2000, Times Bank Ltd, owned by Bennett, Coleman & Co. Times Group amalgamated with the HDFC Bank Ltd. This was the first merger of two private banks in India. Later Centurion Bank of Punjab Ltd was amalgamated with HDFC Bank with effect from May 23, 2008. In October 2008, HDFC Bank opened its first overseas commercial branch in Bahrain. HDFC Bank has a network of 3,488 branches and 11,426 ATM's in 2231 cities across India as on June 2014.

Literature Review

Mr.DebaprosannaNandy (2010) found the need for mergers in the banking sector with the analysis through various numerical techniques like ratios, percentage and rate of growth to measure the performance of the banks to support the merger programme. Sony Kuriakose (et.al) (2010) states the synergies arising from the increased efficiency, cost savings, economics of scale etc are the principal factors behind the voluntary amalgamations in the Indian

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banking sector. Azeem Ahmad Khan (2011) had compared pre and post merger financial performance of merged banks with the financial ratios. Finally mergers and acquisitions resulted with the benefit to the equity shareholders in the form of dividend. Sinha Pankaj (2011) had concluded merger and an acquisition has positive effect on the firm's profitability. S.S.Rajan (2011) examined the technical efficiency and productivity performance of Indian scheduled commercial banks, for the period 1979-2008. Ajay Pandey (2001) had examined that there is substantial valuation gains for target firms through takeovers. To evaluate the performance accounting ratios and paired "t"-test are used. Schiereck Dirk (2009), had examined the relationship between bank reputation after Merger and Acquisitions and its effects on shareholder's wealth. Mr.Pawan Sharma (2012) analyzed the pre and post merger impact on share price fluctuations with reference to ICICI Bank. Valeriya dingel (2011) found the impact of merger and market characteristics on the rigidity of bank interest rate in bank mergers. A.K.Vashisht (2012) states the effectiveness of merger on shareholder wealth through Economic Value Added (EVA) as performance measurement tool in Indian banking industry.

OBJECTIVES OF THE STUDY

Following are the objectives of the current study.

- To evaluate the impact of merger on the profitability and productivity of select banks.
- To analyze the merger impact on its shareholder value using EVA of the select banks.

Methodology

The impact of merger on the performance of select Banks-ICICI Bank Ltd and HDFC Bank Ltd was studied based on the secondary data collected for a period of six years covering three years before and three years after the last merger. A set of profitability ratios and productivity ratios were analysed. The concept of Economic Value Added (EVA) was applied to understand the impact of merger on shareholder wealth. A set of profitability and productivity ratios are presented in the below mentioned Table.

Table:1 Profitability and productivity ratios of select banks with abbreviations and formulas

	Ratios	Abbreviations	Formulas
	Profitability		
1.	Return on equity	ROE	(Profit after tax/Net worth) x100
2.	Net interest margin to total assets	NIM to TA	(Net interest income/total assets)x100
3.	Non- interest income to total assets	NII to TA	(Non- interest income/total assets)x100
4.	Net profit to Total assets	NP to TA	(Net profit/total asset)x100
5.	Burden ratio	-	((Non interest income-non interest expense)/average Total asset)x100
	Productivity		
6.	Advance to Deposits	Adv.to Dep.	(Advances/Deposits)x100
7.	Investments to Deposits	Invst to Dep.	(Investment/Deposit)x100
8.	Business per employee	-	(Revenue/No.of employees)
9.	Profit per employee	-	(Net income/No.of employees)

- ROE measures the profit of the bank generated with the money invested by the shareholders.
- NIM to TA ratio states the average interest margin of the bank.
- NII to TA measures the operational efficiency of the bank.
- NP to TA ratio is the strong indicator of profitability which helps the investors for the investment decisions.
- Low burden ratio is always better for the growth of the bank.
- Adv. to Dep. ratio states banks lending out of the deposits mobilized.
- Invt. to Dep. ratio states the investments made out of the deposits mobilized.
- Business per employee states the average business done by an employee.
- Profit per employee is the average profit per employee made out of the business.

Economic Value Added

EVA method is the invention of the Stern Steward & Co launched in 1989 and it links the finance to the competitive strategy framework. It is also an indicator of the value which is created in the company. EVA is a measure which goes beyond the rate of return and considers the cost of capital (earnings after cost of capital).

EVA=NOPAT-(WACC*CE)

(NOPAT is the net operating profit after tax, WACC is weighted average cost of capital at the minimum rate of return on capital required to compensate equity and debt investors for bearing risk, CE is capital employed)

NOPAT=Net profit+ Interest expenses on borrowed funds

$WACC = (W_d * K_d) + (W_e * K_e)$

(W_d is weight of debt, W_e is weight of equity, K_d is cost of debt that includes the amount paid as interest for the borrowings from the outsiders (deposits, debentures and other borrowed funds).K_e is cost of equity , the return (often expressed as a rate of return) a firm pays to its equity investors).

