



UGC Approved Journal

IJELLH

**International Journal of English Language,
Literature in Humanities**

Indexed, Peer Reviewed (Refereed) Journal

ISSN-2321-7065

Impact Factor : 5.7



Editor-in-Chief

**Volume V, Issue XI
November 2017
www.ijellh.com**

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Mergers in Banking Sector in India: An Analysis of Performance of HDFC Bank

ABSTRACT

Mergers in India in general have experienced an increased number in various sectors especially after the New Economic Policy in the year 1991 which has opened the doors for the global markets. Banking Sector in India has witnessed many Mergers during the years for various reasons such as Restructuring of Weak Banks; Economies of Scale; Expansion of Market; Business Consolidation etc. Looking into 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 but subsequently a few Mergers also have taken place voluntarily in the Post Liberalisation Period between various banks for several reasons. In this context, the study of performance of the banks that have merged voluntarily assumes importance.

The objectives of the Study are

- ✓ To analyse the pre and post merger performance of the key parameters of HDFC Bank
- ✓ To analyse the Employee Productivity and Branch Productivity of HDFC Bank

The study is based on secondary data. CAGR and T tests are employed for analysing the data.

Key Words: Merger; Voluntary Merger; CAGR

Introduction

Mergers and Acquisitions in the recent past have become the driving force of the world economy and have played a significant role in the strategy of many banks in the last few years. Considerable research in this area shows that the reasons for mergers are varied; therefore, studies typically do not find just one motive but several motives and reasons for mergers. The major reasons and motives for Mergers can be both internal and external such as Maximization of the value of the acquiring firm; Globalization; Deregulation and Technological Progress¹. Mergers and acquisition in banks are very common all over the globe. These trends were seen in the early 50's in the countries like USA, United Kingdom, Japan, and European countries.

Mergers in India

Much earlier than the practice in USA and ^{Europe}, Merger in Indian Banking Sector was seen in the case of Imperial Bank of India, which was formed by the amalgamation of the three Presidency Banks, The Bank of Calcutta; The Bank of Bombay & The Bank of Madras, in the year 1921; which later was renamed as State Bank of India on 30th April 1955². Reserve Bank of India allows the mergers between various types of banks such as merger between two Public Sector Banks; One Public and One Private Sector Bank; between two Private Sector Banks; between Banks and Financial Institutions.

Mergers in India in general have experienced an increased number in various sectors especially after the New Economic Policy in the year 1991 which has opened the doors for global markets. Banking Sector in India has witnessed many Mergers during the years for various reasons such as Restructuring of Weak Banks; Economies of Scale; Expansion of Market; Business Consolidation etc. Looking into 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 but subsequently a few Mergers also have take place voluntarily in the Post Liberalisation Period between various banks for several reasons. In this context, the study of performance of the banks that have merged voluntarily assumes importance.

Review of Literature

1. Marek Badík¹ in the article “Motives and Reasons of The Bank Mergers in the EU” has studied reasons and motives for mergers in Banking Sector in European Union.
2. Subramanya Prasad², in his thesis, “Mergers and Acquisitions in the Indian Banking Sector: An Analytical Study” has evaluated the post-merger efficiencies of Indian commercial banks (acquiring banks) which have undergone mergers during the post-reform period and analyzed the factors influencing the commercial bank efficiency in the Indian context and concluded with a positive note stating that the select banks’ efficiency improved post merger
3. Seema C. Petkar³ in the thesis “Mergers and Acquisitions in Indian Banking Industry – With Special Reference to ICICI and Sangli Bank” has studied about the Mergers and Acquisitions in the Indian Banking Sector during the last decade; also the impact of Mergers and Acquisitions on the stakeholders of ICICI and Sangli bank; and the perceptions of the employees.
4. Dr. Gajanan Bhakare & Adv Sareta Bhakare⁴ in the article “Mergers and Acquisitions in Banks: Impact on Small Banks” focused on the implications of merger on the performance of small banks.
5. Anand Manoj & Singh Jagandeep (2008)⁵ studied the impact of merger on the share holders of five banks Times Bank with the HDFC Bank, the Bank of Madurai with the ICICI Bank, the ICICI Ltd with the ICICI Bank, the Global Trust Bank with the Oriental Bank of commerce and the Bank of Punjab with the Centurion Bank. The study revealed that the announcement of merger of Banks had positive and significant impact on share holder’s wealth
6. Kuriakose Sony & Gireesh Kumar G. S (2010)⁶ analyzed the strategic and financial similarities of merged Banks, and relevant financial variables of respective banks and found that only private sector banks were in favour of the voluntary mergers.
7. Panwar (2011)⁷ studied the ongoing merger trends in Indian banking Sector from the viewpoint of two important stakeholders of banking firm- stockholders and managers were studied. The findings revealed that the trend of consolidation in Indian banking industry has so far been limited mainly to restructuring of weak banks and harmonization of banks and financial institutions. Voluntary mergers demonstrating market dynamics are very few and the study concluded that the Indian financial

system requires very large banks to absorb various risks emanating from operating in domestic and global environments

