The Consequences of Mergers and Acquisitions on the Value of Stocks Performance in India's Banking Sector

NEERAJ RANI*, SANGEETA
School of Management,
Maharaja Agrasen University,
Baddi,
INDIA

Corresponding Author

Abstract: - Mergers & Acquisitions are one of the most successful scaling up and company development strategies. Despite being largely acknowledged in developed economies, these strategies are commonly employed in developing countries like India. The event study approach is applied in this study to assess the consequences of Mergers & Acquisitions (M&A) on the value of stocks performance in India's banking sector from 2013 to 2020. The market study approach has used to determine the Abnormal return (AR) and Cumulative abnormal return (CAR) in order to analyze how the phenomena affected share prices prior to and following the occurrence. Event window has been used for this purpose for 81 days (40, 40), whereas estimate window is 200 days. The findings show divergent results on the M&A activity influence the stock price performance. Research findings reveal that while few banks saw positive AR and CAR following the M&A, the bulk of banks experienced negative returns. Overall, the results reveal that the market's response to the recurrence of M&As in India's banking sector has unfavorable. Findings may be useful in providing managers and investors with new views while making investment-related decisions.

Key-Words: - Merger, Acquisition, Event Study, Indian Banking Sector, Abnormal return (AR), Cumulative abnormal return (CAR).

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1 Introduction

Financial resources are necessary for an organization to grow or extend its activities. Launching brand-new goods and services, as well as extending operations beyond the capabilities of current resources, are the ways to accomplish growth. Internal resources and external resources are the two types of resources utilized to achieve growth. For company development, business organizations primarily depend on internal resources (retained earnings). If there are insufficient internal resources, each big growth potential will push organizations to depend on outside resources, [1]. The external sources might include partnerships, bank loans, a combination with another business, or buying another organization, [2]. The emerging company development techniques used in the corporate sector are mergers and acquisitions (M&As). Due to its quick expansion, many organizations embraced similar tactics for growing their businesses, and the business world records almost thousand transactions annually, [3].

Numerous factors have been listed in the literature as causes of mergers and acquisitions between organizations. Organizational synergy is involved, wherein an integrated firm outperforms each independent enterprise in terms of value. It might reduce starting costs, increase shareholder value, aid companies in surviving in unstable business environments and structures, provide economies of scale and scope, cut expenses, encourage asset returns, and increase equity returns [1], and, [4].

The banking industry of India has seen a considerable increase in merger & acquisition (M&A) activity in recent years. Reserve Bank of India (RBI) is essential to supervision and control of M&A activities in the banking industry. It evaluates the combined entity's financial sustainability and stability and guarantees that banking laws are being followed. In the Indian banking industry, mergers & acquisitions have been applied as a strategic strategy to build stronger, more effective, more internationally competitive institutions, [2]. The assistance and regulatory control provided by the government are essential in advancing these measures, which have as their ultimate objective improving the entire efficiency and stability of the Indian banking sector. Integrating systems, cultures, and procedures may be difficult during mergers and acquisitions in the banking industry, [2], and, [4]. It is crucial to ensure a smooth transition while upholding stakeholders' and consumers' confidence.

At the beginning of the era, in the eighteenth century, early M&A transactions were recorded in the US. Following that, identical transactions were discovered in nineteenth-century European markets. Many globally successful firms have embraced these tactics. The M&A strategy has been used more frequently in advanced countries than in emerging nations, [5]. Since the majority of these transactions were documented in advanced countries on the American and European markets, investigations in this area have tended to increase. But in a developing nation like India, where these techniques are less often used, there is less literature on the subject. However, M&As have not been widely utilized in emerging nations like India. Thus, the study makes an endeavor to examine the influence of the trend of merger & acquisitions both before and after they occur. This study's primary goal is to evaluate the effects of mergers & acquisitions on shareholders' wealth of Banks in India after such transactions.

2 Literature Review

A literature review offers a thorough assessment of the current research topic and evaluates the study's goals. It is a type of review paper that provides the most recent information, findings, and methodological advancements in an area of study.

