An Empirical Study on Performance Evaluation of Merger of Indian Banks

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ABSTRACT - The motivation behind the paper is to consider the financial performance of the commercial bank. It additionally looks at the pre and post-merger financial performance of merged banks with the assistance of financial parameters such as, Earning Per Share (EPS), Net Profit Margin (NPM), Operating Profit Margin (OPM), Return on Assets (ROA), Return on Equity (ROE), Credit to Deposit Ratio (CDR), Price to Book ratio, Enterprise Value, Basic Earnings per Share (B EPS), Dividend per Share (DPS). The investigation dependent on secondary data and the information gathered from 2005 to 2018. The paper considers 5 years pre and post-merger phase using T-test. The examination presumed that the mean value had increased in financial performance and there is a no significant difference during the pre and post-merger phase.

Keywords*: *Acquisition, DPS, EPS, Merger, ROE, ROA

I. INTRODUCTION

The Indian banking system comprises of 27 Public sector banks, 21 Private sector banks, 49 Foreign banks, 56 Regional rural banks, 1,562 Urban cooperative banks and 94,384 Rural cooperative banks, in addition to cooperative credit institutions. In FY07-18, all out loaning expanded at a CAGR of 10.94 percent and total deposits expanded at a CAGR of 11.66 percent. India's retail credit market is the fourth biggest in emerging countries. It expanded to US$ 281 billion in December 2017 from US$ 181 billion in December 2014.

According to the Reserve Bank of India (RBI), India's banking sector is adequately capitalized and well-regulated. The monetary and economic conditions in the country are far better than some other country in the world. Credit, market, and liquidity risk suggest that Indian banks are commonly flexible and have withstood the worldwide downturn well. The Indian banking industry has as of late seen the roll-out of inventive banking models like payments and small finance banks. RBI's new measures may go far in helping the restructuring of the domestic banking industry. The digital payments framework in India has developed the most among 25 countries with India's Immediate Payment Service (IMPS) being the main framework at level 5 in the Faster Payments Innovation Index (FPII)

KEY INVESTMENTS AND DEVELOPMENTS IN INDIA'S BANKING INDUSTRY INCLUDE:

- As of September 2018, the Government of India launched India Post Payments Bank (IPPB) and has opened branches crosswise over 650 districts to accomplish the objective of financial inclusion.
- The complete estimation of mergers and acquisition during 2017 in NBFC differentiated financial services and banking was US$ 2,564 billion, US$ 103 million and US$ 79 million respectively.
- The greatest merger deal of FY17 was in the microfinance segment of IndusInd Bank Limited and Bharat Financial Inclusion Limited of US$ 2.4 billion.
- In May 2018, total equity funding's of microfinance sector developed at the rate of 39.88 to Rs 96.31 billion (Rs 4.49 billion) in 2017-18 from Rs 68.85 billion (US$ 1.03 billion)

The merger means the two separate corporations merged with mutual consent. For the purpose of expansion,

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financial strength, growth etc. In the merger, we have a horizontal merger, vertical merger, conglomerate merger, circular merger. In 2010, SBI bank merged with state bank of Indore, IDBI bank merged with IDBI gilts limited and IDBI home finance limited in September and July respectively, ICICI bank merged with Bank of Rajasthan. In 2011 Axis bank merged with Enam securities private limited. In 2012 Indian bank merged with Indfund management limited. In 2014 HDFC bank merged with JM financial stock soars, IDFC bank merged with IDFC limited, Kotak Mahindra bank merged with ING Vysya bank ltd.

The bank is establishment authorized by a government to accept deposits, pay premium, clear checks, make advances, act as an intermediary in financial transactions, and give other financial services to its clients. Public Sector Banks: Public sector bank is a bank in which the government holds a major portion of the shares. Private Sector Banks: In these banks, the most majority of the value is possessed by private bodies, corporations, institutions or individuals rather than the government. These banks are managed and controlled by private promoters.

Three important considerations should be taken into account:

• The organization must be eager to take the risk and vigilantly make investments to benefit completely from the merger as the competitors and the industry takes heed rapidly.