Cost of debt (K_d) = (interest expenses*(1-tax rate))/total borrowings.

A tax rate of 30 percent per year was assumed to maintain consistency over years in the study.

Cost of equity (K_e) = Rf +Beta(Rm-Rf)

(where Rm is the average market return and Rf is the risk free rate). In the study Rf is taken as same for the select banks i.e.365 days Treasury bills rate.

Beta $\beta = N(\sum xy) - (\sum x)(\sum y) \div N(\sum x2) - (\sum x)2$.

Beta can be defined as a risk measuring factor. Higher the beta value, higher the risk and vice versa. Beta value in the study is calculated based upon the stock prices and NIFTY for each year. N refers to the number of observations. x is the variable of NIFTY index in the market, y is the variable of respective bank's share value in the market.

Capital employed=Net worth+ total debt+ other liabilities and provisions,

(Net worth= sum of equity share capital and reserves, Total debt= deposits and borrowings).

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LIMITATIONS OF THE STUDY

- The study takes into account only quantitative information. The qualitative aspects such as service delivery, management efficiency and customer satisfaction do not form part of the study.

Results and discussion

Generally the performance of a business entity is analysed based on its profitability and productivity. Tables 2 and 3 present a set of profitability ratios of ICICI Bank Ltd and HDFC Bank Ltd to study the impact of merger. The results are tested using paired t-test.

Ho: There is no significant difference in the profitability ratios of select banks before and after merger.

H_1: There is significant difference in the profitability ratios of select banks before and after merger.

Table: 2 Profitability ratios of ICICI Bank for the period 2007-08 to 2013-14 (in percent)

Year	ROE	Ratio of NIM to TA	Ratio of NII to TA	Ratio of NP to TA	Burden ratio
2007-08	8.95	1.82	2.22	1.04	0.62
2008-09	7.59	2.20	2.15	0.99	0.35
2009-10	7.79	2.23	2.06	1.11	0.42
Mean	8.27	2.01	2.18	1.01	0.49
SD	0.73	0.21	0.08	0.06	0.14
*2010-11	9.35	2.22	1.64	1.27	0.76
2011-12	10.70	2.19	1.53	1.32	0.89
2012-13	12.48	2.58	1.55	1.55	0.79
2013-14	13.39	2.76	0.80	1.64	0.84
Mean	12.19	2.51	1.29	1.50	0.85
SD	1.37	0.29	0.43	0.17	0.05
"t"-value	-3.46 (0.075***)	-8.14 (0.015**)	4.12 (0.054***)	-5.17 (0.035**)	-7.02 (0.020**)

Source: Capitaline plus database, *merger period, fig. in the ( ) indicates the significance, ***significantat 0.10 percent level.significant at 0.05 percent level.**

Table: 3 Profitability ratios of HDFC Bank for the period 2005-06 to 2011-12. (in percent)

Year	ROE	Ratio of NIM to TA	Ratio of NII to TA	Ratio of NP to TA	Burden ratio
2005-06	16.43	3.46	1.65	1.18	0.19
2006-07	17.74	3.79	1.75	1.25	0.03
2007-08	13.83	3.92	1.71	1.19	-0.21
Mean	16.00	3.73	1.70	1.21	0.003
SD	1.99	0.24	0.05	0.04	0.20
*2008-09	14.91	4.05	1.89	1.22	0.04
2009-10	13.70	3.77	1.79	1.32	0.18
2010-11	15.47	3.80	1.56	1.41	0.26
2011-12	17.27	3.64	1.55	1.53	0.49
Mean	15.47	3.74	1.63	1.42	0.31
SD	1.78	0.08	0.13	0.10	0.16
"t" -value	0.26 (0.817)	-0.05 (0.965)	0.65 (0.581)	-3.51 (0.073***)	-1.47 (0.279)

Source: Capitaline plus database *merger period,fig. in the ( ) indicates the significance, ***significant at 0.10percent level.

