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RESEARCH

Post-merger Effect on Operating Performance of Financial Institutions: Evidence from Nepal

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ABSTRACT

This article studies post-merger operating performance of financial institutions using the data set published in their annual reports. Based on 22 merger deals made during 2004-20013 by financial institutions listed in the Nepal Stock Exchange, this paper analyzes their financial statements for four years (two year before the merger and two year after the merger) by using six key accounting ratios. In spite of certain limitations, accounting ratios are still considered as a convenient and reliable analytical tool. The article concludes that merger deals fail to significantly improve the post-merger operating performance of financial institutions.

KEY WORDS

Merger

Operating Performance

Profitability

Accounting Ratios

ONE OF THE PERCEIVED MEANS for value creation in business is through growth (Osae, 2010). Ramani (2012) asserts that firms could grow internally either through the process of introducing new products or by enlarging the capacity of the existing products. The growth process can be facilitated externally by mergers and acquisitions. Mergers mean any transaction that forms one economic unit from two or more previous ones (Copeland, Weston, Shastri, & Katz, 2011). A merger usually results in a new company name, often the combination of both original companies into a new brand (Osae, 2010). The merger decision is a portfolio diversification and external growth decision aiming to gain competitive advantage through synergy by combining activities of two or more companies. Such actions are commonly voluntary and involve stock swapping and/or cash payment to the target. In some countries like Germany, weak banks are forcefully merged to avoid the problem of financial distress arising out of bad loans and erosion of capital funds (Jayadev & Sensarma, 2007). The motives behind such merger is "too big to fail" principle followed by the regulatory authorities.

Merger and acquisition is not a new phenomenon in the international context –though it entered recently in the Nepalese economy. The banking industry has undergone rapid consolidation in last few years. Globalization, technological advancement, and deregulation have stimulated more banks to go for merger (Kwan & Wilcox, 1999). Mergers may reduce costs if they enable banks to close redundant branches or consolidate back-office functions. Mergers may make banks more productive if they increase the range of products that banks can profitably offer. They may also diversify further bank portfolios and thereby reduce the probability of insolvency. Increased diversification may reduce banks' total costs by reducing desired capital-asset ratios. Thus, mergers and acquisitions in banking sector have become popular as a major way of corporate restructuring in the majority of all the countries in the world (Jayadev & Sensarma, 2007).

Dobbs, Goedhart, and Sunio (2006) study showed that value was destroyed by mergers during 1995 and 2000 while mergers that occurred during 2003 and 2006 were able to create value. DePamphilis (2008) indicated that the majority of mergers and acquisitions underperform the industry average. In line with many researchers, Berger and Humphrey (1997) and Liu and Tripe (2001) noted that there was no evidence of positive impact on performance of firms in the mergers and acquisitions activities.

In Nepal merger is still a new practice, and therefore, has not received importance yet. This paper attempts to empirically examine the post-merger operating performance of Nepalese financial institutions.

The remainder of this article is structured as follows. Section I reviews related studies on announcement effect of mergers and acquisitions. Section II describes the data and methodology, while Section III presents the results and discussion. Section IV offers summary and conclusion.

Related Studies

Merger involves two or more fairly equal companies, which combines to become one legal entity that is worth more than their separate parts (Coyle, 2000). The shareholders of all pre-merger firms have a share in the possessions of the merged firm and the senior management of pre-merger firms will continue to hold management positions after the merger. Mergers and acquisitions are one of the ways by which firms attempt to create value. The reasons for such activity often include, among others, expansion into new markets, acquisition of cutting edge technology, achieving economies of scale, reduction of duplicate costs and reduction of competition (DePamphilis, 2008).

There are three general ways of mergers. A *vertical merger* takes place between the companies operating in the same industry. Motives for such mergers could be several, but usually the acquiring company chooses to implement a vertical merger in order to establish control of the whole production chain, thus potentially securing and strengthening its market position. Merger between an airline company and a travel agency is an example of vertical merger. By doing so, the airline company prevents the possibility for the travel agency to change airline in the future, as well as improving and developing its marketing strategy, which could be for instance marketing of travel and flights to destinations where the airline has the most available flights (Weston, Mitchel & Mulherin, 2004).

A merger occurring between companies which are operating and competing in the same industry is known as *horizontal merger*. One of the motives of horizontal merger is to seek advantages in economics of scale by improving the management and administration of the company.

