

BANK MERGERS AND SHAREHOLDER VALUE CREATION IN INDIA

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ABSTRACT

The study attempts to examine the impact of merger events on the stock price behavior of acquirer as well as the target shareholders in the Indian banking industry. OLS Market Model and Constant Market Model were applied to study a sample of (17) merger announcements both by Private and Public sector banks. The results demonstrate that merger announcements in Indian banking sector have no significant impact on bidder portfolio. However for target banks, interesting results have been emerged. None of the average CAR appeared statistically significant when Global Trust Bank (GTB), a loss making bank is included in the overall target portfolio. However, the average CAR changes immediately to significant positive returns in all the run-up windows when the same bank is expelled from the target sample. Further the study documented the negative abnormal returns for most of combined private sector banks.

Keywords: Abnormal Return, Market Model, Constant Market Model

1. PRELUDE

The rationale of liberalization process in India Singh (1995) was to improve productivity and efficiency of financial sector in general and the banking sector in particular. With the economic reforms and opening of an economy, Indian banking sector had gone through some considerable changes out of which two major changes are worth mentioning. They are: increased competition and falling interest rates. The industry has started restructuring their operations around their core business activities through Mergers and Acquisition (henceforth M&As) because of their increasing exposure to competition both domestically and internationally. Beena (2004) reported that the total number of M&As has sharply increased to 1034 during 1990-2000 from the level of 268 during 1980-1990. Although some important committees from 1972 to 1978 appointed by the then Government in consultation with the Central Bank

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of India highlighted the need of reshuffling the Indian banking system with an aim to improve the credit delivery but the Narasimham Committee (1991) emphasized on convergence and consolidation to make the size of Indian commercial banks comparable with those of globally active banks. Based on recommendations of Narasimham Committee, the Government of India has adopted the route of mergers among others with a view to restructure the banking system. Many small and weak banks have been merged with other banks mainly to protect the interests of depositors. Since then, Indian banking sector has witnessed unprecedented transformation through M&As.

While Nelson (1959) documents merger waves dating back to the period of 1898-1902; Holmstrom and Kaplan (2001) among others describe the merger waves in the 1980s and 1990s. According to Khan (2004) and Sherman and Hart (2006), a merger is a combination of two or three firms in which the assets and liabilities of the selling firms are absorbed by the buying firm, and the other firm ceases to exist henceforth. Andrade et al. (2001) illustrates that mergers are carried out mainly for shareholder value maximization. However, Penrose (1959) and Berkovitch and Narayanan (1993) have argued that mergers may be undertaken by other motives like personal interests of managers, unhealthy competition and greed, which in turn devour shareholder value. The subject matter of possible effects of merger announcements on the firm value has been widely researched in financial economics and strategic management in the US and the European countries. The theories based on synergy and efficiency argue in favour of mergers and consolidation whereas theories based on agency cost, free cash flow conflict, and managerial incentive vote against mergers on the ground that wealth is destroyed. Roll (1986), based on hubris hypothesis, suggests that in M&A transactions, wealth migration takes place from the bidder bank shareholders to the target bank shareholders and no wealth is created in the process. In particular, whether M&As create or destroy shareholders wealth has remained a puzzle as the researchers have come up with mixed results since the beginning of merger history in United States. In the aforesaid backdrop, it is therefore imperative to understand such events of corporate finance world in emerging markets like India in order to get a clear picture of how a company's decision affects the shareholders wealth and also its implication on the financial risks faced by market participants. The answer to this question is not only of paramount importance to investors but also to policy makers, fund managers, analysts, planners, market regulators, accounting standard setters to recognize the significance of an event. Thus the implications are immense both for foreign as well as resident investors who make their decision based on current market values and expected risk-return tradeoffs that are associated with their investments.

The remainder of this paper is structured as follows: Section 2 briefly describes the review of theoretical and empirical literature and outlines the research gap. Section 3 underlines the rationale of the study. Section 4 illustrates about the data and the construction of sample. Section 5 describes about the event study methodology. Section 6 presents the data analysis with interpretation. The final section concludes and offers suggestions for future research.

2. REVIEW LITERATURE¹

In this section, an attempt has been made to synthesize some of the important past empirical studies in order to get a clear insight as to how the academic research has made important pragmatic contributions that through light on important corporate policy issues. Before highlighting a specific literature on bank mergers, it is important to present some influential contributions on short-term merger event studies in broad-spectrum. The most prominent contribution includes the work of Dodd and Ruback (1977) who observed that prior to the tender offers, stockholders of bidding firms earn significant positive abnormal returns. Dodd (1980) showed a positive reaction to the first public announcement of the merger proposal and also a positive reaction to the approval of completed proposals and but negative reaction to cancelled proposals. Jensen and Ruback (1983) concluded that on average bidders gain about 3.8% in tender offers and obtain approximately zero in mergers whereas targets gain roughly 29%. P. Asquith (1983); Bradley, Desai and Kim (1983); Franks and Harris (1989); Penas and Unal (2004) and Ben-Amar and Andre (2006) reported positive wealth effects of bidder shareholders. While as Lang et al. (1989); Smith and Kim (1994); Holl and Kyriazis (1997) and Sudarsanam and Mahate (2003) showed negative abnormal returns for bidder shareholders. Over the long term post announcement period Fuller et al. (2002) and Gregory and Mc-Corrison (2005) found that bidder shareholders gain in long run. On the other hand Leeth and Borg (2000) results confirmed that target firm shareholders earn positive abnormal returns. However, evidence indicates that target shareholder earn significantly positive abnormal returns in the days around M&A announcements. For example, for a sample of 1814 US takeovers in the period 1975-1991, Schwert (1996) found abnormal returns to shareholder of target firms of 10.1 %, whereas, Jarrell & Poulsen (1989), reported return to the target equal to 28.99% when examining a sample of 526 transactions of US companies between 1963 and 1986. A similar pattern is observed in Franks & Harris (1989) sample of 1898 UK targets in the period 1955-1985, with a significant return of 23.3%. More recently, Goergen & Renneboog (2004) supported those findings for European transactions, reporting a significant abnormal return of 9.01% to target shareholders.

