Operating Performance of Banks after Acquisition: Evidence from India

Satsangi Malhotra, Madhuri and Bhartiya, Anand

Madras School of Economics

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*Madhuri Malhotra
Assistant Professor
Madras School of Economics
Gandhi Mandapam Road
Chennai 600015
Email: madhurimalhotra@gmail.com

Anand Bhartiya
Madras School of Economics
Gandhi Mandapam Road
Chennai 600015
anand@mse.ac.in

Abstract: The study examines the performance of banks after acquisition. Operating profits have been analyzed for Indian Private and Public sector banks The results from the analysis of Pre and post-merger operating performance ratios for the acquiring banks show that operating profit margins were increased in post merger period and there was a marginal decline in return on net worth and capital employed. The sample consists of 16 banks. Data from Prowess database has been collected for three years before and after the acquisition has taken place. The results show that most of the banks had performed well in post merger period. The profitability margin such as gross profit margin, net profit margins are very high in the post merger period which signifies that after acquiring the target bank their performance was well appraised. The returns on investment and capital employed were increased after acquisition. Some of the Indian public sector banks showed a decline in the post merger period which may be attributed to the inefficiency and the increase of Non Performing Assets (NPAs) with the target banks. Private sector banks have shown a rising trend in the profit margins after the acquisition.

Key words: Operating performance, Banks, Merger, Acquisition

JEL Code: G3; G21; G34

1. INTRODUCTION

The banking sector of India is considered as a booming sector and the soundness of the banking system has been vital for the development of the country's economy. Having its economy grown by over 9% for the last three years has made India regarded as the next economic power house. Various challenges and problems faced by the Indian banking sector and the economy have made mergers and acquisitions activity not an unknown phenomenon in Indian banking industry.

Historically, mergers and acquisitions activity started way back in 1920 when the Imperial Bank of India was born when three presidency banks (Bank of Bengal, Bank of Bombay and Bank of Madras) were reorganized to form a single banking entity, which was subsequently known as State Bank of India. Several M&A activities among banking institutions were later reported during this pre-independence period. In 1949, the Banking Regulation Act which empowered the Reserve Bank of India (RBI), India's central bank, to regulate and control banking institutions in India was enacted. This enactment has provided a sigh of relief to investors and improved depositors' confidence in Indian banking system. In 1960s, several private banks were found to be operating on a very low capital. As a result, several banks have failed and this has led to loss of confidence of the public towards the banking system as a whole. To restore confidence in the banking system and thus to avoid losses to depositors, 45 banks were pushed into mergers. Most of these mergers were between failed private banks and public sector banks.

The key driving force for merger activity is severe competition among firms of the same industry which puts focus on economies of scale, cost efficiency, and profitability. The other factor behind bank mergers is the "too big to fail" principle followed by the authorities. In some countries like Germany, weak banks were forcefully merged to avoid the problem of financial distress arising out of bad loans and erosion of capital funds. Several academic studies examine merger related gains in banking and these studies have adopted one of the two following competing approaches. A merger is expected to generate improved performance if the change in accounting-based performance is superior to the changes in the performance of comparable banks that were not involved in merger activity. An alternative approach is to analyze the merger gains in stock price performance of the bidder and the target firms around the announcement event.

Over the past decade, the banking industry has experienced an unprecedented level of consolidation as mergers and acquisitions among large financial institutions have taken place at record levels. In the last three years alone more than 1500 mergers have occurred in the US market. To a large extent, this consolidation is based on a belief that gains can accrue through expense reduction, increased market power, reduced earnings volatility, and scale and scope economies .Whether or not bank mergers actually achieve the expected performance gains is the critical question. If consolidation does, in fact, lead to value gains, then shareholder wealth can be increased. On the other hand, if consolidating entities does not lead to the promised positive effects, then mergers may lead to a less profitable and valuable banking industry.

Since 1980 the consolidation fever started in both commercial and rural banks. There were about 196 rural banks in 1989 that were consolidated into 103 by merging themselves into commercial banks. In 2000, about 17 urban co-operative banks were merged with the state owned commercial banks. Since about 75% of the Indian banking system consists of public sector banks, more consolidations began to take place in the late 2000. Indian banking institutions began facing competition when the regulators started to allow foreign banks to enter the local banking market. At the same time, private banks began to increase in number. With strong support from their parents, foreign banks in India have set the trend of services and performance in Indian banking institutions. Feeling this pressure, many private banks began to merge with foreign banks for reasons such as building up their financial strength, capturing larger portion of the growing retail business and securing better regional presence.

The importance of the relationship between financial intermediation and economic growth has also been a motivation behind major economic reforms within the banking sector. In recent years, banks in developed countries have moved towards internationalization of services, greater international standardization of products, and fewer traditional banking services. Deregulation, new technologies, and globalization are changing the financial services industry. Banking is no longer limited to traditional financial intermediation catered to domestic and local depositors and borrowers in a highly regulated environment. Instead, banking now extends to a wide range of financial instruments formerly offered by other sectors of the financial services industry aimed at the global individual and institutional investors. Similar developments have also been taking place in less developed countries, though they are still at an early stage.

In recent years, particularly after 1991 India has embarked upon the path of liberalization, privatization, and globalization, which occasioned an opening up of the Indian economy. Stiff competition is implicit in a bid to integrate any national economy with global economy. Consolidation through M&As is considered one of the best ways of restructuring for effective response to competitive pressures. With a view to face global challenges, most of the forward looking business organizations prefer a path of rapid growth through mergers and acquisitions (M&As). As in all other sectors of the economy, the banking industry saw a flurry of activities. Several new private sector banks opened shop as did several foreign banks; drastically changing the environment from a government protected and regulated one to a market driven and competitive one. The new private sector banks provided stiff competition to public sector banks with their efficiency and technology driven services. In the process they managed to carve out a niche for themselves in the banking industry. However, their lean structure and tech-savvy initiatives could not quite match the sheer size and reach of the well-established public sector banks. The normal route of organic growth was both time consuming and capital intensive. Therefore, the private sector banks resorted to the Mergers & Acquisitions (M & As) route for faster spread and inorganic growth.