[6], evaluated the five mergers, including those within Times Bank & HDFC, Bank of Madura & ICICI, ICICI Ltd. and ICICI, Global Trust Bank and OBC, and Bank of Punjab & Centurion Bank, were carried out to the announcement of merger reveal on the Indian banking market. To evaluate the performance following the merger, the event study method was used. The outcome showed that the target banks and the bidder both met their goals and boosted shareholder wealth through cumulative abnormal returns.

[7], observed that M&A has been a key component of both domestic and global plans. From 1980 to 2010, the top sixteen prestigious business journals published research on M&A. According to the findings of a bibliometric analysis of 334 M&A papers, environmental efficiency strategy was the main topic of study for M&A experts.

[8], studied that between 1999 and 2010, the Ghanaian stock market embraced M&A as a strategy to boost efficiency and profitability. Univariate analysis using T-testing and panel techniques had used to evaluate the data, and this approach revealed that M&A has decreased a company's profitability. M&A should be planned, carried out, and reviewed in order to boost the profitability of the companies. The findings showed that when risk rose, profitability fell, yet as company growth rose, profitability rose as well.

[9], examined the financial condition (ROA & ROE) of Nigerian Banks between 2000 and 2008, the effects of preceding and subsequent M&A. In four Nigerian banks, t-test, judgement sampling, and convenience sampling were all utilized for this purpose. As a consequence of the consolidation, the bank's financial performance improved. It was also proposed that the financial products be made appealing in order to raise the efficiency of the banking industry.

[10], examined the Indonesian banking sector's earning capacity & ROE using the Du-Pont method. Between 2001 and 2014, 97 Banks employed the deliberate sampling technique. The study's main premise was that operational effectiveness and interest income had an impact on basic earning capacity, as well as return on equity, capital, and financial leverage. The findings demonstrated how important efficiency, asset turnover, income, and deposits are to the banking sector's performance.

[11], discovered that M&A success may be classified into two categories. The right partner, shared trust, careful planning and accurate assessment, knowledge gained from prior mergers and acquisitions, interaction prior to the M&A, and after-transaction success factors like the plan’s quality, its execution, quick migration, interaction during implementation, and deliberate, organizational, and social compatibility are all crucial. According to the perspectives of the buyer

and seller, the outcome was the M&A's success or failure.

[12], studied of M&A in various Indian industries from 1991 to 2010 used a time series, and it was separated into three phases: the age of consolidation from 1991 to 1995, the period of acquisition from 1995 to 2002, and the era of international expansion from 2002 to 2012. Changes in government policies and political considerations for global development were made with the aid of M&A. Manufacturing and non-manufacturing were separated into separate categories for the study. The results showed that the manufacturing sector had a larger influence in M&A activity than the industries other than manufacturing sector.

[13], DuPont analysis was utilized in a comparative study of international banks operating in India, particularly CITI Bank and Standard Chartered Bank, to support the effectiveness. Results showed that, in terms of ROE and effective asset utilization, CITI Bank manages financial resources more effectively than Standard Chartered Bank.

[14], analyzed the M&A activity of Pakistani banks between 2004 and 2015. The financial situation after the M&A was calculated using a ratio analysis. Following the M&A, the banks' liquidity, profitability, and investment ratios all significantly increased, however their solvency measures showed that their profitability has negatively impacted by their increasing debt load.

[15], observed information on listed firms on the Warsaw Stock Exchange between 2008 to 2017 that was gathered from database of EMIS and he company's websites. Seven factor Du-Pont model was utilized in the study to generate (ROE) and a specific Pearson correlation coefficient that closely matched the relationship between the various DuPont model components and ROE. The findings showed that credit multiplier was the primary determinant of ROE in the firms and also revealed a negative association between ROE and companies.

[16], examined the financial performance of the Indian plastics business was using comparative ratios and Du Pont analysis. One method that has been utilized to assess the applicability of the data is ANOVA. The years taken have been 2014 through 2019 using secondary data. The study's main objective was to increase profitability, efficiency, and liquidity. Based on 18 measures over a 5-year period, the ultimate result was an improvement in profitability, liquidity, and efficiency for the owners. Together, the ratios are generally performing better for the plastics industry.

