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IMPACT OF BANK MERGERS ON EFFICIENCY OF BANKS IN INDIA

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ABSTRACT

This paper utilizes the non-parametric frontier approach, Data Envelopment Analysis (DEA), to analyze the technical and scale efficiency of HDFC and SBI bank during the merger year, pre-and post-merger period. For this purpose secondary data was collected from the RBI database. It is found that HDFC and SBI banks exhibited a commendable efficiency level from 2005 to2018 and thereby improving governance in these banks. Our results suggest that the merger program was successful for both HDFC and SBI banks, which have benefited from the merger and acquisition via economies of scale and simultaneously improving governance in these banks.

Keywords: *Efficiency, Merger and Acquisitions, Governance***,** *Data Envelopment Analysis*.

Introduction

Merger and acquisition is a major tool for an expansion of business in different countries. The researchers all over the world are taking keen interest to work in this field (Goyal & Joshi.2011) Minimization of cost and good financial planning are needed for the expansion of business of banks. All these initiatives are possible with the help of mergers and acquisitions. The banking sector being largest growing sector and the soundness of the banking sector is the key principle for the development of the country's economy. The banks adopt the merger and acquisitions to meet these changing scenarios in the banks.

The paper aims to analyse the effects of mergers and acquisitions on the efficiency of the State Bank of India and HDFC banks. Has the merger resulted in better efficiency and also good governance of these banks? The efficiency was measured using the Non-parametric Data Envelopment Analysis (DEA) The major finding of the study is that the merger program was successful in terms of efficiency. An efficient banking system is identified as a basic need for the economic development of the economy. A large network of bank branches, saving many kinds of financial needs of the people these are the main features of the banking sector. The State bank of India is a large bank in India currently. It is multinational in nature and a public sector bank. In 1806 the state bank of India was established in Kolkata and it's headquarter located in Mumbai. Currently, the bank is getting into a couple of new businesses with planned tie-ups. General Insurance, Pension Funds, Private equity, custodial services, mobile banking, structured products, advisory services, and point of sale Merchant Acquisition these are some tie-ups. Personal banking, Rural/ Agriculture, Small and Medium enterprise, domestic treasury, NRI services, International Banking, Corporate banking, government business all these services offered by the state bank of India. On 13 August 2008, the State bank of India merged with the State bank of Saurashtra. The HDFC bank is one of the private sector bank and financial services company headquartered in Mumbai. In August 1994 the bank was established by Mr. Aditya Puri. Credit cards, consumer banking, finance and insurance, investment banking, private equity, wealth management all these are the products of HDFC bank. In 2008, 23 May the HDFC bank merged with centurion bank.

The efficiency can be achieved only when the banks are soundly governed. The governance in the perspective lies in the hands of the administration of the banks. Thus, an efficient bank is highly governed.

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Meaning and Definition of Merger and Acquisition

Mergers, takeover, acquisitions, and consolidation have been a part of the business world. At present, the main aim of the organization is to maximize the shareholder's wealth. With the help of a merger and acquisitions company can develop a competitive advantage and maximize the shareholder's wealth. **Mergers and Acquisitions** happen when two or more organizations are tied together all or part of their operation. A merger is a combination of two or more organizations combines together into an existing organization. On the other hand, acquisitions are when one association buy most or all of another association's shares to gain control of that association. In the other wards acquisitions is one association taken over by the other. According to Sudarsanam (1995), a merger takes place when two or more corporations come together to contribute and share their resources to achieve common objectives. Pandey (2011), defines a merger is said to occur when two or more companies combine into one company. Kishore (2009) defined a "merger as a transaction involving two or more companies in the exchange of securities and only one company survives". Kithinji and Waweru (2007) describe a merger as a process in which one of the two companies loses its identity to make one firm. Greenwood et al, (1994) define, "A merger involves a blend of two companies, rather than mere legal enjoinment or absorption of one firm into another. Pandey, (2011), defines "Acquisition may be defined as an act of acquiring effective control over assets or management of a company by another company without any combination of business or companies". According to Depamphilis, (2008) Acquisition involves the purchase of another firm's assets or stock. There are different types of mergers and acquisitions, Horizontal merger, vertical merger, market-extension merger, product-extension merger, conglomerate merger, concentric merger, reverse merger, and forward merger.