A merger between firms that are involved in totally unrelated business activities is called *conglomerate* *merger*. This type of mergers are often made with the purpose of diversifying one's risks, and are often performed by companies which have their core businesses in a relatively high risk type on industry (Weston, Mitchel & Mulherin, 2004).

The terms merger and acquisition are often confused or used interchangeably (Sherman & Hart, 2006). Although merger and acquisition are often used as synonymous terms, there is a subtle difference between the two concepts. When one company takes over another and clearly established itself as the new owner, the purchase is called an acquisition. From a legal point of view, the target company ceases to exist, the buyer swallows the business and the buyer's stock continues to be traded. A merger happens when two firms, often of about the same size, agree to go forward as a single new company rather than remain separately owned and operated. This kind of action is more precisely referred to as a "merger of equals." Both companies' stocks are surrendered and new company stock is issued in its place. In practice, however, actual mergers of equals do not happen very often. Usually, one company will buy another and, as part of the deal's terms, simply allow the acquired firm to proclaim that the action is a merger of equals, even if it is technically an acquisition. Being bought out often carries negative connotations, therefore, by describing the deal as a merger, deal makers and top managers try to make the takeover more palatable.

In the Nepalese economy, merger, in the real sense, was started only in April 2004 with the merger between Laxmi Bank and HISEF Finance. Merger By-law was later enacted in 2012 (2068 B.S.). On the acquisition front, Butwal Power Company acquired Khimti and Bhotekoshi Hydropower companies. Standard Chartered Bank acquired Grindlays Bank from the ANZ Group (Nepal Economic Forum, 2010). Similarly, Teliasonera acquired Spice Nepal to form NCell (Nepal Economic Forum, 2010). All these acquisitions have occurred before promulgating the Acquisition By-law 2014 by Nepal Rastra Bank. After passing the Acquisition By-law in 2014 (2070 B.S.), financial institutes have started acquiring other financial institutions. Recently Citizen Bank International acquired Nepal Housing and Merchant Finance Ltd. and People Finance Ltd. Similarly, Muktinath Bikas Bank acquired Civic Development Bank.

Operating performance studies attempt to identify the sources of gains from mergers and to determine whether the expected gains at announcement are ever actually realized. Such studies generally examine the changes in financial performance, which are based on pre- and post- merger accounting data of the target and the acquirer or the newly combined firm. More specifically, the changes of net income, profit margin, growth rates, return on equity (ROE), and return on asset (ROA) and liquidity of the firm are the focus of accounting studies (Bruner, 2002; Pilloff, 1996).

Healy, Palepu, and Ruback (1992) examined post-merger operating performance for the 50 largest mergers between 1979 and 1984. They found that merged firms experience improvements in asset productivity, leading to higher operating cash flows relative to their industry peers. Interestingly, their results showed that the operating cash flows of merged firms actually drop from their pre-merger level on average, but that the non-merging firms in the same industry drop considerably more. Thus, the post-merger operating performance improves relatively to the industry benchmark.

A study made by Avkiran (1999), measured relative efficiency gains for Australian banks for the period of 1986-1995, using data envelopment analysis (DEA) and financial ratios. He used the intermediations approach and two DEA models: A and B. Model A includes interest expense and non-interest expense as inputs and net interest income and non-interest income as outputs; while Model B includes deposits and staff numbers as inputs and net loans and non-interest income as outputs. He found that acquiring banks do not always maintain their pre-merger efficiency. Liu and Tripe (2001) used accounting ratios and DEA to explore the efficiency impact of six bank mergers in New Zealand between 1989 and 1998 and found that in a majority of cases the merger led to an increase in efficiency.

The review of literature shows mix results regarding operating performance of acquirer. For example, studies by Cornett and Tehranian (1992) and Spindt and Tarhan (1992) found increases in post-merger operating performance, while Berger and Humphrey (1992), Piloff (1996), and Berger (1997) did not. Healy, Palepu, and Ruback (1992) found that the post-merger operating performance improves relative to the industry benchmark. Similarly, Liu and Tripe (2001) found that in a majority of cases the merger led to an increase in efficiency. But Akben-Selcuk and Altiok-Yilmaz (2011) found accounting data weakly support the hypothesis that acquirer companies are negatively affected by merger and acquisition. Reda (2013) showed that despite the fact that consolidation had a positive effect on managerial efficiency, banks' profitability remained weak. On the other hand, Long (2015) and Sharma and Ho (2002) found no significant difference in operating performance before and after merger.