• To reduce and expand risk, various bets must be made, in order to narrow down to the one that will prove fruitful

• The administration of the acquiring firm should figure out how to be strong, tolerant and have the capacity to adjust to the change attributable to regularly changing business elements in the industry

II. LITERATURE REVIEW

Singh and Mogla (2010): In this paper, they have taken both pre and post-merger profitability of acquiring firms. They take a sample of 153 merged corporate firms from 1993 to 2003, in this the firm will be categorized as loss-incurring firms and financially healthy firms that are 38 and 115 acquisitions respectively. The parameters considered for the study such as operating profit margin, net profit margin, return on net capital employed, return on net worth and net asset turnover ratio to know the profitability of acquiring firms. To evaluate the differences in the performance between pre and post-merger period's t-test is used.

Mahesh R & Daddikar Prasad (2012): The objective of the study is to study post-M&A influence on profitability standards of the surviving company in the Indian airline industry, to analyze the post-M&A effect on leverage standards of the surviving company in the Indian airline industry, to determine post-M&A liquidity position of the surviving firm in the Indian airline industry. Convenience sampling, they employed to select the sample, they take the companies from 2005-2010. Mean-variance and SD were utilized for descriptive statistics. The hypotheses are tested using Pearson correlation, paired sample t-test, and regression. The data analyzed with the help of SPSS and Ms excel. The conclusion is there is an insignificant improvement in ROE, EPS, and Dividend Per Share(DPS) post-merger.

Hamid B. Somali, Miro costa, David Hua (2013): The primary objective of this paper is to determine the factors of success and failure in M&As. In this, quantitative research focused on both pre and post-merger factors. The study from 2002 to 2011. Empirical study has attempted to check the success or failure of M&As. To determine the success of M&As some key factors they considered and the study concluded that M&As doesn't create any significant improvements for the firms and shareholders.

Ramachandran Azhagaiah, Thangavelu Sathishkumar (2014): The objective of the study is to analyze the effect of M&A on the attributes of operating performance vs. gross earnings, liquidity, financial risk (financial leverage), cost of utilization, turnover, growth, and operating leverage of acquiring manufacturing firms in India; and to study the shift-in-structure (improvement) in the operating performance of acquiring manufacturing firms in India in the post-merger period. They take 39 acquiring firms in India from 2002-2012. In the study, they utilized factor

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analysis, correlation matrix, multiple regression analysis, and the chow test. A Correlation coefficient is utilized to analyze one to one relationship between the selected variables. The study mainly based on secondary data. The acquiring firms have a significant shift in the structure with respect to operating performance in the post-merger period.

Achini Ambika (2015): The objective of the paper is to recognize the purpose behind the merger of ICICI bank and the bank of Rajasthan. Pre and post-merger bank performance it compares with the help of credit to deposit, capital adequacy, ROA, net profit margin, net worth, and ratio. Paired T-test utilized for the ratios and also to study the effect of M&As on the performance of banks. The study concluded that the merger effect on the bank positively.

Neha Duggal (2015): The objective of the study is to determine the impact of the merger on the financial performance in the post-merger period and to study the impact of the merger on the operating performance in the post-merger. They gather information from the secondary source from January 2000 to December 2006. A sample size of the study 14 mergers and the study concluded that mergers have a significant impact on the performance as compared to pre-merger

Dr. Yusuf Ali Khalaf Al-hroot (2015): The objective of the study is to analyze and determine the impact of the merger of Jordan Ahli bank on the financial performance and to decide whether a merger has improved the performance. This study collects data from both primary and secondary data. Paired sample T-test is utilized for the analysis. MS Excel and SPSS utilized for the analysis. They take the pre-merger period from 2001-2004 to post-merger period 2006-2009.

Dr. Veena K.P and prof. S.N Patti (2016): The objective of the study is to highlight the theoretical background and impact of pre and post-merger financial performance of ICICI bank, analyze the profitability ratio, liquidity ratio, leverage ratio. The data gathered from Secondary data from 2007-08 to 2016-2017. Independent sample T-test used for the analysis. The study concluded that post-merger performance standards are better compared to pre-merger performance.