8. Azeem Ahmed Khan (2011)⁸ in his paper “Mergers and Acquisitions in Indian Banking Sector in Post Liberalisation Regime” explored various motivations of Merger and Acquisitions in the Indian banking sector. The result of the study indicated that the banks have been positively affected by the event of Merger and acquisitions. These results also suggested that merged banks could obtain efficiency and gains through Merger and Acquisitions and could pass the benefits to the equity share holders’ in the form of dividend.
9. Devarajappa S, (2012)⁹ in this article “Mergers in Indian Banks: A Study on Mergers of HDFC Bank Ltd and Centurion Bank of Punjab Ltd” explored various motives of merger in Indian banking industry. It also compared pre and post merger financial performance of merged banks with the help of financial parameters like, Gross Profit margin, Net Profit margin, operating Profit margin, Return on Capital Employed, Return on Equity, and Debt Equity Ratio. Finally the study indicates that the banks have been positively affected by the event of merger.

Research Gap

The above review of literature points to the fact that, studies have been made on Mergers relating mainly to the performance of select banks; analyse the problems and challenges of mergers; benefits to the stakeholders; Financial performance of the transferee bank after the merger. However, an analysis relating to Employee Productivity & Branch Productivity of the select Transferee Banks before and after the Mergers has not been done in the recent past. Hence, the study is undertaken to fill the research gap.

Objectives of the Study

The objectives of the Study are

- ✓ To analyse the pre and post merger performance of the key parameters of HDFC Bank
- ✓ To analyse the Employee Productivity and Branch Productivity of HDFC Bank

Methodology

- **Sources of Data:** The study is based on Secondary Sources which includes the Annual Reports of the Select Banks; RBI Database- Profile of Banks –various issues; research publications etc.

- **Period of Study:** The Period of the Study is pre and post merger period starting from 1995- 96 to 31st March 2017.
- **Sample Selection:** During the Post Liberalisation Period i.e., from 1991 to 31st March 2017, around 22 Mergers have taken place in the Banking Sector in India between various Banks. Some of them were forced mergers (Private Sector Bank merged with Public Sector Bank) and a few were voluntary in nature. HDFC Bank is the first Bank to participate in the Merger activity voluntarily and incidentally, it is the largest Private Sector lender Banks in India in terms of Assets; Market Capitalisation; Net Profit, as on 31st March 2017. Hence, selected for the study.

Deposits and Advances represent the volume of the business of the banks. These two parameters will have an impact on the profits of the bank. Therefore, the following hypothesis are framed and tested.

Hypothesis:

1. There is no significant difference in the performance before and after the merger.
 - a) Ho: There is no significant difference in the pre and post merger Deposits of HDFC Bank
H1: There is a significant difference in the pre and post merger Deposits of HDFC Bank
 - b) Ho: There is no significant difference in the pre and post merger Advances of HDFC Bank
H1: There is a significant difference in the pre and post merger Advances of HDFC Bank
 - c) Ho: There is no significant difference in the pre and post merger Profits of HDFC Bank
H1: There is a significant difference in the pre and post merger Profits of HDFC Bank
2. There is no significant difference in the employee productivity before and after the merger.
 - a) Ho: There is no significant difference in the Deposits per Employee of HDFC Bank
H1: There is a significant difference in the pre and post merger Deposits per Employee of HDFC Bank
 - b) Ho: There is no significant difference in the pre and post merger Advances per Employee of HDFC Bank

H1: There is a significant difference in the pre and post merger Advances per Employee of HDFC Bank

c) Ho: There is no significant difference in the pre and post merger Profits per Employee of HDFC Bank

H1: There is a significant difference in the pre and post merger Profits per Employee of HDFC Bank

3. There is no significant difference in the branch productivity before and after the merger.

a) Ho: There is no significant difference in the pre and post merger Deposits per Branch of HDFC Bank

H1: There is a significant difference in the pre and post merger Deposits per Branch of HDFC Bank

b) Ho: There is no significant difference in the pre and post merger Advances per Branch of HDFC Bank

H1: There is a significant difference in the pre and post merger Advances per Branch of HDFC Bank

c) Ho: There is no significant difference in the pre and post merger Profits per Branch of HDFC Bank

H1: There is a significant difference in the pre and post merger Profits per Branch of HDFC Bank

Tools for Analysis: The following tools are used for the analysis of the data apart from Percentages and Averages.