2. LITERATURE REVIEW

There have been numerous studies on mergers and acquisitions abroad, in the last four decades, and several theories have been proposed and tested for empirical validation. Researchers have studied the economic impact of mergers and acquisitions on industry consolidation, returns to shareholders following mergers and acquisitions, and the post-merger performance of companies. Whether or not a merged company achieves the expected performance is the critical question that has been examined by most researchers. Several measures have been postulated for analyzing the success of mergers. Such measures have included both short term and long-term impacts of merger announcements, effects on shareholder returns of aborted mergers hostile takeover attempts and open offers etc. A number of studies were done in developed capital markets of Europe, Australia, and the USA, on evaluation of corporate financial performance following mergers. Lubatkin reviewed the findings of studies that have investigated either directly or indirectly the question, "Do mergers provide real benefits to the acquiring firm?" The review suggested that acquiring firms might benefit from merging because of technical, pecuniary and diversification synergies.

Rhoades (1987) examines the impact of mergers on the ratios of net income before extraordinary items to assets and non-interest expenses to assets. He runs probit analyses in which a dummy variable distinguishing non-acquired banks from banks acquired by multibank holding companies is the dependent variable. Performance measures and several control variables serve as the independent variables. Rhoades finds that neither income nor non-interest expenses were affected by merger activity. . It has been argued that the rationale for consolidation of banking institutions through mergers and acquisitions is to improve cost and revenue efficiency that will in turn improve profitability, safety and soundness of these institutions (Berger, Hunter and Timme (1993)). Berger and Humphrey (1994) say that "synergies in joint products in banking are rather small." The findings of Zhang (1995) on U.S. data contradict those of most abnormal return studies. Among a sample of 107 mergers taking place between 1980 and 1990, the author finds that mergers led to a significant increase in overall value. Although both merger partners experienced an increase in share price around the merger announcement, target shareholders benefitted much more on a percentage basis than the acquiring shareholders.

Pilloff and Santomero (1997) conducted a survey of the empirical evidence and reported that most studies fail to find a positive relationship between merger activity and gains in either performance or stockholder wealth. Berger *et al*. (1999) performed an extensive study of the existing literature concerning efficiency consequences of the consolidation of financial institutions and banks in particular. Landerman (2000) explores potential diversification benefits to be had from banks merging with non banking financial service firms. Simulated mergers between US banks and non-bank financial service firms show that diversification of banks into insurance business and securities brokerage are optimal for reducing the probability of bankruptcy for bank holding companies. According to Amel (2002), between 1990 and 2001, more than 8000 bank consolidations have occurred globally Ahmad Ismail, Ian Davidson & Regina Frank concentrates on European banks and investigates post-merger operating performance and found that industry-adjusted mean cash flow return did not significantly change after merger but stayed positive. Also find that low profitability levels, conservative credit policies and good cost-efficiency status before merger are the main determinants of industry-adjusted cash flow returns and provide the source for improving these returns after merger. Müslümov Alövsat (2002) examined that synergy is one of the main factor behind the merger and took 56 mergers from US industry, and the cash flows improvement in the productive usage of assets and increasing the sales and showed the surviving firm improvement in operating cash flows. The post merger create additional value and shows the improvement of bidder firm with price to book ratio, used non-parametric test as most suitable method of testing post merger performance.

Wheelock and Wilson (2004) find that expected merger activity in US banking is positively related to management rating, bank size, competitive position and geographical location of banks and negatively related to market concentration. Amel *et al* (2004) make another detailed review of the empirical literature concerning the efficiency gains from bank mergers in the developed countries over the past twenty years in order to find common patterns that transcend national and sector specificities of each country. Suchismita Mishra, Arun, Gordon and Manfred Peterson (2005) study examined the contribution of the acquired banks in only the non conglomerate types of mergers (i.e., banks with banks), and finds overwhelmingly statistically significant evidence that non conglomerate types of mergers definitely reduce the total as well as the unsystematic risk while having no statistically significant effect on systematic risk. Marc J Epstein. (2005) studied on merger failures and concludes that mergers and acquisitions (M&A) are failed strategies. However, analysis of the causes of failure has often been shallow and the measures of success weak. Morris Knapp, Alan Gart & Mukesh Chaudhry (2006) research study examines the tendency for serial correlation in bank holding company profitability, finding significant evidence of reversion to the industry mean in profitability. Mehta Jay & Kakani Ram Kumar (2006) stated that there were multiple reasons for Merger and Acquisitions in the Indian Banking Sector and still contains to capture the interest of a research and it simply because of after the strict control regulations had led to a wave of merger and Acquisitions in the Banking industry and states many reason for merger in the Indian Banking sector. Sergio & Olalla (2008) finds that financial deregulation and technological progress has an important role in the process of mergers and acquisitions in the banking sector during the period 1995-2001. They used Multinomial logit analysis to conclude the characteristics of continental European financial institutions and observed that size is an important factor in mergers and acquisitions. To look the effects of cross border Merger and Acquisitions (M&As) 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. The result suggested that aggregate trade cost affects cross border merger activity negatively, its impact differ importantly across horizontal and non-horizontal mergers. They also indicated that the less negative effects on horizontal merger, which is consistent with the tariff jumping agreement, put forward in literature on the determinant of horizontal FDI. DeYoung, Evanoff & Molyneux (2009) have found in their study that the changes in deregulation, allowed commercial banks and other financial services firms to expand through mergers and acquisition into geographic markets and product markets.