Dr. Nidhi Tanwar (2016): The objective of the study is to evaluate the overall performance of merged banks on the basis of selected variables pre and post-merger. Data collected from 2006-2010 in the Indian banking sector. For the study, they utilized the Camel model and coefficient of variation also they apply to test the degree of variation.

Momodou Sailou Jallow, Massirah Masazing, Abdul Basit (2017): The main aim of this study is to identify and explore the effects of merger and acquisition on the company financial performance. In this, they have taken the 2011 merger and acquisition companies. The objective of the research paper is to examine the impact of merger and acquisition on ROA, ROE, EPS, NPM. They used descriptive and explanatory design, which is used to determine the causal effect between merger and acquisition on the financial performance of UK companies in 2011. A Causal research design is used when it comes to ROA, ROE, EPS, NI. Secondary data method they used for the collection of data.

Dr. Veena K. P and prof. S.N. Pathi (2017): The objective of the study is to analyze the pre and post-merger performance of net NPAs to the net, Gross NPAs to gross, total investment to total assets, Net NPAs to total assets. The secondary source they used to collect the data from 2011-12 to 2016-2017. For the analysis, they used the CAMEL rating approach system. The assets quality is to ascertain the component of non-performing assets, total investments, and total assets. For the analysis, they used one sample T-test, descriptive statistics. The study concluded that performance was more in all assets quality ratios compared to the pre-merger performance of Kotak Mahindra Bank.

Titto Varghese, Alfia Thaha (2017): The main objective of this study is to determine the impact of mergers on Kotak Mahindra bank performance, to compare the pre and post-merger performance of Kotak Mahindra Bank, to give suggestions based on findings of the study. The study is based on secondary data from 2013-2016. In that 2013 to 2014 considered for pre-merger and 2015 to 2016 considered as a post-merger, for the analysis arithmetic

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mean, average annual growth rate, standard deviation, correlation coefficient, and T-test. The study concluded that from 4 years is had a stable financial performance.

III. OBJECTIVE OF THE STUDY

1. To study the impact of mergers on the banking industry.
2. To compare the pre and post-merger performance of the banking industry with selected banks.

IV. SCOPE OF THE STUDY

This study is aimed at the performance evaluation of banks post-merger. This investigation can be extended by considering foreign banks. For this study, it includes only Indian banks. The t-test is utilized for the analysis. Different tools can be used for the analysis.

V. RESEARCH METHODOLOGY

The study is primarily based on secondary data. The financial data are collected from 2005 to 2018 and the data is collected from the capitaline database. The pre-merger and post-merger financial ratios being compared. For SBI, ICICI, IDBI 2005 to 2009 taken as a pre-merger and 2011 to 2015 taken as a post-merger, for Axis bank 2006 to 2010 taken as pre-merger and 2012 to 2016 taken as post-merger, for Indian bank 2007 to 2011 taken as a pre-merger and 20013 to 2017 taken as a post-merger, for HDFC, Kotak 2010 to 2013 taken as pre-merger and 2015 to 2018 taken as post-merger. For measuring the financial performance of the bank during pre and post-merger following ratios are used that is EPS, NPM, OPM, ROA, ROE, CDR, PBR, EV, BEPS, DPS

VI. ANALYSIS AND RESULTS

Table 1: Showing the list of Banks pre and post-merger year

Bank	Pre	M&A	Post
SBI	2005-2009	2010	2011-2015
ICICI			
IDBI			
Axis bank	2006-2010	2011	2012-2016
Indian bank	2007-2011	2012	2013-2017
HDFC	2009-2013	2014	2015-2019
IDFC			
Kotak			

Source: Author's computation

Table 1 shows the different stages of pre and post-merger for all the selected banks during the study period. Any merger and acquisition year is considered as the base year for the M&A activity.

