A Study on the Impact of Pre and Post Bank Merger Announcement on Stock Price Movements

1. Naveen Kumara R, Assistant Professor, Department of Commerce, Christ University, Karnataka, India. Christ University, Hosur Road, Bengaluru- 560029

2. Vidhya VJ, Research Scholar, Department of Commerce, Christ University, Karnataka, India.

Christ University, Hosur Road, Bengaluru-560029

3. Meghana B Reddy, Research Scholar, Department of Commerce, Christ University, Karnataka, India.
Christ University, Hosur Road, Bengaluru-560029

***Abstract*:** Merger announcement is a part of corporate actions undertaken by the companies. This study aims to examine the quantum of merger announcements impact on banks pre and post stock prices movements. Recent Bank mergers in the previous 8 years from 2010-2018 are considered for the study i.e two Private and Public sector Banks. Data collected includes closing prices of banks 7 days pre and 7days post-merger announcement. The statistical tool used in measuring the level of impact is an event study. The H0 defines that the closing price of the acquiring banks is not significantly affected by the merger announcement dates whereas the H1 defines that the closing price of the acquiring banks is significantly affected by the merger announcement dates. The outcome of this paper proved that there was no much significant impact on the stock price movements prior to and after the announcement of merger dates.

IndexTerms **- Bank merger, Announcement date, Stock price variations, Event Study.**

I. INTRODUCTION

Banks are financial service conglomerates acting as intermediaries between savers and investors by providing a large array of financial services to remove the deficiency of capital and reflect as a mirror of economic growth. A well-functioning bank spur up productive investments, mobilize the scattered savings, diversify risk while poorly functioning banks is an obstacle to economic progress causing instability in the economy and hence widely prefer mergers and acquisitions.

A merger is a pivotal event assumed to create value where two companies combine and consolidate to achieve synergy in business operations. It's a form of external restructuring to avoid financial distress, to face the challenge of increasing competition and to benefit from the greater efficiency and competitive strength.

Bank merger is a scenario where banks join hands with stronger banks with a view to gain the market and reduce competition by protecting the interests of investors. The market reacts to announcement date of bank mergers reflecting on stock price fluctuations by creating variations in the acquiring banks stock price. Mergers are used as a part of the growth strategy to strengthen the long-term financial sustainability. This study examines the impact of pre and post-merger announcement dates on stock price movements of the acquiring bank.

II. LITERATURE REVIEW

(Daniel & Frank, 2014) Emphasized in detail about the stock price performance of the acquiring bank after the merger announcements dates. To determine if investors can make decisions with regard to earning more and above normal return and it revealed that the market remained as semi-strong and efficient Market. (Timcy, Neena, & K.P, 2015) Summarised that there is an impact on the shareholder's wealth and change in the daily stock returns due to the announcement of merger dates using the event study analysis and states that merger on a whole is a strategy for value creation and a way of intensifying competition. (Shourun, Mark, & Weihong, 2008) In detail specifies how the acquiring firms manipulate either by inflating or by preventing overvalued prices from falling prior to the stock-swap merger announcement. (Hai Hong, 1978) Examines whether the mergers have an impact on the stock prices of the firm acquired or not. A sample of 205 mergers has been taken for the study using regression method concluded that the mergers did have an effect on the acquiring firm's stock prices. (Bassi, 2015) Attempts to identify the effect of the mergers and acquisition on the fundamental value of the banks acquired and also the status of the target bank before the event of mergers and acquisition. The study indicated a positive impact on the fundamental value of the acquired company after the event of Mergers and acquisition.(Rosen, Richard J ., 2006) Aims at examining if there is any relation between the merger announcement date and the market reaction. The empirical model is used to find out the merger announcement dates impact on the stock prices of the merged firms. The study concluded that there existed a positive relation between the announcement dates of the merger and its changes on the stock price performance of the firms merged.(John B. Kusewitt, 1985) Analysed about the relationship between the financial performance of the acquiring firms and also the factors of their acquisition strategy. The common factors that have been considered in this study are timing, relative size, and industry commonality and acquisition rate.