Kuriakose Sony *et al.,* (2009), focused on the valuation practices and adequacy of swap ratio fixed in voluntary amalgamation in the Indian Banking Sector and used swap ratio for valuation of banks, but in most of the cases the final swap ratio is not justified to their financials. Schiereck Dirk *et al.,* (2009), explained the relationship between bank reputation after Merger and Acquisitions and its effects on shareholder's wealth. This study considered 285 European merger and Acquisition transaction announced between 1997 and 2002 and finds that on average wealth not significantly effect by Merger and Acquisitions. It is found in the study of Bhaskar A Uday *et al.,* (2009) that Banking sector witness of Merger activities in India when banks facing the problem of loosing old customer and failed to attract the new customers. It described that the acquiring firms mainly focuses on the economies of scale, efficiency gain and address the need of communication and employee concern, and described the integration process was handled by professional and joint integration committee.

R. Srivassan *et al*., (2009) gave the views on financial implications and problem occurring in Merger and Acquisitions (M&As) highlighted the cases for consolidation and discussed the synergy based merger which emphasized that merger is for making large size of the firm but no guarantee to maximize profitability on a sustained business and there is always the risk of improving performance after merger. Sinha and Gupta (2011) studied a pre and post analysis of firms and concluded that it had positive effect as their profitability, in most of the cases deteriorated liquidity. After the period of few years of Merger and Acquisitions(M&As) it came to the point that companies may have been able to leverage the synergies arising out of the merger and Acquisition that have not been able to manage their liquidity. Goyal and Joshi (2011) in their paper, gave an overview on Indian banking industry and highlighted the changes occurred in the banking sector after post liberalization and defined the Merger and Acquisitions as per AS-14. The need of Merger and Acquisition in India has been examined under this study. It also gave the idea of changes that occurred after M&As in the banking sector in terms of financial, human resource & legal aspects. It also described the benefits come out through M&As and examined that M&As is a strategic tools for expanding their horizon and companies like the ICICI Bank has used merger as their expansion strategy in rural market to improve customers base and market share.

The research on post-merger performance following mergers and acquisitions in India thus far has been limited. Surjit Kaur (2011) compared the pre and post-takeover performance for a sample of 20 acquiring companies during 1997-2000, using a set of eight financial ratios, during a 3-year period before and after merger, using t-test. The study concluded that both profitability and efficiency of targeted companies declined in post- takeover period, but the change in post-takeover performance was statistically not significant. Pawaskar (2011) analyzed the pre-merger and post-merger operating performance of 36 acquiring firms during 1992-95, using ratios of profitability, growth, leverage, and liquidity, and found that the acquiring firms performed better than industry average in terms of profitability. Regression Analysis however, showed that there was no increase in the post-merger profits compared to main competitors of the acquiring firms.
Thus, empirical testing of corporate performance following mergers of Indian companies has been quite limited so far, with some studies that were focused on mergers in manufacturing sector, and study of mergers during short time intervals.

3. OBJECTIVE

1. To examine performance of banks which have undergone mergers in India, in the post-reforms period
2. To analyze if mergers had a significant impact on operating financial performance of acquiring banks.

4. DATA

Data on operating performance ratios for up to three years prior and three years after the acquisition year for each acquiring bank was extracted from Prowess database of CMIE. More than 30 banks have been merged during the Post liberalization period and only 16 banks are considered for the study. They are as follows:

ACQUIRING BANK	**TARGET BANK**	**DATE OF MERGER**
STATE BANK OF INDIA	KASHI NATH SETH BANK LTD	1 January 1996
ORIENTAL BANK OF COMMERCE	BARI DOAB BANK LTD	8 April 1997
BANK OF BARODA	BAREILLY CORPORATION BANK LTD	3 June 1999
UNION BANK OF INDIA	SIKKIM BANK LTD	22 December ‘99
HDFC BANK LTD	TIMES BANK LTD	26 February ‘00
ICICI BANK LTD	BANK OF MADURA LTD	10 March 2001
ICICI BANK LTD	ICICI LTD	3 May 2002
BANK OF BARODA	BENARES STATE BANK LTD	20 June 2002
PUNJAB NATIONAL BANK	NEDUNGADI BANK LTD	1 February 2003
BANK OF BARODA	SOUTH GUJARAT LOCAL BANK LTD	25 June 2004
ORIENTAL BANK OF COMMERCE	GLOBAL TRUST BANK LTD	14 August 2004
CENTURION BANK LTD	BANK OF PUNJAB LTD	1 October 2005
FEDERAL BANK	GANESH BANK OF KURUNDWAD LTD	2 September ‘06
INDIAN OVERSEAS BANK	BHARAT OVERSEAS BANK LTD	31 March 2007
ICICI BANK LTD	SANGLI BANK LTD	19 April 2007
HDFC BANK LTD	CENTURION BANK OF PUNJAB LTD	23 May 2008

5. METHODOLOGY

The pre-merger and post-merger averages for a set of key financial ratios were computed for 3 years prior to, and 3 years after, the year of merger completion (or the year of approval when the time of merger completion is not available). For the years prior to a merger, the operating ratios of the acquiring firm alone are considered. Post the merger, the operating ratios for the combined firm are taken. The post-merger performance was compared with the pre-merger performance and tested for significant differences, using paired “t” test.