In the Indian counterpart, Mishra and Goel (2005), examined the financial implications of RIL-RPL merger and showed that positive excess return occurred to the shareholders of the target company (RPL) and vice versa. Selvam et al., (2010) analysed 17 manufacturing companies which have undergone M&As during 2000, 2001 & 2002 but did not found any significant returns to the acquiring companies. Deo and Shah (2011) studied 28 merger announcements in IT industry and found that bidder shareholders wealth is unaffected due to merger announcements while as target shareholders earn significantly from such deals.

Table-1 (Section-I) as given below documents some important studies on bank merger activities that focuses on relatively short time periods of 5-year intervals in the early to mid-1980s. Only Houston and Ryngaert (1994, 1997) extended their work past 1986 with studies

¹ The most cited studies on short term market response to merger announcements have been incorporated in 'review literature section' both from overseas and Indian counterpart. Sincere apologize to those whose work has not been cited here.

covering (1985–1991) and (1985–1992). In addition, Cybo-Ottone & Murgia (2000) studied a period from (1988–97) although later Sharma (2009) covered the study from 2000 onwards. The table demonstrates that many of these studies have relatively small sizes. Trifts and Scanlon (1987) examined 21 mergers over 4 years, while Neely (1987) studied 26 acquisitions over 7 years and James and Wier (1987) examined 60 out of 264 potential acquisitions over a 9-year period. The table further shows that there is some variations in analysis across these studies. For example, James and Wier (1987) focus only on bidder returns while the others examine returns to both targets and bidders. In addition, only Houston and Ryngaert (1994), Cybo-Ottone & Murgia (2000) provide results of the combined firms' returns. While these studies found that returns to targets range from 9.66% (Cornett and De, 1991) to 36.22% Neely (1987), the abnormal returns of bidder banks range from -3.25% to +3.12%. No negative returns were reported for combined bidder portfolio. Similarly, Section 2 summarizes short-term merger event related studies in Indian context. In particular, the study period of these studies ranges from 1999–12. The table shows both positive and negative abnormal returns for bidders. While Anand and Singh (2008) found positive effects of merger events on private bidder and target banks and also for their combined wealth, Venkatesan & Govindarajan (2011) also demonstrate that acquisition activities of public sector banks have a significant positive impact on their shareholders' wealth. Further Chandra (2012) reveals positive effects of the event on target/combined shareholders wealth but report thenegative impact on bidder portfolio. On the other hand Sikarwar (2012) shows the mixed effects of merger events on targets shareholders. The study did not examine the bidder/combined shareholders wealth dilution effect.

Table 1: Empirical Review Literature of Bank M&As from Overseas & India²

Authors	Time Period	Sample	Country	TR (%)	BR (%)	CR (%)
Section I:						
James and Wier (1987)	1972–83	60 acquisitions	US	ND	1.77	ND
Neely (1987)	1979–85	26 acquisitions	US	36.22	3.12	ND
Trifts and Scanlon (1987)	1982–85	21 mergers	US	21.37	-3.25	ND
Cornett and De (1991)	1982–86	152 mergers	US	9.66	-0.40	ND
Houston and Ryngaert (1994)	1985–91	153 mergers	US	14.77	-2.25	0.46
Houston and Ryngaert (1997)	1985–92	184 mergers	US	20.40	-2.40	ND
Cybo-Ottone & Murgia (2000)	1988–97	54 mergers	Europe	+ive	+ive	+ive
Sharma (2009)	2000–08	20 mergers	US	ND	0.00	ND
Section II:						
Anand and Singh (2008)	1999–05	5 mergers	India	+ive	+ive	+ive
Venkatesan & Govindarajan (2011)	1995–06	7 mergers	India	NM	NM	ND
Sikarwar (2012)	2008–10	1 Merger	India	MR	ND	ND
Chandra (2012)	1999–08	4 mergers	India	+ive	-ive	+ive

² **Notes:** This table provides an overview of the results of nine event studies on bank mergers. Authors, time period, number of observations, target return, bidder return, and combined firm return taken from the original studies. From **Section 1**, ND denotes not done in original study. TR, BR and CR indicate Target, Bidder and Combined Returns. From **Section 2**, ND denotes not done in original study, NM denotes not meaningful, MR denotes mixed returns. TR, BR and CR indicate target returns, bidder returns and combined returns

