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Impact of Mergers on the Efficiency of Banks in India : A Study of the Merger of Bank of Rajasthan with ICICI Bank

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Abstract

Mergers and Acquisitions in the banking industry are buzzwords these days. The mergers have an impact on the financial and operational efficiency of the banks. The present paper attempts to study the impact of merger on the efficiency of the acquirer bank with special reference to the merger of Bank of Rajasthan with the ICICI Bank that took place on August 13, 2010. The paper analyses the impact of merger on the efficiency of acquirer bank and compares the pre and post merger efficiency of the bank. For the purpose of analysis, the most widely used non-parametric approach, that is, DEA (Data Envelopment Analysis) model has been used. The study found that the merger of the Bank of Rajasthan with the ICICI Bank has a positive impact on the operational efficiency of the acquirer bank, that is, ICICI Bank. It means that the operational efficiency of the bank improves as a result of the merger.

INTRODUCTION

The main objectives of the reforms in Indian Banking Sector were to improve the profitability of banks with effective control and supervision, to create competitive spirit among Indian institutions and to link them with the world markets. Accordingly, in 1991 the Narasimham Committee recommended for deregulation of the interest rate structure, introduction of the prudential norms, proper income recognition, classification of assets based on their quality and provisioning against bad and doubtful debts, deregulation of the entry norms for private sector banks

and foreign banks, permitting public and private banks to access the capital market etc. In addition to above reforms, a second high level Committee on Banking Sector Reforms (1998) headed by M. Narasimham made wide ranging recommendations covering various aspects of banking policy, institutional, supervisory and legislative dimensions. The committee recommended for strict prudential norms, greater emphasis on asset/liability management and for restructuring of the banking system so as to have three or four large banks which would become international in character, eight to ten national banks and local banks confined to specific regions. Thus, the recent mergers and acquisitions in Indian banking sector have been initiated through the recommendations of Narasimham Committee II. The reforms in the Indian banking industry have led to new changes and new competition that forced the banks to improve competitiveness via mergers and acquisitions. Thus, the suggestions of Narasimhan Committee and Khan Committee for consolidation of banking through mergers and amalgamations, has brought about a change in commercial banks and directed them towards universal banking. It is thus nothing but embracing the completely new objectives through transformation. It is mainly thus foreseeing the opportunities that lie beyond. In this changing environment, ICICI Bank, Kotak Mahindra Bank Ltd., HDFC Bank Ltd and Development Credit Bank Ltd are the some of the banks that have made strategic alliances with several foreign Insurance companies for selling the insurance products both in life and general branches. It is a combination of the activities or functions of commercial banking and various activities, including insurance. It provides the entire facilities of financial products under one roof and is an attempt by bank to fulfill the lifelong needs of the customers by combining their activities. Consequently, the Indian banking industry has seen a series of mergers and acquisitions during the last two decades.

REVIEW OF LITERATURE

Fadzlan, Sufian (2004) analysed the technical and scale efficiency of domestic incorporated Malaysian Commercial banks during the merger as well as in the pre and post merger period. The paper utilized non-parametric frontier approach, Data Envelopment Analysis. The period of the study ranges from 1998 to 2003. The study found that during the merger year, Malaysian banks' overall efficiency level deteriorates significantly as compared to pre merger period which was mainly due to scale inefficiency whereas in the post merger period, the overall efficiency was higher as compared to the pre-merger period. Further, the study found that the small and medium size banks have benefitted most by way of cost savings from expansion and mergers via economies of scale while the large banks are still suffering from scale inefficiency in the post-merger period. Gourlay, Adrian,