A list of banks involved in mergers during 1991-2010 was compiled from RBI’s website. The following financial ratios were used in the study:

- Operating Profit Margin = PBITDA / Net Sales
- Gross Profit Margin = PBIT / Net Sales
- Net Profit Margin = Profit after Tax / Net Sales
- Return On Net worth = PBIT / Net worth
- Return On Capital Employed = Profit after Tax / Capital Employed
- Debt-Equity Ratio = Book value of debt / Book value of equity.

6. DATA ANALYSIS

Pre-merger and post-merger operating performance ratios were estimated and the averages computed for the entire set, which have gone through mergers during the period 1991 to 2010. Average pre merger and post merger financial performance ratios were compared to see if there was any statistically significant change in operating performance due to mergers, using "paired two sample t-test".

7. EMPIRICAL RESULTS

ANALYSIS OF ALL THE BANK MERGERS (AS A WHOLE)

KEY RATIOS	PRE-MERGER	POST-MERGER	t - value
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	21.89	22.07	-0.348
Gross Profit Margin	22.37	22.73	-0.724
Net Profit Margin	4.98	6.01	-1.2
Return on Net Worth	40.81	34.29	1.84
Return on Capital Employed	2.87	2.72	0.316
Debt-Equity Ratio	5.95	5.03	2.23

The comparison of the pre-merger and post-merger operating performance ratios for the entire set of mergers showed that there is a slight increase in the mean operating profit margin (21.89% to 22.07%) but this increase is not statistically significant (t-value of -0.348). Both the gross profit margin (22.37% to 22.73%) & net profit margin (4.98% to 6.01) are increasing in the post merger period but they are not significant (t-value of -0.724 and -1.20). The mean return on net worth shows a decline in the post merger period (40.81% to 34.29%) and it is not significant too (t-value 1.84). Similarly the mean return on capital employed declines in the post merger period (2.87% to 2.72%) and the t-value is insignificant (0.316). The mean debt-equity ratio has been decreased considerably (5.95 to 5.03) and the t-value is also statistically significant (2.23).

ANALYSIS OF OPERATING PERFORMANCE OF ACQUIRING BANKS

a) State Bank of India acquires Kashi Nath Seth bank ltd on 1 January 1996

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	19.75	23.11	-5.24
Gross Profit Margin	19.56	22.78	-4.93
Net Profit Margin	1.55	2.4	-1.58
Return on Net Worth	53.59	47.79	3.22
Return on Capital Employed	1.37	2.56	-2.40
Debt-Equity Ratio	8.47	6.32	8.61

The results indicated that the mean of operating profit ratio has been increased (19.75% to 23.11%) and the increase was highly significant (t-value of -5.24). Similarly the mean gross profit margin (19.56% to 22.78%) and the net profit margin (1.55% to 2.40%) has been increased in the post merger period and the increase of gross profit margin is highly significant (-4.93) and for net profit margin it is insignificant (-1.58). The mean return on net worth (53.59% to 47.79%) showed a statistically highly significant value (t-value of 3.22) though the mean value got declined. The mean return on capital employed (1.37% to 2.56%) showed a statistically significant value (t- value of -2.40) respectively. The mean debt equity ratio was considerably decreased (8.47 to 6.32) but it showed a highly significant value (t-value of 8.61).

b) Centurion Bank of Punjab acquires Lord Krishna Bank Ltd on 29 August 2007

KEY RATIOS	PRE-MERGER	POST-MERGER	t - value
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	16.18	17.82	-0.58
Gross Profit Margin	13.25	16.38	-1.00
Net Profit Margin	-2.89	2.44	-1.57
Return on Net Worth	31.39	18.68	1.09
Return on Capital Employed	-3.5	1.78	-1.48
Debt-Equity Ratio	6.41	3.79	1.38

The results indicated that mean operating profit margin has been increased in the post merger period (16.18% to 17.82%) but that increase was not significant (t-value of -0.58). Both the mean gross profit margin (13.25% to 16.38%) and the mean net profit margin (-2.89% to 2.44%) was grown in post merger period but that increase was not statistically significant in both cases (t-value of -1.00 and -1.57). The mean return on net worth was decreased in post merger period (31.39% to 18.68%) and it showed an insignificant value (t-value of 1.09). The mean return on capital employed was grown in post merger period (-3.5% to 1.78%) but it was not statistically significant (t-value of -1.48). The mean debt-equity ratio was declined in post merger period and the decline was again not statistically significant (t-value of 1.38).

c) ICICI Bank Ltd acquires Bank of Madura Ltd on 10 March 2001

KEY RATIOS	PRE-MERGER	POST-MERGER	t - value
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	25.96	26.27	0.42
Gross Profit Margin	25.13	24.88	0.74
Net Profit Margin	3.47	2.446	-2.87
Return on Net Worth	28.97	30.9	0.28
Return on Capital Employed	2.212	1.78	2.71
Debt-Equity Ratio	4.38	4.03	0.006

The mean return on operating profit margin had increased (25.96% to 26.27%) but it shows an insignificant value (t-value of 0.427). The mean gross profit margin (25.13% to 24.88%) and mean net profit margin (3.47% to 2.446%) had declined and the declines were not statistically significant (t-values of 0.744 and -2.87). The mean return on net worth had increased in post merger period (28.97% to 30.9%), but that increase was not statistically significant (t-value of 0.281). The mean return on capital employed had declined (2.212% to 1.78%) but the decline showed a statistically significant value (t-value of 2.71). The mean debt-equity ratio had declined in post merger period and the t-value also proved it to be a statistically insignificant.

d) ICICI Bank Ltd acquires ICICI Ltd (subsidiaries) on 3 May 2002

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	25.96	26.16	-1.21
Gross Profit Margin	25.13	24.65	-2.10
Net Profit Margin	3.47	4.47	-1.90
Return on Net Worth	28.97	32.76	-6.52
Return on Capital Employed	2.212	1.05	0.49
Debt-Equity Ratio	4.38	4.59	1.03

