



## INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION AND MANAGEMENT

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## A STUDY ON THE EFFECTS OF MERGER & ACQUISITIONS IN THE INDIAN BANKING INDUSTRY

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### ABSTRACT

*World over mergers and acquisitions have been happening at a furious pace. The various motivations such as synergies and access to new markets that can be achieved faster through merger and acquisitions than through normal expansions is what is accelerating the drive to adopt this strategy. There are numerous benefits associated with mergers and acquisitions and the financial and strategic management perspective is to be analyzed from several bases. Therefore the banking industry structure, the evaluation of financial implications before and after mergers and the change in share prices after the strategic announcement are studied in this paper. Event study techniques such as CAR and t-test have been used to study the effect of mergers and acquisition along with EVA and Ratio Analysis to understand the financial implications before and after the event. The idea that mergers and acquisitions produce synergies over a long run is supported by the study however it alone cannot ensure that the organisation remains profitable.*

### KEYWORDS

Banking industry, CAR, Economies of scale and scope, EVA, Merger and acquisition, Ratio Analysis, t-test

### INTRODUCTION

Many countries have deregulated the financial industry to accelerate cross border economic activity and encourage the entry of foreign banks into the domestic market. This has led to the privatisation of publicly-owned banks, cross border and domestic mergers and acquisitions of banks and the international expansion of financial institutions (Rezvanian et. al., 2008). In order to understand the effects that the mergers and acquisitions have on the banking industry it is first essential to understand the manner or modus operandi with which they transpire. Theoretically 'a merger occurs when an independent bank loses its charter and becomes a part of an existing bank with one headquarter and a unified branch network (Dario Farcarelli 2002).' In India this consolidation strategy has been initiated by Narasimham committee II. (Kaur, P. & Kaur, G., 2010) Internationally the banking sector has shown a major uproar in the last few years with regard to mergers and acquisitions. Deregulation has been a key driver that has influenced banking institutions to adopt this consolidation strategy. The apparent rewards in the form of economies of scale, diversification, and reduced costs and the new Basel II norms have also led banks to consider M&As. (Srinivasan, R. Chattopadhyay, G. & Sharma, R., 2008)

Before the 1990s Indian companies were under strict control which stifled growth. The economic slump during 1990 led to reforms initiated by the Government of India. The post liberalisation era came into existence from 1991 and since then the Indian Banking sector has seen major structural and strategic changes sustained by privatisation and globalisation (Bhan, A.). This has hastened the entry of foreign banks into the country increasing competitiveness and pushing Indian corporate enterprises to refocus their business with regard to their basic competencies and market share through restructuring exercises such as mergers and acquisitions (Kar, R. N. & Soni, A.).

The Indian government and Reserve Bank of India have realised the importance of these mergers and acquisition in the recent years to bring stability to banking system. Some high profile merger that the industry has seen are the merger of ICICI Ltd. with its banking arm ICICI Banks Ltd, the merger of Global Trust Bank (GTB) with Oriental Bank of Commerce, the merger of IDBI with its banking arm IDBI Bank Ltd, and so on. There have been mergers across all banking categories (i.e. both the private sector & public sector). The motive for a public sector banks has been to merge with the weak bank and that of a private sector bank varies from merger to merger with reasons closely related to that of the localised environment. This report has been written with the reason to understand these localised factors.

### LITERATURE REVIEW

According to Economy Watch (2010), mergers and acquisitions not only facilitate growth in banking operations and minimise expenses but also reduce competition from the banking industry. In the banking industry there usually exists a trend of horizontal merger, where the merging entities are engaged in the same kind of business. However cross-border/ international mergers and acquisitions are also becoming popular by doing this global banking institutions not only achieve a strategic benefit but also enhance their market share. Mergers and acquisitions also capacitate banks to ensure efficiency, profitability, and synergy and increase shareholder value (Economy Watch, 2011).

'India is slowly but surely moving from a regime of large number of small banks to small number of large banks' (Prajapati, S., 2010).

There are numerous motives which can be taken together or in isolation that encourage banks to undertake mergers and acquisitions and been the reason to have enhanced profitability as a long term corporate goal (Khemani, 1991 cited in Kar, R. N. & Soni, A.). The literature states that one of the foremost motives is to attain operational synergies through economies of scale (When banks merger/combine/ acquire then the combined entity gains from operating and financial synergies) and scope (facilitating entry into new markets where banks can cross their product to existing customers) (Rezitis, A. N., 2007). The principle of synergy works on a phenomenon that economists refer to as "2+2=5" effect will basically means that the combined entity will create more value than the individual entities (Prajapati, S., 2010).

The second most perceived motivation for banks to undergo mergers and acquisitions, according to studies, is the access to new markets. 'This is more evident from voluntary mergers such as merger between Centurion Bank and New Bank of Punjab.' (Prajapati, S., 2010). It works on the motivation that the acquiring company will absorb one of its competitors and thus increase its market share and grow earnings. They may also give them new sales opportunities and also make it easier to raise capital than smaller firms.