In the light of the above review of previous empirical literature the following hypotheses have been framed for this research article.

H_1 : There is no significant increase in the operating performance of the acquirer financial institutions following the merger deals.

Data and Methodology

Altogether 50 financial institutions in Nepal have been merged till July 2013 and they confined to 21 financial institutions through 23 merger deals. The study covers all these merged financial institutions except Butwal Finance (now Synergy Finance after merger), which had not conducted its annual general meeting after merger till the time of collecting data for the study; and hence audited annual reports were not available to extract the data.

This research article is based on secondary data collected from merged financial institutions (FIs), their respective websites and Nepal Rastra Bank. Annual reports of the FIs which contained financial data have been collected by visiting their respective head offices. The t-test has been used to test the significance of null hypotheses and pair t-test has been used to test the differences in the performance of FIs before and after mergers. Statistical Package for Social Sciences (SPSS) program and Microsoft Office Excel have been used to analyze the data.

There are basically two different research methods that are commonly used in measuring the impact of mergers and acquisitions (Gjirja, 2003). One is the operational performance approach, which comprises studies dealing with the link between mergers and the productive efficiency of the banks involved, either measured through accounting data or through the estimation of cost and profit functions. The other approach includes studies dealing with the impact of merger announcements on the price of publicly-listed banking companies. This study followed the first approach to analyze the operating performance of mergers. Operating performance of any firm can be measured in term of profit it earned. The relation of the return of the firm to either its sales/revenue or its equity or its assets is known as profitability ratio. The study uses return on assets (ROA), return on equity (ROE), operating profit margin (OPM), net profit margin (NPM), earning yield ratio (EYR) and earnings per share (EPS) to measure profitability.

Results and Discussion

Profitability ratios of FIs before and after the merger

Pre- and post- merger accounting data of the acquirers have been analyzed to find out the changes in their financial performance. This attempt has been made to identify whether the expected gains of mergers are actually realized by Nepalese FIs or not. It focuses on accounting measures of profitability using different ratios. These ratios are analyzed in Table 1 through 6.

The table presents return on assets and return on equity before and after the year of the merger. Nepal Bangladesh Bank merged two times during the study period. The first case of merger (with Nepal Bangladesh Finance) is denoted by '1st' and the second case of its merger (with Nepal Srilanka Merchant Finance) is denoted by '2nd.' Similarly, Global Bank merged two times during the study period. The first case of merger (with IME Finance and Lord Buddha Finance) is denoted by '1st' and the second case of its merger (with Social Development Bank and Gulmi Bikas Bank) is denoted by '2nd.'

Table 1 presents the return on asset (ROA) and return on equity (ROE) of merged FIs before and after the merger. Column two presents the average ROA of two years before the merger and column three presents the average ROA of two years after the merger. ROA is calculated dividing the net profit after tax by total assets. The table shows that out of the 22 cases of mergers, ROA has been increased only in 8 cases and decreased in 14 cases. Among the FIs whose ROA has been increased, Nepal Bangladesh Bank (1st) stood at the top. There is an increase of ROA of Nepal Bangladesh Bank (1st) by more than 27 percent. This big increment in ROA of Nepal Bangladesh Bank (1st) is because of its huge negative ROA before merger. Other FIs whose ROA has been increased more than one percent after merger are: Prudential Finance and Laxmi Bank. Vibor Bikash Bank, Shine Development Bank, Global IME Bank, Global Bank and Machhapuchchhre Bank, However, the increment in ROA of these banks after the merger is very nominal and less than 1 percent.

Nepal Bangladesh Bank (2nd) experienced the highest (11.58 percent) decrease in ROA after merger. Manakamana Development Bank, Infrastructure Development Bank, Royal Merchant Banking and Finance, Annapurna Bikash Bank, Business Development Bank and Kasthamandap Development Bank also experienced large decrease in ROA. Except in three cases, ROA has not increased more than 1 percent after the merger; therefore, it is concluded that merger did not help in increasing ROA of Nepalese FIs.

