





“The effect of mergers and acquisitions on the financial performance of commercial banks in Nepal”

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| AUTHORS | Baburam Adhikari  Marie Kavanagh  Bonnie Hampson  |
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Bonnie Hampson, 2023

Baburam Adhikari, Independent
Researcher, Nepal; Ph.D., University
of Southern Queensland, Australia.
(Corresponding author)

Marie Kavanagh, Ph.D., Professor,
School of Business, University of
Southern Queensland, Australia.

Bonnie Hampson, Ph.D., Lecturer,
School of Business, University of
Southern Queensland, Australia.



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Baburam Adhikari (Nepal), Marie Kavanagh (Australia), Bonnie Hampson (Australia)

THE EFFECT OF MERGERS AND ACQUISITIONS ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NEPAL

Abstract

Mergers and acquisitions (M&As) have become one of the most significant tools for consolidating banks and financial institutions (BFIs) in Nepal, which has slowed the exponential growth of banks and financial institutions since the central bank of Nepal imposed a new mandatory capital requirement. This research paper examines the consolidation and restructuring effects in Nepal's banking sector, predominately through M&As. This study answers a key question related to the M&A effect on the financial performance of commercial banks using a set of 13 financial ratios. The study used a sample of seven commercial banks that were involved in M&A transactions between 2013 and 2020, and their significant differences in financial ratios were measured by comparing financial performance data from the three years before and after the M&A using a paired t-test statistic. The financial performance of commercial banks improved significantly after the M&A, as measured by liquidity and leverage ratios. However, the ratios of profitability and shareholder wealth show either no change or a marginal change after the M&A. This finding contributed to existing research gaps in the financial performance of the banking sector before and after the M&A in the Nepalese context and has significant policy implications for commercial banks, shareholders, government, and regulatory bodies to enforce M&A policies, review their existing M&A laws, and M&A deals between banks and financial institutions to take synergy benefits in the long term.

Keywords

mergers and acquisitions, financial performance, ratio analysis, banking industry, Nepal

JEL Classification

G34, G21, G28, E58

INTRODUCTION

The rapid proliferation of banks and financial institutions (BFIs) causes unhealthy competition in deposit collection and loan disbursement processes. This competition is becoming more widespread due to the surge in the number of cooperatives and microfinance institutions since 2010. The different categories of the BFIs have defined roles, duties, and functions. However, these BFIs and savings cooperatives are performing similar limited functions, namely, lending and deposits. A poorly regulated banking system may generate unhealthy market competition and inefficient sectoral inefficiencies. The BFIs investment methods in the real-estate sector caused larger defaults throughout 2008–2013, and their financial performances were severely impacted. Nevertheless, the large credit facilities are mostly accessed by specific groups and sectors that have close ties with promoter shareholders and the management team of the BFIs. The rapid credit expansion in the BFIs raises concerns about the quality of lending and underlying risks in the banking system. As a result of these problems, the market experiences a liquidity crunch and high interest rates. There has been a serious issue with corporate governance in the savings and co-operative sector and other categories of BFIs.

Mergers and acquisitions (M&As) are a new business strategy in Nepal. As the regulatory body of BFIs, Nepal Rastra Bank (the country's central bank) has instituted the Merger by Law 2011 to enhance the financial stability of BFIs by strengthening their capital base, expanding their branches to rural areas, investing in technology, and exercising economies of scale. In 2015/2016, the NRB (Nepal Rastra Bank) revealed a monetary policy report in which the minimum paid-up capital of BFIs was increased four times to encourage consolidation. Consequently, 239 BFIs were engaged in the mergers and acquisitions (M&A) process, and 177 BFIs were completely out of existence in their names as of the middle of March 2022. M&A policy and the change in the capital requirement for the BFIs in 2015 had effectively reduced the number of BFIs but it had little success in reducing the size of commercial banks. Therefore, it becomes a significant part of studying how M&As impact the financial performance of the banking sector in Nepal.

1. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Most of the studies about the way M&A impacts the banking sector focus on the United States of America and Europe (Becher, 2000; Hannan & Wolken, 1989; Pastor & Veronesi, 2012; Piloff & Santomero, 1998; Vallascas & Hagendorff, 2011). Efficiency gains from economies of scale, lower costs, and steadier profits are the primary areas of research in this field. As a result, the benefits of market consolidation and improved performance are highly regarded. G. Meeks and J. Meeks (1981) developed a theoretical framework based on accounting principles to measure merger efficiency changes, and these changes have been impacted by costs associated with M&A deals. Similarly, Hitt et al. (1998) conclude that accounting studies based on the principle of synergies theory and the synergistic advantages of M&A are reflected in the ROA and ROE of merging firms. However, measuring synergies' gains in the short run by evaluating accounting performance measures is difficult. Potential synergies between acquired banks and acquirer banks can be evaluated over the long-term through accounting-based evaluations and measurements (Harrison et al., 1991). Furthermore, large bank mergers resulted in a significant gain when compared to small banks, and improved performance following the M&A is due to both revenue enhancements and cost reductions (Cornett et al., 2006). Most of the ratios show significant improvement after the M&A due to the synergistic gain and market expansion (Gaughan, 2010; Hankir et al., 2011; Seth, 1990). Similarly, M&A lowered the cost of capital of merged banks

through risk diversification, consolidation of debt, and tax savings on investment income (Weston & Chung, 1990).

Szewczyk (2008) investigated M&A at the Deutsche Bundesbank and the European Central Bank over the last two decades. In his findings, he concludes that merged institutions must achieve greater cost efficiency than non-merged institutions. Szewczyk posits that success is greater in cooperative banks. Cost efficiency and profitability are significant factors in Germany's bank consolidation. In contrast, Vallascas and Hagendorff (2011) found that the bidding bank default risk increased in 134 European banks after the post-merger period. These authors estimated changes in the default risk of bidding banks as a result of mergers using the Merton distance to default (DD) model. The findings concluded that mega-mergers in the banking industry depend on a bank's ability to manage risk effectively, and increased default risk creates a critical question about stability in the banking sector. The Asian financial crisis of 1997 promoted economic reform in several nations with the assistance of their governments' 'watchdog' roles (Sufian & Habibullah, 2014). In July 1999, the Malaysian central bank announced a forceful merger among the Malaysian domestic banks to create bigger and more vigorous local banks. Studies undertaken by Sufian and Habibullah (2014) used the production frontier technique model to demonstrate the impact of M&A in the Malaysian banking industry. Their findings suggest that M&A has resulted in increased productivity after the post-merger period. Hence, merger synergies have been created after the M&A. Although larger banks have more advan-

tages due to the advancement of technology in the global context, the consolidation of small banks helped them survive the financial crisis. Badreldin and Kalhoefer (2009) analysed how M&A affected the financial achievements of ten Egyptian banks and concluded that Egyptian banks profitability did not change after the M&A due to the cultural barriers of the acquirer and the acquired banks, still the minor changes are reflected in the default risk positions of the banks. Kemal (2011) concludes that the financial performance of Royal Bank of Scotland (profitability, liquidity, solvency, return on investment, and market ratios) fails to improve after the M&A due to the incurred losses, the rising cost of capital, a lack of accounting reporting standards, and inefficiency. Similarly, Abbas et al. (2014) conclude that the overall financial performance of banking sectors in Pakistan decreased in the post-merger period due to the impact of the financial crisis in 2007, globalization, the revolution in banking sectors, an increase in operating costs, ineffective M&A deals, and a lack of a proper M&A framework. These results are in line with the study by Irfan Shakoor et al. (2014), which found that M&A affects the financial performance of Pakistani banks. Furthermore, Shah and Khan (2017) conclude that the acquired Pakistani banks' financial performance deteriorated after the M&A. The findings of the studies suggest that banks should invest in their resources rather than participate in ineffective merger deals. The findings, however, may differ from the individual bank's analysis. Likewise, Lai et al. (2015) studied the impacts of financial performance and efficiency levels of selected Malaysian banks and found that overall financial performance, productivity levels, and efficiency levels do not improve after the M&A. The author suggests that this is due to increased non-interest expenses, declines in the demand for loans, increasing staffing costs, and the impact of the recession, resulting in poor economic outcomes. Crouzille et al. (2008) studied Asian stock market reactions to M&A announcements. The study examined the abnormal return from 1997 to 2003 after the 1997 Asian financial crisis. During the 1997–2000 financial crisis, the market reacted negatively in three countries (Singapore, Taiwan, and Hong Kong), but less negatively in four countries (Korea, Indonesia,