Prajapatis' (2010) study shows that a 'significant number of banks have assigned modest ranking to benefits like reduction in cost of funds, diversification of loan portfolio and expansion of range of services available to the public. Majority of the banks have assigned lowest priority to the fact that mergers may bring improvement in employee incentives and extension of career opportunities.' (Prajapati, S., 2010).

Apart from these motives the tax shields act 'as a catalyst for a strong bank to acquire distressed banks that have accumulated losses and unclaimed depreciation benefits in their books'. And also in order to 'protect depositors, and prevent the de-stabilisation of the financial services sector, the RBI steps in to force the merger of a distressed bank'. (Srinivasan, R. Chattopadhyay, G. & Sharma, R., 2008)

'Merger of two weaker banks or merger of one healthy bank with one weak bank can be treated as the faster and less costly way to improve profitability than spurring internal growth' (Franz, H. Khan cited in *The Free Library by Farlex, 2010*).

Merger and acquisition have both financial and strategic implication and over the years there have been a number of studies conducted that analyse this impact on the efficiency of banks. Studies that are conducted are either 'ex-ante' studies that assess stock price movement with regard to merger announcement or 'ex-post' studies that assess the performance by comparing pre and post merger performance of banks.

Empirical studies of this type indicate that a target firm's shareholders benefit and the bidding firm's shareholders generally lose (Franks & Harris, 1989 cited in Kar, R. N. & Soni, A.). Performance is considered to have improved if the return to shareholders has increased post merger. Industrial organisation studies on profitability consider longer time periods than share price monitoring studies. 'Most of the firms do not show significant improvement in long term profitability after acquisition (Scherer, 1988 cited in Kar, R. N. & Soni, A.). There are some studies which have concluded that conglomerate M&A's provide more favourable results than horizontal and vertical M&A's' (Reid, 1968; Mueller, 1980 cited in Kar, R. N. & Soni, A.). The pre merge and post merger operating profit margin, compared by Das (2000 cited in Kar, R. N. & Soni, A.), 'for a sample of 14 acquiring firms and find a decline in profitability in 8 of these companies after merger'. There are studies that go on to support Das (Saple 2000 cited in Kar, R. N. & Soni, A.) and these observe 'that mergers did not lead to an improvement in performance as measured by profitability (return over net assets) adjusted for the industry average.'

The literature also goes on to suggest that there is mixed empirical evidence with regard to impact of merger and acquisitions on efficiency and performance in banks. Most of these studies focus on developed economies and even if there is literature on mergers and acquisitions in India it goes as far as 2006. In this paper we look to understand the impact that recent mergers have had in the banking industry (*The Free Library by Farlex, 2010*).

Therefore since deregulation in 1991 there have been a number of challenges faced by banks and new operating initiatives have introduced all to the likes of 'Non – Performing Assets, Competition, Asset Size, Capital Base, universal Banking, Customer Service, Branch Banking, Technology, Basel II Implementation, Implementation of New Accounting Standards, Transparency and Disclosures, Financial Conglomerates, Know Your Customer (KYC)' (Pamarty, M.)

Though, there are huge volumes of research on mergers and acquisitions in developed nations there is a lack of information in developing countries like India. The evidence so far is mixed and not recent. This report will look to draw definite conclusions and update the studies.

## RESEARCH METHODOLOGY OF THE STUDY

Keeping in mind the literature on the subject and the scope and significance of the study the following are the objectives of this study:

1. To analyze the benefits and costs involved with Mergers & Acquisitions in banks.
2. To understand the strategic and financial implications of these Mergers & Acquisitions.

These objectives will be studied using the case study of four mergers that have occurred in between 2005- 2010 i.e. the merger between ICICI Bank and Bank of Rajasthan, IDBI Bank and United Western Bank, HDFC Bank and Centurion Bank of Punjab, and Federal Bank and Ganesh Bank of Kurundwad.

Returns of the stock have been calculated by comparing the closing stock price on the t day (Day zero) to the closing stock price of the stock on t-1 day. The expected rate of the return is calculated using the using the capital asset pricing model. The abnormal Returns have been calculated by subtracting the expected returns from the actual stock returns. Over the period of 60 days pre and post merger the abnormal returns were found and paired t-test was applied on these abnormal returns. 'If the value given by the t-test was less than .05 then the hypothesis which is that the data sets are similar over the period of study is rejected and we conclude that the significant effect of merger is prevalent' (Brage, V. & Eckerstom, G.). Therefore the short term effects of the merger and acquisition on the bank can be identified.

The Cumulative Abnormal Return (CAR) is also calculated for a period of 20 days after the event window. If the CAR is positive after the event window then there is a value added to the shareholders wealth (Mei, L, 2008).

In order to analyse the long term effect the merger has on the bank and the financial performance of banks we use the EVA model which link finance and the competitive strategy framework and also indicates value to the shareholder. The data used for this is financials of the bank one year pre merger and three years' post merger financials of the merged banks.