- ✓ **Employee & Branch Productivity ratios for** evaluating the employee efficiency and branch efficiency
- ✓ **CAGR:** to analyse the growth in Deposits; Advances and Profits
- ✓ **T test:** to test the Hypothesis as to whether there is any significant difference in the performance of HDFC Bank before and after the Merger.

Mergers in Banking Sector

The Government announced a New Economic Policy on July 24, 1991. The new policy deregulated industrial economy in a substantial manner. One of the steps taken to liberalize and globalize Indian economy were the wide-ranging Financial Sector Reforms in the Banking, Capital Markets, and Insurance Sectors, including the deregulation of interest rates, strong regulation and supervisory systems, and the introduction of foreign/private sector

competition². This phase has introduced many more products and facilities in the Banking Sector in its reforms measure.

Voluntary Mergers taken place during the Post Liberalisation Period in the Private Sector are the merger of Times Bank with HDFC Bank; Bank of Madura with ICICI Bank; Bank of Punjab with Centurion Bank; Lord Krishna Bank with Centurion Bank of Punjab; Sangli Bank with ICICI Bank; Centurion Bank of Punjab with HDFC Bank; Bank of Rajasthan with ICICI Bank and ING Vysya Bank with Kotak Mahindra Bank. Two mergers have taken place between Centurion Bank of Punjab and other Banks viz., one with Bank of Punjab during the year 2005 and the other one with Lord Krishna Bank during the year 2006; subsequently Centurion Bank of Punjab got merged with HDFC Bank in the year 2008.

In the Indian Banking Sector, after a slew of forced mergers, for the first time, HDFC Bank participated in a voluntary merger with Times Bank, a profit making bank, in the year 1999 - 2000 for reaping the benefits of merger. An attempt is therefore, made to study the performance of the bank, for the purposes of which certain parameters are identified and discussed in the following tables.

Analysis of Pre and Post Merger Performance of HDFC Bank

Key parameters such as Deposits; Advances; Profits; Number of Employees and Number of Branches for a period of one year before and one year after the merger of Times Bank with HDFC Bank is analysed to judge the performance of the bank after the merger and the same are presented in table 1.

Table 1

Merger of Times Bank with HDFC Bank: Pre & Post Merger Key Parameters of HDFC Bank

Key Parameters	Times Bank	HDFC ('99-00)	HDFC ('01-02)	% Increase
Deposits	3012	8427.72	17654	109.475
Advances	1312	3362.00	6814	102.677
Net Profit	27.06	120.04	364.84	293.858
No of Employees	541	1250.00	3742	199.360
No of Branches	35	111.00	166	49.550

Source: Compiled by the Author

From the above table it can be seen that, after the merger there is a tremendous increase in all the financial parameters, viz., Deposits, Advances and Net Profit with increase in Net Profits on top, though the increase in the Number of Branches is only to the extent of 49.55%, the increase in the financial parameters is more than proportionate increase reflecting the branch productivity.

As is seen in the above table, there has been an increase in all the key parameters of HDFC Bank, after the merger which could only mean that the synergies of the merger are met. However, to see whether the difference in the pre and post merger performance is significant or not, five year's pre and post merger analysis of the key parameters is done by employing the t test and is presented in table 2.