Thailand, and Malaysia) (Crouzille et al., 2008). Hong Kong, Singapore, and Taiwan's M&As were market-driven, but Korea, Malaysia, the Philippines, and Indonesia were due to government intervention. The results show that a bank's value decreased on average. In contrast, according to Kalra et al. (2013), M&As are key growth drivers, and strategic decisions are made for company growth. After the merger, the EPS, market value, and book value of the equity improved significantly. A paired sample test showed no significant difference in financial performance before and after M&As. However, the share price was severely affected in the short term (less than a month) and had no impact in the medium and long term (2 to 4 months).

There is limited research relating to the impact of M&As on BFIs in Nepal. Pathak (2016) used six major financial indicators and a t-test to analyse 22 BFIs' M&A deals that took place between 2004 and 2013. While the profitability ratio did not improve after the merger periods, the result demonstrated a negative impact of M&As on the financial performance of BFIs in terms of return on equity, net profit margin, and operating profit margin. However, a study by Shrestha et al. (2017) presented a different view, concluding that mergers impacted positively if larger banks (commercial banks) acquired small financial institutions or consolidation was done with suitable financial institutions or banks. In their findings, they concluded that after mergers, profitability in terms of ROA and ROE was negatively impacted and that mergers would become successful only in strong and stable banks, not between weaker financial institutions. Therefore, M&As should be market-driven and based on suitability rather than forceful mergers or regulators' interventions (Shrestha et al., 2017). A recent study by Adhikari et al. (2023) found that the M&A has a mixed effect on the financial performance of the first bank, but it does not have much of an effect on the second bank's financial ratios. Adhikari et al. (2023) concluded that the ongoing M&As between Nepalese commercial banks should choose the right partners from within the banking industry rather than other financial institutions to gain synergy benefits, diversify risks, and become more competitive. Previous studies' conclusions were centred on

minor financial institutions; therefore, this new study fills that gap by examining the impact of M&A on the financial performance of the banking industry in Nepal following a capital increase.

The purpose of this study is to determine whether or not M&A improved the financial performance of the banking sector after the implementation of the new capital increment plan before and after the M&A period. Based on the research gaps, research objectives, and literature review, the following hypotheses are developed and tested for this study:

H_{01} : M&As have no significant change in return on equity.

H_{02} : M&As have no significant change in return on assets.

H_{03} : M&As have no significant change in the net interest margin ratio.

H_{04} : M&As have no significant change in the cash equivalent to the total assets ratio.

H_{05} : M&As have no significant change in the investment to total assets ratio.

H_{06} : M&As have no significant change in the total liabilities to total assets ratio.

H_{07} : M&As have no significant change in the debt-to-equity ratio.

H_{08} : M&As have no significant change in the total deposit to total equity ratio.

H_{09} : M&As have no significant change in the capital adequacy ratio.

H_{10} : M&As have no significant change in the non-performing loans to total loans ratio.

H_{11} : M&As have no significant change in the earning per share ratio.

H_{12} : M&As have no significant change in the market price per share ratio.

H_{13} : M&As have no significant change in the dividend per share ratio.

2. RESEARCH METHODOLOGY

This study applied a quantitative methodology to assess the impact of M&As on the financial performance of Nepal's banking industry. Due to the specific question and objectives, this study requires access to historical and current financial data from related sample banks. Financial statements or annual reports of individual banks are necessary for the analysis and interpretation of the data to accomplish the research objectives. Inferential statistics are used to count and measure the data and variables from the population sample. Hypotheses are tested by looking at how dependent and independent variables changed before and after the M&A. This study used the NRB's financial stability report and bank audit reports as its primary data sources. Out of the total of 27, 19 commercial banks that had been acquired or merged between 2013 and 2020 were chosen for this analysis. After looking at M&A activity from 2013–2020, four banks were eliminated that were not actively involved. The remaining 15 commercial banks were further tested following the researcher's criteria for selection:

- Mergers between 'A' category commercial banks.
- Mergers between 'A' category commercial banks and 'B' category development banks.
- M&A between 'A' category commercial banks, 'B' category development banks, and 'C' category finance companies that represent joint venture commercial banks and combine three categories of BFIs.