$EVA = \text{Net operating profit of the company (NOPAT/ Total capital employed)} - \text{Cost of the capital} \dots\dots\dots (1)$

$NOPAT = EBIT * (1 - \text{tax rate}) \dots\dots\dots (2)$

Cost of the capital has been calculated as WACC which is weighted average cost of capital. This is the weighted sum of the cost of debt and cost of equity. The weights are based on the book values of debt and equity. The cost of debt is calculated as interest after tax over current total debt and cost of equity is calculated using the CAPM model where the risk free rate is the rate of government treasury bonds at the time and the Beta is as provided by the stock market for the period

Total Capital Employed has been calculated as the sum of total equity, reserves and borrowings.

'This formula will give us a positive or a negative EVA number. Positive EVA number means that the company is going to create value for its shareholders and negative EVA number means that it is destroying the value of the shareholders' (Chong et. al., 2009)

The third part involves analysing the financial ratios of the five banks from the period 2000- 2010. The data for the same will be collected from ACE Equity and money control. The ratios will analyse the liquidity position, operating efficiency, overall efficiency, return to equity shareholder, return on networth, and earnings per share.

## ANALYSIS & OBSERVATIONS

The mergers and acquisitions in the Indian Banking Sector are considered to be imperative due to the conducive environment that exists in the industry. In order to understand what motivated each of the banks to undergo the respective mergers we analyse the different motivations, the short term and long term implications on the shareholders and financial implications behind each merger.

### 1. ICICI BANK AND BANK OF RAJASTHAN

ICICI Bank had a 'new-found-branch-strategy' and thus one of the prime motives for ICICI Bank taking over Bank of Rajasthan is expand to new markets as Bank of Rajasthan's branches are concentrate in Northern & Western India thus ensuring deeper access to these markets. Bank of Rajasthan promoters (who had a 55% stake) agreed to this takeover because there was mounting pressure from SEBI to do so, thus creating a win-win situation for both banks. (Anon., 2010)

The pressing issue at the time of this takeover is that Bank of Rajasthan had a considerable amount of legal liabilities and bad debt which seems to be under control but there could be cause of worry. (Anon., 2011)

On 19<sup>th</sup> May 2010 (t), ICICI Bank Board of Directors approves the amalgamation with Bank of Rajasthan. On conducting the analysis of the post merger effect on the shareholders of ICICI Bank using T-test, CAR and EVA the following conclusions are drawn.

- To establish that the merger has had an effect over a short period and to measure the benefits of this deal we ran the paired t-test with the time period of t+60, t-60, t. The value of t-test for this deal for t+60, t-60 is coming out be .60 (Table 1.1) which is quite high and accepts our hypothesis that the merger has not had a significant effect on the abnormal returns of the bank pre merger and post merger.
- The abnormal return on day t is negative indicating that the announcement of merger has been accepted as a negative news but the announcement though there has been improvements they are not significant enough. This shows that over a short period of time merger did not affect the returns. (Table 1.2)
- Then we studied effect of merger over a long period of time that is one year using EVA. The deal took place in May 2010 so we calculate the economic value added by the merger in the year FY 2009-10 (the year before the merger) & FY 2010-11 (the year of the merger). For the acquirer ICICI Bank the EVA value of 2009-10 is negative 0.79%. In the year of the merger its value decreases to negative 1.59% which is a clear indication that the news of the merger of the two banks did not create positive impact on profitability with the increase in capital employed (Table 1.3).

To further understand the financial implications of the merger we conduct a ratio analysis pre and post merger. Since the merger took place in FY 09-10 we have considered that and compared it to two years previous to that (Table 1.4).

- The liquidity position of the ICICI Bank has not changed significantly post merger. The cash-deposit ratio is expected to decrease due to the expected increase in deposits.
- Post merger the overall efficiency of the acquiring bank ICICI is expected to increase by almost 22 % from the previous year and an indicator that earnings are looking to increase.
- When shareholders position is analysed it is seen though the EPS is expected to return the ROE is expected to decrease. This decrease in ROE is consistent with CAR and t-test results.
- The bank has taken on more debt post merger which may not be an ideal position

Overall it is seen that post merger though ICICI Bank has been able to increase its deposits it hasn't been able to convert the acquisition into a significant increase in investments to create a recognisable value for their shareholders wealth.

## 2. IDBI BANK AND UNITED WESTERN BANK

United Western Bank had been in trouble for a while as they had a host of problems from making 'irregular transactions with some of its major shareholders, conflicts between its major shareholders regarding the ownership of the bank, poor governance and inefficient management of capital' causing RBI to intervene and have another bank takeover its entire assets, liabilities and operations. (IBS Centre for Management Research, 2006)

The criteria to determine which of the many interested banks would acquire United Western was 'depositor interest apart, the RBI considered employees' interest and whether the acquiring bank sought any regulatory forbearance, Shareholder interest was the fourth yardstick. Also factors such as branch network of the acquiring bank, the technology it employed and the synergy that would result from the acquisition, if any, were also considered.' (Anon., 2006). On 13<sup>th</sup> September, 2006 RBI announced that United Western would merge with IDBI and that it would be evident in the third quarter financials of FY 2006-07.

