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

A Thesis submitted by

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ABSTRACT

This paper investigates the consolidation and restructuring in the banking and financial institutions (BFIs) in Nepal, predominately through the Mergers and Acquisitions (M&As) process. Despite making significant contributions to the economy, financial institutions in Nepal are often guilty of malpractice, lack corporate governance practices, and condone unhealthy competition in loan disbursement and deposit collection processes. These problems create a liquidity crunch, higher sensitivity in interest rates, increments in non-performing loans (NPL), and a lack of capacity to finance large scale projects. Due to poor professional practices, high numbers of BFIs threaten the financial stability in the country. The underlying research philosophy guiding this research is a positivist paradigm which will entail reviewing existing theory from literature, identifying variables, testing hypotheses, and producing empirical results. This research studied the effect of M&As on the financial performance of commercial banks and individual banks in Nepal. Therefore, this research evaluates the financial performance of the selected banks based on the financial ratios (profitability, liquidity, leverage, and wealth of shareholders ratios) from the perspective of pre-merger and post-merger periods covering 2013-2020. To compare the pre-post M&As performance of Nepalese commercial banks during this period of 2013-2020, statistical methods were used including a paired sample t-test to measure the significant differences. This research found that the commercial banks (financial performance) significantly improved the liquidity and leverage ratios in the post-merger period. However, profitability and wealth of shareholders ratios show either mixed or insignificant results after the M&As. On the other hand, in the case of individual banks, M&A results in a mixed improvement in the financial ratios of BOKL, GBIME, NMB, KBL bank and insignificant differences in the financial ratios of PRVU, NCCB, and NIB bank. It is concluded that the effect of M&A on the financial performances of individual banks is different to commercial banks.

CERTIFICATION OF THESIS

This thesis is entirely the work of Baburam Adhikari except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other ward, except where otherwise acknowledged.

ENDORSEMENT

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Student and supervisors’ signatures of endorsement are held at the University.

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ABBREVIATIONS

BAFIA	Banks and Financial Institutions Act
BOD	Board of Director
CD ratio	Credit to Deposit ratio
CCD	Credit to Core Capital plus Deposit
CEO	Chief Executive Officer
M&As	Mergers and Acquisitions
BFIs	Bank and Financial Institutions
MFIs	Micro Financial Institutions
NRB	Nepal Rastra Bank
SEBON	Securities Board of Nepal
NEPSE	Nepal Stock Exchange
NIFRA	Nepal Infrastructure Development Bank
EPF	Employee Provident Fund
MoU	Memorandum of Understanding
LOI	Letter of Intent
DDA	Due Diligence Audit
RBS	Royal Bank of Scotland
DEA	Data Envelopment Analysis
ROE	Return on Equity
ROA	Return on Assets
NIM	Net Interest Margin
SR	Spread Ratio
IEII	Interest Expenses to Income Ratio
CETA	Cash & Cash Equivalent to Total Assets
ITA	Investment to Total Assets
CRR	Cash Reserve Ratio
TLTA	Total Liabilities to Total Assets

DE	Debt to Equity
TDTE	Total Deposit to Total Equity
CAR	Capital Adequacy Ratio
TLOTD	Total Loans to Total Deposit
TDTA	Total Deposit to Total Assets
NPL	Non-Performing Loans to Total Loans
EPS	Earning Per Share
MPS	Market Price Per Share
DPS	Dividend Per Share
VIF	Variance Inflation Factor
NFRS	Nepal Financial Reporting Standards
IFRS	International Financial Reporting Standards
GAAP	Generally Accepted Accounting Principles
SPSS	Statistical Package for the Social Sciences

CHAPTER 1: INTRODUCTION

1.1: Background of the Study

Mergers and Acquisitions (M&As) are among the new business strategies in the Banking and Financial institutions (BFIs[1]) in the Kingdom of Nepal. After the country adopted a multi democracy system[2] in 1990, it witnessed many changes in several different sectors such as BFIs, roads and transport services, telecommunication sectors, educational facilities, health services, and the tourism and hospitality industry (Government of Nepal 2019b). A shift in government policies and law and the adoption of liberalisation policies have helped to increase financial activities in the country. Therefore, sustainable financial sectors development plays a key role in the long-term economic development in the country (International Monetary Fund 2019).

According to the Nepal Rastra Bank[3] (NRB) BFIs data at the end of July 2020, there are 27 commercial banks (See Table 1.5), 20 development banks, 22 finance companies, 85 microfinance companies, and 1 infrastructure development bank currently operating their businesses (Nepal Rastra Bank 2019a, 2019b, 2020) - see Table 1.1 and Table 1.2). Table 1.1 gives an overview of the growth of BFIs in the last thirty years, and how the overall BFIs benefited from the liberalisation policy of the government. Similarly, 39 insurance companies, one reinsurance company, one employee's provident fund, and savings and co-operative currently operate in the country (See Table 1.2).

The BFIs have occupied a significant share in the total assets and liabilities structure of the financial system. The share of BFIs in total assets and liabilities of the financial system stood at 78.66% in July 2020 i.e.; commercial banks 65.65%, development banks 6.14%, finance companies 1.83%, microfinance companies 4.84%, and infrastructure development bank (NIFRA) 0.20% (Government of Nepal 2019a) (See

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1 Banking and Financial Institutions (BFIs) denotes the commercial banks, development banks, finance companies, and microfinance. BFIs are divided into different categories. Category 'A' denotes commercial banks, 'B' denotes development banks, 'C' denotes finance companies, and 'D' denotes microfinance companies.

2 Royal dynasty rules formally abolished with new Constitution which formally adopted multiparty democracy system in the country.

3 Nepal Rastra Bank is the regulator body of BFIs.

Table 1.10). On the other side, contractual saving institutions such as insurance companies have 6.51% share, Employee Provident Fund (EPF) 5.79%, Citizen Investment Trust (CIT) 2.69%, and Reinsurance companies 0.22% share of total assets and liabilities on the total financial system. Similarly, according to the financial stability report 2019/2020, the share of co-operatives in the total financial system falls from 8.30% to 5.70% in mid-July 2020 compared to the previous year 2018/2019 (Nepal Rastra Bank 2020).

Table 1. 1: Overview of Growth in the Banking and Financial Institutions (BFIs)

Types of BFIs	1990 (July)	1995 (July)	2000 (July)	2005 (July)	2010 (July)	2012 (July)	2015 (July)	2016 (July)	2018 (July)	2019 (July)	2020 (July)
Commercial Banks	5	10	13	17	27	32	30	28	28	28	27
Development Banks	2	3	7	26	79	88	76	67	33	29	20
Finance Companies		21	45	60	79	69	48	42	25	23	22
Microfinance		4	7	11	18	24	38	42	65	90	85
Infrastructure Development Banks										1	1
Total	**7**	**38**	**72**	**114**	**203**	**213**	**192**	**179**	**151**	**171**	**155**

Source: NRB Development Bank Supervision Report 2019/2020

Table 1. 2: Number of BFIs and Other Institutions

Banks and Financial Institutions	Mid-July 2015	Mid-July 2016	Mid-July 2017	Mid-July 2018	Mid-July 2019	Mid-July 2020
Commercial Banks	30	28	28	28	28	27
Development Banks	76	67	40	33	29	20
Finance Companies	47	42	28	25	23	22
Microfinance Financial Institutions	38	42	53	65	90	85
Infrastructure Development Banks						1
Sub-Total	**191**	**179**	**149**	**151**	**170**	**155**
NRB Licensed Cooperatives	15	15	15	14	-	-
NRB Licensed FINGOs (With limited banking activities)	27	25	25	24	-	-
Insurance Companies	26	26	26	38	39	39
Reinsurance Company	1	1	1	1	1	1
Sub Total	**69**	**67**	**67**	**77**	**40**	**40**
Securities Market Institutions						
Stock Exchange	1	1	1	1	1	1
Central Depository Company	1	1	1	1	1	1
Stockbrokers	50	50	50	50	50	50
Merchant Bankers	16	17	24	25	30	32
Mutual Funds	5	6	9	9	9	14
Credit Rating Agencies	1	1	1	2	2	2
Depository Participants*	53	66	65	70	72	76
ASBA BFIs*	0	0	0	65	52	52
Sub-Total	**74**	**76**	**86**	**88**	**93**	**100**
Employees Provident Fund (EPF)	1	1	1	1	1	1
Citizen Investment Trust (CIT)	1	1	1	1	1	1
Postal Saving Bank	1	1	1	1	1	1
Deposit and Credit Guarantee Fund	1	1	1	1	1	1
Credit Information Center Limited (CICL)	1	1	1	1	1	1
Social Security Fund	-	-	-	-	-	1
Total	**339**	**327**	**307**	**321**	**308**	**301**

* Figures adjusted from earlier published figures because of delicensing of NRB Licensed cooperatives and NRB Licensed FINGOs.

$ BFIs repeated as ASBA BFIs and Depository Participants not included in Total.

Source: Nepal Rastra Bank

As a regulatory body of BFIs, NRB has introduced the Merger by Law 2011, to enforce objective financial stability on BFIs, strengthening their capital base, expanding their branches to the rural areas, investing in technology, and exercising economies of scale (Nepal Rastra Bank 2015). NRB revealed the monetary policy in 2015-2016, in which a minimum paid-up capital of banking and financial institutions was essential. 'A' class commercial banks required Rs 8 billion from Rs 2 billion, the national development bank 'B' class from Rs 640 million to Rs 2.5 billion, and finance companies' 'C' class from Rs 300 million to Rs 800 million by mid-July 2017 (Nepal Rastra Bank 2015). Despite the paid-up capital raised by NRB in 2015, M&A have successfully worked at reducing numbers in the development banks and finance companies. However, the M&A policies have had little success in decreasing numbers of 'A' class Commercial Banks in the country (See Table 1.3). Therefore, there is an issue being debated by the policymakers of the Government of Nepal (Ministry of Finance) and NRB as to whether they should apply the active and forceful mergers policies to the banking sectors to decrease the number of commercial banks to aid the sustainable growth of banking sectors in the future. The issues to be debated are whether the country needs 27 commercial banks and whether it should encourage mega-mergers for the commercial banks in order to control the liquidity crunch, manage unhealthy competition, and aid in developing efficient and reliable banking to compete with foreign banks in the future (Nepal Rastra Bank 2020). As reported by Sharma (2019) in the fiscal year until June 2019, NRB summoned the chairperson and chief executive officers of all 28 commercial banks to submit written commitments about possible M&A is according to the regulations set by the monetary policy 2015/2016 and 2019/2020.

Table 1. 3: BFIs pre-merger and post-merger data

Sectors of BFIs and their categories	Pre-merger 2012 (July)	No of Branches (March 2020)	Post-merger 2020 (Jan)	Current mandatory capital requirement
Commercial banks (A)	32	4218	27	Rs 8 billion (AU$102.5million)
Development banks (B)	88	1216	23	Rs 2.5 billion (AU$32.5million)
Finance Companies (C)	69	239	22	Rs 0.8 billion (AU$10.3million)
Microfinance(D)	24	4019	89	Depends on wholesaler & Retailer

Source: Developed for this study

1.2: Overview of BFIs structure and their financial performance

An overview of the growth of BFIs in Nepal began in 1990. BFIs have had significant growth in the last three decades due to fiscal policy changes, regulations, and liberalised policies.

The BFIs of Nepal have mainly been divided into four sectors with their defined rules, functions, and responsibility.

Table 1.4 gives an overview of BFIs total assets/liabilities and their percentage share starting from 2015 to 2020.

Table 1. 4: Structure of the Nepalese Financial Sector (Assets/ Liabilities or Sources/Uses)

Financial Institutions	Mid-July				*(Amount In Billion Rupees)*	
	2015	2016	2017	2018	2019	2020
Commercial Banks	1,774.50	2,184.81	2,621.23	3,104.27	3687.33	4,413.57
Development Banks	300.64	350.84	305.07	374.70	486.31	413.42
Finance Companies	108.00	103.44	82.60	96.01	112.54	122.49
MFIs	70.88	100.77	133.91	175.61	273.02	325.16
Cooperatives	265.55	385.72	396.53	388.13	491.93	383.14
NIFRA						28.96
Employees Provident Fund	195.90	224.85	251.28	292.16	346.64	388.71
Citizen Investment Trust	67.67	83.01	99.10	114.06	148.90	180.71
Insurance Companies	129.45	158.24	185.89	260.31	347.15	437.32
Reinsurance Company	6.15	6.26	6.85	10.04	12.14	15.09
Social Security Fund						28.96
Total	**2,918.77***	**3,597.96***	**4,082.4***	**4,815.29***	**5,905.96***	**6,722.54***
Market capitalisation (NEPSE)	989.40	1,889.45	1,856.82	1,435.13	1567.5	1,792.76
Total (incl. market capitalisation)	**2,918.77**	**5,487.40**	**5,939.28**	**6,250.42**	**7,473.41**	**8,515.30**
Percentage Share (Excluding NEPSE Market Capitalisation)						
Financial Institutions						
Commercial Banks	60.80	60.72	64.00	64.29	62.26	65.65
Development Banks	10.30	9.75	7.45	7.76	8.21	6.14
Finance Companies	3.70	2.88	2.02	1.99	1.90	1.83
MFIs	2.43	2.80	3.27	3.64	4.61	4.84
NIFRA						0.20
Cooperatives	9.10	10.72	9.68	8.04	8.30	5.70
Employees Provident Fund	6.71	6.25	6.14	6.05	5.85	5.79
Citizen Investment Trust	2.32	2.31	2.42	2.36	2.51	2.69
Insurance Companies	4.44	4.40	4.54	5.39	5.86	6.51
Reinsurance Company	0.21	0.17	0.24	0.21	0.20	0.22
Social Security Fund						0.43
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100**

Source: Financial Stability Report 2018/2019, Nepal Rastra Bank

* Figures adjusted from earlier published figures because of delicensing of NRB Licensed cooperatives and NRB Licensed FINGOs as well as licensing of NIFRA.

1.2.1: Commercial Banks

Commercial banks are classified as ‘A’ class licensed banks by the NRB. Commercial banks predominately dominate BFIs, and most commercial banks are the dominant privately owned financial institutions globally. The history of the banking sector began from the year 1937 after the establishment of the Nepal Bank Limited (NBL), Nepal Rastra Bank (NRB) in 1956, and Rastriya Banijya Bank (RBB) in 1966. Since 2005, the growth of commercial banks increased rapidly due to an increase in the economic activities and scope of financial institutions needed in the rural part of the country to fulfil the demands of the public for banking services, mobilising deposits and investments in the different sectors in different parts of the country (Shrestha 2005). According to the NRB Annual Report 2020, the performance of commercial banks is divided into public (state-owned) and private (non-state-owned) based on ownership and control. There are three state-owned banks and 24 private banks, including five joint-venture banks at the end of April 2021 (Nepal Rastra Bank 2021).

Table 1. 5: Lists of Commercial Banks in Nepal (Mid-January 2020)

S.No	Name	Symbol Trading NEPSE	Paid-up Capital (In Rs[4] Billion) to (Au $Million)	Operation Date	Ownership
1	Agriculture Development Bank Ltd	ADBL	14.448 (Au $168.78)	21/01/1968	Government- 51% General Public- 49%
2	Bank of Kathmandu Limited	BOKL	9.658 (Au $112.83)	14/07/2016*	Promoter – 51% Public- 49%
3	Civil Bank Limited	CBL	8.643 (Au $100.97)	17/10/2016*	Promoter- 60% Public- 40%
4	Century Commercial Bank Limited	CCBL	8.857 (Au $103.47)	10/03/2011	Promoter- 54% Public- 46%
5	Citizen Bank International Limited	CZBIL	11.662 (Au $136.24)	20/04/2007	Promoter- 51% Public- 49%
6	Everest Bank Limited	EBL	8.894 (Au $103.91)	18/10/1994	Promoter- 70% Public- 30%
7	Global IME Bank Limited	GBIME	21.632 (Au $252.71	04/09/2019*	Promoter- 70% Public- 30%
8	Himalayan Bank Limited	HBL	10.684 (Au $124.32)	18/01/1993	Promoter- 85% Public- 15%
9	Kumari Bank Limited	KBL	13.878 (Au $162.13)	03/04/2001	Promotor- 51% Public- 49%
10	Laxmi Bank Limited	LBL	10.695 (Au $124.94)	03/04/2002	Promoter- 51% Public- 49%

4 One Australian dollar equivalent to Nepalese Rupees (Rs) 85.60 as on 28 September 2021 according to official exchange rate NRB

S.No	Name	Symbol Trading NEPSE	Paid-up Capital (In Rs[4] Billion) to (Au $Million)	Operation Date	Ownership
11	Machhapuchchhre Bank Limited	MBL	9.053 (Au $105.76)	09/07/2012*	Promoter- 66.56% Public- 33.45%
12	Mega Bank Limited	MEGA	14.655 (Au $171.21)	13/05/2018*	Promoter- 70% Public- 30%
13	Nabil Bank Limited	NABIL	13.845 (Au $161.74)	12/07/1984	Promoter- 60% Public- 40%
14	Nepal Bangladesh Bank Limited	NBB	9.005 (Au $105.19)	06/06/1994	Promoter- 51.65% Public- 48.35%
15	Nepal Bank Limited	NBL	12.637 (Au $147.63)	15/11/1937	Government- 51% Public - 49%
16	Nepal Credit and Commerce Bank Limited	NCCB	10.315 (Au $120.51)	01/01/2017*	Promoter- 51% Public- 49%
17	Nepal Investment bank Limited	NIB	16.257 (Au $189.92)	09/03/1986	Promoter- 70% Public- 30%
18	NIC Asia Bank limited	NICA	11.564 (Au $135.09)	30/06/2013*	Promoter- 51% Ordinary- 49%
19	NMB Bank Limited	NMB	16.326 (Au $190.73)	18/10/2015*	Promoter- 52.04% Public- 47.96%
20	Prime Commercial Bank Limited	PCBL	16.083 (Au $187.88)	24/09/2007	Promoter- 51% Public- 49%
21	Prabhu Bank Limited	PRVU	11.347 (Au $132.56)	12/02/2016*	Promoter- 55% Public- 45%
22	Rastriya Banijya Bank Limited	RBBL	9.004 (Au $105.19)	02/05/2018*	Government-100%

S.No	Name	Symbol Trading NEPSE	Paid-up Capital (In Rs[4] Billion) to (Au $Million)	Operation Date	Ownership
23	Sanima Bank Limited	SANIMA	9.682 (Au $113.11)	15/02/2012*	Promoter-51% Public- 49%
24	Nepal SBI Bank Limited	SBI	9.494 (Au $110.92)	07/07/1993	Promoter-70% Public- 30%
25	Sidhhartha Bank Limited	SBL	10.962 (Au $128.06)	21/07/2016	Promoter-51% Public - 49%
26	Standard Charted Bank Limited	SCB	8.573 (Au $100.15)	28/02/1987	Promoter- 70.3% Public- 29.7%
27	Sunrise Bank Limited	SRBL	9.488 (Au $110.84)	12/10/2007	Promoter- 51% Public- 49%

Source: Developed for this study

*Joint operation date after the merger

The private banks are further divided into domestic banks and joint-venture banks. The lending of Commercial Banks of Nepal lending is governed under the Banks and Financial Institutions Act (BAFIA), 2017, which replaced the previous BAFIA of 2006, Finance Company Act of 1985, and Commercial Bank Act of 1974. BAFIA, 2017 prescribed that it is mandatory that all BFIs issue a minimum of 30% of shares to the general public.

Despite the declining trend of commercial banks after introducing the M&A policy and implementation of the capital plan, commercial banks increased their branches and business. As a result, total deposits, loans and advances, capital funds, total assets, and net profit increased significantly in the last five years (see Table 1.6). The total deposits of commercial banks increased from Rs 2,878.80 billion to Rs 3489.39 billion in 2019/2020. The deposit of public banks grew by only 0.93%. However, the private banks grew by 25.63% in the year 2019/2020. Likewise, loans and advances of commercial banks increased from Rs 2878.80 billion to Rs 3489.39 billion in 2019/2020. Loans and advances of public banks grew by only 9.66%, but private banks have increased by 18.20%.

Similarly, the total assets of commercial banks increased from Rs 3548.82 billion to Rs 4284.83 billion in 2019/2020. However, public banks' total assets grew by 14.95% compared to private banks by 20.54% (Nepal Rastra Bank 2020). The total net profit of commercial banks increased significantly from Rs 19.85 billion in 2013/2014 to Rs 63.80 billion in 2018/2019. However, the net profit of commercial banks decreased from Rs 63.80 billion to Rs 54.32 billion in the year 2019/2020. The decline of net profit of 14.86% in 2019/2020 was due to the size of non-performing loans (NPL), Covid-19 impacts, and a decline in the net interest spread rate. Table 1.6 gives an overview of the operational performances of commercial banks in the last seven years, starting from 2013/214. As seen in Table 1.6, the total deposit of commercial banks increased more than 15% every year, but the total loans and advanced increased more than the deposits collected. Consequently, this unbalance between the deposit growth rate and loans and advances growth rate creates a liquidity crunch and instability in the interest rate. The total assets of commercial banks increased more than 19% yearly, but the increment in the total assets major components comes from the increase in the total loan portfolio. Similarly, the consolidated capital fund of commercial banks increased significantly in the last seven years due to ongoing M&A, issue of bonus and right shares, and increase in the statutory reserve.

Table 1. 6: Operational Performance of Commercial Banks

	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
	Amounts in Rs. Billion						
1. Deposits	1204.21	1462.96	1694.68	2014.31	2328.14	2878.8	3489.39
Relative Change (%)		21.49	15.84	18.86	15.58	23.65	21.21
2. Loans and Advances	877.72	1068.82	1371.45	1715.89	2080.53	2482.16	2903.59
Relative Change (%)		21.77	28.31	25.12	21.25	19.30	16.98
3. Total Assets	1396.55	1672.49	2098.2	2524.83	2968.28	3548.82	4246.83
Relative Change (%)		19.76	25.45	20.33	17.56	19.56	19.67
4. Capital Fund	144.29	169.36	228.138	303.28	372.07	439.93	504.67
Relative Change (%)		17.37	34.71	32.94	22.68	18.24	14.72
5. Net Profit	19.85	28.12	35.59	48.61	51.86	63.80	54.32
Relative Change (%)		41.66	26.56	36.58	6.69	23.02	-14.86
5. NPL	**2.91**	**2.57**	**1.74**	**1.70**	**1.67**	**1.49**	**1.81**

Source: Developed for this study based on the NRB Annual Bank Supervision Report 2013 to 2020.

1.2.2: Development Banks

Development banks are 'B' class banks licensed by NRB. Development banks are further classified into two types: national level and province/regional level (1-3 districts level, and ten districts level). According to the NRB Annual Development Bank Supervision Report 2019/2020, 8 national development banks and 12 regional banks are operating their business until mid-July 2020. As seen in Table 1.7, the growth in the size of development banks increased significantly from 2005 to 2015 and reached the highest number of 88 in 2012. The government of Nepal opened the door for the private sector after the introduction of the Development Bank Act 1995 to enhance agriculture, small business and industry, and public access to banking services and products that the commercial banks in the remote parts of the country were not facilitating.

Therefore, surges in the development banks in the last ten years created financial instability due to a surge in the NPL, and depositors were highly affected. The growth rate in the NPL percentage and lack of corporate governance in the development banks creates major problems. These issues need to be addressed by the NRB through the M&A strategy to consolidate the development banks. The development banks effectively involved the M&A process. As a result, the number of development banks reduced [5] significantly from 88 to 20 to become resilient and competitive banks. Despite the ongoing BFIs consolidation process, development banks total assets, capital funds, deposits collection, and loans and advances were increasing trends in the last six years (see Table 1.7). However, in 2019/2020, total assets of development banks declined by 13.77%, capital fund by 23.14%, deposit by 10.935, loans and advances by 16.82%, and net profit by 46.56% (see Table 1.7). The main reasons for the decline in the performance in 2019/2020 were that the commercial banks acquired six development banks, a declining trend in remittance inflows, Covid-19 impacts, and an increase in the NPL by almost 40%.

5 Table 1, and 2 gives the current and past trends of development banks in Nepal.

Table 1. 7: Operational Performance of Development Banks

	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
	Amount in Rs. Billion						
1. Total Assets	242.26	291.56	334.84	295.55	364.75	468.32	403.81
2. Capital Fund	31.02	37.17	43.16	65.02	49.84	58.07	44.63
3. Deposit	196.87	237.06	278.19	239.04	301.99	398.34	354.79
4. Loans and Advances	159.55	193.47	232.59	209.3	253.24	345.17	287.11
5. Net Profit	3.17	5.42	7.1	6.12	6.01	7.41	3.96
6. NPL	**3.37%**	**2.82%**	**5.17%**	**1.28%**	**1.09%**	**0.90%**	**1.48%**

Source: Developed for this study based on the NRB Annual Development Bank Supervision Report 2013 to 2020.

1.2.3: Finance Companies

Finance companies are classified as 'C' class licensed companies by the NRB and allowed to collect deposits from the general public. As seen in Table 1. 1, finance companies grew rapidly before 2012. The number started to fall thereafter after the M&A policy. As seen in Table 1.8, the size of total assets of finance companies increased by 41.77% in the last five years due to growth in the loan portfolio by 41.25%. However, the net profit of finance companies declined significantly by 116% in the year 2019/ 2020 from Rs 1.49 to Rs 0.69 billion. This is due to a decline in the number of finance companies acquired by the development banks and commercial banks in the last two years and increased NPL percentages after the Covid-19 impacts.

Table 1. 8: Operational performance of Finance Companies

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Amount in Rs. Billion					
1. Total Assets	80.65	67.72	83.25	99.55	114.04
2. Capital Fund	12.53	10.78	13.43	14.50	14.97
3. Deposit	61.53	50.06	61.98	74.53	87.51
4. Loans and Advances	50.35	43.89	56.63	64.30	71.12
5. Net Profit	1.94	1.90	1.35	1.49	0.69
6. NPL	**5.70%**	**3.08%**	**2.70%**	**2.41%**	**2.97%**

Source: Developed for this study based on the NRB Annual Finance Companies Supervision Report 2015 to 2020

1.2.4: Microfinance Financial Institutions (MFIs)

MFIs are classified as 'D' class licensed institutions by NRB. MFIs in Nepal are supervised and regulated by the central bank, unlike other countries in the south Asian regions. Microfinance provides financial support to the unemployed or low-income groups who have no access to financial services through social mobilisation and accelerate poverty in the regional parts of Nepal (Dhakal 2008). Microfinance institutions are divided into wholesale and retail lending. However, after the M&A policy, commercial banks, development banks, and finance companies exhibit decreasing trends, but MFIs are increasing in numbers from 2012, which has a negative impact on the financial stability of BFIs. The main reason for the growing trend of MFIs is due to the profit motive rather than social services. Besides these, the promoters of MFIs had intentions to list the MFIs shares in the NEPSE for wealth maximisation[6]. There were 85 MFIs operating their lending business till mid-July 2020 (see Table 1.1), 4 are wholesale lending, and the rest are the retail lending MFIs. Table 1.9 shows the increasing trend of total assets, capital fund, deposits, loans & advances, and Net profit of MFIs in the last five years. The net profit of MFIs in 2019/2020 declined by 53.79% compared to the previous year due to an increment in the NPL as a result of the Covid-19 impacts and ongoing M&A deals between the MFIs.

Table 1. 9: Operational performance of Microfinance Financial Institutions (MFIs)

	2015/2016	**2016/2017**	**2017/2018**	**2018/2019**	**2019/2020**
Amount in Rs. Billion					
1. Total Assets	94.17	124.47	166.97	259.86	302.84
2. Capital Fund	10.83	14.89	19.89	30.01	37.35
3. Deposit	74.80	100.26	137.51	212.07	248.31
4. Loans and Advances	77.24	106.63	145.96	235.15	262.72
5. Net Profit	2.92	3.52	3.81	6.19	4.81
6. NPL	**0.91**	**0.79**	**0.98**	**1.11**	**2.02**

Source: Developed for this study based on the NRB Annual MFIs Supervision Report 2015 to 2020

6 The share price of all the MFIs listed in the NEPSE is higher than the commercial banks share due to the low supply of MFIs shares in the market.

1.3: Research problems and Questions

The overwhelming growth of BFIs in a short period creates unhealthy competition among them in the deposit collection processes and loan disbursement. This competition becomes more widespread due to the surge in the numbers of saving & co-operatives[7], and microfinance companies in both the rural areas and bigger cities. It is important to note that BFIs categories 'A'; 'B'; 'C'; and 'D' (see Table 1.1, & 1.3) have defined roles, duties, and functions. However, due to the size of the economy and the limited market, these BFIs and saving cooperatives are performing similar functions, namely, loans and deposits. It may be argued that it is a banking system that is poorly controlled by the regulatory bodies, and this promotes unhealthy competition in the market and a reduction of efficiency in the sectors.

Concerns were raised by the NRB in the 2008-2009 fiscal year about the investment decisions of BFIs in real estate sectors and other unproductive divisions as opposed to engaging in loans from other productive sectors[8] such as in Agriculture, Hydro/Energy, and Tourism industries. The BFIs investment strategies in the real-estate sectors resulted in massive defaults when this sector slowed during the period 2008-2013, and their financial performances were severely impacted (The World Bank 2017). Nevertheless, the large credit facilities are mostly accessed by the specific groups and sectors who have close links with the Board of Directors (BOD), and promoter shareholders of the BFIs. Therefore, rapid credit expansion in the BFIs raises concerns about the quality of lending and underlying risks in the banking system. Furthermore, these problems created a liquidity crunch and high-interest rates in the market (Nepal Rastra Bank 2020). Corporate governance in the BFIs is a significant problem in Nepal (The World Bank 2017) and other developing economies. In

7 Saving and Cooperatives are supervised by the Department of Cooperative. According to Economic Survey Report 2019/2020 published by Ministry of Finance (Government of Nepal) there are altogether 34737 cooperatives at the mid of March 2019 with share capital equivalents to Rs 76.34 billion from 6512340 shareholders.

8 Productive sectors include agriculture, energy, and tourism. NRB has directed BFIs to invest certain percentages of loans to the productive sectors of economy to facilitate the sustainable economy growth of the country. Commercial banks are required to invest 25% of their total loans to the productive sectors i.e., 10 % on agriculture, and 15 % on hydropower and tourism. Similarly, development banks and finance companies must invest 10% agriculture, and 15% hydropower and tourism.

developing countries, markets are limited and less efficient. Therefore, the demands of corporate governance are higher priorities (Claessens & Yurtoglu 2013). There have been several corporate governance failures[9] in the BFIs and more issues in the co-operative sectors(Nepal Rastra Bank 2015).

NRB increased the four-time paid-up capital[10] of BFIs through monetary policies in the fiscal year 2015 over a short period (Nepal Rastra Bank 2015) to consolidate the BFIs in the country. However, to fulfil the minimum capital requirement, BFIs had two options: to issue new shares; or acquire or merge with other financial institutions or banks. These options had a positive impact on the benchmark index of the Nepal Stock Exchange[11] (NEPSE), and the market price of listed financial institutions increased dramatically after that period (Nepal Stock Exchange 2018). Even though the NRB directed BFIs to increase paid-up capital in a short time, the majority of national-level banks, development banks, and finance companies fulfilled the capital requirement through the issuance of bonuses and the right shares (Securities Board Of Nepal 2018). The Securities Board of Nepal[12] (SEBON) Annual Report 2017/2018

9 Fraud and scandal cases in Nepal Bangladesh Bank, Nepal Bank Limited, Lumbini Bank Limited, Grand Bank Limited, and Kist Bank Limited. NRB needed action for Kist Bank as board of directors and chief executive officer were involved in fraud cases.

10 In the monetary policy 2015/2016 published in July 2015, NRB directed to BFIs to fulfilled minimum new capital requirement by mid July 2017. Commercial banks need Rs 8 billion from Rs 2 billion, development banks need Rs 2.5 billion from Rs 640 million, and finance companies needs Rs 0.8 billion from 300 million. Those BFIs who fail to meet to new capital requirement will be subject to restrictions in terms of new branches, and restrictions on declaring dividend or bonus shares.

11 Nepal Stock Exchange (NEPSE) is the sole stock exchange in Nepal. There are 255 companies listed in the NEPSE till 20 May 2020. Among them 196 companies are tradeable. Listed traded companies are dominated by the BFIs shares i.e., 80-85% on daily transactions amounts.

12 Securities Board of Nepal (SEBON) regulates the securities market which includes the stock exchange, listed companies, merchant bankers, brokers, central securities depositors, credit rating agency, and mutual funds.

confirmed that the effect of bonuses, right shares[13], and follow on public offer[14] (FPO) created an ample supply of shares in the secondary market (Securities Board Of Nepal 2018). As a consequence, the price of BFIs listed shares fell drastically, which pushed the NEPSE index in a bearish trend after 2017, and shareholders' wealth was severely affected after M&As (NEPSE and SEBON Annual Report, 2018/ 2019).

Nevertheless, the M&A policies[15] have had little success in decreasing the number of 'A' class Commercial Banks (see Tables 1.1 & 1.3) in the country (NRB, 2019). Therefore, a mega-merger was needed in the banking industry to ensure the stability of the country's financial sectors, overcome shortages of investable funds in the commercial banks, eliminate cross-holdings of the same promoters, and prepare the banks for future challenges.

Based on the current gaps of M&A in Nepal, the main research question is:

1. To what extent will M&A affect the financial performance of the commercial banks and individual banks pre-merger and post-merger?

1.4: Objectives of the Research Study

This research studied the effect of M&A on the financial performance of commercial banks in Nepal. Another area of study is whether the ongoing mergers bring positive or negative outcomes in the banking industries of Nepal. More specifically, the research aimed to:

- Understand the merger effect on commercial banks in terms of profitability, liquidity, leverage, and wealth of shareholders ratios.
- Investigate the significant difference in financial performance before and after the M&A.

13 BFIs raised additional capital from its existing shareholders by issuance of rights share to fulfill the mandatory capital requirement published by NRB in the fiscal year 2015/2016. With a rights issue there are more shares in the market which ultimately reduces the stock price in the stock market.

14 FPO is the issuance of additional shares made by a company after an initial public offering (IPO).

15 In line with the M&A policy of NRB, 196 BFIs have gone through M&A process as of mid-July 2020 forming 46 BFIs. At the same time, NRB revoked the license of 150 BFIs as they completed their M&A process. They no longer exist in the financial market in their names.

- Assess the overall impacts of M&A on the sample banks as a group and as individual banks.
- Overview of the returns of shareholders and its benefits and problems in the context of Nepal in the pre-merger and post-merger periods.
- Review the overall result and empirical research of the M&A in the global context focused on the emerging countries to set a map route for this study and future research in the context of Nepal.
- Summarise the study's findings and suggest a framework for better planning of M&A in the context of Nepal.

1.5: Significance of the Study

This research provided insights into the ongoing M&A of the commercial banks of Nepal from 2013 to 2020. The research will investigate the effect of M&A on the financial performance in the banking sectors and problems that may arise from the process of M&A after the introduction of 'Mergers Bylaw 2011'. The research analysed the impacts of M&A on the financial performance of sample commercial banks and individual banks separately based on the profitability, liquidity, leverage, and wealth of shareholders parameter in the pre-post-M&A period. In addition to this, this research covered the past research gap by using the latest data and focused on the commercial bank performance rather than the financial performance of small development banks and finance companies in terms of size and market share percentages. It has been observed that commercial banks are a dominant force and have significant assets and shares in the BFIs and are the backbone of the Nepalese economy. Therefore, this research evaluated the effect of M&A on the financial performance of commercial banks after the capital implementation in the pre-post M&A period, revealing the positive or negative outcomes. This research has significant importance for the BFIs who are interested in taking part in the ongoing M&A deals in Nepal about how to gain a competitive advantage in the competitive market in the national and global context. Hence, this research is meaningful for the policymakers and regulatory bodies to enforce M&A policy and review its existing M&A law to motivate the BFIs for M&A deals in the future targeting the commercial banks. Similarly, this research is significant to investors and shareholders, both existing and potential who wish to make decisions concerning the effects of M&A. Furthermore, the research reveals whether the M&A bring positive outcomes and result in synergy, cost efficiency, market expansion, and profitability in the ongoing M&A deals between BFIs. This research is necessary to future researchers and readers because of the depth of analysis of the financial performance of commercial banks in the pre-post M&A period in developing countries, as the majority of current empirical studies are based on developed countries.

1.6: BFIs M&A trends in Nepal

Consolidation of BFIs through M&A is a new concept in Nepal. Although in the global context, M&A in the banking industry in Europe and the U.S are most prevalent before 2000. Most deals in M&A in the banking industry in developed economies proved that it brings synergy, cost-saving, diversification risk, efficiency, and profitability in the long-run period.

However, after the liberalisation policy in 1990, the tremendous growth of BFIs in a short period created financial instability in the BFIs. As a result, NRB introduced ‘Mergers Bylaws 2011’ to enforce the financial stability in the BFIs and strengthen the financial sectors and their operational efficiency. Before 2015, few M&A occurred in the BFIs, but the phase of M&A deals started to increase after the NRB introduced a new mandatory capital requirement of BFIs through monetary policy 2015/2016. According to the NRB financial stability report 2019/2020, 196 BFIs have undergone M&A forming 46 BFIs at mid-July 2020. In the last ten years after the ‘Mergers Bylaw 2011’ was introduced, 229 BFIs underwent the merger process, and the NRB revoked 171 BFIs due to the cessation of the business. Among them, five commercial banks, 71 development banks, and 79 finance companies no longer exist due to the implementation of the M&A process (see Table 1.2). The ongoing M&A deals between the BFIs after the M&A policy in the line with a new capital requirement of BFIs successfully reduced the number of development banks and finance companies but were unsuccessful in reducing the commercial banks. However, in 2020/2021, two commercial banks (NIB and HBL), two development banks, 19 MFIs are still on the ongoing M&A process, and deals have not been finalised yet.

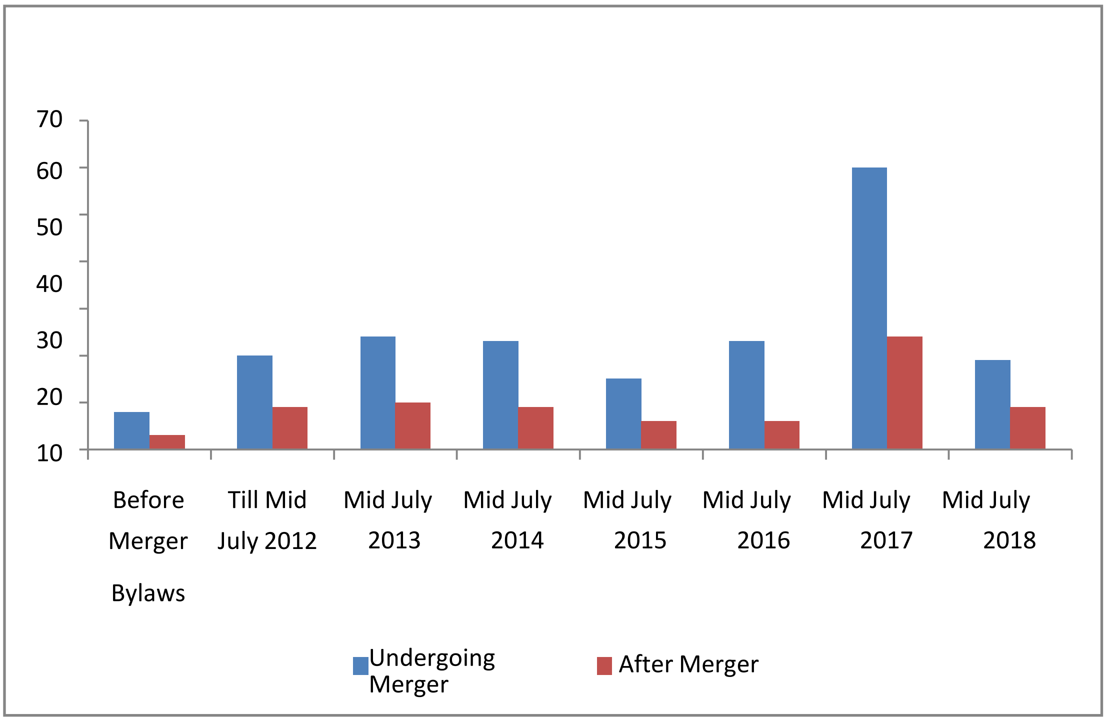
On the other hand, Table 1.10 shows that the assets share of commercial banks in BFIs was 83.61% in the year 2020 compared to 78.83% in 2015. This increasing trend in terms of assets share of commercial banks from 2015 was due to the acquisition of development banks and finance companies. Likewise, the assets share of development banks on BFIs decreased due to the merger with commercial banks and development banks. In 2020, the assets share of development banks was 7.83% compared to 13.34% in 2013. Similarly, the assets share of finance companies in 2020 was 2.40% compared to 5.80% in 2014. This result indicates that M&A policy has the more significant impact on development and finance companies as its assets shares declined significantly due to declining numbers of development banks and finance companies (see Table 1.10). However, the assets share of MFIs was increased from 2.20% in 2013 to 6.16% in 2020. Thus, the increasing trends of assets share MFIs on the BFIs due to increasing MFIs numbers in the last seven years.

Table 1. 10: Assets share of the BFIs

BFIs	**% Share as of mid-July**							
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Commercial Banks	78.20	78.00	78.73	79.74	83.41	82.76	80.88	83.61
Development Banks	13.00	13.60	13.34	12.81	9.71	9.99	10.67	7.83
Finance Companies	6.60	5.80	4.79	3.78	2.63	2.56	2.47	2.40
Micro Finance	2.20	2.60	3.14	3.68	4.26	4.69	5.99	6.16
Total	100	100	100	100	100	100	100	100

Source: NRB Bank Supervision Report 2019/2020

Figure 1. 1: Status of BFIs Merger



Source: NRB Financial Stability Report 2018

Similarly, Table 1.11 shows the M&A deals of Commercial banks in Nepal from 2004 to 2020. The merger between the commercial bank and commercial bank is rare; only four cases are found in the entire history of commercial banks in Nepal. However, in 2021, two commercial banks (NIB and Himalayan) have signed a memorandum of understanding (MoU) to merge, and the deal is not yet finalised. The complete list of deals of commercial banks with associated development banks and finance companies is presented in Table 1.11.

Table 1. 11: Merger and Acquisitions deals of Nepalese Commercial Banks

S.N	Commercial bank Names after M&A	Acquired/Merged BFIs Names	Final Approval Date	Share SWAP Ratio	Type
1	Bank of Kathmandu Limited	Lumbini Bank Limited	08/07/2016	100:83	Merger
2	Century Commercial Bank Limited	Sagarmatha Finance Limited	31/05/2017	100:95	Acquisition
		Innovative Development Bank Limited		100:85	Acquisition
		Araniko Development Bank Limited		100:90	Acquisition
		Alpine Development Bank Limited		100:93	Acquisition
		Seti Finance Limited		100:70	Acquisition
3	Citizen Bank International Limited	Sahayogi Vikas Bank Limited	24/06/2020	100:91.75	Acquisition
		Premier Finance Limited	09/04/2015	100:28	Acquisition
		Nepal Housing and Merchant Finance Limited		100:40	Acquisition
		Peoples Finance Limited		100:40	Acquisition
4	Civil Bank Limited	Unique Finance Limited	15/06/2017	100:90	Acquisition
		Hama Merchant and Finance Limited		100:89	Acquisition
		International Leasing & Finance Company Limited	27/09/2016	100:74.72	Mergers
		Axis Development Bank limited	36/04/2014	100:79	Mergers
		Civil Merchant Bitiya Sanstha Limited		100:79	Mergers
5	Global IME Bank Limited	Janata Bank Nepal Limited	20/12/2019	100:85	Mergers
		Hathway Finance Limited	01/09/2019	100:42	Acquisition
		Reliable Development Bank Limited	09/07/2017	100:82.9	Acquisition
		Pacific Development Bank Ltd	12/02/2017	100:69.26	Acquisition
		Social Development Limited	09/07/2013	100:40	Merger
		Gulmi Bikash Bank Limited		100:50	Merger
		Commerz & Trust Bank Limited	03/04/2014	100:65	Acquisition
		IME Finance Limited	25/06/2012	100:79	Merger
		Lord Buddha Finance Limited		100:70	Merger
6	Kumari Bank Limited	Kasthamandap Development Bank Limited,	26/06/2017	100:85	Acquisition
		Mahakali Bikash Bank Limited,		100:86	Acquisition
		Kakrebihar Bikash Bank Limited		100:87	Acquisition
		Paschimanchal Finance Limited		100:88	Acquisition

S.N	Commercial bank Names after M&A	Acquired/Merged BFIs Names	Final Approval Date	Share SWAP Ratio	Type
7	Laxmi Bank Limited	Professional Diyalo Development Bank Ltd. Hisef Finance Limited	26/12/2006 02/04/2004	100:50 100:100	Acquisition Merger
8	Macchapuchhre Bank Limited	Standard Finance Limited	25/12/2006	100:85	Merger
9	Mega Bank Nepal Limited	Gandaki Bikas Bank Limited Tourism Development Bank Limited Pashchimanchal Development Bank Limited	24/06/2020 22/04/2018	100:100 100:95 104.25:67	Acquisition Merger Merger
10	Nepal credit & Commerz Bank Limited	Infrastructure Development Bank Limited Apex Development Bank Limited Supreme Development Bank Limited International Development Bank Limited.	05/12/2016	100:76 100:47 100:77 100:72	Merger Merger Merger Merger
11	Nepal investment bank Limited	Himalayan Bank Limited City Express Finance Limited Jebil's Finance Limited Ace Development Bank Ltd	Ongoing 10/07/2019 10/07/2019 13/07/2017	Not fixed 100:30 100:33 100:41	Merger Acquisition Acquisition Acquisition
12	NIC Asia Bank Limited	Bank of Asia Limited		100:50	Merger
13	NMB Bank Limited	Kanchan Development Bank Limited Om Development Bank Limited Pathibara Bikas Bank Bhrikuti Bikas Bank Clean Energy Development Bank Prudential Finance	Ongoing 19/09/2018	Not fixed 100:76 100:67 100:87 100:75 100:43	Acquisition Merger Merger Merger Merger Merger
14	Prabhu Bank (Kist Bank Limited)	Kist Bank Limited Prabhu Bikas Bank Limited Grand Bank Nepal Limited Gaurishankar Development Limited Zenith Finance Ltd.	06/08/2014	107.31:97.31 100:107.31 121.45:65:58 107.31:107.31 107.31:92.31	Acquisition Acquisition Acquisition Acquisition Acquisition
15	Prime Commercial Bank Limited	Lalitpur Finance Limited Kailash Bikas Bank Limited Biratlaxmi Bikash Bank Limited Country Development Bank Ltd.	Ongoing 01/03/2020 03/04/2017 03/04/2017	Not Fixed 100:94 100:75 100:40	Acquisition Acquisition Acquisition Acquisition
16	Sanima Bank Limited	Bagmati Development Bank Ltd.	16/12/2016	100:41	Acquisition

S.N	Commercial bank Names after M&A	Acquired/Merged BFIs Names	Final Approval Date	Share SWAP Ratio	Type
17	Siddhartha Bank Limited	Business Universal Development Limited	05/06/2016	100:55	Merger
18	Sunrise Bank Limited	Srijana Finance Limited NIDC Capital Market Limited Narayani National Finance	Ongoing 26/01/2017	Not fixed 100:65 100:77	Acquisition Acquisition Acquisition
19	Nepal Bangladesh Bank Limited	Nepal Bangladesh Finance limited Nepal Sri Lanka Merchant Finance Limited	18/09/2007 02/01/2011	100:50 100:50	Merger Merger
20	Everest Bank Limited	No M&A			
21	Himalayan Bank Limited	Nepal Investment Bank Ltd	ongoing	Not finalized	Merger
22	Nepal SBI Bank Limited	No M&A			
23	Standard Charted Bank Limited	No M&A			
24	Nabil Bank Limited	No M&A			
25	Agriculture Development Bank Limited	No M&A			
26	Nepal Bank Limited	No M&A			
27	Rastra Banijya Bank Limited	NO M&A			

Source: Developed for this study

1.7: Major provisions and process of M&A BFIs in Nepal

BFIs of Nepal must follow the following process for the M&A according to Bank and Financial Institutions Act (BAFIA), 2017 (amendments ‘Mergers by law 2011’), chapter 10 articles fulfilling the sections starting from 69 to 75, and Company Act, 2006. The following are the major provisions of M&A in the BFIs.

- Article 69 sub-section (1) of BAFIA, 2017 states that commercial banks, development banks, and finance companies can merge but not microfinance companies. Microfinance can merge only within the same class no other class (BAFIA, 2017) article 69 sub-section (2).
- NRB can force BFIs to merge or be acquired if the inspection and supervision report of NRB found that its capital fund[16] is inadequate or the financial position deteriorated in the last three years, or there have been adverse effects on depositor’s interests and through increased liabilities which threatens the

16 According to the NRB capital adequacy framework (2015), commercial banks need to maintain capital adequacy rate 11%, development banks 10%, and finance companies 10%.

financial stability and systems in the national and internal context (BAFIA, 2017) article 69 sub-section (3).

- Likewise, NRB can ask BFIs to go to a merger or be acquired if; one or more BFIs belongs to single persons, firms, and companies; unable to pay its liabilities due to the systematic risk; right and interest of depositors and ordinary shareholders not protected due to the negative financial impacts; lack of corporate governance issues arises from the conflict of BOD; shares not issued to an ordinary group within the prescribed time; inability to fulfil the minimum capital requirement of BFIs; or due to ignoring the rapid reform requirement prescribed by NRB more than three times or reformatory punishment being imposed more than three times (BAFIA, 2017) article 69 sub-section (4).

The following are the major step that BFIs need to follow for the M&A process in Nepal.

Step 1: BFIs Board of Directors' meetings decide to form a merged committee for the merger process.

Step 2: BFIs call a special annual general meeting to approve the merger process from the shareholders, and the majority of shareholders need to agree on the merger agenda.

Step 3: Merger BFIs signed the MoU and signed joint MoU documents submitted to NRB for the Letter of Intent (LOI). After the signed in MoU by concerned BFIs, MoU documents sends to NEPSE and SEBON. As a result, NEPSE halted the share trading of concerned BFIs unless M&A deals were not completed.

Step 4: LOI issued by the NRB after the initial studies of concerned BFIs documents.

Step 5: BFIs must conduct a DDA report within six months after receiving LOI. The DDA consists of detailed information about assets, liabilities, net worth, capital adequacy, liquidity condition, the structure of loans and deposit mix, staff composition & management, market share, share swap ratio, branch network, and the market price of concerned BFIs.

Step 6: NRB gives the final approval for joint transactions after studying financial statements, MoU, DDA report, share swap ratio, business plans, and name of the concerned BFIs after the final M&A deals between the concerned BFIs.

1.8: Facilities to Promote Mergers for Commercial Banks

M&A was less effective in commercial banks after introducing the 'Merger by Law' in 2011. Therefore, to voluntarily promote M&A in the commercial banks, the central bank has relaxed in derived sector lending[17], statutory liquidity ratio, cash reserve ratio, credit to deposit ratio, spread rate, a limit on deposit percentages, and cooling period for directors and senior's staff.

According to the NRB Monetary Policies, 2020/2021, the following facilities are granted to the commercial banks if the M&A deals are completed till 2021/2022, and their joint transaction of merged bank completed before mid-July 2023.

- Relaxation on the provisions of compulsory derived sectors lending by one year. Commercial banks are required to invest 5% of total loans and advances to the derived sector.
- Discount of 1% on the statutory liquidity ratio (SLR) and 0.5% on cash reserve ratio (CRR). The mandatory CRR ratio for BFIs is 3%, and the SLR ratio of commercial banks is 10%, development banks 8%, and finance companies 7%, respectively.
- Limit on the institution fixed deposit increased by 10%, and individual institutions deposit by 5%.
- The existing provisions of the cooling period of six months will not apply to BOD members and senior's staff joining other BFIs in Nepal.
- The current Spread rate ratio (difference in the loans and deposit rate) of commercial banks is 4.4% which is further relaxed by 1% for merged commercial banks.
- The current provision of credit to deposit (CD ratio) of commercial banks is 90%. In the previous year, NRB monitored the BFIs by credit to core capital plus deposit (CCD) ratio by 85%. However, the new CD ratio is relaxed to merger banks if they crossed the prescribed rate. This means the merger bank has a further one-year time to maintain the CD ratio after the integrated transaction.

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17 Derived sectors lending refers to small loans provided to rural and poor people for small projects. The objectives of this loans to promote financial inclusion and establish banking habit of formal banking in the rural areas.

- Permission is not required from NRB to close the branches within 1 K.M after the commencement of joint operation of merger banks.

1.9: The complexity of M&A in the BFIs in Nepal

The M&A history of BFIs in Nepal is not long as compared to the global context. Therefore, certain problems arose after the introduction of 'Merger by Law 2011' in the initial deals between BFIs in Nepal. As cited by Raju et al. (2015) found the major challenges of BFIs in Nepal were swap ratio, formation of BOD, human resources, and IT issues. However, commercial banks merger complexity is outlined in the following points:

- In the ongoing merger deals between commercial banks in Nepal, brand name plays an important issue in the success or failure of merger deals. In the negotiation deals, both commercial banks do not want to lose their brand name and image.
- The share swap ratio is determined through the DDA (Due Diligence Audit) report by the independent auditors. However, most M&A failures in the BFIs are associated with the share swap ratio. As per these reasons, NRB provides guidelines and a formula for the determination of the share ratio between M&A BFIs. Therefore, in the merger deals between the commercial bank, shareholders of merged bank want an initial agreement of share swap ratio before the DDA report.
- The composition of BOD and Seniors employees is another factor that makes the commercial bank hesitant for merger deals. The merger entity wants to know how many BOD members and shareholders are represented in the newly formed merger entity and which Chief Executive Officers (CEO) lead the newly merged entity. Besides these, integrating human resources, particularly junior employees, is not a big problem but integrating senior staff becomes a significant problem due to the personal ego, positions issue, and corporate cultural clash.

1.10: Overview of Research Methodology

This research used the positivist approach and quantitative method to analyse the effect of M&A on the financial performance of commercial banks in the pre-post-merger period. The quantitative data was collected from the annual reports of seven sample banks covering the period 2013 to 2020. Similarly, the collected data were analysed using Microsoft excel, descriptive statistics, and paired sample t-test using SPSS. The collected data are highly reliable and accurate as it is published audited annual reports, bank supervision reports, and financial stability reports from NRB. The financial performance of the pre-merger was compared with the post-merger performance analyzing eighteen dependent variables covering the indicators such as profitability, liquidity, leverage, and wealth of shareholders ratios. Their significant difference in the pre-post-merger period is measured through paired sample t-test and testing hypothesis results.