3. RATIONALE OF THE STUDY

Based on the most repeatedly cited studies of shareholder wealth effects to merger events in banking industries (Table 1), few points could be underlined. First Table-1 (Section-I), which summarises the review literature of overseas bank mergers demonstrates that much evidence has already been found in relation to shareholders wealth effects to merger announcements although the results varies from study to study. The time period and sample size of these studies on average are significant enough to draw conclusions though not the end results. But based on the review literature summary from Section 2, it is argued that the event studies of bank mergers in India are not enough nor the sample sizes are justifiable to draw broader conclusions. No such study has been observed on event studies covering mergers events from overall banking sector in India. The earlier studies have failed to categorize the impact of merger events on separate sections of banking industry. For example, even the most referred work of Anand and Singh (2008) in their study have mixed the announcement impact of nationalized bank Viz. Oriental Bank of Commerce with the rest of four private sector banks in their sample. It would have been interesting to see the combined abnormal returns of bidder banks with and without the inclusion of the Oriental Bank of Commerce. Sikarwar (2012) found both positive and negative returns for bidder shareholders in their study of examining one merger announcement. Venkatesan & Govindarajan (2011) had also limited their work by analyzing merger events to public sector banks. The authors conclude that the acquisition activities of the public sector bank in India have created additional wealth to their shareholders. Chandra (2012) documented positive returns for all bidder, target as well as combined shareholders. Thus, Section 2 clearly highlights that there is much work undone in this particular industry. Given the limitations and scope of earlier studies, the present study is therefore an attempt to seek new evidence concerning shareholders wealth effects vis-à-vis merger information release in Indian banking industry. The paper is an earliest attempt at analyzing stock price reaction to merger information release both by private and public sector banks in Indian counterpart and thus providing useful inputs to investors, corporate managers, researchers as well as policy makers.

4. DATA AND SAMPLE SELECTION

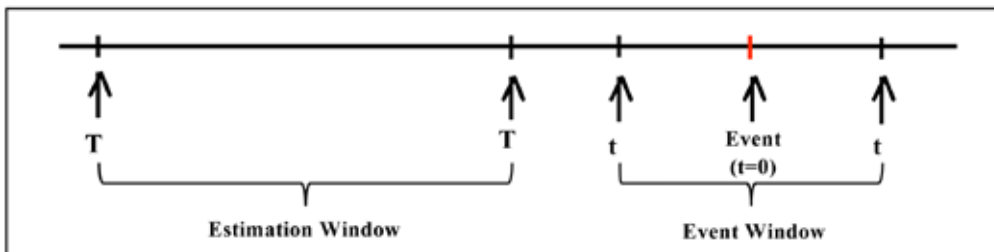
Primarily three datasets are used to calculate abnormal returns and to analyze value effects of bidding and target firms for M&A deals in this study. The datasets include descriptions and records of M&A events, bidding and target firms' daily stock prices, and stock market indices for Bombay Stock Exchange. The required data have been drawn from the Centre for Monitoring Indian Economy (CMIE) Prowess and the official website of BSE. The sample to be included for the study; the stock prices of both acquiring and acquired banks had to be publicly traded for at least 240 days before and 31 days after the merger announcement dates. In addition, merger deals must involve commercial banks and there must not appear other corporate actions during the time of merger declarations. These qualifications limited the sample to 22 out of 31 merger announcements. However, due to unavailability of adequate data and exact event date information, the sample is further reduced to 17 merger announcements involving 9 announcements by private commercial banks 4 by public commercial banks and 4 by nationalized banks (see appendix- I). It is important to mention here that merger

announcements by nationalized banks have been categorized under public sector commercial banks for analysis purpose since both groups are controlled by the government directly or indirectly. In our sample all bidder banks targeted those banks only which are operating in their respective industries. Nevertheless, there is one instance where nationalized bank Oriental Bank of Commerce has targeted a private bank Global Trust Bank³. Effort have been made to study this particular case separately apart from pooled analysis of bidder and target portfolio. So called, standard event study methodology has been employed to measure the effect of an event in relation to stock prices of the firms. The major interest in an event study is the abnormal return, which is the deviation of the actual return from the predicted or expected return.

In order to carry out an event study, the researcher need to define an ‘event window’. The placement of the event window is of critical importance to measure the market reaction correctly. A window that is too narrow could miss the impact of the event, while a window that is too wide will introduce noise and likely to misguide the analysis towards finding no statistically significant abnormal return see for example (Kothari and Warner 2004). The size length of the event window has to be justified (Fama 1998). The study examines three symmetric event windows: a three day (-1, +1), five-day (-2, +2) and eleven days (-5, +5) event window. These window lengths are appropriate to capture any news that might have leaked shortly.

Similarly the estimation period is used to estimate the expected returns of the stocks. Typically, the period needs to be long enough to create a representative measure of returns but too long and estimation period can risk biasing the estimation with information from other events or

Figure 1: Event Window and Clean Estimation Period



Notes: Estimation window in this study comprise of 240 days prior to event date and event window comprises of three, five and eleven days for quantifying the abnormal returns)

³ Global Trust Bank was one of the leading private sector banks in India. Owing to prolong financial debt, the company merged its operation with Oriental Bank of Commerce in 2004. The fall of the banking entity began in the early 2000s. The Reserve Bank of India's (RBI) probe revealed irregular financial disclosures As Global Trust Bank collapsed; RBI announced its merger with the Oriental Bank of Commerce (OBC). The bank took all the assets and liabilities of GTB, along with its 104 branches, 275 ATMs and a workforce of over 1400 employees. However, according to the merger deal, GTB's shareholders would not get OBC shares. OBC benefited hugely, as its network and customer base expanded. It also earned tax benefits due to GTB's large amount of investment in non-performing assets (NPAs). The deal was equally beneficial for GTB depositors, as they could now enjoy the trust of a public sector bank. However, the Global Trust Bank saga created an environment of suspicion against private sector banks. This became one of the reasons for the immense success of public sector banks in India.

changes in the firms general condition. It is normally set at around a year of trading prior to the event window. But the choice of the estimation period is arbitrary. Brown and Warner (1980) have used 35 months as the estimation period, while Renneboog (2006) used 240 days. In this paper it is set to 240 trading days prior to the event date and the eleven days event window are kept separate from the estimation period. This is done to make sure that the normal returns don't get influenced by event related returns.