Table 1: Major Merger and Acquisition in the Indian Banking Sector from FY 1990-2010

S.No	"Name of Transferor Bank	Name of Transferee Bank	Date of Amalgamation
1	Sikkim bank	Union Bank of India	22/12/1999
2	Times bank	HDFC bank	26/2/2000
3	Bank of Madura	ICICI bank	10/3/2001
4	Banaras State bank	Bank of Baroda	20/6/2002
5	Nedungadi Bank	PNB	1/2/2003
6	South Gujrat Local Area bank	Bank of Baroda	25/6/2004
7	Global Trust bank	Oriental bank of commerce	14/8/2004
8	Bank of Punjab	Centurion Bank	1/10/2005
9	IDBI bank	IDBI	2/4/2005
10	The Ganesh BNK OF Kurandwad	The Federal Bank	2/9/2006
11	United Western bank	IDBI	3/10/2006
12	Bharat Overseas bank	Indian Overseas Bank	31/3/2007
13	The Sangli bank	ICICI bank	19/4/2007
14	Lord Krishna bank	Centurion Bank of Punjab	29/8/2007
15	Centurion Bank of Punjab	HDFC	2008
16	Bank of Rajasthan	ICICI	2010
17	State bank of Indore	SBI	2010"

Source: www.rbi.org

Review of Literature

Mergers and acquisitions in the banking sector are increasing very fast over the last few years. The various studies have been conducted on mergers and acquisitions in the Indian banking sector it seems from the review of the literature**. Khan A.A. (2012**), in the study, examine the after merger operating performance appraisal of acquiring banks in term of profitability in the Indian banking Industry. The study used financial and accounting ratios like Operating profit margin, Net profit margin, Return on net worth, return on capital employed form the period 2000-2011. The independent sample t-test is applied to compare these ratios. In the end, the researcher concluded that banks did not have a positive effect after the merger in terms of profitability and M&A is a useful mechanism for growth and development in the Indian banking sector. **Kumar (2013)** examined the impact of mergers on the efficiency and profitability parameters of banks. The secondary data was collected from different websites, RBI bulletins, articles, annual reports, books, and the impact was analyzed different ratios such as profit per employee, business per employee, investment, advances, interest income, return on assets, net profit assets. The study concluded that there is an improvement in all the parameters of the banks after the merger. **Anderibom et al, (2015),** evaluated the effect of merger and acquisitions on the performance of commercial banks in Nigeria with a particular interest in united bank for Africa using CAMEL model by the period 2000-2006. The secondary data was used for this study and a further sample t-test was applied to this data. The study found that mergers and acquisitions had a positive effect on the performance of commercial banks in Nigeria. **Mantravadi, P. & Reddy A.V. (2007)** examine the impact of the merger on the operating performance of acquiring corporates of industrial reforms, by using the period 1991-2003. The study found that during the merger there are minor variations in terms of impact on Operating performance. **Singh & Tandon (2012)** has intended to study the financial performance and compare the financial performance of SBI (PSB) and ICICI Bank (Private Sector) using the ratios such as credit deposit, net profit margin by the period 2007-2008 &2011-2012. The mean and Compound growth rate was used to found the performance. The study found that the financial performance of SBI was better as compared to ICICI bank but in the perspective of deposits and expenditure, ICICI bank is managerial efficient than SBI. The study also showed that the ICICI bank faced the problem of funds from the year 2007-2008 to 2011-2012. This study concluded that the consumer's belief as people was more on Public Sector Banks than private sector banks. **Raiyan (2010)** in their study, examined the process of globalization and liberalization has noticeably, influenced the banking sector. The aim was his study is to analyze the success of M&A strategy in the banking sector by analyzing the financial performance of merged banks with the help of CAMEL such as capital, assets, management, earning, and liquidity. Further, this study selects the merger of banks such as Bank of Baroda, PNB, OBC, HDFC, ICICI, and CBOP. The study concluded that the private bank merged banks perform better and efficient as compared to public sector banks merged. **Singh &Gupta (2015)** evaluated the impact of mergers and acquisitions on the profitability and efficiency of selected banks in India. The financial profile of merged banks was analysed through various ratios for the period 2004-2005 to 2014-2015. Statistical tools are the arithmetic mean, standard deviation, t-test, the p-value was used to found the productivity and profitability. The study found that the various ratios "Net profit margin, operating profit margin, Return on capital employed, return on net worth, Interest coverage, Deposit per employed and Credit per employee, there is significant difference but there is no significant difference with Gross profit margin, Debt equity ratio, Current ratio, Quick ratio in the case of ICICI bank also found there is significant difference with Net profit margin, Return on net worth interest coverage ratio, Quick ratio but no significant difference with Gross profit margin, Debt equity ratio, Operating profit margin"**,** current ratio in the case of SBI bank. In conclusion, it has been implied that there is a significant difference between the pre and post-merger periods. **Kanta & Satyakana (2020),** deliberate the banks' relative efficiency of the Indian Nationalised banks and also examine the efficiency and profitability for the period 2013-2018 using Non-parametric analysis DEA, FDH (Free Disposal Hull). The result reveals that banks to contest and progress with some quantifiable guides. **Jlyalakshmi & Rani (2020)**, calculated the impact of mergers and acquisitions of Indian public sector bank on customer and employee. The secondary and primary data was used for the study and the covariance sampling method was apply to the data. The result reveals that there is a positive significant correlation between customer and employee.