This merger is going to improve the synergies of IDBI Bank (then just being converted into a financial institution). The number of branches that IDBI Bank will have under its control post the merger with United Western will increase from 195 to 425. 'The merger will also expand IDBI's asset base by Rs 7,166 crore.' (Rediff Business, 2006). Its market in Maharashtra (one of the richest loan markets) will increase and thus eventually increase the economies of scale and scope of the bank as they expect to lower the costs it takes to raise their resources. IDBI plans on using the branches of United Western to meet their priority sector target as the acquired bank has a good rural presence (TNN, 2006).

'According to the amalgamation scheme, all the employees of UWB will continue in service and be deemed to have been appointed in IDBI Ltd at the same remuneration and on the same terms and conditions of service.' (Anon., 2006) In order to study the post merger effect on the shareholders of IDBI Bank using T-test, CAR and EVA the following conclusions are drawn.

- To understand the effect this merger had on the IDBI Bank's shareholders over a short period we ran the paired t-test with the time period of t+60, t-60, t. The value of t-test for this deal for t+60, t-60 is coming out to be .52 (Table 2.1) which is quite high and accepts our hypothesis that the merger has not had a significant effect on the abnormal returns of the bank pre merger and post merger.
- The abnormal return on day t surged at almost a positive 11% indicating that the announcement of merger has been accepted positively by the market. However on observing CAR post the announcement by the RBI there have been mixed responses over the next 20 days but they are not significant enough. This shows that over a short period of time merger did not affect the returns (Table 2.2). It can also be noted that on 27<sup>th</sup> September 2006 when United Western Bank objected to the merger with IDBI they took it positively and the prices went up, therefore one can conclude that initially the shareholders considered the merger good but over a short period felt quite the opposite.
- To study the effect of merger in the long term that is one year we use EVA. The takeover took place in September 2006 so we calculate the EVA for FY 2005-06 (the year before the merger), FY 2006-07 (the year of the merger) & FY 2007-08. The EVA of IDBI Bank has been negative for all three years but has increased from -5.57% to -5.08% to -3.85% over the years, which indicates that the profitability of the firm has been improving (Table 2.3).

The financial implications of the merger can be further understood on conducting ratio analysis pre and post merger. Since the merger took place in FY 06-07 we have considered that and compared it to two years previous and two year post the merger for the analysis (Table 2.4).

- The liquidity position of the IDBI Bank has not improved post merger. The investment-deposit ratio has decreased, this is because the deposits have increased by huge margins but there has not been proportionate increase in the banks investments.
- Over the years considered the efficiency of IDBI Bank has been improving. Post merger the operating profit of IDBI increased by almost 42% and overall efficiency of the acquiring bank IDBI increased by almost 15 % from the previous year and an indicator that earnings are looking to further increase over the years.
- There has been a gradual increase in ROE and EPS over the years that are being analysed. This proves that IDBI has been making good investments and that shareholders value though marginally will continue to increase.
- The bank has been able to reduce debt-equity ratio post merger thus ensuring that the financial risk of its shareholders is being reduced.

Post merger IDBI Bank has been able to lower their cost of acquiring their resources, increase its deposits it has been able to convert the acquisition into a significant increase in investments to create a recognisable value for their shareholders wealth and improve overall efficiency and profitability making the merger synergistic.

## 3. HDFC BANK AND CENTURION BANK OF PUNJAB

'CBoP has not been performing well operationally its costs were high and growth was low as compared to industry standards.' (Digital Inspiration, 2011)

HDFC Bank was looking to grow and keep up with the fast growing economy by increasing their scale and geographical reach. They picked to do this with Centurion Bank of Punjab as they have the similar beliefs with respect to the 'terms of culture, strategic intent and approach to business' and 'also desperately need experienced staff to expand their services'. (Global Finance, 2011)

'After the merger, HDFC Bank will be the third-largest bank by assets in the country, trailing State Bank of India and ICICI Bank' (Global Finance, 2011).

This merger will not only allow HDFC Bank reach new markets but will also ensure that their market share increases as 'the combined entity will have a nationwide network of 1,148 branches, the largest of any private sector bank in India', overtaking ICICI Bank in the number of branches and increase its presence in states like Punjab, Haryana and Kerala (Economist, 2008 & Digital Inspiration, 2011).

'HDFC Bank plans to expand overseas and already has acquired a license for a branch in Bahrain.' (Global Finance, 2011), Centurion Bank of Punjab's has expertise in international markets and this will help set the platform to compete in local and global markets (Hindu, 2011). On 29<sup>th</sup> February 2008, HDFC Bank announced its interest in merging with Centurion Bank of Punjab and in order to study the post merger effect on the shareholders of HDFC Bank we use T-test, CAR and EVA and drew the following conclusions:

- To understand the effect this merger had on the HDFC Bank's shareholders over a short period we ran the paired t-test with the time period of t+60, t-60, t. The value of t-test for this deal for t+60, t-60 is coming out to be .33 (Table 3.1) which is not significant and accepts our hypothesis that the merger has not had a significant effect on the abnormal returns of the bank pre merger and post merger.
- The abnormal return on day t surged at almost a positive 62% indicating that the announcement of merger has been accepted more than positively by the market. However on observing CAR post the announcement by the RBI there have been mixed responses over the next 20 days but they are not significant enough. This shows that over a short period of time merger did not affect the returns (Table 3.2).
- To study the effect of merger in the long term that is one year we use EVA. The takeover took place in February 2009 so we calculate the EVA for FY 2007-08 (the year before the merger), FY 2008-09 (the year of the merger) & FY 2009-10 (the year after the merger). The EVA of HDFC Bank has been positive for all three years and it has increased from about 7% pre merger to 12% in the year of merge to 15% post merger showing that the shareholder's value is increasing over the long term (Table 3.3).