Table 1: Return on assets and return on equity of acquirer before and after the merger

Name of financial institutions	Return on assets (%)				Return on equity (%)			
	Before merger	After merger	Differences	Remark	Before merger	After merger	Differences	Remark
Laxmi Bank	(0.50)	0.55	1.05	Increased	(0.62)	2.99	3.61	Increased
NB Bank* (1st)	(14.99)	12.19	27.18	Increased	77.73	83.41	5.68	Increased
National Finance	3.04	2.68	-0.36	Decreased	12.75	11.17	-1.58	Decreased
NB Bank (2nd)	13.09	1.51	-11.58	Decreased	120.95	10.63	-110.32	Decreased
Himchuli Dev Bank	1.65	1.08	-0.57	Decreased	13.96	8.22	-5.74	Decreased
Business Dev Bank	3.15	1.28	-1.87	Decreased	10.70	5.75	-4.95	Decreased
KMDB*	0.60	(0.48)	-1.08	Decreased	4.95	(4.23)	-9.18	Decreased
MB*	0.20	0.32	0.12	Increased	2.32	3.38	1.06	Increased
Global Bank	0.85	1.01	0.16	Increased	8.99	12.18	3.19	Increased
IDB*	2.56	(1.12)	-3.68	Decreased	11.09	(4.77)	-15.86	Decreased
ABB*	3.41	0.71	-2.7	Decreased	7.93	2.32	-5.61	Decreased
Pashupati Dev Bank	2.16	1.95	-0.21	Decreased	6.96	7.63	0.67	Increased
Vibor Bikash Bank	(3.78)	(2.88)	0.9	Increased	(22.92)	(17.88)	5.04	Increased
Shine Dev Bank	1.93	2.38	0.45	Increased	15.51	21.46	5.95	Increased
Prudential Fin Co.	(2.21)	4.39	6.6	Increased	(8.53)	14.13	22.66	Increased
NIC Bank	1.89	1.51	-0.38	Decreased	21.90	15.85	-6.05	Decreased
Diyalo Bikas Bank	1.84	1.26	-0.58	Decreased	10.53	7.42	-3.11	Decreased
Araniko Dev Bank	3.19	2.50	-0.69	Decreased	9.45	9.97	0.52	Increased
RMBF*	1.10	(1.80)	-2.9	Decreased	7.21	(13.75)	-20.96	Decreased
Global IME Bank	1.07	1.39	0.32	Increased	11.82	14.98	3.16	Increased
Prabhu Finance	1.31	0.83	-0.48	Decreased	18.51	8.69	-9.82	Decreased
MKDB*	1.70	(2.78)	-4.48	Decreased	6.83	(25.04)	-31.87	Decreased

Source: Annual Reports of FIs

**NB Bank = Nepal Bangladesh Bank; KMDB = Kasthamandap Devlopment Bank; MB = Machhapuchchhre Bank; IDB = Infrastructure Development Bank; ABB = Annapurna Bikas Bank; RMBF =Royal Merchant Banking and Finance; MKDB = Manakamana Development Bank;*

The last four columns of Table 1 compare ROE of merged FIs before and after the merger. Column six presents the average ROE of two years before the merger and column seven presents the average ROE of two years after the merger. ROE is calculated dividing the net profit after tax by shareholders' equity. The table shows that out of the 22 cases of mergers, ROE has been increased in 10 cases. On the other hand, ROE has been decreased in 12 merger cases. Among the FIs whose ROE has been increased, Prudential Finance has been able to increase the highest (22.66 percent). Shine Development Bank, Nepal Bangladesh Bank (1st), Vibor Bikash Bank, Laxmi Bank, Global Bank, Global IME Bank and Machhpuchchhre Bank stood 2nd , 3rd , 4th, 5th, 6th, 7th, 8th, respectively in terms of ROE increment. The decrease in ROE ranges from 110.32 percent to 1.58 percent. Nepal Bangladesh Bank (2nd) stood at the top in decreasing ROE after merger with 110.32 percent decrease.

The extensive decrease in ROE of Manakamana Development Bank, Royal Merchant Banking and Finance and Infrastructure Development Bank were due to the negative ROE experienced after the merger.

Table 2 shows operating profit margin and net profit margin before and after merger of merged FIs. It is obvious from the table that only in seven cases the operating profit margin of merged FIs has been increased after the merger.

decreased in operating profit margin after merger. Thus, it is concluded that majority (67 percent) of the merged FIs have experienced a decreased in operating profit margin.

