

IMPACT OF MERGER OF DENA BANK AND VIJAYA BANK ON SHARE PRICE OF BANK OF BARODA: AN EVENT STUDY

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Abstract

The objective of the paper is to investigate stock market responses to merger announcement and its impact on share price of merged banks in short term. The study involves sample of Bank of Baroda, Dena Bank and Vijaya Bank which merged on 1 April 2019 by employing Event Study methodology. The data has been collected from CMIE data base and Yahoo finance database. The study utilizes CAR and BHAR calculated on basis of Market Adjusted Model and T statistics to know the significance. It reveals that in banking environment marked by frequent merger, such transaction directly/indirectly affect the shareholders sentiments and increase the market shares i.e merger enhances the performance and wealth for both businesses and shareholders. Based on the statistical results the conclusion drawn is that merger announcement has no impact on the shareholders value of Bank of Baroda.

JEL Code: G1, G2, G21, G34

Keywords: Mergers, Abnormal Return, CAR, BHAR, Event Study

Introduction

In the history of merger it is the one of the kind, a first three way amalgamation of Indian Banks when Dena Bank, Vijaya Bank merged with Bank of Baroda, with effect from 1 April 2019. Amid the challenges of COVID successful integration of the banks has taken place with a motive to have a combined business of Rs 14.82 lakh crore, making it the third-largest bank after State Bank of India (SBI) and ICICI Bank. The meet the objective of strengthening Public Sector Banks and make them healthy, robust, globally competitive, develop economies of scale and synergies. The possible effect of merger announcements on the value of a firm has been subject of extensive research. Theoretically, a stock price takes into account all available information and expectations about the future.

Event Study is the most popular methodology adopted by researchers. (Zollo and Degenhard, 2007) reviewed 87 research papers on acquisition performance from top Management and Finance Journals between 1970 and 2006, and found that 41% used the short-term event study method, while 16% used the long term event study method.

In Event Study theory, it is possible to investigate the effect of an event on a company by analyzing the impact on the banking stocks. Since it is based on rational expectations and market efficiency and assumes that stock prices reflect the discounted value of future profits which adjust rapidly to reflect new public information. The market model is the most common analysis used for an event study as it compares the normal returns to stock returns that makes actual impact on the company. This technique can be used over time, analyzing consecutive days to understand how an event affects a stock over time.

However, many researchers are skeptical about the efficiency of stock markets. Investors often fail to correctly assess the full impact of corporate announcements. The announcement-period stock price reaction therefore does not fully reflect all relevant information. Hence, the accuracy of inferences based on announcement-period event windows is questioned. It is argued that the long-term post-deal negative drift in the acquirer's stock price may outweigh the positive stock price reaction for the combined entity at announcement, making the net wealth effect negative. Based on a survey of the strand of literature that considers longer event windows, Agrawal and Jaffe (2000) conclude that there is strong evidence of underperformance following M&A transactions.

Review of Literature

Mergers in recent times have become a strategic move in the corporate world. It is a strategic option to explore and exploit the emerging opportunities in order to expand (Berriategortua, 2018). Extensive research has been conducted on M&A but still no consensus on conclusion as well as dependent & independent variable and methodology has been arrived. Further various researchers have adopted the varied methodology. (Yaghoubi, 2016) combined abnormal return is positive, average market reactions to announcements of acquisition are slightly negative for acquirer and positive for target one. (Kumar and Bansal, 2008) Acquiring company may get benefited in the long run in terms of increased cash flows, business diversification and cost cutting. (Hassan, 2007) short term and long term abnormal returns were found for mergers but not for acquisitions. (Delaney and Wamuziri, 2004) the mergers in construction created wealth for the target firm shareholders. (Agrawal, Jaffe and Mandelker, 1992) after the five years of merger the significant loss has been suffered by stock holders of acquiring firm. (Gregory, 1997) takeovers reduced the wealth of acquiring companies. (Rau and Vermaelen, 1998) In case of acquirer it has observed that it underperformed. (Mitchell and Stafford, 2000) there is no evidence of reliable