ANALYSIS AND RESULTS DISCUSSION

Table 2: Showing the Mean of all the banks (pre and post-M&A)

Bank	Status	EPS	NPM	OPM	ROA	ROE	CDR	PBR	EV	B EPS	DPS
SBI	Pre	97.88	10.60	7.32	0.95	0.17	68.12	1.64	450579.38	134.22	18.20
	Post	131.18	9.51	-13.16	0.78	0.13	83.70	1.71	1384723.92	177.85	28.00
ICICI	Pre	30.93	9.99	-25.92	1.19	0.14	90.51	2.08	238976.61	29.28	9.80
	Post	54.10	22.32	-51.77	1.64	0.13	99.07	2.01	523109.81	64.00	15.70
IDBI	Pre	9.09	8.01	8.01	0.68	0.10	208.43	0.86	75624.84	8.19	1.65
	Post	11.46	6.47	6.47	0.60	0.10	84.87	0.68	239679.28	13.31	2.45
Axis bank	Pre	35.46	12.96	9.25	1.33	0.19	63.87	3.03	87670.39	37.52	7.20
	Post	59.61	19.99	-4.82	1.74	0.18	81.94	3.57	382441.10	84.91	12.72
66Indian bank	Pre	27.37	18.30	13.11	1.58	0.25	66.41	1.16	68249.10	29.67	10.60
	Post	24.16	7.71	7.71	0.65	0.10	73.76	0.62	159601.26	26.35	4.60
HDFC	Pre	48.20	18.35	1.56	1.70	0.18	76.67	4.15	334106.22	34.42	9.58
	Post	52.50	21.01	2.76	1.93	0.18	83.82	4.15	939394.94	56.66	10.38
Kotak	Pre	14.98	22.33	-38.08	1.78	0.15	96.88	5.24	78234.40	28.42	0.66
	Post	18.81	21.61	-29.70	1.66	0.13	87.24	5.88	279746.26	29.50	0.68

Source: Author's computation

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Table 2 depicts that the mean value of earnings per share for SBI, ICICI Bank, IDBI, Axis Bank, HDFC Bank, and Kotak bank increased from pre-merger phase to the post-merger phase. However, for Indian bank, the mean earning per share decreased from pre-merger phase to the post-merger phase. The mean value of net profit margin for ICICI, Axis Bank and HDFC bank increased from pre-merger phase to the post-merger phase. However, for SBI, IDBI, Indian bank and HDFC bank decreased from pre-merger phase to the post-merger phase. The mean value of Operating profit margin for HDFC bank increased from pre-merger phase to the post-merger phase. However, for SBI, ICICI Bank, IDBI, Axis bank, Indian bank, and Kotak bank decreased from pre-merger phase to the post-merger phase. The mean value of return on assets for ICICI, Axis Bank, HDFC bank increased from pre-merger phase to the post-merger phase. However, for SBI, IDBI, Indian bank and Kotak bank decreased from pre-merger phase to the post-merger phase. The mean value of return on equity for IDBI and HDFC bank equal from the pre-merger phase to the post-merger phase. However, for SBI, ICICI Bank, Axis bank Indian bank and Kotak bank decreased from pre-merger phase to the post-merger phase. The mean value of Credit to deposit ratio for SBI, ICICI Bank, Axis Bank, Indian bank and HDFC bank increased from pre-merger phase to post-merger phase. However, for IDBI and Kotak bank decreased from pre-merger phase to the post-merger phase. The mean value of Price to book ratio for SBI, Axis Bank and Kotak bank increased from pre-merger phase to the post-merger phase. And HDFC bank is equal from the pre-merger phase to the post-merger phase. However, for ICICI, IDBI, Indian bank decreased from pre-merger phase to the post-merger phase. The mean value of enterprise value for SBI, ICICI Bank, IDBI, Axis bank, Indian bank, HDFC Bank and Kotak bank increased from pre-merger phase to post-merger phase. The mean value of Basic EPS SBI, ICICI Bank, IDBI, Axis Bank, HDFC Bank, and Kotak bank increased from pre-merger phase to the post-merger phase. However, for Indian bank decreased from pre-merger phase to the post-merger phase. The mean value of Dividend per share for SBI, ICICI Bank, IDBI, Axis Bank, HDFC Bank, and Kotak bank increased from pre-merger phase to the post-merger phase. However, for Indian bank decreased from pre-merger phase to the post-merger phase.