Objectives

The main objective of the present study is to measure the impact of bank merger on efficiencyof State Bank of India and HDFC Bank.

Hypotheses of the Study

H_0: **(Null Hypothesis) =** The impact of merger on bank efficiency is negative.

H_1: **(Alternate Hypothesis) =** The impact of merger on bank efficiency is positive.

Research Design

The present study selects two banks to assess the efficiency of mergers and acquisitions of the Indian banking sector. The secondary data has been used to assess the efficiency of the selected banks. Data has been collect from 2005 to 2018pre-merger and post-mergers, of banks like State Bank of India merged with Bank of Saurashtra in 2008 and HDFC bank merged with Centurion Bank of Punjab in 2008. The year of the merger has been included in evaluating the efficiency of merged banks.

Methodology

The Data Envelopment Analysis (DEA) has been used for the study. The efficiency of the banks' pre and post-merger has been compared. To test the efficiency, the methodology of comparing the pre and post-merger performance of banks has been adopted, by using the following inputs and outputs. In the study researcher well thought out two output variables (Interest Income, Non-Interest Income) and three Input variables (Total Assets, Interest Expenses, and Non- Interest Expenses). The three-year pre-merger and ten-year post-merger of the ratios are being compared.

Concept of D.E.A Model

The term DEA represents for Data Envelopment Analysis. DEA developed by Charnes, Cooper, and Rhodes in 1978. It is a linear programming technique. This helps in measuring the performance and the proficiency of original units where the existence of various inputs and outputs makes correlations difficult. The DEA model involves the variable return to scale, constant return to scale, stochastic data envelopment analysis, and the estimation of the non-parametric stochastic frontier. It helps to estimate the productive efficiency of Decision Making Units (DMU'S).

Analysis, Interpretations and Results

Table 2: Efficiency Scores of Banks (Pre-Merger)

Numbers	Years	DMU	Score	Output-Inefficiency
B1	2005	1	1	0
B2	2005	2	1	0
B3	2006	3	1	0
B4	2006	4	1	0
B5	2007	5	0.978541	2.19E-02
B6	2007	6	1	0

Table 2 highlights the efficiency scores of two banks before the merger period namely SBI and HDFC bank, for three viz. 2005,2006, and 2007 the efficiency score shows 100% for all the year except the SBI bank in 2007 viz. inefficiency score 2.19E-02. Above the table depict that in the DMU odd numbers represent to the SBI bank and the even numbers represent to the HDFC bank.

Table 3: Efficiency Scores of Banks (Post-Merger)

Numbers	Years	DMU	Score	Output-Inefficiency
B1	2008	7	1	0
B2	2008	8	1	0
B3	2009	9	1	0
B4	2009	10	0.951370935	0.051114726
B5	2010	11	0.962502509	0.03895833
B6	2010	12	1	0
B7	2011	13	0.951884735	0.050547365
B8	2011	14	1	0
B9	2012	15	1	0
B10	2012	16	0.954337742	0.047847063
B11	2013	17	0.999957917	4.20851
B12	2013	18	0.951960605	0.050463638
B13	2014	19	0.935111623	0.06939105
B14	2014	20	0.967416682	0.033680749
B15	2015	21	0.98058268	0.019801818
B16	2015	22	0.969022894	0.031967362
B17	2016	23	0.9679026	0.033161808
B18	2016	24	0.976714402	0.023840744
B19	2017	25	0.983108408	0.01718182
B20	2017	26	0.987375432	0.012785985
B21	2018	27	0.960843033	0.04075272
B22	2018	28	1	0