5. METHODOLOGY

The present work has been carried out as an event study project. According to Serra (1999), event studies start with the hypothesis about how a particular event affects the value of a firm. The hypothesis that the value of the company has changed will then be translated in the stock showing an abnormal return. The logic behind the event study methodology (within the specific context of mergers) is explained in Warren-Boulton and Dalkir (2001): Investors in financial markets bet their dollars on whether a merger will raise or lower prices. A merger that raises market prices will benefit both the merging parties and their rivals and thus raise the prices for all their shares. Conversely, the financial community may expect the efficiencies from the merger to be sufficiently large to drive down prices. In this case, the share values of the merging firms' rivals fall as the probability of the merger goes up. Thus, evidence from financial markets can be used to predict market price effects when significant merger-related events have taken place.

5.1. *The OLS Market Model and Constant Market Model*

Much of the event study literature is based on OLS Market Model relating the return on an individual asset to the return on a market index and an asset specific constant. The most common model for event studies is the 'Market Model' (Mackinlay, 1997). The study uses both OLS Market Model (henceforth MM) and Constant Market Model (henceforth CMM), for testing of the existence of abnormal returns for acquirer and acquired banking companies. According to Brown and Warner (1985), in case of short term analysis, the CMM and the MM give similar results. Concentrating on short term impact, the method of calculation of abnormal return does not impact its robustness. The mere difference between these two models is the coefficients of alpha and beta which are assumed 0 and 1 under CMM but are estimated under Sharpe's (1963) MM. In order to observe short term and immediate effects of information, daily stock price data has been considered. Sometimes information affects the stock on same day. But if the market is not informationally efficient then it may affect after one day, two days, and three days. This insight is not available with monthly or weekly data see for example Khilji (1993) for detailed discussion. The daily actual rate of return is calculated as:

$$R_{it} = [(P_{i,t} - P_{i,t-1}) / (P_{i,t-1})] \quad (1)$$

Where P_{it} is the stock price⁴ of firm i on day t and $P_{i,t-1}$ is the previous day stock price of firm i.e., on day t-1

The Beta value is the slope coefficient obtained by regressing the stock returns to the market index returns. It is defined as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (2)$$

Where, $E(\varepsilon_{it}) = 0$, $Var(\varepsilon_{it}) = \sigma_{\varepsilon_{it}}^2$ and

$$\hat{\beta}_i = \frac{\sum_{\tau=T_{0+1}}^{T_1} (R_{i\tau} - \hat{\mu}_i) (R_{m\tau} - \hat{\mu}_m)}{\sum_{\tau=T_{0+1}}^{T_1} (R_{m\tau} - \hat{\mu}_m)^2}$$

$$\hat{\alpha}_i = \hat{\mu}_i - \hat{\beta}_i \hat{\mu}_m \text{ Where, } \hat{\mu}_i = 1/L_1 \sum_{\tau=T_{0+1}}^{T_1} R_{i\tau} \quad \hat{\mu}_m = 1/L \sum_{\tau=T_{0+1}}^{T_1} R_{m\tau}$$

$R_{i\tau}$ and $R_{m\tau}$ are the return in event period τ for security i and the market respectively.

Similarly, R_{mt} = Return to the market⁵ (BSE 500 Index in this study) at time t

Given the parameters of equation 1 and equation 2, one can estimate the abnormal returns as follows.

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (3)$$

Under CMM, the abnormal returns are calculated by using following equation.

$$AR_{it} = R_{it} - (E(R_{mt})) \quad (4)$$

Where, R_{mt} = Daily actual returns.

⁴ Returns from daily stock price of sample banks denotes dependent variable and similarly returns from market index – BSE-500 denotes an independent variable for OLS regression purpose under market model.

⁵ The BSE-500 Index represents nearly 93% of the total market capitalization on BSE and covers all 20 major industries of the economy. Moreover, it represents 70% of the total turnover on the BSE.

The abnormal returns of individual security are averaged for each day surrounding the event day i.e., 5 days before and 5 days after the event day. The following model is used for computing the Average Abnormal Return.

$$AAR_{it} = \sum_{i=1}^N AR_{it} / N \tag{5}$$

The abnormal returns need to be accumulating over different run-up windows. It gives an idea about average stock price behavior over time. The model used to ascertain CAAR⁶ is:

$$CAAR_t = \sum_{i=1}^N AAR_{it} \text{ where } t = -5, =5 \tag{6}$$

The combined returns are estimated as follows:

$$Combined\ CAR = (AR_{bi} * ME_{bi} + AR_{ti} * ME_{ti}) / (ME_{bi} + ME_{ti}) \tag{7}$$

Where ME_{bi} and ME_{ti} indicates market value of equity one month before the month in which the deal has been announced; and AR_{bi} and AR_{ti} are residual of bidder bank and target bank respectively on day i .

The conclusions would be based on the results of parametric t values⁷ on AARs and CAARs for the during pre and post merger announcement days. The t test statistics for AAR and CAAR for each day during the event window is calculated as:

$$T_{testAAR} = AAR / [S(AAR) / \sqrt{N}] \text{ and} \tag{8}$$

$$T_{testCAAR} = CAAR / [S(CAAR) / \sqrt{N}] \tag{9}$$

Where, $S(AAR)$ and $S(CAAR)$ represents standard deviation σ of average abnormal and cumulative abnormal return.