The mean operating profit margin had increased in the post merger period (25.96% to 26.16%) but still it showed an insignificant t-value (-1.21). The mean gross profit margin got declined (25.13% to 24.65%) but the decline showed a greater significant value (t-value of -2.10). The mean net profit margin had been increased in post merger period (3.47% to 4.47%) and it is tending to reach significant value. (t-value of -1.90). The mean return on net worth had increased (28.97% to 32.76%) and the increase shows a highly significant t-value of -6.52. The mean return on capital employed had declined (2.212% to 1.05%) and the decline was statistically insignificant (0.498). The mean debt-equity ratio had grown in post merger period (4.38 to 4.59) but the increase was not statistically significant (t-value of 1.03).

e) ICICI Bank Ltd acquires Sangli Bank Ltd on 19 April 2007

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	5.53	2.39	0.93
Gross Profit Margin	23.18	23.41	0.04
Net Profit Margin	4.667	3.52	2.28
Return on Net Worth	24.15	17.91	2.19

Return on Capital Employed	1.18	0.945	1.09
Debt-Equity Ratio	3.96	2.25	0.30

The mean operating profit margin had declined in post merger period (5.53% to 2.39%) and the decline shows an insignificant t-value too (0.933). There is a slight increase in mean gross profit margin (23.18% to 23.41%) but the increase has no impact on significance (0.041). The mean net profit margin declined in post merger period (4.67% to 3.52%) and the decline showed a highly significant t-value (2.28). Similarly the mean return on net worth had declined (24.15% to 17.91%) but the t-value was highly significant (2.19). The mean return on capital employed declined (1.18% to 0.945%) and the t-value was not a significant one (1.09). The mean debt-equity ratio got declined (3.96 to 2.25) and it proved to be insignificant too (0.300).

f) HDFC Bank Ltd acquires Times Bank Ltd on 26 February 2000

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	26.25	25.49	1.05
Gross Profit Margin	25.16	24.21	1.56
Net Profit Margin	5.7	5	1.54
Return on Net Worth	27.52	28.05	-0.23
Return on Capital Employed	2.38	2.73	0.45
Debt-Equity Ratio	4.203	4.16	-0.53

The mean operating profit margin was declined (26.25% to 25.49%) and the decline was not statistically significant (t-value of 1.05). The mean gross profit margin (25.16% to 24.21%) and the mean net profit margin (5.7% to 5%) had declined and the decline showed an insignificant t-value for both (1.56 and 1.54). The mean return on net worth (27.52% to 28.05%) and mean return on capital employed (2.38% to 2.73%) had increased but the increase was not significant (t-value of -0.237 and 0.459). The mean debt-equity ratio declined (4.203 to 4.16) and the decline proved to be an insignificant (t-value of -0.53).

g) HDFC Bank Ltd acquired Centurion Bank of Punjab Ltd on 23 May 2008

KEY RATIOS	PRE-MERGER	POST-MERGER	t - value
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	20.07	21.22	-4.26
Gross Profit Margin	19.07	20.58	-4.00
Net Profit Margin	4.96	4.71	-0.10
Return on Net Worth	21.06	21.4	-0.01
Return on Capital Employed	2.76	3.08	-0.80
Debt-Equity Ratio	4.09	3.34	2.19

The mean operating profit margin had declined (24.86% to 23.86%) and the decline was not statistically significant (t-value of 1.17). The mean gross profit margin got declined in post merger period (24.47% to 23.31%) and t-value was low here (1.27). The mean net profit margin had increased (3.11% to 4.28%) but it was not statistically significant (t-value of -1.10). The mean return on net worth (50.09% to 26.27%) and mean return on capital employed (4.45% to 3.49%) had declined in post merger period but the decline was statistically significant (t-value of 6.00) in net worth and the decline was insignificant (t-value of 0.727) in capital employed. The mean debt-equity ratio was declined in post merger period (5.72 to 4.5) but the decline was statistically significant (t-value of 2.098).

h) Oriental bank of Commerce acquired Bari-Doab Bank Ltd on 8 April 1997

KEY RATIOS	PRE-MERGER	POST-MERGER	t - value
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	23.78	26.12	-5.84
Gross Profit Margin	23.49	25.67	-5.16
Net Profit Margin	4.63	3.78	-0.33
Return on Net Worth	31.85	43.83	-8.90
Return on Capital Employed	4.34	5.36	-1.02
Debt-Equity Ratio	3.75	4.84	-3.53

The mean operating profit margin had increased in post merger period (23.78% to 26.12%) and the increase showed statistically significant (t-value of -5.84). Similarly the mean gross profit margin had increased (23.49% to 25.67%) and it is indicated by a high t-value of -5.16. The mean net profit margin had declined (4.63% to 3.78%) and the decline showed it was not statistically significant (t-value of -0.33). The mean return on net worth (31.85% to 43.83%) and mean return on capital employed (4.34% to 5.36%) had increased and the increase was statistically significant (t-value of -8.90) for net worth and insignificant for capital employed (t-value of -1.02). The mean debt-equity ratio got increased in post merger period (3.75 to 4.84) and the increased was statistically significant (t-value of -3.53).

i) Oriental Bank of Commerce acquired Global Trust Bank Ltd on 14 August 2004

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	24.86	23.86	1.17
Gross Profit Margin	24.47	23.31	1.27
Net Profit Margin	3.11	4.28	-1.10
Return on Net Worth	50.09	26.27	6.00
Return on Capital Employed	4.45	3.49	0.72
Debt-Equity Ratio	5.72	4.5	2.09

