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Merger Returns and Choice of Payment Method: A Case from the Indian Banking Industry

Rohan Chinchwadkar[1]

[1] Indian Institute of Management Calcutta, Kolkata, India

Correspondence: Rohan Chinchwadkar, Indian Institute of Management Calcutta, Kolkata, 902, A-5, Vikas Complex, Thane (W) – 400601, India. Tel: 91-75-0609-8863. E-mail: rohan.chinchwadkar@gmail.com

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Abstract

In mergers and acquisitions, information asymmetry models show that merger returns for the bidder are significantly negative when the choice of payment method is stock. However, studies in the banking industry show that that merger returns for the bidder are positive in the case of cash offer, stock offers and combined offers i.e. they contradict the information asymmetry models. Recent studies on mergers in the Indian banking industry also show similar results. We present the first case of a banking merger where merger returns for the bidder are significantly negative when the method of payment is stock i.e. we present support for informational asymmetry models in the banking industry. We study the ICICI Bank - Bank of Rajasthan merger and show that the loss for ICICI shareholders was 4.29%, while the gain for Bank of Rajasthan shareholders was 44.86%.

Keywords: mergers and acquisitions, banking, payment method, cumulative abnormal returns

1. Introduction

1.1 Introduction to the Problem

The relationship between merger returns and the choice of payment method has been studied for quite some time now. Two main theories have tried to explain the impact of payment method on merger returns: (1) information asymmetry models and (2) taxation hypothesis. There is a lot of empirical evidence supporting the information asymmetry models and weak evidence supporting the taxation hypothesis. Information asymmetry models say that merger returns for the bidder are significantly negative for stock offers and significantly positive for cash offers. However, information asymmetry models were called into question by Cornett and De (1991) in their paper on the banking industry. They show that in the case of interstate banks' mergers, bidder's shareholders have positive abnormal returns which are significant at the 1% level, in cash offers, stock offers and combined offers.

In this paper, we present the first evidence from the banking industry which supports the information asymmetry models. We study the merger between ICICI Bank and Bank of Rajasthan (BOR) which was announced on May 18, 2010, approved by the Board of Directors of ICICI on May 24, 2010 and approved by the Reserve Bank of India on August 12, 2010. The merger has taken place when the banking industry in India is looking to undergo consolidation. ICICI was motivated by the fact that it would be able to expand its branches in northern and western India. Financial strength and governance of BOR was and hence its shareholders were happy to merge with ICICI which had a stronger capital base and governance structure. The final price decided was Rs. 3,041 crore and was paid through share swaps (BOR: ICICI – 118: 25). The gain for BOR shareholders was 44.86% in a 3 day window around the merger announcement (statistically significant at 1% level) and the loss for ICICI shareholders was 4.29% (statistically significant at 5% level).

1.2 Relevant Scholarship

The impact of the choice of the payment method on the shareholders' wealth has been studied for a long time. When we talk about the returns earned by the bidder, Travlos (1987) reports negative abnormal returns when the operation is financed with stocks but positive abnormal returns when it is financed with cash. Antoniou and Zhao (2004) show that bidders' returns are lower when the operation is financed in stocks than in case of alternative, combined and cash offers. Many other empirical studies (Huang & Walking, 1987; Franks, Harris, & Mayer, 1988; Eckbo & Langohr, 1989), confirm that the choice of payment method has an impact on the profitability of

a takeover. According to these information asymmetry models developed by Hansen (1987) and Fishman (1989) based on Myers and Majluf (1984), the abnormal returns are significantly negative when the operation is financed with stocks but do not show that the performance of the investment is low, since the choice of the payment method reveals private information of the bidder concerning the value or the synergies of both firms. Information asymmetry models were called into question by Cornett and De (1991) who, through a study of interstate banks' mergers between 1982 and 1986, show that the bidder's shareholders have positive abnormal returns which are significant in cash offers, stock offers and combined offers. This result contradicts the previous studies on this issue and seems to be inconsistent with the theory of informational asymmetry. In the case of Indian banking industry, Anand and Singh (2008) study five mergers to capture returns to shareholders as a result of merger announcements. They show positive abnormal returns for the shareholders of the bidder bank, irrespective of the payment method. Thus, even they present results which contradict the information asymmetry models. The literature at this point, thus, has not presented any evidence from the banking industry which supports information asymmetry models.

1.3 The ICICI-Bank of Rajasthan Merger

We study in detail the merger of ICICI Bank and Bank of Rajasthan which was announced on May 18, 2010.