On conducting ratio analysis pre and post merger the financial implications that the merger has had on HDFC Bank can be understood. Since the merger took place in FY 07-08 we have considered that and compared it to two years previous and two year post the merger for the analysis (Table 3.4).

- The bank has been able to maintain its liquidity position post merger with its investment-deposit ratio and cash-deposit ratio remaining almost similar as deposits, cash and investments have increased almost proportionately.
- The efficiency of the bank has been positive and growing steadily over the years' both pre and post merger. In the year after the merger however the growth sky rocketed. The operating efficiency post merger increased by huge margins post merger year (almost 150%) which means that the company was healthier than ever and has only improved since. The overall efficiency has also seen high improvement of 41%
- The Return on Equity has been almost similar over the years both pre and post merger. The EPS has been consistently increasing over the five years too, being at Rs. 32.29 in the year prior to the merger and 52.77 in the year post merger. This proves that the bank uses owners' funds to generate earning growth and this with the operating efficiency proves that shareholders wealth is increasing post merger.
- The bank has been able to reduce its debt- equity ratio post merger by almost half thus ensuring that the financial risk of its shareholders is being reduced by half.

HDFC Bank post merger has been able to lower the financial risk and increase its value. Its economies of scale and scope have played a major role in this, proving what CRISIL, the rating agency, said about 'the benefits of an expanded branch network and wider geographical coverage will more than offset any short-term negatives.' (Economist, 2008)

#### 4. FEDERAL BANK AND GANESH BANK OF KURUNDWAD

Ganesh Bank of Kurundwad's net worth has turned negative and the Reserve Bank of India had put it under moratorium. The bank was unable to create a new and credible plan to raise capital.

Federal Bank which is well established in Kerala and also has branches across other states had been looking to grow inorganically by expanding out of Kerala and expanding its delivery channels.

With Ganesh Bank's operation having great reach in Karnataka and Maharashtra, Federal Bank was confident that merging with the bank would allow them to expand their business in these regions and thus submitted a proposal to the RBI. After consideration of factors such as 'the interest of depositors of Ganesh Bank of Kurundwad as well as the bank's strengths and weaknesses' the RBI prepared a draft for the amalgamation. (Hindu, 2006)

The merger is considered to be beneficial to Federal Bank since it gives them access to locations where they do not have a presence and also since they focus on giving advances to SME's and agricultural enterprises this would create potential growth centres, thus improving their overall synergies (Money Control, 2006).

They however will lose down all the loss making branches of Ganesh Bank and integrate the other branches as per convenience.

The employees of Ganesh Bank 'will continue in service and be deemed to have been appointed in Federal Bank at the same remuneration and on the same terms and conditions of service.' (Hindu, 2006)

On 24<sup>th</sup> January 2008 (t), Federal Bank announced its interest in merging with Ganesh Bank of Kurundwad and in order to study the post merger effect on the shareholders of Federal Bank we use T-test, CAR and EVA and drew the following conclusions:

- On running the paired t -test with the time period of t+60, t-60, t we will be able to understand the effect this merger had on the Federal Bank's shareholders over a short period. The value of t-test for this deal for t+60, t-60 is coming out be .84 (Table 4.1) which is not significant and accepts our hypothesis that the merger has not had a significant effect on the abnormal returns of the bank pre merger and post merger.
- The abnormal return on day (t) dropped to a negative 4.73% indicating that the announcement of merger has been accepted negatively by the market but it bounced back on the next trading day. On further observing the CAR, post the announcement there has been mixed responses over the next 20 days but they are not significant enough deeming that over a short period of time merger did not affect the returns (Table 4.2).
- We now use EVA to study the effect of merger in the long term (that is one year). The merger took place in January 2006 so we calculate the EVA for FY 2004-05 (the year before the merger), FY 2005-06 (the year of the merger) & FY 2006-07 (the year after the merger). Federal Bank's EVA has been positive for all three years but it has decreased almost half from about 30% pre merger to 15% in the year of merge and post merger showing that the shareholder's value is decreasing over the long term caused by an increase in deposits and cost of capital (Table 4.3).

The ratio analysis pre and post merger indicate the following financial implications that the merger has had on Federal Bank can be understood. Since the merger took place in FY 05-06 we have considered that and compared it to two years previous and two year post the merger for the analysis (Table 4.4).

