*The International Research Journal of Management Science*
*Print - ISSN 2542-2510*
*E-ISSN 2717-4867*
*Vol.7, Issue 1 -Dec 2022*
*http://www.ncm.edu.np*

# Effects of mergers in financial performance of Nepalese Commercial Banks

**Pitri Raj Adhikari, PhD (S)**

*Lecturer, Shanker Dev Campus,
Tribhuvan University
mailtoadhikarisir@gmail.com

Received on: Oct 10, 2022
Revised on : Nov 25, 2022
Accepted on: Dec 05, 2022
Published on: Dec 25, 2022

**Cite this paper**
Adhikari, P.R. (20220. Effects of mergers in financial performance of Nepalese Commercial Banks. The International research Journal of Management Science, vol. 7 (1), pp.101 -120.



## Abstract

**Purpose**- This paper attempts to evaluate the synergistic effect of the merger on financial performance, market share, and the wealth of the shareholders of the selected BFIs.

**Methodology**- Two cases of mergers of commercial banks have been taken as samples for the study. First is the merger between Prabhu Bank Limited and Grand Bank Limited (forming Prabhu Bank Limited) and second is the merger between Lumbini Bank Limited and Bank of Kathmandu Limited (forming Bank of Kathmandu Limited). Both the mergers happened in 2016. To analyze the mentioned variables of the selected BFIs, pre-merger (2011–2015) and post-merger (2016–2020) data have been compared using a t-test and regression analysis.

**Findings**- The result of the study reveals that there is a significant relationship between financial performance and shareholder value and the merger, whereas there is no relationship between the market share of the BFIs and the merger.

**Practical implication**- The study concludes that to achieve improved post-merger financial efficiency and reap the benefits of an improved financial position, merged BFIs should be more aggressive in their profit drive and maintain better asset qualities.

**Originality/ Value**- This study can become a foundation for future studies in the Nepalese context of the merger of BFIs.

**Keywords:** SCapital adequacy, non-performing loan, market share, return on assets, return on equity

## Introduction

The merger has been a heavily discussed topic in Nepal in recent days. The wave of mergers in the Nepalese banking industry has started after the NRB implemented the merger bylaws in 2011. Most of the BFIs grabbed the opportunity of a merger as a business strategy to gain competitive advantages over their competitors. BFIs are being included in the merger to achieve a synergistic effect on their performance, either in terms of financial indicators or increased market share. After the NRB's initiation to downsize the number of BFIs to a minimal number, strengthen their competitiveness, and practice fair banking through mergers, the Nepalese financial sector has witnessed several mergers in the last decade.

BFIs play a crucial role in supporting the overall growth financing program as a representative, an investment and working capital financing company, and an organization that channels funds to underfunded people, in addition to providing funds to people underfunded by the government. Since BFIs are institutions of public trust and an important component of the financial system, they possess a strategic position to assist economic development. The banking sector is the primary agent of the economy, as the economy will move efficiently only if it has adequate capital, which comes from banks. Since the government has established requirements or conditions for the banking industry, in addition to the prudential regulation that goes with business activities in the banking sector, operational provisions have been created based on the requirements. Mergers and acquisitions are newly recognized practices by NRB to strengthen the BFIs, and over the decades, they have transformed the banking landscape in Nepal. After the enforcement of the Merger Bylaw 2068, many BFIs have merged with each other. This has led to the development and enhancement of the Nepalese banking industry over the past decade. As growth is the essence of existence for any organization, it can achieve growth either internally by expanding its operations, establishing new units, or externally through mergers and acquisitions, takeovers, amalgamations, joint ventures, etc. With the level of competition getting more intense day by day, mergers and acquisitions have emerged as the most preferred long-term strategy of corporate restructuring and strengthening in the present globalized world (Sharma, 2018).

Bhargave and Tandon (2022) stated that the major causes of mergers in the banking sector are compensation of losses, a robust banking system, and improving the capital capacity. The reasons behind the merger transactions are gaining market share, gaining a competitive advantage, increasing revenues and risk, and product diversification. With the global financial crisis, it is noticeable that mergers and acquisitions have considerably increased. Corporations employed such combinations not only for the sake of competitiveness but to maintain a firm position in the industry as well. This has led to a significant transformation in the business landscape (Tajalli & Shehzad, 2014). Mergers and acquisitions have become a key part of many corporate business strategies for organizations attempting to strengthen and maintain their competitive position in the marketplace. The NRB has introduced the Merger Bylaw 2068 to reduce the number of BFIs, enhance financial stability, and promote public confidence in the banking sector. As a consequence, the banking sector is now experiencing an encouraging amount of restructuring and consolidation. The merger policy is expected to resolve the complexities brought about by the rampant growth in the number of BFIs (Shrestha, Thapa, & Phuyal, 2017). The primary motivation for mergers is to achieve the BFIs' long-term objectives, which are sustainable growth and competitive advantages, rather than their short-term ones. Improving shareholder value has often been cited as a merger determinant. The merger is supposed to increase the ability of BFIs to grow and prosper in the market. Since mergers create a larger firm with less competition, they may increase shareholders' value

through higher market share and stock market value.
Mergers do have important implications for performance and profitability. Thus, it is important to know the impact of these mergers on the efficiency level of those BFIs and their position in the banking system. There are many possible reasons for the mergers, but efficiency-related reasons are prime. This paper attempts to evaluate and analyze the synergistic effects of mergers on their financial performance, market share in the banking industry, and impact on shareholders' market value pre- and post-merger. Even though it takes time for the merger to achieve growth and synergies, it is clear that they may not always be realized. Hence, this study is aimed at examining and analyzing the effects of the mergers on the financial performance of the selected BFIs in Nepal and their value to their shareholders. This paper has also examined the market share of the merged BFIs in terms of total assets in the industry, in addition to the financial performance of the BFIs.

## Research hypotheses

The following alternative hypotheses have been tested to realize the objectives of this paper:

$H_1$1: There is a significant relationship between the market share of commercial banks and mergers.

$H_2$1: There is a significant relationship between the value of shareholders and merger.

$H_3$1: There is a significant relationship between synergic effects on performance and merger.

## History of merger in nepal

Merger and acquisition in Nepal have a history of just over two decades. After the introduction of liberalization and the lifting of entry barriers, the number of BFIs reached 263 in a very short period of time. This overwhelming growth of BFIs in Nepal led to unhygienic competition and poor performance in the financial sector. The situation induced the NRB to act to prevent the assets and interests of the general public from being vested in the banking sector. This was the time when NRB thought of the implementation of mergers and acquisitions to strengthen the capacity of BFIs.

NRB introduced the Merger Bylaw 2068 (B.S.) grounded on the Company Act 2063 (B.S.) Article 177, Banks and Financial Institutions Act 2063 (B.S.) Articles 68 and 69, and encouraged all the BFIs to undergo mergers as part of consolidation. Through the 2015 monetary policy, the NRB announced a four-fold hike in the minimum paid-up capital of the commercial banks and up to a twenty-four-fold increment in the same for the development banks. This mandated the commercial banks to increase their paid-up capital to Rs. 8 billion, whereas the nationwide-level development bank would require an increase to Rs. 2.5 billion. The requirement executed by the banking regulator has further enhanced the conditions to foster the merger and acquisition process. The wave of merger and acquisition, which started as early as 2011, has hit the Nepali BFI sector (Baniya & Adhikari, 2017). This helped in downsizing the number of BFIs and strengthening the position of BFIs. Within a decade of the initiations, the number of BFIs was reduced by 120, and there were only 140 BFIs until April 2021.

The first merger in the financial sector happened in 2004, when Laxmi Bank Limited and HISEF Finance Company Limited merged. However, after the first merger, very few mergers happened until 2011/2012. Indeed, there was a favorable outcome of the newly issued Merger Byelaws in 2011. The process of merger of "A," "B," and "C" class institutions was adopted to consolidate the banking sector and enhance its trustworthiness among the general public. The bylaw also opened the frontier for mergers between "D" and "D"-class institutions. The bylaw stipulated a process for registering the application for mergers,

conducting a due diligence audit for swap determination, and other related aspects of mergers. in the beginning. The merger bylaw didn't create an immediate impact among BFIs. However, the process soon started gaining acceleration, starting with the merger between Himchuli Finance Limited and Birgunj Finance Limited to become H & B Development Bank Limited in 2013. In the same year, a new milestone was achieved when two commercial banks, a well-established Nepal Industrial and Commercial Bank and a relatively new Bank of Asia Limited, merged. The fiscal year 2012/13 emerged as a successful year from the point of view of the merger.