The last four columns of Table 2 present and compare the net profit margin before and after

Table 2: Operating profit margin and net profit margin of acquirer before and after the merger

Name of financial institutions	Operating profit margin (%)				Net profit margin (%)			
	Before merger	After merger	Differenc-es	Remarks	Before merger	After merger	Differences	Remarks
Laxmi Bank Ld.	(89.41)	22.27	111.68	Increased	(88.40)	17.97	106.37	Increased
NB Bank (1st)	(254.05)	38.97	293.02	Increased	(272.42)	122.49	394.91	Increased
National Finance	52.73	65.83	13.1	Increased	59.46	47.70	-11.76	Decreased
NB Bank (2nd)	56.37	44.87	-11.5	Decreased	142.56	42.99	-99.57	Decreased
Himchuli Dev Bank	59.03	45.53	-13.5	Decreased	38.37	30.41	-7.96	Decreased
Business Dev Bank	76.60	39.34	-37.26	Decreased	51.21	23.98	-27.23	Decreased
KMDB	26.61	(15.38)	-41.99	Decreased	16.92	(10.16)	-27.08	Decreased
MB	7.17	14.94	7.77	Increased	5.92	9.48	3.56	Increased
Global Bank	24.69	33.57	8.88	Increased	18.56	26.69	8.13	Increased
IDB	57.19	(28.54)	-85.73	Decreased	39.88	(24.17)	-64.05	Decreased
ABB	37.25	(5.52)	-42.77	Decreased	36.34	12.70	-23.64	Decreased
Pashupati Dev Bank	45.57	26.64	-18.93	Decreased	30.43	45.20	14.77	Increased
Vibor Bikash Bank	(271.05)	(1246.50)	-975.45	Decreased	(206.17)	(435.99)	-229.82	Decreased
Shine Dev Bank	32.52	71.72	39.2	Increased	40.12	46.40	6.28	Increased
Prudential Finance	(68.42)	(190.49)	-122.07	Decreased	(50.25)	132.96	183.21	Increased
NIC Bank Ltd.	63.00	59.04	-3.96	Decreased	40.61	39.51	-1.1	Decreased
Diyalo Bikas Bank	55.54	47.44	-8.10	Decreased	37.35	30.08	-7.27	Decreased
Araniko Dev Bank	63.65	25.26	-38.39	Decreased	40.35	34.80	-5.55	Decreased
RMBF	49.28	(75.99)	-125.27	Decreased	30.88	(154.53)	-185.41	Decreased
Global IME Bank	29.94	35.58	5.64	Increased	27.58	32.78	5.2	Increased
Prabhu Finance	NA	NA	NA	NA	NA	NA	NA	NA
MKDB	18.43	(123.23)	-141.66	Decreased	37.16	(70.17)	-107.33	Decreased

Source: Annual Reports of FIs

The highest increase was for Nepal Bangladesh Bank (1st case) [293.02 percent], and the highest decrease was for Vibor Bikash Bank (975.45 percent). The operating profit margin of Laxmi Bank also increased significantly (111.68 percent). But the extensive increases in the operating profit margin of these two FIs are due to the negative operating profit margin before the merger. Fourteen out of twenty one FIs suffered from

merger. It is evidence from the table that net profit margin has been increased in eight cases, while it is decreased in rest of the thirteen cases. The highest rise is in case of Nepal Bangladesh Bank (1st), which enjoyed an increment by almost 395 percent. Laxmi Bank also achieved a high increased of 183.21 percent of net profit margin.

Vibor Bikash Bank, Royal Merchant Banking and Finance, Manakamana Development Bank, Nepal Bangladesh Bank (2nd), Infrastructure Development Bank, Business Development Bank, Kasthamandap Development Bank and Annapurna Bikash Bank had to suffer from a big decreased in net profit margin after the merger. As majority of FIs (62 percent) faced huge decreased in the net profit margin after the merger, it is concluded that operating performance of the Nepalese FIs have not improved after merger, rather worsened.

Table 3 exhibits the earning yield and earning per share of merged FIs before and after the merger. As seen in the table, out of the twenty-two merger cases, only nine cases (41 percent) have shown increase in earning yield after their merger. Nepal Bangladesh Bank (1st) was able to increase the highest earning yield of 100.85 percent. Thirteen FIs (59 percent) have been observed having decreased in earning yield after merger. The largest decrease in earning yield was faced by Royal Merchant Banking and Finance (19.37 percent). There was marginal decreased in earning yield of Himchuli Development Bank after merger.