After applying the researcher's criteria, seven commercial banks (Bank of Kathmandu, Global IME Bank, PRVU Bank, Nepal Credit and Commerz Bank, NMB Bank, Nepal Investment Bank, and Kumari Bank) fulfilled the study's selection. The sample data were entered into an Excel sheet for analysis and interpretation before being analysed with SPSS (Statistical Package for Social Sciences). The accounting performance measure and paired sample t-test (Kalra et al., 2013; Kemal, 2011; Kumar, 2009; Shah & Khan, 2017) were used to determine whether the impacts of M&As on the financial performance ratios had a significant dif-

ference before and after the M&A. M&A is an ongoing process, it is difficult to distinguish between two periods. So, with the increase in the minimum capital requirement for BFIs and significant M&A deals that happened in the fiscal year 2016/2017, that year is considered a transactional year and excluded from the analysis. So, the fiscal years 2013/2014 to 2015/2016 are called 'pre-merger' and the fiscal years 2017/2018 to 2019/2020 are called 'post-merger'. For each of the selected financial ratios, there are three yearly observations before and after the M&A activities. The samples are aggregated across all seven banks to obtain a total of 21 observations before and after the M&A. The effects of M&A on the financial performance of Nepalese commercial banks are measured using four financial parameters.

3. RESULTS AND DISCUSSION

Profitability ratios are the main metrics used to measure a business's ability to generate profit by using its assets and equity funds over a period.

Table 2 shows that two out of three profitability ratios of commercial banks improved after the M&A. The improved performance of return on assets by 3.48% and net interest margin ratio by 9.44% after the M&A reveals that management has effectively utilized the bank's assets and deposit and loan amounts to generate interest income and revenue.

However, Table 3 reveals that the positive changes in return on assets and net interest margin ratios are not statistically significant, as their p-values of 0.791, and 0.427 are greater than the 5% significance level. As a result, null hypotheses H_{02} and H_{03} are accepted. The results from the two ratios indicate M&A have no significant effect on the return on assets and net interest margin ratio after the M&A. The results of the return on assets are consistent with the previous findings of Lai et al. (2015). However, the return on equity deteriorated by 14.10% after the M&A, which indicates that management has not utilized the shareholder fund sufficiently to generate a profit after the M&A. This declining performance of return on equity is not statistically significant, as the p-value

Table 1. Variables to measure financial performance

| Ratios | Variables | Measurement | Source |
|------------------------|--|---|---|
| Profitability | ROE (Return on equity) | It is calculated by dividing net profit after tax (net profit) by the total shareholder equity fund | Kemal (2011), Aggarwal and Garg (2022) |
| | ROA (Return on assets) | It is calculated by dividing net profit after tax by total assets | Kemal (2011), Aggarwal and Garg (2022) |
| | NIM (Net interest margin) | It is calculated by dividing interest earned minus interest expenses by total assets | Abbas et al. (2014) |
| Liquidity | CETA (Cash & cash equivalents to total assets) | It is calculated by dividing cash and cash equivalents by total assets | Shah and Khan (2017) |
| | ITA (Investment to total assets) | It is calculated by dividing total investment by total assets | Abbas et al. (2014), Shah and Khan (2017) |
| | TLTA (Total liabilities to total assets) | It is calculated by dividing the total liabilities by the total assets | Abbas et al. (2014) |
| Leverage | DE (Debt-to-equity) | This ratio is calculated by dividing total liabilities by total equity or the shareholder's fund | Kalra et al. (2013), Mantravadi and Reddy (2008) |
| | TDTE (Total deposit to total equity) | This ratio is calculated by dividing the total deposit by the total equity | Abbas et al. (2014), Al-Hroot et al. (2020) |
| | CAR (Capital adequacy ratio) | It is calculated by dividing tier 1 capital plus tier 2 capital by risk-weighted assets | Abbas et al. (2014), Adhikari et al. (2023) |
| | NPL (Non-performing loans to total loans) | It is calculated by dividing total non-performing loans by total loans | Abdulwahab and Ganguli (2017), Adhikari et al. (2023) |
| Wealth of Shareholders | EPS (Earnings per share) | It is calculated by dividing net profit after tax by the number of outstanding shares | Kemal (2011), Jallow et al. (2017), Patel (2018) |
| | MPS (Market price per share) | It is calculated based on the closing price of ordinary shares traded on the stock exchange | Adhikari et al. (2023) |
| | DPS (Dividends per share) | It is calculated by dividing total dividends by the number of outstanding shares | Lai et al. (2015), Adhikari et al. (2023) |