1.11: Expected Contribution of Research

This research examines the M&A practice of BFIs in Nepal and provides detailed insight into the current burning issues presented in the Nepalese financial market. This research reveals significant issues for the Nepalese BFIs to assist them to understand the exact impact of M&A on their financial performance, long-term growth, profitability, and return to the shareholders. Hence, the findings of this research are useful to the Government of Nepal, policymakers, and other regulatory bodies for enhancing the overall BFI sectors. It will be a source of excellent reference for a future research study on the topic of M&A in the banking and financial sectors in developing countries. This research further contributes to the existing literature on the effects of M&A on financial performance in the banking sectors in developing countries.

The contribution of this research is significant to the regulatory body NRB and the Government of Nepal to rethink whether the results are as intended when the M&A was initially introduced in the BFIs. Besides these, the research will also be necessary to many stakeholders in the banking industry of Nepal as it studies the financial performance of commercial banks before or after the mandatory capital increment. The banks that are being merged in the future will overview the condition and impact of M&A in the banking industries and make possible strategies to make it successful. The shareholders or potential investors will have an overview of the impact of M&A in the Nepalese BFIs. They will be able to analyse the trends and growth of the merged banks and pull out or invest more money in the banks according to their interest.

1.12: Structure of the study

This thesis has seven chapters. Chapter: 1 is the foundation of this research study. It begins with the background of the study covering the current position of BFIs and past trends. Then, it discusses BFIs structure and snaps shots of financial performance starting from 2013 to 2020 with the key indicators such as total assets, capital funds, deposits, loans & advances, net profit, NPL. In addition, this chapter explores the research problems and questions and their main objectives and significance for the study. Besides this, this chapter discussed M&A trends in the BFIs in Nepal, focusing on the deals in the commercial banking sector. Finally, the chapter concluded with an overview of the research methodology and highlighted the research thesis structure and contribution.

Chapter 2 reviews the literature review of empirical studies. This chapter begins with terms and definitions of M&A and its types. Then, this chapter overviewed the motives of M&A in the banking sectors in the global context and focuses on the synergy theory and market expansion theory. In addition, it reviewed past empirical studies and methods used to measure the financial performance impact in the pre-post-M&A period in the banking sectors, mainly focusing on developing countries. This research summarised accounting performance measure impacts on financial performance in the banking sectors before and after the M&A periods.

Chapter 3 discusses a detailed financial performance analysis and hypothesis development developed for this research based on the financial performance covering key indicators of profitability, liquidity, leverage, and wealth of shareholders parameters. Therefore, this research model is the basis for the hypothesis development of this study covering eighteen dependent variables to measure the impacts of M&A on the financial performance of selected commercial banks in Nepal. Chapter 4 discusses this study's research methodology, which is essential in completing the research study. This chapter begins with discussing research paradigms, philosophical positions, and justification of the methodological choice adopted in this study. In addition, it discusses the ethical consideration and research design adopted for this research study. This chapter further discusses data collection procedures, sampling techniques, and a brief introduction of sample banks. Finally, this chapter concludes with data analysis techniques to answer the research question formulated in chapter 1 using accounting performance measure and paired sample t-test by using SPSS.

Chapters 5 and 6 are an important part of this research work as they help to transform the raw data into a meaningful and presentable form. Chapters 5 and 6 discuss the data presentation and analysis by comparing the financial performance differences in the pre-post M&A period and hypothesis tests results of 18 variables developed in Chapter 3. Chapter 5 discusses the results of the effect of M&A on the financial performance of commercial banks in the pre-post-merger period comparing their differences. Testing of hypotheses and results follow this. Chapter 6 discusses and analyses the results for individual banks separately in form of the impact of M&A on the financial performance in the pre-post-M&A period measuring the significant difference and testing the hypothesis results. Chapter 7 summarises the major findings of the studies based on the empirical findings of Chapters 5 and 6. This chapter presents conclusions, the limitation of the research, contributions, and recommendations for future research.

1.13: Conclusion

This chapter provided the introduction of the topic and background of the research problem identified. Then, the research questions were presented, and an overview of the methodological framework was presented to address the research questions. The significance and contributions of the study were discussed, along with the outline of the thesis, which is based on the effect of M&A on the financial performance of commercial banks and individual banks in Nepal. Therefore, past and current development of BFIs status and their financial performance are briefly outlined for the depth understanding of research questions.

However, the key performances indicators show that commercial banks financial performance increased significantly due to the increment of the capital plan and business growth in the last five years. However, due to the declining numbers in development banks and finance companies after the M&A, their financial performance started to slow down after 2019/2020. The ongoing M&A deals in the BFIs significantly threatened the existence of development banks and finance companies. The commercial banks are not interested in the M&A deals between the commercial bank due to lack of facilities of M&A and complexities of M&A arising from share swap ratio, brand names, management, and cultural clash. After reviewing the background of the study, BFIs structure & their financial performances, existing M&A law & facilities, and complexities of M&A, the next chapter presents a literature review and conceptual framework and hypothesis development of M&A effect on the financial performance in Chapter 2.

CHAPTER 2: LITERATURE REVIEW

2.1: Introduction

The chapter begins with the concept of M&A, different types of M&A, motives of M&A including key synergy theory, and literature review of empirical studies. The review of empirical studies based on the accounting performance measures the impacts of M&A on the banking industry's financial performance focuses on emerging countries. The empirical literature will review the event study impacts of M&A on the stock market reaction, followed by studies done in the context of Nepal.

2.2: Concept of Mergers and Acquisitions

The terms ‘mergers’ and ‘acquisitions’ are inter-related and interchangeable (Sherman & Hart 2006). However, there are some differences between them. In general, the words Mergers and Acquisitions refers to the consolidation between the companies. The word 'mergers' is referred to when two or more companies decide to form a new single company. In other words, a merger is a combination of two corporations in which one survives and others completely fade out of existence (Gaughan 2010). Mergers make firms stronger and more competitive, bringing skills, talents, and knowledge and establishing their strong presence in the business or corporate world. On the other hand, acquisitions are the purchase of one company by another or buying the assets of one company by another prominent company (Cartwright & Schoenberg 2006). In general, acquisitions refer to companies or firms taking complete control of other firms or companies' assets, including the management of companies along with other companies fading out of existence.

2.3: Different Types of Mergers

There are different types of mergers in common practice: horizontal, vertical, and conglomerate (Cartwright & Schoenberg 2006; Weston et al. 2010; Gauchan 2011).

In simple terms, ‘Horizontal Mergers’ are defined as mergers between two similar firms that operate in the same industry (Gaughan 2010). It involves the mergers between two banks with similar products or services, technology, and customer base from a banking perspective. These mergers create synergies between the banks, eliminate competition, and increase the bank’s market share (Pesendorfer 2003). Thus, horizontal mergers boost the bank's revenue and eliminate competition and promote a strong presence in the market through the innovation of new products and services.

On the other side, 'Vertical Mergers' occur when two or more companies that sell different goods and services in the same industry or supply chain combine their business in the different stages of production (Gaughan 2010). For example, vertical mergers are more common in the automobile industry, pharmaceutical industry, and car manufacturing companies. In simple terms, a vertical merger combines two or more companies in the same industry but produces different goods and services. Generally, there are two types of vertical mergers forward and backward merger (Gupta 2012). For example, the mergers between the toy manufacture and supply chain of toy stores are typical examples of the forward merger. On the other hand, a merger between car manufacturers with a tyre store is a typical example of a backward merger. Unlike horizontal mergers, there is no competition in the industry in a vertical merger. Still, one company works with another company to increase their synergy through business expansion, reducing the operating costs, and increasing efficiency and effectiveness in the operations (Hitt et al. 2009).

In contrast to horizontal and vertical mergers, 'Conglomerate Mergers' are mergers of two companies whose business is entirely unrelated to each other. Conglomerate mergers combine firms in the same industry or supply chain but at different geographic locations. A typical example of the conglomerate merger is the merger between PayPal and eBay in 2002. However, both companies split in 2015 (ebay 2014) due to the rapidly changing business environment in the e-commerce industry. The main advantage of a conglomerate merger is to diversify the risk, decrease agency costs, and enable managers to control the firm through diversification of business to improve shareholders' wealth (Darayseh & Chazi 2018).

This research only focuses only on horizontal mergers in the banking sectors of Nepal as the regulator bodies of BFIs in Nepal are only interested in the consolidation of BFIs.

2.4: Motives of M&A

Different theories are investigated to explain the main motives of M&A in the banking sector. Such theories include synergy theory, the market and corporate control theory, and the free cash flow theory. These theories are considered to enhance the financial performance after the M&A (Mantravadi & Reddy 2008). According to Neary (2007), they are two major reasons for the M&A in business organisations; efficiency gain and strategic rationale. The efficiency gain is achieved when two firms integrate and used their resources jointly together. The strategic rationale is achieved through the M&A process, which leads to changes in the structure of the combined entity that positively impacts the company's profitability. Seth (1990) suggests that M&As occur in the financial industry due to value-maximising theories and managerial theories. However, the author posits that there is no clear evidence that M&A increases the value of the firm. Most of the past research in the banking industry produces mixed evidence that M&A creates value for the shareholders. The findings of Ayadi et al. (2013) suggest that M&A results create the shareholders' value through market power or efficiency gain. This view contradicts the findings of (Liargovas & Repousis 2011; Kalra et al. 2013), whose results suggests M&A does not create shareholders' wealth. The study conducted by DeYoung et al. (2009) summarises 150 recent studies on M&A in financial institutions. The findings show that literature prior to the year 2000 suggests that efficiency improved in financial institutions in Europe, USA and North America more broadly. However, event study literature showed mixed results about the wealth effect on shareholders. Similarly, post-2000 literature suggests the impact of M&A on the bank performance in the U.S and Europe have produced mixed results on geographic and product diversification and resulted in adverse impacts on depositors, borrowers, and other external stakeholders (DeYoung et al. 2009).

There are different motives for M&A suggested by the different authors. It is difficult to pick certain motives as diversification, tax considerations, and management incentives differ according to the financial institution's strategy. However, there is no single motive. Rather there are multiple motives that drive the M&A activities (Mukherjee et al. 2004; Ravenscraft & Scherer 2011; DePamphilis 2019). According to (Napier 1989), there are two motives; financial motive and managerial motive. The first types of motives of the merger are the financial motives or value maximising motives, including growth, synergy, diversification, market power, and integration. The second types of motives are managerial or non-value maximising motives, including improved management, tax motives, improved research, and improved distribution.

Pasiouras et al. (2005), suggests two reasons (economic and non-economic) that affect M&A decisions. Economic reasons are associated with internal factors of banks such as synergy, managerial motives, and hubris motives. On the other hand, non-economic reasons are related to external factors such as regulations & laws, economic conditions, technological growth, globalisation, and other external factors. However, both factors aim is to maximise the shareholders' wealth, although there is an agency problem in the corporate world (Pasiouras et al. 2005). These motives are consistent with the studies of banking sectors in Kazakhstan (Smirnova 2014). This study concluded that the main motives of M&A that drive Kazakhstan banking sectors are internal motives and external motives (Smirnova 2014). The main reasons for the internal motives of M&A are the desire to grow, raise share capital, increase revenue, increase the clients, diversify the products, and strengthen the financial position (Smirnova 2014). The external motives of M&A of the banks are economic, legal-political, and technological (Smirnova 2014). From these studies, the following M&A motives are regarded as important reasons for the M&A in the BFIs in Nepal.

2.4.1: Synergy Theory

Synergy is an important factor that determines whether the M&A between the banks is successful or not in terms of economic benefit and utilisation of resources through innovation of new products and services and increasing image of the bank. All shareholders or investors are interested in the synergy or efficiency output when two bank mergers and their combined efforts perform better in the market than single bank performance (Gaughan 2010). According to the efficiency theory, when the M&A occurred between two banks, shareholders of both banks were able to achieve financial gains. Their value positively contributed to the wealth of the shareholders of the combined bank (Adegboyega 2012). According to the synergy theory, three types of synergy effect increase the shareholders' wealth: financial, managerial, and operational synergies (Bradley et al. 1988; Seth et al. 2000).

The main source of the operating synergy is to reduce the combined bank's operating costs. Operating synergies are generated through combined efforts from economies of scale and scope and market power. The economies of scale for firms or merged banks are derived through cost-cutting in product and research development, sales and marketing, administrative costs, and operating expenses by improving operating performance (Mantravadi 2008, 2020). In addition, merged banks reduce costs through closing redundant branches, and by consolidating systems, administrative, processing, and payment systems (Pasiouras et al. 2005). Economic scope is achieved when two merged banks share their broad ranges of services and products to the expansion of new products through reductions in staffing costs and adopting new technology that will give them a competitive edge in the business. The market power generated through newly acquired firms results in a strong presence in the market which increases the revenue through its market share. Therefore, operating synergies are generated by reducing costs and revenue enhancement created from economies of scale, economic scope, and market power from the combined operations of two merged banks (Seth 1990; Gaughan 2010; Hankir et al. 2011).

Financial synergy refers to reductions of the cost of capital of the combined banks after the M&A or reductions of the costs of capital of the acquired bank. According to the financial synergy theory, the cost of capital of merged banks was reduced through risk diversification, consolidation of debt, and tax-saving on investment income (Weston & Chung 1990). As a result, the merged bank becomes more competitive than a single bank. It raises debt capital with lower costs and increases profitability through investment opportunities and tax benefits that resulted from financial synergies (Misigah 2012). Financial synergy can be achieved through short-term or long-term goals (Lev 1983). For example, short-term financial synergies are achieved through tax effects, improved liquidity, and price-earning activity. Long-term synergies provide stabilised earnings, increased debt capacity, and increased capital redeployment (Sugiarto 2000).

Managerial synergies refer to the efficiency of managing the operations of two banks rather than the one bank. The merged bank creates managerial synergies through the improved decision-making of management. This is achieved through improved skills, knowledge, and managerial expertise that gives additional value and competitive advantages to the merged banks (Kimetto 2019). Other authors argue that managers could use mergers for their personal interest rather than the enhancement of shareholders' wealth(Ghosh & Ruland 1998). In modern days, managers in banking M&A have less power as the firms provide share price options to buy another firm (Sugiarto 2000). Consequently, operational, financial, and managerial synergies are the key motives driving the bank involved in the M&A.

2.4.2: Market and Corporate Control Theory

One of the motives of M&A deals in the banking sector is to achieve market power. Power theory motivates the firms to consolidate the business, capture the market share, products, and services, and influence the price offered in the market (Hitt et al. 2000). M&A is one of the strategic tools used by firms to expand their business through external growth. Expansion of the business of the firm through internal growth is a slow process. The rapid expansion of the business reflects the power theory for the expansions of the business (Firth 1980; Focarelli et al. 2002). For example, small banks have a market share in the regional parts of the country, so larger banks need to expand their market share presence in the regional or urban parts through the target of small banks. By increasing market share, there will be a reduction in the number of banks, leading to less competition and enabling banks to charge higher prices for products and services. In developing countries like Nepal, one of the key motives of banks involved in the M&A deals is to expand their business in the regional area and capture the market share to increase their profitability and reduce competition. This approach is driven by power control which indirectly creates a monopoly in the banking sectors in Nepal. However, in developed countries like U.S., and Europe, the bank monopoly is controlled by the regulator bodies.

This research explored the financial performance impacts in the banking sectors of Nepal in the pre-post-M&A periods. Financial performance impact studies explore the root of the motives of mergers of the banking industries. Therefore, the motives of the M&A are a strategic move that should be understood by the bank's shareholders, board of directors, managers, and employees that have connections to the bank's financial performance.

2.5: Literature Review of Empirical Studies

Most of the studies about the manner in which M&A impacts the banking sectors focus on the United States of America and Europe (Hannan & Wolken 1989; Piloff & Santomero 1998; Becher 2000; Vallascas & Hagendorff 2011; Pastor & Veronesi 2012). These studies focus on the performance achieved through economies of scale, cost reduction, and reduced earnings volatility. Thus, consolidation and performance gains in the market are positively valued.

Anna (2008) studied the M&A situations in the Deutsche Bundesbank and the European Central bank last twenty years. In his findings, he concludes that merged institutions must exhibit cost efficiency levels above those of non-merged banks. Anna posits that success is more successful in the co-operative banks. Cost efficiency and profitability are the 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 post-merger periods. These authors used the Merton distance to default (DD) model[18] to estimate merger-related changes in the default risks of bidding banks. The findings concluded that mega-mergers in the banking sector depend on the bank's ability to manage risk effectively. Increased default risk creates a critical question about stability in the banking sector.

Following the Asian financial crisis in 1997, many countries underwent structural economic reforms. The consolidation of domestic banking in these countries involved the primary strategy of government as a ‘watchdog’ (Sufian & Habibullah 2014). In July 1999, the Malaysian central bank announced a forceful merger in 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 sectors. Their findings suggest that M&A have resulted in more productivity after the post-merger periods. Hence merger synergies have been created after the post-merger periods. Although the larger banks have more advantages from the advancement of technology in the global context, the consolidation of small banks helped survive the financial crisis.

2.5.1: Related studies based on the Accounting Performance Measures

Accounting performance analysis is one of the well-known methods reported in the literature used to measure the effect of M&A on the financial performance of banks or companies. Accounting performances measure the assets, revenues, and liabilities of the two banks or firms before and after the M&A period. Accounting performance analysis measures the impact of M&A on the financial performance as it measures the actual accounting numbers, thereby supporting an evidence-based analysis of the financial statement of both target and acquiring companies or for combined new firms.

18 Merton Model is used to analysis the credit risk of the company and how the company meet its financial obligations.

Meeks and Meeks (1981) developed a theoretical framework based on an accounting basis to measure the efficiency changes in the pre-post-merger periods of merging firms’ profitability. Similarly, Hitt et al. (1998) conclude that accounting studies based on the principle of synergies theory and synergistic gains of M&A are reflected in the analysis of return on assets and return on equity of merging firms. However, it is hard to measure synergies gain in the short-run period of evaluating accounting performance measures. Potential synergies of acquired banks and acquirer banks can be evaluated in the long-term periods through the accounting-based performance measures (Harrison et al. 1991).

Badreldin and Kalhoefer (2009) examined the effects of M&A on the financial performance of ten Egyptian banks that had undergone M&A during the period 2002-2007. The studies sample banks chosen from the M&A of domestic banks and cross-border domestic banks. These authors used the ratio analysis focusing on basic ROE scheme performances in the pre-post-merger period. The findings found that Egyptian banks' profitability did not improve after the M&A due to the cultural barriers of the target and acquired banks. Still, the minor changes are reflected in the credit risk positions of the banks. Therefore, the study suggests that positive performance may be reflected where there is a similar strategy of the partner banks who exhibit similar assets structures, credit risk strategies, and profitability performance measures in the long-run period.

Kemal (2011) studied the post-merger profitability of the Royal Bank of Scotland (RBS) using 20 accounting ratios from 2006 to 2009. Their findings show that the financial performance of RBS was better in the pre-merger period compared to the post-merger period as only six ratios improved out of 20 financial ratios in the post-merger period. The study concludes that the financial performance of RBS (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, lack of accounting reporting standards, and efficiency.

Similarly, Abbas et al. (2014) studied the financial performance impacts of M&A in the pre-post-merger in the ten-sample bank of Pakistan during 2006-2011. To measure financial impacts, the researchers used financial ratios (profitability, liquidity, and efficiency) using paired sample tests of the sample banks. The study concluded that in ten out of 15 financial ratios, the impacts of M&A are insignificant. They identified that a few ratios improved in the post-merger period. Three profitability ratios such as EPS, spread ratio, and interest expenses to income ratios have significant impacts on M&A, and these ratios grow negatively in the post-merger period due to debt financing and rising interest expense. However, the other five profitability ratios only slightly improved after the M&A. However, these improvements are not statistically validated. The findings suggest significant differences in two liquidity ratios, such as cash and cash equivalent and investment to total assets, but the overall liquidity position of the banks is not affected by the M&A. The findings of leverage ratios such as debt to equity ratio, total deposit to total equity, and capital ratios show insignificant differences in the pre-post-merger period. However, the overall financial performance decreased in the post-merger period due to the impact of the financial crisis in 2007, globalisation and the revolution in banking sectors, increment in the operating costs, ineffective M&A deals, and a lack of a proper framework of M&A. These findings are consistent with the findings of Irfan Shakoor et al. (2014) studies that M&A have a negative impact on the financial performance of Pakistani banks.

Lai et al. (2015) investigated the impacts of financial performance and efficiency level of selected local banks of Malaysia. In this study, the sample of nine local banks was selected from 1999 to 2010. In this review, ratios analysis, paired-sample t-tests, and data envelopment analysis[19] (DEA) were used to measure the financial performance impacts on local banks. The findings show that most of the ratios did not significantly improve. The study concludes 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 demands of loans, increasing staffing costs, the impact of the financial crisis, resulting in poor economic conditions.

Furthermore, Shah and Khan (2017) conclude that the financial performance of the banks being acquired deteriorated after the post-merger periods in Pakistan. The study measures the financial performance impacts of M&A of the acquiring 16 sample banks during the period 2002 to 2010 by using paired sample t-test. The acquired bank's financial performance was measured with profitability, liquidity, and capital adequacy

19 DEA is a non-parametric test to measure the product efficiency

ratio analysis during the pre-post-merger periods. The findings show that profitability ratio (ROA, ROE to total assets), liquidity ratio (cash to cash equivalents), and capital adequacy ratio also declined. This resulted in an unfavourable outcome for acquiring banks in the post-merger periods reporting significant changes in the post-merger period. The findings of the studies suggest that banks should invest in their resources rather than participate in ineffective merger deals. However, the results of the findings may be different on the individual bank analysis. In contrast, the findings by (Muhammad et al. 2019b) conclude that profitability, liquidity, and investment ratios have a positive impact and are significant except solvency ratios after the M&A.

Mantravadi and Reddy (2008) studied the post-merger operating performance of acquiring companies in the different sectors in India, particularly Agri-products, chemicals, textile products, banking and finance, and electronic equipment firms. The study covers the period from 1991 to 2003 by using ratio analysis and paired sample t-test. The studies found a marginal improvement in the profitability of banking and finance as compared to other sectors, although the improvement was not statistically significant after the M&A. However, M&A had caused a significant negative impact on the profitability and return on investment ratios of chemical and Agri-products industries. The findings conclude that M&A had improved the operational costs efficiencies, resulting in increased profitability margins. However, the efficiencies did not convert to higher profits due to the increase in debt after the M&A.

Sinha and Gupta (2011) studied M&A impact on the Indian financial sectors from 1993 to 2010. The study analysed eighty companies that had undergone M&A during eighteen years. The effects of mergers were measured using multiple tests such as ratio analysis, Mann Whitney Test[20], OLS regression, and F-test rather than the t-test. The study found that M&A had a positive impact on the profitability (Net profit, and profit before interest, tax, depreciation & Amortisation ratio), a negative impact on the liquidity (current ratio), and a reduction on total and systematic risk. The authors also noted a positive impact on the profit margin ratio indicating a higher return on the shareholder’s fund. The study concludes that after the M&A synergies were created,

20 It is a non-parametric test to test unpaired t-test and null hypothesis.

but the liquidity position did not improve due to a lack of proper capital structure management.

Adebayo and Olalekan (2012) studied the impact of M&A commercial bank performance in Nigeria by using correlation coefficient and t-test. The results found a significant relationship between profitability and capital base in the pre-post-merger period due to significant increment of revenue enhancement and the bank's consolidation process. The overall performance of banks increased after the M&A leading to an increase in the earning per share, dividend per share, stock value, and reduction in the insolvency risk. Similarly, the studies of Oloye and Osuma (2015) found that M&A is an effective weapon to achieve stability and profitability in the banking sectors of Nigeria. The study took a sample of two banks with the impacts of M&A measured through regression and correlation analysis[21]. The results found that shareholders' funds were positively significant to net profit after tax, and corporate restructure enhanced the bank's capital adequacy. Findings conclude that the M&A improved the shareholders' fund, public confidence, operational efficiency, and the financial stability of Nigerian banks. These findings are consistent with Elumilade (2010) studies who posited that M&A improved bank efficiency and competitiveness in Nigerian banking sectors. Likewise, in his recent study, Rathinam (2016) concluded that the impact of M&A on financial efficiency in selected banks in India contributed positively and enabled banks to generate value after the post-merger period. The ratio analysis evaluates the post-merger period through profitability, liquidity, solvency, and efficiency parameters. Although the ratio analysis shows some variations in the results, overall post-merger periods have shown upward trends in profitability, liquidity, and efficiency in the banking industries.

Pahuja and Aggarwal (2016) studied the impacts of M&A on the financial performance of a selected sample of banks in India. This study measured the profitability of the selected banks and the average raw return from the security after the announcement of the M&A in the stock market. The study took the sample from nine banks that had undergone M&A from 2000 to 2014. The study used two methods to measure the impact of M&A on the financial performance ratio analysis to compare the significant

21 Correlation measures the relation between two variables. Regression analyses determine how one variable affects the other variables.

differences, and event study methodology to find significant differences in the share prices on the announcement date. This study shows no significant differences in the interest spread, cash flow margin, net profit margin, return on the long-term fund, return on net worth, adjusted return on net worth, and return on assets ratio in the pre-post-M&A. Furthermore, the authors also found no significant return from the stock (15 days before and 15 days after) the announcement of the M&A news. Agarwal et al. (2019) studied the effects of M&A on the performance of commercial banks in India from 2008 to 2018. The study selected four samples for the study, and their impacts of M&A in the pre-post-merger period were measured through five accounting ratios using the CAMEL[22] framework and paired t-test. The findings conclude that the M&A had significant effects on the performance of private commercial banks rather than public banks, although the impact on ratios varies on individual bank performances.

Abdulwahab and Ganguli (2017) studied the impacts of M&A on the financial performance of Banks in Bahrain. The study examined a sample of four banks out of 17 M&A deals that had undergone the M&A from 2004 to 2015. The impacts of M&A on the financial performance were analysed by using a comparison of fifteen CAMEL rating approaches as well as paired sample t-test of both the acquirer and the target banks. Results showed that overall financial performance was not significantly different in the pre-merger and post-merger periods. This study concludes insignificant financial performances of banks were due to the impact global financial crisis after 2007, the competitive market environment, and stricter regulatory requirements of the Central Bank of Bahrain (CBB). However, other studies found that the impacts of M&A improved the value of shareholders in the Bahraini banking industries (Bansal & Almalki 2020). The results found that 50% of mergers improved profitability after the M&A, indicating that banks gain more resources and reduce operational costs after the merger process. The authors used a questionnaire survey tool to analyse the data received from the 27 managers to investigate the impacts of M&A on the shareholder's wealth.

22 The CAMEL rating assesses bank overall financial position through capital adequacy, assets quality, management, earnings, and liquidity

Rammal (2021) studied the impacts of M&A on the efficiency of banks of Lebanon from 1996 to 2015. The study took a sample of 29 banks that were involved in M&A activities during the study period. The study applied two models in the input-oriented Data Envelopment Analysis approach (CCR and BCC models) and six management efficiency ratios to analyse the efficiency impacts after the M&A. The studies found that there were negative impacts on banks' efficiency under the CCR model under the DEA approach but no differences in the efficiency scores under the BCC model. However, results were mixed in reporting the management efficiency ratios. The improvement was seen in net operating income to equity ratios, net operating income to total assets, and non-interest income to total assets. Still, the negative effect was on net income to total equity ratios and total assets. Therefore, the findings conclude with mixed results after the analysis of different methodologies to examine the impact of M&A on the efficiency of the Lebanese banks. Table 2.1 provides a summary of studies undertaken in different countries to examine the impact of M&As on the accounting performance measures.

Table 2. 1: Studies Related Accounting Performance Measures

Author	Sample of study	Method	Ratios	Findings
Healy et al. (1992)	United States 50 public industrial firms post acquisitions Performance 1979 to 1984	Operating cash flow measure vs industry benchmark return	(Sales-costs of goods sold), (selling & administrative expenses + depreciations+ goods sold), (market value of equity +book value of new debt)	Post-merger increases the operating cash flow and abnormal return
Irfan Shakoor et al. (2014)	Pakistan 7 Banks 2002 to 2011	Ratio analysis	Profitability ratios (Return on equity, Return on Assets, Net profit margin, Gross profit margin, and Total assets turnover ratio) Liquidity ratios (Deposit to total assets, Advance to deposit, and Cash to Assets) Investment ratios (Return on investment, and earning per share) Solvency ratios (D/E, interest coverage, debt ratio)	The study showed that the effect of M&A on liquidity ratios has positive impacts, and the other three ratios, such as profitability, solvency, and investment, have a negative impact on the financial performance of the sample banks. The findings conclude it is too early to measure the impacts of M&A on short periods, but the impacts can be seen in the long-run period as the business expansion activities and bank's cost decreases
(Muhammad et al. 2019a)	Pakistan 15 Banks 2004-2015	Ratio' Analysis Paired sample t-test Rigour regression analysis	Profitability ratios (Return on equity, Return on Assets, Net profit margin, Gross profit margin, and Total assets turnover ratio)	The studies found that the improvement after the M&A was associated with the enhanced business, consolidation of resources, skills & talents, and market competitiveness after the

Table 2.1: Studies Related Accounting Performance Measures (continued)

			Liquidity ratios (Advance to deposit, cash to assets, current assets) Investment ratios (Return on investment, EPS) Solvency ratios (Debt to equity, interest coverage, debt service coverage)	M&A deals. The insignificant performance of solvency ratios related to increment of debt burden in the post-M&A period
Jallow et al. (2017)	United Kingdom 40 Companies 2006-2010	Descriptive statistics Paired sample t-test	Return on Assets (ROA) Return on Equity (ROE) Earnings per share (EPS) Net profit margin (NPM)	Significant decline of ROE, ROA, and EPS. The insignificant decline in NPM
Ahmed and Ahmed (2014)	Pakistan 12 Manufacturing Companies 2000 -2009	Ratio Analysis Paired sample t-test	Applied 14 accounting ratios that measure the profitability, liquidity, efficiency, and capital ratios	The study concludes that M&A impacts have differed according to industry sectors. The study suggests companies used M&A as an expansion strategy by organising and group consolidation of similar business industries to improve their financial performance.
Sujud and Hachem (2018)	Lebanese Bank Audi-Sardar Group 2000- 2007	Ratio Analysis Paired sample t-test	Profitability impacts on ROE, ROA, EPS	ROE, and ROA insignificant, and EPS significant. Merger bank does not guarantee higher profitability, and further study needed to examine the revenue enhancement after the M&A

Table 2.1: Studies Related Accounting Performance Measures (continued)

Al-hrrot et al. (2020)	Jordanian Banks ALHI bank 2001-2009	Ratio Analysis Mann-Whitney U Test	By using twelve financial ratios covering profitability, liquidity, leverage, and cash flow ratios	M&A has an overall insignificant improvement in the performance of the Jordanian banking sectors, although profitability ratios such as ROA, ROE, and Interest Margin (IM) ratios significantly improved in the post-merger period.
Rani et al. (2015)	India Long term performance of 305 acquiring firms involved in the M&A 2003-2008	Ratio Analysis Paired sample t-test DU Pont analysis	By using fourteen ratios comparing operating performance and profitability	The study found that the profitability of acquiring firms improved after the M&A. The results are due to the enhanced efficiency of fixed assets, synergises benefits from controlling expenses, and better management in the post-merger period.
Gupta (2015)	India 2 banks (merger of ICICI Bank and Bank of Rajasthan, the merger of HDFC Bank and Centurion Bank of Punjab) 2005-2014	Ratio analysis Paired sample t-test	Profitability ratios (net profit margin, return on assets, net interest margin) Performance indicators (Total income/capital employed, return on equity, capital adequacy ratio) Efficiency indicators (credit deposit ratio, CASA%, cost to income)	The positive impact of M&A. The findings conclude that most of the financial ratios improved significantly, particularly with CAR, ROA, NIM, NPM, and ROE in the post-merger period. In addition, due to the synergy gained after the M&A, these improvements in the financial ratios created efficiency that improved financial performance in the post-merger period.

Table 2.1: Studies Related Accounting Performance Measures (continued)

Patel (2018)	India 5 Banks 2003-2014	Ratio Analysis Paired sample t-test	EPS, yield on advances, the yield on investments, ROE, ROA, NPM, profit per employee, and business per employee	The findings conclude with mixed results as the few ratios such as earning per share, profit per employee, and business per employee positively impact four banks in the post-merger period due to the effective utilisation of human resources. Therefore, the results vary with the individual bank performance

2.5.2: Event Studies Measure

The event study methodology is a common method to measure the performance of companies as the result of an event (Kalra et al. 2013). This event may include issues of new debt, earning announcements of M&A announcements. Event studies can evaluate the effect of M&A on shareholders from both sides: the target company and the bidder. The evaluation is made by comparing the stock value of a firm during the specific period before and after the announcement of M&A. Therefore, using event studies will ascertain whether there is an abnormal return around the M&A announcement date. The announcement impacts are valid only if an abnormal return is significant. So, event study methodology becomes one of the well-known standard methods to measure stock price reactions on the stock market at the announcement date (Brown & Warner 1980, 1985). The primary purpose of using an event study is to test the null hypothesis that the market is efficient in terms of information and impacts on the wealth of the firm's security holders with the connection of market efficiency.

In other words, M&A has a significant impact on the shareholders’ wealth in merger strategies that are not driven by economic reasons (Chong et al. 2006). Their study concludes that forced bank mergers destroy shareholder wealth in the Malaysian banking sectors, and forceful alliances only happen due to government interventions for the consolidation of banking sectors and generally are a rare practice in the corporate world.

Liargovas and Repousis (2011) studied the impacts of M&A on the performance of the banking sectors in Greece from 1996 to 2009. The study is based on the six cases of M&A deals that involve five banks as an acquirer and six as a target out of the total sample of twenty-six banks. The study used event study methodology and operating performance methodology to analyse the impacts of M&A on the performance of the banks. The results of the event study methodology showed that both the bidders and target banks have significant positive abnormal returns (CAARs) at the stock price ten days prior to the M&A announcement (event of 30 days). However, overall results indicate that both target and acquirer banks have no impacts as a result of M&A and do not create shareholders' wealth and reject the efficient market hypothesis due to information leakage in the market. Similarly, twenty financial ratios results (profitability, productivity, operating, and liquidity indicators) showed moderate improvement after the M&A. But comparing the operating performance of merged banks with non-merged grouped banks, the results were different in operating performance.

In contrast, according to Kalra et al. (2013) M&A are vital drivers, and strategic decisions are taken for the expansion of the company's growth. Their study focuses on the investigation in the Indian banking industries to ascertain whether Indian banking achieved efficiency levels in the areas of profitability, liquidity, shareholders' wealth, and share price volatility. They used two models for the post-merger analysis of Indian banking performance: namely accounting approach measure (using nine variables) and standard event study approach during the period from 2000 to 2011. Firstly, a T-test was used to examine the financial performance of Indian banks before and after any merger. Secondly, the standard event study approach was used to determine the share price volatility (event window of 120 days) and the efficiency of the stock market after the announcement of M&A in the market. The results concluded that there was a significant improvement in the EPS, market value to book value of the equity after the post-merger periods. On the other hand, a paired sample test showed there was no significant difference in the financial performance pre-merger and post-merger, but the share price was severely affected in the short term (less than 30 days) and had no impact in the medium and long-term (60 to 120 days).

Crouzille et al. (2008), studied stock market reactions after M&A were announced in the eight Asian countries (Hong Kong, Indonesia, Malaysia, Philippines, Singapore, Korea, Taiwan, and Thailand). The study sampled events from 1997 to 2003 after the 1997 financial crisis in Asia to assess the abnormal return on these countries by using the event study methodology. The study concluded that the market reacted negatively to M&A during the period of the financial crisis (1997-2000) in Hong Kong, Singapore, and Taiwan, and the market reacted less in Indonesia, Malaysia, Philippines, Korea, and Thailand (Crouzille et al. 2008). The M&A in Hong Kong, Singapore, and Taiwan were market-driven mergers, but those in Korea, Malaysia, the Philippines, and Indonesia were government intervention. The results show that there was on average, a negative decrease in the value for the bank.

2.5.3: Empirical studies on the context of Nepal

There is limited research relating to the impacts of M&A in the banking and financial sectors in Nepal. In a recent study, Pathak (2016) studied 22 M&A deals relating to banking and financial institutions. The reviews cover the period 2004-2013 by using six key accounting ratios, analysing pre-merger and post-merger periods of two years. The results found that M&A showed a negative impact on the financial performance of banks and financial institutions in terms of ROE, operating profit margin, and net profit margin. The financial performance of BFIs in terms of profitability ratio showed no increase after the merger periods. 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 were adversely affected, and mergers would become successful only in strong and stable banks, not between the weaker financial institutions. Therefore, M&A should be market-driven and based on suitability rather than forceful mergers or regulators interventions (Shrestha et al. 2017). The study was based on the analysis of six sample banks using primary and secondary data. The eight financial ratios were compared with the three years pre-merger period with the three years post-merger period using a paired t-test to determine the significant financial ratios changes. The findings suggested further research using additional variables after the changes of capital BFIs using swap ratios to measure the effect of M&A. Similarly, studies by Dwa and Shah (2017) conclude that overall financial performance of commercial banks did not improve after the M&A due to the poor performance of target banks. The findings were based on the study of three sample banks on the quarterly data of three years before and after the M&A period from 2006 to 2016. The study used ratio analysis using paired sample t-test, and correlation and regression analysis using the VIF test. The findings suggest that M&A plays a key role in reducing the number of BFIs, increasing paid-up capital, and making BFIs strong. M&A profitability depends on finding the right partners in the country.

In an emerging market like Nepal, without forceful government intervention, M&A is very rare in the banking sector due to the vested interest of the shareholder. The majority of banks hold shares by certain groups and business firms (Bhatta 2016).

Bhatta (2016) analysed the effects of bank mergers on the shareholders' wealth from 2011 to 2015, covering two commercial banks and one development bank. The study used wealth measurement ratios, such as EPS, ROA, ROE, capital base, and cost efficiency, and correlation and coefficient for the data analysis. His findings conclude that the effect of independent variables such as ROA, ROE, and cost efficiency had no impact on dependent variable EPS, and shareholders' wealth and the return decreased after post-merger periods. Bhatt's findings also suggested that external factors such as political instability, border blockades, and earthquakes severely affected the financial performance of mergers institutions during the fiscal year 2015.

2.6: Research Gap

This research analyses the effects of M&A on the financial performance of commercial banks in Nepal after the mandatory capital requirement of BFIs introduced in 2015/2016. This research identifies gaps in the literature regarding M&A in the BFIs in developing countries that differ from other developed countries.

Several studies (Badreldin & Kalhoefer 2009; Kemal 2011; Vallascas & Hagendorff 2011; Kalra et al. 2013; Sufian & Habibullah 2014; Rathinam 2016; Shah & Khan 2017) have been undertaken in different countries relating to M&A in the banking sectors. However, the BFIs in Nepal operate under a different model to those reported in these studies. No comprehensive research has been done in the context of Nepal. Limited research has focused on the impacts of M&A in the BFIs with the data analysis of a few commercial banks. There has been little depth of research in the case of a commercial bank's financial performance analysing EPS, ROA, ROE, net worth, and profitability covering the data before and after the merger period before 2015. Therefore, this research applies eighteen variables covering all the profitability, liquidity, leverage, and wealth of shareholders' ratios as the finding's suggestions of (Shrestha et al. 2017) to fill the gap. Hence this research analyses seven individual banks separately, and as a group about how M&A impacts the financial performance before and after the M&A period. This research will provide evidence for both NRB and commercial banks as banking sectors head towards a productive merger in the coming years.

2.7: Conclusion

M&A is one of the strategic tools to consolidate the banking sectors in Nepal. M&A is regarded as one of the important means to consolidate the business growth, bring skills, talent from other banks, and increase profitability in the long-term period. Therefore, it is an effective strategy to make banks strong and competitive in the market. Horizontal mergers are more common in the banking industry in developing countries like Nepal.

The motives of M&A are different according to companies' objectives, but the main motive of the banking industry going for the M&A is to achieve synergistic gain. The existing theories of M&A justify that synergistic gain is achieved in the long-run period rather than the short-term period (Harrison et al. 1991) and synergistic gain of M&A are reflected on the profitability ratios such as ROA and ROE (Hitt et al. 1998). Much of the past research in the banking industry has produced mixed evidence regarding M&As ability to create value for the shareholders. Studies are more relevant in Europe, the USA and North America (DeYoung et al. 2009). However, it is less common in developing economics (Kalra et al. 2013; Abbas et al. 2014). Synergy theory indicates that three types of synergy affect the shareholders' wealth financial, managerial, and operational synergies (Bradley et al. 1988; Seth et al. 2000). Synergy theory concludes that economic scope and scale are achieved when two banks are involved in the M&A process. They share their combined resources, close unnecessary branches, expand new products, reduce operating costs, consolidate debt, tax benefits, and effectiveness in the management team (Pasiouras et al. 2005; Gaughan 2010).

The conceptual framework is the heart of this research based on the financial performance of the commercial bank in Nepal. The effects of M&A on the financial performances measured on the profitability, liquidity, leverage, and wealth of shareholders parameters in the pre-post- merger period. Several kinds of literature in the past concludes there are mixed impacts on the financial performance in the banking sectors in the pre-post-merger period. However, summarising their results was very complicated due to differences in the methodology researchers used. Some studies used accounting performance indicators, however, they used different variables and accounting data to conclude their findings. Most studies based on the developing countries used accounting performance measures, found no significant changes in the financial performance before and after the M&A. On the other hand, studies done in Europe and the U.S using the event study methodology conclude that shareholders benefit after the M&A. Their financial performance improved significantly through market diversification, managerial hubris, and efficiency after the M&A.

In summary, the effects of M&A on the financial performance in the banking sectors did not significantly improve in the post-merger period (Badreldin & Kalhoefer 2009; Kemal 2011; Abbas et al. 2014; Pahuja & Aggarwal 2016; Shah & Khan 2017). However, other studies found that overall, the effects of M&A on the financial performance in the banking sectors improved with significant changes compared to the pre-merger period (Mantravadi & Reddy 2008; Sinha & Gupta 2011; Oloye & Osuma 2015; Muhammad et al. 2019b). Similarly, limited research using the accounting studies in Nepal also has mixed results regarding individual banks, but the overall financial performance was not improved in the post-merger period (Dwa & Shah 2017; Shrestha et al. 2017; Bipin et al. 2018). The next chapter will discuss the research model and the hypothesis development adopted in this study.

CHAPTER 3: FINANCIAL PERFORMANCE ANALYSIS AND HYPOTHESIS DEVELOPMENT

3.1: Introduction

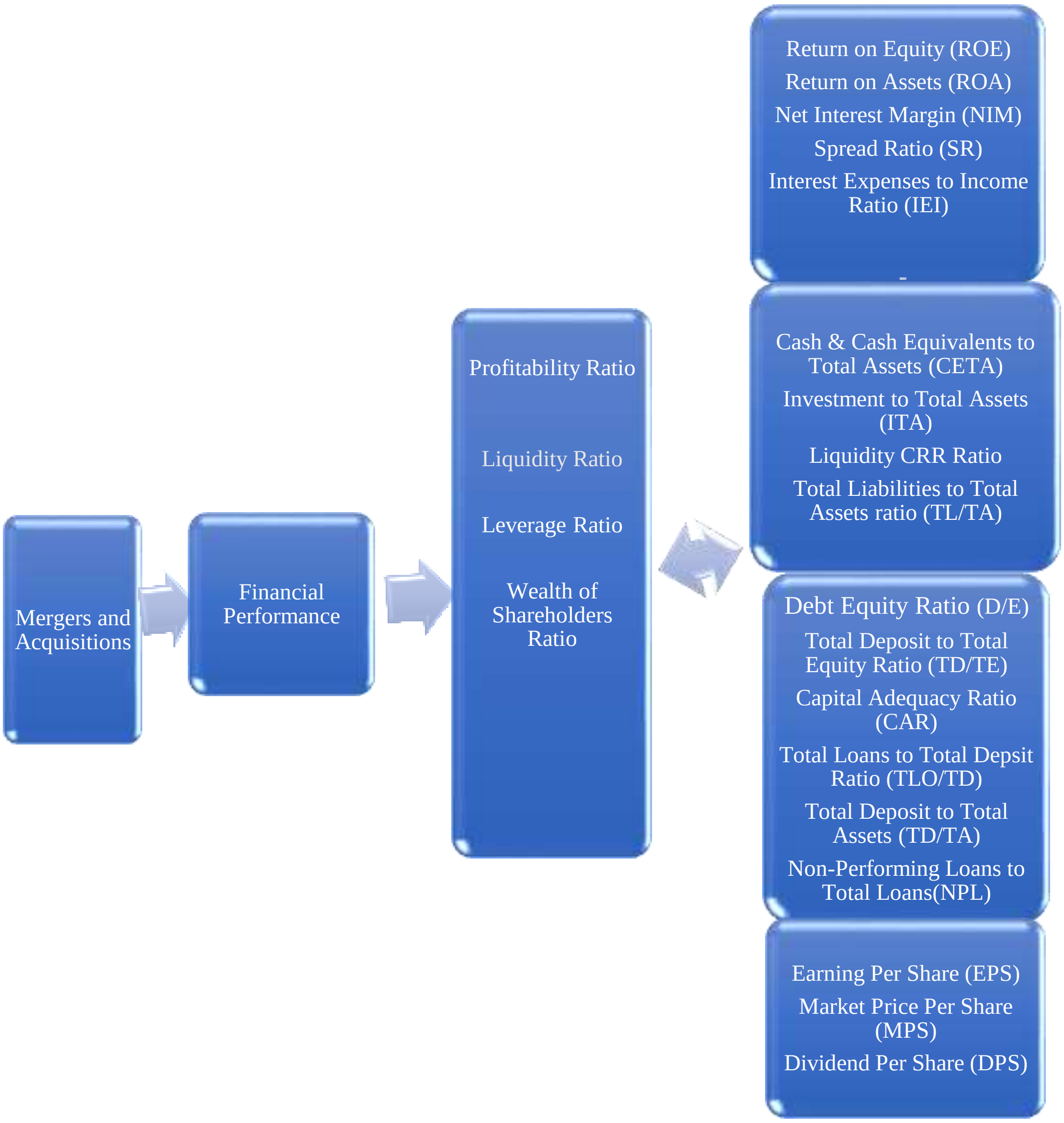
In this section, the following research model (see figure 3.1) is developed to investigate the effect of M&A on the financial performance of commercial and individual banks in Nepal between the pre-merger and post-merger periods.

This model compares the different financial ratios before and after the M&A. It tests the significant differences between the pre-merger and post-merger periods of sample banks by developing hypothesis relations.

Therefore, the model shows the relationship between M&A transactions as the independent variable and financial performance as the dependent variable.

The financial performance (dependent variable) measured through financial ratios is classified into four categories: profitability, liquidity, leverage, and wealth of shareholders ratios.

Figure 3. 1: Research model to measure the effect of M&A on the financial performance



Source: Developed for this study

3.2: Financial Performance

Financial performance measures the firm's overall position and how well the firm utilised its assets to generate revenue and profit for the shareholders over a given period (Healy et al. 1992). Therefore, it is mandatory to analyse the company's financial statements (balance sheet, profit and loss account, and cash flow) to conduct the financial analysis. The balance sheet is a snapshot of a firm's financial position of assets, liabilities, and shareholders' funds in a specific period. In contrast, the profit and loss accounts represent the firm's profitability over time. Financial performance generally denotes how well the firms carried out their business to achieve their financial goals and objectives and financial return to investors or shareholders. Therefore, different techniques, tools, and financial indicators evaluate the companies' financial performance (Weston et al. 2010; Joash & Njangiru 2015). Financial ratios are the primary indicators that reveal the firm's current and past financial performance or financial health in a specific timeframe by studying its financial statements such as balance sheets and income statements (Kemal 2011). Ratio analysis is carried out to develop a meaningful relationship between individual or group items usually shown in the periodical financial statements. An accounting ratio shows the relationship between the two corresponding figures. Ratios are guides or shortcuts helpful in evaluating a company's financial position and operation when the relationship between two figures in the balance sheet is established. The ratio may be expressed in the form of quotient, percentage, or proportion.

The effects of M&A on the financial performance in the commercial banks in Nepal are measured by comparing ratio analysis. The financial performance of commercial banks in Nepal is divided into four parameters: profitability parameters, liquidity parameters, leverage parameters, and wealth of shareholders parameters. Therefore, these financial ratios indicators are the main drivers to measure the effects of financial performance of banking sectors in the pre-merger and post-merger periods.

3.2.1: Profitability Ratios

Profitability ratios are the main drivers to measure a business's ability to generate profit by using its assets and equity fund over a period. So, profit is a crucial factor that determines a firm's business expansion and diversification. Therefore, profitability is the difference between income and expenditure over a period.

Profitability ratios are one of the essential metrics to measure the performance of commercial banks over a period. It indicates how banks utilised their assets, shareholders' funds to generate profit, and efficient management to utilise its resources. The profitability of commercial banks is determined by internal and external determinants (Staikouras & Wood 2004). Internal determinants determine bank management decisions, and external determinants are determined by external policies that are beyond management control (Staikouras & Wood 2004). Therefore, the key indicators to measure the bank's profitability in the pre-merger and post-merger adopted in this research are Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NIM), Spread Ratio (SR), and Interest Expenses to Income Ratio (IE/I) (Abbas et al. 2014; Shah & Khan 2017). The choice of profitability ratios depends on the objectives of the research and research questions, and most of the authors used ROE and ROA to measure the bank's profitability before and after the M&A (Kalra et al. 2013; Bipin et al. 2018; Patel 2018; Sujud & Hachem 2018).

3.2.1.1: Return on Equity (ROE)

Bank financial performance is measured through ROE. The ROE is calculated by dividing net profit after tax (net profit) by the total shareholder equity fund. The net profit comes from the income statement in a particular calendar year after deducting net expenses and taxes from the income in twelve months. In contrast, total equity comes from the balance sheet, which is calculated by subtracting all liabilities from all assets.

Therefore, ROE is expressed as:

ROE = Net Profit After Tax / Total Equity ……………………Equation (1)

ROE is one of the important profitability ratios of the banks to measure the return to their shareholders (Abbas et al. 2014). Generally, it also indicates how efficiently is the bank utilising and mobilising the shareholders' funds to generate a profit (Sujud & Hachem 2018). Therefore, a higher ratio indicates a higher return to the shareholders and efficient use of equity funds.

Previous empirical studies such as (Sufian 2004; Abbas et al. 2014; Gupta 2015; Shah & Khan 2017; Sujud & Hachem 2018) used ROE indicators to measure the M&A effects on the financial performance of the banking sectors. But their studies showed mixed results, as the findings showed that sample bank ROE improved (Abbas et al. 2014) and deteriorated (Shah & Khan 2017) in the post-merger period. Therefore, the following hypothesis is developed based on the above discussions to examine ROE differences in the pre-post-merger period.

Hypothesis 1:

H_{O1}: There is no significant difference in the Return on Equity (ROE) of selected banks between pre-post M&A.

3.2.1.2: Return on Assets (ROA)

ROA is also an important indicator to measure the profitability of banks worldwide. This ratio measures the relationship between total assets and net profit after tax. It is calculated by dividing net profit after tax by total assets. ROA reflects how well the management utilised its total assets to generate profit for the bank and how efficient the bank is as compared to other competitors in the same industry (Abbas et al. 2014). Thus, a higher ratio indicates the banking sector's sound financial performance and productivity (Lai et al. 2015).

Therefore, mathematically ROA is expressed as:

ROA = Net Profit After Tax / Total Assets…………………. Equation (2)

ROA is widely used to measure the impacts of M&A on profitability in the banking sector (Abbas et al. 2014; Lai et al. 2015; Shah & Khan 2017). ROA slightly decreases in the post-merger period as management is not effective in using assets in the post-merger period (Abbas et al. 2014). However, there is a variation in the results in the findings of (Lai et al. 2015) as individual banks' ROA improved in the post-merger as compared to public banks. Thus, based on the discussion, ROA is selected, and the following hypothesis is developed to verify significant differences in the pre-post M&A periods on ROA of sample banks.

Hypothesis 2:

H_{O2}: There is no significant difference in the Return on Assets (ROA) of selected banks between pre-post M&A.

3.2.1.3: Net Interest Margin (NIM)

NIM is considered an important metric to measure bank profitability. This ratio compares the relationship between the interest income, interest expenses, and total assets. This ratio is highly affected by the demand and supply of loans and deposits and the central bank's monetary policies. Most banks primary source income comes from loans and deposits from customers in developing countries like Nepal (Dwa & Shah 2017). So, deposits from customers are a real source of income to the BFIs in Nepal. Therefore, it is expressed as:

NIM = Interest Earned-Interest Expense /Total Assets……………. Equation (3)

Previous studies by Abbas et al. (2014), Gupta (2015), Shah and Khan (2017) used NIM to measure the profitability of the bank after the M&A. Thus, the effects on NIM are considered as important indicators to measure the profitability of sample bank before and after the M&A in this study. Therefore, the following hypothesis is developed to verify the significant differences in the pre-post-merger periods on NIM.

Hypothesis 3:

H_{O3}: There is no significant difference in the Net Interest Margin (NIM) of selected banks between pre-post M&A.

3.2.1.4: Spread Ratio (SR)

SR is a key indicator to measure the profitability of the banking sector. This ratio measures the relationship between the bank's total interest earned and net interest income earned in a particular calendar year. Higher spread margin percentages boost profitability to the banks. This ratio is highly affected by the central bank monetary policy as commercial banks of Nepal charged high interest rates on loans while providing low interest for depositors, to earn high profit and ensure high dividends.

Mathematically it is expressed as,

Spread Ratio (SR) = Net Interest Income / Total Interest Earned…………………………………. Equation (4)

The SR is considered a key variable to evaluate the profitability of sample banks before and after the M&A period. The earlier studies by (Abbas et al. 2014; Shah & Khan 2017) found significant differences in SR ratio after the M&A in banking sectors in

Pakistan. Therefore, the following hypothesis is developed to measure the significant differences in SR in the pre-post-merger period of the sample bank.

Hypothesis 4

H_{O4}: There is no significant difference in the Spread Ratio (SR) of selected banks between pre-post M&A.

