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Assessing the Impact of Mergers and Acquisitions on Stock Returns in Nepal's Financial Landscape: An Event Study Approach

Binod Prasad Paneru ^α & Narayan Acharya ^σ

Abstract- Corporate events can impact on the value of merging companies and shareholders' wealth in both positive and negative ways. The study analyzes the impact of mergers and acquisitions as an event on the stock return of the Nepalese financial sector. Three models: Constant mean return, market-adjusted model, and CAPM model were used, employing the 'event study' methodology to examine abnormal returns because of M&A. The study has analyzed 20 recent events from five different financial sectors in Nepal. The cumulative abnormal return and buy-and-hold abnormal return have been calculated to analyze the impact of M&A. Qualitative data from interviews with experts in the financial markets, merging firms, and investment firms were also used.

The study revealed that M&A have an insignificant impact on the stock returns across all financial sectors. Similarly, the abnormal return during anticipation window, adjustment window and total window period of all financial sectors is insignificant which suggests that the M&A event don't have a significant impact on the stock. The experts assert that M&A activity in Nepal is driven by regulatory requirements, which cannot generate abnormal returns for the stockholders in short run, while, they believe that it could be beneficial in the long run because it provides a synergy effect and reduces cost.

The study concludes that M&A news have no significant impact on the stock return of the financial institutions. Investors were unable to gain an abnormal return either before or after the merger announcement. The stock returns also depends on the perception of the investor whereas in Nepal the investors are unable to perceive merger and acquisition as a beneficial event. While this study has significant implications for investors, policymakers, portfolio management companies, and stock brokerage firms, and also serves as an empirical review for further research, it may not be suitable for non-financial companies due to its focus in financial institutions. The study is solely concentrated on M&A events; other major events are also overlooked.

Keywords: merger & acquisition, abnormal return, event study, investment decision, nepalese financial sector, synergy effects.

I. INTRODUCTION

The financial industry is essential to the development and prosperity of the country's economy. The banking and insurance industries are the backbone of the country's economy. Banks and

insurance are the main drivers of the economy since they supply the capital required for economic activity to run smoothly and protect against risk, respectively. As a result, the banking and insurance sectors are crucial to the nation's economy. That their activities have some of the strictest rules and control is not unexpected.

NEPSE is the only one stock exchange of Nepal, it is established to create corporate and government securities free marketability and liquidity by enabling traders on its trading floor via members who act as market intermediaries, including brokers and market makers. It was first established as Securities Exchange Center to serve and promote the growth of capital market in Nepal.

As of 21st April 2023, the count of bank and non-bank financial institutions listed and actively traded in NEPSE are 171. Out of them, 20 are "A" class commercial banks, 16 are "B" class development bank, 16 are "C" class finance companies, 20 "D" class microfinance companies, 9 life insurance companies, and 13 non-life insurance companies. However, the Nepalese financial industry is currently being in the phase of big merger. The merger and acquisition of bank and financial institutions has been encouraged to strengthen financial sector stability. The merger of NCC bank & Kumari bank, and the merger between Prabhu bank and century bank are two big mergers in this year 2023.

An event study is a statistical technique that examines the impact of a particular occurrence on a company or portfolio. To calculate the event's impact, the approach looks at changes in stock prices or returns around the period of the occurrence. To determine the effect of the event on the stock or portfolio, the difference between the two is employed. The market model, which links stock returns to market returns, is a popular statistical model for carrying out event studies. Xu et. al., (2021) analyzed the stock price changes around the announcement of environmental performance ratings for a sample of corporations, the authors undertake an event study to examine the effects of corporate environmental performance on stock prices. According to the study, corporations with higher ratings for their environmental performance show positive anomalous returns near the event date, which may be

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an indication that investors respect their environmental performance.

An acquisition is the purchase of one firm by another without creating a new company, whereas a merger is joining two businesses to create a new business (Cartwright and Schoenberg, 2006). When one company acquires all of the obligations and assets of another, this is known as a merger. The purchased firm lapses, while the joint firm keeps its identity. Typically, a 75% vote of shareholders is needed to approve a merger. There are numerous additional ways for one business to acquire another, including buying all or a portion of the business's assets or stock (DePamphilis, 2008; Sharma, 2009; Kemal, 2011).