1.3.1 ICICI Bank: History of Acquisitions

- 1955: At the initiative of World Bank, the Government of India and representatives of Indian industry, The Industrial Credit and Investment Corporation of India Limited (ICICI) was incorporated
- 1994: ICICI established Banking Corporation as a banking subsidiary
- 2001: ICICI acquired Bank of Madura, a Chettiar bank established in 1943
- 2002: Reverse merger of ICICI, ICICI Personal Financial Services Ltd. and ICICI Capital Services Ltd. with ICICI Bank. ICICI integrated the group's financing and banking operations, both wholesale and retail, into a single entity. At the same time, ICICI started its international expansion by opening representative offices in New York and London. Back home in India, ICICI Bank bought the Shimla and Darjeeling branches that Standard Chartered Bank had inherited when it acquired Grindlays Bank
- 2003: ICICI established an alliance with Lloyds TSB to set up a subsidiary in the United Kingdom. It also established a subsidiary in Canada along with an Offshore Banking Unit (OBU) in Singapore and representative offices in Dubai and Shanghai
- 2004: In order to tap the huge volume of trade between Bangladesh, South Africa and India, ICICI opened a representative office in Bangladesh
- 2005: ICICI acquired a Russian bank, Investitsionno-Kreditny Bank (IKB) with about US$4mn in assets. ICICI renamed the bank ICICI Bank Eurasia
- 2006: ICICI Bank UK opened a branch in Antwerp, in Belgium along with representative offices in Bangkok, Jakarta, and Kuala Lumpur
- 2007: ICICI merged with Sangli Bank, which had 158 branches in Maharashtra and another 31 in Karnataka State

Thus, the inorganic route to growth was not at all new for ICICI when it considered merging with BOR in 2009.

1.3.2 Bank of Rajasthan: Background

Bank of Rajasthan was set up at Udaipur in 1943 with an initial capital of Rs.10.00 lacs. It was classified as a Scheduled Bank in 1948. The Bank also established a rural (Gramin) bank Mewar Anchlik Gramin Bank in Udaipur District in Rajasthan on 26th January, 1983. As on March 31, 2009, Bank of Rajasthan had 463 branches and 111 ATMs, total assets of Rs.17,224 crore, deposits of Rs.15,187 crore and advances of Rs.7,781 crore. It made a net profit of Rs.118 crore in the year ended March 31, 2009, and a net loss of Rs.10 crore in the nine months ended December 31, 2009.

1.3.3 Motivation for the Merger

1.3.3.1 Motivation for ICICI Bank

ICICI Bank was interested in this merger due to the following reasons:

- The proposed merger would substantially enhance ICICI Bank's branch network, already the largest among Indian private sector banks

- It offered a strategic fit, as it would add to ICICI's branch network in northern and western India. It was estimated that it would save ICICI about three years time to market. In the normal course, it would take about a year to set up 500 branches and then three years for those branches to come up to the kind of deposit levels.
- ICICI Bank was facing stiff competition from HDFC Bank and also the resurging Axis Bank. To remain as the top private player, it would need to grow bigger. Growth by acquisition had always been ICICI's preferred way, as is clear from its history
- BOR had considerable business of state government corporations and bodies (eg, roadways, JDA, University, RIICO etc). So this would give ICICI a chance to build new relationships

1.3.3.2 Motivation for Bank of Rajasthan

- Bank of Rajasthan had an opportunity to combine its branch network with ICICI's strong capital base, hence making the bank much safer due to higher capital adequacy ratio
- The bank had been in trouble due to Corporate Governance issues related to the promoter. The ex-promoter Tayal Group had been asked by RBI to reduce their stake in BOR and trading by the promoters on the stock market was banned by SEBI
- The promoter was arrested by SEBI, alleging that he still held a controlling stake in the bank through a chain of 'front companies' which were holding shares for him
- SEBI also banned around 100 other entities from trading in BOR shares because they were supposedly the front companies trading on behalf of Mr. Tayal
- The real estate position of BOR was not transparent and the investments in properties were complicated structures
- In light of this background, it was extremely beneficial to the shareholders to merge with a bank like ICICI which would make the company stronger in corporate governance and more transparent in its operations and asset values

1.3.4 The Merger: Chronology of Events

The chronology of all relevant events is given in Table 1, below.