NRB introduced an acquisition bylaw in 2013 to attract large BFIs into the consolidation process. Because the merger bylaw called for the coexistence of all merging entities, the acquisition bylaw called for the acquisition of one institution by another. The policy framework for the merger and the acquisition was the same, except for the provision of cash payments to the shareholders of the acquired entity. Under the provision made in the bylaw for the first time, Citizen's Bank International acquired Nepal Housing and Merchant Finance Limited and People's Finance Limited. Later in 2016, Merger Bylaws and Acquisition Bylaws were consolidated, forming Merger and Acquisition Bylaws, 2016. Merger and acquisition activities accelerated in 2015, when the NRB, through its annual Monetary Policy for 2015/16, hiked the minimum paid-up capital requirements of "A", 'B', and "C" class BFIs by four times. The major objective underlying the hike was to strengthen the capital base of BFIs to enhance their capacity for financing megaprojects as well as further consolidate the banking sector (NRB, 2018).

In Nepal, the merger wave began in 2011, when a development bank and a finance company merged to form one. From 2012 to 2020, there were 16, 27, 18, 25, 29, 63, 19, 14, and 41 BFIs that merged (for a total of 252), resulting in only 105 BFIs. Until 2020, the number of merger BFIs for development banks was 120, while MFIs had 27. The year with the most BFI mergers was 2017, with 63 BFIs merging to form 24 new ones. By 2020, 44 commercial banks, 120 development banks, 63 finance companies, and 27 MFIs had participated in the merger activities.

Nepal Investment Bank Limited and Himalayan Bank Limited had jointly signed a memorandum of understanding to merge to strengthen the banking sector of the country, dated May 13, 2021, with the commitment to complete the merger within two months. But the process has been officially aborted as the annual general meeting of Himalayan Bank Limited convened on January 14, 2022, rejected the merger plan. Further, on January 12, 2022, Nabil Bank Limited signed a letter of agreement with Nepal Bangladesh Bank Limited for the acquisition. The merger was not the NRB's choice, but rather a forced strategy to increase capital and strengthen their ability to compete in the market. Otherwise, many BFIs may have to exit the market.

## Theories on merger

The various theories about the merger are:

### *Synergy Theory*

The synergy theory of a merger proclaims that the value of the institution formed after the merger is greater than the combined worth of the merging institutions before the merger. The value of the institution increases due to the effects of the synergy potentials that could be realized only after the integration of the financial and operational resources of the merging institutions. The acquirer can reduce the cost of

its merchandise after the merger. This would be probable if the merger creates synergies via economies of scale and scope, reduced dispersal and promotion costs, the divestiture of redundant assets, etc. This theory of merger is known as the synergy theory (Kyriazopoulos & Petropoulos, 2010). As per this theory, the paybacks of mergers can be in the form of operational synergy, economies of scale, and economies of scope (Candra, Priyarsono, Zulbainarni & Sembel, 2021).

***Portfolio Theory***

The key concept here is the diversification of products. It is a practical method for investors to select products that maximize their overall returns while maintaining an acceptable level of risk. This theory argues that any given investment's risk and return characteristics should not be viewed alone but should be evaluated by how they affect the overall portfolio's risk and return. This is a useful theory for investors who are trying to build diversified portfolios. The Portfolio Theory presented by Markowitz (1952) states that the portfolio selection process is divided into two parts, namely the observation phase, which refers to the experiences or data on past problems, and the confidence phase, which ends with the confidence in certain existing portfolios. In the second phase, this trust leads to the selection of the right portfolio. In his research, Markowitz stated that investors will see two things, namely the level of risk and the return on the investment. Investors will always choose investments with a high rate of return and a low level of risk (Candra, Priyarsono, Zulbainarni & Sembel, 2021).

***Market Power Theory***

Market power implies a position of economic strength enjoyed by a company. This enables the company to hinder the maintenance of effective competition on the relevant market by allowing it to behave to an appreciable extent independently of the competitors and ultimately of the consumers. Market power theory states that mergers generate greater monopoly power by integrating market rivals. For monopolistic integration, a merger would help to downsize the number of companies in the merging industry. The merged company can increase the selling price of the products by reducing the supply. The acquirer can raise the price of its product after the merger. This would be possible if the acquirer managed to curb price competition on the product market by acquiring some of its competitors. This theory is known as the "market power theory" (Kyriazopoulos & Petropoulos, 2010).

***Misevaluation Theory***

The merger activity of listed companies is associated with the degree of optimism in the stock market. During a stock market boom, the stock price of some companies becomes overvalued. Their management is aware that their stock is overpriced and wishes to protect their shareholders from the wealth loss that will occur if the market falls. Hence, they wish to exchange their overvalued shares for the real assets of other companies.

The theory of misevaluation is proposed by Shleifer and Vishny (2003), which states that to obtain synergy and more definite profits, it is advisable to choose assets or companies whose value is undervalued and/or are in an inefficient market. Purchasing these assets makes the purchase price of the company cheaper, but the buyers see a gap to be able to increase the financial or operational parameters so that the company's enterprise value increases in the future and offers advantages to the buyers (Candra, Priyarsono, Zulbainarni & Sembel, 2021).

***Efficiency theory***

Leepsa and Mishra (2016) state that, as per efficiency theory, efficiencies can be achieved through mergers. Such efficiencies are achieved in terms of specialized skills or the target company's management, the elimination of idle resources, and promoting products that are complementary to both the merger participants, reducing transaction costs and reallocating the existing expenses. The efficiency theory suggests that mergers occur because the merging companies have different strengths and weaknesses and different efficiency levels. This theory is also known as differential efficiency theory. Through a merger, the efficiency of one company is transferred to an inefficient company, which results in both social and private gains. Because merger not only improves performance but also saves the economy's resources, It is also called the managerial synergy hypothesis as the excess managerial efficiency is utilized in the company where it is lacking.

***Q Theory***

The Q theory of mergers says that a firm's investment rate should rise with its Q. "Q theory," which was first developed by Lang et al. (1989), predicts that mergers and acquisitions will create value on average. Value is created by redeploying the target's assets or by replacing the inefficient manager at the target company. The company may choose to invest in new equipment or acquire the equipment by buying the company that owns the equipment at a lower price. Companies buy other companies due to high fixed costs and low marginal adjustments so that the Q ratio is better than having to invest in buying their equipment or direct investment (Candra, Priyarsono, Zulbainarni & Sembel, 2021).

***Undervaluation theory***

The theory suggests that undervaluation of the target company can be the motive behind the merger. Undervaluation of the company is the result of inefficient management that is not efficient enough to operate it at its optimal level. Even if the target company's management is efficient, the acquiring company may still perceive it to be undervalued with the help of inside information. In such a case, the acquiring company bids for a higher price relative to its prevailing market price. In some instances, the assets of the company could be undervalued relative to their replacement cost (Leepsa & Mishra, 2016).

## Methodology

This paper has used a descriptive research design to deal with the testing of hypotheses. So far, the Nepalese financial sector has witnessed numerous instances of mergers and acquisitions (Annex 1). There have only been five instances where one commercial bank merged with another commercial bank (Annex 2). This study has focused mainly on the analysis of the performance of the mergers of PRVU and GBL (forming PRVU after the merger) and BOKL and LBL (forming BOKL). The sample has been selected as all the participant banks are commercial banks and both the mergers took place in 2016. Annual financial reports of the commercial banks before and after the merger have been used for the analysis.

For the analysis of the performance of those BFIs, the CAR, NPL Ratio, ROE, ROA, EPS, and NPM ratios have been calculated and examined. The market share of these commercial banks has been examined based on the total assets and liabilities of the banking sector. Further MPS of these banks were used to investigate the impact on the shareholders' market value. MS-Excel has been used to analyze and present the data quantitatively. Further paired t-tests and regression analyses have been applied to find out the significant relationship as well as the degree of relationship between and among the variables used for the study.