[17], evaluated 37 mining businesses listed on the Indonesian stock market had their financial performance for the years 2013 through 2017. Financial indicators that showed variations in the variables included liquidity, activity, solvency, profitability, and Du Pont analysis (ROI & ROE). The results revealed that Return-on-investment & Return-on-equity both improved, pointing to strong corporate governance and improved operating profitability.

[18], observed that M&A has sped up advancement and growth across all industries and businesses. Two firms, HUL and Emami Limited, who both purchased Zandu Pharmaceuticals Works Limited and the cooked prawns and pasteurized crab business of the Amalgam Group of firms, conducted a study on the Indian FMCG market. According to the findings, M&A had a beneficial impact on productivity, ROCM, and RONW, however neither the total revenue ratio nor the net profit margin ratio saws any significant changes. used ratio analysis to gauge company productivity.

[19], assessed the efficiency and profitability of pharmaceutical goods for human and veterinary use produced by Saidal Group firms in Algeria were from 2016 to 2020. For this, the ROI and ROE have been examined using the Du Pont model. Utilized secondary data, the financial system's performance has been evaluated.

[20], utilized information from Chinese M&A, researchers examined the short-term market insider economic performance from 2013 to 2017. Du Pont analysis, event study, and regression analysis were used to analyze the data. Chinese companies are profitable and have strong financial leverage, but their cumulative abnormal returns are negative. The results demonstrated that when compared to other types of payment, pure cash payments declined badly.

[21], studied the consequences of mergers and acquisitions across eight distinct Indian enterprises. In this regard, information was gathered from January 2017 to December 2018. The event research technique has been utilized to evaluate the AR & CAR using Market adjusted model. The study found that shorter time periods result in more significant findings than longer ones. In cases where Average Abnormal Return and Cumulative Return yielded negative findings, it also looked at whether a merger

and acquisition would benefit the target business. As a result, a guidebook encouraging managers & decision-takers to embrace mergers & acquisition as a tool & practical choice to raise their level of market competitiveness by simply moving promptly was produced.

[22], studied the merger and purchase of SBI with its five affiliates and Bhartiya Mahaila Bank for their organic and inorganic consequences. For the years 2014 to 2020, which were separated into the three years prior to and the three years following the merger, secondary data from the Capitalline-2000 database was retrieved. Shareholder value addition, market value addition, and economic value addition have all been taken into account. The goal of the study was to assess how the announcement event will impact the shareholders' money. As a result, the merger's unfavorable effects were seen right away as stockholder wealth shrank, proving that it was unable to produce shareholder wealth following the merger.

[23], examined that the growth of the economy has relied heavily on M&A. To do this, secondary data from four banks—HDFC, ICICI, IDBI, and SBI—for a period of six years—three from prior to and three from following the merger—have been gathered. Descriptive statistics have been used to compare the profitability of selected banks pre-& post-merger. Annual result of the chosen banks was used to collect secondary information. Merger is one powerful tool for the development and growth of Indian banks. The results demonstrated that mergers were essential for weaker banks to survive by joining forces with larger banks, and these mergers had a favorable impact on the outcome of the specific institutions.

3 Research Methodology

This research covers mergers and acquisitions that happened in India's banking industry between 2013 and 2020. There were around 70 mergers and acquisitions during the years of 2013 and 2020. Due to global banking industry competitiveness and progress, these transactions have risen during the past ten years. To enhance the India's banking industry, the State Bank of India is supporting mergers and acquisitions. As a result, from 2002 to 2012, there were 57 financial-related occurrences recorded. However, based on the following factors, the study's sample was cut down to six occurrences.

- The deal was publicized from 2013 to 2020.
- The acquiring company must be a bank, and the acquired company must be a part of India's financial industry.
- The acquiring bank must be a Public Bank & listed on the National Stock Exchange.
- Data accessibility.

The sample events, which are listed in Table 1, were chosen from all mergers and acquisitions that took place in India's banking industry. These banks were chosen based on the data's accessibility.