abnormal return. (Kadiyala and Rau, 2004) firms earn higher long run abnormal returns which announces corporate events after the release of good news than the firms announcing the event after the release. (André, Kooli and L'Her, 2004) acquirer firms underperformed significantly, value weighted abnormal returns are positive. (AW and Chatterjee, 2004) it is found that UK firms acquiring large takeover targets experienced negative cumulative abnormal return at various significance levels. (Abhyankar and Zhao, 2005) after three years of mergers firms did not underperform significantly. (Boon and Wooi, 2004) mergers bring positive stability in banking stock prices and enjoy reduction in volatility. (Kumar and Bansal, 2008) acquiring firm were able to generate long run synergy as cost cutting, higher cash flows etc.

Methodology

For the purpose of the study Event study methodology has been applied making use of market model.

3.1 Data

The data for the purpose of research has been collected from the National Stock Exchange (NSE) website for a period of 6 months from 1st January 2019 to 30th June 2019. The merger was effective from 1 April 2019; hence data for pre and post (3 months) has been collected on daily basis. The data has been collected and compared to benchmarks of Bank nifty.

3.2 Method

For the purpose “Event Study Methodology” has been applied. The study uses Market adjusted Model by employing CAR (cumulative abnormal return), BHAR (buy and hold abnormal return). Also to test significance of hypothesis t-test is used.

3.3. Abnormal Return

Return that are different from what one would expect.

$$\text{Abnormal Return} = \text{Market Return} - \text{Expected Return}$$

$$\text{Expected Return} = \text{Alpha} + (\text{Beta} * \text{Stock Return})$$

3.4. Event Date

The date of event, here it is merger announcement date, i.e. 1st April.2019.

3.5. Estimation Window

Estimation window is the period starts just before the event window (which is 10 days) and ideally to 150 days prior to event (which is 51 days).

3.6. Event Window

For this study event window of 21days is taken which includes 10 days prior and 10 days after the event day and 1 day of event announcement (10+10+1).

H_{00} : There is no significant impact of Merger on the shareholders value (stock returns) of Bank of Baroda.

H_{01} : There is a significant impact of Merger on the shareholders value (stock returns) of Bank of Baroda.

Results and Interpretation

Table No 01 contains the date of the event which is 1st April 2019, event window is 21 day i.e 10 days prior to event 10 days post event and event day. Estimation window is of 51 days.

Table No. I

Event Date	1/4/2019
Anticipation	10
Adjustment	10
Estimation Window	51

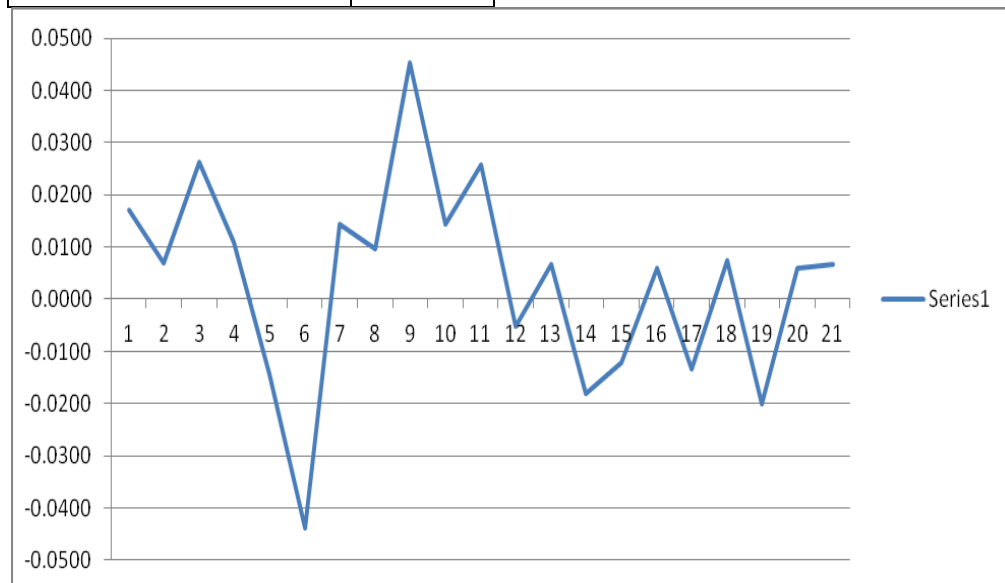


Figure 01: Abnormal Return

Day 11 is the Event day on the which the merger announcement has been made, post announcement the stock prices reacts in negative as later on it slowly and gradually moved to the normal returns.