Five year's Pre & Post Merger Key Parameters of HDFC Bank

Table 2
Five year's Pre & Post Merger Key Parameters of HDFC Bank

Year	Deposits	Advances	Net Profit	No of Employees	No of Branches
1995-96	686	369	20.28	140	10
1996-97	1279	575	40.5	319	20
1997-98	2192	841.98	63.15	861	37
1998-99	2915	1400.56	82.4	827	57
1999-00	8427.72	3362	120.04	1250	111
Average	3099.944	1309.708	65.274	679.4	47
CAGR	60.34%	52.47%	47.65%	64.27 %	53.54%
Year of Merger	11658.11	4636.66	210.12	2751	131
2001-02	17654	6814	364.84	3742	166
2002-03	22376	11755	483.41	4791	215
2003-04	30409	17745	532.69	5673	295
2004-05	36354	25566	794.64	9030	446
2005-06	55797	35061	1099.48	14878	516
Average	23690.222	13303.332	477.14	5395.6	250.6
CAGR	29.82 %	40.10 %	31.76 %	32.49 %	25.67 %

Source: Compiled by the Author

It is evident from the table 2 that, there has been a considerable and consistent increase in all the five parameters across the years and the same is seen in the CAGR during the study period of five years pre and post merger period. However, CAGR is high in the pre merger period compared to the post merger period, the reasons for this could be, that, HDFC has been established in the year 1994 and captured the market with its efficiency during the pre merger period. After the merger with Times Bank, the growth rate slowed down, though there is increase in the business in absolute figures.

These figures only indicate the fact that, the Bank has been doing very well, by successfully generating increased amounts of Deposits; disbursing increased number of Advances; and there by achieving the business objectives by earning increased profits. T test is employed to see whether the difference in the parameters during the pre and post merger periods is significant or not, and the results are presented in table 3.

Table 3

T test Results of Pre & Post Merger Performance of Key Parameters of HDFC Bank

	Deposits	Advances	Net Profit	No of Employees	No of Branches
Pre Merger Mean	3099.944	1309.708	65.274	679.4	47
Post Merger Mean	32518	19388.2	655.012	7622.8	327.6
T stat	-5.539245279	-4.0081593	-5.142831503	-3.763205466	-5.579223492
T critical two tail	2.776445105	2.7764451	2.776445105	2.776445105	2.776445105
p value	0.005193066	0.0160211	0.006777984	0.019720067	0.005059765
Result	Reject Ho	Reject Ho	Reject Ho	Reject Ho	Reject Ho

Source: Calculated on values from table 2

The p values as per 't' test at 5% significance level in case of all the five Parameters is less than .05, and therefore, null hypothesis is rejected indicating that there is a significant difference in the performance, which means that, the performance of bank after the merger has improved.

The absolute values do not provide us complete information until and unless they are related to some other relevant information. Therefore, the Bank's performance in terms of Employee and Branch is studied.

Employee Productivity & Branch Productivity

Human resource is the most important asset of an organization and banking business is no exception to it. In the present study, employee productivity has been evaluated by taking three ratios, viz., Deposits per Employee; Advances per Employee and Profits per Employee. **Deposits per Employee** has been computed by dividing the amount of total deposits by the number of employees in the bank. **Advances per Employee** has been calculated by dividing the amount of total Advances by the number of employees in the bank; **Profits per Employee** has been ascertained by dividing the amount of Net Profit by the number of employees in the bank. Thus, higher the ratio per employee, higher the productivity per employee.

Branch Productivity is measured by taking three ratios, viz., Deposits per Branch; Advances per Branch and Profits per Branch. These ratios help in evaluating the efficiency of a bank at its branch level. The Productivity in terms of Business per Employee and Business per Branch and Profit per Employee and Profit per Branch of the HDFC bank are presented in table 4.

Table 4
Pre & Post Merger Productivity Ratios of HDFC Bank

Year	D/E	A/E	P/E	D/B	A/B	P/B
1995-96	4.900	2.636	0.145	68.600	36.900	2.028
1996-97	4.009 (↓)	1.803 (↓)	0.127 (↓)	63.950 (↓)	28.750 (↓)	2.025 (↓)
1997-98	2.546 (↓)	0.978 (↓)	0.073 (↓)	59.243 (↓)	22.756 (↓)	1.707 (↓)
1998-99	3.525 (↑)	1.694 (↓)	0.100 (↑)	51.140 (↓)	24.571 (↑)	1.446 (↓)
1999-00	6.742 (↑)	2.690 (↑)	0.096 (↓)	75.925 (↑)	30.288 (↑)	1.081 (↓)
Average	4.5628	1.9277	0.0961	65.956	27.866	1.3888
Year of Merger						
2001-02	4.718 (↑)	1.821 (↑)	0.097 (↑)	106.349 (↑)	41.048 (↑)	2.198 (↑)
2002-03	4.670 (↓)	2.454 (↑)	0.101 (↑)	104.074 (↓)	54.674 (↑)	2.248 (↑)
2003-04	5.360 (↑)	3.128 (↑)	0.094 (↓)	103.081 (↓)	60.153 (↑)	1.806 (↓)
2004-05	4.026 (↓)	2.831 (↓)	0.088 (↓)	81.511 (↓)	57.323 (↓)	1.782 (↓)
2005-06	3.750 (↓)	2.357 (↓)	0.0739 (↓)	108.13 (↑)	67.948 (↑)	2.131 (↑)
Average	4.2659	2.543448602	0.085928005	99.26129426	59.18253968	1.999426129