Comparison of Tables 2 and 3 highlight the following-

- The average rates of ROE of ICICI Bank Ltd and HDFC Bank Ltd before the merger event were found to be at 8.27 percent and 16.00 percent respectively. After the announcement of merger scheme, with Bank of Rajasthan during 2010-11, the average rate of ROE of ICICI Bank Ltd had increased significantly to 12.19 percent and it was statistically significant. In case of Centurion Bank of Punjab merger with HDFC Bank Ltd during 2008-09 average rate of ROE of HDFC Bank Ltd declined marginally to 15.47 percent.
- The average ratios of net interest margin to total assets of ICICI Bank Ltd and HDFC Bank Ltd before the merger stood at 2.01 percent and 3.73 percent respectively. After the merger event the average ratio of net interest margin to total assets of ICICI Bank Ltd increased to 2.51 percent and it was found to be statistically significant. But in HDFC Bank Ltd, the average ratio of net interest margin to total assets remains more or less the same at 3.74 percent.
- The average ratios of non-interest income to total assets of ICICI Bank Ltd and HDFC Bank Ltd before the merger were at 2.18 percent and 1.70 percent respectively. After the merger, average ratio of non-interest income to total assets of ICICI Bank Ltd declined to 1.29 percent and it was statistically significant. In case of HDFC Bank Ltd, the average ratio of non-interest income to total assets declined to 1.63 percent.
- The average ratios of net profit to total assets of ICICI Bank Ltd and HDFC Bank Ltd before the merger were1.01percent and 1.21 percent respectively. After the merger, average ratio of net profit to total assets of ICICI Bank Ltd increased to 1.50 percent and it was statistically significant .In HDFC Bank Ltd the average ratio of net profit to total assets also increased marginally and stood at 1.42 percent.
- The average burden ratios of ICICI Bank Ltd and HDFC Bank Ltd before the merger were 0.49 percent and 0.003 percent respectively. After the merger, average burden ratio of ICICI Bank Ltd increased to 0.85 percent and it was statistically significant. In case of HDFC Bank Ltd the average burden ratio was also higher at 0.31percent.

Tables 4 and 5 present the productivity ratios of ICICI Bank Ltd and HDFC Bank Ltd.The results are tested using paired t-test.

Ho: There is no significant difference in the productivity ratios of select banks before and after merger.

H_1: There is significant difference in the productivity ratios of select banks before and after merger.

Table: 4 Productivity ratios of ICICI Bank for the period 2007-08 to 2013-14.

Year	Adv. to Dep. ratio(%)	Invst to Dep. ratio(%)	Business per employee (Rs.in Crs)	Profit per employee (Rs.in Crs)
2007-08	92.30	45.59	10.08	0.10

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2008-09	99.98	47.19	11.54	0.11
2009-10	89.69	59.84	7.65	0.09
Mean	93.99	50.88	9.76	0.10
SD	5.35	7.80	1.97	0.01
*2010-11	95.91	59.70	7.35	0.10
2011-12	99.31	62.45	7.08	0.11
2012-13	99.19	58.57	7.35	0.14
2013-14	102.04	53.33	7.47	0.14
Mean	100.18	58.11	7.30	0.13
SD	1.61	4.57	0.19	0.02
"t" -value	-1.62 (0.246)	-1.03 (0.413)	2.07 (0.175)	-2.59 (0.122)

Source: Capitaline plus database *merger period,fig. in the ( ) indicates the significance.

Table: 5 Productivity ratios of HDFC Bank for the period 2005-06 to 2011-12.

Year	Adv. to Dep. ratio(%)	Invst. to Dep. ratio(%)	Business per employee (Rs.in Crs)	Profit per employee (Rs.in Crs)
2005-06	62.84	50.89	7.58	0.07
2006-07	68.73	44.75	6.07	0.06
2007-08	62.94	49.01	5.06	0.05
Mean	64.83	48.22	6.24	0.06
SD	3.37	3.14	1.27	0.01
*2008-09	69.24	41.18	4.46	0.04
2009-10	75.16	35.01	5.90	0.06
2010-11	76.69	34.00	6.53	0.07
2011-12	79.21	39.51	6.54	0.08
Mean	77.02	36.17	6.32	0.07
SD	2.04	2.93	0.37	0.01
"t" -value	-5.08 (0.037**)	6.17 (0.025**)	-0.09 (0.934)	-0.87 (0.478)

Source: Capitaline plus database *merger period, fig. in the ( ) indicates the significance, **significant at 0.05 percent level.