- When it comes to the liquidity of the bank the investment-deposit ratio hasn't changed significantly post merger. The cash-deposit ratios has improved to a slight extent. This reduces the liquidity risk of the firm slightly.
- Pre merger Federal Bank was not what one would call efficient both operationally and overall but post merger both the overall and operating efficiency has increased and grown by a decent level of about 25- 35 % and proven that the company is becoming healthier and more profitable.
- With both the ROS and EPS decreasing two years post the merger it further validates the fact that the value for the banks shareholders has not been increasing. This tells us that the bank has been using borrowed fund to generate profits and if not stabilised could prove unprofitable for the company.
- The bank's debt- equity ratio post merger increased and then reduced which means that post merger the bank has increased its debt to finance its operations which may not be a very positive move.

It is seen that though Federal Bank may have gained a larger market they have not been able to attain synergies i.e. reach economies of scale and scope as the shareholders value and efficiency have been diminishing.

## CONCLUSION

The subject of Mergers and Acquisitions will now and continue to be a keen area of interest for a number of researchers. The banking sector in particular is one of the few industries that evoke a high interest as a result of the deregulation and liberalisation in the industry which lead to a wave of merger and acquisitions throughout the industry locally and globally.

This study started by taking a look into the motives behind the mergers & acquisitions in the banking industry. The reasons that have been evident over the cases that have been studied are (1) the fragmented nature of the industry do not allow banks to have a competitive global presence and positioning and (2) large cost involved with internal expansion and probability of increasing their risk profile causing banks to want to increase their market share and look to improve their synergies.

The conclusion that have been drawn from conducting this study on the cases analysed are (a) the effect of the mergers in the short term i.e. in the days immediately before and after the merger, have shown no significant impact with relation to change in the stock prices, (b) on studying the EVA we understand the long term effect or the synergies brought about by the merger and in this study two out of four have showed improved EVA's concluding that the right investment can bring out strategic and financial benefits to the merged company.

The study therefore supports the idea that mergers and acquisitions can generate synergies over the long run if the banks many accurate evaluations, estimate future prospects and carefully allocate their resources. Mergers and acquisitions can be the first step towards creating a profitable organisation but it alone cannot generate synergies and value for the shareholders on a sustained basis. The focus should therefore be on improving governance, risk management and strategic planning.

## APPENDIX

TABLE 1.1: T-TEST RESULT FOR ICICI BANK PRE AND POST MERGER WITH BANK OF RAJASTHAN

t-Test: Paired Two Sample for Means	Variable 1	Variable 2
Mean	0.000261065	0.000403678
Variance	0.000118204	0.000108715
Observations	60	60
Pearson Correlation	-0.017006652	
Hypothesized Mean Difference	0	
Df	59	
t Stat	-0.072717734	
P(T<=t) one-tail	0.471138349	
t Critical one-tail	1.671093033	
P(T<=t) two-tail	0.942276697	
t Critical two-tail	2.000995361	

TABLE 1.2: CAR FOR ICICI BANK POST MERGER WITH BANK OF RAJASTHAN

DATE	ACTUAL RETURN	ABNORMAL RETURN	CUMMULATIVE ABNORMAL RETURN
19-May-10	-7.56%	-3.13%	
20-May-10	0.87%	0.03%	0.03%
21-May-10	0.38%	0.89%	0.92%
24-May-10	-0.32%	-0.70%	0.21%
25-May-10	-2.77%	1.48%	1.69%
26-May-10	4.64%	1.22%	2.90%
27-May-10	1.06%	-1.53%	1.37%
28-May-10	0.92%	-0.97%	0.41%
31-May-10	0.41%	-0.17%	0.24%
01-Jun-10	-3.56%	-0.07%	0.17%
02-Jun-10	0.52%	-0.97%	-0.80%
03-Jun-10	1.39%	-1.30%	-2.09%
04-Jun-10	1.37%	0.64%	-1.45%
07-Jun-10	-2.80%	0.22%	-1.24%
08-Jun-10	-2.95%	-1.53%	-2.76%
09-Jun-10	0.86%	0.47%	-2.29%
10-Jun-10	0.54%	-1.79%	-4.08%
11-Jun-10	2.02%	0.83%	-3.25%
14-Jun-10	0.90%	-1.38%	-4.63%
15-Jun-10	0.75%	0.05%	-4.58%
16-Jun-10	1.92%	1.61%	-2.97%
17-Jun-10	0.81%	-0.37%	-3.34%
18-Jun-10	-1.66%	-1.30%	-4.64%

TABLE 1.3: EVA FOR ICICI BANK PRE AND IN THE YEAR OF MERGER

ICICI BANK	2010-11*	2009-10
Cost of Debt	2.91%	4.47%
Cost of Equity	13.40%	13.40%
Cost of Capital	4.80%	5.81%
NOPAT	68720.78	73283.31
Capital Employed	2143410	1458819.35
EVA	-1.59%	-0.79%

\* projected for the year

TABLE 1.4: RATIO ANALYSIS FOR ICICI BANK PRE AND IN THE YEAR OF MERGER

ICICI BANK	2011*	2010	2009
Investment/Deposits (x)	0.61	0.60	0.47
Cash/ Deposits (x)	0.08	0.14	0.08
Net Profit Growth (%)	22.54	7.10	-9.61
Return to Equity (%)	6.67	7.96	7.83
Earnings per Share (x)	43.52	36.10	33.76
Debt-Equity Ratio	1.9	1.85	1.65