# Analysis and results

## Descriptive Statistics

Table 1

*Summary of Descriptive Statistics*

The table presents the descriptive statistics of pre-merger and post-merger performance (CAR, NPL Ratio, ROE, ROA, EPS, and NPM ratio) of the mergers of PRVU and GBL (forming PRVU after the merger) and BOKL and LBL (forming BOKL). The sample has been selected as all the participant banks are commercial banks and both mergers took place in 2016. Annual financial reports of the commercial banks before and after the merger have been used for the analysis.

| | | Mean | S. D. | C. V. | | Mean | S.D. | C. V. |
|---|---|---|---|---|---|---|---|---|
| **CAR** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | 14.56 | 5.06 | 0.35 | LBL | 17.77 | 3.97 | 0.22 |
| | PRVU | 11.93 | 1.58 | 0.13 | BOKL | 11.75 | 1.52 | 0.13 |
| Post-merger (Combined) | | 11.53 | 0.46 | 0.04 | Post-merger | 13.95 | 0.66 | 0.05 |
| **NPL Ratio** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | 12.32 | 13.66 | 1.11 | LBL | 0.80 | 0.18 | 0.22 |
| | PRVU | 8.82 | 8.00 | 0.91 | BOKL | 2.02 | 0.79 | 0.39 |
| Post-merger (Combined) | | 4.85 | 2.04 | 0.42 | Post-merger | 2.13 | 0.64 | 0.30 |
| **ROE** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | (15.18) | 31.97 | (2.11) | LBL | 14.21 | 7.08 | 0.50 |
| | PRVU | (9.60) | 29.03 | (3.02) | BOKL | 20.41 | 7.08 | 0.35 |
| Post-merger (Combined) | | 12.84 | 4.72 | 0.37 | Post-merger | 11.47 | 2.25 | 0.20 |
| **ROA** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | (1.13) | 2.77 | (2.45) | LBL | 2.05 | 1.22 | 0.60 |
| | PRVU | (0.21) | 1.79 | (8.71) | BOKL | 1.66 | 0.58 | 0.35 |
| Post-merger (Combined) | | 1.33 | 0.33 | 0.25 | Post-merger | 1.41 | 0.34 | 0.24 |
| **EPS** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | (14.38) | 34.36 | (2.39) | LBL | 17.22 | 7.29 | 0.42 |
| | PRVU | (3.21) | 23.83 | (7.43) | BOKL | 29.61 | 12.64 | 0.43 |
| Post-merger (Combined) | | 19.84 | 6.71 | 0.34 | Post-merger | 19.13 | 2.98 | 0.16 |
| **NPM** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | (16.64) | 35.12 | (2.11) | LBL | 23.61 | 9.75 | 0.41 |
| | PRVU | 5.09 | 41.19 | 8.10 | BOKL | 30.00 | 10.97 | 0.37 |
| Post-merger (combined) | | 33.92 | 10.60 | 0.31 | Post-merger | 16.43 | 2.20 | 0.13 |
| **Market Share Ratio** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | 1.51 | 0.37 | 0.25 | LBL | 1.17 | 0.18 | 0.16 |
| | PRVU | 2.20 | 0.36 | 0.17 | BOKL | 2.75 | 0.10 | 0.04 |
| Post-merger (Combined) | | 3.49 | 0.38 | 0.11 | Post-merger | 2.90 | 0.20 | 0.07 |
| **MPS** | | | | | | | | |
| Pre-merger | | | | | | | | |
| | GBL | 209.40 | 58.28 | 0.28 | LBL | 264.80 | 65.85 | 0.25 |
| | PRVU | 193.60 | 82.44 | 0.43 | BOKL | 577.20 | 26.19 | 0.05 |
| Post-merger (combined) | | 299.00 | 94.47 | 0.32 | Post-merger | 333.30 | 107.24 | 0.32 |

Table 1 shows that the average CAR of GBL was 14.56 before the merger with a S.D. of 5.06 and a C.V. of 0.35. On average, PRVU had an 11.93% CAR before the merger, with a S.D. of 1.58 and a C.V. of 0.13. During the period before the merger, the CAR of PRVU seemed more consistent compared to GBL. GBL's CAR was more fluctuating. After the merger, from 2016 to 2020, the average CAR of the bank was 11.53%, with a S.D. of 0.46 and a C.V. of 0.04. The data indicates that the CAR of the banks after the merger is more consistent as compared to before the merger. A p-value of 0.28 was obtained while conducting a paired t-test between the CAR of GBL and the after-merger result, indicating a significant relationship between synergic effects on performance and merger for GBL. A p-value of 0.56 was observed while conducting a paired t-test between the CAR of PRVU pre-merger and post-merger, indicating that there is a significant relationship between synergic effects on performance and merger for PRVU at a level of 95% confidence.

Similarly, the average CAR of LBL was 17.77 with a standard deviation of 3.97 and C.V. of 0.22. where the average CAR of BOKL was 11.75 before the merger. The pre-merger CAR of BOKL was more consistent compared to that of LBL. S.D. of BOKL before the merger was 1.52 and the C.V. was 0.13. After the merger, the average CAR of the bank was 13.95 with a S.D. of 0.66 and C.V. of 0.05. The ratios are more stable after the merger of the banks. A paired t-test of LBL's CAR has been conducted with the post-merger CAR and BOKL's ratio with the post-merger ratio. The p-value of the t-test of LBL's ratio with the post-merger ratio was obtained at 0.13, which shows that there is a significant relationship. A further P-value of 0.06 for the t-test of BOKL's ratio with the post-merger ratio was obtained, which also shows there is a significant relationship with the merger.

It is observed that before the merger, GBL's average NPL was 12.32, with a S.D. of 13.66 and C.V. of 1.11. Similarly, before the merger, PRVU's average NPL in the last five years was 8.82 with an S.D. of 8.00 and C.V. of 0.91. Likewise, the average NPL ratio in the later years of the merger is 4.85, with an S.D. of 2.04 and C.V. of 0.42. The data show that the NPL level of the bank has improved after the merger. While conducting a paired t-test of the performance of GBL with post-merger performance, a p-value of 0.37 is obtained. This indicates a significant relationship between the merger and the NPL level of the bank. Furthermore, the paired t-test of PRVU with post-merger performance yields a p-value of 0.44. It also shows a significant relationship.

Similarly, the NPL Ratio of LBL was relatively lower compared to that of BOKL pre-and post-merger. The NPL ratio of LBL was below 1.00 before the merger happened. This level is well assumed in the banking industry. The average NPL ratio of LBL before the merger was 0.80 with a S.D. of 0.18 and C.V. of 0.22. Similarly, BOKL's average NPL was 2.02, whose S.D. is at 0.79 and C.V. of 3.90. After the merger of the banks, the average level of NPL is 2.13 with an S.D. of 0.64 and C.V. of 0.30. The C.V. of NPL ratio of LBL shows that its performance level is better compared to others. The ratios and calculations in the table show that the NPL ratio after the merger is better than that of BOKL but worse than that of LBL. While conducting a paired t-test of LBL and post-merger performance, a p-value of 0.01 is obtained, which indicates there is no significant relationship between the performance and the merger. Furthermore, a p-value of 0.84 is obtained between the ratio of BOKL and post-merger performance, which means there is a significant relationship.

It is found that the ROE of both the banks before the merger seemed negative on average, i.e., 15.18 for GBL and 9.60 for PRVU. A high negative ROE reveals that the BFIs were incurring a huge loss as the result of excessive NPL, as shown in the table. After the merger, the average with a standard deviation is 12.84. of 4.72 and C.V. of 0.37. The ratio is positive but inconsistent and fluctuating. While conducting

a paired t-test of the performance of GBL with post-merger performance, a p-value of 0.15 is obtained. This indicates a significant relationship between the merger and the ROE of the bank. Furthermore, the paired t-test of PRVU with post-merger performance yields a p-value of 0.18. which also shows a significant relationship. Similarly, the average ROE of LBL pre-merger was 14.21. S.D. of LBL's pre-merger ROE was 7.08 with a C.V. of 0.50. The average ROE of BOKL before the merger was 20.41 with a S.D. and C.V. of 7.08 and 0.35 respectively. After the merger, the average ROE of the bank is 11.47, which is lower compared to the pre-merger average ROE of both banks except S.D. and C.V. show that after the merger, the ROE of the bank is better. The pre-merger average ROE of BOKL was better, but the post-merger ratio deviated less from the average ROE. While conducting a paired t-test of LBL and post-merger performance, a p-value of 0.56 is obtained, which shows a significant relationship between the performance and merger. Further, a p-value of 0.08 is obtained between the ratio of BOKL and post-merger performance, which also states a significant relationship.

The average ROA of GBL was 1.13 with S.D. 2.77 and C.V. (2.45). PRVU's average ROA was 0.21 with S.D. 1.79 and C.V. (8.71). Prior to the merger, both banks' average ROA was negative, with GBL's ratio deviating more from the average. The ratio after the merger is better compared to pre-merger ratios. The average ROA after the merger is 1.33, an improvement compared to pre-merger. While conducting a paired t-test of the performance of GBL with post-merger performance, a p-value of 0.14 is obtained, which shows a significant relationship between the merger and the ROA of the bank. Further, the p-value of 0.13 is obtained while conducting the paired t-test of PRVU with post-merger performance, which shows a significant relationship. Similarly, the average pre-merger ROA of LBL was 2.05. S.D. and C.V. Prior to the merger, LBL's ROAs were 1.22 and 0.60 respectively. Likewise, the average ROA of BOKL was 1.66. S.D. and C.V. Before the merger, BOKL's ROAs were 0.58 and 0.35 respectively. After the merger, the average ROA was 1.41 and S.D. and C.V. of 0.34 and 0.24. The average ROA ratio of the LBL is better compared to the BOKL and post-merger ratio. The coefficient of variance shows that the ratio after the merger is efficient. While conducting a paired t-test of LBL and post-merger performance, a p-value of 0.45 is obtained, which states a significant relationship between the performance and merger. Further, a p-value of 0.56 is obtained between the ratio of BOKL and post-merger performance, which also shows a significant relationship.