Ravishankar Geetha and Jones Tom Weyman (2006) analysed the efficiency benefits of merger among scheduled commercial banks in India. The paper used Bogetoft and Wang (2005) model and Data Envelopment Analysis to examine the potential for merger gains and decomposed into technical, harmony size efficiency components over the post-reform period i.e. from 1991-92 to 2004-05. The results indicated that in the post-reforms period, the mergers led to considerable enhancement of efficiencies for the merging banks. Kumar, Manoj (2007) studied the impact of banking sector mergers in the post reforms period on the project efficiency of the merged entities. The paper studied relative efficiency of the fifteen bank mergers in the post reforms period starting from 1991 till 2006 with the help of Data Envelopment Approach (DEA). The study concluded that in India the bank mergers, at large, have positively influenced the efficiency of the merged institutes.Anand, Manoj and Singh, Jagandeep (2008) studied the impact of merger announcements of the Indian private sector banks on the shareholders' wealth of the bidder and target banks. The paper studied merger of five private sector banks i.e. merger of Times Bank with the HDFC Bank (1999), The Bank of Madura with the ICICI Bank (2000), The ICICI Ltd. with the ICICI Bank (2001), The Global Trust Bank (GTB) with the Oriental Bank of Commerce (2004) and The Bank of Punjab with the Centurion Bank of Punjab (2005) during the post-liberalization period i.e. from 1999 to 2005. The paper used Event study methodology for the analysis of data. The results showed positive and significant increase in the value of shareholders of bidder banks, target banks and their combined portfolio. The Oriental Bank of Commerce and Global Trust Bank were an exception. The findings of the study were in agreement with the European and US Bank mergers and acquisitions except for the fact that the value to the shareholders of bidder banks has been destroyed in the US context. Sharma, Manu (2010) assessed that whether merger has resulted in the value creation. Secondly, whether value creation is stable and not simply reactionary on the part of shareholders. The paper studied merger of 5 United States banks for two years prior to merger to two and a half years after the merger. The study used Event Study Methodology and Accounting Performance Technique for the analysis of data. The study showed that the result of Event study methodology differs from Accounting study methodology as event study has shown that value creation did not happen for any of the mergers whereas accounting study has shown that the value creation did happen in three out of five mergers studied. Mrs. Prajapati, Sadhana (2010) discussed various motivations for mergers and acquisitions in the Indian Banking sector and to analyze some critical issues on consolidation with particular emphasis on the views of two important stakeholders viz. shareholders and managers. The researcher

carried out an event study analysis of bank stock returns. In this paper the mergers ranging from 1993 to 2007 have been studied. The study reveals that in case of forged mergers neither the bidder nor the target bank's shareholders have benefited.

OBJECTIVES

The main objectives of the study are :

1. To analyze the impact of merger on the efficiency of acquirer bank in the pre and post-merger period.
2. To compare the efficiency of acquirer bank in the pre and post-merger period.

HYPOTHESIS

— **H_0 *(Null Hypothesis)*** There is no significance difference between the pre and post-merger efficiency of acquirer bank.

— **H_1 *(Alternative Hypothesis)*** There is a significance difference between the pre and post-merger efficiency of acquirer bank.

RESEARCH METHODOLOGY

The present study is based on secondary data collected from various sources like Bombay Stock Exchange (BSE), National Stock Exchange (NSE), annual reports of banks, website of Reserve Bank of India etc. The study attempts to measure the efficiency of ICICI Bank using DEA Analysis. The sample consists of the merger of Bank of Rajasthan with the ICICI Bank. Three models of output have been used to examine the efficiency of the acquirer bank (ICICI Bank). In the first model, advances have been taken as the output whereas investments have been taken as output in the second model. Further, in the third model, an interest income has been used as an output. The inputs include the deposits, interest expenses, operating expenses and the number of employees. The efficiency analysis has been done in three parts. The first part evaluates the technical efficiency (Constant Returns to Scale) using the three output models. The second part analyses the technical efficiency (Variable Returns to Scale) using the three output models. The third part examines the scale efficiency of ICICI Bank under the above mentioned three output models. The study collected the data from the secondary sources, so it carries all the limitations inherent with the secondary data. Further, for comparing pre and post-merger efficiencies of the ICICI Bank, the study analyzes two years before and two years after the merger year for hypotheses testing. The year of merger has been excluded from the analysis.

DATA ANALYSIS AND INTERPRETATION

Model-I

In the first model, advances have been taken as the output. The inputs include the deposits, interest expenses, operating expenses and the number of employees. The efficiency analysis has been done on the basis of constant returns to scale, variable returns to scale and the scale efficiency for the period two years before and two years after the merger. The technical efficiency of the ICICI Bank during the pre and post-merger periods using advances as output is presented in Table 1.

Table 1

Mean Technical Efficiency of ICICI Bank in the Pre and Post-Merger Period

Model-I Output : Advances	Pre-Merger	Post-Merger
CRS	0.9355	0.999
VRS	1.000	1.000
SCALE	0.9355	0.999

Source : Author's calculations

Note : CRS=Constant Return to Scale, VRS=Variable Return to Scale, SCALE=Scale Efficiency