Table 3 also includes data on EPS in its last four columns. The table depicts that 55 percent of the merged FIs decreased their EPS after merger while only 45 percent increased their EPS after the merger. Nepal Bangladesh Bank (2nd), Manakamana Development Bank, Royal Merchant Banking and Finance and Infrastructure Development Bank had to bear extensive decreased in EPS after merger.

Table 3: Earning yield and earnings per share of acquirer before and after the merger

Name of financial institutions	Earning yield (%)				Earnings per share (Rs)			
	Before merger	After merger	Differences	Remarks	Before merger	After merger	Differences	Remarks
Laxmi Bank Ld.	0.30	1.37	1.07	Increased	(0.61)	3.12	3.73	Increased
NB Bank (1st)	(76.13)	24.72	100.85	Increased	(198.56)	98.08	296.64	Increased
National Finance	1.62	7.79	6.17	Increased	17.03	14.88	-2.15	Decreased
NB Bank (2nd)	31.07	14.00	-17.07	Decreased	85.46	16.70	-68.76	Decreased
Himchuli Dev Bank	7.20	6.32	-0.88	Decreased	17.42	9.01	-8.41	Decreased
Business Dev Bank	7.00	5.80	-1.2	Decreased	11.28	6.49	-4.79	Decreased
KMDB	3.66	(5.36)	-9.02	Decreased	5.31	(3.81)	-9.12	Decreased
MB	1.00	2.14	1.14	Increased	2.53	3.77	1.24	Increased
Global Bank	4.86	5.24	0.38	Increased	9.51	13.97	4.46	Increased
IDB	6.91	(5.42)	-12.33	Decreased	12.65	(4.74)	-17.39	Decreased
ABB	8.86	2.96	-5.9	Decreased	9.21	2.68	-6.53	Decreased
Pashupati Dev Bank	5.41	9.77	4.36	Increased	7.32	8.02	0.7	Increased
Vibor Bikash Bank	(18.98)	(8.92)	10.06	Increased	(21.57)	(11.29)	10.28	Increased
Shine Dev Bank	7.87	6.56	-1.31	Decreased	18.44	28.38	9.94	Increased
Prudential Finance	(5.91)	13.31	19.22	Increased	(6.16)	14.12	20.28	Increased
NIC Bank Ltd.	6.83	4.36	-2.47	Decreased	33.83	31.88	-1.95	Decreased
Diyalo Bikas Bank	13.72	6.06	-7.66	Decreased	11.85	8.77	-3.08	Decreased
Araniko Dev Bank	7.21	10.90	3.69	Increased	10.37	10.90	0.53	Increased
RMBF	6.72	(12.65)	-19.37	Decreased	8.64	(13.91)	-22.55	Decreased
Global IME Bank	7.27	3.42	-3.85	Decreased	13.39	17.98	4.59	Increased
Prabhu Finance	12.37	6.48	-5.89	Decreased	20.47	10.99	-9.48	Decreased
MKDB	8.16	(9.46)	-17.62	Decreased	6.28	(16.38)	-22.66	Decreased

Source: Annual Reports of FIs

Nepal Bangladesh Bank (1st) was able to increase the highest EPS by Rs. 296.64, and Nepal Bangladesh Bank (2nd) experienced the highest decreased in EPS by Rs 68.76 after the merger. The other FIs which achieved good increased in EPS were Prudential Finance, Vibor Bikash Bank and Shine Development Bank. Pashupati Development Bank and Araniko Development Bank were able to increase their EPS after merger marginally. They increased their EPS by Rs. 0.53 and Rs. 0.70 respectively.

Paired Sample Correlation

Table 4 presents the paired sample correlation before and after the merger. Out of the six variables, three (50 percent) have negative paired sampled correlation and the rest three (50 percent) has positive correlation.

Table 4: Paired sample correlation before and after merger
The figure in the bracket below of each correlation coefficient are significant values.

		After merger					
		ROA	**ROE**	**Operating profit margin**	**Net profit margin**	**Earning yield ratio**	**Earning per share**
Before merger	ROA	-.542** (.009)					
	ROE		.531* (.011)				
	Operating profit margin			.654** (.002)			
	Net profit margin				.284 (.212)		
	Earning yield ratio					-.344 (.117)	
	Earning per share						-.681** (.000)

***Significant at 1% level*
**Significant at 5% level*

Among those which are negatively correlated, ROA and EPS are statistically significant at 5 percent level. The significant negative correlation indicates that the measurement changed consistently but negatively across sampled financial institutions.