3.2.1.5: Interest Expenses to Income Ratio (IE/II)

IE/II is a key indicator to measure the profitability of the bank. This ratio measures the relationship between the interest expenses to income ratio of a bank in a particular year and how much earning from interest income is paid to covered interest payments. A lower expenses ratio to income ratio indicates that bank profitability will rise in the future period. Therefore, mathematically, it is expressed as,

Interest Expenses to Income Ratio (IE/II) = Interest Expenses / Interest income …………………………………………………………. Equation (5)

Earlier research by Abbas et al. (2014) used IE/II as a key indicator to evaluate the profitability of sample banks in Pakistan in the pre-post-M&A period. Therefore, the following hypothesis is developed to measure the effect on IE/II of the sample commercial bank in the pre-post-merger period.

Hypothesis 5

H_{O5}: There is no significant difference in the Interest Expense to Income Ratio (IEI) of selected banks between pre-post M&A.

3.2.2: Liquidity Ratios

Liquidity ratios measure the bankability to meet the short-term obligation and reflect the financial position of the bank. This ratio is an important financial indicator to measure the financial obligation of banks to pay their short-term and long-term debt obligations without raising external capital. The failure to meet its short-term obligation due to the liquidity crunch resulting from a poor image and lack of public confidence in the bank. The bank's liquidity position is a vital situation to meet its short-term obligations when they are due. Therefore, a liquidity ratio is the ability of a bank to convert its liquid assets to cash quickly when the country's economy is severely impacted by the financial crisis or global financial crisis (Abdelrahim 2013). A high degree of liquid or non-performing assets will impact the banking industry's profitability, which is a primary concern for management and shareholders. As a result, the bank should maintain a healthy balance between liquidity position and lack of liquidity.

Past empirical studies such as (Kemal 2011; Abbas et al. 2014; Shah & Khan 2017) used liquidity ratios such as Cash & Cash Equivalent to Total Assets (CE/TA), Investment to Total Assets Ratio (I/TA), and Total Liabilities to Total Assets Ratio (TL/TA) to measure the effectiveness of the liquidity position of the bank. Their findings suggest the mixed result of liquidity position in the sample bank after the M&A. Therefore, based on the above discussions, CETA, ITA, liquidity CRR ratio, and TLTA ratios are applied to measure the significant difference in the pre-post-merger period in the sample bank.

3.3.2.1: Cash & Cash Equivalent to Total Assets (CE/TA)

This ratio is a key indicator to measure the liquidity position of the banks. It is calculated by dividing cash and cash equivalent by total assets. This ratio reflects how much cash is left on the bank to cover unforeseeable scenarios or fulfil the short-term obligation using only cash and cash equivalents. Therefore, the excess cash balance will impact the bank's profitability, and a lower cash balance will impact the bank's liquidity position. Mathematically, it is expressed as,

Cash & Cash Equivalent to Total Assets (CE/TA) = Cash & Cash Equivalent / Total Assets……………………………………………………………equation (6)

This study measures the impact on liquidity parameters in the pre-post-merger period through CE/TA ratio. Earlier research results showed that CE/ TA ratio decreased after the M&A (Abbas et al. 2014; Shah & Khan 2017). However, Shrestha et al. (2017) found CE/TA ratio has positive impacts after the M&A. Based on the above discussions, the following hypothesis is developed in this study.

Hypothesis 6

H_{O6}: There is no significant difference in the Cash Equivalent to Total Assets Ratio (CTA) of selected banks between pre-post M&A.

3.3.2.2: Investment to Total Assets Ratio (I/TA)

The investment strategy is also another important strategy of the banking business. A bank cannot utilise the whole of its fundraised through deposits and borrowings i.e., loans and advances. Therefore, banks diversify their investment in government securities, treasury bills, stock markets, and intra-banking lending.

ITA ratio is also another metric to evaluate the liquidity position of the bank. This ratio indicates how efficient it is to manage its investment strategy and increase its productivity to increase profitability. It is calculated by dividing total investment by total assets. Mathematically, it is expressed as,

Investment to Total Assets Ratio (I/TA) = Investment / Total Assets………equation (7)

Shah and Khan (2017) and Abbas et al. (2014) used the ITA ratio to evaluate the impact on the liquidity ratio after the M&A. They found significant differences in the ITA ratio in the post-merger period. Therefore, based on the above discussions, the following hypothesis is developed to measure the significant differences in the ITA ratio on the sample bank in Nepal.

Hypothesis 7

$\mathbf{H_{O7}}$: There is no significant difference in the Investments to Total Assets Ratio (ITA) of selected banks between pre-post M&A.

3.2.2.3: Liquidity CRR Ratio

The liquidity CRR ratio is another indicator to measure the liquidity position of a bank. It denotes the minimum percentage of customers deposits held by the central bank as a reserve to control the lending behaviour and safeguard people's deposits. CRR ratio is a monetary policy instrument of the central bank to control the excess liquidity of commercial banks and money supply to the economy (Abidi & Lodhi 2015). CRR ratio significantly impacts a commercial bank's interest rate and profitability in Nepal (Bhattarai 2016). Therefore, the CRR ratio is the reflection of the excess liquidity positions of the commercial bank. According to the objectives of monetary policies, the Central Bank (NRB) changes the CRR ratio to circulate liquidity crunch and excess liquidity in the BFIs in Nepal (Timsina 2017). As per NRB 2019/20, the current CRR ratio of commercial banks has been fixed to 4%.

Therefore, it is expressed as,

Liquidity CRR = Reserve requirement with the central bank / Total customer deposit……………………………………………………. equation (8)

Based on the above discussion, the study used the liquidity CRR ratio to measure liquidity position impacts before and after the M&A in the selected bank. Therefore, the following hypothesis is developed to find significant changes in the CRR ratio in the pre-post-merger period.

Hypothesis 8

H_{O8}: There is no significant difference in the Liquidity Cash Reserve Ratio (CRR) of selected banks between pre-post M&A.

3.2.2.4: Total Liabilities to Total Assets Ratio (TL/TA)

TLTA is also another key metric to measure the liquidity position of the bank. This ratio shows the relationship between total liabilities and total assets, indicating how many total assets finance the liabilities. This ratio is essential to evaluate the bank's obligation to pay its short-term and long-term debt. From the bank's perspective, a higher ratio is preferable to increase their profitability and business. However, creditors prefer a lower ratio, which safeguards their funds in terms of losses or liquidations. Therefore, mathematically it is expressed as:

Total Liabilities to Total Assets Ratio (TL/TA) = Total Liabilities / Total Assets ……………………………………………………… Equation (9)

Abbas et al. (2014) used TL/TA variable to measure liquidity impacts on the financial performance of selected banks in Pakistan after the M&A. The study found that TL/TA ratio is improved, but the improvement is not statistically significant in the pre-post M&A period. Based on the above discussions, the following hypothesis is developed to determine the effect on TL/TA ratio before and after the M&A.

Hypothesis 9

H_{O9}: There is no significant difference in the Total Liabilities to Total Assets Ratio (TLTA) of selected banks between pre-post M&A.

3.2.3: Leverage Ratios

The leverage ratios measure the bank's ability to pay off long-term obligations. This ratio shows the relationship between debt and equity. According to Reddy and Prasad (2011), the leverage ratio shows how much a bank's debt is financed through the capital to meet its financial obligation. Leverage is vital for banking businesses to assure the outside parties that the bank has sufficient funds to cover any losses or handle an economic and financial crisis (Willett 2005). The bank needs to maintain its assets greater than the liabilities to be solvent (Mishkin 1998). Therefore, banks have a strategy to maintain leverage ratio through central bank direction and are highly influenced by monetary policy in developing countries like Nepal (Shrestha et al. 2017). A high leverage ratio indicates that the bank has used aggressive financing through debt which will put greater risk on the depositors' monies and the overall financial system of the Bank (Reddy & Prasad 2011).

Most of the research used the debt-to-equity ratio as the leading indicator the measure the financial leverage of the bank in the pre-post-merger period. So, debt to equity ratio (D/E), Total Deposit to Total Equity Ratio (TD/TE), Capital Adequacy Ratio (CAR), Total Loans to Total Deposit Ratio (TLO/TD, Total Deposit to Total Assets Ratio (TD/TA), and

Non-Performing Loans to Total Loans (NPL) are used to measure the leverage position of the sample bank before and after the M&A periods (Mantravadi & Reddy 2008; Abbas et al. 2014; Shah & Khan 2017; Shrestha et al. 2017). However, the empirical studies above suggest mixed results about the impact of the leverage ratio in the pre-post-merger period.

3.2.3.1: Debt to Equity Ratio (D/E)

The debt-to-Equity Ratio (D/E) ratio is a key parameter in terms of the financial leverage of the bank. This ratio is calculated by dividing total liabilities by total equity or shareholder's fund. This ratio indicates the ability of the shareholder's fund to cover all the outstanding debt. Therefore, the debt-equity ratio is expressed in the bank's balance sheet through assets equal to liabilities plus shareholders equity. A high D/E ratio indicates that bank financing through debt rather than its financial source is risky. This means banks pay more interest to the creditors, which is a dangerous trend to the business, but the return is high to the investors, improving the bank's profitability.

However, a low D/E ratio is good in terms of investment, attracting additional capital for expanding the business.

Mathematically, it is expressed as:

Debt to Equity Ratio (D/E) = Total Debt / Total Equity ………………Equation (10)

Several authors have used the D/E ratio as the primary variable to measure the financial leverage or solvency of the commercial bank in the pre-post M&A period (Kemal 2011; Kalra et al. 2013; Abbas et al. 2014). Their studies found a positive effect on the D/E ratio after the M&A period, and sample banks were able to decrease their debt portions in the post-merger period through equity. Therefore, the following hypothesis is developed based on the above discussion to measure the significant differences in the pre-post-merger period.

Hypothesis 10:

H_{O10}: There is no significant difference in the Debt-to-Equity Ratio (DE) of selected banks between pre-post M&A.

3.3.3.2: Total Deposit to Total Equity Ratio (TD/TE)

TD/TE is also another indicator to measure the financial leverage of the banking sector. This ratio is calculated by dividing total deposit by total equity. Mathematically, it is expressed as,

Total Deposit to Total Equity Ratio (TD/TE) = Total Deposit / Total Equity……………………………………………………….. Equation (11)

Abbas et al. (2014) and Shah and Khan (2017) used TD/TE ratio to measure the financial leverage in the sample banks in Pakistan in the pre-post-merger period. Their findings suggested that TD/ TE ratio increased in the post-merger period, which has negative impacts. However, Al-hrrot et al. (2020) study showed that the decline of the TD/TE ratio in the post-merger positively impacts the Jordanian banking sectors. Therefore, based on the above results, TD/TE is selected to measure the financial leverage. The following hypothesis is developed in this study to measure the significant differences of the sample commercial bank.

Hypothesis 11

H_{O11}: There is no significant difference in the Total Deposit to Total Equity Ratio (TDTE) of selected banks between pre-post M&A.

3.2.3.3: Capital Adequacy Ratio (CAR)

CAR is also another key indicator to measure the financial leverage and efficiency of the banking industry. CAR ratio measures the bank's core capital relations to its bank's risky weighted assets and current liabilities (Poudel 2012). In simple terms, CAR measures the bank's financial soundness and adequacy of capital to protect depositors' monies and the financial system's stability. CAR ratio is decided by the central bank and regulatory bodies for the financial stability in the country. Regulatory bodies or central banks monitor the CAR ratio to protect the depositors' funds and financial system due to the negative effect of failure or losses in the worst-case scenario (Reddy & Prasad 2011). A higher ratio indicates a strong financial position for absorbing losses and preventing the bank from failure and insolvency and the business-enhancing profitability in the future period (Poudel 2012). Therefore, mathematically it is expressed as,

Capital Adequacy Ratio (CAR) = Tier 1 Capital + Tier 2 Capital / Risk-Weighted Assets ………………………………………………………………… Equation (12)

Tier 1 capital includes the equity capital, ordinary share capital, retained earnings, and intangible assets disclosed in the financial statement, whereas Tier 2 capital consists of unaudited reserve and hybrid securities. Similarly, weighted risky assets are the sum of the bank's total assets weighted by the risk.

Previous authors such as (Abbas et al. 2014; Gupta 2015; Shah & Khan 2017; Bipin et al. 2018; Agarwal et al. 2019) used the CAR ratio to measure its impact pre-post-merger periods, and their findings suggest mixed results. For example, the CAR ratio is decreased in the sample bank of Pakistan after the M&A due to the operating losses, and the decline in CAR is not statistically significant (Abbas et al. 2014; Shah & Khan 2017). However, the car ratio is improved in the individual Bank of Nigeria and statistically validated after the M&A (Anderibom & Obute 2015). Based on the above discussions, the CAR is selected, and the following hypothesis is developed to evaluate the significant changes in the pre-post-merger period.

Hypothesis 12

H_{O12}: There is no significant difference in the Capital Adequacy Ratio (CAR) of selected banks between pre-post M&A.

3.2.3.4: Total Loans to Total Deposit Ratio (TLO/TD)

TLOTD is also a key metric to measure the financial leverage and efficiency of the bank. This ratio is calculated by dividing total loans by total deposits. It indicated how much percentage of deposit is mobilised to the loans for the interest income generation. The core function of the bank is to mobilise the fund for the borrower, and interest collected from the loans is the key source of revenue for the banking sectors in Nepal (Pradhan & Shyam 2016). So, efficient mobilising of the deposit funds highly influenced the profitability of the commercial banks in Nepal. In the banking sector, the TLOTD ratio of 80% to 90% is the acceptable rate, and this rate is highly affected by the directions of the central bank and the regulator bodies. If the ratio is too high, it indicates that the bank has a liquidity shortage. On the contrary, if the ratio is too low, the bank has not utilised the deposit fund properly, negatively impacting the bank's profitability. Therefore, this ratio is expressed as,

Total Loans to Total Deposit Ratio (TLO/TD = Total Loans / Total Deposit ……………………………………………………………………………… Equation (13)

Sharma (2018) used the CCD ratio to measure the financial leverage of commercial banks in Nepal in the pre-post-merger period. Results suggest that the credit to deposit ratio (CCD) is showing fluctuating trends due to a decline in the liquid assets (cash and bank balance). The decline in the liquid assets indicates a liquidity crunch in the BFIs in Nepal. Therefore, based on the above discussion, TLOTD is selected in this study, and the following hypothesis is developed to measure the impacts on TLOTD in the pre-post-merger period.

Hypothesis Development

H_{O13}: There is no significant difference in the Total Loans to Total Deposit Ratio (TLOTD) of selected banks between pre-post M&A.

3.2.3.5: Total Deposit to Total Assets Ratio (TD/TA)

TDTA ratio is also another metric to measure the financial leverage of the bank. This ratio is calculated by dividing by total deposits to total assets. TDTA ratio indicates the portions of total assets funded by total deposits. Mathematically, it is expressed as,

Total Deposit to Total Assets Ratio (TD/TA) = Total Deposit / Total Assets………………………………………………………………………. Equation (14)

In developing countries like Nepal, a TDTA ratio between 80-90% of the bank is acceptable as external funding is limited and commercial banks' primary funding source is a deposit from the customer. Therefore, to measure the financial leverage of the selected sample bank, TDTA is selected, leading the following hypothesis development to measure significant changes in the TDTA ratio in the pre-post-merger period.

Hypothesis Development

H_{O14}: There is no significant difference in the Total Deposit to Total Assets Ratio (TDTA) of selected banks between pre-post M&A.

3.2.3.6: Non-Performing Loans to Total Loans (NPL)

NPL ratio is the key metric to measure the financial leverage and financial stability of the banking sectors. This ratio measures non-performing loans to total loans. The default loan in the commercial bank is considered when debtors fail to pay the principal and interest amount within 90 days. The increasing trends of NPL ratio indicate failure of the bank's credit policy, which has substantial impacts on bank's profitability that leads to the financial crisis (Saba et al. 2012). A high ratio indicates poor management of loan portfolios that have a negative effect on the profitability of the Bank (Ndoka & Islami 2016), and a low ratio indicates good quality of loan portfolio that leads to an increase in the interest income and profitability of the Bank (Bhattarai 2016). Thus, NPL is considered an important factor affecting the commercial bank's financial performance and stability in Nepal. Therefore, it is expressed as,

Non-Performing Loans to Total Loans (NPL) = Total Non-Performing Loans / Total Loans ………………………………………………………... Equation (15)

Abdulwahab and Ganguli (2017), and Bipin et al. (2018) used NPL as the indicators to measure the effects in the pre-post M&A periods. Their findings suggest that NPL is decreased in the post-merger period due to an increase in loan quality, effective supervision of regulatory bodies, and management control of the bank. Therefore, based on the above discussions, the following hypothesis is developed to measure the significant changes in the NPL ratio.

Hypothesis Development

H_{O15}: There is no significant difference in the Non-performing Loans to Total Loans Ratio (NPL) of selected banks between pre-post M&A.

3.2.4: Wealth of the Shareholder's Ratio

The wealth of the shareholder's ratio is related to the earning, dividends, and price of the share. As the words ‘share’ represents the ownership of the bank. The goal of the shareholders is to maximise wealth through earnings, capital gains, and dividend return. There are two specific reasons to buy a bank share: first dividend and second capital gains. First, the bank's shareholders are interested in the net profit after tax as they are aiming for a higher profit level for the higher dividend expectations. Second, the share market price will rise in the future due to higher profit and bank's performance that will lead to capital gain for the investors. Therefore, Earnings per Share (EPS), Dividends per Share (DPS), and Market Price per Share (MPS) are the key factors for the shareholders to make their investment decisions.

In previous studies, Earning per Share (EPS) (Kemal 2011; Sujud & Hachem 2018), Market Price per Share (MPS), and Dividend per Shares (DPS) (Sharma 2018) are used to measure the wealth of the shareholder's ratios in the pre-post-merger period.

3.2.4.1: Earning Per Share (EPS)

EPS is the key indicator to measure the bank's financial performance regarding the wealth of shareholders ratio. This ratio is calculated as dividing net profit after tax by the number of outstanding shares. Shareholders are interested in net profit after tax, whether the earning are distributed or retained. EPS stated in the financial statement of the bank or company indicates the future earning capacity and future growth of the company that influences the share price of the banks in the future period. A higher ratio of EPS indicates the profitability and future growth of the bank, and lower growth indicates poor performance and revenue is declining. Therefore, mathematically it is expressed as,

Earnings Per Share (EPS) = Net profit after tax / No. of ordinary shares ……………………………………………………………. Equation (16)

Several researchers used EPS as the key indicators to measure the bank's financial performance before and after the M&A. For example, some studies found that the EPS of the bank improved in the post-merger period due to an increase in the bank's profitability (Kemal 2011; Kalra et al. 2013; Patel 2018; Sharma 2018). This indicates that the wealth of shareholders improved significantly after the announcement of the M&A. However, on the other hand, the EPS of the merger bank decreased slightly in the post-merger period due to the increase in operating costs and decline in the interest income (Abbas et al. 2014). Therefore, based on the above discussions, the following hypothesis is developed to measure the significant differences in the EPS in the pre-post-merger period.

Hypothesis Development

H_{16}: There is no significant difference in the Earning Per Share (EPS) of selected banks between pre-post M&A.

3.2.4.2: Market Price Per Share (MPS)

Market price per share is another indicator to measure the financial performance of the banks in terms of the wealth of shareholders ratio. There is no specific formula to calculate the MPS. However, it is the price investors willing to pay for each share of the company. The stock's current market price is referred to as the last traded price in the stock market or stock exchange. The stock price is determined by the demand and supply of stock by the investors. Therefore, the stock price is the actual value of the share traded on the stock exchange.

Market Price per Share = Last traded price of shares in the stock market………………………………………… Equation (17)

Most of the past studies related to the stock market reaction that impacts the bank's share price after the announcement of M&A news (Kumar 2009; Kalra et al. 2013; Marimuthu & Ibrahim 2013; Pahuja & Aggarwal 2016). There is a positive effect on stock market reactions, and shareholders can gain abnormal returns (Kalra et al. 2013) in the short-term period (10 to 30 days). However, it contradicts the findings of (Pahuja & Aggarwal 2016), where none of the sample banks was able to get raw returns after the M&A announcement. There is no specific literature on the MPS effects in the pre-post-merger period in the bank. Only studies by (Sharma 2018) used MPS as a variable in the pre-post-merger period and found that MPS is increased in the post-merger period. The main reason for the increase in the MPS in the pre-merger is the low paid-up capital of commercial banks in Nepal. Based on the above discussions, the following hypothesis is developed to know the impacts on MPS in the pre-post-merger period.

Hypothesis Development

H_{O17}: There is no significant difference in the Market Price Per Share (MPS) of selected banks between pre-post M&A.

3.2.4.3: Dividends Per Share (DPS)

DPS is also another indicator to measure bank financial performance in terms of the wealth of shareholder's ratio. This ratio is calculated by dividing total dividends by the number of outstanding shares. DPS allows the shareholders to evaluate how much dividends shareholders receive on a per-share basis over a year. A higher DPS indicates profitability and strong bank financial positions, and a lower DPS indicates poor bank performance. Therefore, it is expressed as,

Dividends Per Share (DPS) = Total Dividends/ No of outstanding Shares ………………………………………………………………… Equation (18)

There is an improvement in DPS in the post-merger period in the bank consolidation (Michael 2013; Aggarwal 2014; Lai et al. 2015). The improvement of DPS in the consolidations of the Malaysian banking sectors is due to a reduction in bank expenses. As a result, the bank generates income that is invested in the other financial entrustments. The decrease of DPS in the pre-merger period due to the Asian financial crisis, which impacts bank earning capacity (Lai et al. 2015). Similarly, Aggarwal (2014) studies on the individual bank (ICICI Bank) found DPS improvement in the post-merger period in India. The reduction in debt interest, increasing investment capabilities, and effective management control lead to the DPS improvement in

Nigeria's sample bank (Michael 2013). However, the shareholders of the commercial bank of Nepal are interested in the stock dividend instead of the cash dividend, and their focus on the stock dividend started to fall after the rising paid-up capital of commercial capital banks. Based on the above discussions, the following hypothesis is developed to determine the effects on the sample banks' DPS.

Hypothesis Development

H_{O18}: There is no significant difference in the Dividend Per Share (DPS) of selected banks between pre-post M&A.

3.3: Conclusion

In summary, and based on the literature review, this research examines the effect of M&A on the financial performance of commercial banks in Nepal by assessing dependent variables return on equity (ROE), return on assets (ROA), net interest margin (NIM), spread ratio (SR), interest expenses to income ratio (IEI), cash equivalent to total assets (CETA), investment to total assets (ITA), liquidity CRR ratio, total liabilities to total assets (TLTA), debt to equity (D/E), total deposit to total equity ratio (TDTE), capital adequacy ratio (CAR), total loans to total deposit (TLOTD), total deposit to total assets (TDTA), non-performing loans to total loans (NPL), earning per share (EPS), market price per share (MPS, and dividend per share (DPS). Several studies conclude there are mixed impacts on the financial performance in the banking sectors in the pre-post-merger period. However, summarising their results was very complicated due to differences in the methodology researchers used. The next chapter will discuss the research methodology and research design adopted in this study.

CHAPTER 4: RESEARCH METHODOLOGY

4.1: Introduction

The research methodology is a systematic way to solve the research problems. In other words, research methodology describes the methods and processes applied to the entire study to answer the research questions. So, the chosen methodology is appropriate and specific to answer the research questions logically. Therefore, this chapter briefly outlines research philosophy, research paradigms, research methodology, research methods, data collection, sample selection, and data analysis.

4.2: Research Paradigms and Underlying Philosophical Position

A research paradigm means the sets of shared beliefs, worldviews, and mindsets between scientists about how problems should be addressed and understood (Kuhn 1970). A paradigm is a theoretical framework or belief system with assumptions about ontology (what is reality), epistemology (how we know), methodology (what procedures we used to find our knowledge), and methods (collecting and analysing data). There are four dominant research paradigms in social sciences: positivist, interpretivist, critical theory, and deconstructivist (Sipe & Constable 1996).

According to Bryman (2012), there are three philosophical assumptions of social science: Ontology, epistemology, and axiology, which are the centre point of research paradigms. Ontology refers to the philosophy of reality or the study of reality (Allison & Hobbs 2006). Therefore, ontology examines the underlying belief system of the researcher about the reality and social phenomenon being investigated. It is concerned with the assumptions to believe something makes sense or is natural. The philosophical assumption is essential to understanding the reality or belief system of the researcher and guides how to understand the meaning of the collected data to address the research problems and directs what approaches to apply to derive meaningful solutions. Thus, ontology enables the researcher to examine their belief system and nature of reality, to address the research problem, and what approaches need to be used to find solutions after investing the research questions.

Epistemology is the philosophy of knowledge or how we come to know and what counts as knowledge (Guba & Lincoln 1994). In other words, epistemology defines how we know something and explain the truth or reality of how knowledge is acquired and communicated with others (Cooksey & McDonald 2011). So, therefore the researcher asked himself whether the knowledge is acquired or is it something personally experienced? These questions help the researcher to position themselves in the research context about how you know what you know or what it is that you know. These critical questions guided the researcher to investigate the truth and how do you know the truth. Therefore, to answer the above questions the researcher draws on four sources of knowledge: intuitive, authoritative, logical, and empirical knowledge. Thus, the researcher believes knowledge can be measurable and interpreted by using scientific tools and statistical methods.

French philosopher Auguste Comte first propounded the Positivist paradigm. According to him, observation and reason are the best means of understanding human behaviour; proper knowledge is based on the experience of senses and can be obtained by observation and experiment. Therefore, key assumptions of positivism are that the social world exists externally, social phenomena are measured through scientific methods, and truth can be observed through hypothesis testing. The positivist belief is that quantitative data obtained from the research process is not biased by social, cultural, and human factors. The epistemological assumptions of positivism are that knowledge is deductively generated from theory or hypothesis (Mack 2010). The methodology of the natural sciences can be applied to study social reality (Grix 2002). The positivist belief is that there is a single truth or objective regardless of peoples' perception (Hudson & Ozanne 1988). The primary purpose of positivism is to accept or reject the hypothesis. And that general characteristic includes an emphasis on the scientific method, statistical analysis, and generalizable findings (Mack 2010). Positivists perform experiments by controlling the variables and testing whether a hypothesis is true and the cause and effect of dependent and independent variables (Tekin & Kotaman 2013). Positivists try to find theories or set logical structures to test hypotheses and re-test them for the best possible approach for interpreting data through the scientific method and statistical tools. Thus, the role of the researcher is limited to data collection and interpretation objectively. Therefore, positivism relies on experience as a valid source of knowledge.

This research investigates the effects of M&A on the financial performance of commercial banks in Nepal in the pre-post-merger periods. The banks' financial performance can be observed and measured through its financial statements and interpreted through statistical tools and methods. Therefore, this research employed the positivist paradigms to examine the effects of M&A on the financial performances of commercial banks. Thus, to explore the research problems, the financial statement of several years was collected and analysing data from 2013 to 2020 in the financial statement were analysed. The data from financial reports of results were measured and their patterns deducted through statistical methods. So, the collection of quantitative data and hypothesis testing of this data required measurement and investigation of the effects of M&A on the independent and dependent variables. The existing theories of M&A and empirical findings in the M&A are essential as a background within which social research occurs. Therefore, the researcher must become familiar with the relevant literature on M&A in order to conduct research. The general perception of M&A (Hitt et al. 2009; Ayadi et al. 2013) is that it brings synergy and strengthens the company or firms involved in the merger, i.e., beliefs or researcher's assumptions.

This research's underlying philosophy is a positivist paradigm, which will review existing theory from literature, identify variables, test hypotheses, and produce empirical results (Park et al. 2020). According to the research objectives and questions set up in this research, the research required quantitative data to measure the phenomena and the truth of reality. Therefore, other paradigms were not appropriate for this study.

4.3: Methodological Choice and Justification

According to Bell et al. (2018), the qualitative method focuses on words for data analysis and interpretations, predominately following an inductive approach to generate theory. The proposed research follows a quantitative approach to measure the cause and effects of M&A on the financial performance in the banking sectors in Nepal. The nature of the research questions and objectives require the financial performance data of commercial banks in Nepal in the pre-merger and post-merger periods. To achieve the objectives of the research, financial statements or Annual Reports of individual bank’s is required for ‘analysis and interpretation of the data. The population sample data and variables are counted and measured using statistical tools to interpret the data. The causal relationship between dependent and independent variables and their effects before and after the M&A is used for hypothesis testing. The accounting and financial data are in numerical and tabulated forms. As a result, statistical tools and techniques are applied for generalisations and accurate comparisons of data. The cause and effects will be examined with, the extensive sample data collected and measured through financial analysis to test the proposed hypothesis, which will internally and externally validate the reliability through statistical analysis (Kivunja & Kuyini 2017). Statistical analysis allows for accurate comparisons and generalisations. Previous quantitative studies by (Weber et al. 1996; Chatterjee 2009; Kalra et al. 2013) have shown accurate comparisons of the M&A effect that have high reliability and validity. Therefore, the quantitative approach is appropriate for this study.

4.4: Research Design

A research design is the specification of methods and procedures for acquiring the information needed. The overall operational pattern of a framework for the project stipulates what information is to be collected, from which sources, and by what procedures (Zikmund et al. 2003). Thus, a research design is a plan for the collection and analysis of data.

This research assesses past and present study models employed for the M&A effects on the financial performance in the banking industry in developing countries that are relevant in this research study. The researcher analyses the financial performance of the merged banks during 2013-2020 of the research. This analysis is suitable as it enables the researcher to critically evaluate the data to find the insight that otherwise would not be discovered if another research design was employed. The research focuses on the Nepalese banking sectors after NRB imposed a mandatory capital requirement for the BFIs, which indirectly forced them to be involved in the M&A process. Therefore, the research adopted a descriptive and comparative research design that focused on determining the financial performance effects on the ongoing M&A process of Nepalese commercial banks in the country. Descriptive studies report central tendencies such as mean, median, mode, variations, percentages, and co-relation between variables (Knupfer & McLellan 1996).

4.5: Ethical Considerations

This research will be conducted in accordance with the University of Southern Queensland Human Research Ethics Committee (HREC) policies. The study of the effects of M&A on the financial performance of commercial banks is based on the secondary public data available from the government of Nepal regulator body's website and BFIs audit reports. The collected secondary data comes from NRB and other regulatory bodies as part of different research. This data is sourced from the government of Nepal's official data of public listed companies of BFIs. Therefore, it is the mandatory requirement of BFIs to publish their financial statement publicly and submit their report to the regulatory bodies meeting all the conditions of ethical standards of NRB, NEPSE, and SEBON. So, the proposed study does not require any mandatory ethical clearance from the USQ ethics committee. However, guidelines from the USQ ethics committee (data collection on secondary sources), and guidelines and support of the supervisory team will be taken whenever any unforeseen ethical problems are encountered.

4.6: Data Collection Methodology

Data will be collected from secondary sources. The data will be collected from NRB, NEPSE, SEBON, and the individual bank's website. For the main research question, required statistics data of BFIs will be collected from the NRB public domains. The statistics data consist of BFIs supervision report, financial stability report, audit reports, study report of BFIs, and audit report of each bank. Similarly, data will be collected from the NEPSE and SEBON public domains to answer the sub-research questions. The data gives information about M&A deals of BFIs (see Table 1.11), share price, individual company reports, and dividend announcements information of public companies listed in the NEPSE.

Financial audited statements are a rich source of data as they are audited by the independent auditor and approved through the annual general meeting of shareholders. So, the collected data will be highly reliable and appropriate for this type of study. The available administrative and statistical data from the above government regulatory bodies ensure transparency, public knowledge, and replicability of data. The collected data have no issue of intellectual property, conflict of interest, or misinterpretation of the information as they are from government sources.

4.7: Population and Sampling

This research will sample 19 out of 27 commercial banks involved in the M&A deals from 2013 to 2020. Other banks have not been selected for the study as there is no involvement in M&A deals between 2013 and 2019. Eight banks are excluded from the sampling technique and removed from the study as they weren't involved in the ongoing M&A deals.

Table 4. 1: Merger and Acquisitions deals of sample Commercial Banks

S.N	Commercial bank Names after M&A	Acquired/Merged BFIs Names	Final Approval Date	Share SWAP Ratio	Type
1	Bank of Kathmandu Limited	Lumbini Bank Limited	08/07/2016	100:83	Merger
2	Global IME Bank Limited	Janata Bank Nepal Limited	20/12/2019	100:85	Mergers
		Hathway Finance Limited	01/09/2019	100:42	Acquisition
		Reliable Development Bank Limited	09/07/2017	100:82.9	Acquisition
		Pacific Development Bank Ltd	12/02/2017	100:69.26	Acquisition
		Social Development Limited	09/07/2013	100:40	Merger
		Gulmi Bikash Bank Limited		100:50	Merger
		Commerz & Trust Bank Limited	03/04/2014	100:65	Acquisition
		IME Finance Limited	25/06/2012	100:79	Merger
		Lord Buddha Finance Limited		100:70	Merger
3	Kumari Bank Limited	Kasthamandap Development Bank Limited,	26/06/2017	100:85	Acquisition
		Mahakali Bikash Bank Limited,		100:86	Acquisition
		Kakrebihar Bikash Bank Limited		100:87	Acquisition
		Paschimanchal Finance Limited		100:88	Acquisition
4	Nepal credit & Commerz Bank Limited	Infrastructure Development Bank Limited	05/12/2016	100:76	Merger
		Apex Development Bank Limited		100:47	Merger
		Supreme Development Bank Limited		100:77	Merger
		International Development Bank Limited.		100:72	Merger
5	Nepal investment bank Limited	Himalayan Bank Limited	Ongoing	Not fixed	Merger
		City Express Finance Limited	10/07/2019	100:30	Acquisition
		Jebil's Finance Limited	10/07/2019	100:33	Acquisition
		Ace Development Bank Ltd	13/07/2017	100:41	Acquisition
6	NMB Bank Limited	Kanchan Development Bank Limited	Ongoing	Not fixed	Acquisition
		Om Development Bank Limited	19/09/2018	100:76	Merger
		Pathibara Bikas Bank		100:67	Merger

S.N	Commercial bank Names after M&A	Acquired/Merged BFIs Names	Final Approval Date	Share SWAP Ratio	Type
		Bhrikuti Bikas Bank		100:87	Merger
		Clean Energy Development Bank		100:75	Merger
		Prudential Finance		100:43	Merger
7	Prabhu Bank (Kist Bank Limited)	Kist Bank Limited	06/08/2014	107.31:97.31	Acquisition
		Prabhu Bikas Bank Limited		100:107.31	Acquisition
		Grand Bank Nepal Limited		121.45:65:58	Acquisition
		Gaurishankar Development Limited		107.31:107.31	Acquisition
		Zenith Finance Ltd.		107.31:92.31	Acquisition

Source: Developed for this research

To fulfil the research objectives, 19 commercial banks that had either merged or undergone acquisition between the period 2013 to 2020 were selected. Four banks were removed from this period because they have not been involved in M&A activities during the period 2013 to 2020. The remaining 15 commercial banks were further tested in accordance with the researcher criteria for the selection below.

To reduce the sample size again, the researcher imposed the following criteria:

1. Mergers between 'A' class commercial banks
2. Mergers between 'A' class commercial banks and 'B' class development banks
3. M &A between 'A' class commercial banks, 'B' class development banks, and 'C' class finance companies.
    a. Joint venture
    b. Combine three classes 'A', 'B', and 'C'.

Three commercial banks fulfilled the first criteria, so they were selected for the sample.

1. Bank of Kathmandu Limited (BOKL)
2. Global IME Bank Limited (GBIME)
3. Prabhu Bank Limited (PRVU)

The second criterion was fulfilled by one commercial bank and so selected for the sample.

4. Nepal Credit and Commerz Bank Limited (NCCB)

Eleven commercial banks fulfil the third criteria. Among them, three commercial banks are selected based on Criterion 3 (a) & (b).

5. NMB Bank Limited (NMB)
6. Nepal Investment Bank Limited (NIB)
7. Kumari Bank Limited (KBL)

The financial statement for each of the selected banks is shown in Table 4.7.2.

Table 4. 2: Financial Position of Sample Banks

Overview of Financial Postion of sample banks as on 8 July 2021							
Banks	BOKL	GBIME	PRVU	NCCB	NMB	NIB	KBL
Amount in NPR 'billion'							
Paid-up capital	9.66	21.63	11.35	10.32	16.33	16.26	13.88
Total Equity	15.98	32.22	17.35	14.26	23.73	30.36	18.81
Total Assets	126.42	319.94	212.07	128.74	223.09	216.27	128.74
Total depost from customers	96.57	244.3	163.78	101.82	155.36	165.97	127.69
Loans and advances to customers	0.927	222.9	134.3	0.886	148.27	156.09	129.04
Net profit after tax	1.17	3.57	2.11	1.11	2.52	2.85	1.81
Paid Up Value (Rs)	100	100	100	100	100	100	100
Last traded Price (Rs) 09/07/2021	374	437	449	364	436	460	366
Market Capitalization (Rs in Billion)	36.12	94.54	50.95	37.55	71.18	74.78	50.79

Source: Developed for this research based on Annual reports of selected banks and Nepal Stock Exchange

Bank of Kathmandu (BOKL) is established in March 1995 under the license of Nepal Rasta Bank as an 'A' class of commercial bank in Nepal. The bank merged with Lumbini bank (see Table 4.1), another 'A' class commercial bank. The paid-up capital of BOKL reached Rs 4.87 billion from Rs.2.67 billion after the merger. Both banks agreed to share swap ratio deals of 100: 0.861 (See Table 4.1). This means investors having 100 units of LBL share only get 86.10 units of BOKL share. After the merger, the bank increased its assets, deposits, capital, and customer base throughout the county. At the end of the current fiscal year 2019/2020, the banks paid-up capital reached Rs 8.55 billion and operated its banking business through 89 branches with 822 employees (Bank of Kathmandu Limited 2020).

Global IME Bank Limited (GBIME) is established in 2007 under the license of NRB as an 'A' class of commercial bank. The GBIME bank successfully merged with two finance companies (Lord Buddha Finance LTD and IMF Finance Institution) in 2012 (Global IME Bank Limited 2020). In 2013, the GBIME successfully merged with two development banks (Social Development Bank and Gulmi Bikas Bank Limited). After that, in 2014, GBIME acquired ‘A’ class commercial bank (Commerz and Trust Bank Nepal Ltd) with a share swap ratio of 100:0.65, this means shareholders holding 100 shares of Commerez and Trust bank get 65 shares of GBIME bank. This is the first M&A of two commercial banks promoted by different groups after Bank of Asia and NIC Asia Bank. After the acquisition of Commerez and Trust Bank, GBIME's paid-up capital reached Rs 4.10 billion. The GBIME again acquired two development banks (Pacific Development Bank and Reliable Development Bank) in 2016/17. As per the acquisitions deal, 100 units of Pacific Development Bank shares have been converted to 69.26 units of GBIME share, and 100 units of Reliable Development Bank’s shares converted to 82.90 shares of GBIME (See Table 4.1). As a result of the acquisitions, the volume of business, capital, and business network of GBIME has extended throughout the country. In 2019, the GBIME bank again acquired Hathway Finance Ltd and was involved in a merger with another ‘A’ class commercial bank (Janta Bank Limited). Both banks agreed to a share swap ratio of 1.00: 0.85. Therefore, shareholders having 100 units of Janta Bank Limited gets only 85 units of GBIME share (See Table 1). After the merger with JBL, GBIME bank emerged as one of the leading commercial banks in the country in terms of capital, deposits, and Assets. According to the annual report 2019/20, the bank capital reached Rs 18.97 billion, 267 branches, 3059 employees, and 2.1 million customers (Global IME Bank Limited 2020)

Prabhu Bank Limited (PRVU) started its journey to becoming an ‘A’ class commercial bank through Prabhu Finance Limited. In 2012/2013, Prabhu finance merged with two development banks (Sambridi Bikas Bank and Baibhava Finance limited) and upgraded to a ‘B’ class development bank under the name of Prabhu Bikas Bank. After the successful merger with two development banks, Prabhu Bikas Bank’s paid-up capital reached Rs 0.7659 billion. In the year 2014, the bank was involved in a merger with the ‘A’ class commercial Bank (Kist Bank Limited), and one development bank (Gaurishankar Development Bank Limited), and one finance company (Zenith Finance Limited). After the merger with Kist Bank, the bank came with a new name as a ‘Prabhu Bank Limited’ (PRVU) as a status of ‘A’ class commercial bank and the bank’s paid-up capital reached Rs 3.20 billion. As per the due diligence audit (DDA), the share swap ratio was finalised as 97.31 for Kist, 107.31

for Prabhu, 107.31 for Gauri Shankar, and 92.31 for Zenith (see Table 1). This means shareholders having 100 units of shares of Kist Bank received 97.31unit of PRVU. PRVU bank got 107.31 (7.31 as a premium) units of shares after the M&A. In the year 2016, PRVU bank acquired Grand Bank Nepal Limited[23] (GBN), another 'A' commercial bank after Kist Bank Limited and its paid-up capital reached Rs 5.88 billion. According to the DDA report, the final share swap ratio between the two banks is 121.45: 65.58 (Prabhu Bank Limited 2016) (see Table 4.1). Therefore, shareholders with 100 units of Grand Bank shares got 65.58 units of PRVU shares, and PRBU Bank got 121.45 units of shares (21.45 units of shares as a premium).

Nepal Credit and Commerz Bank Limited (NCCB) was established on 14 October 1996, under the name of Nepal-Bank of Ceylon Limited (NBOC). In the beginning, NBOC commenced its operation as a joint venture with the Bank of Ceylon, Sri Lanka. Its authorised capital was Rs 1.0 billion, which is the highest compared to the other commercial banks in Nepal. Due to the shareholder's transfer from NBOC to the Nepalese shareholders, the name of the bank was changed from NBOC to NCCB in September 2002. The NCCB involved the merger of four development banks (Infrastructure Development Bank Ltd., Apex Development Bank Ltd., Supreme Development Bank Ltd., and International Development Bank Limited.) in the year 2016/2017. According to the DDA report, the share swap ratio of NCCB and four development banks at 100:76:47:77:72, respectively (see Table 4.1). Therefore, the shareholders who have 100 units of Infrastructure Development Bank Ltd get 76 units shares of NCCB, Apex Development Bank Ltd. received 47 units shares of NCCB, Supreme Development Bank Ltd. gets 77 units shares of NCCB, and International Development Bank Limited received 72 units shares of NCCB. After the successful merger with four development banks, NCCB capital reached Rs 4.68 billion. However, the bank has to increase its paid-up capital to Rs 8.0 billion by the end of 2016/17, as per the mandatory requirement of NRB. According to the annual report 2019-20, the

23 Before going to acquisition, Grand Bank Nepal Limited (GBN) fell into financial crisis due to non-performing loans (NPL), and the bank incurred a huge loss of Rs 1.60 billion. The GBN failed to maintain the central bank capital adequacy ratio (CAR) 10%. GBN crisis was the one of the biggest scandals in the BFIs in the country. The central bank took action against the Board of Directors and management to increase their CAR ratio above 10% within six months and force them to go M&A.

bank’s paid-up capital reached Rs 10.50 billion, and its business and facilities are provided through its 133 branches (NCC Bank Limited 2021).

NMB Bank Limited (NMB) was licensed as an ‘A’ class commercial bank in 2008. The bank is previously known as Nepal Merchant Banking and Finance Company, established in October 1995 as a ‘C’ Class Finance Institutions and upgraded as a commercial bank after they fulfilled the requirement of ‘A’ category of the bank. The NMB bank successfully merged with four BFIs (Pathibhara Bikas Bank, Bhrikuti Development Bank, Clean Energy Development Bank, and Prudential Finance Company) in the fiscal year 2015/16 and reached a capital of Rs 6.20 billion. After the merger with four BFIs, NMB bank is on the right track to fulfil the minimum paid-up capital of Commercial banks within deadlines of mid-July 2017, and bank presence extended to the easter and western regions of the country. According to the DDA report, the bank agreed to a share swap ratio with four BFIs at 100:67:87:75:43, respectively (see Table 4.1). Therefore, shareholders having 100 units of shares of Pathibhara Bikas Bank received 67 units of Shares of NMB. Likewise, Bhrikuti Development Bank received 87 units of shares of NMB, Clean Energy Development Bank received 75 units of shares of NMB, and Prudential Finance Company received 43 units of shares of NMB, respectively. After the merger with the Clean Energy Development Bank, the Dutch development bank FMO’s[24] first investment in NMB bank diluted from 14 % to 3%, and later merger was supported by FMO which raised its stock to 20% to the NMB Bank. The bank acquired OM Development Bank (paid-up capital at Rs 2.51 billion) in 2019. According to the DDA report, both banks agreed to a share swap ratio of 100:76. Therefore 100 units of shares OM Development Bank converted to the 76 units of shares NMB Bank. After the successful merger process, NMB Bank's paid-up capital reached Rs 11.52 from Rs 9.61 billion. In 2020, NMB bank again acquired Kanchan Development Bank with the share swap ratio of 100:85 (see Table 4.1), and its paid-up capital reached Rs 14.45billion. Therefore, shareholders having 100 units of shares Kanchan Development Bank converted to 85 units shares of NMB bank.

24 FMO is investing renewable energy sector in Nepal (Rural and Urban areas) to decrease CO_2 emissions. Their first investment came to Clean Energy development Bank.

Nepal Investment Bank Limited (NIB) was established in 1986 as the name of Nepal Indosuez Bank Limited as a joint venture. In 2002, a Nepalese investor bought all the shares of Credit Agricole Indosuez (French company) and changed its name from Nepal Indosuez Bank Limited to Nepal Investment Bank Ltd. (NIB). The bank is one of the leading banks in Nepal in terms of paid-up capital, deposit collection, and loans disbursement. The bank acquired Ace Development Bank Limited in 2016/2017 with a share swap of 100:41 (see Table 4.1). Therefore, investors having 100 units of Ace Development Bank shares converted 41 units shares of NIB. After the successful acquisition with ACE Development Bank, the bank's paid-up capital reached Rs 9.24 billion. As a result, the NIB becomes the largest commercial bank in terms of paid-up capital and the first bank to fulfil the new mandatory capital of Rs 8.0 billion. The bank again acquired Jebil Finance Limited ('C' category BFIs) in 2019 with a share swap ratio at 100:33, and the bank's capital reached Rs 12.59 billion. In 2021, the bank acquired City Express Finance Limited ('C' category BFIs) with a share swap ratio of 100:30. As a result, the bank's paid-up capital reached Rs 14.37 billion, which is the highest in the BFIs in the country (Nepal Investment Bank Limited 2021). In May 2021, NIB signed a merger agreement with the Himalayan Bank Limited (HBL), strengthening the banking sectors in line with the NRB M&A policy. The merger of two major commercial banks of NIB and HBL will result in the highest in terms of assets, deposits, and loans, and combined capital will be Rs 26.94 billion.

Kumari Bank Limited got a license as an 'A' category commercial bank in April 2003 with a paid-up capital of Rs 1.60 billion. In 2016/2017, the bank acquired four BFIs (Kathmandu Development Bank Ltd., Mahakali Bikas Bank Ltd., Kanrebihar Development Bank Ltd., and Paachimanchal Finance Company Ltd (Kumari Bank Limited n. d.) According to the DDA report, the bank acquired a share swap ratio at 100: 85: 86: 87: 88. As a result, bank capital reached Rs 6.20 billion. In 2020, the bank acquired Deva Bikas Bank Limited, and the bank paid-up capital reached Rs 12.52 billion. According to the annual report 2019-20, the paid-up of the capital bank reached Rs13.87 billion, and its business is operating through 200 branches (Kumari Bank Limited 2021).

4.8: Data Analysis Methods

The collected sample raw data was first entered into an Excel sheet for analysis and interpretation. After that, the data is presented in tables and figures for meaningful understanding. The quantitative data is processed and analysed by using Statistically Package for Social Science (SPSS).

The quantitative data in this research is analysed by using descriptive and inferential statistics. The collected raw data is analysed through descriptive statistics such as mean, standard deviation, frequencies, distributions, and percentages and paired sample t-test for inferential statistics. In addition, the research used comparative analytical tools and statistical tools for measuring the effect of M&A on the financial performance in banking sectors: accounting performance measure (Pillania & Kumar 2009; Kemal 2011; Kalra et al. 2013; Shah & Khan 2017) and paired two-sample t-test to determine whether the impacts of M&A on the financial performance ratios have a significant difference in the pre-merger and post-merger periods.

The accounting techniques measured involved companies' assets, revenue, and liability in the pre-post M&A periods. Accounting methodology is the basis for this study. The effects of M&A on the financial performance of commercial banks in Nepal are measured using an accounting-based approach using four financial parameters; Profitability Parameters, Liquidity Parameters, Leverage Parameters, and Wealth of Shareholders parameters (see Table 4.8.1). Therefore, the fiscal years 2013 to 2016 are considered a pre-merger period, and the fiscal years 2017 to 2020 are considered to be post-merger periods. The average financial performance ratios of three years pre-merger are compared with the average financial performance ratios of three years in the post-merger period. This comparison of pre-post M&A determined whether there are statistically significant changes in the financial performance ratios of individual sample bank data and as a group of sample banks data using a paired two-sample t-test. Therefore, a paired-sample T-test[25] is used to determine the significance of

25 The paired sample T-test is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. Two means represent the financial performances of pre-merger and post-merger period of BFIs. The T-test compares the actual difference between two means in relation to the variations in the data.

differences in the mean value of financial performance ratios before and after the M&A periods at a 5% significant level.

4.9: Conclusion

This chapter described the research design, research paradigms, philosophy position, methodology choice, and justification for the choice of research methodology. This study adopted the positivist paradigms, which begin with existing theories and concepts from the literature review of M&A, identifying the variables, and testing the hypothesis. This paradigm is appropriate to examine the effects of M&A on the financial performances of commercial banks as the phenomena and knowledge of data are quantitative in nature. The quantitative approach is appropriate to measure the cause and effects of M&A on the banking industry in Nepal. The accounting and financial data are in numerical and tabulated forms. As a result, statistical tools and techniques are applied for generalisations and accurate comparisons of data. Therefore, quantitative data is collected through secondary methods. The collected secondary data are collected through the financial statement. Financial audited statements are a rich source of data as they are audited by the independent auditor and approved through the annual general meeting of shareholders. So, the collected data will be highly reliable and appropriate for this type of study. Descriptive and Comparative research design utilised to know the significant difference in pre-merger and post-merger financial performance of selected banks through comparisons of financial ratios in both periods. The subsequent chapters give a detailed explanation of data presentations and analysis of the study.

Table 4. 3: Financial Performance Variables used in this study

	Financial Performance Variables used in this study	
Parameters:	**Variables Names**	**Description/ Measurement**
Profitability:	Return on Equity (ROE)	Net profit after tax / Total Equity
	Return on Assets (ROA)	Net profit after tax / Total Assets
	Net Interest Margin (NIM)	Interest earned-interest expense /Total Assets
	Spread Ratio (SR)	Net interest income / Total interest earned
	Interest Expenses to Income Ratio (IE/II)	Interest Expense/ Interest Income
Liquidity:	Cash & Cash Equivalent to Total Assets (CE/TA)	Cash & Cash Equivalent / Total Assets
	Investment to Total Assets Ratio (I/TA)	Investment / Total Assets
	Liquidity CRR Ratio	
	Total Liabilities to Total Assets Ratio (TL/TA)	Total Liabilities / Total Assets
Leverage:	Debt to Equity Ratio (D/E)	Total Debt / Total Equity
	Total Deposit to Total Equity Ratio (TD/TE)	Total Deposit / Total Equity
	Capital Adequacy Ratio (CAR)	Total Equity / Total Assets
	Total Loans to Total Deposit Ratio (TLO/TD)	Total Loans/ Total Deposit
	Total Deposit to Total Assets Ratio (TD/TA)	Total Deposit/ Total Assets
	Non-Performing Loans to Total Loans (NPL)	Total Non-Performing Loans/ Total Loans
Wealth of Shareholders	Earnings Per Share (EPS)	Net profit after tax / No. of ordinary shares
	Market Price Per Share (MPS)	
	Dividends Per Share (DPS)	Total Dividends/ No of outstanding Shares

Source: (Kalra et al. 2013; Abbas et al. 2014; Shah & Khan 2017)

CHAPTER 5: DATA PRESENTATION AND ANALYSIS OF COMMERCIAL BANKS

5.1: Introduction

The main objective of this research is to evaluate the M&A effect of commercial banks in terms of profitability, liquidity, leverage, and wealth of shareholders ratios. This chapter presents the selected seven commercial banks data and analyses them as a group representing the commercial banks in the pre-post-M&A period. First, it presents descriptive statistics. After that, it discusses the findings of the comparative analysis and paired sample t-test with hypothesis results findings.

5.2: Descriptive Statistics of Pre & Post Financial Ratios

The table below gives the minimum, maximum, mean, standard deviation, and standard error for eighteen variables in the pre-post-merger for the descriptive analysis. Comparing 18 selected financial ratios before and after the merger periods shows mixed results in the mean value. The profitability ratios such as ROA, NIM, IEI improved in the post-merger period, but ROE and SR declined in the post-merger period. The comparison liquidity ratio such as ITA, TLTA, and CRR declined in the post-merger period, and CTA performed better in the post-merger period. The mean value of leverage ratios such as DE, TDTE, TDTA, and NPL decreased in the post-merger period, but CAR and TLTDO improved in the post-merger period. Finally, comparing shareholders wealth parameters such as MPS and DPS deteriorated, but EPS remained stable in the post-merger period.