The average EPS of GBL was 14.38 pre-merger with a S.D. of 34.36 and C.V. of (2.39). In comparison, the average EPS of PRVU was 3.21. The S.D. of EPS for PRVU was 23.83 and C.V. was 7.43 before the merger. The average EPS of the bank after the merger is 19.84 with a S.D. of 6.71 and C.V. of 0.34. The result shows that the EPS of the bank after the merger is better compared to the pre-merger performance of GBL and PRVU. While conducting a paired t-test of the performance of GBL with post-merger performance, a p-value of 0.12 is obtained, which reveals a significant relationship between the merger and the EPS of the bank. Furthermore, the paired t-test of PRVU with post-merger performance yields a p-value of 0.13. This result also shows a significant relationship. Similarly, LBL was maintaining an average EPS of 17.22 before the merger, with a S.D. of 7.29 and C.V. of 0.42. Likewise, BOKL was maintaining an average EPS of 29.61 before the merger, with a S.D. of 12.64 and C.V. of 0.43. After the merger, the bank is maintaining an average EPS of 19.13 with a S.D. of 2.98 and C.V. of 0.16. The ratio shows that the average EPS is better than BOKL pre-merger, but CV shows that the performance is better after the merger. While conducting a paired t-test of LBL and post-merger performance, a p-value of 0.45 is obtained, which indicates a significant relationship between the performance and merger. Further, a p-value of 0.56 is obtained between the ratio of BOKL and post-merger performance, which also means there is a significant relationship.

Before the merger, GBL had an average NPM of 16.64, SD of 35.12 and C.V. of 2.11. PRVU, on the other hand, had an average NPM ratio of 5.09, SD. of 41.19 and C.V. of (8.10) before the merger. After the merger, the average NPM ratio is 33.92, with a standard deviation of 10.60 and a CV of 0.31. The table shows that the NPM ratio has been impressively improved after the merger. While conducting a paired t-test of the performance of GBL with post-merger performance, a p-value of 0.03 is obtained. This indicates there is no significant relationship between the merger and the NPM ratio of the bank. Further, the p-value of 0.14 is obtained while conducting the paired t-test of PRVU with post-merger performance, which shows a significant relationship. Similarly, the average NPM of LBL was 23.61 percent before the merger. S.D. and C.V. of NPM of LBL before the merger were 9.75 and 0.41 respectively. However, the average NPM ratio of BOKL was 30 percent before the merger. S.D. and C.V. of NPM for BOKL before the merger were 9.75 and 0.41 respectively. The average NPM ratio after the merger is 16.43. The S.D. and C.V. of the NPM Ratio after the merger are 2.20 and 0.13, respectively. The table shows that the average NPM of BOKL before the merger is better, but C.V. shows that the ratio after the merger is better. While conducting a paired t-test of LBL and post-merger performance, a p-value of 0.19 is obtained, which indicates there is a significant relationship between the performance and merger. Further, a p-value of 0.06 is obtained between the ratio of BOKL and post-merger performance, which also means there is a significant relationship.

It is found that before the merger, the average weighted market share of GBL was 1.51 in the industry with a S.D. of 0.37 and C.V. of 0.25. The average weightage of the share of PRVU was 2.20, with S.D. and C.V. of 0.36 and 0.17 respectively. After the merger, the weight has increased to 3.49, with S.D. and C.V. of 0.38 and 0.11 respectively. While conducting a paired t-test of the performance of GBL with post-merger performance, a p-value of 0.00 is obtained. This indicates that there is no significant relationship between the merger and the market share ratio of the bank. Further, the p-value of 0.01 is obtained while conducting the paired t-test of PRVU with post-merger performance, which also shows no significant relationship. LBL's industry asset share averages 1.17, with SD and CV of 0.18 and 0.16, respectively. BOKL's share in the industry averages 2.75. The results show that the ratio of BOKL is less deviated. After the merger of these two banks, the ratio has increased to an average of 2.90. While conducting a paired t-test of the performance of LBL with post-merger performance, a p-value of 0.00 is obtained. This states that there is no significant relationship between the merger and the market share ratio of the bank. Further, the p-value of 0.12 is obtained while conducting the paired t-test of BOKL with post-merger performance. It shows a significant relationship.

The C.V. shows that the MPS of PRVU was more volatile. GBL was more stable before the merger. While conducting a paired t-test of the performance of GBL with post-merger performance, a p-value of 0.20 is obtained. This indicates a significant relationship between the merger and the MPS of the bank. Furthermore, the paired t-test of PRVU with post-merger performance yields a p-value of 0.24. It also shows a significant relationship. Similarly, the average MPS of LBL was 264.80 and that of BOKL was 577.20, whereas after the merger, the mean MPS is 333.00. The S.D. and C.V. of BOKL pre-merger show that the stock was less volatile and less risky compared to others. Furthermore, after the merger, the S.D. and CV of MPS are 107.24 and 0.32 respectively, indicating that the MPS is more volatile and riskier. While conducting a paired t-test of the performance of LBL with post-merger performance, a p-value of 0.44 is obtained. This indicates a significant relationship between the merger and the MPS of the bank. Furthermore, the paired t-test of BOKL with post-merger performance yields a p-value of 0.01. This shows no significant relationship.

## Measurement of the impact on shareholder's wealth

Table 2

*Regression Result of Performance on MPS for PRVU and GBL (Pre-merger)*

The table shows the regression results, in which the MPS of the PRVU and GBL before the merger is the dependent variable and EPS, NPL, ROA and ROE are the independent variables.

| Model | Intercepts | Regression coefficient of | | | | Adj $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|
| | | EPS | NPL | ROA | ROE | | | |
| 1 | 198.661 | -0.323 | | | | -0.104 | 79.567 | 0.149 |
| | (7.579) | (-0.386)* | | | | | | |
| 2 | 186.586 | | 1.411 | | | -0.069 | 78.292 | 0.417 |
| | (5.510) | | (0.646)* | | | | | |
| 3 | 197.901 | | | -5.393 | | -0.089 | 79.016 | 0.263 |
| | (7.625) | | | (-0.513)* | | | | |
| 4 | 199.540 | | | | -0.158 | -0.120 | 80.123 | 0.037 |
| | (7.301) | | | | (-0.191)* | | | |
| 5 | 186.986 | -0.108 | 1.284 | | | -0.220 | 83.626 | 0.189 |
| | (5.144) | (-0.109)* | (0.492)* | | | | | |
| 6 | 200.107 | 2.475 | -0.107 | -36.372 | | -0.394 | 89.381 | 0.153 |
| | (3.742) | (0.339)* | (-0.022)* | (-0.357)* | | | | |
| 7 | 216.904 | -1.268 | 0.362 | -60.632 | 5.717 | -0.299 | 86.306 | 0.482 |
| | (4.055) | (-0.164)* | (0.078)* | (-0.604)* | (1.198)* | | | |

*Note: The dependent variable is the market price of a share. The figures in parentheses are t-values. The asterisk (*) indicates that the results are significant at a 95% level of confidence.*

Table 3

*Regression Result of Performance on MPS for BOKL and LBL (Pre-merger)*

This table exhibits the regression results, in which the MPS of the BOKL and LBL before the merger is the dependent variable and EPS, NPL, ROA and ROE are the independent variables.

| Model | Intercepts | Regression coefficient of | | | | Adj $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|
| | | EPS | NPL | ROA | ROE | | | |
| 1 | 262.374 | 6.774 | | | | 0.153 | 159.159 | 2.623 |
| | (2.383) | (1.619)* | | | | | | |
| 2 | 223.271 | | 140.233 | | | 0.453 | 127.901 | 8.450 |
| | (2.821) | | (2.907)* | | | | | |
| 3 | 507.948 | | | -46.823 | | -0.038 | 176.172 | 0.670 |
| | (4.236) | | | (-0.819)* | | | | |
| 4 | 284.780 | | | | 7.869 | 0.030 | 170.330 | 1.275 |
| | (2.156)* | | | | (1.129)* | | | |
| 5 | 152.034 | 4.151 | 121.82 | | | 0.483 | 124.387 | 5.196 |
| | (1.568)* | (1.208)* | (2.469) | | | | | |
| 6 | 276.422 | 9.493 | 71.873 | -96.438 | | 0.653 | 101.880 | 6.642 |
| | (2.793) | (2.505) | (1.534)* | (-2.106)* | | | | |
| 7 | 227.291 | -13.196 | 73.671 | -212.138 | 45.796 | 0.891 | 57.146 | 19.351 |
| | (3.985) | (-2.058)* | (2.802) | (-5.285) | (3.751) | | | |