(Weihong Zhang) Mainly focuses to explore the relationship between Mergers and acquisition and also to examine the firm's performance. Least square regression method was used to conduct this study. The study showed that there was a positive impact on the firm's performance after the firm's Mergers and acquisition.(S, 2012) In his study conducted aimed at examining the various motives of the mergers with respect to the banking industry in India. It also compares the merged banks financial performance by using parameters such as Debt equity ratio, Gross, Operating and Net profit margin and also Capital returns of the merged banks. (Savor, 2009) States that even though there is a negative impact in the performance of the stock over a long run the market treats it positively bidding termination by the announcement of any corporate action emphasizing the positives of merger announcements. This paper mainly aims at finding out if stock mergers could create and increase the value of the firm and thereby acting as a strong incentive in artificially boosting up the stock price.(Dr A N Tamragundi, 2016) Examines the stock price performances of the merged commercial banks. The evaluation of the performance of the banks was done on the basis of three perspectives i.e on the physical and the financial performance of the merged banks and their stock price performance.(Masud, 2015) Researched to examine the financial performance of merged banks. The parameters used are returned on earnings and Earnings per share with the use of paired sample t-test technique as they are doing a comparison between before and after the merging event happened.(Kumar, 2013) This study evaluates and compares the financial performance of bank after the impact of mergers with respect to profit earned per employee, firms investment and return on advances, asset return and return on net profit of the assets. The study concluded that there was a positive impact on the financial performance of two selected banks. (Gupta, 2015) In his paper examined the effect of the performance of banks, post-impact of mergers and acquisition. ICICI bank and the Bank of Rajasthan, and second the merger of HDFC Bank and Centurion Bank of Punjab were selected to evaluate their performance. The study summarised that there was a positive increase and impact on the financial performances of the above-selected merged banks, post the merger and acquisition.

III. ANNOUNCEMENT DATES OF BANK MERGER

Sl.No	Announcement Date	Acquiring Bank	Acquired Bank
1	12 August 2010	ICICI Bank	Bank of Rajasthan
2	20 November 2014	Kotak Mahindra Bank	ING Vysya Bank
3	20 March 2017	State Bank of India	5 Associate Bank
4	17 September 2018	Bank of Baroda	Dena Bank & Vijaya Bank

IV. OBJECTIVE OF THE STUDY

To determine the impact of bank merger announcement date on stock price movements of the acquiring bank.

V. HYPOTHESIS

H0: The closing price of the acquiring banks is not significantly affected by the merger announcement dates
H1: The closing price of the acquiring banks is significantly affected by the merger announcement dates

VI. EVENT STUDY

To conduct the study about the effect of the merger announcement date and its impact on the acquiring company's stock price (Daniel & Frank, 2014)conducted the event study tool to analyze the market efficiency and fluctuations in the stock prices caused due to the bank merger announcement date. Event study is conducted to measure the level of impact on a certain event and its impact on the firm's value. The financial data used is the closing price of the acquiring banks available in the stock market to find the level of fluctuations and its impact on stock price. The stocks are volatile and react to rationality in the marketplace. Any changes in the market will have an adverse effect immediately reflecting on the stock prices. By observing the prices for a short-term period the degree of economic impact of an event can be measured.

VII. METHODOLOGY OF THE STUDY

The statistical tool used to analyze the data is event study. For this purpose, merger announcement date is considered as the event date. The closing prices of acquiring banks are considered to find the merger announcement dates impact on the stock price performance. The merged bank's data is collected for 7-days pre and 7-days post-event period. The data for this study is collected from NSE SENSEX

VIII. SAMPLE SECTORS FOR THE STUDY

The closing prices that are considered to determine the impact of announcement dates are sourced from (https://finance.yahoo.com/). The final merger announcement dates of bank issued by the RBI press release is considered for the study. Criteria for selecting the sample size is the recent bank mergers in the past 8 years i.e from 2010-2018. There are 4 banks which got merged during this time period, 2 public sector and 2 private sector banks. The banks chosen are