\* projected for the year

**TABLE 2.1: T-TEST RESULT FOR IDBI BANK PRE AND POST MERGER WITH UNITED WESTERN BANK LIMITED**

t-Test: Paired Two Sample for Means	Variable 1	Variable 2
Mean	-0.002694166	-0.00018698
Variance	0.000397574	0.000509664
Observations	60	60
Pearson Correlation	0.019059576	
Hypothesized Mean Difference	0	
Df	59	
t Stat	-0.650951156	
P(T<=t) one-tail	0.258802649	
t Critical one-tail	1.671093033	
P(T<=t) two-tail	0.517605298	
t Critical two-tail	2.000995361	

**TABLE 2.2: CAR FOR IDBI BANK POST MERGER WITH UNITED WESTERN BANK LIMITED**

DATE	ACTUAL RETURN	ABNORMAL RETURN	CUMMULATIVE ABNORMAL RETURN
13-Sep-06	13.43%	10.84%	
14-Sep-06	-3.94%	-4.61%	-4.61%
15-Sep-06	2.60%	2.33%	-2.28%
18-Sep-06	1.34%	0.79%	-1.49%
19-Sep-06	-0.21%	1.20%	-0.29%
20-Sep-06	4.00%	2.21%	1.92%
21-Sep-06	1.74%	-0.21%	1.71%
22-Sep-06	-2.83%	-2.47%	-0.77%
25-Sep-06	0.82%	1.63%	0.86%
26-Sep-06	0.41%	-1.46%	-0.60%
27-Sep-06	7.29%	7.01%	6.41%
28-Sep-06	3.94%	4.24%	10.64%
29-Sep-06	0.12%	-0.51%	10.13%
03-Oct-06	2.15%	2.88%	13.01%
04-Oct-06	-1.55%	0.57%	13.58%
05-Oct-06	1.43%	-0.49%	13.09%
06-Oct-06	-0.12%	-0.30%	12.79%
09-Oct-06	-0.12%	-0.01%	12.78%
10-Oct-06	-1.07%	-1.21%	11.56%
11-Oct-06	-2.30%	-1.81%	9.75%
12-Oct-06	0.85%	-1.53%	8.22%

**TABLE 2.3: EVA FOR IDBI BANK PRE AND IN THE YEAR OF MERGER**

IDBI BANK	2005-06	2006-07	2007-08
Cost of Debt	6.48%	6.12%	5.85%
Cost of Equity	12.85%	12.88%	12.88%
Cost of Capital	6.99%	6.73%	6.34%
NOPAT	7634.61	8371.97	11820.71
Capital Employed	539022.66	507042.38	474345.19
EVA	-5.57%	-5.08%	-3.85%

**TABLE 2.4: RATIO ANALYSIS FOR IDBI BANK PRE AND IN THE YEAR OF MERGER**

IDBI BANK	2009	2008	2007	2006	2005
Investment/Deposits (x)	0.45	0.45	0.59	0.97	1.66
Cash/ Deposits (x)	0.08	0.09	0.12	0.10	0.16
Operating Profit Growth (%)	-3.9	47.04	13.21	144.28	26.8
Net Profit Growth (%)	7.7	15.73	12.38	82.55	131.98
Return to Equity (x)	12.06	11.19	10.00	9.12	9.39
Earnings per Share (x)	11.85	10.06	8.70	7.75	4.26
Debt-Equity Ratio	5.48	6.22	7.13	7.93	7.87

**TABLE 3.1: T-TEST RESULT FOR HDFC BANK PRE AND POST MERGER WITH CENTURION BANK OF PUNJAB**

t-Test: Paired Two Sample for Means	Variable 1	Variable 2
Mean	-0.000743126	0.01090124
Variance	0.000450428	0.007299461
Observations	59	59
Pearson Correlation	-0.1458434	
Hypothesized Mean Difference	0	
Df	58	
t Stat	-0.983011038	
P(T<=t) one-tail	0.164842464	
t Critical one-tail	1.671552763	
P(T<=t) two-tail	0.329684927	
t Critical two-tail	2.001717468	

TABLE 3.2: CAR FOR HDFC BANK POST MERGER WITH CENTURION BANK OF PUNJAB

DATE	ACTUAL RETURN	ABNORMAL RETURN	CUMMULATIVE ABNORMAL RETURN
29-Feb-08	-1.08%	0.06%	
03-Mar-08	56.82%	62.01%	62.01%
04-Mar-08	2.29%	4.05%	4.05%
05-Mar-08	5.03%	3.89%	7.94%
07-Mar-08	-5.25%	-2.23%	5.71%
10-Mar-08	-2.76%	-3.34%	2.37%
11-Mar-08	-2.04%	-3.36%	-1.00%
12-Mar-08	1.24%	1.12%	0.12%
13-Mar-08	-1.33%	3.78%	3.90%
14-Mar-08	0.09%	-2.46%	1.44%
17-Mar-08	-11.68%	-6.55%	-5.11%
18-Mar-08	-0.71%	-1.35%	-6.47%
19-Mar-08	0.14%	-0.74%	-7.20%
24-Mar-08	7.22%	6.45%	-0.75%
25-Mar-08	8.68%	3.17%	2.42%
26-Mar-08	2.84%	3.82%	6.24%
27-Mar-08	-0.17%	-0.20%	6.04%
28-Mar-08	-1.96%	-4.19%	1.85%
31-Mar-08	-3.46%	0.72%	2.57%
01-Apr-08	-6.68%	-6.78%	-4.21%
02-Apr-08	4.59%	4.29%	0.08%