The mean operating profit margin had declined (24.86% to 23.86%) and the decline was not statistically significant (t-value of 1.17). Similarly the mean gross profit margin got declined (24.47% to 23.31%) and the decline was not statistically significant (t-value of 1.27). The mean net profit margin was increased in post merger period (3.11% to 4.28%) and it was not statistically significant (t-value of -1.10). The return on net worth (50.09% to 26.27%) and the return on capital employed (4.45% to 3.49%) declined and the decline was statistically significant (t-value of 6.00) for net worth and insignificant for capital employed (0.727). The mean debt-equity ratio was statistically significant (t-value of 2.098) though it was declined in post merger period (5.72 to 4.5).

j) Bank of Baroda acquired Bareilly Corporation bank Ltd on 3 June 1999

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	23.77	23.44	0.208
Gross Profit Margin	23.52	23.06	0.235
Net Profit Margin	2.4	2.27	1.000
Return on Net Worth	44.72	50.92	-3.882

Return on Capital Employed	3.5	3.11	0.312
Debt-Equity Ratio	5.65	6.99	-3.119

The mean operating profit margin was slightly declined in post merger period (23.77% to 23.44%) and the decline was not statistically significant (t-value of 0.208). The mean gross profit margin (23.52% to 23.03%) and the mean net profit margin (2.4% to 2.27%) had declined and the declined got statistically insignificant for both (t-value of 0.235 and 1.000). The mean return on net worth had increased in post merger period (44.72% to 50.92%) and the increase had made it statistically significant (t-value of -3.882). Similarly the mean return on capital employed had increased (3.5% to 3.11) but the increase was not statistically significant (t-value of 0.312). The mean debt-equity value had increased in post merger period (5.65 to 6.99) and the increase proved it a statistically significant (t-value of -3.119).

k) Bank of Baroda acquired Benares State Bank Ltd on 20 June 2002

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	23.33	21.32	1.620
Gross Profit Margin	23.01	20.96	1.772
Net Profit Margin	2.1006	3.47	0.880
Return on Net Worth	48.93	33.23	1.886
Return on Capital Employed	3.021	3.66	-4.255
Debt-Equity Ratio	6.61	5.5	1.468

The mean operating profit margin had declined (23.33% to 21.32%) and the decline was not statistically significant (t-value of 1.62). Similarly the mean gross profit margin got declined (23.01% to 20.96%) and the decline was not statistically significant (t-value of 1.772). The mean net profit margin was increased in post merger period (2.10% to 3.47%) and it was not statistically significant (t-value of 0.88). The mean return on net worth (48.93% to 33.23%) got declined and it was not significant (t-value of 1.88). The mean return on capital employed had increased (3.02% to 3.66%) and the increase was statistically significant (t-value of -4.25). The mean debt-equity had declined (6.61 to 5.5) and it had lower t-value (1.468).

l) Bank of Baroda acquired South Gujarat Local Area bank Ltd on 25 June 2004

KEY RATIOS	PRE-MERGER	POST-MERGER	t - value
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	23.28	21.07	2.442
Gross Profit Margin	22.87	20.58	2.705
Net Profit Margin	2.54	3.17	-1.325
Return on Net Worth	47.54	24.68	5.650
Return on Capital Employed	3.36	2.33	1.143
Debt-Equity Ratio	6.66	4.95	3.552

The mean operating profit margin was declined in post merger period (23.28% to 21.07%) and the decline was statistically significant (t-value of 2.44). Similarly the mean gross profit margin was declined (22.87% to 20.58%) with high significant value (2.70). The mean net profit margin was increased (2.54% to 3.17%) but that increase was insignificant (t-value of -1.32). The mean return on net worth (47.54% to 24.68%) and mean return on capital employed (3.36% to 2.33%) was declined in post merger period and the decline was significant (t-value of 5.65) for net worth and insignificant (t-value of 1.14) for capital employed. The mean debt-equity ratio had declined (6.66 to 4.95) but the decline was statistically significant (t-value of 3.55).

m) Punjab National Bank Ltd acquired Nedungadi Bank Ltd on 1 February 2003

KEY RATIOS	PRE-MERGER	POST-MERGER	t - value
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	22.6	21.04	4.056
Gross Profit Margin	22.27	20.46	1.196
Net Profit Margin	1.68	4.17	-4.149
Return on Net Worth	69.87	30.04	5.725
Return on Capital Employed	3.06	3.39	1.652
Debt-Equity Ratio	9.47	5.46	2.993

The mean operating profit margin had decreased (22.6% to 21.04%) and the decreased was statistically significant (t-value of 4.056). And the mean gross profit margin decreased (22.27% to 20.46%) and the decreased was not statistically significant (t-value of 1.196). The mean net profit margin was increased in post merger period (1.68% to 4.17%) and it was statistically significant (t-value of -4.149). The return on net worth decreased (69.87% to 30.04%) with statistically significant (t-value of 5.725) and the mean return on capital employed (3.06% to 3.39%) increased and the increased was not statistically significant (t-value of 1.652). The mean debt-equity ratio was statistically significant (t-value of 2.993) though it was decreased in post merger period (9.47 to 5.46).

n) Union Bank of India acquired Sikkim Bank Ltd on 22 December 1999

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	24.36	23.27	2.233
Gross Profit Margin	24.04	22.9	2.140
Net Profit Margin	2.45	1.56	1.176
Return on Net Worth	67.61	73.71	-0.854
Return on Capital Employed	5.8	2.85	3.062
Debt-Equity Ratio	8.49	10.1	-2.060