Table 3: Showing the t-stat, P and Critical Value for SBI, ICICI, and IDBI Bank

Indicator	SBI			ICICI Bank			IDBI		
	t Stat	P(T<=t) two-tail	Decision	t Stat	P(T<=t) two-tail	Decision	t Stat	P(T<=t) two-tail	Decision
EPS	0.80	0.48	Accept H_0	2.18	0.09	Accept H_0	0.81	0.46	Accept H_0
NPM	-1.28	0.27	Accept H_0	-6.05	0.00	Accept H_0	-2.51	0.07	Accept H_0
OPM	5.41	0.00	Reject H_0	-2.46	0.07	Accept H_0	-2.51	0.07	Accept H_0
ROA	-1.76	0.15	Accept H_0	2.46	0.07	Accept H_0	-0.97	0.39	Accept H_0
ROE	-2.76	0.05	Accept H_0	0.35	0.74	Accept H_0	-0.07	0.95	Accept H_0
CDR	-4.41	0.01	Accept H_0	4.19	0.01	Reject H_0	2.21	0.09	Accept H_0
PBR	0.21	0.84	Accept H_0	0.15	0.89	Accept H_0	-1.76	0.15	Accept H_0
EV	10.99	0.00	Reject H_0	15.21	0.00	Reject H_0	22.21	0.00	Reject H_0
B EPS	0.81	0.46	Accept H_0	2.70	0.05	Accept H_0	1.39	0.24	Accept H_0
DPS	2.70	0.35	Accept H_0	1.86	0.14	Accept H_0	0.88	0.43	Accept H_0

Source: Author's computation

Table 3 depicts the hypothesis testing on selected banks for all the selected parameters. In most of the parameters, the null hypothesis is accepted for SBI, ICICI Bank and IDBI. In the case of operating profit margin and enterprise value, the null hypothesis is rejected. Therefore, there is a statistical difference between pre and post-merger. Similarly, in the case of ICICI bank, cash deposit ratio and enterprise value, the null hypothesis is rejected. Therefore,

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there is a statistical difference between pre and post-merger in the case of ICICI bank and in the case of IDBI bank enterprise value, the null hypothesis is rejected. Thus, it is a great sign as mergers and acquisitions turned to be different and fruitful after the corporate action event as the enterprise value for SBI, ICICI Bank and IDBI mean value during post-merger is greater than the pre-merger stage.

Table 4: Showing the t-stat, P and Critical Value for Axis Bank, Indian Bank, HDFC Bank, and Kotak Bank

Indicator	Axis Bank			Indian Bank			HDFC Bank			Kotak Bank		
	t Stat	P(T<=t) two-tail	Decision	t Stat	P(T<=t) two-tail	Decision	t Stat	P(T<=t) two-tail	Decision	t Stat	P(T<=t) two-tail	Decision
EPS	0.98	0.38	Accept H_0	0.50	0.64	Accept H_0	-0.22	0.84	Accept H_0	2.47	0.09	Accept H_0
NPM	-16.71	0.00	Accept H_0	-9.07	0.00	Accept H_0	-2.36	0.10	Accept H_0	-0.24	0.83	Accept H_0
OPM	9.41	0.00	Reject H_0	1.34	0.25	Accept H_0	-0.32	0.77	Accept H_0	-0.83	0.47	Accept H_0
ROA	-4.26	0.01	Accept H_0	-6.48	0.00	Accept H_0	-2.27	0.11	Accept H_0	-0.72	0.52	Accept H_0
ROE	-1.09	0.34	Accept H_0	-9.89	0.00	Accept H_0	-0.23	0.84	Accept H_0	1.85	0.16	Accept H_0
CDR	-11.26	0.00	Accept H_0	-2.61	0.06	Accept H_0	-7.31	0.00	Accept H_0	4.84	0.02	Reject H_0
PBR	0.38	0.73	Accept H_0	2.89	0.04	Accept H_0	0.02	0.98	Accept H_0	2.35	0.10	Accept H_0
EV	10.99	0.00	Reject H_0	17.53	0.00	Reject H_0	7.60	0.00	Reject H_0	6.78	0.00	Reject H_0
B EPS	1.61	0.18	Accept H_0	-0.57	0.60	Accept H_0	-1.41	0.25	Accept H_0	0.81	0.48	Accept H_0
DPS	1.05	0.31	Accept H_0	1.35	0.25	Accept H_0	-0.22	0.84	Accept H_0	1.00	0.39	Accept H_0