Table 1. The chronology of events

Date	Event
May 18, 2010	Announcement to merge ICICI Bank Ltd with Bank of Rajasthan Ltd.
May 24, 2010	Board of ICICI Bank approves proposal to merge with Bank of Rajasthan
August 12, 2010	RBI approves the merger of ICICI Bank and Bank of Rajasthan.

2. Method

2.1 Choice of Event Date and Period

The Merger of ICICI with BOR was announced on 18th May 2010 and was approved by the board of ICICI on 24th May 2010. Hence, these two dates have been chosen for the event studies. To estimate the coefficients, a clean window of 6 months prior to announcement has been used. The merger was approved by RBI and executed on 12th August 2010.

2.2 Data Description and Sources

2.2.1 Industry Study

Industry study and its related data were obtained first from credible academic sources such as journals and magazines. After this, the popular google search engine was used to browse websites. The data available from different websites were cross checked against one another and they were accepted only when there was consistency.

2.2.2 Events

The events were first searched in the CMIE data base. Thereafter, using google and various other websites were browsed for further information. The list of references is provided at the end. Using judgment, those events were selected which were thought to have some new information about the Merger and those which would create

abnormal returns in the stocks of both ICICI and BOR

2.2.3 Stock Market Data

Share price and market capitalization data for the two companies, and BSE SENSEX index, from Nov 2009 to August 2010, was collected from CMIE and cross checked with BSE's website. During this period there was no stock splits, rights issues, etc. for any of the two companies. In line with standard practice the daily closing price was used for the share prices as well as the BSE SENSEX index.

2.3 Methodology Used and Justification

To study the events, four windows were used around 18th May and 24th May: 3 days (-1,+1), 11 days (-5,+5), 21 days (-10,+10) and 81 days (-40,+40). To measure the impact of the merger on the share prices of the two companies, the component of the return of the stock price due the merger related events are required to be isolated. Since stock prices moves with the market, the realized returns are adjusted for the market wide movements. For estimating the coefficients of the market model, a clean period is chosen and the market model is estimated by running a regression for the days in this period. The market model is:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \in_{jt}$$

where R_{mt} is the return on a market index (for example, the BSE Sensex) for day t, β_j measures the sensitivity of firm j to the market, this is, a measure of risk, α_j measures the mean return over the period not explained by the market, and $\in_{jt}$ is a statistical error term with $E(\in_{jt}) = 0$. The regression produces estimates of α_j and β_j; call these $\hat{\alpha}_j$ *and* $\hat{\beta}_j$. The predicted return for a firm for a day in the event period, is the return given by the market model on that day using these estimates. That is:

$$\hat{R}_{jt} = \hat{\alpha}_j + \hat{\beta}_j R_{mt}$$

where now R_{mt} is the return on the market index for the actual day in the event period. Since the market model takes explicit account of both the risk associated with the market and mean returns, it is the most widely used method.

As explained above, to estimate the Abnormal Returns (or Prediction Error or PE),

$$PE_{jt} = R_{jt} - (\hat{\alpha} + \hat{\beta}_j R_{mt})$$

The t-statistic are calculated as:

$$T = \frac{PE_{jt}}{\sqrt{Var(PE_{jt})}}$$

where PE_{jt} is the prediction error from the estimates market models and VAR (PE_{jt}) is the variance of the prediction error.

$$Var(PE_{jt}) = \sigma_j^2 (1 + \frac{1}{N} + \frac{(R_m - \hat{R}_m)^2}{(N - 1) Var(R_m)})$$

and $$\hat{\sigma}_J^2 = \frac{1}{N_J - 2} \sum_{t=1}^{NJ} [R_{jt} - (\hat{\alpha} + \hat{\beta}_j R_{mt})]^2$$

where σ_j^2 is the residual variance from the market model regression: N is the number of observations used to estimate the market model; R_{mt} is the market return on day t ; $\hat{R}_m$ are the mean and variance of the market return over the estimation period.

The cumulative abnormal return (CAR) for the event windows is calculated as shown below:

$$CAR(-T \text{ to } +T) = \sum_{i=_T}^{+T} AR_i, t$$

The abnormal returns of two events were found to be significant on the date of the events and those immediately following it. These events were taken up for detail analysis taking four sets of windows o varying length for each.

3. Results

3.1 Market Model Estimates

Table 2 shows the market model regression coefficients for both the firms for the period prior to the announcement.