Table 5. 1: Paired Samples Statistics of Selected Commercial Banks

			N	Minimum	Maximum	Mean	Std. Deviation	Std. Error Mean
Pair 1	Return on Equity (ROE)	Pre	21	-26.88	27.57	13.1981	10.41357	2.27243
		Post	21	6.71	16.91	11.3371	2.92595	0.63849
Pair 2	Return on Assets (ROA)	Pre	21	-1.44	2.25	1.3276	0.77913	0.17002
		Post	21	0.71	2.13	1.3738	0.40392	0.08814
Pair 3	Net Interest Margin (NIM)	Pre	21	-1.52	2.70	1.5952	0.94254	0.20568
		Post	21	0.78	3.13	1.7457	0.67129	0.14649
Pair 4	Spread Ratio (SR)	Pre	21	34.66	57.93	46.9257	6.89270	1.50411
		Post	21	23.95	43.10	36.3586	4.34847	0.94891
Pair 5	Interest expenses to Interest income Ratio (IEI)	Pre	21	42.07	65.34	53.0557	6.90133	1.50599
		Post	21	47.35	76.05	62.9410	5.61598	1.22551
Pair 6	Cash equivalent to Total assets Ratio (CTA)	Pre	21	1.65	9.49	3.3510	2.42034	0.52816
		Post	21	2.35	11.34	6.0943	2.29829	0.50153
Pair 7	Investment to Total Assets Ratio (ITA)	Pre	21	7.04	27.41	14.4662	4.90606	1.07059
		Post	21	7.03	14.77	10.3029	2.30199	0.50234
Pair 8	Liquidity Cash Reserve Ratio (CRR)	Pre	21	6.82	35.54	15.1571	8.05386	1.75750
		post	21	3.78	25.34	10.0443	6.54219	1.42762
Pair 9	Total Liabilities to Total Assets Ratio (TLTA)	Pre	21	87.45	94.65	90.5914	1.38200	0.30158
		Post	21	85.33	94.37	88.0971	2.10654	0.45968
Pair 10	Debt to Equity Ratio (DE)	Pre	21	6.97	17.69	9.8371	2.09804	0.45783
		Post	21	5.82	9.89	7.4448	1.20162	0.26222
Pair 11	Total Deposit to Total Equity Ratio (TDTE)	Pre	21	6.67	17.49	9.5424	2.10788	0.45998
		Post	21	5.12	13.01	7.8262	2.24845	0.49065
Pair 12	Capital Adequacy Ratio (CAR)	Pre	21	8.68	17.92	12.0581	1.80438	0.39375
		Post	21	11.16	15.75	13.2848	1.52842	0.33353
Pair 13	Total Loans to Total Deposit Ratio (TLTDO)	Pre	21	54.87	85.83	76.6500	6.79439	1.48266
		Post	21	75.66	93.19	86.3905	4.45756	0.97272
Pair 14	Total Deposit to Total Assets Ratio (TDTA)	Pre	21	83.70	93.60	87.7914	2.20549	0.48128
		Pre	21	72.72	92.40	82.0552	4.10923	0.89671
Pair 15	Non-Performing Loans to Total Loans Ratio (NPL)	Pre	21	0.42	24.29	3.4776	5.20141	1.13504
		Post	21	-15.24	40.67	18.9267	10.97178	2.39424
Pair 16	Earnings Per Share (EPS))	Pre	21	9.25	34.37	18.9495	6.80376	1.48470
		Post	21	3.78	25.34	10.0443	6.54219	1.42762
Pair 17	Market Price Per Share (MPS)	Pre	21	207.00	1040.00	549.4762	199.92139	43.62642
		Post	21	186.00	621.00	296.6667	116.03505	25.32092
Pair 18	Dividend Per Share (DPS)	Pre	21	0.00	41.00	19.6300	13.56601	2.96035
		Post	21	8.42	40.00	18.6343	8.42371	1.83820

5.3: Comparative Analysis

Comparative analysis is a tool to summarise changes in selected banks financial performance in the pre-post-merger periods. The objective of this research is to assess the changes in the financial performance of banks chosen before and after M &A periods through financial ratios. The ratios changes are calculated from the mean of pre-merger and post-merger performance of selected banks. The results are shown in such a way that the pre-merger is deducted from the post-merger period. If the difference shows a positive sign, it indicates that financial performance improves in the post-merger period. On the other side, If the difference shows a negative sign, the financial performance deteriorated in the post-merger period.

Table 5. 2: Pre-Post-M&A Analysis of Return on Equity (ROE)

Banks	**Pre-merger Mean**	**Post-merger** Mean	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	8.09	11.47	3.38	Increase
Global IME Bank Limited (GBIME)	14.82	14.16	-0.66	Decrease
Prabhu Bank Limited (PRVU)	5.08	9.30	4.22	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	15.33	12.40	-2.93	Decrease
NMB Bank Limited (NMB)	15.34	10.80	-4.54	Decrease
Nepal Investment Bank Limited (NIB)	20.04	12.21	-7.83	Decrease
Kumari Bank Limited (KBL)	13.69	9.04	-4.65	Decrease
Mean Overall	**13.1986**	**11.3400**	**-1.8586**	**Decrease**

Figure 5. 1: Total Mean of ROE

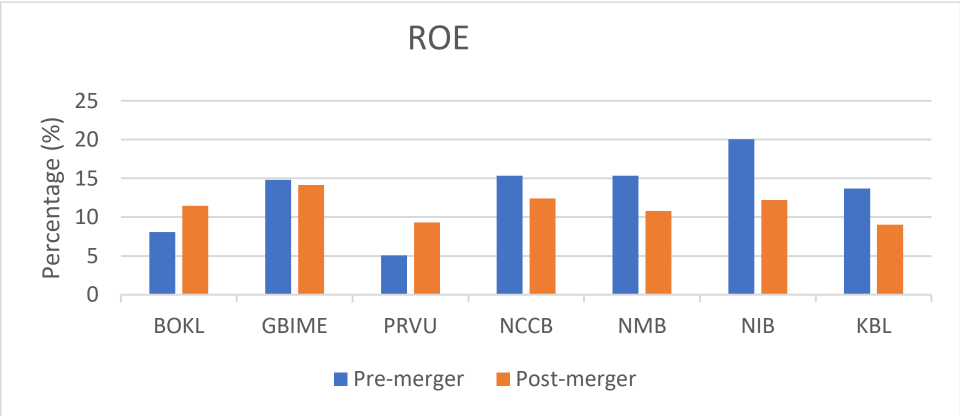


Table 5.2 shows that most of the selected banks' Return of Equity (ROE) decreased in the post-M&A periods. In Figure 5.1, we noted that the mean value of the five banks decreased after M&A, and the other two banks ROE improved after M&A. The mean

value of PRVU bank enhanced by 4.22 % after M&A, which is highest compared to the BOKL by 3.38%. This increasing trend of ROE suggests that both banks have utilised the shareholders' equity efficiently to increase their profit and control their operational costs to enhance profit. Furthermore, this result indicates that more prominent mergers between Commercial banks produced more remarkable results than ineffective mergers between smaller BFIs. This result is similar to the findings of Cornett et al. (2006), whose studies found that a more extensive merger produces more outstanding results than a minor merger.

Similarly, after M&A, the mean value of GBIME decreased by 0.66%, NCCB by 2.93%, NMB by 4.54%, and NIB by 7.83%, respectively. However, overall commercial banks mean value of ROE decreased by 1.86% in the pre-post-merger period. Thus, most bank ROE means value fell after the M&A. This is also similar to previous findings of (Abbas et al. 2014) and Shah and Khan (2017) who found that most banks mean value of ROE decreased in the post-merger period.

Table 5. 3: Pre-Post-M&A Analysis of Return on Assets (ROA)

Banks	**Pre-merger Mean**	**Post-merger Mean**	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	0.74	1.59	0.85	Increase
Global IME Bank Limited (GBIME)	1.52	1.52	0.00	Constant
Prabhu Bank Limited (PRVU)	0.78	0.94	0.16	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	1.59	1.37	-0.22	Decrease
NMB Bank Limited (NMB)	1.35	1.42	0.07	Increase
Nepal Investment Bank Limited (NIB)	2.03	1.70	-0.33	Decrease
Kumari Bank Limited (KBL)	1.27	1.06	-0.21	Decrease
Mean Overall	**1.3257**	**1.3714**	**0.04571**	**Increase**

Figure 5. 2: Total Mean of ROA

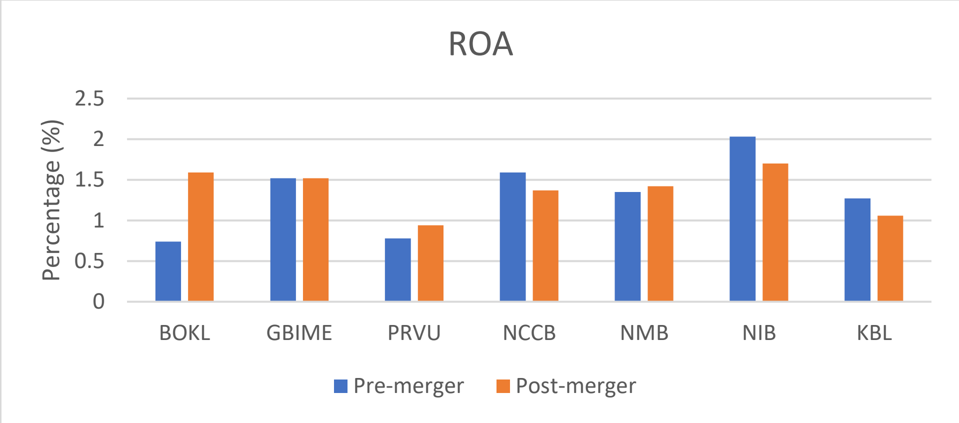


Table 5.3 shows that the mixed results of return on assets (ROA) after M&A. In figure 5.2, we noted three banks mean value of ROA increased after the M&A, and the remaining three banks ROA decreased in the post-merger periods. The mean value of BOKL improved by 0.85%, PRVU by 0.16%, and NMB by 0.07%, respectively, in the post-merger period. Similarly, the highest decline was seen in the mean value of NIB by 0.33%, NCCB by 0.22%, and KBL by 0.21%, respectively, compared to the pre-merger period. There is no difference seen in the ROA of GBIME in both periods.

Those banks mean value of ROA decreased in the post-merger period, indicating that management did not utilise their assets and equity capital to generate more profit. However, the overall commercial banks mean value of ROA improved by 0.04% in the pre-post-merger periods. The findings do not support previous studies Lai et al. (2015) in Malaysia, who reported most banks ROA improved after M&A. But the results are similar to the (Mantravadi & Reddy 2008; Abbas et al. 2014; Pathak 2016; Shah & Khan 2017; Patel 2018), whose findings conclude that ROA improved after the M&A.

Table 5. 4: Pre-Post-M&A Analysis of Net Interest Margin (NIM)

Banks	**Pre-merger Mean**	**Post-merger Mean**	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	0.81	1.80	0.99	Increase
Global IME Bank Limited (GBIME)	1.47	1.70	0.23	Increase
Prabhu Bank Limited (PRVU)	0.89	1.05	0.16	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	1.77	1.57	-0.2	Decrease
NMB Bank Limited (NMB)	2.55	2.92	0.37	Increase
Nepal Investment Bank Limited (NIB)	2.27	1.98	-0.29	Decrease
Kumari Bank Limited (KBL)	1.41	1.20	-0.21	Decrease
Mean Overall	**1.6014**	**1.7457**	**0.14430**	**Increase**

Figure 5. 3: Total Mean of NIM

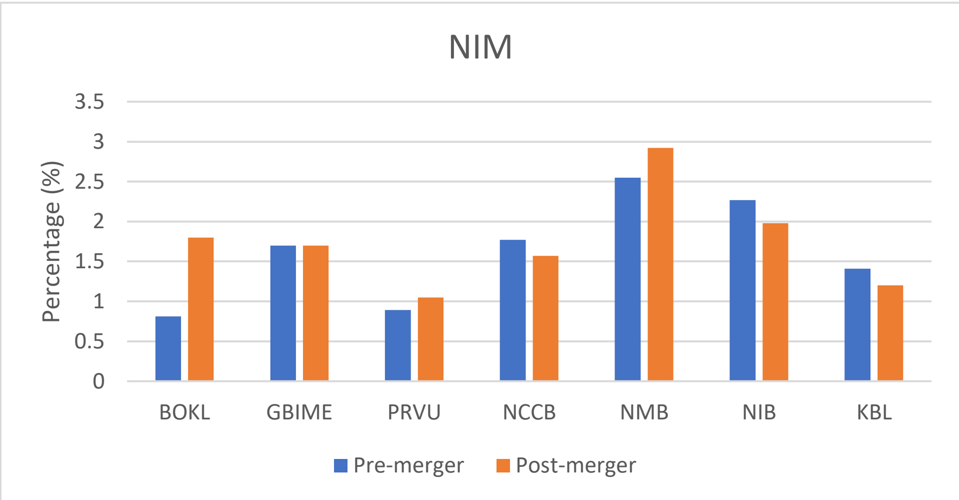


Table 5.4 shows the selected banks Net Interest Margin Ratio (NIM) mixed results after the M&A periods. Figure 5.3 shows that four banks mean value of the NIM increased after the M&A, and the other three banks performed better in the pre-merger period. The mean value of NIM of BOKL increased by 0.99%, GBIME by 0.23%, NMB by 0.37%, and PRVU by 0.16%, respectively, in the post-merger periods. But as compared to the post-merger periods, the mean value of NIM of NIB decreased by 0.29%, KBL by 0.21%, and NCCB by 0.20%, respectively. The decreased mean value of NIM of the three banks in the post-merger period suggests that they have not effectively utilised their assets. Their operating costs increased after the involvement of the M&A process with the weaker development banks and finance companies.

However, overall, commercial banks mean value of NIM increased by 0.15% in the post-merger periods, which contradicts the findings of Shah and Khan (2017) and is similar to Abbas et al. (2014), whose findings showed the mixed results of sample banks in Pakistan.

Table 5. 5: Pre-Post-M&A Analysis of Spread Ratio (SR)

Banks	**Pre-merger Mean**	**Post-merger Mean**	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	48.42	36.98	-11.44	Decrease
Global IME Bank Limited (GBIME)	51.07	37.55	-13.52	Decrease
Prabhu Bank Limited (PRVU)	49.59	37.79	-11.80	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	43.52	33.14	-10.38	Decrease
NMB Bank Limited (NMB)	43.61	36.54	-7.07	Decrease
Nepal Investment Bank Limited (NIB)	53.62	40.78	-12.84	Decrease
Kumari Bank Limited (KBL)	38.79	31.74	-7.05	Decrease
Mean Overall	**46.9457**	**36.3600**	**-10.58571**	**Decrease**

Figure 5. 4: Total Mean of SR

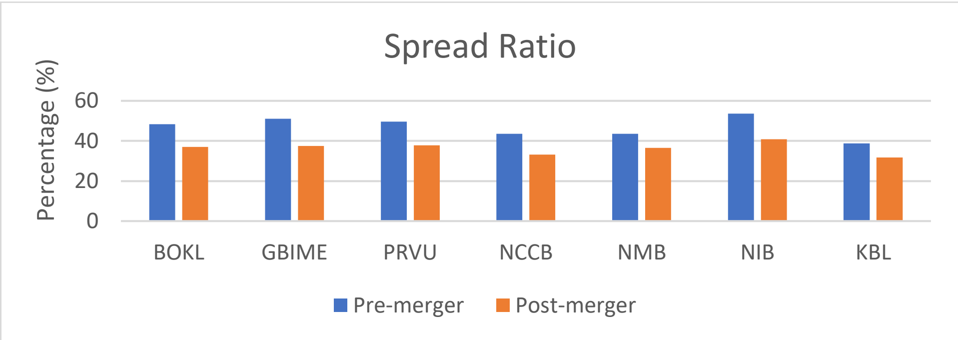


Table 5.5 shows that the sample banks spread ratio deteriorated in the post-merger periods. Figure 5.4 noted that all the sample banks mean value of SR decreased compared to the pre-merger period. In the post-merger period, the mean value of SR of GBIME declined by 13.52%, which is the highest, and KBL by 7.05%, which is the lowest compared to the other sample banks. Similarly, the mean value of SR of NIB reduced by 12.84%, PRVU by 11.80%, BOKL by 11.44%, NCCB by 10.38%, and NMB 7.07%, respectively. However, the overall mean value of commercial banks decreased by 10.58% in the pre-post-merger periods. This result is similar to the

findings of the previous studies in the Pakistan banks (Abbas et al. 2014), who reported that sample banks SR decreased after the M&A.

The decreases in SR ratio of sample banks indicates that their interest expenses increase after M&A are not a good sign for the banks to enhance their profitability and efficiency. On the other hand, the fallout in the SR ratio of banking sectors in Nepal is due to the regulator body (NRB) frequent directions for the commercial bank about spread rate calculation on the interest rate.

Table 5. 6: Pre-Post-M&A Analysis of Interest Expenses to Income Ratio (IEI)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	51.58	63.02	11.44	Increase
Global IME Bank Limited (GBIME)	48.93	62.45	13.52	Increase
Prabhu Bank Limited (PRVU)	50.41	62.21	11.80	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	56.48	66.82	10.34	Increase
NMB Bank Limited (NMB)	56.40	58.59	2.19	Increase
Nepal Investment Bank Limited (NIB)	46.48	59.22	12.74	Increase
Kumari Bank Limited (KBL)	61.21	68.26	7.05	Increase
Mean Overall	**53.0700**	**62.9386**	**9.86857**	**Increase**

Figure 5. 5: Total Mean of IE/I

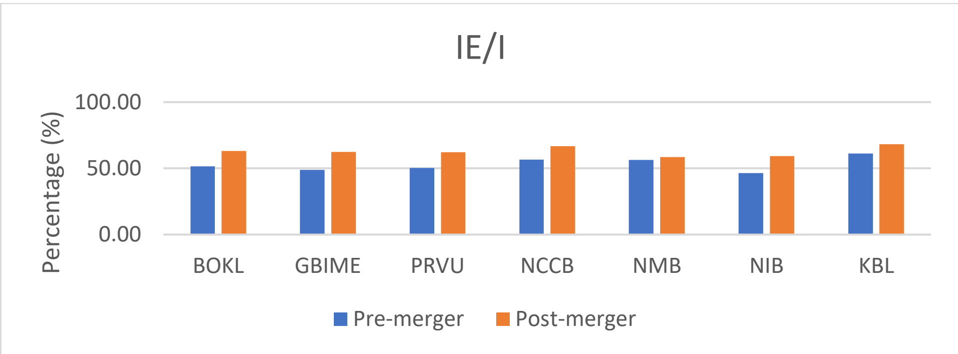


Table 5.6 shows that the sample banks Interest Expenses to Interest Income (IE/I) ratio deteriorated after the M&A. Figure 5.5 noted that all the sample banks mean value of IE/I increased after the M&A process. This result indicates that banks cost-efficiency deteriorated in the post-merger periods. The mean value of IE/I of GBIME increased

by 13.52%, the highest and the lowest by NMB 2.19%. Likewise, the mean value of IE/I increased by NIB 12.74%, PRVU by 11.80%, BOKL by 11.44%, NCCB by 10.34%, and KBL by 7.05%. However, the overall mean value of commercial banks increased by 9.87% in the post-merger period. These findings indicated banks could not minimise their interest and non-interest expenses in the post-merger periods. These findings are similar to the previous findings Abbas et al. (2014), whose studies found that sample banks of IE/I increased after the M&A.

Table 5. 7: Pre-Post-M&A Analysis of Cash Equivalent to Total Assets Ratio (CETA)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	2.15	3.06	0.91	Increase
Global IME Bank Limited (GBIME)	2.24	7.10	4.86	Increase
Prabhu Bank Limited (PRVU)	5.63	8.79	3.16	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	2.54	6.21	3.67	Increase
NMB Bank Limited (NMB)	4.23	5.59	1.36	Increase
Nepal Investment Bank Limited (NIB)	2.28	5.59	3.31	Increase
Kumari Bank Limited (KBL)	4.39	6.31	1.92	Increase
Mean Overall	**3.3514**	**6.0929**	**2.74143**	**Increase**

Figure 5. 6: Total Mean of CE/TA

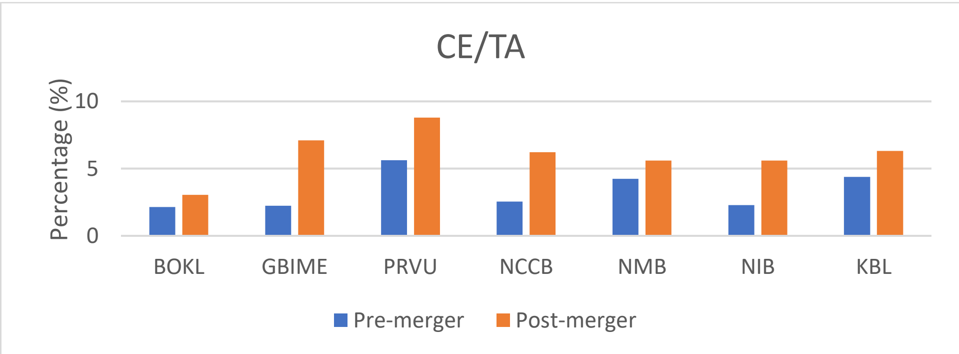


Table 5.7 shows sample banks Cash Equivalent to Total Assets (CETA) ratio improved after the M&A periods. Figure 5.6 noted that all the seven banks mean value of CETA increased in the post-merger periods. The mean value of CETA of GBIME increased by 4.86%, which is the highest among sample banks and the lowest growth seen in

BOKL by 0.91%. Similarly, it is visible that the mean value of CETA of NCCB increased by 3.67%, NIB by 3.31%, KBL by 1.92%, and NMB by 1.36%, respectively. These results indicated that the liquidity performance of commercial banks improved after the M&A.

Meanwhile, the overall mean value of CETA of sample banks increased by 2.74% in the post-merger period. This result contradicts the previous findings of (Abbas et al. 2014; Shah & Khan 2017), who found that sample banks CETA decreased in the post-merger period. However, similar to the findings of (Shrestha et al. 2017), sample bank CETA increased after the M&A.

Table 5. 8: Pre-Post-M&A Analysis of Investment to Total Assets Ratio (ITA)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	12.47	13.86	1.39	Increase
Global IME Bank Limited (GBIME)	16.75	10.60	-6.15	Decrease
Prabhu Bank Limited (PRVU)	14.72	10.01	-4.71	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	11.27	9.89	-1.38	Decrease
NMB Bank Limited (NMB)	13.25	8.33	-4.92	Decrease
Nepal Investment Bank Limited (NIB)	20.31	10.02	-10.29	Decrease
Kumari Bank Limited (KBL)	12.49	10.41	-2.08	Decrease
Mean Overall	**14.4657**	**10.4457**	**-4.02000**	**Decrease**

Figure 5. 7: Total Mean of I/TA

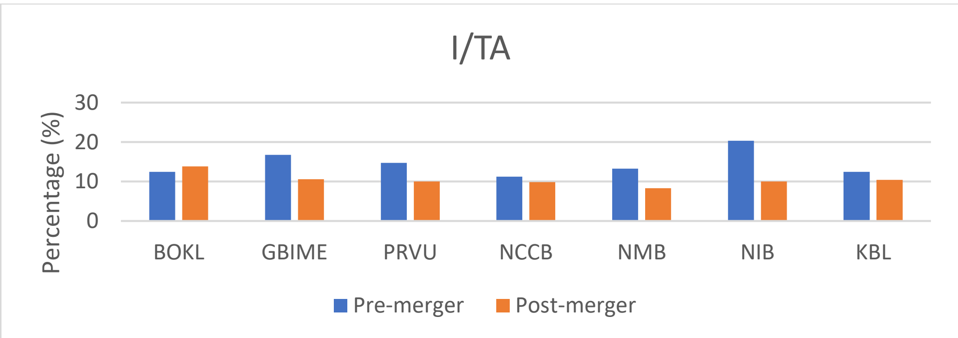


Table 5.8 shows that the Investment to Total Assets of sample banks deteriorated in the post-M&A period. Figure 5.7 noted only one bank ITA increased, and six sample banks decreased in the post-merger period. The mean value of ITA of BOKL increased

by 1.39% in the pre-merger period. However, the mean value of ITA of NIB decreased by 10.29%, GBIME by 6.15%, NMB by 4.92%, PRVU by 4.71%, KBL by 2.08%, and NCCB by 1.38%, respectively. The decrease of ITA of commercial banks indicates that banks productivity declined in the post-merger period. These results suggest that banks productivity and investment return managed effectively in the pre-merger period rather than the post-merger period. Meanwhile, the overall mean value of ITA of commercial banks decreased by 4.02% in the post-merger period, which contradicts the findings of Abbas et al. (2014) and Shah and Khan (2017), who reported ITA improved after M&A.

Table 5. 9: Pre -Post-M&A Analysis of Liquidity Cash Reserve Ratio (CRR)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	8.50	8.54	0.04	Increase
Global IME Bank Limited (GBIME)	32.26	24.02	-8.24	Decrease
Prabhu Bank Limited (PRVU)	15.70	7.47	-8.23	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	14.28	13.11	-1.17	Decrease
NMB Bank Limited (NMB)	12.62	5.60	-7.02	Decrease
Nepal Investment Bank Limited (NIB)	12.80	7.47	-5.33	Decrease
Kumari Bank Limited (KBL)	9.95	5.07	-4.88	Decrease
Mean Overall	**15.1586**	**10.1829**	**-4.97571**	**Decrease**

Figure 5. 8: Liquidity Cash Reserve Ratio (CRR)

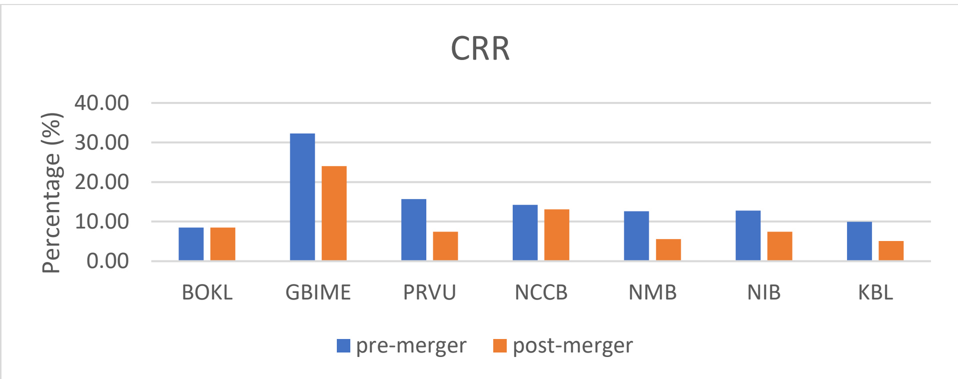


Table 5.9 shows that the Liquidity Cash Reserve Ratio (CRR) of sample banks improved after the M&A. Figure 5.8 shows that the mean value of CRR of six banks

decreased in the post-merger periods. This declining trend in the CRR is a positive sign of increasing the profitability and assets to generate more interest income. The table shows that the mean value of CRR of GBIME has decreased by 8.24%, the tremendous improvement and the lowest improvement of NCCB by 1.17% in the post-merger periods. Similarly, the mean value of CRR of PRVU decreased by 8.23%, NBM by 7.02%, NIB by 5.33%, and KBL by 4.88, respectively, which is also a positive sign after the M&A. On the other hand, the mean value of CRR of BOKL is increased by 0.04% in the post-merger period. However, the overall mean value of CRR of the commercial banks decreased by 4.97% in the post-merger periods. As the regulator requirement of CRR is 4% for the commercial banks in the country according to the monetary policy 2018/2019.

Table 5. 10: Pre-Post-M&A Analysis of Total Liabilities to Total Assets Ratio (TLTA)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	90.86	88.85	-2.01	Decrease
Global IME Bank Limited (GBIME)	89.70	89.30	-0.40	Decrease
Prabhu Bank Limited (PRVU)	91.90	89.86	-2.04	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	90.19	87.20	-2.99	Decrease
NMB Bank Limited (NMB)	91.17	86.94	-4.23	Decrease
Nepal Investment Bank Limited (NIB)	89.62	86.13	-3.49	Decrease
Kumari Bank Limited (KBL)	90.27	88.29	-1.98	Decrease
Mean Overall	**90.5300**	**88.0814**	**-2.45**	**Decrease**

Figure 5. 9: Total Mean of TL/TA

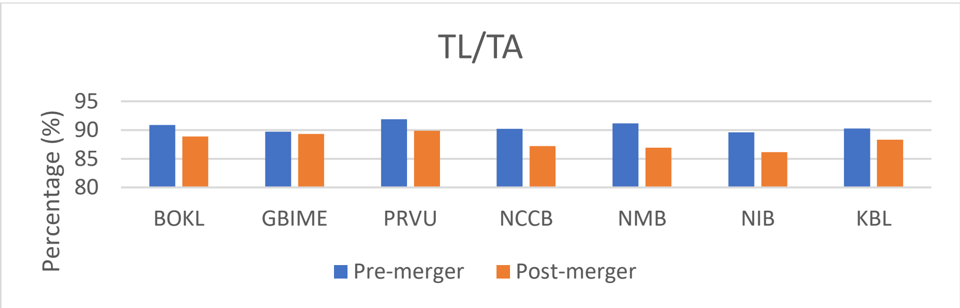


Table 5.10 shows that the Total Liabilities to Total Assets (TL/TA) ratio improved in the post-M&A periods. In figure 5.9, we noted all the seven banks TL/TA decreased

in the post-merger period. The mean value of TL/TA of NMB decreased by 4.23%, highest among sample banks and lowest of GBIME by 0.40 %. Similarly, the mean value of TL/TA of NIB decreased by 3.49%, NCCB by 2.99%, PRBU by 2.04%, BOKL by 2.01%, and KBL by 1.98%, respectively in the post-merger period. Thus, the decrease of TL/TA in the post-merger period indicates that all the sample seven banks' ratios improved after M&A. Meanwhile, the overall mean value of TL/TA of commercial banks decreased by 2.45% in the post-merger periods, which shows an improvement in the sample bank's liquidity position to expand their business. These results are against the previous studies of Abbas et al. (2014), who reported that sample banks ratios increased after the M&A.

Table 5. 11: Pre-Post-M&A Analysis of Debt-to-Equity Ratio (DE)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	9.97	6.40	-3.57	Decrease
Global IME Bank Limited (GBIME)	8.72	8.35	-0.37	Decrease
Prabhu Bank Limited (PRVU)	12.45	8.92	-3.53	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	8.74	7.93	-0.81	Decrease
NMB Bank Limited (NMB)	10.38	6.72	-3.66	Decrease
Nepal Investment Bank Limited (NIB)	8.83	6.22	-2.61	Decrease
Kumari Bank Limited (KBL)	9.77	7.57	-2.20	Decrease
Mean Overall	**9.8371**	**7.4443**	**-2.39286**	**Decrease**

Figure 5. 10: Total Mean of D/E

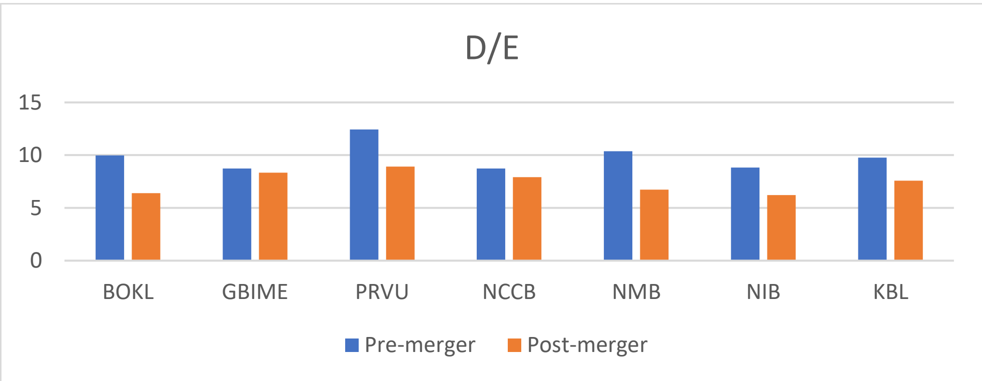


Table 5.11 shows that sample banks debt to Equity (D/E) ratio improved in the post-merger periods. In figure 5.10, we noted all the seven banks D/E ratios declined in the post-merger periods. The mean value of D/E of NMB declined by 3.66 times, the

highest among sampled banks and lowest by GBIME by 0.37 times. Similarly, the mean value of D/E of BOKL declined by 3.57 times, PRVU by 3.53 times, NIB by 2.61 times, KBL by 2.20 times, and NCCB 0.81 times, respectively after M&A. The decreased sample banks D/E means an improvement in the financial leverage of seven banks in the post-merger periods. However, the overall mean value of commercial banks of D/E declined by 2.39 times after the M&A. This reduction of debt of sample banks in the post-merger period is a positive sign for the financial leverage of the bank to pay its long-term obligations. These results are opposite the previous studies of Mantravadi and Reddy (2008), who found that sample banks D/E increased in the post-merger periods. However, the results are similar to Abbas et al. (2014), who found that sampled banks D/E improved after the post-merger periods.

Table 5. 12: Pre-Post-M&A Analysis of Total Deposit to Total Equity Ratio (TD/TE)

Banks	**Pre-merger Mean**	**Post-merger Mean**	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	9.52	6.22	-3.3	Decrease
Global IME Bank Limited (GBIME)	8.37	7.77	-0.6	Decrease
Prabhu Bank Limited (PRVU)	12.28	8.18	-4.1	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	8.58	7.61	-0.97	Decrease
NMB Bank Limited (NMB)	10.04	5.74	-4.3	Decrease
Nepal Investment Bank Limited (NIB)	8.41	5.91	-2.5	Decrease
Kumari Bank Limited (KBL)	9.56	7.04	-2.52	Decrease
Mean Overall	**9.5371**	**6.9243**	**-2.61286**	**Decrease**

Figure 5. 11: Total Mean of TD/TE

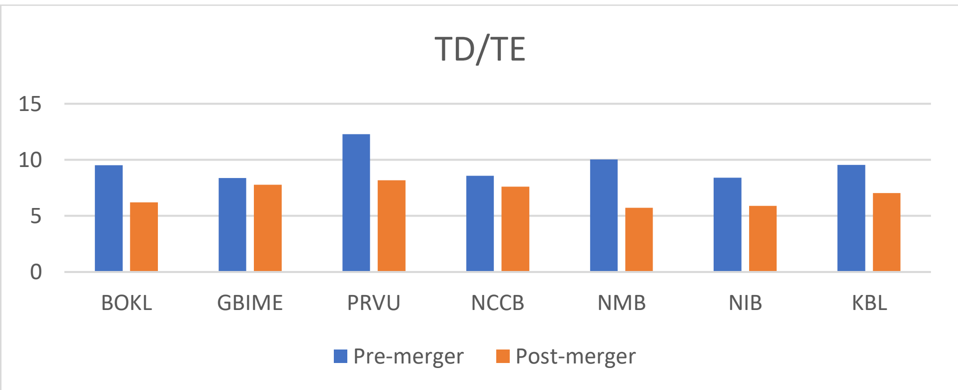


Table 5.12 shows that the Total Deposit to Total Equity (TD/TE) improved after the M&A. Figure 5.11 noted that all the sampled banks mean value of TD/TE decreased in the post-merger period. Table 5.12 shows that the mean value of TD/TE of NMB decreased by 4.30 times, highest among other banks and lowest by GBIME by 0.60 times in the post-merger period. Similarly, the mean value of the TD/TE of PRVU decreased by 4.10 times, BOKL by 3.30 times, KBL by 2.52 times, NIB by 2.50 times, and NCCB by 0.97 times after the M&A. Meanwhile, the overall mean value of commercial banks decreased by 2.62 times after the M&A. Thus, the decreased trend results of all sample banks indicate that their performance improved in the post-merger periods. This result contradicts the findings of Abbas et al. (2014) and Shah and Khan (2017). These authors reported that sampled banks TD/TE ratio increased after the M&A and had a negative impact in the post-merger period.

Table 5. 13: Pre-Post-M&A Analysis of Capital Adequacy Ratio (CAR)

Banks	**Pre-merger Mean**	**Post-merger Mean**	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	12.53	14.45	1.92	Increase
Global IME Bank Limited (GBIME)	12.47	12.09	-0.38	Decrease
Prabhu Bank Limited (PRVU)	10.53	11.40	0.87	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	13.78	12.99	-0.79	Increase
NMB Bank Limited (NMB)	10.95	15.43	4.48	Increase
Nepal Investment Bank Limited (NIB)	12.70	13.15	0.45	Increase
Kumari Bank Limited (KBL)	11.45	13.49	2.04	Increase
Mean Overall	**12.0586**	**13.2857**	**1.22714**	**Increase**

Figure 5. 12: Total Mean of CAR

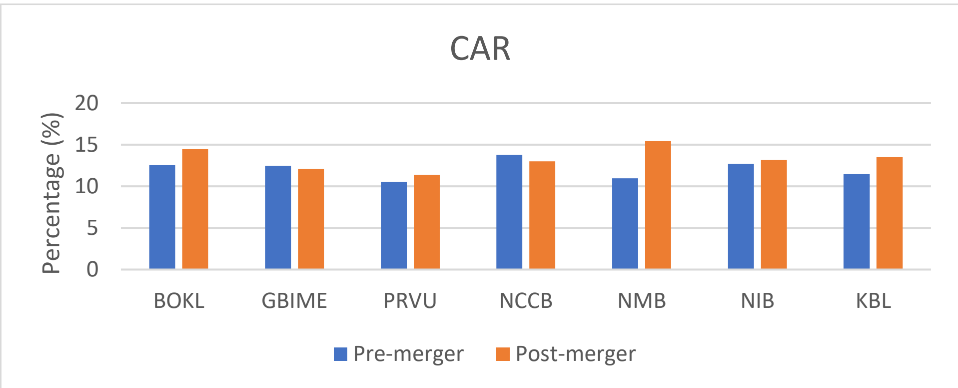


Table 5.13 shows that sample banks Capital Adequacy Ratio (CAR) improved after the M&A period. Figure 5.12 shows that the mean value of CAR of five banks increased except for two banks. The mean value of CAR of NMB improved by 4.48%, which is the highest among sampled banks and the lowest marginal growth rate in NIB by 0.45% after the M&A. Similarly, the mean value of CAR of KBL improved by 2.045, BOKL by 1.92%, and PRVU by 0.87% respectively. On the other side, CAR of NCCB decreased by 0.87%, and GBIME by 0.37% in the post-merger period. However, the overall mean value of commercial banks CAR is improved by 1.23% in the post-merger.

These results indicate that financial leverage has improved in the post-merger period. The CAR of all sample banks is above the mandatory of 11% of NRB mandatory requirements for the commercial banks and protected from any unforeseen losses. These findings contradict Shah and Khan (2017), who found that CAR of sample banks decreased after the M&A. However, the results are similar to the findings of Agarwal et al. (2019) who reported that CAR of simple banks increased after the M&A.

Table 5. 14: Pre-Post-M&A Analysis of Total Loans to Total Deposit Ratio (TL/TD)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	83.21	87.18	3.97	Increase
Global IME Bank Limited (GBIME)	80.17	88.29	8.12	Increase
Prabhu Bank Limited (PRVU)	64.55	77.69	13.14	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	79.23	86.45	7.22	Increase
NMB Bank Limited (NMB)	77.24	90.48	13.24	Increase
Nepal Investment Bank Limited (NIB)	74.06	84.54	10.48	Increase
Kumari Bank Limited (KBL)	78.09	90.10	12.01	Increase
Mean Overall	**76.6500**	**86.3900**	**9.74000**	**Increase**

Figure 5. 13: Total Loans to Total Deposit Ratio (TL/TD)

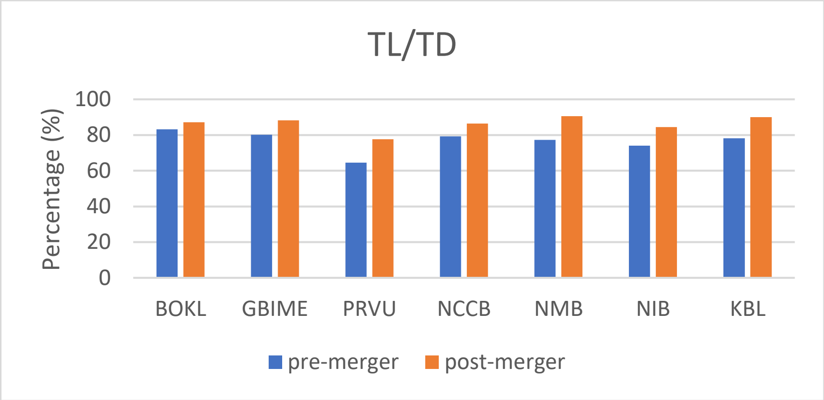


Table 5.14 shows that the Total Loans to Total Deposit (TL/TD) ratio of sample banks improved after the M&A. Figure 5.13 shows that all the seven sample banks mean value of TD/TA increased after the post-merger periods. The mean value of TD/TA of NMB increased by 13.24%, which is the highest among sampled banks and the lowest gains of BOKL by 3.97%. after the M&A. Similarly, the mean value of TL/TD of PRVU improved by 13.24%, KBL by 12.01%, NIB by 10.48%, GBIME by 8.12%, and NCCB by 7.22% respectively in the post-merger periods. Meanwhile, the overall mean value of commercial banks TL/TD improved by 9.74% in the post-merger periods. These results indicate that after the M&A, all the sampled banks started loan promotion and deposit collection to increase their interest income and net profit. Thus, the TL/TD ratio increment suggests that sampled banks financial condition is stronger in the post-merger periods to supply more loans to the public to increase their profitability. These findings are similar to the findings of Muhammad et al. (2019a), who reported that sample banks advances to TLOTD ratio are improved in the post-merger period. However, it contradicts Sufian (2004) studies in Malaysia, which reported that most of the sampled banks TL/TD ratios decreased after the M&A.

Table 5. 15: Pre-Post-M&A Analysis of Total Deposit to Total Assets Ratio (TD/TA)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	86.77	86.43	-0.34	Decrease
Global IME Bank Limited (GBIME)	86.11	83.16	-2.95	Decrease
Prabhu Bank Limited (PRVU)	90.51	82.54	-7.97	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	88.56	83.75	-4.81	Decrease
NMB Bank Limited (NMB)	88.34	74.34	-14.00	Decrease
Nepal Investment Bank Limited (NIB)	85.41	81.90	-3.51	Decrease
Kumari Bank Limited (KBL)	88.83	82.26	-6.57	Decrease
Mean Overall	**87.7900**	**82.0543**	**-5.73571**	**Decrease**

Figure 5. 14: Total Mean of TD/TA

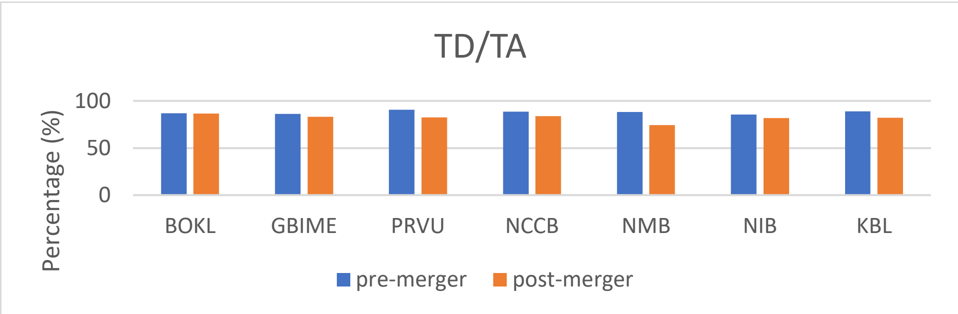


Table 5.15 shows that the Total Deposit to Total Assets (TD/TA) ratio of sample banks improved after the M&A. In figure 5.14, we noted that the mean values of TD/TA of all sampled banks decreased in the post-M&A period. Similarly, the mean value of TD/TA of NMB declined by 14%, the highest among sampled banks and the lowest decline of BOKL by 0.34% in the post-merger period. Likewise, the mean value of TD/TA of PRVU decreased by 7.97%, KBL by 6.57%, NCCB by 4.81%, NIB by 3.51%, and GBIME by 2.95%, respectively, in the post-merger period. Meanwhile, overall, the mean value of TD/TA of commercial banks decreased by 5.74% in the post-merger periods. These results suggest that deposit funding decreases in the post-merger period, which is a positive sign for the sample banks to increase their profitability in the future. However, in developing countries, a TD/TA ratio between 80-90% is acceptable as external funding is limited and commercial banks primary funding source is a deposit from the customer.

Table 5. 16: Pre-Post-M&A Analysis of Non- Performing Loans to Total Loans Ratio (NPL)

Banks	**Pre-merger Mean**	**Post-merger Mean**	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	2.44	2.29	-0.15	Decrease
Global IME Bank Limited (GBIME)	2.22	1.03	-1.19	Decrease
Prabhu Bank Limited (PRVU)	13.48	3.63	-9.85	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	1.86	3.17	1.31	Increase
NMB Bank Limited (NMB)	0.93	1.46	0.53	Increase
Nepal Investment Bank Limited (NIB)	1.23	2.35	1.12	Increase
Kumari Bank Limited (KBL)	2.18	1.15	-1.03	Decrease
Mean Overall	**3.4771**	**2.1543**	**-1.32286**	**Decrease**

Figure 5. 15: Total Mean of NPL

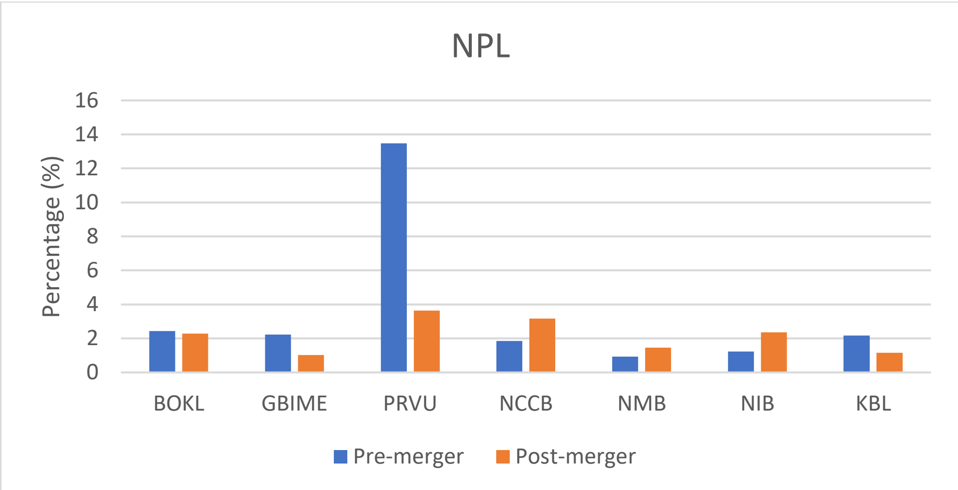


Table 5.16 shows the mixed results of Non- Performing Loans to Total Loans Ratio (NPL) in the post-M&A period. Figure 5.15 noted that the mean value of four sampled banks NPL decreased the other three banks increased in the post-merger period. However, the mean value of NPL of PRBU bank reduced by 9.85%, which is the most considerable improvement, and the marginal improvement of BOKL by 0.15% in the post-merger periods. Similarly, the mean value of NPL of GBIME decreased by 1.19% and KBL by 1.03% after the M&A.

Likewise, the mean value of NPL of NCCB deteriorated by 1.31%, NIB by 1.12%, NMB by 0.53% after the M&A, which impacts their profitability and efficiency. However, the overall mean value of NPL of commercial banks improved by 1.32% in the post-merger period. Therefore, the decreasing trend of NPL is a positive sign for the banking industries to improve their profitability. These findings are similar to Bipin et al. (2018) who reported that NPL of BFIs improved after the M&A. However, results contradicted the studies of Shrestha et al. (2017), who reported that the NPL of BFIs increased after the M&A.

Table 5. 17: Pre and Post Merger Analysis of Earnings Per Share (EPS)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	12.05	19.77	7.72	Increase
Global IME Bank Limited (GBIME)	18.16	21.92	3.76	Increase
Prabhu Bank Limited (PRVU)	11.83	14.17	2.34	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	21.4	18.36	-3.04	Decrease
NMB Bank Limited (NMB)	18.54	20.04	1.5	Increase
Nepal Investment Bank Limited (NIB)	33.63	25.74	-7.89	Decrease
Kumari Bank Limited (KBL)	16.87	12.65	-4.22	Decrease
Mean Overall	**18.9257**	**18.9500**	**0.02429**	**Increase**

Figure 5. 16: Total Mean of EPS

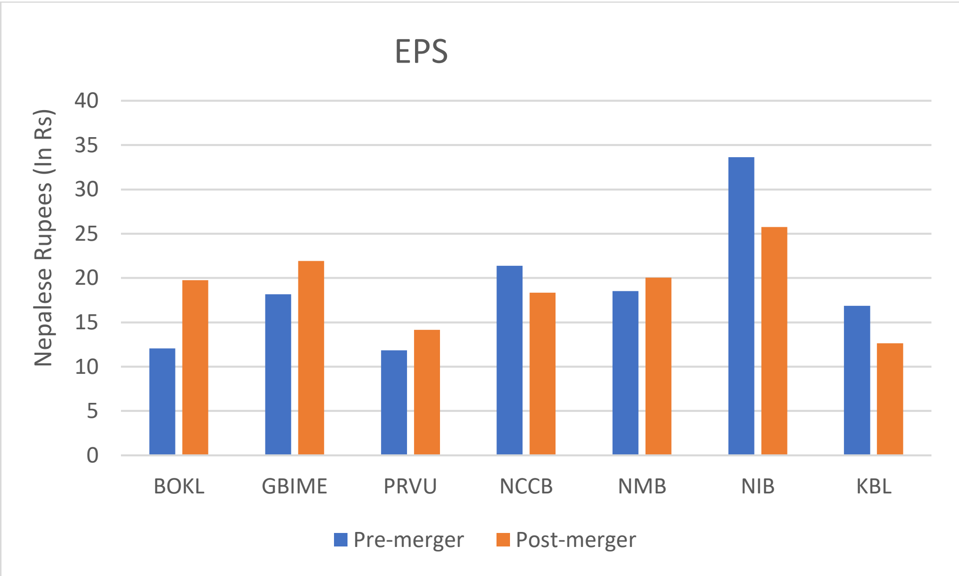


Table 5.17 shows that the sample banks Earning Per Share (EPS) improved after the M&A. Figure 5.16 noted that four banks' EPS increased, and the other three banks' EPS declined in the post-merger period. The mean value of EPS of BOKL improved by Rs 7.72 per share, GBIME by Rs 3.76 per share, PRVU by Rs 2.34 per share, and NMB by Rs 1.50 per share. On the other hand, after M&A, the mean value of EPS of NIB declined by Rs 7.89 per share, which is highest among sample banks, followed

by KBL Rs 4.22 per share and NCCB Rs 3.04 per share. The EPS of these three banks declined, indicating that operating costs increased after M&A with the weaker BFIs. Thus, overall commercial banks mean value of EPS increased marginally by 0.03%. This slow improvement in the EPS is due to an increment in the capital in the short period. This increment in the capital plays a significant role in reducing the EPS in the post-merger period as the banking business is limited and competitive in the small market. Therefore, the results are similar to previous studies in India (Kalra et al. 2013; Patel 2018) and UK companies Jallow et al. (2017), which found that selected banks and companies EPS improved after the M&A. However, it contradicts the findings of Abbas et al. (2014) in Pakistan, who found that the EPS of the sample bank decreased after the M&A periods.

Table 5. 18: Pre-Post-M&A Analysis of Market Price Per Share (MPS)

Banks	Pre-merger Mean	Post-merger Mean	Change (Post-Pre)	Comparison
Bank of Kathmandu (BOKL)	445.33	201.67	-243.66	Decrease
Global IME Bank Limited (GBIME)	544.47	274.00	-270.47	Decrease
Prabhu Bank Limited (PRVU)	323.33	224.67	-98.66	Decrease
Nepal Credit and Commerz Bank Limited (NCCB)	488.00	227.33	-260.67	Decrease
NMB Bank Limited (NMB)	610.67	379.00	-231.67	Decrease
Nepal Investment Bank Limited (NIB)	901.33	523.67	-377.66	Decrease
Kumari Bank Limited (KBL)	445.33	201.67	-243.66	Decrease
Mean Overall	**536.9229**	**290.2871**	**-246.63571**	**Decrease**

Figure 5. 17: Total Mean of MPS

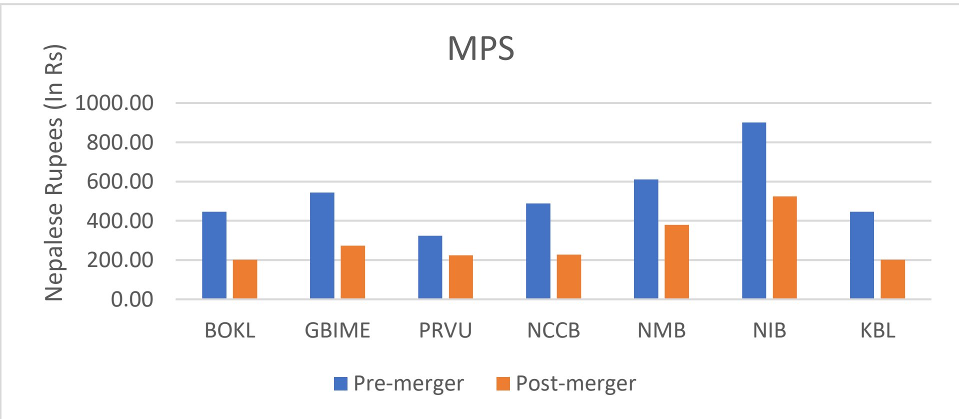


Table 5.18 shows that the Market Price Per Share (MPS) of sample banks deteriorated after the M&A. In figure 5.17. We noted all the seven banks MPS decreased in the post periods. The decrease in MPS indicates that shareholders' wealth was severely affected by its stock price in the NEPSE. The mean value of MPS of KBL and BOKL declined by 54.71%, the highest among sampled banks, and the lowest fallout of PRBU by 30.51% after the post-merger periods. Similarly, the mean value of MPS of NCCB declined by 53.42%, GBIME by 49.68%, NIB by 41.90%, and NMB by 37.94% in the post-merger periods.

However, the overall mean value of MPS of commercial banks declined by 45.94% after the M&A. The significant reasons for the decline of MPS are the hike of capital increment plan of BFIs by the regulatory bodies. In the initial periods, the MPS of all BFIs increased as shareholders expected bonuses and additional shares reflected in the total dividends declared by the sampled banks in the fiscal year 2014 to 2016. These capital increments of BFIs in a short period lead to an oversupply of many BFIs shares in the secondary market, impacting the MPS after the post-merger periods.