Table 1. Sample of the study

Sr. No.	Acquirer Banks	Acquired Banks	Date of M&A
1.	Indian Bank	Allahabad Bank	1-4-2020
2.	Punjab National Bank	Oriental Bank of Commerce	1-4-2020
3.	Punjab National Bank	United Bank	1-4-2020
4.	Union Bank of India	Andhra Bank	1-4-2020
5.	Union Bank of India	Corporation Bank	1-4-2020
6.	Canara Bank	Syndicate Bank	1-4-2020
7.	Bank of Baroda	Dena Bank	1-4-2019
8.	Bank of Baroda	Vijaya Bank	1-4-2019
9.	State Bank of India	State Bank of Bikaner & Jaipur	31-3-2017
10.	State Bank of India	State Bank of Hyderabad	31-3-2017
11.	State Bank of India	State Bank of Mysore	31-3-2017
12.	State Bank of India	State Bank of Patiala	31-3-2017
13.	State Bank of India	State Bank of Travancore	31-3-2017
14.	State Bank of India	Bhartiya Mahaila Bank	31-3-2017

3.1 Objectives of the Study

- To assess the shareholder wealth of the Indian Bank both pre to and following the M&A process.
- To assess the shareholder wealth of the Punjab National Bank both pre to and following the M&A process.
- To assess the shareholder wealth of the Union Bank both pre to and following the M&A process.

- To assess the shareholder wealth of the Canara Bank both pre to and following the M&A process.
- To assess the shareholder wealth of the Bank of Baroda both pre to and following the M&A process.
- To assess the shareholder wealth of the State Bank of India both pre to & following the M&A process.

3.2 Research Hypothesis

To achieve the goals, the research hypothesis has been created. According on the study's aims, research obstacles, and literature analysis, several hypotheses have been created.

H0: There is no significant difference in the shareholder wealth of Selected Acquiring banks both pre to and following the M&A phase.

Data Collection

The National Stock Exchange, financial reports and official websites of the selected sample banks has used to gather the study's data. The Business Recorder's website, which maintains track of the daily stock prices of companies registered on the National Stock Exchange, is where the stock price information for banks has gathered.

3.3 Event Study Methodology

The Market Study Approach, which is regarded as a typical technique for analyzing the effects of sample events, has applied. This method employs stock price data to assess the returns of stocks in transaction-related to events. Market studies are those in which the market response is determined by the rise or fall in the firm's share price following the occurrence of specific events, [2], and, [6]. Distinction between the actual return of the stock and predicted return, called Abnormal returns (ARs), is a common way to evaluate market reaction, [24]. The basic principle of the market analysis describes how these occurrences reveal the organization's stock value. It also describes how the shape is created using the firm's stock value.

This study measures the effect of events on stock value prior to & following the announcement of M&A by analyzing AR and CAR of the stock. Using information on the selected sample banks' stock prices, the AR have calculated. The discrepancy within the predicted market return & the actual market return of the stocks is what is known as the AR. By adding up all AR in the event window of the simulation, CAR are derived.

3.4 Event-day, Event Window and Estimation Window

On the day of the event, the bank makes the M&A announcements. Performance of the banks is evaluated in light of these transactions on this day, which is significant. If unusual earnings have been observed prior to the event, it is possible that market information about it has leaked, [3]. As a result, market data must be collected in order for the event to have a better result. The National Stock Exchange's website list is used to derive the event day for every event included in the research. Research period used to evaluate the stock's ARs and CARs is known as the event window. Many of the studies have been utilized lot of event windows to measure the returns.

Event window for examining may be brief to remove a rise or drop in share prices as a result of an event, according to Market efficiency theory. The idea backs on the brief timeline for the event research in mergers and acquisitions. Long-term economic variables may have an impact on both the growth and reduction, [1]. Although the shorter window might not provide accurate information on the closure of market. Public may not immediately get the announcement's details till the following event day, or it might leak ahead of time & take effect prior to the announcement day, [2]. Researcher of this study has chosen an event window of 81 days, which is 40 days prior-to & 40 days post the announcement of the event, in order to get around the disadvantage of these effects.