⁶ The accumulation of the daily abnormal returns over the time period under observation is the CAR. The term CAR (-5, 0) means the CAR calculated from five days before the announcement to the day of announcement. The CAR(-1, 0) is a control premium, although Merger stat generally uses the stock price five days before announcement rather than one day before announcement as the denominator in its control premium calculation. However, the CAR for any period other than (-1, 0) is not mathematically equivalent to a control premium.

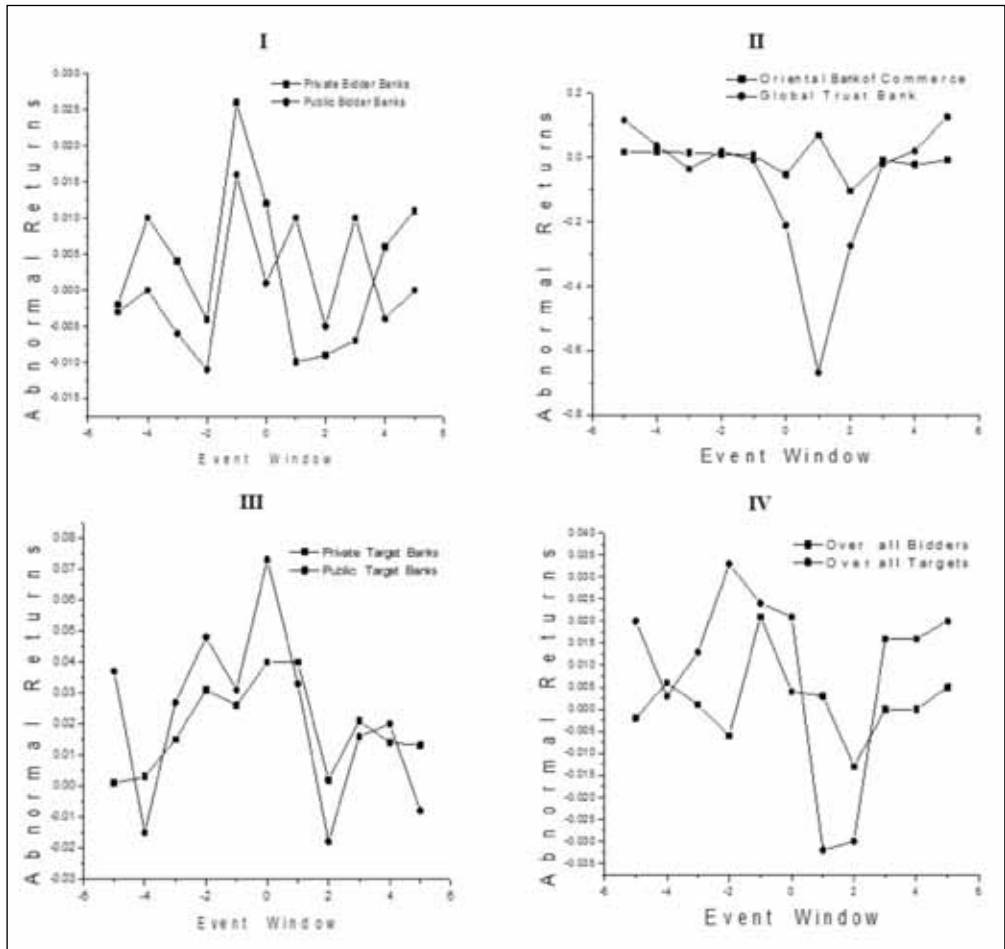
⁷ Parametric test⁷ is used to assess significance of AARs and CAARs. The 1%, 5% and 10% level of significance with appropriate degree of freedom would be used to test the supposition of no significant abnormal Returns after the event day. The cumulative average abnormal return provides information about the average price behavior of securities during the event window. If markets are efficient, the AARs and CAARs should be close to zero.

6. RESULTS AND DISCUSSIONS⁸

With this study, attempt has been made to contribute to the understanding of short term wealth effects due to unexpected merger announcements. In particular, banking industry that has not received adequate scrutiny so far, though being quite active in the consolidation process is the main focus of this study. Theoretical literature points out that M&A deal can either create or destroy value. Most empirical literature on financial mergers reports that on average target firms earn significant positive abnormal returns, while bidder institutions earn negative returns or reside at breakeven point. This study looked to see how quickly the market reacts to information, exploring the idea of an investor's ability to earn the above normal return against the market. With the new information being introduced, it would be expected that the actual average return and the expected average returns within the event period would differ. If a significant difference is shown, then the supposition that states the information announcement did increase or decrease the stock should be supported. Before conducting a parametric 't' test to assess the significance of AARs and CAARs, beta co-efficient of sample banks have been obtained by estimating a regression model (see appendix-I). The beta of an investment is a relative measure of the systematic risk of an investment. In other words, it measures the specific risk of the company shares relative to the market as a whole. Average-risk securities have a beta equal to 1.0 and move up or down on average by about the same amount as the market. High-risk securities have a beta greater than 1.0 and move up or down on average by a greater amount than the market. It is therefore important for investors to make the distinction between short-term risk, where beta and price volatility are useful and longer-term fundamental risk, where big-picture risk factors are more telling. The highest beta coefficient among bidder banks in present study is associated with Oriental Bank of Commerce stock followed by the state bank of India during its merger deal with Swarashtra Bank, IDBI bank and Centurion Bank of Punjab. Among the target banks the highest beta is observed with IDBI Ltd. during its merger deal with its parent company IDBI bank followed by bank of Punjab and Global Trust Bank. Since Constant Market Model is also employed in the study in addition to OLS technique, it would be therefore very interesting to notice the abnormal return behavior under this particular methodology which is based on 0/1 assumption concerning alpha and beta.