The earning yield ratio though have negative paired sample correlation is not statistically significant even at 5 percent level. It indicates that the measurement does not change consistently across sampled financial institutions. On the other hand, operating profit margin and ROE have positive paired sampled correlation. Among them operating profit margin is statistically significant at 1 percent level and ROE is statistically significant at 5 percent level. Net profit margin, though has positive paired sampled correlation, is not statistically significant even at 5 percent level. The larger the correlation and it is positive, the less standard error would be in testing the hypothesis that the mean would be different. As this condition is not fulfilled in this case, there is high chance of being standard error in testing the hypothesis.

Table 5 exhibits the paired sample t-test of profitability ratios before and after the merger. It is evidence from the table that out of the six profitability ratios calculated, three ratios (50 percent) have been increased while the rest three ratios (50 percent) have been decreased after the merger. Among the profitability ratios that have been increased after the merger are ROA, earning yield

Table 5: Paired sample t-test of profitability ratios before and after merger

Profitability ratio	N	Mean: After merger	Mean: Before merger	Mean: Difference	t-value	p-value (2-tailed)
Return on asset (ROA)	22	1.29	1.06	.24	.163	.872
Return on equity (ROE)	22	7.93	15.82	-7.89	-1.461	.159
Operating profit margin	21	-58.10	.85	-58.96	-1.123	.271
Net profit margin	21	.05	3.64	-3.59	-.131	.897
Earning yield ratio	22	4.06	2.14	1.93	.378	.709
Earning per share (EPS)	22	11.35	3.37	7.98	.560	.581

Source: Annual Reports of FIs

ratio, and EPS; and the profitability ratios that have been decreased are ROE, operating profit margin and net profit margin. But none of the differences in ratios are significant even at 5 percent level of significance. Therefore, the null hypothesis that 'operating performance of merged FIs (acquirers) does not significantly improve after merger' could not be rejected. Hence, it is concluded that profitability of merged FIs does not improve after the merger.

Table 6: Heterogeneity in profitability ratio among merged FIs before and after merger

	N	Standard deviation: After merger	Standard deviation: Before merger	CV in %: After merger	CV in %: Before merger
ROA	22	2.99	4.70	231.22	444.86
ROE	22	20.34	29.34	256.39	185.50
Operating profit margin	21	287.38	99.16	-494.59	11597.83
Net profit margin	21	115.78	91.82	217094.41	2521.83
Earning yield ratio	22	8.60	19.54	211.57	914.32
EPS	22	22.88	49.07	201.62	1457.17

Source: Annual Reports of FIs

Coefficient of variation (CV) is the relative measure of dispersion. Table 6 shows that the CV of four profitability ratios (return on assets, operating profit margin, earning yield ratio and earning per share) has been reduced after the merger; which indicates that the magnitude of heterogeneity in these profitability ratios of merged FIs has been reduced. While the CV of two profitability ratios (return on equity and net profit margin) has been increased the merger, which indicates that the magnitude of heterogeneity in these ratios of merged FIs has been increased.

Summary and Conclusion

Merger and acquisition is a very important tool for the expansion of business. It is one of the ways by which business firms attempt to enhance their value. Studies have revealed mixed outcomes as to whether or not mergers and acquisitions do indeed enhance value.

To examine the effects of the merger on operating performance of the merged FIs, this research article analyzes 22 merger cases that were occurred during the period of 2004 to 2013. Hypothesizing that merger would improve performance of FIs in terms of profitability; six different accounting ratios were examined for two year before and two year after their merger. Paired sample t-test was used to compare the operating performance of merged FIs before and after the merger. Out of the six, three ratios (ROA, earning yield ratio and EPS) increased and the rest three ratios (ROE, operating profit margin and net profit margin) decreased after the merger. But none of the differences were significant at 0.05 level. This indicates that the changes in mean value of profitability ratios were not due to the merger leading to the failure of rejection of null hypothesis that 'there is no significant increase in the operating performance of the acquirer FIs following the merger deals.' Thus, the paper concludes that operating performance measured in terms of profitability ratios of FIs does not increase significantly after merger. The result is consistent with results found by Berger and Humphrey (1992), Piloff (1996), Berger (1997), Sharma and Ho (2002), Pathak (2013), and Long (2015), who report that there is no significant difference in operating performance before and after merger. But the result contradict with the results of Cornett and Tehranian (1992) and Spindt and Tarhan (1992) who found increases in post-merger operating performance.