*Note: The dependent variable is the market price of a share. The figures in parentheses are t-values. The asterisk (*) indicates that the results are significant at a 95% level of confidence.*

Table 4

*Regression Result of Performance on MPS for PRVU and GBL (Post-merger)*

The table shows the result of a regression analysis in which the MPS of the PRVU and GBL after the merger is a dependent variable and EPS, NPL, ROA and ROE are independent variables.

| Model | Intercepts | Regression coefficient of | | | | Adj $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|
| | | EPS | NPL | ROA | ROE | | | |
| 1 | 33.503 | 13.381 | | | | 0.872 | 37.787 | 28.251 |
| | (0.635)* | (5.315) | | | | | | |
| 2 | 136.402 | | 33.498 | | | 0.363 | 84.304 | 3.278 |
| | (1.400)* | | (1.811)* | | | | | |
| 3 | -72.094 | | | 278.182 | | 0.933 | 27.399 | 56.439 |
| | (-1.417)* | | | (7.513) | | | | |
| 4 | 50.211 | | | | 19.379 | 0.917 | 30.495 | 44.983 |
| | (1.270)* | | | | (6.707) | | | |
| 5 | 25.429 | 11.708 | 8.502 | | | 0.847 | 41.311 | 12.073 |
| | (0.433)* | (3.239)* | (0.714)* | | | | | |
| 6 | -68.968 | 0.937 | 11.067 | 221.640 | | 0.969 | 18.516 | 43.052 |
| | (-1.679)* | (0.237)* | (2.048)* | (2.993)* | | | | |

*Note: The dependent variable is the market price of a share. The figures in parentheses are t-values. The asterisk (*) indicates that the results are significant at a 95% level of confidence.*

Table 5

*Regression Result of Performance on MPS for BOKL and LBL (Post-merger)*

This table presents the result of a regression analysis in which the MPS of the BOKL and LBL after the merger is a dependent variable and EPS, NPL, ROA and ROE are independent variables.

| Model | Intercepts | Regression coefficient of | | | | Adj $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|
| | | EPS | NPL | ROA | ROE | | | |
| 1 | 545.089 | -11.089 | | | | -0.207 | 131.731 | 0.314 |
| | (1.423)* | (-0.560)* | | | | | | |
| 2 | 428.263 | | -44.682 | | | -0.238 | 133.436 | 0.230 |
| | (2.064)* | | (-0.479)* | | | | | |
| 3 | 538.734 | | | -145.498 | | -0.049 | 122.803 | 0.813 |
| | (2.297)* | | | (-0.902)* | | | | |
| 4 | 318.772 | | | | 1.240 | -0.332 | 138.404 | 0.002 |
| | (0.993)* | | | | (0.045)* | | | |
| 5 | 1,054.559 | -25.167 | -112.673 | | | -0.211 | 131.965 | 0.651 |
| | (1.648)* | (-1.033)* | (0.995)* | | | | | |
| 6 | 366.438 | 77.487 | -104.738 | -913.830 | | 0.377 | 94.626 | 1.807 |
| | (0.599)* | (1.233)* | (-1.287)* | (-1.699)* | | | | |

*Note: The dependent variable is the market price of a share. The figures in parentheses are t-values.*

The value of intercepts represents the value of the dependent variable when independent variables are zero. The value of adjusted R2 shows the effects of independent variables on dependent variables.

In Table 2, it is observed that the adjusted R2 of all the results is negative, whether taken individually or in pair with two or more variables. This shows that there is an insignificant relationship between the variables and the MPS of PEVU and GBL before the merger. When the relationship is studied for the performance after the merger (Table 4), all the variables show a positive influence on the MPS of the banks. The highest influence of 96.90% is observed when all the dependent variables are studied together. When independent variables are studied separately, ROA has the highest influence on MPS, i.e., 93.30%, whereas NPL has the lowest influence, i.e., 36.30%.

Table 3 reveals that the MPS of the BOKL and LBL before the merger had an insignificant relationship with ROA when studied individually, but other variables studied individually and in pairs with other variables show a significant relationship. When all the independent variables were combined, it represented 89.10% of the variation in MPS and only 10.90% of the variation in other factors. When EPS is studied individually, it shows the lowest, i.e., 15.30% influence on the MPS of the bank. When the relationship is studied for the performance after the merger (Table 5), the influence is positive when independent variables (EPS, NPL, and ROA) are paired together. There is an influence of 37.70%. But when the relationship between MPS and individual independent variables is observed, there is an insignificant relationship.

## Evaluation of the effect on the financial performance

In Table 6, the relationship of ROA with other independent variables is observed for PRVU and GBL before the merger. The result shows that, when independent variables are studied separately, EPS has the highest influence, i.e., 95.50%, whereas MPS has an insignificant influence on ROA. Similarly, ROE had a 94.70% impact. But when independent variables are paired, the pair of CAR, ROE, NPL and EPS justifies the 98% influence on the ROA. The relationship between the variables for the bank after the merger is presented in Table 8. The result shows that CAR has an insignificant influence on ROA, which was 5.70% before the merger. When studied individually, 93.30% of the influence in ROA was justified by MPS (which is also the highest among the individual variables after the merger), but this was insignificant earlier. After the merger, the pairs of CAR, ROE, and NPL justify an influence of 94.80%, which is the highest justification after the merger of PRVU and GBL. Hence, it can be concluded that there is a relationship between the ROA and other variables.

Further, Table 7 presents the relationship of ROA with other variables for BOKL and LBL before the merger. It can be observed that the variables CAR, NPL, MPS and MSR have an insignificant influence on ROA when studied individually. When observed in Table 9, MPS and MSR still have an insignificant influence even after the merger. But other variables, such as ROE, EPS and NPM, have an influence on ROA pre-merger, with NPM having the highest influence (51.50%), but after the merger the relationship is insignificant. When the post-merger data is examined individually, EPS is found to have a 92.80% influence. When the independent variables are paired for the study, 96.30% of the change in ROA is explained by the combination of CAR, ROE, NPL, EPS, NPM, and MPS before the merger. But after the merger, when CAR, NPL, and MSR are paired together for the study, 99.90% of the variation in ROA is explained. Hence, the ROA of the bank is affected by several variables, where all the variables do not have an equal contribution to the change.

## Table 6

*Regression Result of Performance on ROA for PRVU and GBL (Pre-merger)*

This table presents the relationship of ROA with other independent variables (CAR, ROE, NPL, EPS, NPM, MPS & MSR) for PRVU and GBL before the merger.

| Model | Intercepts | Regression coefficient of | | | | | | | Adj. $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CAR | ROE | NPL | EPS | NPM | MPS | MSR | | | |
| 1 | -3.860 | 0.241 | | | | | | | 0.057 | 2.434 | 1.544 |
| | (-1.439)* | (1.243)* | | | | | | | | | |
| 2 | 0.271 | | 0.076 | | | | | | 0.947 | 0.577 | 161.776 |
| | (1.375)* | | (12.719) | | | | | | | | |
| 3 | 0.625 | | | -0.122 | | | | | 0.257 | 2.161 | 4.108 |
| | (0.669)* | | | (-2.027)* | | | | | | | |
| 4 | 0.013 | | | | 0.077 | | | | 0.955 | 0.533 | 190.952 |
| | (0.074)* | | | | (13.819) | | | | | | |
| 5 | -0.126 | | | | | 0.050 | | | 0.617 | 1.552 | 15.482 |
| | (-0.247)* | | | | | (3.935) | | | | | |
| 6 | 0.523 | | | | | | -0.006 | | -0.089 | 2.616 | 0.263 |
| | (0.212)* | | | | | | (-0.513)* | | | | |
| 7 | -3.790 | | | | | | | 1.684 | 0.020 | 2.481 | 1.183 |
| | (-1.273)* | | | | | | | (1.088)* | | | |
| 8 | -0.243 | 0.037 | 0.074 | | | | | | 0.944 | 0.595 | 76.477 |
| | (-0.333)* | (0.733)* | (11.272) | | | | | | | | |
| 9 | 0.820 | -0.022 | 0.071 | -0.030 | | | | | 0.945 | 0.587 | 52.728 |
| | (0.676)* | (-0.29)* | (10.079) | (-1.089)* | | | | | | | |
| 10 | -0.317 | 0.042 | 0.003 | -0.025 | 0.069 | | | | 0.980 | 0.359 | 108.572 |
| | (-0.389)* | (0.863)* | (0.137)* | (-1.48)* | (3.325) | | | | | | |
| 11 | -0.309 | 0.042 | 0.003 | -0.026 | 0.069 | 0.000 | | | 0.974 | 0.401 | 69.491 |
| | (-0.297)* | (0.713)* | (0.090)* | (-1.076)* | (2.203)* | (0.010)* | | | | | |
| 12 | -0.105 | 0.047 | -0.007 | -0.012 | 0.073 | 0.008 | -0.002 | | 0.969 | 0.439 | 48.320 |
| | (-0.087)* | (0.729)* | (-0.163)* | (-0.339)* | (2.088)* | (0.445)* | (-0.578)* | | | | |
| 13 | -2.363 | 0.109 | 0.021 | 0.011 | 0.055 | -0.005 | -0.002 | 0.702 | 0.958 | 0.513 | 30.457 |
| | (-0.455)* | (0.696)* | (0.259)* | (0.165)* | (0.983)* | (-0.149)* | (-0.542)* | (0.452)* | | | |

Note: The dependent variable is ROA. The figures in parentheses are t-values. The asterisk (*) indicates that the results are significant at a 95% level of confidence.