TABLE 3.3: EVA FOR HDFC BANK PRE AND IN THE YEAR OF MERGER

HDFC BANK	2006-07	2007-08	2008-09
Cost of Debt	3.11%	3.24%	4.17%
Cost of Equity	11.30%	11.30%	11.30%
Cost of Capital	4.99%	4.05%	4.81%
NOPAT	11414.69	26248.67	35232.42
Capital Employed	92485.4	159760.9	177385.7
EVA	7.35%	12.38%	15.05%

TABLE 3.4: RATIO ANALYSIS FOR HDFC BANK PRE AND IN THE YEAR OF MERGER

HDFC BANK	2010	2009	2008	2007	2006
Investment/Deposits (x)	0.49	0.45	0.51	0.53	0.64
Cash/ Deposits (x)	0.12	0.07	0.06	0.07	0.08
Operating Profit Growth (%)	24.15	150.09	46.86	29.57	47.24
Net Profit Growth (%)	31.35	41.17	39.31	31.08	30.83
Return to Equity (x)	16.31	17.17	17.74	19.46	17.74
Earnings per Share (x)	64.42	52.77	44.87	36.29	27.92
Debt-Equity Ratio	0.26	0.27	0.41	0.48	0.78

TABLE 4.1: T-TEST RESULT FOR FEDERAL BANK PRE AND POST MERGER WITH GANESH BANK OF KURUNDWAD

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	-0.000871298	-8.7895E-06
Variance	0.000589388	0.000487118
Observations	60	60
Pearson Correlation	-0.027593746	
Hypothesized Mean Difference	0	
Df	59	
t Stat	-0.200884512	
P(T<=t) one-tail	0.420739898	
t Critical one-tail	1.671093033	
P(T<=t) two-tail	0.841479795	
t Critical two-tail	2.000995361	

TABLE 4.2: CAR FOR FEDERAL BANK POST MERGER WITH GANESH BANK OF KURUNDWAD

DATE	ACTUAL RETURN	ABNORMAL RETURN	CUMMULATIVE ABNORMAL RETURN
25-Jan-06	-3.40%	-4.73%	
27-Jan-06	4.08%	4.33%	4.33%
30-Jan-06	-2.57%	-3.40%	0.94%
31-Jan-06	0.19%	1.11%	2.04%
01-Feb-06	-2.04%	-1.91%	0.13%
02-Feb-06	-0.23%	0.61%	0.74%
03-Feb-06	-1.51%	-3.38%	-2.63%
06-Feb-06	0.20%	-0.40%	-3.03%
07-Feb-06	0.34%	0.68%	-2.35%
08-Feb-06	0.51%	-0.06%	-2.41%
10-Feb-06	2.11%	1.69%	-0.72%
13-Feb-06	1.22%	1.94%	1.22%
14-Feb-06	-1.30%	-1.44%	-0.23%
15-Feb-06	-1.23%	-1.22%	-1.44%
16-Feb-06	0.51%	1.74%	0.30%
17-Feb-06	-2.50%	-3.25%	-2.95%
20-Feb-06	-0.78%	-1.69%	-4.64%
21-Feb-06	0.46%	0.00%	-4.65%
22-Feb-06	-1.07%	-1.42%	-6.06%
23-Feb-06	1.96%	2.33%	-3.74%
24-Feb-06	-0.11%	-0.64%	-4.38%

TABLE 4.3: EVA FOR FEDERAL BANK PRE AND IN THE YEAR OF MERGER

FEDERAL BANK	2004-05	2005-06	2006-07
Cost of Debt	3.48%	3.58%	3.61%
Cost of Equity	10.93%	10.93%	10.93%
Cost of Capital	3.78%	4.02%	4.05%
NOPAT	3107.84	3573.12	4554.46
Capital Employed	9092.48	18604.82	22724.16
EVA	30.40%	15.18%	15.99%

TABLE 4.4: RATIO ANALYSIS FOR FEDERAL BANK PRE AND IN THE YEAR OF MERGER

FEDERAL BANK	2008	2007	2006	2005	2004
Investment/Deposits (x)	0.39	0.33	0.35	0.38	0.41
Cash/ Deposits (x)	0.09	0.06	0.07	0.05	0.05
Operating Profit Growth (%)	29.55	35.56	12.93	-8.32	24.25
Net Profit Growth (%)	25.73	29.98	149.99	-33.91	29.8
Return to Equity (x)	13.59	21.38	22.99	13.28	23.29
Earnings per Share (x)	21.52	34.20	26.31	13.73	62.65
Debt-Equity Ratio	0.29	0.50	0.41	0.23	0.18

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