The mean operating profit margin had decreased (24.36% to 23.27%) and the decreased was statistically significant (t-value of 2.233). And the mean gross profit margin decreased (24.07% to 22.9%) and the decreased was statistically significant (t-value of 2.140). The mean net profit margin was decreased in post merger period (2.45% to 1.56%) and it was not statistically significant (t-value of 1.176). The return on net worth increased (67.61% to 73.71%) with statistically not significant (t-value of -0.854) and the return on capital employed (5.8% to 2.85%) declined and the decline was statistically significant (t-value of 3.062). The mean debt-equity ratio was statistically significant (t-value of -2.060) with higher value of 8.49 to 10.1 in post merger period.

o) Indian Overseas Bank acquired Bharat Overseas Bank Ltd on 31 March 2007

	PRE-MERGER	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	22.6	25.28	-1.998
Gross Profit Margin	22.27	24.98	-2.010
Net Profit Margin	6.59	3.4	0.522
Return on Net Worth	39.43	46.89	-2.714

Return on Capital Employed	6.49	2.52	3.207
Debt-Equity Ratio	6.54	6.66	-1.444

The mean operating profit margin had increased (22.6% to 25.28%) and the increased was statistically significant (t-value of -1.998). Similarly the mean gross profit margin also increased (22.27% to 24.98%) and the increased was statistically significant (t-value of -2.010). The mean net profit margin was decreased in post merger period (6.59% to 3.4%) and it was not statistically significant (t-value of 0.522). The return on net worth increased (39.43% to 46.89%) with statistically significant (t-value of -2.714) and the return on capital employed (6.49% to 2.52%) declined and the decline was statistically significant (t-value of 3.207). The mean debt-equity ratio was not statistically significant (t-value of -1.444) though it was increased in post merger period (6.54 to 6.66).

p) Federal Bank acquired Ganesh Bank of Kurundwad Ltd on 2 September 2006

KEY RATIOS	**PRE-MERGER**	**POST-MERGER**	**t - value**
	(3years before)	(3years after)	(0.05 significance)
Operating Profit Margin	22.04	25.29	-2.642
Gross Profit Margin	21.47	24.92	-2.512
Net Profit Margin	33.35	45.03	-1.767
Return on Net Worth	37.28	21.99	2.330
Return on Capital Employed	3.39	2.87	3.890
Debt-Equity Ratio	6.41	2.97	3.670

The mean operating profit margin had increased (22.04% to 25.29%) and the increased was statistically significant (t-value of -2.642). Similarly the mean gross profit margin also increased (21.47% to 24.92%) and the increased was statistically significant (t-value of -2.512). The mean net profit margin was increased in post merger period (33.35% to 45.03%) and it was not statistically significant (t-value of -1.767). The return on net worth (37.28% to 21.99%) with statistically significant (t-value of 2.33) and the return on capital employed (3.39% to 2.87%) declined and the decline was statistically significant (t-value of 3.890). The mean debt-equity ratio was statistically significant (t-value of 3.670) though it was declined in post merger period (6.41 to 2.97).

TABLE 1

BANKS			***OPERATING PROFIT MARGIN***	***GROSS PROFIT MARGIN***	***NET PROFIT MARGIN***	***RETURN ON NET WORTH***	***RETURN ON CAPITAL EMPLOYED***	***DEBT-EQUITY RATIO***
STATE BANK OF	Pre Merger	(3yrs before)	19.75	19.56	1.55	53.59	1.37	8.47

INDIA	Post Merger	(3yrs after)	23.11	22.78	2.4	47.79	2.56	6.32
	t-value		-5.24	-4.94	-1.59	3.22	-2.40	8.61
ORIENTAL BANK OF COMMERCE	Pre Merger	(3yrs before)	23.78	23.49	4.63	31.85	4.34	3.75
	Post Merger	(3yrs after)	26.12	25.67	3.78	43.83	5.36	4.84
	t-value		-5.85	-5.17	-0.34	-8.91	-1.03	-3.53
BANK OF BARODA	Pre Merger	(3yrs before)	23.77	23.52	2.4	44.72	3.5	5.65
	Post Merger	(3yrs after)	23.44	23.06	2.27	50.92	3.11	6.99
	t-value		0.21	0.23	1.00	-3.88	0.31	-3.12
UNION BANK OF INDIA	Pre Merger	(3yrs before)	24.36	24.04	2.45	67.61	5.8	8.49
	Post Merger	(3yrs after)	23.27	22.9	1.56	73.71	2.85	10.1
	t-value		2.23	2.14	1.18	-0.85	3.06	-2.06
HDFC BANK LTD	Pre Merger	(3yrs before)	26.25	25.16	5.7	27.52	2.38	4.203
	Post Merger	(3yrs after)	25.49	24.21	5	28.05	2.73	4.16
	t-value		1.05	1.57	1.54	-0.24	0.46	-0.53
ICICI BANK LTD	Pre Merger	(3yrs before)	25.96	25.13	3.47	28.97	2.212	4.38
	Post Merger	(3yrs after)	26.27	24.88	2.446	30.9	1.78	4.03
	t-value		0.43	0.74	-2.87	0.28	2.72	0.01
ICICI BANK LTD	Pre Merger	(3yrs before)	25.96	25.13	3.47	28.97	2.212	4.38