Source: Compiled by the Author

In table 4, from the five years Pre Merger and five years Post Merger Employee Productivity ratios and Branch Productivity ratios, it is clear that, throughout the ten year period none of the ratios has exhibited a symmetrical pattern. Interestingly, all the ratios have exhibited a decreasing trend for the years 1996 -97 and 1997-98, though there was an increase in the absolute figures of all the Parameters as seen in table 2. In respect of all the three ratios of Branch productivity, a tremendous increase is observed after the merger, when compared with pre merger results.

Having started its business in the year 1994, HDFC Bank went on building up its strength by going in for more recruitments and expansion of branches in the initial years in order to increase their business volume; therefore, the percentage increase in the key parameters is less than the percentage increase in the number of Employees and Branches.

T test is employed to see whether the difference in the performance of the three ratios between the Pre Merger and Post Merger period is significant or not and the results are presented in table 5.

Table 5

T Test Results of Pre & Post Merger Productivity Ratios of HDFC Bank

	D/E	A/E	P/E	D/B	A/B	P/B
Pre Merger Mean	4.344449134	1.959854891	0.108166116	63.77179991	28.65314651	1.657362447
Post Merger Mean	4.50494819	2.518056143	0.090839431	100.6300208	56.22913962	2.032891595
T stat	-0.171753661	-1.058900016	1.559570871	-14.8092711	-4.425660057	-2.172647575
T critical two tail	2.776445105	2.776445105	2.776445105	2.776445105	2.776445105	2.776445105
p value	0.871970331	0.349352227	0.193872655	0.00012104	0.005730241	0.047763349
Result	Accept Ho	Accept Ho	Accept Ho	Reject Ho	Reject Ho	Reject Ho

Source: Calculated on values from table 4

T test is employed to see whether the difference in the performance of the three ratios between the Pre Merger and Post Merger period is significant or not. The p values as per 't' test at 5% significance level in case of Deposits per Employee; Advances per Employee and Profits per Employee is more than .05, indicating that there is no significant difference in the performance, therefore null hypothesis is accepted.

The p values as per 't' test at 5% significance level in case of all the Deposits per Branch; Advances per Branch and Profits per Branch ratios is less than .05, indicating that there is a significant difference in their performance, therefore null hypothesis is rejected.

HDFC Bank was established in the year 1994 and went on with its first merger with Times Bank in the year 2000. The performance of the Bank with respect to certain Key Parameters before and after the Merger is presented in the above tables. Form the year 2000 - 01, the Compound Annual Growth Rate of the Key Parameters till the year ending 31st March 2017 is calculated and presented in table 6.

Compound Annual Growth Rate of Key Parameters of HDFC Bank

Table 6
Key Parameters of HDFC Bank: CAGR

Key Parameters	HDFC (2000-01)	HDFC (2016-17)	CAGR
Deposits	11658.11	643639.66	28.49%
Advances	4636.66	554568.2	34.85%
Net Profit	210.12	14549.64	30.32%
No of Employees	3742	84325	21.49%
No of Branches	131	4715	25.10%

Source: Compiled by the Author

The Compound Annual Growth Rate of the Key Parameters in the table 5 depicts a very promising picture, wherein, all the Key Parameters have recorded a high growth rate. The Advances of the Bank have recorded a highest growth rate of 34.85% followed by; Net Profit 30.32%; Deposits 28.49%; Number of Branches 25.10% and Number of Employees 21.49% that only substantiates the fact that HDFC is a top most Bank in the Private Sector Banks in India.

Conclusion

Merger is a useful tool for the growth and expansion as it helps the merged banks to consolidate their market positions this is more so in case of the strategic mergers, wherein, mergers take place with an idea of synergies. The impact of merger on the performance of HDFC Bank is studied, by making a comparison between the pre and post merger

performance in terms of Deposits, Advances, Business, Number of Employees and Number of Branches has been made. And the study reveals that, there is a significant improvement in the performance of the bank after the merger in respect of absolute figures.

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