⁸ We do not report the daily AAR and CAAR of sample Banks. The main reason is to save the space. However, full results are available on request from the corresponding author.

Figure 2: Plots from I to IV represent daily Average Abnormal returns of Sample Banks



Note: Graph I and Graph II demonstrates interesting state of affairs. While the curve of public bidder banks shows slight downward trend before the merger announcement period, the public target banks depicts an inverse relation for the same period. However after the merger announcement public target banks show more downward behaviour as compared to their bidder banks. This type of behaviour is not observed for private bidder and private target banks. Graph III reveals how the merger announcement ruined heavily the wealth of Global Trust Bank shareholders just after the merger announcement. On the other hand the shareholders of Oriental Bank of Commerce were able to make small gains during this time. Graph IV finally reveals the wealth destruction scenario for target shareholders after the merger announcements. This is because of the Global Trust Bank, a loss making bank which offsets all the gains of rest of target banks

Table 2: Average CAR of Private Bidder and Target Commercial Banks

Event Window	Bidders Obs. 09				Targets Obs. 07			
	MM	t-stat	CMM	t-stat	MM	t-stat	CMM	t stat
(-1,+1)	0.028	1.088	0.027	1.030	0.106	1.472*	0.099	1.418
(-2,+2)	0.015	0.727	0.013	0.588	0.139	1.465*	0.128	1.383
(-5,+5)	0.036	1.041	0.032	0.930	0.207	1.244	0.192	1.168

Notes: *, **, *** Significant at 10%, 5%, 1% level respectively, MM and CMM denotes Market Model & Constant Market Model.

Using equation 6, we estimate average CAR for sample banks. Further with the help of equation 9, the values of t-stat are reported separately for each of the average CAR under different run-up windows. Table 2 presents a glimpse of average cumulative abnormal returns for both private bidder as well as private target commercial banks. As is evident from the table that private bidder portfolio appeared statistically insignificant for all the given run-up windows implies that acquirer shareholders in the private sector banks in India neither gains nor losses to merger events. Nevertheless private target commercial banks earn a significant return in two and five day's run-up window under MM.

Table 3: Average CAR of Public Bidder and Target Commercial Banks

Event Window	Bidders Obs. 07				Targets Obs. 02			
	MM	t-stat	CMM	t-stat	MM	t-stat	CMM	t-stat
(-1,+1)	0.026	1.390	0.031	1.657	0.137	2.136**	0.141	2.095**
(-2,+2)	0.010	0.632	0.016	1.105	0.167	3.652**	0.167	3.985**
(-5,+5)	0.007	0.251	0.018	0.665	0.243	1.077	0.251	1.161

Notes: *, **, *** Significant at 10%, 5%, 1% level respectively, MM and CMM denotes Market Model & Constant Market Model.

Table 3 highlights average cumulative abnormal returns of bidder and target commercial banks in Public Banking Industry. The result reveals that none of the average CAR appeared significant for shareholders of public bidder banks in given run-up windows. The evidence demonstrates that merger neither creates nor destroys their assets during the time of consolidation deals. However, the statistical significant returns appeared in three and five days run-up window for public target commercial banks under both MM and CMM indicates the wealth creation effects for shareholders subscribed to these banks. Expectedly, the bidding shareholders of both public and private sector banks document no significant returns. It would be interesting to observe whether the effect will remain same when abnormal returns of all the acquiring companies are taken into consideration collectively. It will extend a broader understanding of the implication of merger events to overall bidding banks.

Table 4: CAR of Nationalized Bidder and Private Target Commercial Bank

Event Window	Bidder Obs. 01				Target Obs. 01			
	MM	t-stat	CMM	t-stat	MM	t-stat	CMM	t-stat
(-1,+1)	0.023	2.147**	0.023	2.147**	-0.887	-13.14***	-0.887	-13.14***
(-2,+2)	-0.071	-0.898	-0.066	-0.966	-1.142	-13.1***	-1.141	-13.09***
(-5,+5)	-0.057	-1.659*	-0.028	-3.378**	-0.897	-6.941**	-0.89	-6.887**

Notes: *, **, *** Significant at 10%, 5%, 1% level respectively, MM and CMM denotes Market Model & Constant Market Model.

Table 4 shows cumulative abnormal returns for both Oriental Bank of Commerce and Global Trust bank. As is apparent from the above table, the shareholders of OBC appeared to be winners in three days run- up windows, but end up with negative returns in the eleven days of time interval. On the other hand, the negative and statistically significant return is observed in all the run- up windows for GTB indicate by and large that the merger deal completely ruined the wealth of its shareholders

Table 5: Overall Average CAR for Bidder and Target Commercial Bank

EW	Bidders Obs. 17				Targets Obs. 10 (When GTB is included)				Targets Obs. 09 (When GTB is excluded)			
	MM	t-stat	CMM	t-stat	MM	t-stat	CMM	t-stat	MM	t-stat	CMM	t-stat
-1,+1	0.027	1.773*	0.028	1.846*	0.013	0.117	0.009	0.082	0.113	2.008**	0.109	1.973**
-2,+2	0.008	0.603	0.009	0.704	0.016	0.114	0.009	0.063	0.145	1.990**	0.137	1.917**
-5,+5	0.019	0.851	0.023	1.082	0.104	0.638	0.095	0.595	0.215	1.621*	0.205	1.566*

Notes: *, **, *** Significant at 10%, 5%, 1% level respectively, MM and CMM denotes Market Model & Constant Market Model.