Table 2. Paired sample statistics of selected commercial banks

| Variables | | N | Minimum | Maximum | Mean | Change (Before & After) | Std. deviation | Std. error mean | |
|-----------|------|--------|---------|---------|---------|-------------------------|----------------|-----------------|----------|
| Pair 1 | ROE | Before | 21 | -26.88 | 27.57 | 13.1981 | 14.10% | 10.41357 | 2.27243 |
| | | After | 21 | 6.71 | 16.91 | 11.3371 | | 2.92595 | 0.63849 |
| Pair 2 | ROA | Before | 21 | -1.44 | 2.25 | 1.3276 | 3.48% | 0.77913 | 0.17002 |
| | | After | 21 | 0.71 | 2.13 | 1.3738 | | 0.40392 | 0.08814 |
| Pair 3 | NIM | Before | 21 | -1.52 | 2.70 | 1.6014 | 9.44% | 0.94254 | 0.20568 |
| | | After | 21 | 0.78 | 3.13 | 1.7457 | | 0.67129 | 0.14649 |
| Pair 4 | CETA | Before | 21 | 1.65 | 9.49 | 3.3510 | 81.87% | 2.42034 | 0.52816 |
| | | After | 21 | 2.35 | 11.34 | 6.0943 | | 2.29829 | 0.50153 |
| Pair 5 | ITA | Before | 21 | 7.04 | 27.41 | 14.4662 | 28.78% | 4.90606 | 1.07059 |
| | | After | 21 | 7.03 | 14.77 | 10.3029 | | 2.30199 | 0.50234 |
| Pair 6 | TLTA | Before | 21 | 87.45 | 94.65 | 90.5914 | -2.75% | 1.38200 | 0.30158 |
| | | After | 21 | 85.33 | 94.37 | 88.0971 | | 2.10654 | 0.45968 |
| Pair 7 | DE | Before | 21 | 6.97 | 17.69 | 9.8371 | -24.32% | 2.09804 | 0.45783 |
| | | After | 21 | 5.82 | 9.89 | 7.4448 | | 1.20162 | 0.26222 |
| Pair 8 | TDTE | Before | 21 | 6.67 | 17.49 | 9.5424 | -27.42% | 2.10788 | 0.45998 |
| | | After | 21 | 5.12 | 13.01 | 6.9262 | | 2.24845 | 0.49065 |
| Pair 9 | CAR | Before | 21 | 8.68 | 17.92 | 12.0581 | 10.17% | 1.80438 | 0.39375 |
| | | After | 21 | 11.16 | 15.75 | 13.2848 | | 1.52842 | 0.33353 |
| Pair 10 | NPL | Before | 21 | 0.42 | 24.29 | 3.4776 | -38.08% | 5.20141 | 1.13504 |
| | | After | 21 | -15.24 | 40.67 | 2.1533 | | 1.11683 | 0.24371 |
| Pair 11 | EPS | Before | 21 | 9.25 | 34.37 | 18.9267 | 0.12% | 10.97178 | 2.39424 |
| | | After | 21 | 3.78 | 25.34 | 18.9495 | | 6.80376 | 1.48470 |
| Pair 12 | MPS | Before | 21 | 207.00 | 1040.00 | 549.4762 | -46.01% | 199.92139 | 43.62642 |
| | | After | 21 | 186.00 | 621.00 | 296.6667 | | 116.03505 | 25.32092 |
| Pair 13 | DPS | Before | 21 | 0.00 | 41.00 | 19.6300 | -5.07% | 13.56601 | 2.96035 |
| | | After | 21 | 8.42 | 40.00 | 18.6343 | | 8.42371 | 1.83820 |