Table 5. 19: Pre-Post-M&A Analysis of Dividend Per Share (DPS)

Banks	**Pre-merger Mean**	**Post-merger Mean**	**Change (Post-Pre)**	**Comparison**
Bank of Kathmandu (BOKL)	20.44	19.33	-1.11	Decrease
Global IME Bank Limited (GBIME)	20.33	21.00	0.67	Increase
Prabhu Bank Limited (PRVU)	0.00	11.93	11.93	Increase
Nepal Credit and Commerz Bank Limited (NCCB)	18.67	14.44	-4.23	Decrease
NMB Bank Limited (NMB)	16.49	27.07	10.58	Increase
Nepal Investment Bank Limited (NIB)	38.58	25.67	-12.91	Decrease
Kumari Bank Limited (KBL)	22.9	11.01	-11.89	Decrease
Mean Overall	**19.6300**	**18.6357**	**-0.99429**	**Decrease**

Figure 5. 18: Total Mean of DPS

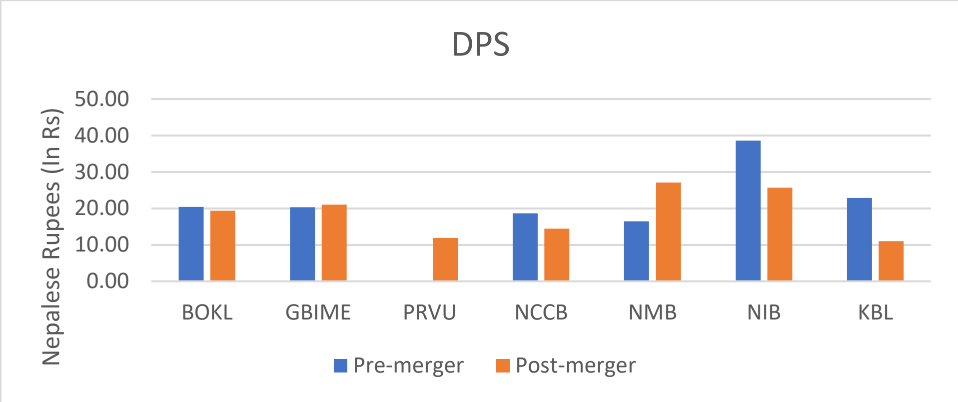


Table 5.19 shows that sample banks Dividend Per Share (DPS) deteriorated in the post-merger periods. In figure 5.18, we noted mix trend of DPS in both periods. The mean value of the four sampled banks increased, and the remaining three banks decreased in the post-merger periods. Likewise, the mean value of DPS of PRBU improved by 11.93%, which is an outstanding achievement as the banks can minimise the highest NPL (Figure 31). Similarly, the mean value of DPS of NMB improved by 10.58%, and GBIME by 0.67% in the post-merger periods. The increase of DPS in both banks through business expansion and a rise in net profit in the post-merger periods.

On the other hand, the mean value of MPS of NIB decreased by 12.91% in the post-merger periods due to the decline of net profit and surged NPL (Figure 31) in the post-merger periods. Likewise, the mean value of DPS of KBL declined by 11.89%, NCCB by 4.23%, and BOKL by 1.11% after the M&A, respectively. These results indicate that sampled banks were unable to expand their business in the post-merger periods. However, the overall mean value of DPS of sample banks decreased by 0.99% after the M&A. These findings suggest that DPS started to fall in the post-merger period due to increment of capital by commercial banks after the fiscal year 2015/2016.

5.4: Hypothesis Testing

Table 5.20 shows the paired sample t-test of seven selected banks of 18 pairs of financial ratios comparing pre-post-M&A periods. The first column of the table gives the detailed information of pairs of ratios used for the study, the second part of the table gives the information on the mean difference of variables before and after the M&A periods.

The third column of the table gives detailed information about standard deviation variation between two periods, the fourth column gives the information about standard error mean, the fifth and sixth column of the table shows upper and lower differences at 95% of confidence intervals, seven-column of the table shows t-value, the eight-column of the table shows the degree of freedom.

The ninth column of the table gives a p-value (two-tailed) and the ten and eleven columns of the table show the hypothesis of the study and its result, respectively.

If the p-value is less than 0.05, there is a significant difference between the financial ratios before and after the M&A.

The hypothesis testing of eighteen variables is discussed below.

Table 5. 20: Paired Samples Test Analysis of Sample Commercial Banks

		Paired Differences									
					95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)	Hypothesis Relation	Results
	Profitability parameters:										
Pair 1	Return on Equity (Pre & Post)	1.86095	9.82037	2.14298	-2.60922	6.33113	0.868	20	0.395	NS	**NS**
Pair 2	Return on Assets (Pre & Post)	-0.04619	0.78978	0.17234	-0.40569	0.31331	-0.268	20	0.791	NS	**NS**
Pair 3	Net Interest Margin (Pre & Post)	-0.15048	0.85040	0.18557	-0.53757	0.23662	-.811	20	0.427	NS	**NS**
Pair 4	Spread Ratio Pre-Merger (Pre & Post)	10.56714	4.57920	0.99926	8.48272	12.65157	10.575	20	0.000	NS	**S**
Pair 5	Interest expenses to Interest income Ratio (Pre & Post)	-9.88524	5.45096	1.18950	-12.36649	-7.40399	-8.310	20	0.000	NS	**S**
	Liquidity Parameters:										
Pair 6	Cash equivalent to Total assets Ratio (Pre & Post)	-2.74333	3.22012	0.70269	-4.20911	-1.27755	-3.904	20	0.001	NS	**S**
Pair 7	Investment to Total Assets Ratio (Pre & Post)	4.16333	5.93815	1.29581	1.46032	6.86635	3.213	20	0.004	NS	**S**
Pair 8	Liquidity Cash Reserve Ratio (Pre & Post)	5.11286	4.39276	0.95858	3.11330	7.11242	5.334	20	0.000	NS	**S**
Pair 9	Total Liabilities to Total Assets Ratio (Pre & Post)	2.49429	2.56930	0.56067	1.32476	3.66382	4.449	20	0.000	NS	**S**
	Leverage Parameters:										
Pair 10	Debt to Equity Ratio (Pre & Post)	2.39238	2.41751	0.52754	1.29195	3.49282	4.535	20	0.000	NS	**S**
Pair 11	Total Deposit to Total Equity Ratio (Pre & Post)	1.71619	3.09147	0.67461	0.30897	3.12341	2.544	20	0.019	NS	**S**
Pair 12	Capital Adequacy Ratio (Pre & Post)	-1.22667	2.16116	0.47160	-2.21041	-0.24292	-2.601	20	0.017	NS	**S**
Pair 13	Total Loans to Total Deposit Ratio (Pre & Post)	-9.74048	5.70667	1.24530	-12.33812	-7.14283	-7.822	20	0.000	NS	**S**
Pair 14	Total Deposit to Total Assets Ratio (Pre & Post)	5.73619	4.99815	1.09068	3.46106	8.01132	5.259	20	0.000	NS	**S**
Pair 15	Non-Performing Loans to Total Loans Ratio (Pre & Post)	1.32429	4.77188	1.04131	-0.84785	3.49642	1.272	20	0.218	NS	**NS**
	Wealth of Shareholders Parameters:										
Pair 16	Earnings Per Share (Pre & Post)	-0.02286	10.40790	2.27119	-4.76047	4.71476	-0.010	20	0.992	NS	**NS**
Pair 17	Market Price Per Share (Pre & Post)	252.80952	130.44256	28.46490	193.43278	312.18627	8.881	20	0.000	NS	**S**
Pair 18	Dividend Per Share (Pre & Post)	0.99571	14.78778	3.22696	-5.73560	7.72703	0.309	20	0.761	NS	**NS**

Notes: Significant at 0.05 level (2- tailed**)** NS = Not significant S = Significant

Hypothesis 1: Accepted (Not Significant)

Table 5.20 shows that the mean value difference of Return on Equity (ROE) of commercial banks between pre-post-M&A is 1.86095. Thus, the mean value of ROE of the sample bank decreased by 1.86% in the post-merger periods (see Table 5.2). The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of ROE of the sample bank is 0.395 with a t-test ratio at 0.868, which is greater than a 5% significant level. Therefore, we accept the null (**H_{O1}**) hypothesis and conclude that M&A has no significant effect on ROE. These findings are similar to Abbas et al. (2014) in the Pakistan sample banks and Pahuja and Aggarwal (2016) India selected banks that decreased ROE is not statistically significant after M&A. However, studies by Shah and Khan (2017) show that decreased ROE in the sample banks is statistically significant (at a 1% significant level) after the M&A.

Hypothesis 2: Accepted (Not Significant)

Table 5.20 shows that the mean value difference of commercial banks Return on Assets (ROA) between pre-post-M&A is negative 0.04619. On the other hand, the mean value of ROA of the sample bank improved marginally by 0.04% in the post-merger periods (see Table 5.3). The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of ROA of sample bank is 0.791 with a t-test ratio at -0.268 greater than 5% significant level. Therefore, we accept the null (**H_{O2}**) hypothesis and know that M&A has no significant effect on ROA. The conclusion is that there is no significant difference in ROA of commercial banks mean value between the pre-post-M&A periods. These findings are similar to the previous studies of Bipin et al. (2018) who reported sample BFIs ROA increases are not statistically significant. But these results are against the studies of UK companies by Jallow et al. (2017), who found that sample companies ROA increased in the post-merger periods was statistically significant.

Hypothesis 3: Accepted (Not Significant)

Table 5.20 shows that the mean value difference of Net Interest Margin (NIM) of commercial banks between pre-post-M&A is negative 0.15408. The average NIM of the sample bank improved by 0.15% in the post-merger periods (see Table 5.4). The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of NIM of the sample bank is 0.427 with a t-test ratio at – 0.811, which is greater than a 5% significant level. Therefore, we accept the null (**H_{O3})** hypothesis and conclude that M&A has no significant effect on NIM. These findings are against Abbas et al. (2014) who found that sample banks' NIM decrease was statistically insignificant after M&A.

Hypothesis 4: Rejected (Significant)

Table 5.20 shows that the mean value difference of Spread Ratio (SR) of commercial banks between pre-post-M&A is 10.5672. The mean value of SR of the sample banks decreases by 10.57% in the post-merger periods, verified by Table 5.4. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of SR of the sample bank is 0.000 with a t-test ratio at 10.575, which is less than a 5% significant level. Therefore, we reject the null (**H_{O4})** hypothesis and conclude that M&A has a significant effect on SR. These findings are similar to Abbas et al. (2014) in the Pakistan sample banks where decreased average SR resulting significant effects on before and after the M&A periods.

Hypothesis 5: Rejected (Significant)

Table 5.20 shows that the mean value difference of Interest Expense to Income Ratio (IEI) of commercial banks between pre-post-M&A is negative 9.88524. On the other hand, the mean value of IEI of the sample bank increased sharply by 9.87% in the post-merger periods and was verified by Table 5.5. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of IEI of the sample bank is 0.000 with a t-test ratio at -8.310, which is less than 5% significant. Therefore, we reject the null **(H_{O5})** hypothesis and conclude that M&A significantly affects IEI. This result is similar to the previous finding in the Pakistan banks by (Abbas et al. 2014) who reported the mean value of IEI increased in the post-merger period resulting in a significant effect on the pre-post-merger period.

Hypothesis 6: Rejected (Significant)

Table 5.20 shows that the mean value difference of Cash Equivalent to Total Assets Ratio (CTA) of commercial banks between pre-post-M&A is negative 2.7433. The CTA mean value of the sample banks are increased by 2.74% in the post-merger periods and verified by Table 5.6. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of IEI of the sample bank is 0.001 with a t-test ratio at -3.904, which is less than a 5% significant level. Therefore, we reject the null (**H_{O6})** hypothesis and conclude that M&A significantly affects CTA. This result contradicts the findings to the previous determination in the Pakistan banks by (Abbas et al. 2014; Shah & Khan 2017), who found CTA decreased in the post-merger period resulting in a significant effect.

Hypothesis 7: Rejected (Significant)

Table 5.20 shows that the mean value difference of Investment to Total Assets Ratio (ITA) of commercial banks between pre-post-M&A is 4.1633. The mean value of ITA of the sample banks decreased by 4.16% in the post-merger periods and was verified by Table 5.7. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of ITA of the sample bank is 0.004 with a t-test ratio at 3.213, which is less than a 5% significant level. Therefore, we reject the null (**H_{O7})** hypothesis and know that M&A significantly affects ITA. However, these findings contradict the previous finding in the Pakistan banks by (Abbas et al. 2014), who reported the ITA increased in the post-merger period resulting in a significant effect. Similarly, increased ITA in the post-merger was insignificant in the studies by Shah and Khan (2017).

Hypothesis 8: Rejected (Significant)

Table 5.20 shows the mean value difference of Liquidity Cash Reserve Ratio (CRR) of commercial banks between pre-post-M&A is 5.1128. Thus, the mean CRR of the sample bank declined by 5.12% in the post-merger periods and was verified by Table 5.8. To know whether the decrease of CRR between pre-post-merger is statistically significant or not, we applied paired t-test. Results in Table 5.20 reveal that the p-value (two-tail) of CRR of the sample bank is 0.000 with a t-test ratio at 5.334, which is less than a 5% significant level. As a result of these findings, we reject the null (**H_{O8})** hypothesis and know that M&A significantly affects CRR.

Hypothesis 9: Rejected (Significant)

Table 5.20 shows that the mean value difference of Total Liabilities to Total Assets Ratio (TLTA) of commercial banks between pre-post-M&A is 2.4943. The mean value of TLTA of the sample banks decreased slightly by 2.49% in the post-merger periods and was verified by Table 5.9. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of TLTA of sample bank is 0.000 with a t-test ratio at 4.449, which is less than 5% significant level. Therefore, we reject the null (**H_{O9}**) hypothesis and conclude that M&A significantly affects TLTA. These results are opposite of the previous finding in the Pakistan banks by (Abbas et al. 2014), where the mean value of TLTA increased in the post-merger period resulting in an insignificant effect.

Hypothesis 10: Rejected (Significant)

Table 5.20 shows that the mean value difference of the Debt to Equity (DE) ratio of commercial banks between pre-post-M&A is 2.3924. The mean value of the DE ratio decreased by 2.39% in the post-merger periods, verified by Table 5.10. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of DE of the sample bank is 0.000 at a t-test ratio of 4.535, which is less than a 5% significant level. As a result of these findings, we reject the null (**Ho_{10}**) hypothesis and conclude that M&A has a significant effect on DE. These findings are similar to Abbas et al. (2014) in Pakistan and Dwa and Shah (2017). Their studies found that sample banks mean value of DE decreased, resulting in insignificant effects on pre-post-merger periods.

Hypothesis 11: Rejected (Significant)

Table 5.20 shows that the mean value difference of Total Deposit to Total Equity Ratio (TDTE) of commercial banks between pre-post-M&A is 2.62 times. The mean value of TDTE of the sample banks decreased by 2.62 times in the post-merger periods and was verified by Table 5.11. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of DE of the sample bank is 0.019 with a t-test ratio at 2.544, which is less than a 5% significant level. Therefore, we reject the null (**Ho_{11}**) hypothesis and conclude that M&A significantly affects TDTE. These findings contradict Abbas, Hunjra et al. (2014) in Pakistan, where sample banks mean value of TDTE increased, resulting in insignificant effects in the pre-post-merger periods.

Hypothesis 12: Rejected (Significant)

Table 5.20 shows that the mean value difference of Capital Adequacy Ratio (CAR) of commercial banks between pre-post-M&A is negative 1.2267. The mean CAR value of the sample banks increased by 1.23% in the post-merger periods and was verified in Table 5.12. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of CAR of the sample banks is 0.017 with a t-test ratio at -2.601, which is less than a 5% significant level. Therefore, we accept the null (**Ho_{12}**) hypothesis and conclude that M&A significantly affects CAR. These findings contradict the studies of (Shrestha et al. 2017; Bipin et al. 2018), where most of the BFI's CAR decreased in the post-merger periods is not statistically significant. Furthermore, studies by Abbas et al. (2014) and Shah and Khan (2017) in Pakistan reported that sample banks CAR ratio decreased after the M&A and was statistically insignificant.

Hypothesis 13: Rejected (Significant)

Table 5.20 shows that the mean value difference of Total Loans to Total Deposit Ratio (TLOTD**)** of the commercial banks between pre-post-M&A is negative 9.7405. The TLOTD mean value of the sample banks are increased by 9.74% in the post-merger periods and verified by Table 5.13. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of TLOTD of the sample bank is 0.000 with a t-test ratio at -7.822, which is less than a 5% significant level. Therefore, we accept the null (Ho_{13}**)** hypothesis and conclude that M&A significantly affects TLOTD.

Hypothesis 14: Rejected (Significant)

Table 5.20 shows that the mean value difference of Total Deposit to Total Assets Ratio (TD/TA) of commercial banks between pre-post-M&A is 5.7362. The mean value of TDTA of the sample bank declined by 5.74% in the post-merger periods and was verified by Table 5.14. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of TDTA of the sample bank is 0.000 with a t-test ratio at 5.259, which is less than a 5% significant level. Therefore, we reject the null (**Ho_{14})** hypothesis and conclude that M&A significantly affects TDTA.

Hypothesis 15: Accepted (Not Significant)

Table 5.4.1 shows that the mean value difference of Non- Performing Loans to Total Loans Ratio (NPL) of commercial banks between pre-post-M&A is negative 1.3243. The mean value of NPL of the sample bank decreased by 1.33% in the post-merger periods and was verified by Table 5.3.15. The paired t-test results in Table 5.4.1 reveal that the p-value (two-tail) of NPL of the sample bank is 0.218 with a t-test ratio at 1.272, which is greater than a 5% significant level. Therefore, we accept the null (**Ho_{15})** hypothesis and conclude that M&A has no significant effect on NPL. These findings are similar to the studies of Bipin et al. (2018), who reported NPL of BFIs decreased in the post-merger periods was statistically insignificant.

Hypothesis 16: Accepted (Not Significant)

Table 5.20 shows that the mean value difference of Earning Per Share (EPS) of commercial banks between pre-post-M&A is negative 0.0228. The mean value of EPS of sample banks improved marginally by 0.03% in the post-merger periods and was verified by Table 5.16. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of EPS of the sample bank is 0.992 with a t-test ratio at -0.010, which is greater than a 5% significant level. Therefore, we accept the null (**H_{O16})** hypothesis and conclude that M&A has no significant effect on EPS. These findings contradict Sufian (2004) in the Malaysian, where sample banks mean value of EPS increases significantly. However, findings are opposite to Abbas et al. (2014) in Pakistan, who reported sample banks mean value of EPS decreases is statistically significant in the post-merger period.

Hypothesis 17: Rejected (Significant)

Table 5.20 shows that the mean value difference of Market Price Per Share (MPS) of commercial banks between pre-post-M&A is 252.81. The mean value of MPS of the sample bank declined by Rs 252.81 in the post-merger periods and was verified by Table 5.17. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of MPS of the sample bank is 0.000 with a t-test ratio at 8.881, which is less than at a 5% significant level. Therefore, we reject the null (**Ho_{17})** hypothesis and conclude that the M&A significantly affects MPS.

Hypothesis 18: Accepted (Not Significant)

Table 5.20 shows that the mean value difference of Dividend Per Share (DPS) of commercial banks between pre and post is 0.9957. The mean value of DPS of the sample bank declined by 0.99% in the post-merger periods and was verified by Table 5.18. The paired t-test results in Table 5.20 reveal that the p-value (two-tail) of DPS of the sample bank is 0.761 with a t-test ratio at 0.309, which is greater than at a 5% significant level. Therefore, we accept the null (**Ho_{18})** hypothesis and conclude that M&A significantly affects DPS.

Table 5. 21: Summary of Hypotheses Results of Commercial Banks

Hypotheses	Significance level/Results	Explanations
H$_{O1}$: There is no significant difference in the Return on Equity (ROE) of commercial banks between pre-post M&A.	0.395 **Accepted**	The p-value is 0.395, which is greater than the 5% significance level. This illustrates M&A has an insignificant impact on ROE.
H$_{O2}$: There is no significant difference in the Return on Assets (ROA) of commercial banks between pre-post M&A	0.791 **Accepted**	The p-value is 0.791, which is greater than the 5% significance level. This illustrates M&A has an insignificant impact on ROA
H$_{O3}$: There is no significant difference in the Net Interest Margin (NIM) of commercial banks between pre-post M&A.	0.427 **Accepted**	The p-value is 0.427, which is greater than the 5% significance level. This illustrates M&A has an insignificant impact on NIM.
H$_{O4}$: There is no significant difference in the Spread Ratio (SR) of selected banks between pre-post M&A.	0.000 **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on SR.
H$_{O5}$: There is no significant difference in commercial banks Interest Expense to Income Ratio (IEI) between pre-post M&A.	0.000 **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on IEI
H$_{O6}$: There is no significant difference in the Cash Equivalent to Total Assets Ratio (CTA) of commercial banks between pre-post M&A.	**0.001** **Rejected**	The p-value is 0.001, which is below the 5% significance level. This illustrates M&A has a significant impact on CETA.
H$_{O7}$: There is no significant difference in the Investments to Total Assets Ratio (ITA) of commercial banks between pre-post M&A.	0.004 **Rejected**	The p-value is 0.004, which is below the 5% significance level. This illustrates M&A has a significant impact on ITA.

Table 5.21: Summary of Hypotheses Results of Commercial Banks (continued)

H$_{O8}$: There is no significant difference in commercial banks Liquidity Cash Reserve Ratio (CRR) between pre-post M&A.	**0.000** **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on the liquidity CRR ratio.
H$_{O9}$: There is no significant difference in the Total Liabilities to Total Assets Ratio (TLTA) of commercial banks between pre-post M&A.	**0.000** **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on the TLTA ratio.
H$_{O10}$: There is no significant difference in the Debt-to-Equity Ratio (DE) of commercial banks between pre-post M&A.	**0.000** **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on the ITA ratio.
H$_{O11}$: There is no significant difference in the Total Deposit to Total Equity Ratio (TDTE) of commercial banks between pre-post M&A.	0.019 **Rejected**	The p-value is 0.019, which is below the 5% significance level. This illustrates M&A has a significant impact on the TDTE ratio.
H$_{O12}$: There is no significant difference in commercial banks Capital Adequacy Ratio (CAR) between pre-post M&A.	0.017 **Rejected**	The p-value is 0.017, which is below the 5% significance level. This illustrates M&A has a significant impact on the CAR ratio.
H$_{O13}$: There is no significant difference in the Total Loans to Total Deposit Ratio (TLOTD) of commercial banks between pre-post M&A	**0.000** **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on the TLOTD ratio.
H$_{O14}$: There is no significant difference in the Total Deposit to Total Assets Ratio (TDTA) of commercial banks between pre-post M&A.	0.000 **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on the TDTA ratio.

Table 5.21: Summary of Hypotheses Results of Commercial Banks (continued)

H_{O15}: There is no significant difference in the Non-performing Loans to Total Loans Ratio (NPL) of commercial banks between pre-post M&A.	0.218 **Accepted**	The p-value is 0.218, which is greater than the 5% significance level. This illustrates M&A has an insignificant impact on ITA
H_{16}: There is no significant difference in the Earning Per Share (EPS) of commercial banks between pre-post M&A.	0.992 **Accepted**	The p-value is 0.992, which is greater than the 5% significance level. This illustrates M&A has an insignificant impact on EPS.
H_{O17}: There is no significant difference in the Market Price Per Share (MPS) of commercial banks between pre-post M&A.	**0.000** **Rejected**	The p-value is 0.000, which is below the 5% significance level. This illustrates M&A has a significant impact on the MPS ratio.
H_{O18}: There is no significant difference in the Dividend Per Share (DPS) of commercial banks between pre-post M&A.	**0.761** **Accepted**	The p-value is 0.761, which is greater than the 5% significance level. This illustrates M&A has an insignificant impact on the DPS ratio.

5.5: Conclusion

In this chapter, the effect of M&A on the financial performance of commercial banks was analysed and discussed. The research found profitability ratios of commercial banks did not improve in the post-merger period except for return on assets and net interest margin ratios. However, paired t-test results reveal that M&A has a significant impact on the spread ratio and interest expenses to income ratio. Therefore, hypotheses $\mathbf{H_{O4}}$ and $\mathbf{H_{O5}}$ are rejected, and other hypotheses $\mathbf{H_{O1}}$, $\mathbf{H_{O2}}$, and $\mathbf{H_{O3}}$ are accepted. Similarly, this research study found that all the liquidity ratios of commercial banks improved in the post-merger period except the investment to total assets ratio. The paired t-test results in Table 5.20 reveal that M&A has a significant impact on the cash equivalent to total assets, liquidity CRR, and total liabilities to total assets ratios. However, investment of total assets ratios of commercial banks declined is statistically significant post-merger period. Therefore, hypotheses $\mathbf{H_{O6}}$, $\mathbf{H_{O7}}$, $\mathbf{H_{O8}}$, and $\mathbf{H_{O9}}$ are rejected.

On the other hand, this research found that all the leverage ratios of commercial banks improved in the post-merger period. The paired t-test results in Table 5.20 reveal that M&A has a significant impact on all the leverage ratios except non-performing loans to total loans. Therefore, hypotheses $\mathbf{H_{O10}}$, $\mathbf{H_{O11}}$, $\mathbf{H_{O12}}$, $\mathbf{H_{O13}}$, and $\mathbf{H_{O14}}$ are rejected, and hypothesis $\mathbf{H_{O14}}$

are accepted. Finally, this research study found that wealth of shareholders ratios of commercial banks deteriorated in the post-merger period except earnings per share. However, the paired t-test results in Table 5.20 reveal that the M&A significantly impacts the market price per share. Therefore, hypotheses $\mathbf{H_{O16}}$ and $\mathbf{H_{O18}}$ are rejected, and another hypothesis, $\mathbf{H_{O17}}$, is accepted. The next chapter, six, analysis the individual bank's data presentation and discussions

CHAPTER 6: DATA PRESENTATION AND ANALYSIS OF INDIVIDUAL BANKS

6.1: Introduction

This research objective is to evaluate the M&A effect of individual banks in terms of profitability, liquidity, leverage, and wealth of shareholders ratios. Accordingly, this chapter presents the data of seven banks separately and analysis their effect of M&A on the financial performance based on the individual banks in the pre-post-M&A period. First, it discusses the findings of the comparative analysis and paired sample t-test with hypotheses results findings of Bank of Kathmandu, followed by GBIME Bank, PRVU Bank, Nepal Credit and Commerz Bank, NMB Bank, and KBL Bank.

6.2: Bank of Kathmandu (BOKL) Pre-Post-M&A Analysis and Discussion

Table 6. 1: Financial Ratios of Bank of Kathmandu (BOKL) Pre & Post Merger

Year	ROE	ROA	NIM	EPS	Spread Ratio	IE/II	CE/TA	I/TA	TL/TA	D/E	TD/TE	CAR	TLO/TD	TD/TA	NPL/TLO	Liquidity CRR	MPS	Total Dividends
2013/2014	7.17	0.65	0.72	12.00	46.71	53.29	2.39	11.73	90.91	10.00	9.61	11.57	82.97	87.40	1.06	6.82	564.00	10.96
2014/2015	8.68	0.74	0.81	12.52	48.56	51.44	2.14	13.40	91.43	10.67	10.24	13.00	80.83	87.74	3.74	9.98	571.00	27.37
2015/2016	8.42	0.82	0.91	11.64	49.98	50.02	1.92	12.29	90.23	9.24	8.72	13.01	85.83	85.17	2.51	8.71	464.00	23.00
Pre-Merger Mean	**8.09**	**0.74**	**0.81**	**12.05**	**48.42**	**51.58**	**2.15**	**12.47**	**90.86**	**9.97**	**9.52**	**12.53**	**83.21**	**86.77**	**2.44**	**8.50**	**533.00**	**20.44**
2017/2018	10.59	1.45	1.68	18.68	36.57	63.43	3.75	12.65	86.33	6.31	6.17	14.88	87.92	84.33	3.04	7.30	265.00	25.00
2018/2019	13.58	1.88	2.18	23.53	38.54	61.46	3.09	14.77	86.16	6.23	5.97	14.30	88.50	82.57	1.54	6.92	255.00	17.00
2019/2020	10.23	1.45	1.53	17.09	35.82	64.18	2.35	14.17	94.37	6.67	6.53	14.16	85.12	92.4	2.28	11.39	219.00	16.00
Post-Merger Mean	**11.47**	**1.59**	**1.80**	**19.77**	**36.98**	**63.02**	**3.06**	**13.86**	**88.95**	**6.40**	**6.22**	**14.45**	**87.18**	**86.43**	**2.29**	**8.54**	**246.33**	**19.33**

Source: Appendix Table 1

Table 6.1 presents the various financial ratios of the Bank of Kathmandu (BOKL) of different fiscal years. These ratios are calculated based on the bank's annual report (see appendix, Table 1). The bank merged with Lumbini bank in 2016 (see Table 4.7.1) in 2016, so the fiscal years 2013 to 2016 are considered a pre-merger period, and the fiscal years 2017 to 2020 are considered to be post-merger period. According to Table 6.1, the mean value of Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NPM), Earning per Share (EPS), Cash Equivalent to Total Assets Ratio (CETA), Interest Expenses to Income Ratio (IEII), Investment to Total Assets Ratio (ITA), Total Deposit to Total Equity (TDTE), Capital Adequacy Ratio (CAR), Total Loans to Total Deposit Ratio (TLTD), and Total Deposit to Total Assets (TDTA) increased in the post-merger period. On the other hand, Spread Ratio (SR), Total Liabilities to Total Assets Ratio (TLTA), Debt to Equity Ratio (DE), Non-Performing Loans to Total Loans (NPL), Liquidity Cash Reserve Ratio (CRR), Market Price Per Share (MPS), and Dividend Per Share (DPS) decreased in the post-merger periods.

Table 6. 2: Comparison of Total Mean for Pre- and Post-Merger Ratios

	Pre-Merger	Post-Merger	Change	Relative Change (%)
Profitability Parameters:				
Return on Equity (ROE)	8.09	11.47	3.38	41.78
Return on Assets (ROA)	0.74	1.59	0.85	114.86
Net Interest Margin (NIM)	0.81	1.80	0.99	122.22
Spread Ratio (SR)	48.42	36.98	-11.44	-23.63
Interest Expenses to Income Ratio (IE/II)	51.58	63.02	11.44	22.18
Liquidity Parameters:				
Cash & Cash Equivalent to Total Assets (CE/TA)	2.15	3.06	0.91	42.33
Investment to Total Assets Ratio (I/TA)	12.47	13.86	1.39	11.15
Liquidity CRR Ratio	8.50	8.54	0.04	0.47
Total Liabilities to Total Assets Ratio (TL/TA)	90.86	88.95	-1.91	-2.10
Leverage Parameters:				
Debt to Equity Ratio (D/E)	9.97	6.40	-3.57	-35.81
Total Deposit to Total Equity Ratio (TD/TE)	9.52	6.22	-3.30	-34.66
Capital Adequacy Ratio (CAR)	12.53	14.45	1.92	15.32
Total Loans to Total Deposit Ratio (TLO/TD)	83.21	87.18	3.97	4.77
Total Deposit to Total Assets Ratio (TD/TA)	86.77	86.43	-0.34	-0.39
Non-Performing Loans to Total Loans (NPL)	2.44	2.29	-0.15	-6.15
The Wealth of Shareholders Parameters:				
Earnings Per Share (EPS)	12.05	19.77	7.72	64.07
Market Price Per Share (MPS)	533.00	246.33	-286.67	-53.78
Dividends Per Share (DPS)	20.44	19.33	-1.11	-5.43

Table 6.2, **Profitability ratios,** shows that three out of five financial ratios of the BOKL have improved in the post-merger period. However, the mean value of ROE, ROA, and NIM has increased after the M&A but SR, and IEL ratios deteriorated.

Table 6.2 shows that the mean value of ROE increased in the post-merger period from 8.09% to 11.47%. Therefore, a relative change of 41.78% of ROE in the pre-post-merger indicates that management has utilised shareholders' funds properly to generate more income, and bank business started to increase significantly after the merger with Lumbini Bank (LBL). Similarly, ROA rose from 0.74% to 1.59%, a relative change of 114.86% is a significant improvement in the post-merger periods. The substantial Change in ROA indicates management has utilised its assets effectively and efficiently to generate profit. Likewise, the mean value of NIM increased from 0.80% to 1.80%, a relative change of 122.22%, which indicates that interest income from a business started to grow in the post-merger period.

On the other hand, the mean value of the spread ratio decreased from 48.42% to 36.98%, a relative change of negative 13.52% after M&A. The reduction in the SR indicates the bank's non-operating expenses started to increase and central bank frequent policy changes regarding SR calculation in the post-merger periods. The average of II/IE increased from 51.58% to 63.02%, a relative change of 22.18%. The increment in the II/IE indicates a significant increase in operating cost and fallout in interest income in the post-merger periods.

The **liquidity ratios** of BOKL show an increasing trend in the post-merger periods. According to Table 6.2, the mean value of CE/TA increased by 0.91%, a relative change of 42.33%, indicating that the bank's liquidity positions improved after the merger. Similarly, a positive relative change of I/TA by 11.15% in the post-merger period shows bank productivity increased after the merger, and liquidity CRR remained almost stable in both periods. However, a decline in the mean value of TL/TA from 90.86% to 88.95% indicates that a relative change of negative 2.10% also suggests the bank's liquidity position improved after the merger. According to Table 6.2, all the six ratios of the **leverage parameters** of BOKL improved in the post-merger periods. The decrease in the mean value of D/E, TDTE, TD/TA, and NPL and increase in the CAR, and TLO/TD indicates the financial leverage of banks improved in the post-merger periods. The declined mean value of D/E from 9.70 to 6.40, a relative change of negative 35.81% in the post-merger period. This significant decline in the D/E ratio in the post-merger period indicates the bank's financial leverage improved to pay its long-term obligations. Similarly, the mean value of TD/TE reduced from 9.52 to 6.22, a relative change of negative 34.66%, which is a significant improvement. Likewise, NPL decreased from 2.44% to 2.29%, a relative change of 6.15% in the post-merger periods indicates banks can recover non-performing loans through a recovery plan. In addition, the TD/TA ratio did not change significantly in the post-merger periods.

On the other hand, improvement in the mean value of CAR from 12.53% to 14.43%. A relative change of 15.32% in the post-merger period indicates that the bank's ability to absorb unforeseeable losses increased and maintained the above rate of the central bank prescribed rate 11%. Furthermore, the increment in TLO/TD from 83.21% to 87.18%, a relative change of 4.77% in the post-merger period, indicates that banks have optimum utilise deposit amount to increase their profitability.

As seen in Table 6.2**, the Wealth of Shareholders Parameters** of the BOKL increased significantly, except the other two ratios, such as MPS and DPS, decreased substantially in the post-merger periods. The average value of EPS improved from Rs 12.05 to Rs 19.77, a relative change of 64.07% in the post-merger periods despite its stock raised in a short period to meet the minimum capital requirement. Similarly, a negative relative change of 53.78% seen in the MPS in the post-merger periods indicates the stock price is falling due to the bearish trend of NEPSE, or it may be an oversupply of shares. In the meantime, all the BFIs sectors MPS gained significantly in the pre-merger period due to the new mandatory capital requirement of BFIs in the short period.

In addition, a relative change of 5.43% in the DPS in the post-merger period indicates that the bank's dividend capacity is falling due to competition in the banking sector.
To know whether there is a significant difference in the financial ratios before and after the merger, we applied paired- t-test using SPSS. Table 6.3 presents the summary of the analysis (see next page).

Table 6. 3: Paired Samples T-Test of the Bank of Kathmandu (BOKL)

Paired Samples Test

		Paired Differences								Hypothesis Relation	Results
					95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)		
	Profitability Ratios:										
Pair 1	ROE (Pre-Post)	-3.37667	1.54546	0.89227	-7.21579	0.46246	-3.784	2	0.063	NS	**NS**
Pair 2	ROA (Pre-Post)	-0.85667	0.25968	0.14993	-1.50175	-0.21159	-5.714	2	0.029	NS	**S**
Pair 3	NIM (Pre-Post)	-0.98333	0.37554	0.21682	-1.91624	-0.05043	-4.535	2	0.045	NS	**S**
Pair 4	SR (Pre-Post)	11.30667	2.12550	1.22716	6.02664	16.58669	9.214	2	0.012	NS	**S**
Pair 5	IEI (Pre-Post)	-11.44000	2.35635	1.36044	-17.29351	-5.58649	-8.409	2	0.014	NS	**S**
	Liquidity Ratios:										
Pair 6	CETA (Pre-Post)	-0.91333	0.46608	0.26909	-2.07115	0.24448	-3.394	2	0.077	NS	**NS**
Pair 7	ITA (Pre-Post)	-1.39000	0.48031	0.27731	-2.58316	-0.19684	-5.012	2	0.038	NS	**S**
Pair 8	TLTA (Pre-Post)	1.90333	5.24504	3.02822	-11.12607	14.93273	0.629	2	0.594	NS	**NS**
Pair 9	Liquidity CRR (Pre-Post)	-0.03333	2.89595	1.67198	-7.22727	7.16061	-.020	2	0.986	NS	**NS**
	Leverage Ratios:										
Pair 10	DE (Pre-Post)	3.56667	0.94108	0.54333	1.22889	5.90444	6.564	2	0.022	NS	**S**
Pair11	TDTE (Pre-Post)	3.30000	1.04704	.60451	.69900	5.90100	5.459	2	0.032	NS	**S**
Pair 12	CAR (Pre-Post)	-1.92000	1.20611	0.69635	-4.91614	1.07614	-2.757	2	0.110	NS	**NS**
Pair 13	TLOTD (Pre-Post)	-3.97000	4.27509	2.46822	-14.58991	6.64991	-1.608	2	0.249	NS	**NS**
Pair 14	TDTA (Pre-Post)	0.33667	6.63652	3.83159	-16.14935	16.82268	0.088	2	0.938	NS	**NS**
Pair 15	NPL (Pre-Post)	0.15000	2.09115	1.20732	-5.04470	5.34470	0.124	2	0.912	NS	**NS**
	Wealth of Shareholders Ratios:										
Pair 16	EPS (Pre-Post)	-7.71333	2.92049	1.68614	-14.96822	-0.45845	-4.575	2	0.045	NS	**S**
Pair 17	MPS (Pre-Post)	286.66667	37.07200	21.40353	194.57471	378.75862	13.393	2	0.006	NS	**S**
Pair 18	DPS (Pre-Post)	1.11000	13.22804	7.63721	-31.75028	33.97028	0.145	2	0.898	NS	**NS**

Notes: Significant at 0.05 level (2- tailed) NS = Not significant S = Significant

Testing the hypothesis of Profitability Ratios of the BOKL

Profitability ratios paired t-test results indicate four ratios (ROA, NIM, SR & IEI) is statistically significant in the post-merger periods, and the remaining one ratio (ROE), has no significant effect in the post-merger periods

Hypothesis 1: Return on Equity (ROE): Accepted (Insignificant)

Using the results presented in Table 6.3 indicates the mean value of ROE is improved by 3.37% in the post-merger period. However, the improvement is not statistically significant at a 5 % significance level as the P-value is 0.063 with a t-value of -3.784. Therefore, M&A has an insignificant impact on ROE.

Hypothesis 2: Return on Assets (ROA): Rejected (Significant)

Table 6.3 illustrates the mean value difference of ROA before and after the M&A is 0.85%, T-value as -5.714, and the significant (two-tailed) analysis value 0.029, which is below the 5 % significance level. Therefore, we know that M&A has a significant impact on ROA.

Hypothesis 3: Net Interest Margin (NIM): Rejected (Significant)

Using the results presented in Table 6. 3 indicates the mean value of NIM is improved by 0.99% in the post-merger period. However, the improvement is statistically significant at a 5 % significance level as the P-value is 0.045 with a t-value of -4.535. Therefore, there is a significant difference between NIM before and after the M&A activities.

Hypothesis 4: Spread Ratio (SR): Rejected (Significant)

Table 6.3 illustrates the mean value difference of SR before and after the M&A is 11.31%, T-value as 9.214, and the significant (two-tailed) analysis value 0.012, which is below the 5% significant level. Therefore, M&A has a significant impact on the SR in the pre-post period.

Hypothesis 5: Interest Expenses to Income Ratio (IEI): Rejected (Significant) In Table 6.3, the mean value of IEI is increased by 11.44% in the post-merger period. But the increment is statistically validated at a p-value of 0.014 with a t-value ratio is -

8.409. Therefore, M&A has a significant impact on the IEI of BOKL before and after the M&A.

Testing the hypothesis of Liquidity Ratios of the BOKL

The liquidity ratios paired- T-test indicates that all the ratios (CETA, CRR & TLTA) have no significant difference except ITA ratios in the post-merger periods.

Hypothesis 6: Cash Equivalent to Total Assets (CETA): Accepted (Insignificant)

Table 6.3, the mean value of CETA is increased by 0.92% in the post-merger period. However, the improvement is not statistically significant at a 5 % significance level as the P-value is 0.077 with a t-value of -3.394. Thus, M&A has no significant impact on CETA.

Hypothesis 7: Investment to Total Assets (ITA): Rejected (Significant)

In Table 6.2.3, the mean value of ITA is reduced by 1.39% in the post-merger period. But the reduction is statistically validated at a 5% significant level as a p-value of 0.038 with a t-value ratio is -5.012. Therefore, M&A has a significant impact on the ITA

Hypothesis 8: Total Liabilities to Total Assets (TLTA): Accepted (Insignificant)

Table 6.3 illustrates the mean value difference of TLTA before and after the M&A is 1.91%, T-value as 0.629, and the significant (two-tailed) analysis value of 0.594, which is greater than the 5% significant level. Therefore, M&A has no significant effect on TLTA.

Hypothesis 9: Liquidity Cash Reserve Ratio (CRR): Accepted (Insignificant)

The results presented in Table 6.3 indicate that the mean value of CRR increases by 0.04% in the post-merger period. However, the increment is not statistically significant at a 5 % level as the P-value is 0.986 with a t-value of -0.020. Thus, M&A has an insignificant impact on the liquidity CRR.

Testing the hypothesis of Leverage Ratios of the BOKL

The leverage ratios paired T-test results indicate that there is a significant difference in the two ratios (DE, & TDTE), and no significant effects on the other four ratios (CAR, TLOTD, TDTA, & NPL) respectively in the pre-post-merger periods

Hypothesis 10: Debt to Equity Ratio (DE): Rejected (Significant)

Under Table 6.3, the mean value of DE reduced by 3.57 times in the post-merger period. But the reduction is statistically validated at a p-value of 0.022 with a t-value ratio is 6.564. Therefore, M&A has a significant impact on the DE.

Hypothesis 11: Total Deposit to Total Equity Ratio (TDTE): Rejected (Significant)

Table 6.3 illustrates the mean value difference of TDTE before and after the M&A is 3.30 times, T-value as 5.459, and the significant (two-tailed) analysis value of 0.032, which is below the 5% significant level. Thus, M&A has a significant difference in TDTE.

Hypothesis 12: Capital Adequacy Ratio (CAR): Accepted (Insignificant)

Using the results presented in Table 6.3 indicates the mean value of CAR is increased by 1.92% in the post-merger period. But the increment is not statistically significant at a 5 % level of significance as the P-value is 0.110 with a t-value of -2.757. Therefore, M&A has no significant impact on the CAR.

Hypothesis 13: Total Loans to Total Deposit (TLTD): Accepted (Insignificant)

Table 6.3 illustrates the mean value difference of TLTD before and after the M&A is negative 3.97%, T-value as -1.608, and the significant (two-tailed) analysis value 0.249, which is greater than the 5% significance level. Therefore, M&A has an insignificant difference on the TLTD.

Hypothesis 14: Total Deposit to Total Assets (TDTA): Accepted (Insignificant)

Table 6.2.3 illustrates the mean value difference of TDTA before and after the M&A is 0.34%, T-value as 0.088, and the significant (two-tailed) analysis value 0.0938, which is greater than the 5% significance level. Therefore, M&A has no significant difference between TDTA.

Hypothesis 15: Non-Performing Loans to Total Loans (NPL): Accepted (Insignificant)

Following Table 6.3, the mean value of DE is reduced by 0.15% in the post-merger period. However, the reduction is not statistically validated at a p-value of 0.912 with a t-value ratio is 0.124. Therefore, M&A has an insignificant impact on the NPL.

Testing the hypothesis of Wealth of Shareholders Ratios of the BOKL

The wealth of shareholders ratio paired T-test results reveals a significant impact on EPS and MPS and insignificant effects on the DPS in the post-merger periods.

Hypothesis 16: Earning per Share (EPS): Rejected (Significant)

The results presented in Table 6.3 indicate that the mean value of EPS is increased by Rs 7.72 (a relative change of 62.07%) in the post-merger period. The increment is statistically significant at a 5 % significance level as the P-value is 0.045 with a t-value of -4.575. Thus, M&A has a significant impact on the EPS.

Hypothesis 17: Market Price per Share (MPS): Rejected (Significant)

Table 6.3 illustrates the mean value difference of MPS before and after the M&A is Rs286.67, a relative change of 53.78%, T-value as 13.393, and the significant (two-tailed) analysis value 0.006, which is below the 5% significant level. Therefore, M&A has a significant impact on MPS.

Hypothesis 18: Dividend Per Share (DPS): Accepted (Insignificant)

Following Table 6.3, the mean value of DPS is reduced by 5.43% (Rs 1.11) in the post-merger period. But the reduction is not statistically validated at a p-value of 0.898 with a t-value ratio is 0.145. Therefore, M&A has an insignificant impact on the DPS.

6.3: Global IME Bank (GBIME) Pre-Post-M&A Analysis and Discussion

Table 6. 4: Financial Ratios of Global IME Bank (GBIME) Pre & Post Merger

Profitability						Liquidity				Leverage						Shareholders Wealth		
Year	**ROE**	**ROA**	**NIM**	**SR**	**IE/II**	**CE/TA**	**I/TA**	**Liquidity CRR**	**TL/TA**	**D/E**	**TD/TE**	**CAR**	**TLO/TD**	**TD/TA**	**NPL/TLO**	**EPS**	**MPS**	**Total Dividends**
2013/2014	15.90	1.62	1.81	46.15	53.85	2.29	14.46	31.11	89.79	8.80	8.54	12.38	79.89	87.13	2.55	19.57	640.00	25.00
2014/2015	13.12	1.39	1.55	49.13	50.87	2.12	15.49	30.12	89.41	8.45	8.22	12.69	81.32	86.99	2.23	15.58	479.00	16.00
2015/2016	15.45	1.56	1.06	57.93	42.07	2.32	20.29	33.54	89.91	8.91	8.35	12.35	79.29	84.21	1.89	19.33	515.00	20.00
Pre-Merger Mean	**14.82**	**1.52**	**1.46**	**51.07**	**48.93**	**2.24**	**16.75**	**32.26**	**89.70**	**8.72**	**8.37**	**12.47**	**80.17**	**86.11**	**2.22**	**18.16**	**544.67**	**20.33**
2017/2018	15.48	1.67	1.87	33.77	66.23	6.38	13.14	25.34	89.21	8.27	7.84	11.48	86.71	84.63	0.77	23.64	290.00	23.00
2018/2019	16.91	1.82	2.04	38.74	61.26	7.60	8.82	22.13	89.23	8.29	7.62	12.32	90.79	82.09	0.55	26.79	293.00	25.00
2019/2020	10.09	1.06	1.19	40.13	59.87	7.33	9.84	24.58	89.47	8.5	7.86	12.48	87.37	82.75	1.76	15.33	239.00	15.00
Post-Merger Mean	**14.16**	**1.52**	**1.70**	**37.55**	**62.45**	**7.10**	**10.60**	**24.02**	**89.30**	**8.35**	**7.77**	**12.09**	**88.29**	**83.16**	**1.03**	**21.92**	**274.00**	**21.00**

Source: Appendix, Table 2

Table 6.4 presents the data of various financial ratios of the Global IME Bank (GBIME)**.** These ratios are calculated based on the bank's annual report (see appendix, Table 2). GBIME involved the M&A with nine BFIs starting from the fiscal year 2012 to 2019. Most of them are development banks and one commercial bank in 2018/19 (see Table 4.1). As the M&A is an ongoing process, it is not easy to separate the pre-post-merger period. So, with the new mandatory capital requirement of BFIs and significant M&A deals that happened in the fiscal year 2016/2017, that year is considered a transactional year. Therefore, the fiscal years 2013/2014, 2014/2015, and 2015/2016 are regarded as pre-merger periods, and the fiscal years 2017/2018, 2018/2019, and 2019/2020 are considered to be post-merger periods.

Table 6. 5: Comparison of Total Mean for Pre- and Post-Merger Ratio

Total Mean	**Total Mean for Pre- and Post-Merger Ratios**			
	Pre-Merger	**Post-Merger**	**Change**	**Relative Change (%)**
Profitability Parameters:				
Return on Equity (ROE)	14.82	14.16	-0.66	-4.45
Return on Assets (ROA)	1.52	1.52	0.00	0.00
Net Interest Margin (NIM)	1.46	1.70	0.24	16.44
Spread Ratio (SR)	51.07	37.55	-13.52	-26.47
Interest Expenses to Income Ratio (IE/II)	48.93	62.45	13.52	27.63
Liquidity Parameters:				
Cash & Cash Equivalent to Total Assets (CE/TA)	2.24	7.10	4.86	216.96
Investment to Total Assets Ratio (I/TA)	16.75	10.60	-6.15	-36.72
Liquidity CRR Ratio	32.26	24.020	-8.24	-25.54
Total Liabilities to Total Assets Ratio (TL/TA)	89.70	89.30	-0.40	-0.45
Leverage Parameters:				
Debt to Equity Ratio (D/E)	8.72	8.35	-0.37	-4.24
Total Deposit to Total Equity Ratio (TD/TE)	8.37	7.77	-0.6	-7.17
Capital Adequacy Ratio (CAR)	12.47	12.09	-0.38	-3.05
Total Loans to Total Deposit Ratio (TLO/TD)	80.17	88.29	8.12	10.13
Total Deposit to Total Assets Ratio (TD/TA)	86.11	83.16	-2.95	-3.43
Non-Performing Loans to Total Loans (NPL)	2.22	1.03	-1.19	-53.60
Wealth of Shareholders Parameters:				
Earnings Per Share (EPS)	18.16	21.92	3.76	20.70
Market Price Per Share (MPS)	544.67	274.00	-270.67	-49.69
Dividends Per Share (DPS)	20.33	21.00	0.67	3.30

By looking at Table 6.5, the performance of financial ratios of the GBIME is discussed or explained into four parameters; profitability, liquidity, leverage, and shareholders wealth (see appendix, Table 8.6).

Table 6.5, profitability ratios, shows that three out of five financial ratios of the GBIME have not improved in the post-merger periods. The mean value of ROE decreased in the post-merger period from 14.82% to 14.16%, a relative change of negative 4.45%. The decrease in the mean value ROE in the post-merger indicates that management has not utilised shareholders' funds properly to generate more income. The sharp decline of ROE in the fiscal year 2019/20 due to the global pandemic of Covid's impact on bank business. Similarly, the mean value of the spread ratio decreased from 51.07% to 37.55%, a relative change of negative 26.47%. The reduction in the SR rate is due to the NRB's having a frequent policy regarding spread rate calculation and increasing non-operating expenses after the M&A. Likewise, the average of II/IE increased from 48.93% to 62.45%, a relative change of 27.63%. The rise in II/IE indicates a significant increase in operating cost and fallout in interest income in the post-merger periods. However, the mean value of NIM increased from1.46% to 1.70%, a relative change of 16.44%, which indicates that interest income from a business started to grow in the post-merger period

On the other hand, ROA is stable in the post-merger periods. However, there is a sharply declined trend of ROA (1.82% to 1.06%) and NIM (2.04% to 1.19%) in 2018/19 and 2019/20. This declining trend indicates management has not utilised assets effectively to generate profit from their available resources. These findings are similar to previous studies where the bank's profitability decreased after the M&A Kemal (2011) and contradict the findings Gupta (2015), who found that most profitability ratios increased after the M&A.

The liquidity ratios of GBIME shows a mixed trend. According to Table 6.5, the mean value of cash equivalent to total assets (CE/TA) improved by 4.86% (2.24% to 7.10%). On the other hand, the different three ratios, such as investment to total assets (I/TA), liquidity cash reserve ratio (CRR), and total liabilities to total assets (TL/TA), declined in the post-merger periods. The decline of 6.15% of the ITA mean value indicates that the bank's productivity decreased in the post-merger periods. Similarly, CRR means value reduced by 8.24%, suggesting that it invested in the other sectors to generate income. However, the mean value of TL/TA is decreased only by 0.40% (89.70% to 89.30%), which is a positive sign to improve the bank's liquidity position after the M&A periods.

According to table 6.5, the leverage parameters such as debt to equity (D/E), total deposit to total equity (TD/TE), capital adequacy ratio (CAR), total deposit to total assets ratio, and non-performing loans to total loans (NPL) declined except total loans to total deposit ratio (TLO/TD) in the post-merger periods. A relative change of D/E ratio by negative 4.24% is a positive sign for the financial leverage to pay its long-term obligations after the M&A. Similarly, TD/TE reduced by 0.6 times (8.37 to 7.77) which is also a significant improvement after the M&A. Besides this, mean values of CAR decreased from12.47% to 12.09% in the post-merger period but still fulfil the central bank mandatory requirement for the commercial banks, which is 11%. The decline trends of TD/TA from 86.11% to 83.16% in the pre-post-merger period signals that the bank's profitability may increase in the future. The mean values of NPL decrease from 2.22% to 1.03%, a relative change of negative 53.60%. The decreasing trend of NPL in the post-merger indicates that the bank's recovery strategy is working to recover its non-performing loans, which is a significant improvement.

As seen in table 6.5, shareholders' wealth ratios such as Earning per Share (EPS) and Dividend per Share (DPS) increased, and Market Price per Share (MPS) decreased in the post-merger period. The average value of EPS before and after the M&A is Rs 18.16 and Rs 21.92, a relative change of 20.70%. Therefore, the EPS in the post-merger periods is a significant improvement despite its capital increment in a short period. This result is similar to previous findings of Sujud and Hachem (2018), who reported EPS increased in the post-merger period in Lebanese banks. Similarly, DPS increased in the post-merger period by 3.30%, which is an improvement in the banking industry as most of the BFI's DPS capacity declined in the post-merger period.

On the other hand, MPS declined by almost 50% in the post-merger period. The decline in MPS is related to its oversupply of shares in the market after the M&A. In the meantime, all the BFIs sectors MPS gained significantly in the pre-merger period due to the new mandatory capital requirement BFIs in the short period.