Beginning in January 2010, the Nepali wholesale banking market was made available to foreign investors. This happened not long after the International Monetary Fund stated that about one-third of Nepal's BFI's were underperforming, had excessive liquidity, high operating costs, insufficient working capital, unfavorable competition, and were poorly managed. With the exception of a small number of banks, most BFI's balance sheets indicated diminishing profits and an increasing proportion of problematic loans. Banks were unable to operate effectively because of the deteriorating economic environment, which was characterized by volatility and an unclear future. In order to boost the capacity of local banks to compete with their foreign counterparts, which were expected to enter Nepal soon, and stimulate the financial health of the country the then government encouraged the option of M&A. In the wake of the liquidity crisis and volatile investment climate, M&A provided an ideal solution to the problems faced by the Nepali financial sector (NEF, 2010).

Mergers and acquisitions have been heavily discussed topic in Nepal in recent days. Gyanwali (2013) states when the Nepal Rastra Bank, the Central Bank of Nepal, announced merger by-laws in May 2011 grounded on the Company Act 2063 (B.S) article 177, BAFIA 2063 (B.S) article 68 and 69, and encouraged all the BFI's to undergo merger as a consolidation. At this point, the Banking and Financial Institutions (BFI's) of Nepal were completely unfamiliar with the notion of merger and acquisition (M&A). Laxmi Bank, Nepal Bangladesh Bank, and Narayani National Finance were among the few institutions to have undergone merger process before the announcement of the bylaws. Chiranjivi Nepal, the governor at the time, pushed for the merger strategy. With incentives, he announced the big merger policy. The merging process has also received top priority under his successor Maha Prasad Adhikari. The regulation is in line with global norms intended to boost commercial banks' competitiveness and capacity for sizable lending investments. The NRB announced a four-fold increase in the minimum paid up capital of the commercial banks through the 2015 monetary policy,

and a twenty-four-fold increase in the same for the development banks. The national level development bank would need to increase to Rs. 2.5 billion, while the commercial banks would need to raise to Rs. 8 billion in paid-up capital. The banking regulator's demand has further improved the environment for merger and acquisition activity; the wave of M&A, which began as early as 2011, has affected the Nepali BFI industry.

Bhargava and Tandon (2022) stated that compensation for losses, a strong banking system, and increasing capital capacity are the main drivers of mergers in the banking industry. Acquiring market share, acquiring a competitive edge, raising revenues and risk, and product diversification are the motivations for merger transactions. Tajalli & Shehzad (2014) stated that there has been a noteworthy rise in mergers and acquisitions since the beginning of the global financial crisis. Companies used these combinations not just to stay competitive but also to hold a strong presence in the market. The business environment has significantly changed as a result of this.

Instead of focusing on short-term goals, mergers are mostly driven by the BFI's long-term goals, which include sustainable growth and competitive advantages. Increasing shareholder value has frequently been mentioned as a factor in merger decisions. The potential of BFI's to expand and thrive in the market is anticipated to be improved by the merger. Mergers can raise shareholders' worth by boosting market share and stock market value because they result in a larger company with fewer competitors. For companies looking to boost and sustain their competitiveness in the market, mergers and acquisitions have emerged as a crucial component of many corporate business plans. As a result of the merger bylaws of 2011, there has been an encouraging amount of restructuring and consolidation in the banking industry recently. The merging policy is anticipated to simplify the complications brought on by the BFI industry's rapid expansion (Shrestha, Thapa, & Phuyal, 2017).

Between 1982 and 1987, Dodd and Warner, (1983) looked at the post-acquisition of significant bank mergers. They claimed that the combined banks performed better than the banking sector. Rezitis (2008) found that most of the negative effects of mergers and acquisitions on the technical effectiveness and increase in the overall factor productivity of Greek banks. He did this by utilizing a stochastic output function. Noulas (1997) used the Malmquist productivity index and the Data Envelopment Analysis method (DEA) to examine the productivity growth of the Greek banking industry for 1991 and 1992 and discovered that while both state and private banks' productivity increased, the sources of this growth are different.

The effect of mergers and acquisitions on the performance of the Greek banking industry was studied (Liargovas and Repousis, 2011). The aggregate findings

indicate that bank mergers and acquisitions have no impact and do not create wealth (the weighted average of gains to the bidder and target banks). Sinha and Gupta (2011) looked into the environment for mergers and acquisitions in the Indian financial services sector. The analysis found that between March 1993 and February 2010, M&A activity in the Indian financial services sector primarily had positive effects on profitability, but the liquidity position deteriorated three years after the merger.