Table 3. Paired sample t-test of commercial banks

| Variables | | Paired Differences | | | | | t | df | Sig. (2-tailed) | Hypothesis Relation | Results |
|-------------------------------------|-----------------------|--------------------|----------------|-----------------|---|-----------|--------|----|-----------------|---------------------|---------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | | | |
| | | | | | Lower | Upper | | | | | |
| Profitability Ratios | | | | | | | | | | | |
| Pair 1 | ROE (Before & After) | 1.86095 | 9.82037 | 2.14298 | -2.60922 | 6.33113 | 0.868 | 20 | 0.395 | NS | NS |
| Pair 2 | ROA (Before & After) | -0.04619 | 0.78978 | 0.17234 | -0.40569 | 0.31331 | -0.268 | 20 | 0.791 | NS | NS |
| Pair 3 | NIM (Before & After) | -0.15048 | 0.85040 | 0.18557 | -0.53757 | 0.23662 | -0.811 | 20 | 0.427 | NS | NS |
| Liquidity Ratios | | | | | | | | | | | |
| Pair 4 | CETA (Before & After) | -2.74333 | 3.22012 | 0.70269 | -4.20911 | -1.27755 | -3.904 | 20 | 0.001 | NS | S |
| Pair 5 | ITA (Before & After) | 4.16333 | 5.93815 | 1.29581 | 1.46032 | 6.86635 | 3.213 | 20 | 0.004 | NS | S |
| Pair 6 | TLTA (Before & After) | 2.49429 | 2.56930 | 0.56067 | 1.32476 | 3.66382 | 4.449 | 20 | 0.000 | NS | S |
| Leverage Ratios | | | | | | | | | | | |
| Pair 7 | DE (Before & After) | 2.39238 | 2.41751 | 0.52754 | 1.29195 | 3.49282 | 4.535 | 20 | 0.000 | NS | S |
| Pair 8 | TDTE (Before & After) | 1.71619 | 3.09147 | 0.67461 | 0.30897 | 3.12341 | 2.544 | 20 | 0.019 | NS | S |
| Pair 9 | CAR (Before & After) | -1.22667 | 2.16116 | 0.47160 | -2.21041 | -0.24292 | -2.601 | 20 | 0.017 | NS | S |
| Pair 10 | NPL (Before & After) | 1.32429 | 4.77188 | 1.04131 | -0.84785 | 3.49642 | 1.272 | 20 | 0.218 | NS | NS |
| Wealth of Shareholder Ratios | | | | | | | | | | | |
| Pair 11 | EPS (Before & After) | -0.02286 | 10.40790 | 2.27119 | -4.76047 | 4.71476 | -0.010 | 20 | 0.992 | NS | NS |
| Pair 12 | MPS (Before & After) | 252.80952 | 130.44256 | 28.46490 | 193.43278 | 312.18627 | 8.881 | 20 | 0.000 | NS | S |
| Pair 13 | DPS (Before & After) | 0.99571 | 14.78778 | 3.22696 | -5.73560 | 7.72703 | 0.309 | 20 | 0.761 | NS | NS |

Note: 'NS' denotes 'non-significant', and 'S' denotes 'significant'.

of 0.395 is higher than the 0.05 significance level. Therefore, null hypothesis H_{01} is accepted. This ratio shows that M&A has no significant impact on the return on equity. The findings of the return on equity, return on assets, and net interest margin ratios are similar to those of studies conducted by Abbas et al. (2014) in Pakistan.