Table 6.6 present the descriptive statistics of selected ratios of Global IME Bank (GBIME). It gives the mean value, standard deviation before and after the M&A, t-value, P-value, hypothesis relation, and hypothesis results. In addition, the paired sample t-test evaluates the significant impact of the M&A on the financial performance of GBIME

Table 6. 6: Paired Sample T-Test of the Global IME Bank (GBIME)

Paired Samples Test

		Paired Differences									
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. (2-tailed)	Hypothesis Relation	Result
	Profitability Parameters:										
Pair 1	ROE (Pre-Post)	0.66333	4.57985	2.64418	-10.71365	12.04031	0.251	2	0.825	NS	**NS**
Pair 2	ROA (Pre-Post)	0.00667	0.46758	0.26996	-1.15487	1.16821	0.025	2	0.983	NS	**NS**
Pair 3	NIM (Pre-Post)	-0.22667	0.23072	0.13321	-0.79982	0.34648	-1.702	2	0.231	NS	**NS**
Pair 4	SR (Pre-Post)	13.52333	3.83503	2.21415	3.99660	23.05007	6.108	2	0.026	NS	**S**
Pair 5	IEI (Pre-Post)	-13.52333	3.83503	2.21415	-23.05007	-3.99660	-6.108	2	0.026	NS	**S**
	Liquidity Parameters:										
Pair 6	CETA (Pre-Post)	-4.86000	0.70704	0.40821	-6.61637	-3.10363	-11.906	2	0.007	NS	**S**
Pair 7	ITA (Pre-Post)	6.14667	4.58744	2.64856	-5.24917	17.54251	2.321	2	0.146	NS	**NS**
Pair 8	TLTA (Pre-Post)	0.40000	0.20298	0.11719	-0.10422	0.90422	3.413	2	0.076	NS	**NS**
Pair 9	Liquidity CRR (Pre-Post)	8.24000	2.60402	1.50343	1.77127	14.70873	5.481	2	0.032	NS	**S**
	Leverage Parameters:										
Pair 10	DE (Pre-Post)	0.36667	0.18877	0.10899	-0.10226	0.83559	3.364	2	0.078	NS	**NS**
Pair 11	TDTE (Pre-Post)	0.59667	0.10504	0.06064	0.33573	0.85760	9.839	2	0.010	NS	**S**
Pair 12	CAR (Pre-Post)	0.38000	0.51507	0.29738	-0.89951	1.65951	1.278	2	0.330	NS	**NS**
Pair 13	TLTD (Pre-Post)	-8.12333	1.32553	0.76530	-11.41614	-4.83053	-10.615	2	0.009	NS	**S**
Pair 14	TDTA (Pre-Post)	2.95333	1.76424	1.01858	-1.42928	7.33594	2.899	2	0.101	NS	**NS**
	Wealth of Shareholders Parameters:										
Pair 15	NPL (Pre-Post)	1.19667	0.92511	0.53411	-1.10144	3.49477	2.240	2	0.154	NS	**NS**
Pair 16	EPS(Pre-Post)	-3.76000	7.60974	4.39348	-22.66364	15.14364	-0.856	2	0.482	NS	**NS**
Pair 17	MPS (Pre-Post)	270.66667	82.12998	47.41777	66.64449	474.68884	5.708	2	0.029	NS	**S**
Pair 18	DPS (Pre-Post)	-0.66667	7.37111	4.25572	-18.97753	17.64420	-0.157	2	0.890	NS	**NS**

Notes: Significant at 0.05 level (two-tailed) NS = Not significant S = Significant

Profitability Ratios. Paired t-test results (Table 6.6) indicate that three ratios (NIM, SR & IEI) are statistically significant except the remaining two ratios (ROE and ROA). Table 6.6 shows that the decrease of ROE is not statistically validated as the p-value is 0.825 at a t-test ratio of 0.25. Therefore, M&A has no significant effect on the ROE. This result is similar to previous studies Patel (2018) in India, who reported decreased ROE has no significant impact on the Bank of Baroda and State Bank of India. Likewise, the ROA's p-value is 0.983 with a t-test ratio at – 0.025, greater than the 5% significant level. Therefore, M&A has no significant effect on the ROA. These findings are similar to the previous studies Shrestha et al. (2017) in Nepal, who reported decreased ROA has no significant effect on the Bank of Asia and Machhapuchher bank.

However, the increase of NIM is statistically significant as its p-value is 0.021 with a t-test ratio at – 6.719, which is less than a 5% significant level. Therefore M&A has a significant effect on NIM. Similarly, the decline of SR is statistically validated at a p-value of 0.026 at a t-test ratio of 6.108. Thus, M&A has a significant difference in the SR. Likewise, the increase of IE/II is statistically significant as the p-value (two-tail) is 0.026 with a t-test value at -6.108, which is less than the 5% significant level. Therefore M&A has a significant effect on IE/II.

The liquidity ratios paired- t-test results in Table 6.6 indicate a significant difference in the two ratios (CETA & CRR). However, the other two ratios (ITA & TLTA) have no significant difference in the pre-post M&A periods. CETA increased (p-value of 0.007 with a t-test ratio at -11.906) and decreased CRR (p-value of 0.032 with a t-test ratio at 5.481) is statistically significant at a 5% significant level. Therefore M&A has a significant effect on the CETA and CRR.

On the other hand, the decreased mean value of ITA (p-value is 0.146 at a t-test ratio of 2.321) and TLTA (p-value is 0.0746 at t-value of 3.413) is not statistically validated. Therefore M&A has an insignificant effect on the ITA and TLTA.

The leverage ratios paired t-test results in Table 6.6 reveal a significant difference in the two ratios (TDTE, & TLTD) and no significant effects on the other four ratios (DE, CAR, TDTA, and NPL) pre-post-merger periods. The decline of TDTE is statistically validated at a 5% significant level as a p-value is 0.010 with a t-test value of 9.839. Therefore M&A has a significant difference in TDTE. Likewise, the improvement of

TLOTD is statically validated at a 5% significant level as a p-value of 0.009 with a t-test value -10.615. Therefore M&A has a significant difference in TLOTD. However, improvement of D/E is not statistically validated at a p-value of 0.078 with a t-value ratio of 3.364. Thus M&A has no significant effect on the DE ratio. Likewise, the decrease of CAR is not statistically significant at a p-value of 0.330 with a t-test ratio of 1.278 at a 5% significant level. Therefore, there is no significant difference in CAR. In addition, TDTA declined by 2.96% in the post-merger, which is not statistically validated (p-value 0.101 at t-test ratio 2.899). Therefore, M&A has an insignificant impact on TDTA. Finally, NPL decreased from 2.23% to 1.23%, a more extraordinary achievement for the bank after the M&A process. But this reduction of NPL is not also statically validated as its p-value 0.154 at a t-test value is 2.240, which is greater than a 5% significant level. Therefore, M&A has no significant difference in NPL before and after the M&A periods.

The **shareholder's wealth ratios** paired t-test results in Table 6.6 suggest that there is a significant difference in MPS and no significant effect on EPS and DPS after the M&A periods. This is because the increment in the EPS and DPS are not statistically validated (p-value 0.482, and 0.890) at a 5% significant level. Therefore M&A has no significant effect on EPS and DPS. Thus, reduction in the MPS is statistically validated as the p-value is 0.029 at a t-test ratio of 5.708 at a 5% significant level. Therefore, M&A has a significant effect on the MPS

6.4: Prabhu Bank (PRVU) Pre-Post-M&A Analysis and Discussion

Table 6. 7: Financial Ratios of Prabhu Bank (PRVU) Limited Pre & Post Merger

	Profitability Ratios					Liquidity Ratios				Leverage Ratios						The wealth of Shareholder's Ratios		
Year	**ROE**	**ROA**	**NIM**	**SR**	**IE/II**	**CE/TA**	**I/TA**	**Liquidity CRR**	**TL/TA**	**D/E**	**TD/TE**	**CAR**	**TLO/TD**	**TD/TA**	**NPL/TLO**	**EPS**	**MPS**	**Total Dividends**
2013/2014	-26.88	-1.44	-1.52	39.10	60.90	3.72	27.41	19.27	94.65	17.69	17.49	8.68	54.87	93.60	24.29	-15.24	207.00	0.00
2014/2015	27.57	2.19	2.38	54.85	45.15	3.67	9.70	15.69	92.06	11.59	11.41	10.61	65.79	90.61	7.33	31.73	348.00	0.00
2015/2016	14.54	1.60	1.80	54.82	45.18	9.49	7.04	12.13	88.99	8.08	7.93	12.29	72.98	87.33	8.83	19.00	415.00	0.00
Pre-Merger Mean	**5.08**	**0.78**	**0.89**	**49.59**	**50.41**	**5.63**	**14.72**	**15.70**	**91.90**	**12.45**	**12.28**	**10.53**	**64.55**	**90.51**	**13.48**	**11.83**	**323.33**	**0.00**
2017/2018	7.69	0.83	0.93	34.18	65.82	11.34	7.03	6.83	89.17	8.23	7.74	11.86	78.32	83.82	3.98	10.87	187.00	8.42
2018/2019	12.45	1.29	1.44	40.86	59.14	10.00	10.56	4.39	89.61	8.63	7.93	11.16	79.08	82.31	3.76	20.06	266.00	16.84
2019/2020	7.76	0.71	0.78	38.32	61.68	5.04	12.44	11.20	90.81	9.89	8.87	11.18	75.66	81.50	3.15	11.58	221.00	10.53
Post-Merger Mean	**9.30**	**0.94**	**1.05**	**37.79**	**62.21**	**8.79**	**10.01**	**7.47**	**89.86**	**8.92**	**8.18**	**11.40**	**77.69**	**82.54**	**3.63**	**14.17**	**224.67**	**11.93**

Source: Appendix, Table 3

Table 6.7 presents the various financial ratios of the Prabhu Bank Limited (PRVU) of different fiscal years. These ratios are calculated based on the bank's annual report (see appendix, Table 3). The bank came into existence with a brand-new name, "Prabhu Bank," after merging with the Kist bank and acquired Grand Bank. Therefore, the fiscal years 2013 to 2016 are considered a pre-merger period, and the fiscal years 2017 to 2020 are regarded to be post-merger periods. According to Table 6.7, the mean value of Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NPM), Interest Expenses to Income Ratio (IE/II), Cash Equivalent to Total Assets Ratio (CE/TA), Capital Adequacy Ratio (CAR), Total Loans to Total Deposit Ratio (TLOTD), Earning Per Share (EPS), and Dividend Per Share (DPS) ratios improved in the post-merger period. On the other hand, Spread Ratio (SR), Investment to Total Assets (I/TA), Total Liabilities to Total Assets Ratio (TL/TA), Debt to Equity Ratio (DE), Total Deposit to Total Equity (TD/TE), Total Deposit to Total Assets (TD/TA), Non-Performing Loans to Total Loans (NPL), and Market Price Per Share (MPS), are declined in the post-merger periods.

Table 6. 8: Comparison of Total Mean for Pre- and Post-Merger Ratios

	Total Mean for Pre- and Post-Merger Ratios			
	Pre-Merger	**Post-Merger**	**Change**	**Relative Change (%)**
Profitability Parameters:				
Return on Equity (ROE)	5.08	9.30	4.22	83.07
Return on Assets (ROA)	0.78	0.94	0.16	20.51
Net Interest Margin (NIM)	0.89	1.05	0.16	17.98
Spread Ratio (SR)	49.59	37.79	-11.80	-23.80
Interest Expenses to Income Ratio (IE/II)	50.41	62.21	11.80	23.41
Liquidity Parameters:				
Cash & Cash Equivalent to Total Assets (CE/TA)	5.63	8.79	3.16	56.13
Investment to Total Assets Ratio (I/TA)	14.72	10.01	-4.71	-32.00
Liquidity CRR Ratio	15.70	7.47	-8.23	-52.42
Total Liabilities to Total Assets Ratio (TL/TA)	91.90	89.86	-2.04	-2.22
Leverage Parameters:				
Debt to Equity Ratio (D/E)	12.45	8.92	-3.53	-28.35
Total Deposit to Total Equity Ratio (TD/TE)	12.28	8.18	-4.1	-33.39
Capital Adequacy Ratio (CAR)	10.53	11.40	0.87	8.26
Total Loans to Total Deposit Ratio (TLO/TD)	64.55	77.69	13.14	20.36
Total Deposit to Total Assets Ratio (TD/TA)	90.51	82.54	-7.97	-8.81
Non-Performing Loans to Total Loans (NPL)	13.48	3.63	-9.85	-73.07
The wealth of Shareholders Parameters:				
Earnings Per Share (EPS)	11.83	14.17	2.34	19.78
Market Price Per Share (MPS)	323.33	224.67	-98.66	-30.51
Dividends Per Share (DPS)	0	11.93	11.93	1193.00

Table 6. 9: Paired Sample T-Test of the Prabhu Bank (PRVU)

Paired Samples Test

		Paired Differences									
					95% Confidence Interval of the Difference					Hypothesis	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)	Relation	Result
	Profitability Ratios:										
Pair 1	Return on Equity (Pre-Post)	-4.22333	26.60975	15.36315	-70.32563	61.87896	-0.275	2	0.809	NS	**NS**
Pair 2	Return on Assets (Pre-Post)	-0.16000	1.82732	1.05500	-4.69932	4.37932	-0.152	2	0.893	NS	**NS**
Pair 3	Net Interest Margin (Pre-Post)	-0.16333	1.98072	1.14357	-5.08370	4.75704	-0.143	2	0.900	NS	**NS**
Pair 4	Spread Ratio (Pre-Post)	11.80333	6.09182	3.51711	-3.32958	26.93625	3.356	2	0.078	NS	**NS**
Pair 5	Interest expenses to Interest income Ratio (Pre-Post)	-11.80333	6.09182	3.51711	-26.93625	3.32958	-3.356	2	0.078	NS	**NS**
	Liquidity Ratios:										
Pair 6	Cash equivalent to Total assets Ratio (Pre-Post)	-3.16667	6.62769	3.82650	-19.63075	13.29742	-0.828	2	0.495	NS	**NS**
Pair 7	Investment to Total Assets Ratio (Pre-Post)	4.70667	13.76201	7.94550	-29.48006	38.89340	0.592	2	0.614	NS	**NS**
Pair 8	Liquidity Cash Reserve Ratio (Pre-Post)	8.22333	6.34188	3.66149	-7.53077	23.97743	2.246	2	0.154	NS	**NS**
Pair 9	Total Liabilities to Total Assets Ratio (Pre-Post)	2.03667	3.66751	2.11744	-7.07393	11.14727	0.962	2	0.438	NS	**NS**
	Leverage Ratios:										
Pair 10	Debt to Equity Ratio (Pre-Post)	3.53667	5.65709	3.26612	-10.51632	17.58965	1.083	2	0.392	NS	**NS**
Pair 11	Total Deposit to Total Equity Ratio (Pre-Post)	4.09667	5.37161	3.10130	-9.24716	17.44049	1.321	2	0.317	NS	**NS**
Pair 12	Capital Adequacy Ratio (Pre-Post)	-0.87333	2.16320	1.24892	-6.24702	4.50035	-0.699	2	0.557	NS	**NS**
Pair 13	Total Loans to Total Deposit Ratio (Pre-Post)	-13.14000	10.38581	5.99625	-38.93979	12.65979	-2.191	2	0.160	NS	**NS**
Pair 14	Total Deposit to Total Assets Ratio (Pre-Post)	7.97000	1.99557	1.15214	3.01273	12.92727	6.918	2	0.020	NS	**S**
Pair 15	Non-Performing Loans to Total Loans Ratio (Pre-Post)	9.85333	9.11699	5.26369	-12.79452	32.50118	1.872	2	0.202	NS	**NS**
	Wealth of Shareholders Ratios:										
Pair 16	Earnings Per Share (Pre-Post)	-2.34000	20.69481	11.94816	-53.74877	49.06877	-0.196	2	0.863	NS	**NS**
Pair 17	Market Price Per Share (Pre-Post)	98.66667	88.18919	50.91605	-120.40743	317.74076	1.938	2	0.192	NS	**NS**
Pair 18	Dividend Per Share (Pre-Post)	-11.93000	4.38111	2.52943	-22.81327	-1.04673	-4.716	2	0.042	NS	**S**

Notes: Significant at 0.05 level (2- tailed**)** NS = Not significant S = Significant

Table 6.8, **profitability ratios**, shows that three out of five financial ratios of the PRVU bank have improved in the post-merger periods. However, all the profitability ratios paired T-test (see Table 6.9) reveal no significant difference in the pre-post-merger periods.

The mean value of ROE, ROA, and NIM ratios have improved in the post-merger periods indicating that the profitability of the PRVU drastically changed after the M&A. Table 6.8 shows that the mean value of ROE increased in the post-merger period from 5.08% to 9.30%. Therefore, a relative change of 83.07% of ROE in the post-merger suggests that management has utilised shareholders' funds properly to generate more income and bank business started to increase significantly after the M&A process. However, a paired T-test results in Table 6.9 indicates such improvement of ROE in the pre-post-merger periods is not statistically significant at a 5% significance level as a p-value of 0.809 with a t-value ratio is -0.275. Therefore, M&A has no significant impact on the ROE. Similarly, ROA increased from 0.78% to 0.94%, a relative change of 20.51%, a considerable improvement in the post-merger periods. This improvement in the ROA indicates management has utilised its assets effectively and efficiently to generate profit. But a paired t-test reveals that improvement is not statistically significant at a 5% significant level as a p-value of 0.893. Therefore M&A has an insignificant impact on ROA. Likewise, the mean value of NIM increased from 0.89% to 1.05%, a relative change of 17.98%, which indicates interest income increased in the post-merger period. However, the improvement of NIM is not statistically significant at a 5% significance level as the P-value is 0.045 with a t-value of -4.535. Therefore, M&A has an insignificant impact on NIM.

Similarly, the average of II/IE increased from 50.41% to 62.21%, a relative change of 23.41%. The increment in the II/IE indicates a significant increase in operating cost and fallout in interest income in the post-merger periods. However, the reduction in the IEI is not statistically validated at a p-value of 0.078 with a t-value ratio is 3.356. Therefore, M&A has no significant impact on IEI. Likewise, the mean value of the spread ratio decreased from 49.59% to 37.79%, a relative change of negative 23.80% after M&A. The reduction in the SR indicates the bank's non-operating expenses started to increase, and the central bank had frequent policy changes regarding SR calculation in the post-merger periods. However, a paired T-test results in Table 6.9

reveal a reduction in the SR in the post-merger period is not statistically validated at a p-value of 0.078 with a t-value ratio of 3.356. Therefore, M&A has no significant impact on the SR.

The **liquidity ratios** of the PRVU show a decreasing trend except for CE/TA in the post-merger periods. But all the liquidity ratios paired T-test (see Table 6.8) reveal no statistically significant difference in the pre-post-merger periods.

According to Table 6.8, the mean value of CE/TA increased by 3.16%, a relative change of 56.13%, which indicates that the bank's liquidity positions improved after the merger. However, this increment in the CETA is not statistically significant at a 5% significance level as the P-value is 0.495 with a t-value of -0.828. Therefore M&A has no significant impact on CETA. Similarly, a negative relative change of I/TA by 32.0% in the post-merger period indicates that bank productivity decreased. However, the reduction of ITA is not statistically validated at a p-value of 0.614 with a t-value ratio of 0.592. Therefore M&A has an insignificant impact on the ITA. Likewise, the mean value of liquidity CRR decreased from 15.70% to 7.47%, a negative relative change of 52.42%. But the decrease of CRR is not statistically significant at a 5% level of significance as the P-value is 0.154 with a t-value of 2.246. Therefore M&A has no significant impact on the liquidity CRR.

Furthermore, a decline in the mean value of TLTA from 91.90% to 89.86%, a relative change of negative 2.22%, shows improved liquidity positions. But such improvement is not statistically validated (p-value 0.438 at t-test ratio 0.962). Therefore, M&A has no significant difference in the TLTA ratio.

According to Table 6.8, the **leverage parameters** of the four ratios decreased and two ratios increased after the M&A. Therefore, all the ratios in the post-merger period indicate that the financial leverage of the PRVU bank has improved dramatically. However, a paired T-test results (see Table 6.9) revealed that all the financial leverage ratios except TDTA did not have significant differences in the pre-post-merger periods.

The mean value of the D/E ratios decreased from 12.45 and 8.92 times, a relative change of 28.35%. This reduction of debt in the post-merger period is a positive sign for the financial leverage of the bank to pay its long-term obligations. But a paired T-test result in Table 6.9 indicates that improvement of DE is not statistically validated at a p-value of 0.392 with a t-value ratio is 1.083. Therefore, M&A has not a significant impact on the DE ratio. Similarly, the mean value of TD/TE declined from 12.28 to 8.10 times, a relative change of 33.39%, which is also a significant improvement after the M&A. However, the improvement of TDTE is not statistically significant at a 5% level of significance as the P-value is 0.317 with a t-value of 1.321. Therefore, M&A has no significant impact on TDTE. Likewise, the mean value of NPL is decreased from 13.48% to 3.63% in the post-merger period. The growth trend of higher NPL in the pre-merger period is due to acquiring the Grand Bank of Nepal (many loans defaulted, and the bank went into financial crisis). So, the decreasing trend of NPL after the M&A activities indicates that the bank's recovery strategy is working to recover its non-performing loans to generate profit. However, a relative change of 73.07% in the pre-post M&A is not statistically validated at a p-value of 0.202 with a t-value ratio is 1.872. Therefore, M&A has an insignificant impact on the NPL.

On the other hand, the mean values of CAR increased from 10.53% to 11.40%. A relative change of 8.26% of CAR in the post-merger period indicates that bank financial strength improved to absorb financial risk and economic stress. But the paired T-test results in Table 6.9 reveal that the increment of CAR is not statistically significant at a 5 % level of significance as the P-value is 0.557 with a t-value of -0.699. Therefore, M&A has an insignificant impact on CAR. Likewise, the mean value of TLOTD improved from 64.55% to 77.69%, a relative change of 20.36%. But the improvement of TLOTD is not statically validated at a 5% significant level as the p-value is 0.160 at the t-test ratio -2.191. Therefore, M&A gas insignificant difference in TLOTD.

On the other hand, the decline trends of TD/TA from 90.51% to 82.54% indicates bank's profitability may increase in the future period. A relative change of negative 8.81% is statistically validated at a 5% significance level as the P-value is 0.020 with a t-value of 6.918. Therefore M&A has an impact on TDTA.

Table 6.8**, the Wealth of Shareholders Parameters** of PRVU bank**,** shows that two out of three ratios have improved significantly. However, a paired T-test result in Table 6.9 suggests insignificant differences in two ratios except for DPS in the pre-post-M&A period.

The average value of EPS improved from Rs 11.83 to Rs 14.17, a relative change of 19.78% in the post-merger periods despite its stock raised in a short period to meet the minimum capital requirement and banks able to recover its non-performing loans. However, a paired T-test results in Table 6.9 indicates that improvement in EPS is not statistically significant at a 5% significance level as the P-value is 0.863 with a t-value of -0.196. Therefore, M&A has an insignificant impact on the EPS. Similarly, a negative relative change of 30.51% in the MPS in the post-merger periods indicates the stock price is falling due to the bearish trend of NEPSE, or it may be an oversupply of shares. But the reduction in MPS is not statistically validated at a 5% significant level as the p-value is 0.192 with a t-value ratio is 1.938. Therefore, M&A has an insignificant impact on the MPS.

On the other hand, a relative change of 1200% in the DPS in the post-merger period indicates that the bank's dividend capacity increases after the significant reduction in the non-performing loans, business growth, and changes in the management team. However, DPS improvement is remarkably statistically validated at a 5% significant level as a p-value of 0.042 with a t-value ratio of -4.716. Therefore, M&A has a significant impact on the DPS.

6.5: Nepal Credit and Commerz Bank (NCCB) Pre-Post-M&A Analysis and Discussion

Table 6. 10: Financial Ratios of Nepal Credit and Commerz Bank (NCCB) Pre & Post Merger

	Profitability					Liquidity				Leverage						Wealth of Shareholders		
Year	**ROE**	**ROA**	**NIM**	**SR**	**IE/II**	**CE/TA**	**I/TA**	**Liquidity CRR**	**TL/TA**	**D/E**	**TD/TE**	**CAR**	**TLO/TD**	**TD/TA**	**NPL/TLO**	**EPS**	**MPS**	**Total Dividends**
2013/2014	14.93	1.55	1.74	37.64	62.36	2.83	14.23	13.00	89.59	8.60	8.47	11.51	77.58	88.24	2.75	19.33	642.00	0.00
2014/2015	11.76	1.16	1.29	41.54	58.46	2.37	9.49	17.92	90.11	9.11	9.00	17.92	78.14	89.05	1.93	14.80	459.00	16.00
2015/2016	19.29	2.06	2.27	51.39	48.61	2.43	10.09	11.92	90.86	8.51	8.28	11.92	81.98	88.40	0.91	30.08	363.00	40.00
Pre-Merger Mean	**15.33**	**1.59**	**1.77**	**43.52**	**56.48**	**2.54**	**11.27**	**14.28**	**90.19**	**8.74**	**8.58**	**13.78**	**79.23**	**88.56**	**1.86**	**21.40**	**488.00**	**18.67**
2017/2018	15.81	1.83	2.06	23.95	76.05	3.97	11.86	11.18	88.45	7.66	7.47	11.18	88.02	86.35	3.87	28.67	250.00	16.72
2018/2019	8.50	1.15	1.33	37.57	62.43	5.78	10.00	14.30	86.74	6.39	6.11	14.30	86.16	82.72	2.78	14.55	246.00	15.78
2019/2020	12.88	1.14	1.32	37.91	61.98	8.88	7.80	13.84	86.42	9.73	9.25	13.48	85.18	82.18	2.86	11.85	186.00	10.81
Post-Merger Mean	**12.40**	**1.37**	**1.57**	**33.14**	**66.82**	**6.21**	**9.89**	**13.11**	**87.20**	**7.93**	**7.61**	**12.99**	**86.45**	**83.75**	**3.17**	**18.36**	**227.33**	**14.44**

Source: Appendix Table 4

Table 6.10 presents the various financial ratios of the Nepal Credit and Commerz Bank (NCCB)of different fiscal years. These ratios are calculated based on the bank's annual report (see appendix, Table 4). The bank merged with four development banks (see Table 4.1) in 2016, so the fiscal years 2013 to 2016 are considered a pre-merger period, and the fiscal years 2017 to 2020 are considered to be post-merger period. According to Table 6.10, the mean value of Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NPM), Spread Ratio (SR), Investment to Total Assets (I/TA), Liquidity CRR, Total Liabilities to Total Assets Ratio (TL/TA), Debt to Equity Ratio (D/E), Capital Adequacy Ratio (CAR), Total Deposit to Total Assets (TD/TA), Earning Per Share (EPS), Market Price Per Share (MPS), and Dividend Per Share (DPS) are decreases in the post-merger period. On the other hand, Interest Expenses to Income Ratio (IE/II), Total Loans to Total Deposit Ratio (TLO/TD), and Non-Performing Loans to Total Loans (NPL) are increases in the post-merger periods.

Table 6. 11: Comparison of Total Mean for Pre- and Post-Merger Ratios

	Total Mean for Pre- and Post-Merger Ratios			
	Pre-Merger	**Post-Merger**	**Change**	**Relative Change (%)**
Profitability Parameters:				
Return on Equity (ROE)	15.33	12.40	-2.93	-19.11
Return on Assets (ROA)	1.59	1.37	-0.22	-13.84
Net Interest Margin (NIM)	1.77	1.57	-0.2	-11.30
Spread Ratio (SR)	43.52	33.14	-10.38	-23.85
Interest Expenses to Income Ratio (IE/II)	56.48	66.82	10.34	18.31
Liquidity Parameters:				
Cash & Cash Equivalent to Total Assets (CE/TA)	2.54	6.21	3.67	144.49
Investment to Total Assets Ratio (I/TA)	11.27	9.89	-1.38	-12.24
Liquidity CRR Ratio	14.28	13.11	-1.17	-8.19
Total Liabilities to Total Assets Ratio (TL/TA)	90.19	87.20	-2.99	-3.32
Leverage Parameters:				
Debt to Equity Ratio (D/E)	8.74	7.93	-0.81	-9.27
Total Deposit to Total Equity Ratio (TD/TE)	8.58	7.61	-0.97	-11.31
Capital Adequacy Ratio (CAR)	13.78	12.99	-0.79	-5.73
Total Deposit to Total Assets Ratio (TD/TA)	88.56	83.75	-4.81	-5.43
Total Loans to Total Deposit Ratio (TLO/TD)	79.23	86.45	7.22	9.11
Non-Performing Loans to Total Loans (NPL)	1.86	3.17	1.31	70.43
Wealth of Shareholders Parameters:				
Earnings Per Share (EPS)	21.40	18.36	-3.04	-14.21
Market Price Per Share (MPS)	488.00	227.33	-260.67	-53.42
Dividends Per Share (DPS)	18.67	14.44	-4.23	-22.66

Table 6. 12: Paired Sample T-Test of Nepal Credit and Commerz Bank (NCCB)

Paired Samples Test

		Paired Differences									
					95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)	Hypothesis Relation	Result
	Profitability Parameters:										
Pair 1	ROE (Pre-Post)	2.93000	3.65619	2.11090	-6.15247	12.01247	1.388	2	0.300	NS	**NS**
Pair 2	ROA (Pre-Post)	0.21667	0.62613	0.36149	-1.33872	1.77205	0.599	2	0.610	NS	**NS**
Pair 3	NIM (Pre-Post)	0.19667	0.66726	0.38524	-1.46089	1.85423	0.511	2	0.660	NS	**NS**
Pair 4	SR (Pre-Post)	10.38000	5.55222	3.20557	-3.41247	24.17247	3.238	2	0.084	NS	**NS**
Pair 5	IEI (Pre-Post)	-10.34333	5.52179	3.18801	-24.06021	3.37355	-3.244	2	0.083	NS	**NS**
	Liquidity Parameters:										
Pair 6	CETA (Pre-Post)	-3.66667	2.66429	1.53823	-10.28513	2.95179	-2.384	2	0.140	NS	**NS**
Pair 7	ITA (Pre-Post)	1.38333	1.64016	0.94695	-2.69106	5.45772	1.461	2	0.282	NS	**NS**
Pair 8	TLTA (Pre-Post)	2.98333	1.68364	0.97205	-1.19905	7.16572	3.069	2	0.092	NS	**NS**
Pair 9	Liquidity CRR (Pre-Post)	1.17333	2.82605	1.63162	-5.84695	8.19362	0.719	2	0.547	NS	**NS**
	Leverage Parameters										
Pair 10	DE (Pre-Post)	0.81333	1.97305	1.13914	-4.08800	5.71467	0.714	2	0.549	NS	**NS**
Pair 11	TDTE (Pre-Post)	0.97333	1.93014	1.11437	-3.82140	5.76806	0.873	2	0.475	NS	**NS**
Pair 12	CAR (Pre-Post)	0.79667	2.62134	1.51343	-5.71511	7.30844	0.526	2	0.651	NS	**NS**
Pair 13	TLOTD (Pre-Post)	-7.22000	3.68570	2.12794	-16.37579	1.93579	-3.393	2	0.077	NS	**NS**
Pair 14	TDTA (Pre-Post)	4.81333	2.53228	1.46201	-1.47719	11.10386	3.292	2	0.081	NS	**NS**
Pair 15	NPL (Pre-Post)	-1.30667	0.57327	0.33097	-2.73074	0.11740	-3.948	2	0.059	NS	**NS**
	Wealth of Shareholders Parameters:										
Pair 16	EPS(Pre-Post)	3.04667	13.99615	8.08068	-31.72170	37.81503	0.377	2	0.742	NS	**NS**
Pair 17	MPS (Pre-Post)	260.66667	115.15352	66.48392	-25.39054	546.72387	3.921	2	0.059	NS	**NS**
Pair 18	DPS (Pre-Post)	4.23000	23.21620	13.40388	-53.44225	61.90225	0.316	2	0.782	NS	**NS**

Notes: Significant at 0.05 level (2- tailed**)** NS = Not significant S = Significant

Table 6.11, **profitability ratios**, shows that all the five financial ratios of the NCCB bank have deteriorated in the post-merger periods. However, all the profitability ratios paired T-test results (see Table 6.12) reveal the statistically insignificant difference in the pre-post-merger periods.

The mean value of ROE, ROA, and NIM, and SR ratios have declined in the post-merger periods indicates the profitability of NCCB drastically deteriorated after the M&A with the development banks. Table 6.11 shows that the mean value of ROE decreased in the post-merger period from 15.33% to 12.40%. Therefore, a negative relative change of 19.11% of pre- post-merger suggests that management has not adequately utilised shareholders' funds to generate more income and expand its business. Similarly, ROA declined from 1.59% to 1.37%, a negative relative change of 13.84%. This reduction in the ROA indicates management has not utilised its assets effectively and efficiently to generate profit. Likewise, the mean value of NIM fall out from 1.77% to 1.57%, a negative relative change of 11.30% indicates interest income reduced in the post-merger period.

Similarly, the mean value of SR declined from 43.52% to 33.14%, a relative change of negative 23.85%. The reduction in the SR indicates the bank's non-operating expenses started to increase and central bank frequent policy changes regarding SR calculation in the post-merger periods. On the other hand, the mean value of the II/IE increases from 56.48% to 66.82%, a relative change of 18.31%. This increment in the II/IE indicates a significant increase in operating cost and fallout in interest income in the post-merger periods.

However, a paired T-test results in Table 6.12 reveals a decrease in the ROE, ROA, NIM, and SR are not statistically validated at 5% significant level as a p-value of 0.300, 0.610, 0.660, and 0.084 with t-value ratios are 1.388, 0.599, 0.511, and 3.238 respectively. Likewise, an increase in the IEI is not statistically validated at a 5% significant level with a p-value of 0.083 with a t-value ratio is -3.244. Therefore M&A has no significant impact on the ROE, ROA, NIM, SR, and IEI ratios.

The **liquidity ratios** of NCCB show a mixed trend in the post-merger periods. However, all the liquidity ratios paired T-test (see Table 6.12) reveal the statistically insignificant difference in the pre-post-merger periods.

According to Table 6.11, the mean value of CE/TA increased by 3.67%, a relative change of 144.49% in the pre-post M&A indicates that the bank's liquidity positions improved. Similarly, a negative relative change of I/TA by 12.24% in the post-merger period shows bank productivity decreased. Likewise, the mean value of liquidity CRR decreased from 14.28% to 13.11%, a negative relative change of 8.19%. Furthermore, a decline in the mean value of TLTA from 90.19% to 87.20%, a relative change of negative 3.32%, indicates that the bank's liquidity position improved after the merger.

However, a paired t-test results in Table 6.12 reveals that CETA, ITA, TLTA, and Liquidity CRR ratios are not statistically validated at a 5% significance level as the p-value of 0.140, 0.282, 0.092, and 0.547 at t-test ratio -2.384, 1.461,3.069, and 0.719. Therefore M&A has no significant difference in the CETA, ITA, TLTA, and Liquidity CRR.

According to Table 6.11, the **leverage parameters** show that four ratios of the NCCB have improved except NPL and CAR ratios. However, paired T-test results in Table 6.12 reveal that all the financial leverage ratios are not statistically significant.

According to Table 6.11, the D/E of mean values before and after the M&A is 8.74 and 7.93 times, a negative relative change of 9.27%. This reduction of debt in the post-merger is a good sign for the financial leverage of the bank to pay its long-term obligations. Similarly, the mean value of TD/TE is a decline from 8.58 to 7.61 times, a relative change of negative 11.31% which is also a significant improvement after the M&A. Furthermore, the decline trends of TD/TA from 88.56% to 83.75% before and after the M&A periods signals that the bank's profitability may increase in the future period. Likewise, the mean values of CAR decline from 13.78% to 12.99%, a relative change of negative 8.19%. This reduction of CAR in the post-merger period indicates that the bank still maintained well above the central bank minimum rate.

On the other hand, the mean value of TLO/TD improved from 79.23% to 86.45%, a relative change of 9.11%, which shows the bank has utilised the maximum deposit amount to generate interest income in the future periods. Similarly, the mean value of NPL is increased from 1.86% to 3.17% respectively in the post-merger period. The increase NPL in the post-merger period indicates the quality of loans has deteriorated or bank recovery strategy is not working in the post-merger period.

However, a paired t-test results in Table 6.12 reveals that the reduction of DE, TDTE, CAR, and TDTA ratios are not statistically validated at a 5% level of significance as the p-value of 0.549, 0.475, 0.651, and 0.081 at t-test ratios 0.714, 0.873, 0.526, and 2.292 respectively. Similarly, the TLOTD and NPL ratios increment are not statistically validated at the p-value of 0.077 and 0.059 at a t-test ratio of -3.393 and -3.3948. Therefore, M&A has insignificant effects on the DE, TDTE, CAR, TDTA, TLOTD, and NPL ratios.

As seen in Table 6.11**,** all the ratios of the **Wealth of Shareholders Parameters** of the NCCB declined in the post-merger period. However, paired T-test results in Table 6.12 suggest these declines are not statistically significant at a 5% significance level in the pre-post-merger periods.

The average value of EPS declined from Rs 21.40 to Rs 18.36, a relative change of negative 14.21% in the pre-post-merger periods. The dramatic fall in EPS is due to the stock rising quickly to meet the minimum capital requirement. Similarly, a negative relative change of 53.42% in the MPS in the post-merger periods indicates the stock price is falling due to the bearish trend of NEPSE or an oversupply of shares after the capital increment of BFIs. Furthermore, a relative change of negative 22.66% in the DPS in the post-merger period indicates that the bank's dividend capacity decreases after the significant increment in the non-performing loans, business growth, and competitiveness in the banking sectors.

However, a paired t-test result in Table 6.12 shows the significant decline of EPS, MPS, and DPS are not statistically validated at a 5% significant level as the p-value of 0.742, 0.547, and 0.782 with a t-value ratio is 0.377, 3.921, and 0.316 respectively. Therefore, M&A has an insignificant impact on the EPS, MPS, and DPS.

6.6: NMB Bank (NMB) Pre-Post-M&A Analysis and Discussion

Table 6. 13: Financial Ratios of NMB Bank (NMB) Pre & Post Merger

	Profitability					Liquidity				Leverage						Wealth of Shareholders		
Year	**ROE**	**ROA**	**NIM**	**Spread Ratio**	**IE/II**	**CE/TA**	**I/TA**	**Liquidity CRR**	**TL/TA**	**D/E**	**TD/TE**	**CAR**	**TLO/TD**	**TD/TA**	**NPL/TLO**	**EPS**	**MPS**	**Total Dividends**
2013/2014	14.57	1.36	2.61	39.36	60.64	1.65	13.87	13.72	90.69	9.74	9.63	10.75	75.56	89.66	0.55	17.08	515.00	21.05
2014/2015	15.20	1.21	2.34	41.79	58.22	1.98	14.48	13.32	92.03	11.54	11.14	11.13	74.31	88.84	0.42	18.34	507.00	8.42
2015/2016	16.25	1.49	2.70	49.67	50.33	9.06	11.4	10.81	90.80	9.87	9.44	10.98	81.85	86.52	1.81	20.21	810.00	20.00
Pre-Merger Mean	**15.34**	**1.35**	**2.55**	**43.61**	**56.40**	**4.23**	**13.25**	**12.62**	**91.17**	**10.38**	**10.07**	**10.95**	**77.24**	**88.34**	**0.93**	**18.54**	**610.67**	**16.49**
2017/2018	11.24	1.65	2.58	33.27	66.73	4.61	8.63	6.68	85.33	5.82	5.12	15.75	89.00	75.19	0.88	24.38	358.00	30.00
2018/2019	12.97	1.67	3.13	38.30	61.70	5.98	7.80	4.19	87.15	6.78	5.66	15.45	93.19	72.72	0.82	23.47	382.00	35.00
2019/2020	8.18	0.95	3.06	38.05	47.35	6.18	8.57	5.93	88.33	7.57	6.44	15.08	89.26	75.12	2.68	12.28	397.00	16.20
Post- Merger Mean	**10.80**	**1.42**	**2.92**	**36.54**	**58.59**	**5.59**	**8.33**	**5.60**	**86.94**	**6.72**	**5.74**	**15.43**	**90.48**	**74.34**	**1.46**	**20.04**	**379.00**	**27.07**

Source: Appendix Table 5

Table 6.13 presents the various financial ratios of the NMB Bank (NMB)of different fiscal years. These ratios are calculated based on the annual report of the bank (see appendix, Table 5). The bank has merged with development banks (see Table 4.1). As the M&A is an ongoing process, it is not easy to separate the pre-merger and post-merger period. So, with the new mandatory capital requirement of BFIs and significant M&A deals that happened in the fiscal year 2016/2017, that year is considered a transactional year. Therefore, the fiscal years 2013/2014, 2014/2015, and 2015/2016 are regarded as pre-merger periods, and the fiscal years 2017/2018, 2018/2019, and 2019/2020 are considered to be post-merger periods. According to Table 6.13, mean value of Return on Equity (ROE), Spread Ratio (SR), Investment to Total Assets (I/TA), Liquidity CRR, Total Liabilities to Total Assets Ratio (TL/TA), Debt to Equity Ratio (D/E), Total Deposit to Total Assets (TD/TA), Market Price Per Share (MPS), and Dividend Per Share (DPS) ratios decreased in the post-merger period. On the other hand, Return on Assets (ROA), Net Interest Margin (NIM), Interest Expenses to Income Ratio (IE/II), Cash Equivalent to Total Assets (CE/TA), Capital Adequacy Ratio (CAR), Total Loans to Total Deposit Ratio (TLO/TD), and Non-Performing Loans to Total Loans (NPL), Earning Per Share (EPS), and Dividend Per Share (DPS) increased in the post-merger periods.

Table 6. 14: Comparison of Total Mean for Pre- and Post-Merger Ratios

	Total Mean for Pre- and Post-Merger Ratios			
	Pre-Merger	**Post-Merger**	**Change**	**Relative Change (%)**
Profitability Parameters:				
Return on Equity (ROE)	15.34	10.80	-4.54	-29.60
Return on Assets (ROA)	1.35	1.42	0.07	5.19
Net Interest Margin (NIM)	2.55	2.92	0.37	14.51
Spread Ratio (SR)	43.61	36.54	-7.07	-16.21
Interest Expenses to Income Ratio (IE/II)	56.40	58.59	2.19	3.88
Liquidity Parameters:				
Cash & Cash Equivalent to Total Assets (CE/TA)	4.23	5.59	1.36	32.15
Investment to Total Assets Ratio (I/TA)	13.25	8.33	-4.92	-37.13
Liquidity CRR Ratio	12.62	5.60	-7.02	-55.63
Total Liabilities to Total Assets Ratio (TL/TA)	91.17	86.94	-4.23	-4.64
Leverage Parameters:				
Debt to Equity Ratio (D/E)	10.38	6.72	-3.66	-35.26
Total Deposit to Total Equity Ratio (TD/TE)	10.07	5.74	-4.33	-43.00
Capital Adequacy Ratio (CAR)	10.95	15.43	4.48	40.91
Total Loans to Total Deposit Ratio (TLO/TD)	77.24	90.48	13.24	17.14
Total Deposit to Total Assets Ratio (TD/TA)	88.34	74.34	-14.00	-15.85
Non-Performing Loans to Total Loans (NPL)	0.93	1.46	0.53	56.99
Wealth of Shareholders Parameters:				
Earnings Per Share (EPS)	18.54	20.04	1.50	8.09
Market Price Per Share (MPS)	610.67	379.00	-231.67	-37.94
Dividends Per Share (DPS)	16.49	27.07	10.58	64.16

Table 6. 15: Paired Sample T-Test of NMB Bank (NMB)

		Paired Differences									
					95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)	Hypothesis Relation	Result
	Profitability Parameters:										
Pair 1	ROE (Pre-Post)	4.54333	3.10331	1.79170	-3.16572	12.25238	2.536	2	0.127	NS	**NS**
Pair 2	ROA (Pre-Post)	-0.07000	0.53507	0.30892	-1.39919	1.25919	-0.227	2	0.842	NS	**NS**
Pair 3	NIM (Pre-Post)	-0.37333	0.41016	0.23681	-1.39223	0.64557	-1.577	2	0.256	NS	**NS**
Pair 4	SR (Pre-Post)	7.06667	4.15206	2.39720	-3.24763	17.38096	2.948	2	0.098	NS	**NS**
Pair 5	IEI (Pre-Post)	-2.19667	4.66920	2.69576	-13.79560	9.40227	-0.815	2	0.501	NS	**NS**
	Liquidity Parameters:										
Pair 6	CETA (Pre-Post)	-1.36000	3.70858	2.14115	-10.57263	7.85263	-0.635	2	0.590	NS	**NS**
Pair 7	ITA (Pre-Post)	4.91667	1.94526	1.12310	0.08437	9.74896	4.378	2	0.048	NS	**S**
Pair 8	TLTA (Pre-Post)	4.23667	1.54869	0.89414	0.38951	8.08382	4.738	2	0.042	NS	**S**
Pair 9	Liquidity CRR (Pre-Post)	7.01667	2.12510	1.22692	1.73764	12.29570	5.719	2	0.029	NS	**S**
	Leverage Parameters:										
Pair 10	DE (Pre-Post)	3.66000	1.25044	0.72194	0.55374	6.76626	5.070	2	0.037	NS	**S**
Pair 11	TDTE (Pre-Post)	4.33000	1.24976	0.72155	1.22542	7.43458	6.001	2	0.027	NS	**S**
Pair 12	CAR (Pre-Post)	-4.47333	0.46918	0.27088	-5.63885	-3.30782	-16.514	2	0.004	NS	**S**
Pair 13	TLOTD (Pre-Post)	-13.24333	5.73753	3.31256	-27.49614	1.00948	-3.998	2	0.057	NS	**NS**
Pair 14	TDTA (Pre-Post)	13.99667	2.39534	1.38295	8.04632	19.94701	10.121	2	0.010	NS	**S**
Pair 15	NPL (Pre-Post)	-0.53333	0.29366	0.16954	-1.26281	0.19615	-3.146	2	0.088	NS	**NS**
	Wealth of Shareholders Parameters:										
Pair 16	EPS(Pre-Post)	-1.50000	8.23838	4.75643	-21.96527	18.96527	-0.315	2	0.782	NS	**NS**
Pair 17	MPS (Pre-Post)	231.66667	157.85225	91.13604	-160.46006	623.79340	2.542	2	0.126	NS	**NS**
Pair 18	DPS (Pre-Post)	-10.57667	15.25518	8.80758	-48.47264	27.31931	-1.201	2	0.353	NS	**NS**

Notes: Significant at 0.05 level (2- tailed**)** **NS** = Not significant **S** = Significant

Table 6.14, **profitability ratios,** shows that two out of five ratios of the NMB bank have declined, and three ratios (ROA, NIM, and IE/I) have increased in the post-merger periods. However, all the profitability ratios paired T-test results (see Table 6.15) reveal no statistically significant difference in the pre-post-merger periods.

The mean value of ROE and SR ratios declined and increased in the IE/II in the post-merger periods indicating that the profitability of NMB deteriorated significantly after the M&A with the development banks. Table 6.14 shows that the mean value of ROE decreased from 15.34% to 10.80% in the post-merger period. Therefore, a relative change of negative 29.60% of pre- post-merger suggests that management has not adequately utilised shareholders' funds to generate more income and expand its business. Similarly, the mean value of SR declined from 43.61% to 36.54%, a relative change of negative 16.21%. The reduction in the SR indicates that the bank's non-operating expenses started to increase, and the central bank had frequent policy changes regarding SR calculation in the post-merger periods. Furthermore, the II/IE mean value increased from 56.40% to 58.59%, a relative change of 3.88%. This marginal increase in the II/IE indicates a significant increase in the interest expenses and operating costs after the M&A.

On the other hand, ROA and NIM improved after the M&A. The mean value of ROA increased marginally from 1.35% to 1.42%, a relative change of 5.19%. This marginal improvement in the ROA indicates that management has utilised its assets effectively and efficiently to generate profit. Likewise, the mean value of NIM increased from 2.55% to 2.92%, a relative change of 14.51%, indicating that interest income has risen gradually in the post-merger period.

However, a paired T-test result in Table 6.15 reveals a reduction in the ROE and SR are not statistically validated at a 5% significant level as the p-value of 0.127 and 0.098 with t-value ratios are 2.536 and 2.948. Furthermore, the ROA, NIM, and IEI ratios increment are not statistically validated at a p-value of 0.842, 0.256, and 0.501 with t-value ratios are -0.227, -1.577, and -0.815. Therefore M&A has no significant impact on the ROE, ROA, NIM, SR, and IEI ratios.

The **liquidity ratios** of NMB have mixed trends in the post-merger period, and their mixed improvement is statistically validated except the CETA ratio in the pre-post M&A period.

According to Table 6.6.2, the mean value of CE/TA improved by 3.67%, a relative change of 32.15% in the pre-post M&A, indicating that the bank's liquidity positions improved. Similarly, a relative shift in I/TA by negative 37.13% in the post-merger period indicates that bank productivity decreased. Likewise, the mean value of liquidity CRR decreased from 12.62% to 5.60%, a relative change of negative 55.63%. Furthermore, a decline in the mean value of TLTA from 91.17% to 86.94%, a relative change of negative 4.64%, indicates that the bank's liquidity position improved after the merger.

The paired t-test results shown in Table 6.6.3 reveal that reductions ITA, TLTA, and Liquidity CRR ratios are statistically validated at a 5% significant level as the p-value of 0.048, 0.042, and 0.029 at t-test ratio 4.378, 4.738, and 5.719. Therefore, M&A has a significant difference in the ITA, TLTA, and Liquidity CRR. On the other hand, improvement of CETA is not statistically validated at a 5% significant level as the P-value is 0.590 with a t-value of -0.635. Therefore M&A has no significant impact on CETA

According to Table 6.14, the **leverage parameters** of NMB bank show a mixed trend as three ratios increased, and the other three ratios decreased in the post-merger period. Thus, the financial leverage of the NMB bank improved except for NPL ratios. A paired t-test result in Table 6.15 justifies the significant difference in the leverage ratios except for TLOTD and NPL ratios before and after the M&A period.

According to Table 6.14, the D/E of mean values before and after the M&A is 10.38 and 6.72 times, a relative change of negative 35.26%. This reduction of debt in the post-merger period is a positive sign for the financial leverage of the bank to pay its long-term obligations. Similarly, the mean value of TD/TE declined from 10.07 to 5.74 times, a relative change of negative 43.00%, which is also a significant improvement after the M&A. Furthermore, the declining trends of TD/TA from 88.34 to 74.34% before and after the M&A periods signal that the bank's profitability may increase in the future period. On the other hand, the mean values of CAR rose from 10.95% to 15.43%, a relative change of 40.91%. This increment of CAR in the post-merger period indicates that the bank’s financial strength improved to absorb financial risk and economic stress. Likewise, the mean value of TLO/TD enhanced from 77.24% to 90.48%, a relative change of 17.14%, which indicates that the bank has utilised the maximum deposit amount to generate interest income in future periods. Similarly, the mean value of NPL is increasing from 0.93% to 1.46%, a relative change of 56.99%. This significant increase in NPL in the post-merger period indicates that the quality of loans has deteriorated or that the bank recovery strategy is not working in the post-merger period.

However, the paired t-test results in Table 6.15 reveal that the reduction of DE, TDTE, and TDTA and the increment in CAR ratios are statistically validated at a 5 % significant level as the p-value of 0.037, 0.027, 0.010, and 0.04 at t-test ratios 5.070, 6.001, 10.121, and -16.154 respectively. Therefore, M&A has significant effects on the DE, TDTE, TDTA, and CAR ratios. Similarly, the improvement in the TLOTD and the increases in the NPL ratio are not statistically validated at a 5% significant level as the p-value of 0.057 and 0.088 at a t-test ratio -3.998 -3.146. Therefore M&A has no significant effects on the TLOTD and NPL ratios.

As seen in Table 6.14**,** in the **Wealth of Shareholders Parameters,** two out of three ratios of the NMB bank improved in the post-merger period except MPS. However, a paired T-test result in Table 6.15 suggests that all three ratios are statistically insignificant in the pre-post period.

The average value of EPS improved from Rs 18.54 to Rs 20.04, a relative change of 8.09% in the pre-post-merger periods. The increase in EPS indicates that the bank's business expanded after the M&A, with the stock raised in a short period to meet the minimum capital requirement. Similarly, a negative relative change of 37.94% in the MPS in the post-merger periods indicates that the stock price is falling due to the bearish trend of NEPSE or an oversupply of shares after the capital increment BFIs. Furthermore, a relative change of 64.16% in the DPS in the post-merger period indicates that the bank's dividend capacity increases after significant net profit, business growth, and expansion of its branches after M&A.

However, a paired t-test result in Table 6.15 reveals the improvement of EPS and DPS and significant reduction of MPS in the pre-post M&A period are not statistically validated at a 5% significant level as the p-value of 0.782, 0.353, and 0.126 with a t-value ratio is -0.315, -1.201 and 2.542 respectively. Therefore, M&A has an insignificant impact on the EPS, DPS, and MPS.

6.7: Nepal Investment Bank (NIB) Pre-Post-M&A Analysis and Discussion

Table 6. 16: Financial Ratios of Nepal Investment Bank (NIB) Pre & Post Merger

	Profitability					**Liquidity**				**Leverage**						**Wealth of Shareholders**		
Year	ROE	ROA	NIM	Spread Ratio	IE/II	CE/TA	I/TA	Liquidity CRR	TL/TA	D/E	TD/TE	CAR	TLO/TD	TD/TA	NPL/TLO	EPS	MPS	Total Dividends
2013/2014	24.47	2.25	2.48	51.51	48.49	2.52	17.85	19.20	90.80	9.87	9.32	11.27	70.46	85.68	1.77	40.67	960.00	40.00
2014/2015	20.00	1.88	2.08	51.48	48.52	2.55	20.57	12.00	90.60	9.64	9.24	11.90	73.06	86.86	1.25	30.92	704.00	34.74
2015/2016	15.66	1.97	2.25	57.86	42.14	1.76	22.52	7.20	87.45	6.97	6.67	14.92	78.67	83.70	0.68	29.30	1040.00	41.00
Pre-Merger Mean	**20.04**	**2.03**	**2.27**	**53.62**	**46.38**	**2.28**	**20.31**	**12.80**	**89.62**	**8.83**	**8.41**	**12.70**	**74.06**	**85.41**	**1.23**	**33.63**	**901.33**	**38.58**
2017/2018	14.71	2.13	2.49	43.10	56.90	5.79	7.98	8.20	85.53	5.91	5.57	12.66	87.16	80.65	1.36	34.37	621.00	40.00
2018/2019	13.00	1.79	2.07	41.22	58.78	7.28	9.23	5.50	86.24	6.27	5.95	13.26	83.54	81.89	2.78	25.83	519.00	19.00
2019/2020	8.92	1.19	1.38	38.01	61.99	3.71	12.85	8.70	86.62	6.47	6.22	13.54	82.93	83.15	2.91	17.01	431.00	18.00
Post-Merger Mean	**12.21**	**1.70**	**1.98**	**40.78**	**59.22**	**5.59**	**10.02**	**7.47**	**86.13**	**6.22**	**5.91**	**13.15**	**84.54**	**81.90**	**2.35**	**25.74**	**523.67**	**25.67**

Source: Appendix, Table 6

Table 6.16 presents the various financial ratios of the Nepal Investment Bank (NIB) of different fiscal years. These ratios are calculated based on the bank's annual report (see appendix, Table 6). The bank acquired ACE development banks in 2016/2017 and merged with another Commercial Bank, Himalayan Bank Limited (HBL), in the fiscal year 2020/2021 (see Table 4.16). As the M&A is an ongoing process, it isn't easy to separate the pre-post-merger period. So, with the new mandatory capital requirement of BFIs and significant M&A deals that happened in the fiscal year 2016/2017, that year is considered a transactional year. Therefore, the fiscal years 2013/2014, 2014/2015, and 2015/2016 are regarded as pre-merger periods, and the fiscal years 2017/2018, 2018/2019, and 2019/2020 are considered post-merger periods. According to Table 16, the mean value of Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NIM), Spread Ratio (SR), Cash Equivalent to Total Assets (CE/TA), Investment to Total Assets (I/TA), Liquidity CRR, Total Liabilities to Total Assets Ratio (TL/TA), Debt to Equity Ratio (D/E), Total Deposit to Total Assets (TD/TA), Market Price Per Share (MPS), Earning Per Share (EPS), and Dividend Per Share (DPS) ratios are decreases in the post-merger period. On the other hand, Interest Expenses to Income Ratio (IE/II), Capital Adequacy Ratio (CAR), Total Loans to Total Deposit Ratio (TLO/TD), and Non-Performing Loans to Total Loans (NPL) are increases in the post-merger periods.