1. ICICI and Bank of Rajasthan
2. Kotak Mahindra Bank and ING Vysya Bank
3. SBI and its 5 Associate Banks
4. Bank of Baroda and Dena Bank, Vijaya Bank

IX. QUANTITATIVE RESULTS AND INTERPRETATION

9.1 ICICI BANK

Table 9.1: statistical output

Dependent Variable: DLOG(CLOSE_PRICE)
Method: Least Squares
Date: 10/22/18 Time: 11:58
Sample (adjusted): 8/04/2010 8/23/2010
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001697	0.008411	0.201768	0.8438
ANNOUNCEMENT_DATE	0.004016	0.011462	0.350416	0.7326

R-squared	0.011040	Mean dependent var	0.003860
Adjusted R-squared	-0.078866	S.D. dependent var	0.019834
S.E. of regression	0.020601	Akaike info criterion	-4.786268
Sum squared resid	0.004669	Schwarz criterion	-4.699353
Log likelihood	33.11074	Hannan-Quinn criter.	-4.804133
F-statistic	0.122791	Durbin-Watson stat	2.441424
Prob(F-statistic)	0.732645		

The study is conducted using the least square method to find out the relationship between the bank merger announcement dates and its impact on stock price movements pre and post. The dlog used signifies the average percentage of the return prior merger announcement. The independent variable is the Announcement date of bank merger and their movement in stock price is the dependent variable. Dummy variable i.e, the announcement date signifies the difference in the average return pre-merger and post-merger announcement. Rate of change in the closing price of a stock is dependent on the announcement date of the merger.

The announcement date co-efficient is positive i.e 0.004016 which means the stock price returns are increasing by 0.4%. So there is a 0.4% average increase in the 7 days before and after the announcement. Since the independent variable is one (announcement date) only the R squared value is considered. R squared value tells us the percentage of change in the proportion of variation in the dependent variable explained by the group of an independent variable. Here R square value is 0.011040 that is 1.104% which means that the announcement date is responsible for the change in stock price by 1.104%.

Since the probability values are greater than the level of significance .05%, it’s not significant and thereby we accept the H0,null hypothesis. Hence we can come to a conclusion stating that there’s not much impact on stock price movements prior to and after the announcement of merger dates.

9.2 KOTAK MAHINDRA BANK

Table 9.2: statistical output

Dependent Variable: DLOG(CLOSE_PRICE)
Method: Least Squares
Date: 10/22/18 Time: 12:09
Sample (adjusted): 11/12/2014 12/01/2014
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.004559	0.014335	-0.318016	0.7564
ANNOUNCEMENT_DATE	0.020143	0.019535	1.031116	0.3246

R-squared	0.088136	Mean dependent var	0.006287
Adjusted R-squared	0.005239	S.D. dependent var	0.035205
S.E. of regression	0.035112	Akaike info criterion	-3.719882
Sum squared resid	0.013562	Schwarz criterion	-3.632967
Log likelihood	26.17923	Hannan-Quinn criter.	-3.737747
F-statistic	1.063201	Durbin-Watson stat	2.112941
Prob(F-statistic)	0.324625		

The announcement date co-efficient is positive i.e 0.020143 which means the stock price returns are increasing by 2%. So there is 2% average increase in the 7 days before and after the announcement. Here R square value is 0.088136 that is 8.81% which means that the announcement date is responsible for the change in stock price by 8.81%.

Since the probability values are greater than the level of significance .05%, it's not significant and thereby we accept the H0, null hypothesis. Hence we can derive to a conclusion that there's not much impact on stock price movements prior to and after the announcement of merger dates.