Bank liquidity ratios provide insight into their financial health by revealing how easily they can meet their short-term obligations. Table 2 shows that two out of three liquidity ratios of commercial banks improved after M&A. The cash equivalent to total assets improved by 81.87% and the total liabilities to total assets by 2.75%, indicating that the liquidity position of the commercial bank improved after the M&A, reducing the debt portions, and satisfying the regulatory requirement. Table 3 results show that the improvements in the cash equivalent to total assets and total liabilities to total assets ratios are statistically significant, as their p-values of 0.001 and 0.000, respectively, are below the 5% significance level. Hypotheses H_{04} and H_{06} are rejected. The results confirm that the M&A has significantly improved the cash equivalent to total assets and total liabilities to total assets ratios. The finding of cash equivalent to total assets is similar to Shrestha et al. (2017), and the total liabilities to total assets ratio contradicts the findings of Abbas et al. (2014). The investment to total assets ratio decreased by 28.78% after the M&A. The negative improvement in the investment to total assets ratio is statistically significant, as the p-value of 0.004 is below the 5% significance level. Therefore, null hypothesis H_{05} is rejected. The results provide evidence that M&A has a significant effect on the investment-to-total assets ratio. The result of the investment-to-total assets ratio contradicts the findings of Abbas et al. (2014) and Shah and Khan (2017).

The leverage ratios measure a bank's ability to meet its long-term financial commitments. Table 2 shows that all the leverage ratios of commercial banks improved after the M&A. The debt-to-equity ratio declined by 24.32% after the M&A, indicating that debt financing started to decline. This means that commercial banks' ability to meet their long-term obligations has strengthened in the period following the M&A. Similarly, the total deposit to total equity ratio decreased by 27.42% after

the M&A, improving financial leverage. Similarly, the capital adequacy ratio increased by 10.17% after the M&A. The improvement in the capital adequacy ratio is a good sign, and a bank's resilience in the face of unforeseen losses is an encouraging development. In addition, the non-performing-to-total loans ratio dropped by 38.08% after the merger, which is an improvement in recovering its debts. Table 3 reveals that the improved performances in the debt-to-equity ratio, total deposit-to-total equity ratio, and capital adequacy ratio (p-values of 0.000, 0.019, and 0.017, respectively) are statistically significant below the 0.05 significance level. Thus, null hypotheses H_{07} , H_{08} , and H_{09} are rejected. The results confirmed that the M&A has significantly improved the debt-to-equity ratio, total deposit-to-total equity ratio, and capital adequacy ratio. On the other hand, the improved performance of the non-performing-to-total loans ratio is not statistically significant, as the p-value of 0.218 is greater than the 5% significance level. Therefore, the null hypothesis H_{010} is accepted. The result does not provide sufficient evidence that M&A has a significant effect on the non-performing to total loans ratio. The findings on the debt-to-equity ratio are similar to the findings of Abbas et al. (2014). However, the results of the total deposit to total equity and capital adequacy ratio contradict the findings of Abbas et al. (2014) and Shah and Khan (2017). Overall, all the leverage ratios of commercial banks have a significant effect except non-performing-to-total loan ratios.

The wealth of the shareholder's ratios measures the earning capacity, dividend yield, and share price. Table 2 shows that two out of three indicators of the wealth of shareholders of commercial banks deteriorated after the M&A period. The earnings per share remained stable in both periods. The earnings per share neither increased nor decreased in both periods. This means that the slow growth in earnings per share is due to a rapid increase in the capital plan. In the same way, the market price per share went down by 46.01% after the merger. The NRB's plan to increase the capital of BFIs causes an oversupply of shares on the secondary market, which impacts the market price per share after the M&A. Furthermore, the dividend per share decreased by 5.07% after the M&A, indicating that it has been impacted by the new mandatory capital requirement for BFIs and falling earning ca-

capacity due to limited business and unhealthy business competition in the banking sector. However, Table 3 reveals that constant growth in earnings per share and declining performance in dividend per share are not statistically significant as their p-values of 0.992 and 0.761 are greater than the 5% significance level. As a result, null hypotheses H_{011} and H_{013} are accepted for these ratios. The results of the two ratios illustrate that the M&A does not have a significant effect on the earning per share and dividend per share ratios. On the

other hand, the deteriorated performance of market price per share is statistically significant, as the p-value of 0.000 is below the 0.05 significance level. Therefore, the null hypothesis H_{012} is rejected. The result provides sufficient evidence that an M&A has a significant impact on the market price per share. This finding of earnings per share is similar to the finding of Kalra et al. (2013), while the dividend per share contradicts the findings of Lai et al. (2015). Overall, there are mixed results in commercial banks' wealth-to-shareholders ratios.