Comparison of Tables 4 and 5 highlight the following-

- The average ratios of advances to deposits of ICICI Bank Ltd and HDFC Bank Ltd 3 years before the merger were 93.99 percent and 64.83 percent respectively. Post the merger, 3 years average ratio of advances to deposits of ICICI Bank Ltd increased to 100.18 percent and in HDFC Bank Ltd the average ratio of advances to deposits also increased to 77.02 percent and it was statistically significant.
- The average ratios of investment to deposits of ICICI Bank Ltd and HDFC Bank Ltd before the merger were 50.88 percent and 48.22 percent respectively. After the merger, average ratio of investment to deposits of ICICI Bank Ltd was higher at 58.11 percent. In case of HDFC Bank Ltd the average ratio of investments to deposits declined to 36.17 percent and it was statistically significant.
- The average business per employee of ICICI Bank Ltd and HDFC Bank Ltd before the merger wereRs.9.76 Crs and Rs.6.24 Crs respectively. After the merger, average business per employee of ICICI Bank Ltd declined to Rs.7.30Crs and the HDFC Bank Ltd showed a growth on average business per employee and stood at Rs.6.32Crs.
- The average profit per employee of ICICI Bank Ltd and HDFC Bank Ltd before the merger wereRs.0.10Crs and Rs.0.06Crs respectively. After the merger, average profit per employee of ICICI Bank Ltd increased to Rs.0.13Crs and in case of HDFC Bank Ltd, the average ratio of profit per employee was higher at Rs.0.07 Crs.

Tables 6 and 7 reveal the EVA of the ICICI Bank Ltd and HDFC Bank Ltd

The results are tested using paired t-test.

Ho: There is no significant difference in the EVA of select banks before and after merger.

H_1: There is significant difference in the EVA of select banks before and after merger.

Table: 6 Economic Value Added of ICICI Bank during 2007-08 to 2013-14.

Year	NOPAT (Rs.in.Crores)	Cost of Capital employed (Rs.in.Crores)	EVA (Rs.in.Crores)
2007-08	27641.97	20501.36	7140.61
2008-09	26484.07	20245.98	6238.08
2009-10	21617.55	18484.43	3133.11
Mean	25247.86	19743.92	5503.93
*2010-11	22108.53	20293.24	1815.29
2011-12	29273.76	24035.58	5238.17
2012-13	34534.65	24284.28	10250.37
2013-14	37513.07	29426.29	8086.78
Mean	33773.83	25915.38	7858.44
"t"-value			-1.09 (0.387)

Source: Capitaline plus database *merger period,fig. in the ( ) indicates the significance.

Table: 7 Economic Value Added of HDFC Bank during 2005-06 to 2011-12.

Year	NOPAT (Rs. in.Crores)	Cost of Capital employed (Rs.in.Crores)	EVA (Rs.in.Crores)
2005-06	2800.28	86.09	2714.18
2006-07	4320.90	104.10	4216.79
2007-08	6477.31	215.86	6261.44
Mean	4532.83	135.35	4397.47
*2008-09	11156.04	498.36	10657.67
2009-10	10735.00	63.60	10671.39
2010-11	13311.48	281.86	13029.61
2011-12	20156.61	884.47	19272.14
Mean	14734.36	409.98	14324.38
"t" -value			-6.36 (0.024**)

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Computed. *merger period, **significant at 0.05percent level.

- Comparison of Tables 6 and 7 highlight the fact that the average EVA of ICICI Bank Ltd and HDFC Bank Ltd 3 years before the merger scheme stood at Rs.5503.93 Crs and Rs.4397.47Crs respectively. After the announcement of merger event of Bank of Rajasthan with ICICI Bank Ltd during 2010-11 the 3 years post merger average EVA of ICICI Bank Ltd was higher at Rs.7858.44Crs.In HDFC Bank Ltd the3 years post merger, average EVA increased significantly to Rs.14324.38Crs and it was statistically significant.

CONCLUSION

The study was an attempt to identify the impact of merger on banking industry in India. Merger is one of the important strategies for the business firms to improve profitability, ensures better productivity and to create shareholder value. It must be as well as remembered that the overall growth of the banks depends not only on merger strategy but also on the economy of the country. Significant changes are noticed in key profitability ratios (ROE, NIM to TA, NP to TA, Burden ratio) and productivity ratios (Adv. to Dep., Invt to Dep., Business per employee, profit per employee) of ICICI Bank Ltd and HDFC Bank Ltd. Recently, RBI Governor Raguram Rajan has made three important observations regarding merger of banks. First, merging two unhealthy banks in the financial system will create an unhealthy entity that would lead to creation of a bigger problem in the economy. Secondly, merger of an unhealthy bank with a large healthy bank would bring problems to the acquiring bank. Third, in the event of a merger of a weak bank with strong bank, the acquirer will have to deal with cultural problems that arise out of merger, besides dealing with the challenges-the bad loan pile in the weak bank creating difficulties for the strong bank. The comparative analysis of EVA of select banks under the study found that merger had added value for both ICICI Bank and HDFC Bank which predominantly showed an increasing trend in the shareholder value after the merger event.

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