Table 1 shows that during the pre-merger period, the average Constant Returns to Scale efficiency of ICICI Bank was 93.55 per cent and during the post-merger period, the average Constant Returns to Scale efficiency was 99.9 per cent. Thus, the average technical efficiency of ICICI Bank has improved by 6.79 per cent in the post-merger period. Further, the table shows that during the pre-and post-merger period, the average technical efficiency (Variable Returns to Scale) of ICICI Bank was 100 per cent. Thus, the technical efficiency of ICICI Bank remained at same level (100%) during the post-merger period as in the pre-merger period. The Table also shows the scale efficiency of ICICI Bank during the pre and post-merger period. It reveals that during the pre-merger period, the average scale efficiency of ICICI Bank was 93.55 per cent and during the post-merger period, the average scale efficiency of this acquirer bank was 99.9 per cent. Thus, average scale efficiency of ICICI Bank was higher during the post-merger period than the pre-merger period by 6.79 per cent which shows improvement in the post-merger period. Thus, it is evident from the above Table that the merger had a positive impact on the technical efficiency of the ICICI Bank, thus, the null hypothesis is rejected and we accept the alternate hypothesis.

Model-II

In the second model, investments have been taken as the output. The inputs include the deposits, interest expenses, operating expenses and the number of employees. The technical efficiency has been analysed on the basis of constant returns to scale, variable returns to scale and the scale efficiency for the period two years before and two years after the merger. The technical efficiency of the ICICI Bank during the pre and post-merger periods using investments as output is presented in Table 2.

Table 2

Mean Technical Efficiency of ICICI Bank in the Pre and Post-Merger Period

Model-II Output : Advances	Pre-Merger	Post-Merger
CRS	0.842	0.970
VRS	0.880	1.000
SCALE	0.9585	0.9705

Source : Author's calculations

Note : CRS=Constant Return to Scale, VRS=Variable Return to Scale, SCALE=Scale Efficiency

Table 2 shows that the average Constant Returns to Scale efficiency of ICICI Bank was 84.2 per cent during the pre-merger period, and the same increased to 0.970 per cent during the post-merger period. Thus, the average technical efficiency of post-merger period was higher than the pre-merger period by 15.20 per cent which shows that the technical efficiency of ICICI Bank improves during the post-merger period. Further, the Table highlights that the average technical efficiency of ICICI Bank on the basis of Variable Returns to Scale was 88.0 per cent and 100 per cent during the pre and post-merger period, respectively. This indicates improvement (13.63%) in the technical efficiency during the post-merger period. The table also highlights the scale efficiency of the bank increased from 95.85 per cent during the pre-merger period to 0.9705 per cent during the post-merger period, and recorded improvement by 1.25 per cent in the post-merger period. Thus, the analysis reveals that the merger had a positive impact on the technical efficiency of ICICI Bank and therefore, the null hypothesis is rejected and the alternate hypothesis is accepted.

Model-III

In the third model, interest income has been taken as output. The inputs

are the same as in the first and the second model. The constant returns to scale, variable returns to scale and the scale efficiency of the ICICI Bank has been analysed for the period two years before and two years after the merger. The technical efficiency of the ICICI Bank during the pre and post-merger periods using interest income as output is presented in Table 3.

Table 3

Mean Technical Efficiency of ICICI Bank in the Pre and Post-Merger Period

Model-III Output : Advances	Pre-Merger	Post-Merger
CRS	0.953	0.968
VRS	1.000	0.9755
SCALE	0.953	0.9925

Source : Author's calculations

Note : CRS=Constant Return to Scale, VRS=Variable Return to Scale, SCALE=Scale Efficiency

Table 3 displays that the average constant returns to scale of ICICI Bank was 95.3 per cent during the pre-merger period and the same increased to 96.8 per cent during the post-merger period. Thus, the average technical efficiency of post-merger period was higher than the pre-merger period by 1.5 per cent which shows improvement in the technical efficiency of the ICICI Bank during the post-merger period. Further, the Table highlights that the average technical efficiency on the basis of variable returns to scale of ICICI Bank was 100 per cent and 97.55 per cent during pre and post-merger period, respectively. This indicates decrease of 2.45 per cent during the post-merger period. The table also reveals the scale efficiency of ICICI Bank during the pre and post-merger period. It reveals that during the pre-merger period, the average scale efficiency of ICICI Bank was 95.3 per cent and 99.2 per cent during the post-merger period, showing improvement of 4.14 per cent in the post-merger period. Thus, the Table reveals that the merger had a positive impact on the technical efficiency of ICICI Bank. So, the null hypothesis is rejected and the alternate hypothesis is accepted.

CONCLUSION

The above analysis revealed that the overall technical efficiency of the ICICI Bank has improved during the post-merger period in all the three models using advances, investments and interest income as outputs. To conclude, the merger of the Bank of Rajasthan with the ICICI bank had positive impact on the efficiency of the ICICI bank.

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