CONCLUSION

The consolidation of BFIs through the M&A process creates financial stability in a country's banking sector by strengthening their capital base, expanding their branches to rural areas, investing in technology, and exercising economies of scale. This study concluded that the M&A did not have any significant effect on overall profitability ratios and wealth of shareholders ratios of commercial banks except market price per share before and after the M&A. However, this research study concluded that all the liquidity ratios and leverage ratios of commercial banks have improved significantly after the M&A except for non-performing loans to total loans. Most studies based on the accounting performance measure in emerging countries revealed that the impacts of M&A on the financial performance of banks resulted in no improvement or deterioration. However, this study concluded mixed outcomes or improvements after the M&A. Overall, the results are consistent with other research that has found mixed results or improvements after the M&A in the banking industry.

The study recommends that the government of Nepal further reviews existing BFI classifications as they are performing similar functions and creating confusion within the banking sector. In line with government policy reforms, the central bank of Nepal provides a business environment through appropriate M&A facilities through monetary policies and regulatory and supervisory reforms. This policy change also provides additional incentives for commercial banks to encourage M&A activity and encourages commercial banks to actively find their strategic partners within commercial banks through diversifying risk, market expansion, cost efficiency, and synergistic gain in the long term.

This study has certain limitations as it relied on a limited sample of raw data, and further research may incorporate larger samples of banks that were not selected for this study. Future researchers will use both quantitative and qualitative data to figure out how an M&A influences the financial performance of the banking industry in Nepal.

AUTHOR CONTRIBUTIONS

Conceptualization: Baburam Adhikari.

Data curation: Baburam Adhikari.

Formal analysis: Baburam Adhikari.

Funding acquisition: Baburam Adhikari.

Investigation: Baburam Adhikari, Marie Kavanagh, Bonnie Hampson.

Methodology: Baburam Adhikari, Marie Kavanagh, Bonnie Hampson.

Project administration: Baburam Adhikari, Marie Kavanagh, Bonnie Hampson.

Resources: Baburam Adhikari.

Software: Baburam Adhikari.

Supervision: Marie Kavanagh, Bonnie Hampson.

Validation: Baburam Adhikari.

Visualization: Baburam Adhikari.

Writing – original draft: Baburam Adhikari.

Writing – reviewing & editing: Baburam Adhikari, Marie Kavanagh, Bonnie Hampson.

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APPENDIX A

Table A1. Overview of banks and financial institutions

Source: NRB Development Bank Supervision Report 2019/2020.

| Types of BFIs and Categories | 1990 | 1995 | 2000 | 2005 | 2010 | 2012 | 2015 | 2018 | 2019 | 2021 | 2023 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Commercial Banks (A) | 5 | 10 | 13 | 17 | 27 | 32 | 30 | 28 | 28 | 27 | 20 |
| Development Banks (B) | 2 | 3 | 7 | 26 | 79 | 88 | 76 | 33 | 29 | 18 | 17 |
| Finance Companies (C) | – | 21 | 45 | 60 | 79 | 69 | 48 | 25 | 23 | 17 | 17 |
| Microfinance Institutions (D) | – | 4 | 7 | 11 | 18 | 24 | 38 | 65 | 90 | 70 | 64 |
| Infrastructure Development Banks | – | – | – | – | – | – | – | – | 1 | 1 | 1 |
| Total | 7 | 38 | 72 | 114 | 203 | 213 | 192 | 151 | 171 | 133 | 119 |

Note: BFIs are classified into four categories. 'A' class refers to commercial banks, 'B' class denotes development banks, 'C' class refers to Finance companies, and 'D' class represents microfinance institutions. Through monetary policy in the fiscal years 2015/2016, the NRB increased the current mandatory capital requirement of commercial banks (Nepalese rupees (Rs) 2,000 million to Rs 8,000 million), development banks (Rs 640 million to Rs. 2,500 million), finance companies (Rs 300 million to Rs 800 million).