Table No II

Alpha	0.001927
Beta	0.260117

Std Error	0.005554
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Table No III

Event Window	(10- to +10)
CAR	0.075952879 or 8%
Std Dev	0.009619755
t-value	7.895510588
P value	0.985375332
BHAR	0.017144812 or 2%
t-value	1.782250295
P value	0.080661897

Results

The hypothesis states that there is no significant impact of Merger on the corporate value of Bank of Baroda, has been accepted, p value of CAR and BHAR for event date is less more than 5% in both the cases CAR and BHAR the p value is .9853 and .0806 consecutively, that means the impact of merger announcement on the corporate value of Bank of Baroda was not material, it was statistically insignificant.

Discussion

Merger announcement of Vijaya Bank and Dena Banks has not impacted shareholders value of Bank of Baroda, the reason being the consolidated profit of both the banks (Vijaya and Dena) is very less or negligible in comparison to Bank of Baroda.

Conclusion

Generally Mergers and Acquisitions have not brought about the expected improvement in banks performance but as corporate strategies, are applied to increase the market share or revenue sometimes it becomes necessary in the interest of public. In such case the weak organization is merged into strong one. Vijaya Bank and Dena Bank both were merged in Bank of Baroda and this merger announcement has no impact on the corporate value of the Bank of Baroda, it means it has no impact on the stock return of Bank of Baroda.

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Appendix

Days	Actual Return	Estimated Return	Abnormal Return	t value
1	0.021030857	0.003886045	0.017144812	3.086948
2	0.012071585	0.005175809	0.006895776	1.241594
3	0.029693886	0.003479138	0.026214748	4.720003
4	0.01344674	0.002501771	0.010944968	1.970657
5	-0.012948605	0.001496727	0.014445332	-2.6009
6	0.045833671	-0.00197516	0.043858512	-7.89679
7	0.018840703	0.004465389	0.014375314	2.588296
8	0.015326947	0.005756991	0.009569956	1.723084
9	0.049060628	0.003795605	0.045265024	8.150033
10	0.018143427	0.003740993	0.014402434	2.593179
Event day	0.027498272	0.001743188	0.025755084	4.63724
-10	0.003438738	0.001671686	0.005110424	-0.92014
-9	0.007576326	0.000771143	0.006805183	1.225283
-8	0.018165575	-0.00014391	0.018021662	-3.24483
-7	0.009933273	0.002079945	0.012013217	-2.163
-6	0.00758214	0.001750853	0.005831287	1.049932
-5	0.011705686	0.001790804	0.013496489	-2.43006
-4	0.008075681	0.000647376	0.007428305	1.337477
-3	0.018616007	0.001525673	-0.02014168	-3.62654

-2	0.008162948	0.002324669	0.005838279	1.051191
-1	0.010101789	0.003532763	0.006569026	1.182763

Date	Nifty Bank	Stock
1-Jan-19	27311.9	121.78
2-Jan-19	27235.85	121.25
3-Jan-19	27070.725	120.79
4-Jan-19	27097.35	120.68
7-Jan-19	27341.6	122.72
8-Jan-19	27405.7	123.04
9-Jan-19	27685.825	123.33
10-Jan-19	27621.05	123.28
11-Jan-19	27528.35	121.19
14-Jan-19	27318.725	121.33
15-Jan-19	27359.15	121.21
16-Jan-19	27444.675	121.66
17-Jan-19	27548.675	119.71
18-Jan-19	27503.375	118.79
21-Jan-19	27524.075	117.49
22-Jan-19	27504.4	114.8
23-Jan-19	27371.925	112.77
24-Jan-19	27269.95	112.88
25-Jan-19	27188.375	112.05
28-Jan-19	26847.25	109.76
29-Jan-19	26594.825	112.57
30-Jan-19	26807.625	114.71
31-Jan-19	27132.3	112.07
1-Feb-19	27210.25	111.83
4-Feb-19	27080.3	110.51
5-Feb-19	27248.875	109.35
6-Feb-19	27364.275	108.03
7-Feb-19	27405.625	109.16
8-Feb-19	27298.525	106.04
11-Feb-19	27234.15	103.91
12-Feb-19	27088.825	103.93
13-Feb-19	26977.125	103.3
14-Feb-19	26974.3	102.91
15-Feb-19	26905.725	101.99
18-Feb-19	26704.425	100.28
19-Feb-19	26675.7	102.37