	Post Merger	(3yrs after)	26.16	24.65	4.47	32.76	1.05	4.59
	t-value		-1.22	-2.11	-1.91	-6.52	0.50	1.04
BANK OF BARODA	Pre Merger	(3yrs before)	23.33	23.01	2.1006	48.93	3.021	6.61
	Post Merger	(3yrs after)	21.32	20.96	3.47	33.23	3.66	5.5
	t-value		1.62	1.77	0.88	1.89	-4.26	1.47
PUNJAB NATIONAL BANK	Pre Merger	(3yrs before)	22.6	22.27	1.68	69.87	3.06	9.47
	Post Merger	(3yrs after)	21.04	20.46	4.17	30.04	3.39	5.46
	t-value		4.06	1.20	-4.15	5.72	1.65	2.99
BANK OF BARODA	Pre Merger	(3yrs before)	23.28	22.87	2.54	47.54	3.36	6.66
	Post Merger	(3yrs after)	21.07	20.58	3.17	24.68	2.33	4.95
	t-value		2.44	2.71	-1.33	5.65	1.14	3.55
ORIENTAL BANK OF COMMERCE	Pre Merger	(3yrs before)	24.86	24.47	3.11	50.09	4.45	5.72
	Post Merger	(3yrs after)	23.86	23.31	4.28	26.27	3.49	4.5
	t-value		1.18	1.27	-1.10	6.00	0.73	2.10
CENTURION BANK	Pre Merger	(3yrs before)	16.18	13.25	-2.89	31.39	-3.5	6.41
	Post Merger	(3yrs after)	17.82	16.38	2.44	18.68	1.78	3.79
	t-value		-0.59	-1.01	-1.58	1.10	-1.48	1.39
FEDERAL BANK	Pre Merger	(3yrs before)	22.04	21.47	33.35	37.28	3.39	6.41

	Post Merger	(3yrs after)	25.29	24.92	45.03	21.99	2.87	2.97
	t-value		-2.64	-2.51	-1.77	2.33	3.89	3.67
INDIAN OVERSEAS BANK	Pre Merger	(3yrs before)	22.6	22.27	6.59	39.43	6.49	6.54
	Post Merger	(3yrs after)	25.28	24.98	3.4	46.89	2.52	6.66
	t-value		-2.00	-2.01	0.52	-2.71	3.21	-1.44
ICICI BANK LTD	Pre Merger	(3yrs before)	5.53	23.18	4.667	24.15	1.18	3.96
	Post Merger	(3yrs after)	2.39	23.41	3.52	17.91	0.945	2.25
	t-value		0.93	0.04	2.29	2.20	1.09	0.30
HDFC BANK LTD	Pre Merger	(3yrs before)	20.07	19.07	4.96	21.06	2.76	4.09
	Post Merger	(3yrs after)	21.22	20.58	4.71	21.4	3.08	3.34
	t-value		-4.262	-4.004	-0.103	-0.010	-0.809	2.194

Table 1 shows the post merger performance of banks in India in which the acquiring banks alone are considered for analysis. Sixteen bank merger were taken and key financial ratios like operating profit margin, gross profit margin, etc were computed for 3 years prior to and 3 years after the completion of merger. The post-merger performance was compared with the pre-merger performance and tested for significant differences, using paired “t” test.

From the table we can infer that most of the banks had performed well in post merger period. The profitability margin like gross profit margin, net profit margin are very high in the post merger period which signifies that after acquiring the target bank their performance was well appraised. Even their returns on investment and capital employed were increased after their acquisition. But banks like Union Bank of India, Bank of Baroda showed a decline in the post merger period due to the inefficiency and the increase of Non Performing Assets (NPAs) with the target banks. Banks like HDFC, ICICI showed a good sign of increase in their post merger performance and their t-values also showed that they are statistically significant.

All over the above results suggested that for the Banking & Finance Sector in India, mergers had caused an improvement in the profit margins and returns on net worth, though not substantiated statistically. At the same time, due to increase in leverage and interest costs, the net profit margin and return on capital employed had declined marginally, though again not statistically significant. These findings suggested that, mergers had improved operational cost efficiencies and increased operating profitability margins, but the increased efficiencies could not be translated into higher net profit, due to increase in debt levels consequent to the merge.

8. CONCLUSION

The study was undertaken to test whether the acquiring bank has performed well in post merger period by analyzing its operating profit ratios. The results from the analysis of Pre and post-merger operating performance ratios for the acquiring banks shown almost operating profit margin was increased in post merger period and there was a marginal decline in return on net worth and capital employed. Even the liquidity value got declined but that decline was statistically significant.

In the post reform period almost all the public sector banks have improved their performance in terms profitability, low NPAs and raised fresh equity from the capital markets at a good premium. Forced mergers may be detrimental to the further growth of these banks. Dilution of Government ownership may be a prerequisite to improve operational freedom and to devise performance linked incentives for public sector employees, which are essential to tackle the post-merger problems arising out of forced mergers. Another issue which is completely ignored is impact of consolidation on customers, especially small borrowers who are dependent on the banking channel. The other consolidation model which is simultaneously in progress is operational consolidation among banks. Above all we firmly believe that certain corporate governance issues are to be solved on a priority basis before implementation of merger agenda.

Bank mergers in India have often been viewed as shotgun marriages. A strong bank takes over a weaker institution usually one that is about to go belly-up at the behest of the country's central banker, the Reserve Bank of India (RBI). Sometimes the deal doesn't make sense, but regulators force it through. An emerging consensus suggests that more bank mergers may be inevitable. Generally speaking, consolidation leading to cost efficiency may not be a bad idea. The cost of doing business in the banking sector is high. The cost of intermediation is 5% in India and, compared to international levels, it is at the high end. So, if one can bring down administrative costs through mergers that do help.

The study ignored many bank mergers which have taken place after Nationalization due to unavailability of data in Prowess database of CMIE from 1969 to 1989. This study examines 16 bank mergers from the post liberalization period starting from 1990 – 2010.

Future research in this area could be an extension of the present study, by estimating more variables apart from those key financial ratios like market value, leverage ratios, liquidity ratios, etc and the number of observations may be increased considerably. Researchers could also analyze the post-merger returns to shareholders of acquiring banks involved in mergers in India, to correlate with findings of studies indicating poor post merger performance.

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