## Table 7

*Regression Result of Performance on ROA for BOKL and LBL (Pre-merger)*

This table exhibits the relationship of ROA with other independent variables (CAR, ROE, NPL, EPS, NPM, MPS & MSR) for BOKL and LBL before the merger.

| Model | Intercepts | Regression coefficient of | | | | | | | Adj $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CAR | ROE | NPL | EPS | NPM | MPS | MSR | | | |
| 1 | 1.814 | 0.003 | | | | | | | -0.125 | 1.089 | 0.001 |
| | (1.458)* | (0.036)* | | | | | | | | | |
| 2 | 0.240 | | 0.093 | | | | | | 0.493 | 0.731 | 9.740 |
| | (0.424)* | | (3.121) | | | | | | | | |
| 3 | 2.241 | | | -0.272 | | | | | -0.063 | 1.059 | 0.464 |
| | (3.420) | | | (-0.681)* | | | | | | | |
| 4 | 0.821 | | | | 0.044 | | | | 0.211 | 0.912 | 3.409 |
| | (1.300)* | | | | (1.846)* | | | | | | |
| 5 | 0.040 | | | | | 0.068 | | | 0.517 | 0.713 | 10.646 |
| | (0.066)* | | | | | (3.263) | | | | | |
| 6 | 2.552 | | | | | | -0.002 | | -0.038 | 1.046 | 0.670 |
| | (2.800) | | | | | | (-0.819)* | | | | |
| 7 | 2.430 | | | | | | | -0.292 | -0.060 | 1.057 | 0.490 |
| | (2.748) | | | | | | | (-0.699)* | | | |
| 8 | -1.745 | 0.104 | 0.120 | | | | | | 0.627 | 0.627 | 8.554 |
| | (-1.558)* | (1.968)* | (4.136) | | | | | | | | |
| 9 | -0.966 | 0.078 | 0.118 | -0.266 | | | | | 0.627 | 0.627 | 6.041 |
| | (-0.708)* | (1.343)* | (4.067) | (-1.002)* | | | | | | | |
| 10 | -2.539 | 0.123 | 0.318 | 0.133 | -0.133 | | | | 0.912 | 0.304 | 24.428 |
| | (-3.402) | (4.115) | (6.864) | (0.851)* | (-4.533) | | | | | | |
| 11 | -2.115 | 0.089 | 0.240 | 0.082 | -0.150 | 0.071 | | | 0.962 | 0.200 | 46.850 |
| | (-4.118) | (3.829) | (5.771) | (0.792)* | (-7.414) | (2.756)* | | | | | |
| 12 | -1.043 | 0.056 | 0.224 | 0.153 | -0.124 | 0.055 | -0.001 | | 0.963 | 0.197 | 40.412 |
| | (-0.922)* | (1.467)* | (5.159) | (1.252)* | (-3.868) | (1.862)* | (-1.059)* | | | | |
| 13 | -1.041 | 0.056 | 0.223 | 0.151 | -0.124 | 0.056 | -0.002 | 0.023 | 0.945 | 0.241 | 23.104 |
| | (-0.749)* | (1.164)* | (3.540)* | (0.928)* | (-3.001)* | (1.145)* | (-0.434)* | (0.031)* | | | |

Note: The dependent variable is ROA. The figures in parentheses are t-values. The asterisk (*) indicates that the results are significant at a 95% level of confidence.

## Table 8

*Regression Result of Performance on ROA for PRVU and GBL (Post-merger)*

This table shows the relationship of ROA with other independent variables (CAR, ROE, NPL, EPS, NPM, MPS & MSR) for PRVU and GBL after the merger.

| Model | Intercepts | Regression coefficient of | | | | | | | Adj $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CAR | ROE | NPL | EPS | NPM | MPS | MSR | | | |
| 1 | 1.137 | 0.017 | | | | | | | -0.333 | 0.427 | 0.002 |
| | (0.238)* | (0.041)* | | | | | | | | | |
| 2 | 0.462 | | 0.068 | | | | | | 0.918 | 0.106 | 45.884 |
| | (3.368) | | (6.774) | | | | | | | | |
| 3 | 0.887 | | | 0.092 | | | | | 0.096 | 0.352 | 1.427 |
| | (2.182)* | | | (1.194)* | | | | | | | |
| 4 | 0.415 | | | | 0.046 | | | | 0.844 | 0.146 | 22.619 |
| | (2.034)* | | | | (4.755) | | | | | | |
| 5 | 0.367 | | | | | 0.028 | | | 0.778 | 0.174 | 15.056 |
| | (1.407)* | | | | | (3.880) | | | | | |
| 6 | 0.313 | | | | | | 0.003 | | 0.933 | 0.096 | 56.439 |
| | (2.199)* | | | | | | (7.515) | | | | |
| 7 | 3.778 | | | | | | | -0.700 | 0.551 | 0.248 | 5.915 |
| | (3.737) | | | | | | | (-2.432)* | | | |
| 8 | 1.091 | -0.055 | 0.068 | | | | | | 0.889 | 0.123 | 17.021 |
| | (0.793)* | (0.460)* | (5.833) | | | | | | | | |
| 9 | 5.411 | -0.451 | 0.043 | 0.118 | | | | | 0.948 | 0.085 | 25.097 |
| | (2.096)* | (-1.919)* | (2.605)* | (1.798)* | | | | | | | |
| 10 | 0.414 | | | | 0.046 | 0.000 | | | 0.766 | 0.179 | 7.540 |
| | (1.516)* | | | | (0.915)* | (0.01)* | | | | | |
| 11 | 0.349 | | | | 0.022 | -0.013 | 0.003 | | 0.841 | 0.148 | 8.040 |
| | (1.515)* | | | | (0.484)* | (-0.472)* | (1.393)* | | | | |
| 12 | 0.661 | | 0.150 | | -0.006 | -0.034 | | | 0.926 | 0.101 | 17.581 |
| | (3.521)* | | (2.301)* | | (-0.164)* | (-1.447)* | | | | | |
| 13 | 10.913 | -0.689 | | 0.115 | | | | -0.627 | | | |
| | (5.006)* | (-2.714)* | | (1.124)* | | | | (-1.653)* | 0.891 | 0.122 | 11.862 |

## Table 9

*Regression Result of Performance on ROA for BOKL & LBL (Post-merger)*

This table shows the relationship of ROA with other independent variables (CAR, ROE, NPL, EPS, NPM, MPS & MSR) for BOKL and LBL after the merger.