The days selection and taken prior to the event window are considered the estimate window since the event-day may not correctly describe the occurrence, [4], and, [21]. If no mergers & acquisitions between the acquirer and acquired firm, the Market Model uses this window to compute the Expected Returns (ERs) on stocks as a consequence of news of mergers & acquisitions. The estimated window has been taken into consideration in this study 200 days prior-to the event window.

3.5 Abnormal Return & Cumulative Abnormal Return

The distinction between the actual return & the expected return as of a particular date is known as the abnormal return (AR). The method below has used to calculate abnormal returns, which are the increased effect on stock returns due to an event over and beyond typical market swings.

$$AR\ it = R\ it - E\ Ri,t$$

AR I,t refers to Abnormal return on the given day t.
R I,t refers to stock return on the given day t.
E R I,t refers to expected return on the given day t.
For calculating the expected return, the following formula is applied:

$$E\,R_{I,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon\ i,t$$

Estimates from the stock's regression against the market index are α and β.
α_i refers to the regression line's intercept (The intercept is Y's anticipated mean value when all of X is 0)
β_i refers to the line's slope (The line's slope indicates how sensitive the return on investment is to market returns.
$R_{m,t}$ refers to Market return on the given day t.
ε it refers to security i model error term on day t, with an expected value of zero.
The CAR is created by adding the AR on each day within the event timeframe. i.e.

$$CAR_i = \Sigma AR_{it}$$

CAR_i refers to Cumulative abnormal return of acquiring banks for time t.
For each bank in the study's sample, the AR & CAR are computed.

Table 2. Stock Prices of selected acquiring banks Pre & Post event

Acquirer Bank	Pre-Event	Post-Event	%age Change	Effect
SBI	-0.00203	0.039855	-0.04188	Decrease
PNB	-0.0054	0.0088	-0.01418	Decrease
CNB	-0.0049	-0.0010	-0.00392	Decrease
IND	-0.0070	-0.0019	-0.0051	Decrease
UNI	-0.0093	-0.0034	-0.00588	Decrease
BOB	0.0372	-0.0004	0.037598	Increase

Table 2 depicts the average change in stock prices due to mergers and acquisitions in pre and post event of selected acquirer banks. After M&As, an increase in mean returns indicates a favorable effect, whereas a fall in mean returns indicates an adverse effect. Difference in mean return between pre- and post-event for a selected banks that indicates an increase or decrease. All of the acquirer banks have decrease in stock return after the merger except BOB. Rising stock returns indicate much more significant effects on shareholder wealth While declining stock returns reduce the value of shareholders. Highest decrease in stock return of SBI (-0.04188) while lowest decrease in CNB (-0.00392). Results indicates that selected acquirer banks except BOB have not increase the shareholder wealth after the merger.

3.6 Computation of Abnormal Return and Cumulative abnormal return

Prior-to and following the announcement of M&As, the AR & CAR of the stock values are estimated to determine the effects of events on stockholder wealth. The discrepancy between the stock's return & the actual market returns of the stock is known as the abnormal return. The Cumulative abnormal returns are correctly describing the event by adding up all of the AR during the study's event window.

Table 3. Abnormal Return & Cumulative Abnormal Return of selected acquiring banks

Acquirer Bank	Variables	Pre-Event	Post-Event	Difference
SBI	AR	0.0017	-0.0016	-0.0033
	CAR	0.0631	0.0275	-0.0355
BOB	AR	0.0021	-0.0016	-0.0037
	CAR	0.0860	-0.0307	-0.1168
PNB	AR	0.0006	-0.0039	-0.0045
	CAR	0.0156	-0.1133	-0.1290
CAN	AR	-0.0039	-0.0036	0.0003
	CAR	-0.0850	-0.1081	-0.0231
IND	AR	-0.0029	-0.0104	-0.0075
	CAR	-0.0818	-0.3109	-0.2291
UNI	AR	-0.0020	-0.0060	-0.0041
	CAR	-0.0358	-0.1382	-0.1024

Table 3 depicts the result of Abnormal Return and Cumulative Abnormal Return of Six acquirer banks of the study. The outcome demonstrates that following a merger, all acquiring banks have a negative impact on AR and CAR. The AR for CAN Bank is just good. The difference of pre and post event for both AR and CAR found negative in the event window of 81 days (40, 40). Results from each of the chosen acquirer banks are depicted in the Figure 1, Figure 2, Figure 3, Figure 4, Figure 5 and

Figure 6. The outcome shows that the selected banks, with the exception of Canara Bank's AR, have negative AR and CAR. Therefore, it may be suggested that the occurrence of mergers & acquisitions has mostly had a negative effect on shareholders' wealth in India's banking industry.