Table 5 summarizes the overall average cumulative abnormal return for bidder and target commercial bank shareholders. The findings demonstrate significant positive returns for bidder banks in three days run-up window under both MM and CMM indicates by and large that merger declaration do not destroy the wealth of the bidder shareholders in Indian banking industry. However, for target banks interesting results are found concerning CAR's. None of the average CAR appeared statistically significant when GTB, a loss making bank is included in the overall target portfolio. However, the average CAR changes immediately to positive statistically significant returns in all run-up windows when the same bank is expelled from the target group and thus shows clearly that the loss for GTB is so extreme that it offset the gains of other target shareholders in the sample. The case describes the growth and collapse of Global Trust Bank, a leading private sector bank in India. Since 2001, GTB's name was associated with scams and controversies, thereby casting shadows over the credibility of the bank and its management. Due to the overexposure to capital markets and huge NPAs, the bank was in a financial mess. See for example (Anand and Singh, 2008) for detailed discussion.

Table 6: Cumulative Abnormal Returns for Combined Portfolio⁹

EW	HDFC (CBP)	CBP (BOP)	INDUS (ALF)	ICICI (ICICI Ltd.)	GTB (Axis Bank)	OBC (GTB)	IDBI (IDBI LTD)	IDBI Bank (U.W.Bank)	ICICI (BOM)	ICICI (BOR)
-1,+1	-4.28	-4.47	12.15**	2.27	9.55**	-2.26	11.20**	9.35**	4.11	-5.42*
-2,+2	-4.43	-5.47*	9.47**	4.81	1.39	-12.46**	6.83*	4.73	3.47	-4.12
5,+5	-2.58	-11.05**	12.53**	12.40**	-0.17	9.91**	7.48	8.30*	11.86**	-1.85

Notes: *, **, *** Significant at 10%, 5%, 1% level respectively, MM and CMM denotes Market Model & Constant Market Model.

The vast majority of evidence finds that, on average, the combined return to M&As is positive (Weston et al., 2005). The reason for positive returns is largely due to the fact that target shareholder returns are significantly high. The acquiring company shareholders on the other hand tend to experience either normal returns or significant losses at the announcement date of a merger or acquisition (Alexandridis et al., 2010). Using equation (7) under MM, cumulative abnormal returns are estimated for combined firm. Table 6 highlights that the maximum positive returns have been earned by the shareholders of Indus bank Ltd. and Ashok Leyland finance as is evident from different time period intervals. In contrast, banks that are associated with significantly negative returns comprise Centurion Bank of Punjab vs. Bank of Punjab, Oriental Bank of Commerce vs. Global Trust bank and also ICICI bank vs. Bank of Rajasthan. However, the deal of Oriental Bank of commerce and global trust bank has destroyed the wealth of their shareholders to a greater level. These banks together have lost millions of rupees surrounding the days of merger announcement. It is worth to mention here that positive synergic implications are not found by and large with private sector banks. These findings are partially in agreement with theories based on agency costs of free cash flow and managerial entrenchments which argue that mergers wipe out the wealth and predict that the combined returns from a merger will be unconstructive. In our case, the reasons that could explain the negative returns of combined firm may be the phenomenon of forced mergers. For example, Oriental Bank of Commerce Vs Global Trust Bank, ICICI Vs Bank of Rajasthan fall under the categories of forced mergers and hence destroyed shareholder value as a whole.

7. CONCLUSION

The process of economic integration and the deregulation of economic activities in India have stimulated a significant restructuring of companies. While the number of M&A transactions involving firms from the overseas increased at a more rapidly rate during the last decade, most of this upsurge was due to domestic mergers. This study sought to make a contribution to the event study literature by exploring the short term effects of M&As in Indian banking sector. The findings support prior research Wall and Gup (1989), Hawawini and Swary (1990), Houston and Ryngaert (1994), Madura and Wiant (1994), and Hudgins and Seifert (1996) which indicated that a majority of merger-related wealth generation in banking industry is

⁹ Acronyms CBP indicate-Centurion Bank of Punjab, BOP-Bank of Punjab, ALF-Ashok Leyland Finance, GTB-Global trust bank, OBC-Oriental bank of commerce, BOM-Bank of Madura, BOR-Bank of Rajasthan . Indus here means Indusind Bank India