9.3 STATE BANK OF INDIA

Table 9.3: statistical output

Dependent Variable: DLOG(CLOSE_PRICE)
Method: Least Squares
Date: 10/22/18 Time: 12:10
Sample (adjusted): 3/09/2017 3/29/2017
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002604	0.005881	0.442791	0.6665
ANNOUNCEMENT_DATE	0.004660	0.008014	0.581439	0.5727

R-squared	0.029817	Mean dependent var	0.005113
Adjusted R-squared	-0.058381	S.D. dependent var	0.014002
S.E. of regression	0.014405	Akaike info criterion	-5.501839
Sum squared resid	0.002283	Schwarz criterion	-5.414924
Log likelihood	37.76195	Hannan-Quinn criter.	-5.519704
F-statistic	0.338072	Durbin-Watson stat	1.299605
Prob(F-statistic)	0.572666		

The announcement date co-efficient is positive i.e 0.004660 which means the stock price returns are increasing by 0.46%. So there is 0.46% average increase in the 7 days before and after the announcement. Here R square value is 0.029817 that is 2.98% which means that the announcement date is responsible for the change in stock price by 2.98%.

Since the probability values are greater than the level of significance .05%, it's not significant and thereby we accept the H0, null hypothesis.Therefore it is shown that there's not much impact on stock price movements prior to and after the announcement of merger dates.

9.4 BANK OF BARODA

Table 9.4: statistical output

Dependent Variable: DLOG(CLOSE_PRICE)
Method: Least Squares
Date: 10/22/18 Time: 12:11
Sample (adjusted): 9/06/2018 9/27/2018
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.012134	0.021554	-0.562965	0.5848
ANNOUNCEMENT_DATE	-0.024019	0.029373	-0.817706	0.4309

R-squared	0.057303	Mean dependent var	-0.025067
Adjusted R-squared	-0.028397	S.D. dependent var	0.052062
S.E. of regression	0.052796	Akaike info criterion	-2.904108
Sum squared resid	0.030662	Schwarz criterion	-2.817193
Log likelihood	20.87670	Hannan-Quinn criter.	-2.921973
F-statistic	0.668643	Durbin-Watson stat	2.580169
Prob(F-statistic)	0.430881		

The announcement date co-efficient is negative i.e -0.024019 which means the stock price returns are decreasing by -2.40%. So there is -2.40% average increases in the 7 days before and after the announcement. Here R square value is 0.057303 that is 5.73% which means that the announcement date is responsible for the change in stock price by 5.73%.

Since the probability values are greater than the level of significance .05%, it's not significant and thereby we accept the H0, null hypothesis. Hence we can conclude that there's not much impact on stock price movements prior to and after the announcement of merger dates.

X. FINDINGS

Based on the study conducted with regard to analyzing the impact of bank merger announcements on the acquiring banks stock price movements, the outcome states that there is no much impact on such merger announcements made on the acquiring banks stock price resulting no benefit for the investors. As this study focuses on 7 days pre and post as window period, the market itself corrects the fluctuations occurred over the period of 7days as the announcements are made and therefore it is found that it is preferable for the investors to take quick decisions within 2 or 3 days of merger announcements and earn abnormal returns.

XI. CONCLUSION

The study conducted aimed at ascertaining the relationship between the merger announcement dates and its possible impact on the closing prices of acquiring banks. The stakeholders would have an expectation that there will be a rise in the stock price movement of the banks as the merger announcements are made i.ethe probability of earning higher returns than the normal return is more when the merger announcements are made. The primary motive of this study is to check the possibility of investors in earning more than the expected return after the announcement of bank merger and to determine if the merger announcement dates affect the acquiring banks stock price. In case of both public and private sector banks, we accept the H0 stating that the closing price of the acquiring banks is not significantly affected by the merger announcement dates.

References

Bassi, D. P. (2015). A stusy on impact of announcement of merger and acquisition on the valuation of the companies. *Asia Pacific journal of research*, 2320-5504.

Brown, S., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of financial economics*, 3-31.

Daniel, F., & Frank, B. (2014). MERGER AND ACQUISITION ANNOUNCEMENTS EFFECT ON ACQUIRING COMPANY'S STOCK PRICE: A TEST OF MARKET EFFICIENCY. *Proceedings of the Academy of Accounting and Financial Studies, Volume 19*, 1-9.