20-Feb-19	26870.75	103.01
21-Feb-19	27023.575	103.18
22-Feb-19	26913.8	102.96
25-Feb-19	27046.725	103.16
26-Feb-19	26903.375	101.06
27-Feb-19	26938.7	101.64
28-Feb-19	26833.95	101.07
1-Mar-19	26992.45	105.99
5-Mar-19	27311.1	110.88
6-Mar-19	27621.875	112.47
7-Mar-19	27712.8	114.9
8-Mar-19	27723.975	114.61
11-Mar-19	27903.375	116.2
12-Mar-19	28305.95	116
13-Mar-19	28682.3	115.28
14-Mar-19	28976	116.02
15-Mar-19	29194.225	118.46
18-Mar-19	29558.85	119.89
19-Mar-19	29735.225	123.45
20-Mar-19	29800.925	125.11
22-Mar-19	29751.625	123.49
25-Mar-19	29305.3	117.83
26-Mar-19	29591.275	120.05
27-Mar-19	30026.975	121.89
28-Mar-19	30242.675	127.87
29-Mar-19	30453.575	130.19
1-Apr-19	30432.05	133.77
2-Apr-19	30402.175	133.31
3-Apr-19	30267.075	134.32
4-Apr-19	30026.1	131.88
5-Apr-19	30043.75	130.57
8-Apr-19	30023.4	131.56
9-Apr-19	30007.675	130.02
10-Apr-19	29860.05	131.07
11-Apr-19	29813.975	128.63
12-Apr-19	29859.55	129.68
15-Apr-19	30043.875	130.99
16-Apr-19	30383.8	130.72
18-Apr-19	30439.95	127.72
22-Apr-19	29985.225	125.08
23-Apr-19	29620.825	124.62

24-Apr-19	29705.65	124.11
25-Apr-19	29744.2	123.55
26-Apr-19	29889.175	122.85
30-Apr-19	29842.6	116.09
2-May-19	29704.2	116.39
3-May-19	29882.9	118.86
6-May-19	29622.475	117.17
7-May-19	29518.875	115.03
8-May-19	29127.85	112.1
9-May-19	28889.275	111.34
10-May-19	28984.05	112.63
13-May-19	28843.3	108.48
14-May-19	28773.975	108.9
15-May-19	28770.95	108.71
16-May-19	28740.6	107.91
17-May-19	29165.775	110.47
20-May-19	30495.05	120.75
21-May-19	30585.25	125.16
22-May-19	30468.725	126.21
23-May-19	30685.95	134.75
24-May-19	30949.025	134.07
27-May-19	31441.275	140.04
28-May-19	31654.6	139.99
29-May-19	31377.4	136.82
30-May-19	31396.975	135.57
31-May-19	31527.15	133.75
3-Jun-19	31529.85	131.11
4-Jun-19	31560.975	133.53
6-Jun-19	31190.675	126.24
7-Jun-19	31004.85	122.6
10-Jun-19	31146.6	120.03
11-Jun-19	31218.85	120.02
12-Jun-19	31092.5	120.94
13-Jun-19	30926.425	119.49
14-Jun-19	30798.9	120.28
17-Jun-19	30462.625	117.54
18-Jun-19	30325.225	116.89
19-Jun-19	30444.3	116.77
20-Jun-19	30585.65	117.27
21-Jun-19	30716.65	118.14
24-Jun-19	30641.5	118.67

25-Jun-19	30707.35	119.27
26-Jun-19	30985.775	120.49
27-Jun-19	31230.8	121.67
28-Jun-19	31193.1	123.04