Table 6. 17: Comparison of Total Mean for Pre- and Post-Merger Ratios

	Total Mean for Pre- and Post-Merger Ratios			
	Pre-Merger	**Post-Merger**	**Change**	**Relative Change (%)**
Profitability Parameters:				
Return on Equity (ROE)	20.04	12.21	-7.83	-39.07
Return on Assets (ROA)	2.03	1.70	-0.33	-16.26
Net Interest Margin (NIM)	2.27	1.98	-0.29	-12.78
Spread Ratio (SR)	53.62	40.78	-12.84	-23.95
Interest Expenses to Income Ratio (IE/II)	46.38	59.22	12.84	27.68
Liquidity Parameters:				
Cash & Cash Equivalent to Total Assets (CE/TA)	2.28	5.59	3.31	145.18
Investment to Total Assets Ratio (I/TA)	20.31	10.02	-10.29	-50.66
Liquidity CRR Ratio	12.80	7.47	-5.33	-41.64
Total Liabilities to Total Assets Ratio (TL/TA)	89.62	86.13	-3.49	-3.89
Leverage Parameters:				
Debt to Equity Ratio (D/E)	8.83	6.22	-2.61	-29.56
Total Deposit to Total Equity Ratio (TD/TE)	8.41	5.91	-2.50	-29.73
Capital Adequacy Ratio (CAR)	12.70	13.15	0.45	3.54
Total Loans to Total Deposit Ratio (TLO/TD)	74.06	84.54	10.48	14.15
Total Deposit to Total Assets Ratio (TD/TA)	85.41	81.90	-3.51	-4.11
Non-Performing Loans to Total Loans (NPL)	1.23	2.35	1.12	91.06
Wealth of Shareholders Parameters:				
Earnings Per Share (EPS)	33.63	25.74	-7.89	-23.46
Market Price Per Share (MPS)	901.33	523.67	-377.66	-41.90
Dividends Per Share (DPS)	38.58	25.67	-9.91	-27.85

Table 6. 18: Paired Sample T-Test of NIB

Paired Samples Test

		Paired Differences									
					95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)	Hypothesis Relation	Result
	Profitability Parameters:										
Pair 1	ROE (Pre-Post)	7.83333	1.67360	0.96625	3.67588	11.99078	8.107	2	0.015	NS	**S**
Pair 2	ROA (Pre-Post)	0.33000	0.39000	0.22517	-0.63881	1.29881	1.466	2	0.280	NS	**NS**
Pair 3	NIM (Pre-Post)	0.29000	0.50239	0.29006	-0.95802	1.53802	1.000	2	0.423	NS	**NS**
Pair 4	SR (Pre-Post)	12.84000	6.14090	3.54545	-2.41485	28.09485	3.622	2	0.069	NS	**NS**
Pair 5	IEI (Pre-Post)	-12.84000	6.14090	3.54545	-28.09485	2.41485	-3.622	2	0.069	NS	**NS**
	Liquidity Parameters:										
Pair 6	CETA (Pre-Post)	-3.31667	1.39059	0.80286	-6.77108	0.13774	-4.131	2	0.054	NS	**NS**
Pair 7	ITA (Pre-Post)	10.29333	0.91194	0.52651	8.02795	12.55872	19.550	2	0.003	NS	**S**
Pair 8	TLTA (Pre-Post)	3.48667	2.34530	1.35406	-2.33938	9.31272	2.575	2	0.123	NS	**NS**
Pair 9	Liquidity CRR (Pre-Post)	5.33333	6.33114	3.65529	-10.39409	21.06076	1.459	2	0.282	NS	**NS**
	Leverage Parameters:										
Pair 10	DE (Pre-Post)	2.61000	1.85097	1.06866	-1.98807	7.20807	2.442	2	0.135	NS	**NS**
Pair 11	TDTE (Pre-Post)	2.49667	1.78733	1.03191	-1.94330	6.93663	2.419	2	0.137	NS	**NS**
Pair 12	CAR (Pre-Post)	-0.45667	1.59067	0.91837	-4.40811	3.49478	-0.497	2	0.668	NS	**NS**
Pair 13	TLTD (Pre-Post)	-10.48000	6.22000	3.59112	-25.93134	4.97134	-2.918	2	0.100	NS	**NS**
Pair 14	TDTA (Pre-Post)	3.51667	2.56938	1.48343	-2.86604	9.89937	2.371	2	0.141	NS	**NS**
Pair 15	NPL (Pre-Post)	-1.11667	1.36767	0.78963	-4.51416	2.28082	-1.414	2	0.293	NS	**NS**
	Wealth of Shareholders Parameters:										
Pair 16	EPS(Pre-Post)	7.89333	3.85539	2.22591	-1.68399	17.47065	3.546	2	0.071	NS	**NS**
Pair 17	MPS (Pre-Post)	377.66667	214.62836	123.91574	-155.49974	910.83307	3.048	2	0.093	NS	**NS**
Pair 18	DPS (Pre-Post)	12.91333	11.75766	6.78829	-16.29431	42.12098	1.902	2	0.197	NS	**NS**

Notes: Significant at 0.05 level (2- tailed**)** **NS =** Not significant **S =** Significant

Table 6.17, **profitability ratios**, shows that four out of five financial ratios of NIB bank have declined except IE/II in the post-merger periods. However, all the profitability ratios paired T-test results (see Table 6.18) reveal no statistically significant difference in the pre-post-merger periods except ROE.

The mean value ROE, ROA, NIM, and SR decreased and increased IE/II in the post-merger periods indicating that the profitability of NIB deteriorated after the M&A with the development banks. Tables 6.17 show that the mean value of ROE decreased from 20.01% to 12.21% respectively in the post-merger period. Therefore, a relative change of negative 39.07% of pre- post-merger suggests that management has not utilised shareholders' funds properly to generate income. The increasing trends of non-performing loans are also another factor of declining ROE. Similarly, the mean value of ROA decreases from 2.03% to 1.70%, a relative change of negative 16.26%. This reduction in the ROA indicates management has not utilised its assets effectively and efficiently to generate profit. Likewise, Likewise, the mean value of NIM decreased from 2.27% to 1.98%, a relative change of negative 12.78% indicates interest income gradually reduced in the post-merger period.

Furthermore, the mean value of SR declined from 53.62% to 40.78%, a relative change of negative 23.95%. The reduction in the SR indicates the bank's non-operating expenses started to increase, and the central bank had frequent policy changes regarding SR calculation in the post-merger periods. Therefore, this marginal reduction in the SR indicates a significant decrease in operating costs and interest income. On the other hand, the mean value of the II/IE increased from 46.38% to 59.22%, a relative change of 27.68%. This increase in the II/IE indicates a significant increase in the interest expenses and operating costs after the M&A.

The paired T-test results shown in Table 6.18 reveal that reduction in the ROA, NIM, and SR, and increment in the IEI are not statistically validated at a 5% significant level as the p-value of 0.280, 0.423, 0.069, and 0.069 with t-value ratios are 1.466, 1.000,3.622, and -3.622 respectively. Therefore M&A has no significant impact on the ROA, NIM, SR, and IEI ratios. Likewise, a decrease in the ROE (p-value of 0.015 with a t-value ratio of 8.107) is statistically validated at a 5% significant level. Therefore M&A has a significant impact on ROE.

All the **liquidity ratios** of NIB improved in the post-merger period except I/TA, and their improvement is not statistically validated except the ITA ratio in the pre-post M&A period.

According to Table 6.17, the mean value of CE/TA improved by 3.31%, a relative change of 145.18% in the pre-post M&A indicates that the bank's liquidity positions improved. Similarly, a relative shift in I/TA by negative 50.66% in the post-merger period indicates bank productivity increased. Likewise, the mean value of liquidity CRR decreased from 12.80% to 7.47%, a relative change of negative 41.64%. Furthermore, a decline in the mean value of TLTA from 89.62% to 86.13%, a relative change of negative 3.89%, indicates that the bank's liquidity position improved after the merger.

The paired t-test results shown in Table 6.18 reveal that improvement of CETA and reduction in the TLTA and Liquidity CRR ratios are not statistically validated at a 5% significant level as the p-value of 0.054, 0.123, and 0.282 at t-test ratios are -4.131, 2.575, and 1.459. Therefore, M&A has significant differences in the CETA, TLTA, and Liquidity CRR. Likewise, reduction in the ITA is statistically validated at a 5 % significant level as the P-value is 0.003 with a t-value of 19.550. Therefore, M&A has a significant impact on ITA.

According to Table 6.17, the **leverage parameters** of NIB bank show a mixed trend as three ratios increased, and the other three ratios decreased in the post-merger period. Thus, the financial leverage of NIB bank improved except for NPL ratios. However, all the leverage ratios paired T-test results (see Table 6.18) reveal no statistically significant difference in the pre-post-merger periods.

According to Table 6.17, the mean value of D/E decreased from 8.83 and 6.22 times, a relative change of negative 29.56%. This reduction of debt in the post-merger is a good sign for the financial leverage of the bank to pay its long-term obligations. Similarly, the mean value of TD/TE decreases by negative 2.50 times, a relative change of negative 43.00%, which is a significant improvement after the M&A. Furthermore, the mean value of TD/TA decreases by negative 3.51%, a relative change of negative 4.11%. On the other hand, the mean values of CAR increased from 12.70% to 13.15% (relative change of 3.54%). This marginal increment of CAR in the post-merger period indicates that bank financial strength improved to absorb financial risk and economic stress. Likewise, the mean value of TLO/TD enhanced from 74.54% to 84.54%, a relative change of 14.15%, which indicates that the bank has utilised the maximum deposit amount to generate interest income in future periods.

Similarly, the mean value of NPL increased from 1.23% to 2.35%, a relative change of 91.06%. This significant increase in NPL in the post-merger period indicates the quality of loans has deteriorated or that the bank recovery strategy is not working in the post-merger period. Consequently, the net profit is declining in the post-merger period.

However, a paired t-test results in Table 6.18 reveals that the reduction of DE, TDTE and TDTA and increment in CAR, TLOTD, and NPL ratios are statistically not validated at a 5 % significant level the p-value of 0.135, 0.137, 0.141, 0.668, 0.100, and 0.293 at t-test ratios 2.442, 2.419, 2.371, -0.497, -2.918, and -1.414 respectively. Therefore, M&A has no significant effects on the DE, TDTE, TDTA, CAR, TLOTD, and NPL ratios.

As seen in Table 6.17**,** in the **Wealth of Shareholders Parameters,** all ratios of the NIB bank deteriorated in the post-merger period. However, a paired T-test result in Table 6.18 reveals that all three ratios are statistically insignificant at a 5% significant level in the pre-post-merger period. The average value of EPS improved from Rs 18.54 to Rs 20.04, a relative change of 8.09% in the pre-post-merger periods. The increase in EPS indicates that the bank's business expanded after the M&A, with the stock raised in a short period to meet the minimum capital requirement. Similarly, a negative relative change of 37.94% in the MPS in the post-merger periods indicates that the stock price is falling due to the bearish trend of NEPSE or an oversupply of shares after the capital increment of BFIs. Furthermore, a relative change of 64.16% in the DPS post-merger period indicates that the bank's dividend capacity increases. This indicates the significant rise in the net profit, business growth, and expansion of its branches after M&A. However, a paired t-test result in Table 6.18 reveals the improvement of EPS and DPS and significant reduction of MPS in the pre-post M&A period are not statistically validated at a 5% significant level as the p-value of 0.782, 0.353, and 0.126 with a t-value ratio is -0.315, -1.201 and 2.542 respectively. Therefore, M&A has an insignificant impact on the EPS, DPS, and MPS.

6.8: Kumari Bank (KBL) Pre-Post-M&A Analysis and Discussion

Table 6. 19: Financial Ratios of Kumari Bank (KBL) Pre & Post Merger

	Profitability					Liquidity				Leverage						Wealth of Shareholders		
Year	**ROE**	**ROA**	**NIM**	**Spread Ratio**	**IE/II**	**CE/TA**	**I/TA**	**Liquidity CRR**	**TL/TA**	**D/E**	**TD/TE**	**CAR**	**TLO/TD**	**TD/TA**	**NPL/TLO**	**EPS**	**MPS**	**Total Dividends**
2013/2014	11.52	1.10	1.22	34.66	65.34	2.51	10.20	13.62	90.44	9.46	9.30	11.81	79.40	88.90	2.89	14.05	536.00	34.74
2014/2015	11.79	1.06	1.16	38.05	61.95	2.22	13.01	7.48	91.04	10.17	9.98	10.84	75.53	89.42	2.49	14.63	380.00	11.85
2015/2016	17.75	1.66	1.84	43.66	56.34	8.43	14.27	8.74	90.63	9.67	9.41	11.69	79.34	88.17	1.15	21.92	420.00	22.10
Pre-Merger Mean	**13.69**	**1.27**	**1.41**	**38.79**	**61.21**	**4.39**	**12.49**	**9.95**	**90.70**	**9.77**	**9.56**	**11.45**	**78.09**	**88.83**	**2.18**	**16.87**	**445.33**	**22.90**
2017/2018	9.88	1.26	1.44	29.87	70.13	4.57	10.91	6.85	87.26	6.85	6.66	13.36	88.87	84.85	1.05	14.54	199.00	8.50
2018/2019	10.50	1.17	1.31	31.54	68.46	8.38	8.85	4.59	88.87	7.99	7.28	11.75	89.09	81.06	1.01	14.17	220.00	10.52
2019/2020	6.71	0.76	0.85	33.81	66.19	5.97	8.46	3.78	88.74	7.88	7.18	15.35	92.33	80.88	1.39	9.25	186.00	14.00
Post-Merger Mean	**9.03**	**1.06**	**1.20**	**31.74**	**68.26**	**6.31**	**9.41**	**5.07**	**88.29**	**7.57**	**7.04**	**13.49**	**90.10**	**82.26**	**1.15**	**12.65**	**201.67**	**11.01**

Source: Appendix, Table 7

Table 6.19 presents the data of various financial ratios of the Kumari Bank (KBL) of different fiscal years. These ratios are calculated based on the bank's annual report (see appendix Table 7). The bank merged with four development banks (see Table 4.1) in the fiscal years 2016/2017, so the fiscal years 2013 to 2016 are considered a pre-merger period, and the fiscal years 2017 to 2020 are considered a post-merger period. According to Table 6.19, the mean value of Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NPM), Spread Ratio (SR), Investment to Total Assets (I/TA), Liquidity CRR, Total Liabilities to Total Assets Ratio (TL/TA), Debt to Equity Ratio (D/E), Total Deposit to Total Equity (TD/TE), Total Deposit to Total Assets (TD/TA), Earning Per Share (EPS), Market Price Per Share (MPS), and Dividend Per Share (DPS) ratios decreased in the post-merger period. On the other hand, Interest Expenses to Income Ratio (IE/II), Capital Adequacy Ratio (CAR), Total Loans to Total Deposit Ratio (TLO/TD), and Non-Performing Loans to Total Loans (NPL) increased in the post-merger periods.

Table 6. 20: Comparison of Total Mean for Pre- and Post-Merger Ratios

	Total Mean for Pre- and Post-Merger Ratios			
	Pre-Merger	**Post-Merger**	**Change**	**Relative Change (%)**
Profitability Parameters:				
Return on Equity (ROE)	13.69	9.03	-4.66	-34.03
Return on Assets (ROA)	1.27	1.06	-0.21	-16.54
Net Interest Margin (NIM)	1.41	1.20	-0.21	-14.89
Spread Ratio (SR)	38.79	31.74	-7.05	-18.17
Interest Expenses to Income Ratio (IE/II)	61.21	68.26	7.05	11.52
Liquidity Parameters:				
Cash & Cash Equivalent to Total Assets (CE/TA)	4.39	6.31	1.92	43.74
Investment to Total Assets Ratio (I/TA)	12.49	9.41	-3.08	-24.66
Liquidity CRR Ratio	9.95	5.07	-4.88	-49.05
Total Liabilities to Total Assets Ratio (TL/TA)	90.70	88.27	-2.43	-2.68
Leverage Parameters:				
Debt to Equity Ratio (D/E)	9.77	7.57	-2.2	-22.52
Total Deposit to Total Equity Ratio (TD/TE)	9.56	7.04	-2.52	-26.36
Capital Adequacy Ratio (CAR)	11.45	13.49	2.04	17.82
Total Loans to Total Deposit Ratio (TLO/TD)	78.09	90.1	12.01	15.38
Total Deposit to Total Assets Ratio (TD/TA)	88.83	82.26	-6.57	-7.39
Non-Performing Loans to Total Loans (NPL)	2.18	1.15	-1.03	-47.25
Wealth of Shareholders Parameters:				
Earnings Per Share (EPS)	16.87	12.65	-4.22	-25.01
Market Price Per Share (MPS)	445.33	201.67	-243.66	-54.71
Dividends Per Share (DPS)	22.90	11.01	-11.89	-51.92

Table 6. 21: Paired Sample T-Test of KBL

Paired Samples Test

		Paired Differences									
					95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)	Hypothesis Relation	Relation
	Profitability Parameters:										
Pair 1	ROE (Pre-Post)	4.65667	5.53090	3.19327	-9.08285	18.39618	1.458	2	0.282	NS	**NS**
Pair 2	ROA (Pre-Post)	0.21000	0.59808	0.34530	-1.27571	1.69571	0.608	2	0.605	NS	**NS**
Pair 3	NIM (Pre-Post)	0.20667	0.67929	0.39219	-1.48078	1.89411	0.527	2	0.651	NS	**NS**
Pair 4	SR (Pre-Post)	7.05000	2.57286	1.48544	0.65867	13.44133	4.746	2	0.042	NS	**S**
Pair 5	IEI (Pre-Post)	-7.05000	2.57286	1.48544	-13.44133	-0.65867	-4.746	2	0.042	NS	**S**
	Liquidity Parameters:										
Pair 6	CETA (Pre-Post)	-1.92000	4.31170	2.48936	-12.63087	8.79087	-0.771	2	0.521	NS	**NS**
Pair 7	ITA (Pre-Post)	3.08667	3.38993	1.95718	-5.33439	11.50772	1.577	2	0.255	NS	**NS**
Pair 8	TLTA (Pre-Post)	2.41333	0.67855	0.39176	0.72772	4.09895	6.160	2	0.025	NS	**S**
Pair 9	Liquidity CRR (Pre-Post)	4.87333	1.94145	1.12090	0.05050	9.69617	4.348	2	0.049	NS	**S**
	Leverage Parameters:										
Pair 10	DE (Pre-Post)	2.19333	0.41016	0.23681	1.17443	3.21223	9.262	2	0.011	NS	**S**
Pair 11	TDTE (Pre-Post)	2.52333	0.25580	0.14769	1.88789	3.15877	17.086	2	0.003	NS	**S**
Pair 12	CAR (Pre-Post)	-2.04000	1.43899	0.83080	-5.61466	1.53466	-2.455	2	0.133	NS	**NS**
Pair 13	TLOTD (Pre-Post)	-12.00667	2.21523	1.27896	-17.50960	-6.50374	-9.388	2	0.011	NS	**S**
Pair 14	TDTA (Pre-Post)	6.56667	2.24420	1.29569	0.99176	12.14157	5.068	2	0.037	NS	**S**
Pair 15	NPL (Pre-Post)	1.02667	1.11164	0.64180	-1.73479	3.78812	1.600	2	0.251	NS	**NS**
	Wealth of Shareholders Parameters:										
Pair 16	EPS(Pre-Post)	4.21333	7.33908	4.23722	-14.01794	22.44461	0.994	2	0.425	NS	**NS**
Pair 17	MPS (Pre-Post)	243.66667	88.89507	51.32359	22.83907	464.49426	4.748	2	0.042	NS	**S**
Pair 18	DPS (Pre-Post)	11.89000	12.88022	7.43640	-20.10624	43.88624	1.599	2	0.251	NS	**NS**

Notes: Significant at 0.05 level (2- tailed) **NS** = Not significant **S** = Significant

Table 6.20, **Profitability ratios,** shows that four out of five financial ratios of the KBL have declined except IE/II in the post-merger period. However, a paired T-test in Table 6.21 shows that only two ratios are statistically significant (SR and IEI), and the other three ratios (ROE, ROA, and NIM) are statistically insignificant in the pre-post-merger periods.

The mean value ROE, ROA, NIM, and SR decreased and increased IE/II in the post-merger period indicating that the profitability of KBL deteriorated significantly after the M&A with the development banks. Table 6.20 shows that the mean value of ROE decreased from 13.69% to 9.03% in the post-merger period. Therefore, a relative change of negative 34.03% of the pre- post-merger period suggests that management has not utilised shareholders' funds properly to generate income. Similarly, the mean value of ROA decreased from 1.27% to 1.03%, a relative change of negative 16.54%. This reduction in the ROA indicates management has not utilised its assets effectively and efficiently to generate profit. Likewise, the mean value of NIM decreased from 1.41% to 1.20%, a relative change of negative 14.89%, indicating that interest income has gradually declined in the post-merger period.

Furthermore, the mean value of SR declined from 38.79% to 31.74%, a relative change of negative 18.17%. The reduction in the SR indicates the bank's non-operating expenses started to increase, and the central bank had frequent policy changes regarding SR calculation in the post-merger periods. On the other hand, the mean value of the II/IE increased from 61.21% to 68.26%, a relative change of 11.52%. This increase in the II/IE indicates a significant increase in the interest expenses and operating costs after the M&A.

The paired T-test results in Table 6.21 reveal that a reduction in the ROE, ROA and NIM ratios are not statistically validated at a 5% significant level as the p-value of 0.282, 0.605, and 0.651 with t-value ratios are 1.458, 0.608, and 0.527. Therefore, M&A has no significant impact on the ROE, ROA, and NIM of KBL. Furthermore, reduction in the SR and increment in IEI is statistically validated at a 5% significant level as the p-value of 0.042 and 0.042 at the t-value ratios of 4.746 and -4.746. Therefore, M&A has a significant impact on SR and IEI.

Table 6.20, the liquidity ratios of KBL reveal that those three ratios (ITA, Liquidity CRR, TL/TA) are declined except CETA in the post-merger period. However, a paired

T-test result in Table 6.21 suggests mixed results as two ratios are statistically significant (TLTA and Liquidity CRR). The other two ratios (CETA and ITA) are not statistically insignificant in the pre-post M&A period.

As seen in Table 6.20, the mean value of CE/TA improved by 1.92%, a relative change of 43.74% in the pre-post M&A indicates that the bank's liquidity positions improved. Similarly, a relative change of I/TA by negative 24.66% in the post-merger period indicates that bank productivity increased. Likewise, the mean value of liquidity CRR decreased from 9.95% to 5.07%, a relative change of negative 49.05%. Furthermore, a decline in the mean value of TLTA from 90.70% to 88.27%, a relative change of negative 2.68%, indicates that the bank's liquidity position improved after the merger.

The paired t-test results Table 6.21 reveal an improvement in CETA, and reduction in the ITA is not statistically validated at a 5% significant level as the p-value of 0.521 and 0.255 at t value ratios are -0.771, and 1.577 respectively. Therefore, M&A has no significant differences in the CETA and ITA ratios. However, reduction in the TLTA and Liquidity CRR ratios are statistically validated at a 5% significant level as the P-value of 0.025 and 0.049 at t-value ratios are 6.160, and 4.348 respectively. Therefore, M&A has a significant impact on TLTA and Liquidity CRR.

According to Table 6.20, the **leverage parameters** of KBL bank show a mixed trend as two ratios (NPL and TLOTD) increased, and the other four ratios decreased in the post-merger period. As a result, the financial leverage ratios of KBL bank improved in the post-merger period. Furthermore, a paired t-test results in Table 6.21 justify the significant difference in the leverage ratios except for CAR and NPL ratios before and after the M&A period.

Table 6.20 shows that the D/E of mean values before and after the M&A is 9.77 and 7.57 times, a relative change of negative 22.53%. This reduction of debt in the post-merger is a good sign for the financial leverage of the bank to pay its long-term obligations. Similarly, the mean value of TD/TE declined from 9.56 to 7.04 times, a relative change of negative 26.36%, which is also a significant improvement after the M&A. Furthermore, the decline trends of TD/TA went from 88.83% to 82.56% before and after the M&A periods signals that the bank's profitability may increase in the future period. On the other hand, the mean values of CAR increased from 11.45% to 13.49%, a relative change of 17.82%. This increment of CAR in the post-merger period indicates that bank financial strength improved to absorb financial risk and economic stress. Likewise, the mean value of TLO/TD improved from 78.09% to 90.10%, a relative change of 15.38%. This means the bank has utilised the maximum deposit amount to generate interest income in future periods. Similarly, the mean value of NPL decreased from 2.18% to 1.15%, a relative change of negative 47.25%. This significant decrease in NPL in the post-merger period indicates that the quality of loans has improved or that the bank recovery strategy is working in the post-merger period.

However, a paired t-test results in Table 6.21 reveals that the reduction of DE, TDTE and TDTA and increment in TLOTD ratios are statistically validated at a 5% significant level as the p-value of 0.011, 0.003, 0.037, and 0.011 at t-test ratios 9.262, 17.086, 5.068 and -9.388 respectively. Therefore, M&A has significant effects on the DE, TDTE, TDTA, and TLOTD ratios. Similarly, an increase in the CAR and increment improvement in the NPL ratios are not statistically validated at a 5% significant level as the p-value of 0.133 and 0.251 at a t-test value of -2.455 and 1.600. Therefore, M&A has no significant effects on the CAR and NPL ratios.

As seen in Table 6.20, all the ratios of the **Wealth of Shareholders Parameters** of KBL declined in the post-merger period. However, a paired T-test result in Table 6.21 suggests that these declines are not statistically significant except MPS.

The average value of EPS declined from Rs 16.87 to Rs 12.65, a relative change of negative 25.01% in the pre-post-merger period. The dramatic fall in EPS is due to the stock rising quickly to meet the minimum capital requirement. Similarly, a negative relative change of 54.71% in the MPS in the post-merger periods indicates that the stock price is falling due to the bearish trend of NEPSE, or it may be an oversupply of shares after the capital increment of BFIs. Furthermore, a relative change of negative 51.92% in the DPS in the post-merger period indicates that the bank's dividend capacity decreases after the significant increment in the capital and lack of business growth after the M&A.

The paired t-test result shown in Table 6.21 indicates that the significant decline of EPS and DPS is not statistically validated at a 5% significant level as the p-value of 0.425 and 0.251 at t-value ratios are 0.994 and 1.599. Therefore, M&A has an insignificant impact on the EPS and DPS ratios. However, a decline in the MPS is statistically validated at a 5% significant level as the p-value is 0.042 at the t-value ratio of 4.748. Therefore, M&A has a significant impact on the MPS ratios.

6.9: Conclusion

In this chapter, the effect of M&A on the financial performance of individual commercial banks was analysed and discussed. This research found the effect of M&A on individual banks' financial performance is different according to the individual bank-wise. Results indicate mixed results in the financial ratios of BOKL, GBIME, NMB, KBL bank and insignificant differences in the financial ratios of PRVU, NCCB, and NIB bank. The next chapter presents the summary of research findings, conclusion, and recommendations.

Table 6. 22: Summary of Hypotheses Results of Individual Banks

Hypotheses	**Individual Banks**						
	Significance level/Results						
	BOKL	**GBIME**	**PRVU**	**NCCB**	**NMB**	**NIB**	**KBL**
H_{O1}: There is no significant difference in the Return on Equity (ROE) of selected banks between pre-post M&A.	0.063 Accepted (Insignificant)	0.825 Accepted (Insignificant)	0.809 Accepted (Insignificant)	0.300 Accepted (Insignificant)	0.127 Accepted (Insignificant)	0.015 **Rejected** **(Significant)**	0.282 Accepted (Insignificant)
H_{O2}: There is no significant difference in the Return on Assets (ROA) of selected banks between pre-post M&A	**0.029** **Rejected** **(Significant)**	0.983 Accepted (Insignificant)	0.893 Accepted (Insignificant)	0.610 Accepted (Insignificant)	0.842 Accepted (Insignificant)	0.280 Accepted (Insignificant)	0.605 Accepted (Insignificant)
H_{O3}: There is no significant difference in the Net Interest Margin (NIM) of selected banks between pre-post M&A.	**0.045** **Rejected** **(Significant)**	**0**.231 Accepted (Insignificant)	0.900 Accepted (Insignificant)	0.660 Accepted (Insignificant)	0.256 Accepted (Insignificant)	0.423 Accepted (Insignificant)	0.651 Accepted (Insignificant)
H_{O4}: There is no significant difference in the Spread Ratio (SR) of selected banks between pre-post M&A.	**0.012** **Rejected** **(Significant)**	**0.026** **Rejected** **(Significant)**	0.078 Accepted (Insignificant)	0.084 Accepted (Insignificant)	0.098 Accepted (Insignificant)	0.069 Accepted (Insignificant)	0.042 Accepted (Insignificant)

Table 6.22: Summary of Hypotheses Results of Individual Banks (continued)

H_{O5}: There is no significant difference in selected banks Interest Expense to Income Ratio (IEI) between pre-post M&A.	**0.014** **Rejected** **(Significant)**	**0.026** **Rejected** **(Significant)**	0.078 Accepted (Insignificant)	0.083 Accepted (Insignificant)	0.501 Accepted (Insignificant)	0.069 Accepted (Insignificant)	0.042 Accepted (Insignificant)
H_{O6}: There is no significant difference in the Cash Equivalent to Total Assets Ratio (CTA) of selected banks between pre-post M&A.	0.077 Accepted (insignificant)	0.007 **Reject** **(Significant)**	0.495 Accepted (Insignificant)	0.140 Accepted (Insignificant)	0.590 Accepted (Insignificant)	0.054 Accepted (Insignificant)	0.521 Accepted (Insignificant)
H_{O7}: There is no significant difference in the Investments to Total Assets Ratio (ITA) of selected banks between pre-post M&A.	0.038 **Rejected** **(Significant)**	0.146 Accepted (Insignificant)	0.614 Accepted (Insignificant)	0.282 Accepted (Insignificant)	0.048 **Rejected** **(Significant)**	0.003 **Rejected** **(Significant)**	0.255 Accepted (Insignificant)
H_{O8}: There is no significant difference in selected banks Liquidity Cash Reserve Ratio (CRR) between pre-post M&A.	0.986 Accepted (insignificant)	0.032 **Rejected** **(Significant)**	0.154 Accepted (Insignificant)	0.092 Accepted (Insignificant)	0.029 **Rejected** **(Significant)**	0.282 Accepted (Insignificant)	0.049 **Rejected** **(Significant)**
H_{O9}: There is no significant difference in the Total Liabilities to Total Assets Ratio (TLTA) of selected banks between pre-post M&A.	0.594 Accepted (Insignificant)	0.076 Accepted (Insignificant)	0.438 Accepted (Insignificant)	0.547 Accepted (Insignificant)	0.042 **Rejected** **(Significant)**	0.123 Accepted (Insignificant)	0.025 **Rejected** **(Significant)**
H_{O10}: There is no significant difference in the Debt-to-Equity Ratio (DE) of selected banks between pre-post M&A.	0.022 **Rejected** **(Significant)**	0.078 Accepted (Insignificant)	0.392 Accepted (Insignificant)	0.549 Accepted (Insignificant)	0.037 **Rejected** **(Significant)**	0.135 Accepted (Insignificant)	0.011 **Rejected** **(Significant)**
H_{O11}: There is no significant difference in the Total Deposit to Total Equity Ratio (TDTE) of selected banks between pre-post M&A.	0.032 **Rejected** **(Significant)**	0.010 **Rejected** **(Significant)**	0.317 Accepted (Insignificant)	0.475 Accepted (Insignificant)	0.027 **Rejected** **(Significant)**	0.137 Accepted (Insignificant)	0.003 **Rejected** **(Significant)**
H_{O12}: There is no significant difference in selected banks Capital Adequacy Ratio (CAR) between pre-post M&A.	0.110 Accepted (Insignificant)	0.330 Accepted (Insignificant	0.557 Accepted (Insignificant)	0.651 Accepted (Insignificant)	0.004 **Rejected** **(Significant)**	0.668 Accepted (Insignificant)	0.133 Accepted (Insignificant)

Table 6.22: Summary of Hypotheses Results of Individual Banks (continued)

H$_{O13}$: There is no significant difference in the Total Loans to Total Deposit Ratio (TLOTD) of selected banks between pre-post M&A	0.249 Accepted (Insignificant)	0.009 **Rejected** **(Significant)**	0.160 Accepted (Insignificant)	0.077 Accepted (Insignificant)	0.057 Accepted (Insignificant)	0.100 Accepted (Insignificant)	0.011 **Rejected** **(Significant)**
H$_{O14}$: There is no significant difference in the Total Deposit to Total Assets Ratio (TDTA) of selected banks between pre-post M&A.	0.938 Accepted (Insignificant)	0.101 Accepted (Insignificant)	0.020 **Rejected** **(Significant)**	0.081 Accepted (Insignificant)	0.010 **Rejected** **(Significant)**	0.141 Accepted (Insignificant)	0.037 **Rejected** **(Significant)**
H$_{O15}$: There is no significant difference in the Non-performing Loans to Total Loans Ratio (NPL) of selected banks between pre-post M&A.	0.912 Accepted (Insignificant)	0.154 Accepted (Insignificant)	0.202 Accepted (Insignificant)	0.059 Accepted (Insignificant)	0.088 Accepted (Insignificant)	0.293 Accepted (Insignificant)	0.251 Accepted (Insignificant)
H$_{16}$: There is no significant difference in the Earning Per Share (EPS) of selected banks between pre-post M&A.	0.045 **Rejected** **(Significant)**	0.482 Accepted (Insignificant)	0.863 Accepted (Insignificant)	0.742 Accepted (Insignificant)	0.782 Accepted (Insignificant)	0.071 Accepted (Insignificant)	0.425 Accepted (Insignificant)
H$_{O17}$: There is no significant difference in the Market Price Per Share (MPS) of selected banks between pre-post M&A.	0.006 **Rejected** **(Significant)**	0.029 **Rejected** **(Significant)**	0.192 Accepted (Insignificant)	0.059 Accepted (Insignificant)	0.126 Accepted (Insignificant)	0.093 Accepted (Insignificant)	0.042 **Rejected** **(Significant)**
H$_{O18}$: There is no significant difference in the Dividend Per Share (DPS) of selected banks between pre-post M&A.	0.898 Accepted (Insignificant)	0.890 Accepted (Insignificant)	0.042 **Rejected** **(Significant)**	0.782 Accepted (Insignificant)	0.353 Accepted (Insignificant)	0.197 Accepted (Insignificant)	0.251 Accepted (Insignificant)

CHAPTER 7: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

7.1: Introduction

This chapter summarises the research main findings with reference to the main research question presented in chapter1. This chapter draws conclusions based on the research. The aim of this research is to investigate the effect of M&A on the financial performance of commercial banks in Nepal. This thesis aims to answer the overarching research questions:

To what extent will M&A affect the financial performance of the commercial banks' pre-merger and post-merger?

This chapter highlights the main finding of the study along with the hypothesis results. It concludes with the recommendation for future studies along with limitations of studies.

7.2: Summary of Research Findings

The aim of this research is to examine the effect of M&A on the financial performance of commercial banks in Nepal. The effects of M&A on commercial banks and individual banks' financial performance are measured through profitability, liquidity, leverage, and wealth of shareholders parameters in the pre-post M&A period. The empirical findings summarise the results of the accounting performance measures and paired sample t-tests that were used for hypothesis testing of significance between pre-merger and post-merger. The eighteen hypotheses developed in chapter three are well tested using a paired sample t-test for significant differences in the pre-post M&A period of commercial banks and individual banks. The data set contains seven sample banks for 2013 to 2020. The major findings of the studies are summarised according to the research questions in the following sub-sections.

Table 7. 1: Summary of Commercial Banks Findings

	Pre-Merger Mean	Post-Merger Mean	Comparison (Post-Pre)	Sig (2-tailed)	Hypothesis Relation	Result
Profitability Parameters:						
Return on Equity (ROE)	13.19	11.34	Decreased	0.395	NS	**NS**
Return on Assets (ROA)	1.33	1.37	Increased	0.791	NS	**NS**
Net Interest Margin (NIM)	1.61	1.75	Increased	0.427	NS	**NS**
Spread Ratio (SR)	46.95	36.36	Decreased	0.000	NS	**S**
Interest Expenses to Income Ratio (IE/II)	53.07	62.94	Increased	0.000	NS	**S**
Liquidity Parameters:						
Cash & Cash Equivalent to Total Assets (CE/TA)	3.35	6.09	Increased	0.001	NS	**S**
Investment to Total Assets Ratio (I/TA)	14.46	10.45	Decreased	0.004	NS	**S**
Liquidity CRR Ratio	15.16	10.18	Decreased	0.000	NS	**S**
Total Liabilities to Total Assets Ratio (TL/TA)	90.53	88.08	Decreased	0.000	NS	**S**
Leverage Parameters:						
Debt to Equity Ratio (D/E)	9.84	7.44	Decreased	0.000	NS	**S**
Total Deposit to Total Equity Ratio (TD/TE)	9.54	6.93	Decreased	0.019	NS	**S**
Capital Adequacy Ratio (CAR)	12.06	13.28	Increased	0.017	NS	**S**
Total Loans to Total Deposit Ratio (TLO/TD)	76.65	86.39	Increased	0.000	NS	**S**
Total Deposit to Total Assets Ratio (TD/TA)	87.79	82.05	Decreased	0.000	NS	**S**
Non-Performing Loans to Total Loans (NPL)	3.47	2.15	Decreased	0.218	NS	**NS**
The Wealth of Shareholders Parameters:						
Earnings Per Share (EPS)	18.93	18.95	Increased	0.992	NS	**NS**
Market Price Per Share (MPS)	536.92	290.28	Decreased	0.000	NS	**S**
Dividends Per Share (DPS)	19.63	18.64	Decreased	0.761	NS	**NS**

Table 7. 2: Summary of Individual Banks Findings

Banks		Profitability (Post-Pre)					Liquidity (Post-Pre)				Leverage (Post-Pre)						Shareholders Wealth (Post-Pre)		
		ROE	**ROA**	**NIM**	**SR**	**IE/II**	**CE/TA**	**I/TA**	**Liquidity CRR**	**TL/TA**	**D/E**	**TD/TE**	**CAR**	**TLO/TD**	**TD/TA**	**NPL/TLO**	**EPS**	**MPS**	**Total Dividends**
BOKL	**Comparison (Post-Pre)**	Inc	Inc	Inc	Dec	Inc	Inc	Inc	Inc	Dec	Dec	Dec	Inc	Inc	Dec	Dec	Inc	Dec	Dec
	Test of Hypothesis results	NS	S	S	S	S	NS	S	NS	NS	S	S	NS	NS	NS	NS	S	S	NS
GBIME	**Comparison (Post-Pre)**	Dec	Con	Inc	Dec	Inc	Inc	Dec	Dec	Dec	Dec	Dec	Dec	Inc	Dec	Dec	Inc	Dec	Inc
	Test of Hypothesis results	NS	NS	NS	S	S	S	NS	S	NS	NS	S	NS	S	NS	NS	NS	S	NS
PRVU	**Comparison (Post-Pre)**	Inc	Inc	Inc	Dec	Inc	Inc	Dec	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Dec	Inc	Dec	Inc
	Test of Hypothesis results	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	S	NS	NS	NS	S
NCCB	**Comparison (Post-Pre)**	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Inc	Dec	Dec	Dec
	Test of Hypothesis results	NS	NS	NS	NS	NS	NS	NS	NS	**NS**	NS	NS	NS	NS	NS	NS	NS	NS	NS
NMB	**Comparison (Post-Pre)**	Dec	Inc	Inc	Dec	Inc	Inc	Dec	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Inc	Inc	Dec	Inc
	Test of Hypothesis results	NS	NS	NS	NS	NS	NS	S	S	S	S	S	S	NS	S	NS	NS	NS	NS
NIB	**Comparison (Post-Pre)**	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Inc	Dec	Dec	Dec
	Test of Hypothesis results	S	NS	NS	NS	NS	NS	S	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
KBL	**Comparison (Post-Pre)**	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Dec	Dec	Dec	Dec	Inc	Inc	Dec	Dec	Dec	Dec	Dec
	Test of Hypothesis results	NS	NS	NS	S	S	NS	NS	S	S	S	S	NS	S	S	NS	NS	S	NS

Notes = * Inc = Increased * Dec = Decreased * S = Significant * NS = Not Significant * Con = Constant

7.2.1 Effect of M&A on profitability ratios of commercial banks

Profitability ratios are the main drivers to measure a business's ability to generate profit by using its assets and equity fund over a period. The effect of M&A on the bank's profitability ratios shows that only two (ROA & NIM) out of five ratios of commercial banks improved in the post-merger period. The overall banking sector's ROA improved by 3.48%, and NIM increased by 7.29% in the post-merger periods. The improvement in the ROA and NIM ratios of commercial banks in the post-merger indicate that management has effectively utilised the bank assets and deposit and loans amount to generate the interest income and revenue. However, a paired sample t-test reveals that both ROA and NIM improvement are statistically insignificant as their p-value of 0.791 and 0.427 are greater than the 5% significance level. Therefore, null hypotheses **H_{O2}** and **H_{O3}** are accepted and conclude that M&A has an insignificant impact on ROA and NIM of commercial banks in the pre-post-M&A periods. The insignificant impact on ROA is consistent with the previous findings (Lai et al. 2015; Bipin et al. 2018).

Similarly, the decrease of SR ratios by 22.55% and increase of IEII ratios by 18.59% in the post-merger period indicates that profitability ratios of commercial banks deteriorated after the M&A. However, a paired sample t-test results showed that SR and IEII ratios are statistically significant as the p-value of 0.000 and 0.000, which are below the 5% significance level. Therefore, null hypotheses **H_{O3}** and **H_{O4}** are rejected and conclude that M&A has a significant impact on SR and IEII ratios of commercial banks in the pre-post M&A periods. These findings are similar to Abbas et al. (2014), however, they contradict the findings of Shah and Khan (2017). The significant impact on the SR ratio in the post-merger indicates that the bank's non-operating expenses started to increase in the post-merger period. In addition, the central bank had frequent policy changes regarding the SR calculation rate that negatively impacted the performance of the SR ratio.

Similarly, the impact on the IEII ratio of commercial banks indicates that significant increases in the operating costs and interest income declined due to the increase in the interest expense costs in the post-merger period. Likewise, the ROE of commercial banks deteriorates in the post-merger period by 14.02%. This reduction of ROE in the post-merger period was not statistically significant as p-value of 0.372 above the 5%

significant level. Therefore, null hypothesis **H_{O1}** is accepted and concludes that M&A has an insignificant impact on the ROE of commercial banks. The findings of the insignificant impact of ROE are consistent with the findings of Abbas et al. (2014) and Pahuja and Aggarwal (2016). However, the results are the opposite of the findings of Shah and Khan (2017). The decline of the overall ROE of commercial banks indicates that management has not utilised the shareholder's fund sufficient enough to generate the profit after the M&A. Overall, there are mixed results of profitability ratios of commercial banks in the pre-post M&A period.

7.2.1.1: Effect of M&A on profitability ratios of individual banks

The hypotheses tested using paired sample t-test results indicate that M&A has an insignificant impact on all profitability ratios of PRVU, NCCB, and NMB banks. Similarly, M&A has a significant impact on the ROE of NIB bank, and the other four ratios have an insignificant impact. Likewise, in the case of GBIME and KBL bank, M&A has a significant impact on SR, IEII ratios and an insignificant impact on the ROE, ROA, and NIM ratios. Finally, all the profitability ratios of BOKL have a significant impact on M&A except ROE.

7.2.2: Effect of M&A on liquidity ratios of commercial banks

Liquidity ratios measure the bankability to meet the short-term obligation and reflect the financial position of the bank. The effect of M&A on the liquidity ratios shows that three out of four ratios of commercial banks are improved in the post-merger period. The CETA increased by 81.87% in the post-merger period. The CETA ratio indicates that the liquidity positions of the commercial bank improved after the M&A. Likewise, liquidity CRR decreased by 32.82% in the post-merger period, showing that the commercial bank started to invest in other sectors maintaining regulatory requirements to generate the profitability income in the future. Similarly, a decrease of TLTA ratio by 2.75% in the post-merger period indicates that the debt portions of the commercial banks have a declining trend which is a positive sign for the improvement of liquidity positions in the banks. The paired-sample t-test reveals that the improvement in the CETA, liquidity CRR and TLTA ratios is statistically significant as their p-value of 0.001,0.000, and 0.000, respectively, are below the 5% significant level. Therefore, the null hypotheses **H_{O6}**, **H_{O8}**, and **H_{O9}** are rejected and conclude that M&A has a significant impact on commercial banks' CETA, liquidity CRR, and TLTA ratios in the pre-post-M&A periods. The increase of CETA ratios contradicts the previous findings of Abbas et al. (2014) and Shah and Khan (2017) who found a decreased CETA is also statistically significant. The significant impact of M&A on the CETA ratio is similar to the findings of Shrestha et al. (2017).

Similarly, the findings TLTA ratio contradicts the findings of Abbas et al. (2014). Furthermore, the ITA ratio decreased by 28.78% in the post-merger period, indicating that commercial banks' productivity declined in the post-merger period. However, the paired-sample t-test reveals the decline of the ITA ratio is statistically significant as the p-value of 0.004 is below the 5% significant level. Therefore, null hypothesis **H_{O7}** is rejected and concludes that M&A has a significant impact on the ITA ratio of commercial banks in the pre-post-M&A period. The finding of the ITA ratio is different from Abbas et al. (2014) and Shah and Khan (2017), who reported improvement of ITA ratio resulting in a statistically significant in the pre-post M&A period. Overall, there are significant differences in the liquidity ratios of commercial banks in the pre-post-M&A periods.

7.2.2:1: Effect of M&A on liquidity ratios of individual banks

The hypotheses tested using paired sample t-test results indicate that M&A has an insignificant impact on all PRVU and NCCB bank liquidity ratios in the pre-post-merger period. Similarly, M&A has a significant impact on the CETA ratio of GBIME bank and an insignificant impact on BOKL, NMB, NIB, and KBL bank in the pre-post M&A period. Likewise, M&A has a significant impact on the ITA ratio of BOKL, NIB, and NMB bank and an insignificant impact on GBIME and KBL bank in the pre-post-merger period. In addition, M&A has a significant impact on liquidity CRR ratios of NMB and KBL bank and an insignificant impact on BOKL, GBIME, and NIB bank. Similarly, M&A has a significant impact on the TLTA ratio of GBIME, NMB, and KBL bank and an insignificant impact on BOKL and NIB bank.

7.2.3: Effect of M&A on leverage ratios of commercial banks

The leverage ratios measure the bankability to pay off the long-term obligations. The effect of M&A on the liquidity ratios shows that all the leverage ratios of commercial banks improved in the post-merger period. The DE ratio declined by 24.32% in the post-merger period, indicating that debt financing started to decline after the M&A. This means there is an improvement for the financial leverage of commercial banks in the post-M&A period to pay its long-term obligations. Similarly, the TDTE ratio is decreased by 27.42% in the post-merger period of commercial banks is also an improvement for financial leverage after the M&A. Likewise, the TDTA ratio decreased by 6.53% in the post-merger. The decline of the TDTA ratio indicates that deposit funding is declining, which is also a positive sign for the financial leverage of commercial banks after the M&A. The NPL ratio is decreased by 38.08% in the post-merger period. The declining trend of the NPL ratio indicates improved profitability in the future. However, a paired sample t-test results reveal that the decrease in DE, TDTE, and TDTA ratios in the pre-post-M&A period are statistically significant as their p-value 0.000, 0.019, and 0.000, respectively, are below the 5% significance level. Thus, the null hypotheses of Ho_{10}, **Ho_{11}**, and **Ho_{14}** are rejected and conclude that M&A has a significant impact on DE, TDTE, and TDTA ratio of commercial banks in the pre-post-merger periods. The findings of the DE ratio is similar to the findings of Abbas et al. (2014), however, the improvement is insignificant and contradicts the findings of Mantravadi and Reddy (2008) where banks DE ratio increased after the M&A. Furthermore, the findings of TDTE ratios contradicts the findings of Abbas et al. (2014) and Shah and Khan (2017) where banks TDTE ratio increased after the M&A. These results, however, are insignificant. In addition, the NPL ratio is decreased by 38.08% in the post-merger period. The decreasing trend of NPL in the post-merger indicates that the bank's recovery strategy is working to recover its non-performing loans, which is a significant improvement. The improvement of the NPL ratio in the post-merger period is statistically insignificant as the p-value of 0.218 is above the 5% significance level. Therefore, null hypothesis **Ho_{15}** is accepted and concludes that M&A has an insignificant impact on the NPL ratio of commercial banks in the pre-post-M&A periods. The finding of the NPL ratio is similar to the finding of Bipin et al. (2018), where the improvement NPL ratio is statistically insignificant.

On the other hand, the CAR ratio is increased by 10.17% in the post-merger period. The increase in the CAR ratio is a positive sign of improvement for sample banks, and the bank's ability to absorb unforeseeable losses increased and maintained the above rate of the central bank prescribed rate 11%. Similarly, the TLOTD ratio is increased by 12.71% in the post-merger period, indicating that sample banks have utilised the optimum deposit amount to increase productivity and profitability. The CAR and TLOTD ratios improvement are statistically significant as the p-value of 0.017 and

0.000 are below the 5% significance level. Therefore, the null hypotheses of **Ho12** and **Ho13** are rejected and conclude that M&A significantly impacts CAR and TLOTD ratios of selected banks in the pre-post-merger period. The findings of the CAR ratio contradict the findings of Abbas et al. (2014); Shah and Khan (2017), and Bipin et al. (2018) where the sample bank's CAR ratio decreased in the post-merger period and was statistically insignificant. Likewise, the findings of the TLOTD ratio are similar to the findings of Muhammad et al. (2019a), where banks TLOTD is improved after the M&A and is statistically significant.

7.2.3:1: Effect of M&A on leverage ratios of individual banks

The hypotheses tested using paired sample t-test results indicate that M&A has an insignificant impact on all NCCB and NIB bank leverage ratios. Likewise, M&A has a significant impact on the DE ratio of BOKL, NMB, KBL Bank and an insignificant impact on GBIME and PRVU banks. In addition, M&A has a significant impact on the TDTE ratio of BOKL, GBIME, NMB, and KBL bank and an insignificant impact on PRVU bank in the pre-post-M&A period. Similarly, M&A has a significant impact on NMB bank and an insignificant impact on BOKL, GBIME, PRVU, and KBL bank. Furthermore, M&A has a significant impact on the TLOTD ratio of GBIME and KBL bank and an insignificant impact on BOKL, PRVU, and NMB bank. Likewise, M&A has a significant impact on TDTA of PRVU, NMB, KBL bank and an insignificant impact on BOKL and GBIME bank. On the other hand, M&A has an insignificant impact on the NPL ratio of all sample seven banks.

7.2.4: Effect of M&A on the wealth of shareholders ratios of commercial banks:

The wealth of the shareholder's ratio measures the earning capacity, dividends yield, and share price. The effect of M&A on the wealth of shareholders ratios indicates that two out of three indicators of commercial banks deteriorated in the post-M&A periods. However, EPS remained stable in both periods. The EPS neither increased nor decreased, remaining in the pre-post-merger period. This means slow growth in the EPS is due to an increment in the capital plan in a short period. Likewise, the MPS is decreased by 46.01% in the post-merger period. The declining trend of MPS in the post-merger period is due to the capital increment plan of BFIs by the NRB, which oversupply the shares in the secondary market.

Furthermore, the DPS is decreased by 5.07% in the post-merger period indicates that it has impacted by the new mandatory capital requirement of BFIs and falling earning capacity due to limited business and unhealthy competition in the banking sectors. However, a paired sample t-test reveals that constant growth EPS is insignificant as a p-value of 0.992 greater than the 5% significance level. Therefore, the null hypothesis **Ho16** is accepted and concludes that M&A has an insignificant effect on the EPS ratio of commercial banks in the pre-post-M&A period. This finding does not support the findings of Abbas et al. (2014), where banks EPS decreases in the pre-post-merger is statistically significant. Similarly, in the findings of Kalra et al. (2013) and Lai et al. (2015) the EPS of banks increases after the M&A is statistically significant. Likewise, the decrease of DPS is statistically insignificant as the p-value of 0.761 is above the 5% significance level. Thus, the null hypothesis **Ho18** accepted and concludes that M&A has an insignificant impact on the DPS ratio of commercial banks in the pre-post-M&A period. These findings contradict the findings of Lai et al. (2015), who reported that bank's DPS increases after the M&A and is statistically significant in the pre-post-merger period.

On the other hand, a paired sample t-test reveals that decreases in MPS are statistically significant as the p-value of 0.000 is below the 5% significance level. Therefore, the null hypothesis **Ho17** is rejected and concludes that M&A has a significant impact on the MPS of commercial banks in the pre-post-M&A periods.

7.2.4:1: Effect of M&A on the wealth of shareholders ratios of individual banks

The hypotheses tested using paired sample t-test results indicate that M&A has an insignificant impact on all the wealth of shareholders ratios of NCCB, NMB, and NIB bank in the pre-post-merger period. Likewise, M&A has a significant impact on EPS of BOKL and an insignificant impact on GBIME, PRVU, and KBL bank in the pre-post M&A periods. In addition, M&A has a significant impact on MPS of BOKL, GBIME, and KBL bank and an insignificant impact on PRVU bank in the pre-post M&A periods. Furthermore, M&A has a significant impact on the DPS of PRVU bank and an insignificant impact on BOKL, GBIME, and KBL bank in the pre-post-M&A periods.