Table 2. Market model regression coefficients for ICICI and BOR

Firm	α_j			β_j			R^2
	Estimate	**t statistic**	**P value**	**Estimate**	**t statistic**	**P value**	
ICICI	-3.36E-05	-0.0430	0.9658	1.5598	20.8263	0.0000	0.6855
BOR	0.0052	2.1077	0.0363	0.7458	3.1594	0.0018	0.0478

Note. These results are for the period before the Merger Announcement (Nov 03, 2009 to May 14, 2010).

3.2 Gains of Merger

The event study was done around two dates, 18th May 2010 and 24th May 2010 and was made with four windows. It was observed that during those windows around the event there were significant abnormal positive returns for BOR and significant abnormal negative returns for ICICI.

We find that BOR shareholders gained 44.86% in the 3 days around the announcement of the merger and another 20.13% in the 3 days around the approval by ICICI board. Both these gains were significant at 1% level. ICICI shareholders however lost 4.29% in the 3 days around the merger announcement (significant at 5% level).

Table 3. Summary of abnormal returns for ICICI and BOR

Firm	**(-1,+1)**		**(-5,+5)**		**(-10,+10)**		**(-40,+40)**	
	CAR	**t-stat**	**CAR**	**t-stat**	**CAR**	**t-stat**	**CAR**	**t-stat**
ICICI	**-4.29%**	**-2.29** **	-0.49%	-0.13	-3.33%	-0.67	-8.62%	-0.88
BOR	**44.86%**	**8.57** ***	70.67%	7.05 ***	76.20%	5.5 ***	74.25%	2.73 ***

Note. These results are for the period before Merger Announcement (May 18, 2010).

*** means significance at 1% level.

** means significance at 5% level.

Table 4. Summary of abnormal returns for ICICI and BOR

Firm	**(-1,+1)**		**(-5,+5)**		**(-10,+10)**		**(-40,+40)**	
	CAR	**t-stat**	**CAR**	**t-stat**	**CAR**	**t-stat**	**CAR**	**t-stat**
ICICI	**1.84%**	**0.98**	-4.28%	-1.19	-3.74%	-0.75	-5.75%	-0.59
BOR	**20.13%**	**3.84** ***	73.96%	7.38 ***	61.48%	4.44 ***	74.99%	2.75 ***

Note: These results are for the period before approval by ICICI Board (May 24, 2010).

*** means significance at 1% level.

** means significance at 5% level.

3.3 Valuation of Target Firm

3.3.1 Valuation by Price / Book Value Ratio

Since Bank of Rajasthan made a loss in Q4 FY10, we cannot use the P/E multiple valuation technique. Hence, we will consider the P/BV method. For calculating industry P/ adjusted BV, we have used the following banks: SBI, PNB, BOI, BOB, Canara Bank, UBI, OBC, Corporation Bank, ICICI Bank, Axis Bank, HDFC Bank, YES Bank and ING Vysya.

Table 5.

Industry P/ adjusted BV	Adjusted BV per share of BOR (Rs.)	**Price (Rs.)**
2.02	36.34	**73.4068**

However, ICICI valued BOR at Rs. 189 per share which translates to 5.2x adjusted BV per share FY10. Thus, ICICI paid a premium of 157% according to this valuation.

On relative valuation parameters, the proposed acquisition appears quite expensive when compared with the peers' valuation but on price per branch perspective the acquisition is much cheaper compared to HDFC Bank-CBoP transaction.

4. Discussion

4.1 Impact of Merger on Industry Structure, Rivals and Others

The impact of the merger on the industry was negligible. However, it was a small step in the consolidation of the banking industry.

4.1.1 Impact on ICICI and Its Rivals

ICICI was facing competition from other private banks like HDFC Bank prior to the merger. To remain the top private bank, ICICI needed to grow. Acquiring BOR helped in increasing not just their customer base and size of loan book, but it also saved ICICI three years time to market with respect to growth of fully operational branches.

4.1.2 Impact on BOR

BOR shareholders were benefited extremely from this deal. They gain more than 70% in the 81 day window in this deal. Apart from that, they are now shareholders of a bank with a stronger capital base and stronger corporate governance set-up. Customers of BOR will now enjoy world class personal banking services and a wider range of more sophisticated products.

4.2 Contribution of the Paper

This paper presents the first evidence from the banking industry in support of information asymmetry models of merger gains. We show that the gain for BOR shareholders was 44.86% in a 3 day window around the merger announcement (statistically significant at 1% level) and the loss for ICICI shareholders was 4.29% (not statistically significant), even though it was a stock offer.

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