received by shareholders of target firms. While on the other hand, both private and public bidder banks generate no positive or negative abnormal returns when analyzed independently. However, on the whole, significant positive returns have been observed in three days run-up window. These results support the work of Bradley, Desai and Kim (1983); Penas and Unal (2004) who report positive financial implications of mergers for acquirer shareholders. In particular, the findings of this study document interesting although not surprising results. First, it is shown that there is no relationship between merger announcements and the bidder shareholders wealth of public and private sector banks independently. Second, no significant association has been observed between merger events and the bidder shareholders wealth on the whole. These results contradicts with the findings of Anand and Singh (2008) and Chandra (2012) who report positive and negative bidder effects respectively for private and public banks. Our findings further illustrate that how a stability of a target bank plays a vital role at the time of its consolidation. For instance, Global Trust Bank which was suffering profoundly and thus not only ruined the wealth of its shareholders at the time of its merger announcement with Oriental Bank of Commerce but also offsets the gain of other target shareholders in the sample. On the other hand, unlike the public bidder and target banks, the combined wealth of most of private bidder and target banks suffer slightly. These finding are again in contrast with the study of Anand and Singh (2008) who report positive merger effects on the total wealth of shareholders in the private banking industry. In particular, our results demonstrate that bidding banks at least do not suffer any loss and thus implies that M&As are not a risky investment for the shareholders of those banks. On the other hand, Shareholders of target banks enjoy a significant abnormal return. They earn a high cumulative abnormal return around the announcement days which is in line with the Hubris theory. The study provides evidence that shareholders of target banks must maximize their means during the announcement of mergers. In this period they act as "profit takers" because the value of their firms are very high (Hubris theory) and hence, they are capable to enjoy greater gains. Thus the implications are enormous for both foreign as well as local investors who make their decision based on current market values and expected risk-return tradeoffs that are associated with their investments. The study also documented that MM and CMM (Models) have performed in a similar way most of the times. This confirmation validates the findings of Brown and Warner (1985), who proposed that in case of short term analysis, the CMM and the MM give similar results. The future research may be directed to examine the effect of acquisition and takeover deals. One can broaden the scope of the study by examining the cross border merger announcements and other corporate actions. Even announcement impact of reverse mergers would make a great sense so as to have adequate evidence of stock price reaction and also market efficiency concerning Indian capital markets.

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APPENDIX

Appendix 1: OLS Regression Summary Statistics of Bidder and Target Banks During Estimation Period

	Event date	Bidder Banks				Target Banks				
		CF	SE	t-stat	PV	CF	SE	t-stat	PV	
HDFC Bank (Centurion BOP)	05-02-08	α	0.000	0.001	0.289	0.773	0.001	0.002	0.635	0.527
		β	1.151	0.081	14.146	0.000	0.663	0.113	5.882	0.000
Indus Bank (Ashok Leyland Finance)	02-12-03	α	0.000	0.002	0.104	0.917	0.002	0.002	1.197	0.233
		β	0.920	0.129	7.132	0.000	0.250	0.123	2.026	0.044
ICICI Bank (ICICI Ltd.)	25-10-01	α	0.001	0.003	0.387	0.700	-0.001	0.002	-0.310	0.757
		β	0.859	0.150	5.748	0.000	0.933	0.109	8.555	0.000
ICICI Bank (Sangli Bank)	12-12-06	α	0.000	0.001	0.367	0.714	-	-	-	-
		β	0.839	0.070	11.948	0.000	-	-	-	-
ICICI Bank (Bank Of Madura)	8-12-02	α	0.006	0.003	2.017	0.045	-0.001	0.003	-0.283	0.778
		β	0.761	0.130	5.839	0.000	0.486	0.121	4.009	0.000
ICICI Bank (Bank of Rajasthan)	19-05-10	α	0.000	0.002	0.107	0.915	-0.002	0.003	-0.684	0.395
		β	0.897	0.085	12.945	0.000	1.142	0.130	8.775	0.000
Centurion Bank (Bank Of Punjab)	29-06-05	α	0.002	0.003	0.623	0.534	0.001	0.003	0.375	0.708
		β	1.272	0.261	4.870	0.000	1.177	0.259	4.537	0.000
Federal Bank Of India (Ganesh Bank)	06-01-06	α	-0.001	0.002	-0.303	0.762	-	-	-	-
Bank of Baroda (Benaras State Bank)	22-10-01	α	0.002	0.002	0.750	0.454	-	-	-	-
		β	0.742	0.128	5.819	0.000	-	-	-	-
Global Trust Bank (Axis Bank)	25-01-01	α	0.004	0.003	1.283	0.201	0.002	0.002	1.076	0.283
		β	1.131	0.152	7.415	0.000	0.556	0.097	5.718	0.000
Indian Overseas Bank (Baharat Overseas Bank)	09-04-07	α	0.000	0.002	-0.064	0.949	-	-	-	-
		β	1.327	0.097	13.674	0.000	-	-	-	-
Oriental Bank Of Commerce (GTB)	26-07-04	α	0.000	0.002	0.107	0.915	-0.002	0.003	-0.684	0.495
		β	1.617	0.095	16.945	0.000	1.142	0.130	8.775	0.000
State Bank Of India (Swarastra Bank)	27-08-07	α	0.001	0.001	0.681	0.497	-	-	-	-
		β	1.404	0.087	16.090	0.000	-	-	-	-
IDBI Bank (IDBI Ltd)	29-07-04	α	-0.001	0.003	-0.434	0.665	-0.001	0.002	-0.502	0.617
		β	1.368	0.134	10.210	0.000	1.360	0.099	13.716	0.000
IDBI Bank (Western Bank)	12-09-06	α	-0.004	0.001	-3.105	0.002	-0.005	0.003	-1.899	0.059
		β	1.394	0.080	17.480	0.000	0.684	0.144	4.741	0.000
State bank of India(State Bank of Indore)	19-06-09	α	0.002	0.002	1.445	0.150	-	-	-	-
		β	1.153	0.058	19.868	0.000	-	-	-	-
Punjab National Bank (Nedungadi Bank)	17-12-04	α	0.002	0.002	1.161	0.248	-	-	-	-
		β	1.203	0.190	6.324	0.000	-	-	-	-

Notes: Banks In Parenthesis represents Target Banks. CF, SE and PV indicate Coefficients (Alpha & Beta), Standard Error and Probability Values.