Appendix: List of Merged FIs

This table presents a list of FIs that have been merged till 15th July 2013. Columns 2 and 3 provide a list of FIs involved in mergers. The names of the new FIs after mergers have been given in Column 4. Column 5 presents the dates of new transactions started by the FIs after completing their mergers. Altogether 50 FIs have been merged and confined to 21 FIs. Nepal Bangladesh Bank and Global IME Banks are repeated in the table because they involved in the activity of mergers in two times. Out of the 23 cases of mergers, 17 cases are the mergers between two FIs while six cases are mergers among three FIs. Among the merged FIs, six are commercial banks, 19 development banks and 25 finance companies. These merger activities reduced the number of FIs by 29.

S. No.	Merger between/among		New name after merger	Merged date (transaction start by new name)
	Panel A: Mergers before the promulgation of merger bylaw-2068			
1	Laxmi Bank	HISEF Finance	Laxmi Bank Ltd.	2 -4-2004
2	Nepal Bangladesh Bank Ltd.	Nepal Bangladesh Finance Co. Ltd.	Nepal Bangladesh Bank Ltd.	18-9- 2007
3	National Finance Ltd.	Narayani Finance Ltd.	Narayani National Fin Ltd.	3-11- 2009
4	Nepal Bangladesh Bank Ltd.	Nepal Srilanka Merchant Finance Ltd.	Nepal Bangladesh Bank Ltd.	23-1- 2011
	Panel A: Mergers after the promulgation of merger bylaw-2068			
5	Himchuli Bikas Bank	Birgunj Finance Ltd.	H & B Dev Bank Ltd.	15-6-2011
6	Business Dev Bank	Universal Finance Ltd.	Business Universal Development Bank	5-3-2012
7	Kasthamandap Dev Bank	Shikhar Finance Ltd.	Kasthamandap Dev Bank	13-5-2012
8	Machhapuchhre Bank Ltd.	Standard Finance Ltd.	Machhapuchhre Bank Ltd.	9-7-2012
9	Global Bank Ltd.	- IME Finance Ltd. - Lord Buddha Fin Ltd.	Global IME Bank Ltd.	9-7-2012
10	Infrastructure Dev Bank	Swastik Merchant Finance Ltd.	Infrastructure Dev Bank	10-7-2012
11	Annapurna Bikash Bank	Suryadarshan Fin Ltd	Supreme Dev Bank	13-7-2012
12	Pashupati Dev Bank	Uddhyam Bikash Bank	Axis Dev Bank	13-7-2012
13	Butwal Finance Ltd.	- Alpic Everest Fin Ltd. - CMB Finance Ltd.	Synergy Fin Company Ltd.	6-12-2012
14	Vibor Bikash Bank Ltd.	Bhajuratna Fin and Saving Company Ltd.	Vibor Bikash Bank	2-9-2012
15	Shine Bikash Bank Ltd.	Reshunga Bikash Bank Ltd.	Shine Reshunga Dev Bank Ltd.	17-3-2013
16	Prudential Fin Co. Ltd.	Gorkha Finance Ltd.	Prudential Finance Co. Ltd.	18-3-2013
17	NIC Bank Ltd.	Bank of Asia Nepal Ltd.	NIC Asia Bank Ltd.	30-6-2013
18	Diyalo Bikash Bank Ltd.	Professional Bikash Bank Ltd.	Professional Diyalo Bikash Bank	9-7-2013
19	Araniko Dev Bank Ltd.	Surya Dev Bank Ltd.	Araniko Dev Bank	14-7-2013
20	Royal Merchant Banking Finance Ltd.	- Rara Bikash Bank - Api Finance Ltd.	Apex Dev Bank Ltd.	NA
21	Global IME Bank Ltd.	- Social Dev Bank Ltd. - Gulmi Bikash Bank	Global IME Bank Ltd.	14-7-2013
22	Prabhu Finance Ltd.	-Sambridhi Bikash Bank Ltd. -Baibhav Finance Ltd.	Prabhu Bikash Bank Ltd.	NA
23	Manakamana Development Bank	- Yeti Finance Ltd. - Valley Finance Ltd.	Yeti Development Bank Ltd.	15-7-2013

Source: Nepal Rastra Bank and respective offices of FIs

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