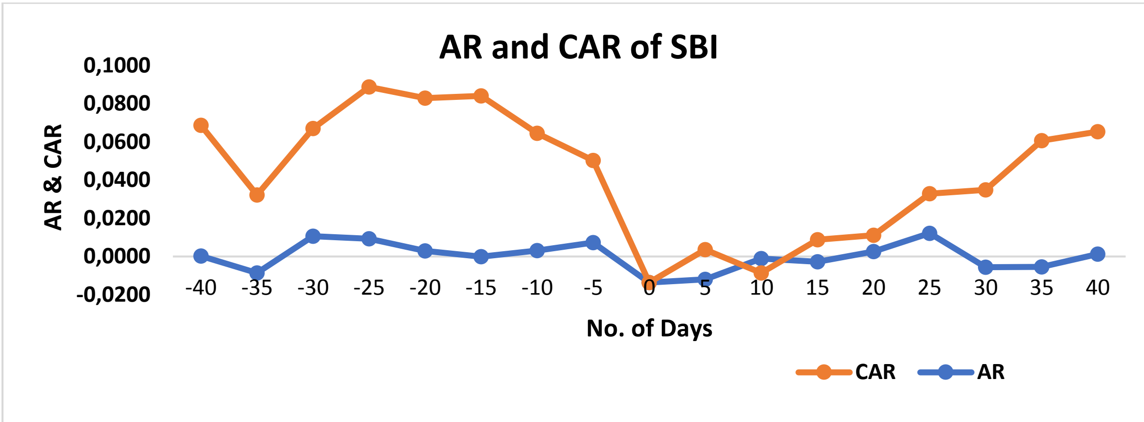

Fig. 1: Abnormal Return and Cumulative Abnormal Return of State Bank of India

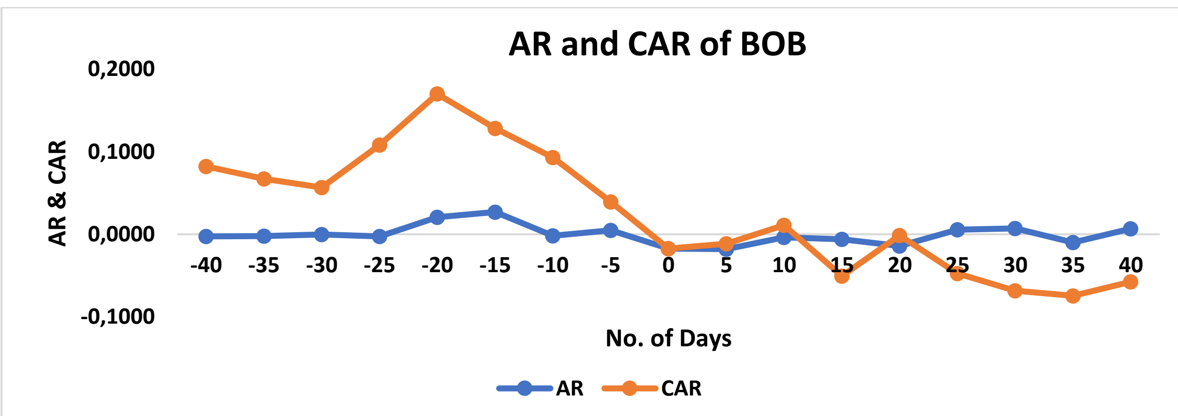

Fig. 2: Abnormal Return and Cumulative Abnormal Return of Bank of Baroda

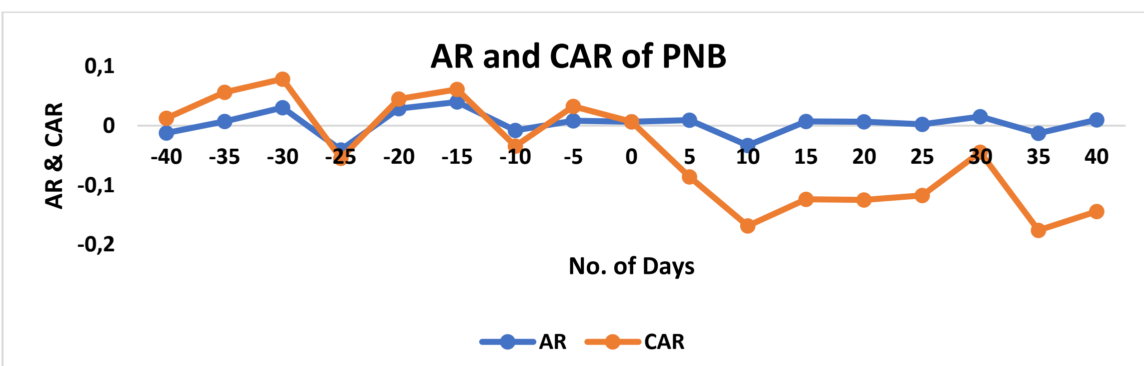

Fig. 3: Abnormal Return and Cumulative Abnormal Return of Punjab National Bank

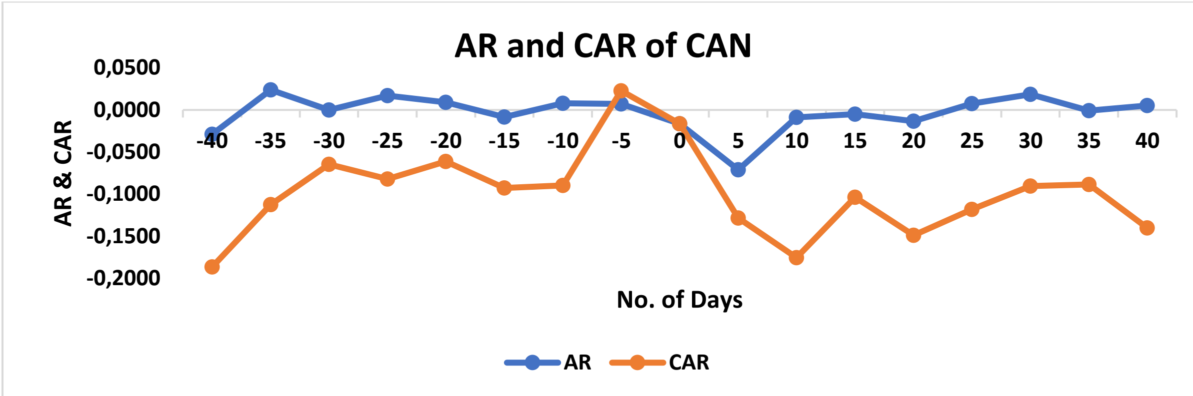

Fig. 4: Abnormal Return and Cumulative Abnormal Return of Canara Bank

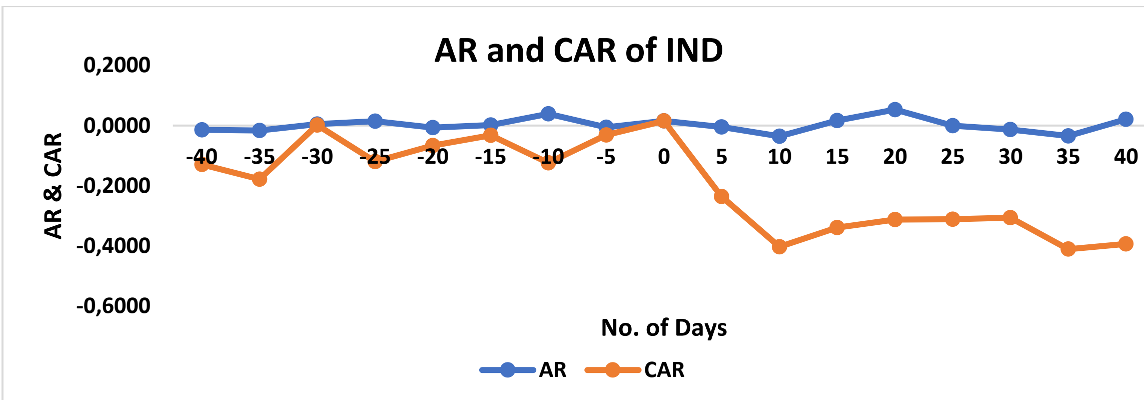

Fig. 5: Abnormal Return and Cumulative Abnormal Return of Indian Bank

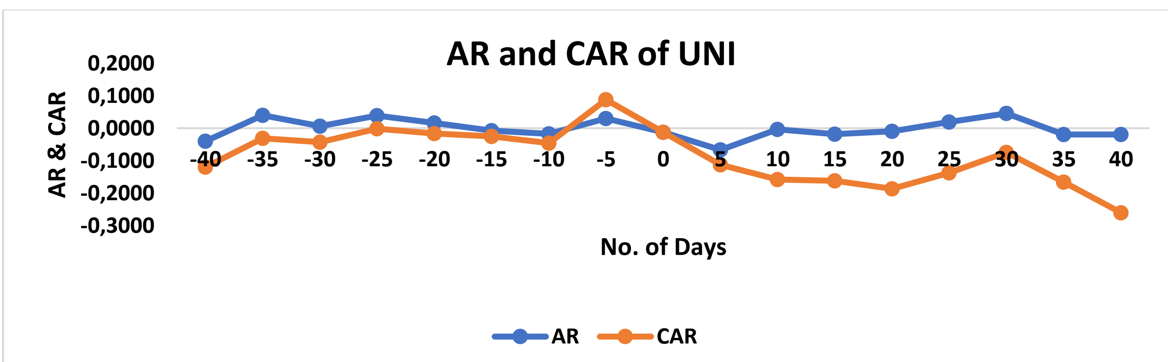

Fig. 6: Abnormal return & Cumulative abnormal return of Union Bank

4 Conclusion and Implication

In this study, the consequences of merger & acquisitions on the wealth of shareholder in India's banking industry from 2013 to 2020 was examined. The main goal of the study is to evaluate the abnormal and cumulative abnormal stock price returns in the banking business. The empirical evidence shows that the ARs and CARs of the research sample events had negative results. Following the announcement of merger & acquisitions, one bank's abnormal return (AR) is positive while those of other banks are negative. The ARs were discovered to be positive of PNB and IND Bank while negative of SBI, BOB, CAN, and UNI on the event day. However, the aggregate findings indicate that merger transactions have a negative impact on ARs and CARs. The null hypothesis is supported and there is no significant difference in shareholder wealth between pre- to and fallowing the merger of selected acquiring banks.

Study's result suggests that because the markets did not respond favorably to bank mergers & acquisitions, the acquired banks underperformed as a result of the mergers. Because most banks saw declines in their market value, it may be inferred from the data that, with the exception of a few institutions in the banking industry, the occurrence of merger & acquisitions did not bring future advantages to all banks in the sector. The results also suggest that internal management did not make choices throughout the M&A process efficiently. Finally, the findings indicate that few institutions benefit from M&As, raising the possibility that there may be some potential benefits to M&As in the banking sector. As a result, companies might choose M&As following.

According to the survey, banks may also concentrate on alternatives to mergers and acquisitions in order to acquire skilled labor, improve technology, grow their market share, reduce bad loans, expand their client base, etc. These goals will subsequently raise the bank's worth. In order to help merging banks that are losing money, the government may also develop comprehensive regulations about technology advancement, minimum capital requirements, capital adequacy ratios, legal framework fast track processing, and moral persuasion about the banking industry. The effective modification of these policies could enhance the performance of the acquired banks. The study was restricted to looking at M&As in the Indian banking industry. Additionally, research focusing on different economic sectors would be more beneficial for determining how mergers and acquisitions affect stock returns.

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Conflict of Interest

The authors have no conflict of interest to declare.