7.3: Conclusion

M&A has become one of the important tools to consolidate the BFIs in Nepal, although it is a new concept. M&A has successfully reduced the overwhelming growth of BFIs in Nepal after the NRB introduced a new mandatory capital requirement of BFIs. Therefore, M&A is successful in the banking sectors to enforce objective financial stability on BFIs, strengthening their capital base, expanding their branches to the rural areas, investing in technology, and exercising economies of scale.

Most studies based on the accounting performance measure on the emerging countries found that the effects of M&A on the financial performance of the banks resulted in no improvement or deterioration (Kemal 2011; Kalra et al. 2013; Abbas et al. 2014; Lai et al. 2015; Shah & Khan 2017). However, the findings of this research study conclude the mixed results or improvement after M&A on the financial performance of commercial banks in Nepal. Most of the ratios show significant improvement after the M&A due to the synergistic gain and market expansion (Seth 1990; Gaughan 2010; Hankir et al. 2011). Similarly, the M&A lowered the cost of capital of merged banks through risk diversification, consolidation of debt, and tax-saving on investment income (Weston & Chung 1990). Therefore, this research study's findings are consistent with previous studies that have the mixed results or improvement after the M&A in the banking sectors (Mantravadi & Reddy 2008; Sinha & Gupta 2011; Adebayo & Olalekan 2012; Gupta 2015; Abdulwahab & Ganguli 2017; Patel 2018; Muhammad et al. 2019a; Rammal 2021).

The first findings of the probability ratios of commercial banks conclude that return on assets and net interest margin ratios improved insignificantly and return on equity ratio deteriorated but insignificant in the pre-post-M&A periods. Similarly, deterioration of spread ratio and interest expenses to income ratio is statistically significant in the pre-post-M&A period. The overall findings of profitability ratios of selected banks conclude that M&A has a mixed effect on financial performance. The findings result in profitability ratios indicating a lack of efficient use of assets and equity in the post-merger period. The spread ratio decline due to regulatory bodies intervention and rising interest expenses and operating costs after M&A are the main reasons for the mixed results of improvement in the post-merger period. However, the findings from the individual banks observed that there are no significant differences in most profitability ratios except Bank of Kathmandu Limited in the pre-post-merger period.

Similarly, the second findings of liquidity ratios, including cash a& cash equivalent to total assets ratio, liquidity CRR ratio, and total liabilities to total assets ratio of commercial banks, improved significantly in the post-merger period. However, the investment to total assets ratio significantly deteriorated in the post-merger period. Therefore, the overall findings of commercial banks' liquidity ratios conclude that M&A significantly affects financial performance. The post-merger period's liquidity ratios indicate that banks combined resources increase in the market's liquid assets and excess money supply. Furthermore, it results in banks liquidity position improved to cover its short-term obligation and investment opportunities for profitability in the future. However, the findings from the individual banks observed that M&A has a significant impact on the liquidity ratio of NMB Bank and an insignificant impact on the majority ratios of the other six banks.

Likewise, the third findings of leverage ratios of commercial banks conclude all the ratios improved significantly except non-performing loans. However, non-performing loans to total loans also improved insignificantly in the post-merger period. Therefore, overall findings of leverage ratios commercial banks conclude that M&A has a significant effect on financial performance. The findings of improvement in the leverage ratios are due to improvement in the loan quality and recovery strategy, financial soundness to cover unforeseeable losses, and reduction in debt financing. However, the findings from the individual banks observed that only the NMB and KBL banks have a significant impact of M&A on the leverage ratios, and other remaining five banks have insignificant effects in the pre-post-M&A period.

In addition, the fourth findings of the wealth of shareholders ratios of commercial banks conclude that market price per share significantly deteriorates and dividends per share insignificantly deteriorate in the pre-post-M&A period. However, earnings per share remained constant insignificantly in both periods. Therefore, the overall effects of M&A on the wealth of shareholders ratios indicate that M&A has mixed impacts. Finally, from the evidence findings, it is concluded that M&A does not create shareholders' wealth. The findings conclude that earning is not improved due to the additional capital plan of NRB. In addition, the banks increase their paid-up capital in a limited time that oversupply shares in the market negatively impact the share price of BFIs share prices on the secondary market. Similarly, the findings of individual banks conclude that M&A has a significant impact on the wealth of shareholders ratios of BOKL bank and an insignificant impact on the other six banks in the pre-post-M&A period.

7.4: Contribution of the study

This research fills a gap in the literature in the context of Nepal as previous studies (Shrestha et al. 2017; Bipin et al. 2018) further pointed out the limitations about the impact of M&A on the financial performance of commercial banks and individual bank basis. Therefore, this research contributes existing body of literature of Nepal by using four parameters of ratios analysis and a paired sample t-test to measure the impacts of M&A on the financial performance of the banking industries. The findings of this research concluded the M&A significantly improved the liquidity and leverage ratios of commercial banks in Nepal. However, mixed results are reported in the profitability ratios and wealth of shareholders ratio. However, past studies in the emerging country's banking industry's financial performance deteriorated after the M&A (Kemal 2011; Kalra et al. 2013; Abbas et al. 2014; Lai et al. 2015; Shah & Khan 2017). Therefore, this research produced different results than previous studies in Nepalese context that was reported in their findings of Pathak (2016) and Shrestha et al. (2017).

Furthermore, this research contributed to policymakers and regulator's bodies that the effects of M&A significantly improved the financial performance of commercial banks. Thus, policymakers and NRB can formulate and implement necessary plans of M&A so that commercial banks are actively involved in the M&A activities. However, the central bank of Nepal is currently working on the consolidation of BFIs through M&A policy which helps decrease the development of banks and finance companies. However, M&A policies are ineffective in commercial banks. The findings of this research add additional value for the investors and potential shareholders that M&A will increase the profitability and wealth of shareholders in the long-run period. Therefore, shareholders decide the right partners before negotiating the M&A deals. Finally, the finding of this research guides the academics and researchers interested in further research in the emerging countries about the impacts of M&A on the financial performance in the banking sectors.

7.5: Policy implications and recommendations

This empirical analysis evaluates the impacts of M&A on the financial performance of commercial banks in Nepal. Therefore, based on the findings and conclusions, this research provides clear policy implications and recommendations to enhance the financial performance of commercial banks after the M&A process.

7.5.1: Policy Reforms

As the direction by the NRB, commercial banks fulfilled the new capital requirement through involving in the M&A process to other BFIs. The mandatory capital requirement of NRB indirectly forced most commercial banks to be involved in the M&A process, which led them to increase their capital and increase their business in the rural parts of the country. Similarly, the M&A process directly forced most development banks and finance companies to become involved in the ongoing M&A process as they are unable to fulfil the capital requirement without finding the right partners and where existing promoters are not interested in investing additional funds. This further gives opportunities to the shareholders to increase their shareholder's wealth through M&A. Therefore, consolidation of BFIs through the M&A process creates financial stability in the baking sectors in the country. Government of Nepal further reviews existing BFIs classification as they are doing similar functions and creates confusion within banking sectors. In line with the government policy NRB provide a business environment through appropriate M&A facilities, regulatory and supervisory reforms, and monetary policy reforms. This policy overhaul gives further incentives to the commercial banks to encourage the M&A process. The policy reform encourages commercial banks to actively find out their strategic partners within the commercial banks, which could be achieved through diversifying risk, market expansion, cost efficiency, and synergistic gain in the long-term period. Furthermore, the NRB discourages M&A between commercial banks, development banks, and finance companies to avoid the possible decline in the other sectors.

Besides this, the findings of this research encourage commercial banks to become involved with M&A with the commercial banks rather than weaker development banks and finance companies to gain synergy benefit, cost efficiency, risk diversification, and be more competitive in the market. On the other hand, this research concludes that the merger associated with commercial banks does not benefit from the weaker BFIs. Therefore, NRB encouraged commercial banks to find the right partners and forced them to merge with strong and weaker commercial banks rather than two weaker and smaller commercial banks. Furthermore, NRB needs to implement forceful mergers of commercial banks that single-family households or business groups have directly or indirectly promoted and banks with cross-holding to create financial stability and maintain corporate governance in the BFIs in the country.

7.5.2: Recommendations

The first recommendation of this research is that the bank management team should efficiently use assets resources and equity funds appropriately in the post-merger period to increase profitability in the future. The decline of ROE insignificantly in the post-merger period indicates that the equity fund of banks was highly impacted by the debt financing, which incurred interest or overburdened of assets that forced acquired them. The research study found that insignificant improvement from ROA in the post-merger indicates that banks were not making an adequate profit or invested assets not generating profit. Furthermore, in the post-merger bank, interest expenses to interest income significantly deteriorated. The increases in the operating expenses after the M&A due to the increase in the staffing costs and funding sources of income negatively impact the bank's profitability.

The second recommendation is that the bank needs to reduce operational costs by closing unnecessary branches in the city areas and extending their services in the rural areas. Furthermore, the bank should minimise the operating costs by increasing employees' skills and cutting unnecessary, unproductive staff due to the burden of unnecessary M&A with weaker BFIs. Merged banks focus on the training and retention program to increase the management efficiency in the competitive market to achieve the organisation's goals excellently. The third recommendation regarding the non-performing loans of banks that have improved by 38.04% in the post-merger period. However, the research found it is improved insignificantly in the post-merger period. Banks still need to diversify their loan quality in the retail sectors and stop lending in high-risk sectors such as real estate.

The fourth recommendation is regarding the NRB policy relating to the spread ratio and interest rate. This research found that the spread ratio of banks significantly deteriorated in the post-merger period, which negatively impacts the profitability of the banks. Therefore, NRB does not frequent policy changes regarding spread rate and interest rate, which negatively impacts net profit after tax as the banks' expenses increase after the M&A. The fifth recommendation is regarding the dividend capacity of banks. The research found that the banks' dividend capacity declined insignificantly in the post-merger period due to fall out earning income, competition within the BFIS, and limited market options. Therefore, bank management needs to improve earning quality by diversifying business, developing a new product, and using efficient technology.

The sixth recommendation is regarding the market price of the shares. After the M&A process, the market price of shares deteriorated significantly. The main reason for the decline of banking shares in the post-merger period is the capital increment plan of NRB. The under-price of banking shares is due to investors unwillingness to buy banking shares. As a result, investors and traders get more capital gains from the other BFIs shares with limited shares in the market despite their lower dividend yields than commercial banking shares. Therefore, through policy reforms, central banks need to address the collateral deposit of BFIs shares in the market.

The seventh recommendation is regarding liquidity and leverage ratios. This research found, most of the liquidity and leverage ratios improved significantly after the M&A. Therefore, the bank should maintain healthy improvement in the liquidity and leverage ratios in the future, which will positively impact the profitability improvement and overall financial performance of commercial banks. The eighth recommendation is regarding the promoters, shareholders, and institutional promoters. As this research found that in commercial banks, most of the ratios improved in the post-merger period, although shareholders' wealth deteriorated in the post-merger period. The finding of this research suggests if the bank merges with the right partners, it creates synergy effects in the long-run period. The promoters of the commercial banks should negotiate the merger partner according to the DDA report about the share swap share ratio and finalise the M&A deals. The share swap ratio and brand name are not obstacles to ongoing M&A deals between the commercial banks. Therefore, prior to the M&A,

management, and promoters of the banks should find out the suitable partners after evaluating the financial statement in terms of risks, earning, cash flow, and share swap ratio of the target bank with the expert's support.

The final recommendation to the regulator body such as NRB, NEPSE, and SEBON is to build up an integrated data centre. All the necessary secondary data can be collected through one source, which ensures data validity. This research is based on the collected raw data from the individual banks, which is time-consuming and risks possible errors while entering the data. There is no specific information regarding the data centre of M&A of BFIs in Nepal, so the researcher needed to collect information from journal newspapers and websites that have conflicting information regarding M&A news and deals between the BFIs in Nepal.

7.6 Limitations of the study

This research study examined the effects of M&A on the financial performance of commercial banks in Nepal. First, this research's limitation is the time of year of M&A of commercial banks involved in the M&A process. It is complicated to separate the pre-post-merger period as the selected banks involved multiple times of M&A processes in the BFIs in the different calendar years. Furthermore, there is no specific data regarding acquired banks. Consequently, the effect of M&A on target BFIs was excluded from the data analysis. This exclusion of the financial performance of target BFIs may not reflect the impact of M&A on the acquirer banks.

Secondly, this research is based on the secondary data and selected banks, which may not reflect the accurate picture of commercial bank financial performance in the pre-post M&A periods. Therefore, there is a limitation on the sampling techniques as this research is based on the convenient sampling technique due to the time limit, budget, and covid impact on collecting the primary data from the field survey from the shareholders, managers, employees, and customers. So, this research only focused on the financial performance, which excludes the primary data that may not give the accurate or reliable impact of M&A on the overall banking systems.

Similarly, the third limitation of this research is the unavailability of data from the electronic database, and Sample banks' raw data were manually collected from the annual report of each bank. Consequently, all the qualified banks that went through the M&A process during the research time 2013 to 2020 were not selected due to the time-consuming process. Therefore, the selected banks' sample is small to measure the impact of M&A on the financial performance of commercial banks in Nepal. Likewise, the fourth limitation of this research study is based on the commercial banks' financial performance only, not other financial institutions such as development banks and finance companies, as most M&A deals of commercial banks involved development banks and finance companies during the study period. The main reasons for not selecting other sectors in this study are the consistency and unavailability of data.

The fifth limitation of this research is not adopting an event study methodology to measure the impact of M&A on the wealth of shareholders ratios. The stock price of unavailable selected banks data from the stock exchange as merged banks listed shares halted for trading in the NEPSE unless the merger deals of banks were not finalised. Lastly, the sixth limitation of this research on the available financial data figure relates to differences due to changes in accounting standards from GAAP to Nepal Financial Reporting Standards[26] (NFRS). Therefore, pre-merger published data from the sample banks were collected from the financial statement according to the GAAP standards. However, some selected banks published financial statements that were converted to the NFRS standards before it came to mandatory to all the commercial banks in 2017-2018. Therefore, there was variation and uniformity in the commercial bank's published financial statement before the mandatory implementation of NFRS.

7.7: Recommendation for future research

This research was conducted in the context of commercial banks in Nepal, as commercial banks are the dominant forces of financial institutions in Nepal. Therefore, future research will use both quantitative and qualitative data to measure the overall impacts of M&A on the financial performance of commercial banks. This research only applied accounting performance measures to examine the impact of M&A on financial performance. However, different approaches such as CAMEL framework, event study methodology, data envelopment analysis, regression, and correlation using

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26 NFRS is the Nepalese versions of International Financial Reporting Standards (IFRS). Accounting Standard Board issued NFRS in 2013 in Nepal and compliance with IFRS. All the financial statement published from the commercial banks from 2017/2018 are compliance with NFRS according to the direction of Nepal Rastra Bank. The main goals of NFRS implementation are to brings uniformity of accounting reporting system and single format for preparation of financial statement.

ordinary least squares methods may produce broad conclusions. This research study was based on the limited sample raw data, and further study may incorporate larger samples of commercial banks that were not selected for this study.

Furthermore, future studies can apply the same model covering more extended periods. As the M&A is ongoing in Nepal, future studies may use more extended periods, that is six years pre-merger and six post-merger periods, to generalise the overall impacts on financial performance on the banking industry. This research is the only basis for the domestic merger. Therefore, future studies could be done with cross-border mergers of different countries with similar microeconomic conditions for more remarkable results.

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APPENDICES

Appendix 1: Table 1: Raw Data of Bank of Kathmandu (BOKL)

Bank of Kathmandu Limited	Amount in Rs. '000'							
Particulars (Extracted Data)	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Share Capital	1,920,212	2,120,212	2,671,468	5,629,576	6,457,089	7,072,900	8,063,100	8,546,887
Total Assets	32,545,612	39,034,065	44,970,058	79,647,689	84,857,790	91,206,810	100,918,634	100,955,900
Total Liabilities	29,240,969	35,485,507	41,115,943	71,868,871	74,898,620	78,735,570	86,952,611	95,270,912
Total Shareholders Fund	3,304,643	3,548,558	3,854,115	7,778,818	9,959,170	12,471,240	13,966,022	14,284,987
Cash and Cash Equivalent	813,492	934,366	962,745	1,527,376	2,905,210	3,422,840	3,115,530	2,373,968
Total Deposit	27,700,987	34,115,672	39,456,587	67,836,390	72,922,280	76,913,754	83,327,702	93,284,432
Total Investment (Including Subsidiaries)	4,757,870	4,579,798	6,027,026	9,785,315	11,076,750	11,535,904	14,902,650	14,310,255
Total Loans and Advances	22,555,919	28,304,225	31,894,060	58,222,382	61,013,210	67,620,914	73,747,052	79,401,082
Interest Income	2,450,143	2,609,428	2,844,855	3,087,313	6,165,660	8,365,820	9,807,547	9,980,921
Interest Expenses	1,219,400	1,390,497	1,463,506	1,544,407	3,550,900	5,306,500	6,027,655	6,405,715
Net Interest Income	1,230,743	1,218,931	1,381,349	1,542,905	2,614,750	3,059,130	3,779,890	3,575,205
Net Profit After Tax	617,090	254,441	334,569	655,275	1,336,240	1,321,190	1,896,960	1,460,695
Proxies to measure financial performances (Calculation based on above data for the study)								
Return on Equity (ROE)	18.67%	7.17%	8.68%	8.42%	13.42%	10.59%	13.58%	10.23%
Return on Assets (ROA)	1.90%	0.65%	0.74%	0.82%	1.57%	1.45%	1.88%	1.45%
Net Interest Margin Assets (NIM)	2.11%	0.72%	0.81%	0.91%	1.78%	1.68%	2.18%	1.53%
Earnings per share (EPS)	NPR 32.14	NPR 12.00	NPR 12.52	NPR 11.64	NPR 20.69	NPR 18.68	NPR 23.53	NPR 17.09
Spread Ratio	50.23%	46.71%	48.56%	49.98%	42.41%	36.57%	38.54%	35.82%
Interest expenses to Interest Income	49.77%	53.29%	51.44%	50.02%	57.59%	63.43%	61.46%	64.18%

Appendix 1: Table 1: Raw Data of Bank of Kathmandu (BOKL) (continued)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Cash & Cash equivalent to total assets	2.50%	2.39%	2.14%	1.92%	3.42%	3.75%	3.09%	2.35%
Investment to total assets	14.62%	11.73%	13.40%	12.29%	13.05%	12.65%	14.77%	14.17%
Total liabilities to total assets	89.85%	90.91%	91.43%	90.23%	88.26%	86.33%	86.16%	94.37%
Debt to Equity Ratio	8.85	10.00	10.67	9.24	7.52	6.31	6.23	6.67
Total Deposit to total equity	8.38	9.61	10.24	8.72	7.32	6.17	5.97	6.53
Extracted Ratio from Annual Report								
Total Loans to Customer Deposit	81.43%	82.97%	80.83%	85.83%	83.67%	87.92%	88.50%	85.12%
Customer deposits to Total assets	85.11%	87.40%	87.74%	85.17%	85.93%	84.33%	82.57%	92.40%
Non-performing loans/ Total loans	1.50%	1.06%	3.74%	2.51%	1.29%	3.04%	1.54%	2.28%
Total Credit/ Deposit and core capital								
Capital Adequacy Ratio	12.58%	11.57%	13.00%	13.01%	13.41%	14.88%	14.30%	14.16%
Liquidity CRR Ratio	9.41%	6.82%	9.98%	8.71%	9.36%	7.30%	6.92%	11.39%
Market value per share (NPR)	553	564	571	464	462	265	255	219
Dividends (Total)	14.74%	10.96%	27.37%	23.00%	13.25%	25.00%	17.00%	16.00%
Bonus share on share capital	14%	10.41%	26%	23%	13.25%	14.00%	6.00%	13.00%
Cash dividend on share capital	0.74%	0.55%	1.37%	0.00%	0.00%	11.00%	11.00%	3.00%

Appendix 2: Table 2: Raw Data of Global IME Bank (GBIME)

Global IME Bank LTD				**Amount in Rs. '000'**				
Particulars (Extracted Data)	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Share Capital	2,780,858	4,976,640	6,164,267	7,150,551	8,080,342	8,888,376	10,310,520	18,975,880
Total Assets	39,018,490	60,018,240	69,176,488	88,682,564	116,592,269	125,847,432	151,653,563	273,876,591
Total Liabilities	35,787,702	53,891,943	61,852,995	79,737,337	105,517,512	112,268,754	135,321,392	245,042,019
Total Shareholders Fund	3,230,788	6,126,297	7,323,493	8,945,227	12,376,433	13,578,678	16,332,171	28,834,390
Cash and Cash Equivalent	929,933	1,373,151	1,467,008	2,054,861	9,364,020	8,027,500	11,531,557	20,083,658
Deposit from Customers	34,111,466	52,292,058	60,175,983	74,682,917	101,910,485	106,510,436	124,499,316	226,643,083
Total Investment (Including Subsidiaries)	5,548,946	8,680,784	10,717,061	17,990,717	16,234,603	16,540,430	13,372,930	26,958,496
Loans and Advances	26,212,297	41,777,651	48,936,968	59,219,296	78,965,101	92,352,625	113,032,242	198,008,889
Interest Income	3,206,646	3,810,202	4,660,874	4,988,276	7,366,046	11,481,730	13,530,880	20,489,400
Interest Expenses	1,826,785	2,051,802	2,371,094	2,098,723	3,799,262	7,604,850	8,288,540	12,267,387
Net Interest Income	1,379,861	1,758,400	2,289,780	2,889,553	3,566,784	3,876,880	5,242,350	8,222,012
Net Profit After Tax	449,217	974,037	960,608	1,382,223	2,006,160	2,101,360	2,761,950	2,908,660
Proxies to measure the financial performance (Calculation based on above data for the study)								
Return on Equity (ROE)	13.90%	15.90%	13.12%	15.45%	16.21%	15.48%	16.91%	10.09%
Return on Assets (ROA)	1.15%	1.62%	1.39%	1.56%	1.72%	1.67%	1.82%	1.06%
Net Interest Margin Assets (NIM)	1.26%	1.81%	1.55%	1.73%	1.90%	1.87%	2.04%	1.19%
Earnings per share (EPS)	NPR 16.15	NPR 19.57	NPR 15.58	NPR 19.33	NPR 24.83	NPR 23.64	NPR 26.79	NPR 15.33
Spread Ratio	43.03%	46.15%	49.13%	57.93%	48.42%	33.77%	38.74%	40.13%
Interest expenses to Interest Income	56.97%	53.85%	50.87%	42.07%	51.58%	66.23%	61.26%	59.87%
Cash & Cash equivalent to total assets	2.38%	2.29%	2.12%	2.32%	8.03%	6.38%	7.60%	7.33%

Appendix 2: Table 2: Raw Data of Global IME Bank (GBIME) (continued)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Investment to total assets	14.22%	14.46%	15.49%	20.29%	13.92%	13.14%	8.82%	9.84%
Total liabilities to total assets	91.72%	89.79%	89.41%	89.91%	90.50%	89.21%	89.23%	89.47%
Debt to Equity Ratio	11.08	8.80	8.45	8.91	8.53	8.27	8.29	8.50
Total Deposit to total equity	10.56	8.54	8.22	8.35	8.23	7.84	7.62	7.86
Total Loans to Customer Deposit	76.84%	79.89%	81.32%	79.29%	77.48%	86.71%	90.79%	87.37%
Customer deposits to Total assets	87.42%	87.13%	86.99%	84.21%	87.41%	84.63%	82.09%	82.75%
Extracted Ratio from Annual Report								
Non-performing loans/ Total loans	2.27%	2.55%	2.23%	1.89%	1.60%	0.77%	0.55%	1.76%
Total Credit/ Deposit and core capital	72.28%	73.64%	74.41%	72.96%	71.24%	75.35%	78.69%	73.18%
Capital Adequacy Ratio	11.14%	12.38%	12.69%	12.35%	11.38%	11.48%	12.32%	12.48%
Liquidity CRR Ratio	32.25%	31.11%	30.12%	35.54%	33.54%	25.34%	22.13%	24.58%
Market value per share (NPR)	432	640	479	515	388	290	293	239
Dividends (Total)	16%	25.00%	16.00%	20.00%	16.00%	23.00%	25.00%	15.00%
Bonus share on share capital	14%	12.75%	16%	10%	16.00%	23.00%	21.00%	15.00%
Cash dividend on share capital	2.00%	12.75%	0.00%	10.00%	0.00%	0.00%	4.00%	0.00%

Appendix 3: Table 3: Raw Data of Prabhu Bank (PRVU)

Prabhu Bank Limited (Previously Known as Kist Bank Limited)	**Amount in Rs'000'**							
Particulars (Extracted Data)	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Share Capital	2,000,000	2,000,000	3,208,885	5,881,402	5,881,402	8,892,675	8,892,675	10,315,507
Total Assets	23,431,332	21,190,966	46,510,125	69,784,772	92,624,976	116,029,431	137,886,337	167,517,298
Total Liabilities	21,992,394	20,056,898	42,816,415	62,101,623	83,274,073	103,459,184	123,565,669	152,129,528
Total Shareholders Fund	1,438,938	1,134,068	3,693,710	7,683,149	9,350,903	12,570,247	14,320,668	15,387,770
Cash and Cash Equivalent	742,822	788,033	1,706,104	6,622,750	6,543,129	13,155,091	13,792,337	8,446,068
Deposit from Customers	21,093,025	19,835,166	42,143,974	60,940,868	81,349,539	97,259,665	113,493,448	136,526,021
Total Investment (Including Subsidiaries)	2,798,346	5,808,374	4,512,976	4,915,009	8,626,023	8,152,852	14,565,491	20,842,362
Loans and Advances	14,791,605	10,884,399	27,726,157	44,477,522	59,878,621	76,172,041	89,753,103	103,295,384
Interest Income	2,302,569	1,865,018	2,814,823	3,590,979	5,200,759	8,244,598	10,765,064	11,797,451
Interest Expenses	1,286,518	1,135,845	1,270,986	1,622,497	2,957,637	5,426,594	6,366,966	7,276,494
Net Interest Income	1,016,051	729,172	1,543,837	1,968,482	2,243,122	2,818,004	4,398,098	4,520,957
Net Profit After Tax	-804,559	-304,852	1,018,246	1,117,364	1,486,501	967,034	1,783,593	1,194,204
Proxies to measure the financial performance (Calculation based on above data for the study)								
Return on Equity (ROE)	-55.91%	-26.88%	27.57%	14.54%	15.90%	7.69%	12.45%	7.76%
Return on Assets (ROA)	-3.43%	-1.44%	2.19%	1.60%	1.60%	0.83%	1.29%	0.71%
Net Interest Margin Assets (NIM)	-3.66%	-1.52%	2.38%	1.80%	1.79%	0.93%	1.44%	0.78%
Earnings per share (EPS)	-NPR 40.23	-NPR 15.24	NPR 31.73	NPR 19.00	NPR 25.27	NPR 10.87	NPR 20.06	NPR 11.58
Spread Ratio	44.13%	39.10%	54.85%	54.82%	43.13%	34.18%	40.86%	38.32%
Interest expenses to Interest Income	55.87%	60.90%	45.15%	45.18%	56.87%	65.82%	59.14%	61.68%
Cash & Cash equivalent to total assets	3.17%	3.72%	3.67%	9.49%	7.06%	11.34%	10.00%	5.04%
Investment to total assets	11.94%	27.41%	9.70%	7.04%	9.31%	7.03%	10.56%	12.44%

Appendix 3: Table 3: Raw Data of Prabhu Bank (PRVU) (continued)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Total liabilities to total assets	93.86%	94.65%	92.06%	88.99%	89.90%	89.17%	89.61%	90.81%
Debt to Equity Ratio	15.28	17.69	11.59	8.08	8.91	8.23	8.63	9.89
Total Deposit to total equity	14.66	17.49	11.41	7.93	8.70	7.74	7.93	8.87
Total Loans to Customer Deposit	70.13%	54.87%	65.79%	72.98%	73.61%	78.32%	79.08%	75.66%
Customer deposits to Total assets	90.02%	93.60%	90.61%	87.33%	87.83%	83.82%	82.31%	81.50%
Extracted Ratio from Annual Report								
Non-performing loans/ Total loans	12.61%	24.29%	7.33%	8.83%	4.55%	3.98%	3.76%	3.15%
Total Credit/ Deposit and core capital	75.43%	65.83%	66.45%	73.64%	71.28%	68.91%	76.62%	67.11%
Capital Adequacy Ratio	8.41%	8.68%	10.61%	12.29%	11.18%	11.86%	11.16%	11.18%
Liquidity CRR Ratio	13.06%	19.27%	15.69%	12.13%	12.13%	6.83%	4.39%	11.20%
Market value per share (NPR)	137	207	348	415	406	187	266	221
Dividends (Total)	0.00%	0.00%	0.00%	0.00%	0.00%	8.42%	16.84%	10.53%
Bonus share on share capital	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	16.00%	10.00%
Cash dividend on share capital	0.00%	0.00%	0.00%	0.00%	0.00%	0.42%	0.84%	0.53%

Appendix 4: Table 4: Raw Data of Nepal Credit and Commerz Bank (NCCB)

Particulars (Extracted Data)	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Share Capital	1,470,000	2,028,600	2,353,176	2,353,176	4,679,058	4,679,850	7,018,587	9,353,917
Total Assets	24,915,014	25,223,846	29,939,787	34,348,784	67,673,945	73,461,468	88,718,844	96,882,158
Total Liabilities	22,635,399	22,596,966	26,978,720	31,209,476	60,536,502	64,974,975	76,710,790	83,721,155
Total Shareholders Fund	2,279,615	2,626,880	2,961,067	3,668,907	7,137,443	8,486,493	12,008,054	8,606,158
Cash and Cash Equivalent	741,900	714,256	710,924	834,492	1,977,807	2,913,385	5,125,398	8,606,158
Deposit from Customers	21,651,267	22,256,871	26,661,130	30,363,555	58,795,094	63,430,544	73,388,254	79,617,051
Total Investment (Including subsidiaries)	4,094,445	3,588,618	2,841,246	3,466,177	5,925,751	8,711,763	8,875,731	7,557,343
Loans and Advances	15,450,752	17,266,570	20,832,232	24,891,148	48,168,821	55,828,989	63,233,501	67,819,453
Interest Income	1,968,137	2,081,839	1,935,407	2,314,552	4,497,464	6,732,653	7,899,674	8,465,942
Interest Expenses	1,155,267	1,298,296	1,131,520	1,125,111	2,690,494	5,119,961	4,932,027	5,247,393
Net Interest Income	812,870	783,543	803,887	1,189,441	1,806,971	1,612,692	2,967,647	3,209,549
Net Profit After Tax	354,828	392,113	348,254	707,841	505,868	1,341,517	1,021,232	1,108,474
Proxies to measure the financial performance (Calculation based on the above data for the study)								
Return on Equity (ROE)	15.57%	14.93%	11.76%	19.29%	7.09%	15.81%	8.50%	12.88%
Return on Assets (ROA)	1.42%	1.55%	1.16%	2.06%	0.75%	1.83%	1.15%	1.14%
Net Interest Margin (NIM)	1.57%	1.74%	1.29%	2.27%	0.84%	2.06%	1.33%	1.32%
Earnings per share (EPS)	NPR 24.14	NPR 19.33	NPR 14.80	NPR 30.08	NPR 10.81	NPR 28.67	NPR 14.55	NPR 11.85
Spread Ratio	41.30%	37.64%	41.54%	51.39%	40.18%	23.95%	37.57%	37.91%
Interest expenses to Interest Income	58.70%	62.36%	58.46%	48.61%	59.82%	76.05%	62.43%	61.98%
Cash & Cash equivalent to total assets	2.98%	2.83%	2.37%	2.43%	2.92%	3.97%	5.78%	8.88%
Investment to total assets	16.43%	14.23%	9.49%	10.09%	8.76%	11.86%	10.00%	7.80%

Appendix 4: Table 4: Raw Data of Nepal Credit and Commerz Bank (NCCB) (continued)								
	2012-2013	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Total liabilities to total assets	90.85%	89.59%	90.11%	90.86%	89.45%	88.45%	86.47%	86.42%
Debt to Equity Ratio	9.93	8.60	9.11	8.51	8.48	7.66	6.39	9.73
Total Deposit to total equity	9.50	8.47	9.00	8.28	8.24	7.47	6.11	9.25
Total Loans to Customer Deposit	71.36%	77.58%	78.14%	81.98%	81.93%	88.02%	86.16%	85.18%
Customer deposits to Total assets	86.90%	88.24%	89.05%	88.40%	86.88%	86.35%	82.72%	82.18%
Extracted Ratio from Annual Report								
Non-performing loans/ Total loans	2.80%	2.75%	1.93%	0.91%	7.49%	3.87%	2.78%	2.86%
Capital Adequacy Ratio	11.76%	11.51%	17.92%	11.92%	10.71%	11.18%	14.30%	13.84%
Liquidity CRR Ratio	20.06%	13.00%	17.92%	12.95%	22.35%	12.07%	8.88%	
Market value per share (NPR)	223	642	459	363	383	250	246	186
Dividends (Total)	0.00%	0.00%	16.00%	40.00%	0.00%	16.72%	15.78%	10.81%
Bonus share on share capital	0.00%	0.00%	16.00%	38.00%	0.00%	15.89%	15.00%	10.27%
Cash dividend on share capital	0.00%	0.00%	0.00%	2.00%	0.00%	0.83%	0.78%	0.54%

Appendix 5: Table 5: Raw Data of NMB Bank (NMB)

NMB BANK LIMITED	**Amount in Rs. '000'**							
Particulars (Extracted Data)	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Share Capital	2,000,000	2,400,000	2,732,365	5,518,636	6,461,770	7,603,290	9,618,163	13,950,987
Total Assets	25,125,985	30,211,663	41,337,463	74,613,327	93,074,422	112,391,430	135,470,409	179,451,914
Total Liabilities	22,801,905	27,398,713	38,041,017	67,752,169	82,172,162	95,901,621	118,067,395	158,516,529
Total Shareholders Fund	2,324,080	2,812,950	3,296,446	6,861,158	10,902,260	16,489,809	17,403,014	20,935,385
Cash and Cash Equivalent	516,771	497,747	817,585	6,757,541	5,499,968	5,183,938	8,096,354	11,098,349
Total Deposit (Customers and BFIs)	22,185,527	27,087,258	36,722,918	64,781,463	73,224,063	84,507,136	98,516,667	134,810,383
Total Investment (Including Subsidiaries)	2,245,514	4,191,269	5,983,872	8,504,125	7,629,533	9,696,999	10,564,903	15,371,244
Loans and Advances	16,491,044	20,467,040	27,288,891	53,021,384	61,756,062	75,209,340	91,802,993	120,334,337
Interest Income	1,831,121	2,005,346	2,315,441	4,053,340	6,109,326	8,728,699	11,082,059	14,442,972
Interest Expenses	1,077,803	1,216,063	1,348,073	2,040,059	3,505,346	5,824,685	6,838,038	8,946,752
Net Interest Income	753,318	789,282	967,638	2,013,281	2,603,980	2,904,014	4,244,020	5,496,220
Net Profit After Tax	360,394	409,922	500,990	1,115,065	1,488,617	1,853,792	2,257,276	1,712,777
Proxies to measure the financial performance (Calculation based on above data for the study)								
Return on Equity (ROE)	15.51%	14.57%	15.20%	16.25%	13.65%	11.24%	12.97%	8.18%
Return on Assets (ROA)	1.43%	1.36%	1.21%	1.49%	1.60%	1.65%	1.67%	0.95%
Net Interest Margin Assets (NIM)	3.00%	2.61%	2.34%	2.70%	2.80%	2.58%	3.13%	3.06%
Earnings per share (EPS)	NPR 18.02	NPR 17.08	NPR 18.34	NPR 20.21	NPR 23.04	NPR 24.38	NPR 23.47	NPR 12.28
Spread Ratio	41.14%	39.36%	41.79%	49.67%	42.62%	33.27%	38.30%	38.05%
Interest expenses to Interest Income	58.86%	60.64%	58.22%	50.33%	57.38%	66.73%	61.70%	61.95%
Cash & Cash equivalent to total assets	2.06%	1.65%	1.98%	9.06%	5.91%	4.61%	5.98%	6.18%

Appendix 5: Table 5: Raw Data of NMB Bank (NMB) (continued)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Investment to total assets	8.94%	13.87%	14.48%	11.40%	8.20%	8.63%	7.80%	8.57%
Total liabilities to total assets	90.75%	90.69%	92.03%	90.80%	88.29%	85.33%	87.15%	88.33%
Debt to Equity Ratio	9.81	9.74	11.54	9.87	7.54	5.82	6.78	7.57
Total Deposit to total equity	9.55	9.63	11.14	9.44	6.72	5.12	5.66	6.44
Total Loans to Customer Deposit	74.33%	75.56%	74.31%	81.85%	84.34%	89.00%	93.19%	89.26%
Customer deposits to Total assets	88.30%	89.66%	88.84%	86.82%	78.67%	75.19%	72.72%	75.12%
Extracted Ratio from Annual Report								
Non-performing loans/ Total loans	1.80%	0.55%	0.42%	1.81%	1.68%	0.88%	0.82%	2.68%
Capital Adequacy Ratio	11.74%	10.75%	11.13%	10.98%	13.61%	15.75%	15.45%	15.08%
Liquidity CRR Ratio	23.35%	13.72%	13.32%	10.81%	7.72%	6.68%	4.19%	5.93%
Market value per share (NPR)	252	515	507	810	545	358	382	397
Dividends (Total)	10%	21.05%	8.42%	20.00%	15.79%	30.00%	35.00%	16.20%
Bonus share on share capital	0%	20.00%	8%	19%	15.00%	10.00%	21.00%	13.00%
Cash dividend on share capital	10.00%	1.05%	0.42%	1.00%	0.79%	20.00%	14.00%	3.20%

Appendix 6: Table 6: Raw Data of Nepal Investment Bank (NIB)

Nepal Investment Bank Limited			**Amount in Rs '000'**					
Particulars (Extracted Data)	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Share Capital	4,144,808	4,768,713	6,345,700	8,706,612	10,626,436	10,645,599	12,869,749	14,248,954
Total Assets	73,152,153	86,173,927	104,345,436	129,782,705	152,877,103	171,893,546	185,841,988	203,023,897
Total Liabilities	66,131,510	78,248,749	94,538,484	113,494,953	134,169,219	147,022,524	160,262,792	175,860,733
Total Shareholders Fund	7,020,643	7,925,178	9,806,952	16,287,752	18,707,884	24,871,022	25,579,196	27,163,164
Cash and Cash Equivalent	2,172,985	2,170,768	2,660,938	2,285,799	11,539,080	9,959,781	13,520,574	7,538,028
Total Deposit	62,428,845	73,831,376	90,631,487	108,626,642	125,669,355	138,632,477	152,183,245	168,824,344
Total Investment (Including Subsidiaries)	11,435,268	15,383,529	21,462,588	29,226,762	25,615,645	13,709,228	17,144,975	26,078,608
Loans and Advances	46,400,054	52,019,765	66,219,232	85,461,051	106,683,877	120,825,496	127,140,971	140,002,161
Interest Income	5,878,272	5,816,279	5,786,160	6,776,755	9,248,699	13,574,102	14,975,215	15,201,326
Interest Expenses	2,774,788	2,820,475	2,807,361	2,855,650	4,464,552	7,723,923	8,801,708	9,423,657
Net Interest Income	3,103,484	2,995,804	2,978,799	3,921,105	4,784,147	5,850,179	6,173,507	5,777,669
Net Profit After Tax	1,915,028	1,939,613	1,961,853	2,550,884	3,114,131	3,659,323	3,324,113	2,423,186
Proxies to measure the financial performance (Calculation on the above data for the study)								
Return on Equity (ROE)	27.28%	24.47%	20.00%	15.66%	16.65%	14.71%	13.00%	8.92%
Return on Assets (ROA)	2.62%	2.25%	1.88%	1.97%	2.04%	2.13%	1.79%	1.19%
Net Interest Margin Assets (NIM)	2.90%	2.48%	2.08%	2.25%	2.32%	2.49%	2.07%	1.38%
Earnings per share (EPS)	NPR 46.20	NPR 40.67	NPR 30.92	NPR 29.30	NPR 29.31	NPR 34.37	NPR 25.83	NPR 17.01
Spread Ratio	52.80%	51.51%	51.48%	57.86%	51.73%	43.10%	41.22%	38.01%

Appendix 6: Table 6: Raw Data of Nepal Investment Bank (NIB) (continued)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Interest expenses to Interest Income	47.20%	48.49%	48.52%	42.14%	48.27%	56.90%	58.78%	61.99%
Cash & Cash equivalent to total assets	2.97%	2.52%	2.55%	1.76%	7.55%	5.79%	7.28%	3.71%
Investment to total assets	15.63%	17.85%	20.57%	22.52%	16.76%	7.98%	9.23%	12.85%
Total liabilities to total assets	90.40%	90.80%	90.60%	87.45%	87.76%	85.53%	86.24%	86.62%
Debt to Equity Ratio	9.42	9.87	9.64	6.97	7.17	5.91	6.27	6.47
Total Deposit to total equity	8.89	9.32	9.24	6.67	6.72	5.57	5.95	6.22
Total Loans to Customer Deposit	74.32%	70.46%	73.06%	78.67%	84.89%	87.16%	83.54%	82.93%
Customer deposits to Total assets	85.34%	85.68%	86.86%	83.70%	82.20%	80.65%	81.89%	83.15%
Extracted Ratio from Annual Report								
Non-performing loans/ Total loans	1.91%	1.77%	1.25%	0.68%	0.83%	1.36%	2.78%	2.91%
Total Credit/ Deposit and core capital	74.80%	71.90%	72.80%	76.80%	77.60%	74.70%	71.97%	72.93%
Capital Adequacy Ratio	11.49%	11.27%	11.90%	14.92%	13.02%	12.66%	13.26%	13.54%
Liquidity CRR Ratio	16.00%	19.20%	12.00%	7.20%	10.50%	8.20%	5.50%	8.70%
Market value per share	784	960	704	1040	770	621	519	431
Dividends (Total)	35.00%	40.00%	34.74%	41.00%	40.00%	40.00%	19.00%	18.50%
Bonus share on share capital	25.00%	25.00%	33.00%	20.00%	15.00%	18.00%	10.50%	13.00%
Cash dividend on share capital	10.00%	15.00%	1.74%	21.00%	25.00%	22.00%	8.50%	5.50%

Appendix 7: Table 7: Raw Data of Kumari Bank (KBL)

Particulars (Extracted Data)	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Share Capital	**1,828,332**	**2,431,682**	**2,699,167**	**3,265,991**	**5,969,495**	**7,163,395**	**8,685,573**	**12,520,049**
Total Assets	28,222,569	31,020,602	37,374,511	43,041,447	61,416,164	82,723,551	105,311,485	153,341,629
Total Liabilities	25,565,873	28,053,996	34,027,194	39,007,853	53,152,794	72,182,853	93,592,399	136,073,455
Total Shareholders Fund	2,656,696	2,966,606	3,347,317	4,033,594	8,263,369	10,540,698	11,719,085	17,268,173
Cash and Cash Equivalent	638,770	777,837	829,464	3,627,601	4,734,754	3,780,644	8,821,135	9,154,311
Total Deposit	25,318,569	27,578,376	33,421,911	37,950,525	51,025,317	70,190,080	85,369,626	124,022,927
Total Investment (Including subsidiaries)	4,135,142	3,164,626	4,862,590	6,142,966	4,728,824	9,022,904	9,321,568	12,977,708
Loans and Advances	19,369,318	21,898,115	26,246,038	30,111,445	44,696,176	62,375,510	76,053,317	114,513,473
Interest Income	2,464,307	2,410,784	2,433,131	2,692,488	3,736,879	6,804,011	9,098,574	10,569,829
Interest Expenses	1,486,281	1,575,312	1,507,365	1,517,056	2,299,277	4,771,333	6,228,619	6,996,630
Net Interest Income	978,026	835,472	925,766	1,175,432	1,437,602	2,032,678	2,869,955	3,573,198
Net Profit After Tax	291,449	341,655	394,788	716,065	793,143	1,041,893	1,230,378	1,158,505
Proxies to measure the financial performance (Calculation based on the above data for the study)								
Return on Equity (ROE)	10.97%	11.52%	11.79%	17.75%	9.60%	9.88%	10.50%	6.71%
Return on Assets (ROA)	1.03%	1.10%	1.06%	1.66%	1.29%	1.26%	1.17%	0.76%
Net Interest Margin Assets (NIM)	1.14%	1.22%	1.16%	1.84%	1.49%	1.44%	1.31%	0.85%
Earnings per share (EPS)	NPR 15.94	NPR 14.05	NPR 14.63	NPR 21.92	NPR 13.29	NPR 14.54	NPR 14.17	NPR 9.25
Spread Ratio	39.69%	34.66%	38.05%	43.66%	38.47%	29.87%	31.54%	33.81%
Interest expenses to Interest Income	60.31%	65.34%	61.95%	56.34%	61.53%	70.13%	68.46%	66.19%

Appendix 7: Table 7: Raw Data of Kumari Bank (KBL) (continued)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Cash & Cash equivalent to total assets	2.26%	2.51%	2.22%	8.43%	7.71%	4.57%	8.38%	5.97%
Investment to total assets	14.65%	10.20%	13.01%	14.27%	7.70%	10.91%	8.85%	8.46%
Total liabilities to total assets	90.59%	90.44%	91.04%	90.63%	86.55%	87.26%	88.87%	88.74%
Debt to Equity Ratio	9.62	9.46	10.17	9.67	6.43	6.85	7.99	7.88
Total Deposit to total equity	9.53	9.30	9.98	9.41	6.17	6.66	7.28	7.18
Total Loans to Customer Deposit	76.50%	79.40%	78.53%	79.34%	87.60%	88.87%	89.09%	92.33%
Customer deposits to Total assets	89.71%	88.90%	89.42%	88.17%	83.08%	84.85%	81.06%	80.88%
Extracted Ratio from Annual Report								
Non-performing loans/ Total loans	2.21%	2.89%	2.49%	1.15%	1.86%	1.05%	1.01%	1.39%
Total Credit/Deposit and core capital								
Capital Adequacy Ratio	12.17%	11.81%	10.84%	11.69%	14.50%	13.36%	11.75%	15.35%
Liquidity	-	13.62%	7.48%	8.74%	10.33%	6.85%	4.59%	3.78%
Market value per share (NPR)	260	536	380	420	227	199	220	186
Dividends (Total)	14%	34.74%	11.58%	22.10%	12.75%	8.50%	10.52%	14.00%
Bonus share on share capital	14%	33%	11%	21%	12.75%	8.50%	10.00%	10.85%
Cash dividend on share capital	0.00%	1.74%	0.58%	1.10%	0.00%	0.00%	0.52%	3.15%

Appendix 8: Table 8: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROE Difference	.198	21	.031	.751	21	<.001
ROA Difference	.111	21	.200*	.914	21	.066
NIM Difference	.178	21	.082	.912	21	.059
SR Difference	.104	21	.200*	.965	21	.621
IEII Difference	.116	21	.200*	.979	21	.906
CETA Difference	.098	21	.200*	.950	21	.337
ITA Difference	.118	21	.200*	.938	21	.202
CRR Difference	.099	21	.200*	.959	21	.488
TLTA Difference	.147	21	.200*	.916	21	.074
DE Difference	.116	21	.200*	.931	21	.144
TDTE Difference	.112	21	.200*	.966	21	.648
CAR Difference	.153	21	.200*	.971	21	.747
TLOTD Difference	.115	21	.200*	.976	21	.857
TDTA Difference	.119	21	.200*	.954	21	.403
NPL Difference	.284	21	<.001	.599	21	<.001
EPS Difference	.094	21	.200*	.969	21	.711
MPS Difference	.103	21	.200*	.958	21	.471
DPS Difference	.119	21	.200*	.973	21	.798

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix 9: Table 9: Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Return on Equity Pre-Merger & Return on Equity Post Merger	21	.337	.135
Pair 2	Return on Assets Pre-Merger & Return on Assets Post Merger	21	.233	.310
Pair 3	Net Interest Margin Pre-Merger & Net Interest Margin Post Merger	21	.491	.024
Pair 4	Earnings Per Share Pre-Merger & Earning Per Share Post Merger	21	.391	.080
Pair 5	Spread Ratio Pre-Merger & Spread Ratio Post Merger	21	.758	.000
Pair 6	Interest expenses to Interest income Ratio Pre-Merger & Interest expenses to Interest income Ratio Post Merger	21	.638	.002
Pair 7	Cash equivalent to Total assets Ratio Pre-Merger & Cash equivalent to Total assets Ratio Post Merger	21	.069	.765
Pair 8	Investment to Total Assets Ratio Pre-Merger & Investment to Total Assets Ratio Post Merger	21	-.261	.253
Pair 9	Total Liabilities to Total Assets Ratio Pre-Merger & Total Liabilities to Total Assets Ratio Post Merger	21	-.044	.851
Pair 10	Debt to Equity Ratio Pre-Merger & Debt to Equity Ratio Post Merger	21	.000	.999
Pair 11	Total Deposit to Total Equity Ratio Pre-Merger & Total Deposit to Total Equity Ratio Post Merger	21	-.006	.979
Pair 12	Capital Adequacy Ratio Pre-Merger & Capital Adequacy Ratio Post Merger	21	.167	.469
Pair 13	Total Loans to Total Deposit Ratio Pre-Merger & Total Loans to Total Deposit Ratio Post Merger	21	.553	.009
Pair 14	Total Deposit to Total Assets Ratio Pre-Merger & Total Deposit to Total Assets Ratio Post Merger	21	-.178	.439
Pair 15	Non-Performing Loans to Total Loans Ratio Pre-Merger & Non-Performing Loans to Total Loans Ratio Post Merger	21	.476	.029
Pair 16	Liquidity Cash Reserve Ratio Pre-Merger & Liquidity Cash Reserve Ratio Post Merger	21	.839	.000
Pair 17	Market Price Per Share Pre-Merger & Market Price Per Share Post Merger	21	.785	.000
Pair 18	Dividend Pre-Share Pre-Merger & Dividend Per Share Post Merger	21	.159	.491

Appendix 10: Paired Samples Effect Sizes

			Standardizer[a]	Point Estimate	95% Confidence Interval	
					Lower	Upper
Pair 1	Return on Equity Pre-Merger - Return on Equity Post Merger	Cohen's d	9.82037	.189	-.244	.619
		Hedges' correction	10.00942	.186	-.240	.607
Pair 2	Return on Assets Pre-Merger - Return on Assets Post Merger	Cohen's d	.78978	-.058	-.486	.370
		Hedges' correction	.80498	-.057	-.477	.363
Pair 3	Net Interest Margin Pre-Merger - Net Interest Margin Post Merger	Cohen's d	.84696	-.170	-.599	.263
		Hedges' correction	.86326	-.167	-.588	.258
Pair 4	Earnings Per Share Pre-Merger - Earning Per Share Post Merger	Cohen's d	10.40790	-.002	-.430	.426
		Hedges' correction	10.60826	-.002	-.422	.417
Pair 5	Spread Ratio Pre-Merger - Spread Ratio Post Merger	Cohen's d	4.57920	2.308	1.471	3.128
		Hedges' correction	4.66735	2.264	1.443	3.069
Pair 6	Interest expenses to Interest income Ratio Pre-Merger - Interest expenses to Interest income Ratio Post Merger	Cohen's d	5.45096	-1.813	-2.508	-1.102
		Hedges' correction	5.55590	-1.779	-2.461	-1.081
Pair 7	Cash equivalent to Total assets Ratio Pre-Merger - Cash equivalent to Total assets Ratio Post Merger	Cohen's d	3.22012	-.852	-1.346	-.342
		Hedges' correction	3.28211	-.836	-1.320	-.336
Pair 8	Investment to Total Assets Ratio Pre-Merger - Investment to Total Assets Ratio Post Merger	Cohen's d	5.93815	.701	.215	1.173
		Hedges' correction	6.05247	.688	.211	1.151
Pair 9	Total Liabilities to Total Assets Ratio Pre-Merger - Total Liabilities to Total Assets Ratio Post Merger	Cohen's d	2.56930	.971	.441	1.484
		Hedges' correction	2.61876	.952	.433	1.456
Pair 10	Debt to Equity Ratio Pre-Merger - Debt to Equity Ratio Post Merger	Cohen's d	2.41751	.990	.456	1.506
		Hedges' correction	2.46405	.971	.448	1.478
Pair 11	Total Deposit to Total Equity Ratio Pre-Merger - Total Deposit to Total Equity Ratio Post Merger	Cohen's d	3.09147	.555	.089	1.010
		Hedges' correction	3.15098	.545	.087	.991
Pair 12	Capital Adequacy Ratio Pre-	Cohen's d	2.16116	-.568	-1.024	-.100

	Merger - Capital Adequacy Ratio Post Merger	Hedges' correction	2.20276	-.557	-1.004	-.098
Pair 13	Total Loans to Total Deposit Ratio Pre-Merger - Total Loans to Total Deposit Ratio Post Merger	Cohen's d	5.70667	-1.707	-2.375	-1.021
		Hedges' correction	5.81654	-1.675	-2.331	-1.002
Pair 14	Total Deposit to Total Assets Ratio Pre-Merger - Total Deposit to Total Assets Ratio Post Merger	Cohen's d	4.99815	1.148	.584	1.694
		Hedges' correction	5.09437	1.126	.573	1.662
Pair 15	Non-Performing Loans to Total Loans Ratio Pre-Merger - Non-Performing Loans to Total Loans Ratio Post Merger	Cohen's d	4.77188	.278	-.162	.710
		Hedges' correction	4.86375	.272	-.159	.697
Pair 16	Liquidity Cash Reserve Ratio Pre-Merger - Liquidity Cash Reserve Ratio Post Merger	Cohen's d	4.39276	1.164	.597	1.713
		Hedges' correction	4.47733	1.142	.586	1.681
Pair 17	Market Price Per Share Pre-Merger - Market Price Per Share Post Merger	Cohen's d	130.44256	1.938	1.196	2.663
		Hedges' correction	132.95377	1.901	1.173	2.613
Pair 18	Dividend Pre-Share Pre Merger - Dividend Per Share Post Merger	Cohen's d	14.78778	.067	-.362	.495
		Hedges' correction	15.07246	.066	-.355	.485

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.