| Model | Intercepts | Regression coefficient of | | | | | | | Adj $R^2$ | SEE | F-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CAR | ROE | NPL | EPS | NPM | MPS | MSR | | | |
| 1 | -2.596 | 0.287 | | | | | | | 0.086 | 0.364 | 1.378 |
| | (-0.759)* | (1.174)* | | | | | | | | | |
| 2 | -0.069 | | 0.129 | | | | | | 0.644 | 0.227 | 8.225 |
| | (-0.131)* | | (2.868)* | | | | | | | | |
| 3 | 2.043 | | | -0.295 | | | | | 0.076 | 0.366 | 1.331 |
| | (3.591) | | | (-1.154)* | | | | | | | |
| 4 | -0.714 | | | | 0.111 | | | | 0.928 | 0.102 | 52.904 |
| | (-2.411)* | | | | (7.274) | | | | | | |
| 5 | 1.284 | | | | | 0.008 | | | -0.330 | 0.439 | 0.008 |
| | (0.868)* | | | | | (0.089)* | | | | | |
| 6 | 1.902 | | | | | | -0.001 | | -0.049 | 0.390 | 0.813 |
| | (3.345) | | | | | | (-0.902)* | | | | |
| 7 | 3.598 | | | | | | | -0.753 | -0.084 | 0.396 | 0.690 |
| | (1.365)* | | | | | | | (-0.831)* | | | |
| 8 | -3.311 | 0.239 | 0.121 | | | | | | 0.895 | 0.123 | 18.100 |
| | (-2.837)* | (2.865)* | (4.917) | | | | | | | | |
| 9 | -3.696 | 0.378 | 0.044 | -0.309 | | | | | 0.934 | 0.098 | 19.940 |
| | (-3.846)* | (3.293)* | (0.783)* | (-1.478)* | | | | | | | |
| 10 | -0.335 | | | | 0.116 | -0.029 | | | 0.959 | 0.077 | 47.408 |
| | (-1.082)* | | | | (9.724) | (-1.788)* | | | | | |
| 11 | -0.335 | | | | 0.116 | -0.028 | 0.000 | | 0.917 | 0.109 | 15.806 |
| | (-0.761)* | | | | (3.782)* | (-0.433)* | (-0.014)* | | | | |
| 12 | -0.142 | | 0.042 | | 0.090 | -0.040 | | | 0.973 | 0.063 | 49.074 |
| | (-0.500)* | | (1.436)* | | (4.365)* | (-2.633)* | | | | | |
| 13 | -5.412 | 0.497 | | -0.519 | | | | 0.345 | 0.999 | 0.013 | 1224.785 |
| | (-27.167) | (48.154) | | (-47.116) | | | | (9.823) | | | |

Table 10

*Results of Test of Hypothesis*

This table shows the result of the t-test for the comparison of performance pre- and post-merger of sample banks for performance measurement variables (CAR, NPL, ROE, ROA, EPS, NPM, MPS & MSR).

| Ratio | Comparatives | Decision | Remarks |
|---|---|---|---|
| CAR | GBL vs Post-Merger | Alternate Hypothesis Accepted | In terms of CAR, there is a significant relationship between performance and merger. |
| | PRVU vs Post-merger | | |
| | LBL vs Post-Merger | | |
| | BOKL vs Post-Merger | | |
| NPL | GBL vs Post-Merger | Alternate Hypothesis Accepted | In terms of NPLs, there is a significant relationship between performance and merger. |
| | PRVU vs Post-merger | | |
| | BOKL vs Post-Merger | | |
| | LBL vs Post-Merger | Alternate Hypothesis Rejected | In terms of NPLs, there is no significant relationship between performance and merger. |
| ROE | GBL vs Post-Merger | Alternate Hypothesis Accepted | In terms of ROE, there is a significant relationship between performance and merger. |
| | PRVU vs Post-merger | | |
| | LBL vs Post-Merger | | |
| | BOKL vs Post-Merger | | |
| ROA | GBL vs Post-Merger | Alternate Hypothesis Accepted | In terms of ROA, there is a significant relationship between performance and merger. |
| | PRVU vs Post-merger | | |
| | LBL vs Post-Merger | | |
| | BOKL vs Post-Merger | | |
| EPS | GBL vs Post-Merger | Alternate Hypothesis Accepted | In terms of EPS, there is a significant relationship between performance and merger. |
| | PRVU vs Post-merger | | |
| | LBL vs Post-Merger | | |
| | BOKL vs Post-Merger | | |
| NPM | GBL vs Post-Merger | Alternate Hypothesis Rejected | In terms of NPM, there is no significant relationship between performance and merger. |
| | PRVU vs Post-merger | Alternate Hypothesis Accepted | In terms of NPM, there is a significant relationship between performance and merger. |
| | LBL vs Post-Merger | | |
| | BOKL vs Post-Merger | | |
| MPS | GBL vs Post-Merger | Alternate Hypothesis Accepted | In terms of MPS, there is a significant relationship between performance and merger. |
| | PRVU vs Post-merger | | |
| | LBL vs Post-Merger | | |
| | BOKL vs Post-Merger | Alternate Hypothesis Rejected | In terms of MPS, there is no significant relationship between performance and merger. |
| Market Share | GBL vs Post-Merger | Alternate Hypothesis Rejected | In terms of market share, there is no significant relationship between performance and merger. |
| | PRVU vs Post-merger | | |
| | LBL vs Post-Merger | | |
| | BOKL vs Post-Merger | Alternate Hypothesis Accepted | In terms of market share, there is a significant relationship between performance and merger. |

## Discussions

While going through the performance of the banks after the merger, it is concluded that the motive of the merger is in agreement with synergy theory, efficiency theory, and undervaluation theory. The post-merger period yields the synergistic effect on performance. As the profitability and asset quality of the banks before the merger were poor and have since improved, there seems to have been inefficient management of the banks, which has led to their undervaluation. The appraised study of horizontal mergers found that most of the performance indicators of the BFIs improved after the fusion. The theory of synergy can be observed in the performance indicators. The result observed post-merger is also the result of the market power of the BFI, due to reduced competition. The market wealth of the shareholders of the concerned BFIs has also improved. But their market share has been concentrated. The result of the study is quite the opposite of the conclusion reached by Sujud and Hechem (2018), who revealed that the merger has no significant impact on ROA and ROE. Regarding the market price and EPS of the banks after the merger, the result is similar to that of Joash and Njangiru (2015). The result of the study also ties in with the result witnessed by Raju and Dhakal (2015). The result obtained in this study is in opposition to the results of Al-Hroot (2015), Fatima and Shehzad (2014), and Kouser and Saba (2011). Whereas Al-Hroot (2015) concluded that the financial performance of the banks has not significantly improved, Fatima and Shehzad (2014) concluded that there has been no positive impact on the financial performance, and Kouser and Saba (2011) found a decline in the operating financial performance after the merger event.

## Conclusion and Implications

This study has revealed that almost all of the performance indicators, apart from CAR for GBL and PRVU, have improved after the merger event. But the result is quite the opposite in the case of BOKL and LBL. It is observed that the NPL ratio, ROA, and ROE have deteriorated more than in the pre-merger position. The test of hypotheses resulted in the acceptance of alternate hypotheses in most of the cases. When the hypothesis about various performance indicators, such as CAR, NPL Ratio, ROE, ROA, NPM, and EPS, of the concerned banks is tested pre- and post-merger, the alternate hypothesis is accepted in most cases, indicating that there is a significant relationship between synergic effect on performance and merger. Further, a significant relationship between the MPS of the banks and merger events has also been observed while comparing the pre- and post-merger MPS of the banks, i.e., the merger event has led to a subsequent increment in the MPS of the banks, which has led to an increase in shareholder wealth. Further, while comparing the market share ratio, the individual banks' market shares before the merger combined appeared better compared to that of the post-merger position. Regression analysis of the variables showed that ROA and MPS were affected by several variables, though in unequal proportions. This study can become a foundation for future studies in the Nepalese context of the merger of BFIs. Researchers can do further studies by adding other performance indicators relating to management efficiencies, asset qualities, liquidity position, customers' and employees' reactions, etc. that were not considered in the study.

The main aim of the merger is to improve financial efficiency. However, it is still unable to clearly state whether mergers lead to improved financial efficiency, as performance is affected by numerous factors apart from those studied. Most of the financial indicators are directly interlinked with the profitability and quality of assets of the BFIs. If the profitability and quality of assets of the BFI are strong even after the merger, they can achieve synergy and improved performance post-merger. The study concludes

that to achieve improved post-merger financial efficiency and reap the benefits of an improved financial position, merged BFIs should be more aggressive in their profit drive and maintain better asset qualities. Because most of the performance indicators studied in this study are defined by the profitability position and quality of the assets of the BFIs.

## References


Al-Hroot, Y. A. (2015). Pre- and post-merger impact on financial performance: A case study of Jordan Ahli Bank. E*uropean Journal of Business and Management, 7*(36), 56-62.

Adhikary, D. K., Pant, R., & Dhungana, B. R. (2007). Study on financial sector reform in Nepal. *Project Research & Management Associates P Ltd., Kathmandu.*

Akbar, J. S. (2021). The effect of return on assets and return on equity on price to book value on banking companies listed on the Indonesia Stock Exchange. *International Journal of Economics, Business and Accounting Research (IJEBAR), 5*(3), 1677-1688.

Amihud, Y., & Lev, B. (1981). Risk reduction as a managerial motive for conglomerate mergers. *The Bell Journal of Economics, 12*(2) 605-617.

Bhargave, H., & Tandon, D. (2022). A survey study impact of mergers o Indian banking industry. *ECS Transactions, 107*(1), 8769-8776.

Candra, A., Priyarsono, D., Zulbainarni, N., & Sembel, R. (2021). Literature review on merger and acquisition (Theories and previous studies). *Studies of Applied Economics, 39*(4), 1-12.