Source: Author's computation

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Table 4 depicts that enterprise value for Axis bank, Indian bank, HDFC Bank and Kotak bank, the null hypothesis is rejected. Therefore, there is a statistical difference between pre and post-merger. Thus, it clearly indicates that the deal turned to be different and fruitful after the corporate action event as the mean enterprise value during post-merger is greater than the pre-merger stage.

VII. CONCLUSION

The merger is useful for the survival of weaker banks by merging into a larger bank. This study demonstrates the financial performance of pre-merger and post-merger in terms of EPS, NPM, OPM, ROA, ROE, CDR, PB ratio, B EPS, EV, and DPS mean value had increased. The paired T-test values are less than Tabulated t value, hence it is concluded that there is no significant difference in the financial performance of banks during pre and post-merger.

REFERENCES

[1] Achini Ambika (2015): A study on the merger of ICICI bank and the bank of Rajasthan.

[2] Akhavein, J. D., Berger, A. N., & Humphrey, D. B. (1997). The effects of megamergers on efficiency and prices: Evidence from a bank profit function. Review of Industrial Organisation, (12), 95-139.

[3] Alao, R. O. (2010). Mergers and Acquisitions (M&As) in the Nigerian banking industry: An advocate of three Mega Banks. European Journal of Social Sciences,15(4), 554-563.

[4] Badreldin, A., & Kalhoefer, C. (2009). The effect of mergers and acquisitions on bank performance in Egypt. Journal of Management Technology, 5(1), 1-15.

[5] Bank Financial Management. (2010). Indian Institute of Banking and Finance (IIBF) (5th ed.). Macmillan Publishers.

[6] Bhattacharyya, A., Lovell, CAK., & Sahay, P. (1997). The impact of liberalization on the productive efficiency of Indian commercial banks. European Journal Operations Research, (98), 332-345.

[7] Cybo-Ottone, A. and Murgia, M. (2000). Mergers and shareholder wealth in European banking. Journal of Banking and Finance, (24), 831-859.

[8] Durga Rao, S., & Prasantha Kumar, R. (2013). Financial performance of evaluation of Indian commercial banks during before and after the merger. Sumedha Journal of Management,2(1), 117-129.

[9] Dr. Yusuf Ali Khalaf Al-Hroot (2015): Pre and post-merger impact on financial performance: A case study of Jordan Ahli bank

[10] Dr. Veena K.P and prof. S.N Patti (2016): Financial performance analysis of pre and post-merger in the banking sector: A study with reference to ICICI bank limited

[11] Dr. Nidhi Tanwar (2016): A study on the performance analysis of banks in India after mergers and acquisitions.

[12] Dr. Veena K. P and prof. S.N. Pathi (2017): Pre and post-merger performance on assets quality of banking sector: A case study of ING Vysya Bank and Kotak Mahindra Bank.

[13] Devarajappa S. (2012): "Mergers in Indian Banks: A study on mergers of HDFC Bank LTD and Centurion Bank of Rajasthan" in International Journal of Marketing, Financial Services & Management Research, Vol.1 Issue 9, September 2012, pp: 33-42.

[14] Georgios, K., & Georgios, H. (2011). Du Pont Analysis of a Bank Merger and Acquisition between Laiki Bank from Cyprus and Marfin Investment Group from Greece. Is there an increase in the profitability of the new bank? Kyriazopoulos Hadjimanolis, MIBES 2011-Oral, 157-176.

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