Deepak, R., & Bhavya, N. (2014). An Event Study Analysis of Union Budget Announcement on Broad and Sectoral Indices of Indian Stock Market. *International Journal Of Innovative Research & Development* , 1-21.

Dr A N Tamragundi, D. S. (2016). Impact of mergers on Indian banking sector: A comparative study of public and private sector merged banks. *Acme intellects international journal of research in management, social sciences and technology*.

Fama, E., Fisher, L., MC, J., & Roll, R. (1969). The adjustment of stock prices to new information. *International economic review*, 1-21.

Gupta, K. (2015). MERGERS AND ACQUISITIONS IN THE INDIAN BANKING SECTOR: A STUDY OF SELECTED BANKS. *International Journal of Advanced Research* .

Hai Hong, R. S. (1978). Pooling vs. Purchase: The Effects of Accounting for Mergers on Stock Prices. *American Accounting Association*, 31-47.

John B. Kusewitt, J. (1985). An Exploratory Study of Strategic Acquisition Factors Relating to Performance. *Strategic Management Journal, 6*(2), 151-169.

Khanna, K., & Gogia, N. (2014). A Paramatic Study Of Budget Annoucements And Stock Market Performance : India, US & UK Panorama. *VSRD International Journal of Business and Management Research*, 35-38.

Kumar, S. (2013). Impact of bank mergers on the efficiency of banks: A study of mergers of Bharath Overseas bank with Indian Oversears bank. *International Journal of Academic research in business and social sciences*.

Masud, N. (2015). Impact of merger and acquisition in financial performance of banks: Evidence from Pakistan. 108-113.

Rosen, R. J. (2006). Merger Momentum and Investor sentiment: The stock Market Reaction to Merger. *The University of Chicago Journals*, 987-1017.

Rosen, Richard J . (2006). Merger Momentum and Investor Sentiment: The Stock Market Reaction to MergerAnnouncements. *The Journal of Business, 79*(2), 987-1017.

S, D. (2012). Mergers in Indian banks: Study on mergers of HDFC. *International Journal of marketing, Financial services and management research*.

Saraswat, P., & Banga, J. (2012). Volatility of sensex with respect of union budget of India: A Pragmatic Study. *International Journal of Accounting and Financial Management Research*, 19-31.

Savor, G. P. (2009). Do Stock Mergers Create Value for Acquirers? *American Finance Association*, 1061-1097.

Shourun, G., Mark, H. L., & Weihong, S. (2008). STOCK SPLITS AS A MANIPULATION TOOL: EVIDENCE FROM MERGERS AND ACQUISITIONS. *Financial Management, Vol. 37*, 695-712 .

Suresh, B. S., & Dr.Venkateswarlu, M. (2013). Impact Of Union Budget On India Stock Prices. *International Journal Of Management Reasearch And Review*, 2890-2896.

Susan, T., & Ajay, S. (2002). Stock Market Response to Union Budget. *Economic and Political Weekly*, 455-458.

Swaminathan, V. M. (2008). Value Creation following Merger and Acquisition Announcements: The Role of StrategicEmphasis Alignment. *American Marketing Association*, 33-47.

Timcy, S., Neena, S., & K.P, K. (2015). IMPACT OF MERGER AND ACQUISITION ANNOUNCEMENT ON SHAREHOLDERS' WEALTH AN EMPIRICAL STUDY USING EVENT STUDY METHODOLOGY. *Delhi Business Review Vol. 16*, 2.

Varadharajan, P., & Dr.Vikkraman, P. (2011). Impact of Pre and Post Budget on Stock Market Volatility Between 2001 to 2011. *Journal Of Contemporary Research In Management*, 49-64.

Vishal, K. (2012). Testing Semi-Strong Efficiency of Indian Stock Market- A Study on effect of Union Budget 2012 on Six Select Sectoral Stocks . *Journal of Arts, Science & Commerce*, 74-81.

Weihong Zhang, K. W. (n.d.). The impact of firms mergers and acquisition on their performance in emerging economies. *ELSEVIER*.