Choiriyah, C., Fatimah, F., Agustina, S., & Ulfa, U. (2020). The effect of return on assets, return on equity, net profit margin, earning per share, and operating profit margin on stock prices of banking companies in Indonesia Stock Exchange. *International Journal of Finance Research, 1*(2), 103-123.

Church, J. (2004). The impact of vertical and conglomerate mergers on competition, European Commission, 96-97.

Colwell, B. J. (1969). Antitrust and efficiency: Product extension mergers. *Southern Economic Journal, 35*(4) 369-375.

Damodaran, A. (2007). Return on capital (ROC), return on invested capital (ROIC) and return on equity (ROE): Measurement and implications. *Electronic Journal, ()*, –. doi:10.2139/ssrn.1105499

Dwa, S., & Shah, A. K. (2017). A study on merger and operating performance of commercial banks of Nepal. *Journal of Business and Social Sciences Research, 2*(1-2), 85-107.

Edirisuriya, P. (2007). Effects of financial sector reforms in Sri Lanka: Evidence from the banking sector. *Asia Pacific Journal of Finance and Banking Research, 1*(1), 45-64.

Ekanayake, E. M. N. N., & Azeez, A. A. (2015). Determinants of non-performing loans in licensed commercial banks: Evidence from Sri Lanka. *Asian Economic and Financial Review, 5*(6), 868-882.

Fatima, T., & Shehzad, A. (2014). An analysis of impact of merger and acquisition of financial performance of banks: A case of Pakistan. *Journal of Poverty, investment and development, 5*(10), 29-36.

Hidayat, R. (2021). Effect of return on assets, net profit margin and earning per share on stock prices. *Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12*(8), 1388-1403.

Hitt, M. A., Harrison, J. S., & Ireland, R. D. (2001). *Mergers & acquisitions: A guide to creating value for stakeholders.* Oxford University Press.

Hongkong, H. (2017). The effect of earning per share and return on equity on stock price (Study on listed banks). *Accountability, 6*(2), 20-25.

Imboden, K. (2005). Building inclusive financial sectors: The road to growth and poverty reduction. *Journal of International Affairs, 28*(2) 65-86.

Jayakkodi, D., & Rengarajan, P. (2016). Impact of non-performing assets on return on assets of public and private sector banks in India. *International Journal of Applied Research, 2*(9), 696-702.

Joash, G. O., & Njangiru, M. J. (2015). The effect of mergers and acquisitions on financial performance of banks (A survey of commercial banks in Kenya). *International Journal of Innovative Research and Development, 4*(8), 101-113.

Kemal, M. U. (2011). Post-merger profitability: A case of Royal Bank of Scotland (RBS). *International Journal of Business and Social Science, 2*(5), 157-162.

Kouser, R., & Saba, I. (2011). Effects of business combination on financial performance: Evidence from Pakistan's banking sector. *Australian Journal of Business and Management Research, 1*(8), 54-64.

Khan, A. A. (2011). Merger and Acquisitions (M&As) in the Indian banking sector in post liberalization regime. *International Journal of Contemporary Business Studies, 2*(11), 31-45.

Khan, T. R., Islam, M., Choudhury, T. T., & Adnan, A. M. (2014). How earning per share (EPS) affects on share price and firm value. *European Journal of Business and Management, 6*(17), 97-108.

Khanna, Y. & A. Zahir (1982). Determinants of the stock price in India. *The Charted Accountant, 30*(8), 521-523.

Kingu, P. S., Macha, S., & Gwahula, R. (2018). Impact of non-performing loans on bank's profitability: Empirical evidence from commercial banks in Tanzania. *International Journal of Scientific Research and Management, 6*(1), 71-79.

Kyriazopoulosi, G., & Petropoulos, D. (2010). What are the advantages that lead banks into mergers and acquisitions? Is Altman's Z-score Model for bankruptcy motivate banks for mergers and acquisitions? Evidence from the Greek banking system. *International Conference on Applied Economics- ICOAE*, 447-458.

Leepsa, N. M., & Mishra, C. S. (2016). Theory and practice of mergers and acquisitions: Empirical evidence from Indian cases. *IIMS Journal of Management Science, 7*(2), 179-194.

LIN, L., Lee, C. F., & Kuo, H. C. (2013). Merger and acquisition: Definitions, motives, and market responses. *Encyclopedia of Finance,* 541-554.

Makri, V., Tsagkanos, A., & Bellas, A. (2014). Determinants of non-performing loans: *The case of Eurozone. Panoeconomicus, 61*(2), 193-206.

Menaje, P. M. (2012). Impact of selected financial variables on share price of publicly listed firms in the Philippines. *American International Journal of Contemporary Research, 2*(9), 98-104.

Okpanachi, J. (2011). Comparative analysis of the impact of mergers and acquisitions on financial efficiency of banks in Nigeria. *Journal of Accounting and Taxation, 3*(1), 1-7.

Pradhan, R. S., & Paudel, L. (2017). Impact of fundamental factors on stock price: A case of Nepalese commercial banks. *SSRN Electronic Journal, doi:10.2139/ssrn.3044108*

Purnamasari, D. (2015). The effect of changes in return on assets, return on equity, and economic value added to the stock price changes and its impact on earnings per share. *Research Journal of Finance and Accounting, 6*(6), 80-90.

Rosenberg, E. A. (1997). Telecommunications mergers and acquisitions: *Key policy issues and options for state regulators.* Columbus, OH: National Regulatory Research Institute.

Saleh, D. S., & Winarso, E. (2021). Analysis of non-performing loans (NPL) and loan to deposit ratio (LDR) towards profitability. *International Journal of Multicultural and Multireligious Understanding, 8*(1), 423-436.

Sang, N. M. (2021). Capital adequacy ratio and a bank's financial stability in Vietnam. *Banks and Banks System, 16*(4), 61-71.

Sari, F. N., & Endri, E. (2019). Determinants of return on assets (ROA) on conventional banks listed on Indonesian Stock Exchange (IDX) Period 2013–2017. *IOSR Journal of Business and Management (IOSR-JBM), 21*(4), 52-62.

Sengar, N., Badhotiya, G. K., Dobriyal, R., & Singh, D. B. (2021). Study of post-merger effect on performance of banks in India. *Materials Today: Proceedings, 46*, 10766-10770.

Setiawan, A., & Muchtar, S. (2021). Factor affecting the capital adequacy ratio of banks listed in Indonesia Stock Exchange. *Jurnal Ekonomi, 26*(1), 153-159.

Setyowati, D. A., SE, S., & Indratjahyo, H. (2020). The effect of non-performa loan and operational cost of operational income on earning per share through return on in Pt. Bank Sahabat Sampoerna. *International Journal of Business and Social Science Research, 1*(2), 12-24.

Sharma, K. P. (2018). Effect of banks' merger and acquisition in Nepal: Study of selected banks. *KAAV International Journal of Law, Finance and Industrial Relations, 5*(1) 41-52.

Singh, S., & Das, S. (2018). Impact of post-merger and acquisition activities on the financial performance of banks: A study of Indian private sector and public sector banks. *Revista Espacios Magazine, 39*(26), 25.

Solomon, E. H. (1970). Bank merger policy and problems: a linkage theory of oligopoly. *Journal of Money, Credit and Banking, 2*(3), 323-336.

Sujud, H., & Hachem, B. (2018). Effect of mergers and acquisitions on performance of Lebanese banks. *International Research Journal of Finance and Economics, 166*, 69-77.

Yusuf, M., & Ichsan, R. N. (2021). Analysis of banking performance in The Aftermath of the merger of bank Syariah Indonesia in Covid 19. *International Journal of Science, Technology & Management, 2*(2), 472-478.

## Annex 1

*Merger and Acquisition Statistics of BFIs*

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total BFIs Merged | 2 | 16 | 27 | 18 | 25 | 29 | 63 | 19 | 14 | 41 | 33 |
| BFIs formed after Merger | 1 | 7 | 11 | 8 | 9 | 12 | 24 | 8 | 7 | 19 | 12 |

*Source: NRB: Macro-economic Indicators of Nepal*

Annex 2

*Statistics of Commercial Banks Merged*

| Name after Merger | Merged BFIs | Year |
|---|---|---|
| NIC Asia Bank | NIC Bank and Bank of Asia | 2013 |
| Prabhu Bank | Prabhu Bank and Grand Bank | 2016 |
| Global IME Bank | Global IME Bank and Commerz and Trust Bank | 2014 |
| Bank of Kathmandu | Bank of Kathmandu and Lumbini Bank | 2016 |
| Global IME Bank | Global IME Bank and Janata Bank | 2019 |