Table 3 identifies the efficiency scores of the bank after the merger. Above the table classify that in the DMU odd numbers represent to the SBI bank and the even numbers represent to the HDFC bank. During the merger period (2008) both the banks have a 100% efficiency level. The table also indicates that the efficiency score of the bank after the merger of the SBI bank for two viz.2009, 2012 and the HDFC bank for three years 2010,2011, and 2018 the banks have a 100% efficiency level in the banking sector. On the other hand, expect these years both the banks depicts the inefficiency.

Conclusion

After applying the Non- Parametric Frontier approach, Data Envelopment Analysis, this paper examined the effect of the merger on the efficiency of the State Bank of India and HDFC banks. The sample period is divided into three years before the merger and ten years after the mergers to compare the difference in SBI and HDFC banks' efficiency. It was found that during the merger year, the State Bank of India and HDFC banks' overall efficiency level deteriorates significantly as compared to the post-merger period, which was mainly due to scale inefficiency. Despite that, the pre-merger State bank of India and HDFC bank's overall efficiency has a significant and higher compared to the post-merger period. So it can be concluded that efficient banks are well governed in the pre-merger period as compared to the post-merger period.

References

- Ambica, D. Mergers and Acquisition in Banking Sector in India: An Analysis of Pre & Post Merger Performance of Kotak Mahindra Bank, 4(3),
- Anderibom, Samuila, &Obute (2015). The Effect of Mergers and Acquisitions on the Performance of Commercial Banks in Nigeria: Evidenced from the United Bank for Africa (UBA) plc. International Journal of Education and Research, 3(4).
- BISWAL, S. K., & MISHRA, S. (2020). A non-parametric approach for exploring bank proficiency. A case of Indian nationalized banks. *Revista ESPACIOS*, *41*(01).
- Chanda, Kumar Dalip (2005). Bank Mergers in India: "A critical Analysis", IASSI Quarterly, Vol. XXIII, No. IV, pp.no. 107-123.
- Jeyalakshmi, P. R., & Rani, A. L. Merger and Consolidation of Indian Public Sector Banks-An Analysis., 3(1).
- Khan A. A. (2012). Post-Merger Financial Performance Appraisal of Acquiring Banks in India, A Case Analysis. International Journal of Research in Commerce &Management, 3(7), 172-175.
- Kumar, S. (2013). Impact of Bank Mergers on the Efficiency of Banks: "A study of merger of Bharat Overseas Bank with Indian Overseas Bank". International Journal of Academic Research in Business and Social Sciences, 3(12), 221.
- Mantravadi, Pramod and Reddy A Vidhyadhar (2007). "Mergers And Operating Performance: Indian Experience". The ICFAI Journal of Mergers and Acquisitions, Vol. IV No. IV, pp.no. 52-66.
- Mohan, K. (2006). "Mergers and Acquisitions for Consolidation in Indian Banking Industry": The Success Mantra, Management Trends, October – March, Vol. III, No. I, pp.no. 30-40.
- Pandey (2011). Corporate Restructuring, Mergers and Acquisitions, Financial Management, Vikas, Edition 10, pp. 758.
- Raiyani, J. R. (2010). Effect of mergers on efficiency and productivity of Indian banks: A CAMELS analysis. Journal of Management Research, *772-794.*
- Sahni, D., & Gambhir, S. (2018). Financial performance evaluation of indian commercial banks after merger and acquisition. Gurukul business review-gbr, *14*, 26-36.
- Singh, A. B, & Tandon, P. (2012). A study of financial performance: "A comparative analysis of SBI and ICICI Bank". International Journal of Marketing, Financial Services & Management Research, *1*(11), 56-71.
- Singh, G, & Gupta, S. (2015). "An impact of mergers and acquisitions on productivity and profitability of the consolidation banking sector in India". Abhinav International Monthly Refereed Journal of Research in Management & Technology, *4*(9), 33-48.

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