Chhetri and Baral (2018) conducted an event study with fifteen financial institutions which entered into a merger between the years 2010 to 2012 by using the mean adjusted model and market risk-adjusted model to find the effect of merger announcements on stock prices in Nepal. The study found that surrounding the announcement of merger proposals, the premerger abnormal return of individual firms is not significant to zero i.e., the return is not affected by the merger announcement. The abnormal return of the bidding and target enterprises is also insignificant, indicating that merger announcements on the Nepalese capital market have no effect on shareholder wealth.

The financial sector dominates the Nepalese capital market, which is characterized by poor management, a low volume of transactions, unhealthy competition, a lack of competitive strength, a lack of project financing, a shortage of qualified human resources, etc. A merger and acquisition are suitable solutions to these shortcomings. The Nepalese government has been pushing banks and financial institutions to pursue mergers and acquisitions by using various policies, and Nepal Rastra Bank has been supporting these efforts as well. The financial sector has witnessed a significant number of mergers and acquisitions in recent years. The impact of these transactions on the stock returns of the involved firms has been a subject of considerable debate among academics, practitioners, policymakers, and stockholders. While some studies have suggested that M&A activities have positive effect on stock returns, others have reported a negative or insignificant impact. Therefore, the question arises: what is the impact of M&A on the stock returns of financial sector. This study, therefore, attempts to evaluate the impact of merger and acquisition on the stock return of Nepalese financial sectors.

The study has the following research questions:

1. Whether the merger and acquisition create an abnormal stock return for the commercial banking, development banking, Finance companies, Microfinance, and Insurance sectors in Nepal?
2. What is the impact of merger and acquisition announcements on stock return among financial sectors or pre-M & A and post-M & A?

3. Which is the most significant financial sector that merger and acquisition have impacted in terms of stock returns?
4. How do investment experts perceive mergers and acquisitions?

a) *Objectives of the Study*

The major objective of the study is to analyze the impact of mergers and acquisitions on the stock returns of Nepalese financial sectors. The specific objectives of the study are as follows:

1. To evaluate the cumulative abnormal return (CAR) of financial sectors during the anticipation window, adjustment window, and total window period due to the announcement of a merger or acquisition.
2. To examine the buy-and-hold abnormal return (BHAR) of financial sectors during the anticipation window, adjustment window, and total window period due to the merger or acquisition announcement.
3. To compare the influence of merger and acquisition on stock returns among commercial banks, development banks, finance companies, micro-finance companies, and insurance companies.
4. To investigate the opinions of institutional investors, the merged company, and regulators regarding merger and acquisition.

b) *Research Hypotheses*

Five hypotheses have been developed for the five different sectors the alternative hypothesis of the research states that: The merger and acquisition (M&A) activity in the banking industry has been on the rise in recent years. Mergers and acquisitions are strategic moves that can have a significant impact on the stock returns of commercial banks. Molina et al. (2018) analyzed the impact of M&A activities on the stock returns of commercial banks in the Latin American region. The study found that M&A activities had a positive effect on the stock returns of commercial banks.

H1: There is an impact of merger and acquisition on the stock return of commercial banks.

Stock returns are an important measure of the performance of a bank, and M&A activities can have a positive or negative impact on these returns. Singhania and Yadav (2018) investigated the impact of M&A activities on the stock returns of Indian development banks. The study found that M&A activities had a positive effect on the stock returns of acquiring development banks.

H2: There is an impact of merger and acquisition on the stock return of development banks.

Merger and acquisition (M&A) activities have become increasingly popular in the finance industry as a means to expand business operations, reduce competition, and increase profitability. M&A activities can have a significant impact on the stock returns of

finance companies. Ahmed and Henry (2017) investigated the impact of M&A activities on the stock returns of US finance companies from 1991 to 2012. The study found that M&A activities had a positive impact on the stock returns of finance companies. The study also found that the impact of M&A activities on stock returns was influenced by the size, type, and financing of the M&A.

H3: There is an impact of merger and acquisition on the stock return of finance companies

Microfinance institutions (MFIs) are specialized financial institutions that provide financial services to low-income individuals and micro enterprises that lack access to traditional banking services. In recent years, the microfinance industry has experienced significant growth, and merger and acquisition (M&A) activities have become increasingly common in this industry. Koirala and Adhikari (2018) investigated the impact of M&A activities on the stock returns of Nepalese MFIs from 2010 to 2016. The study found that M&A activities had a positive impact on the stock returns of both acquiring and target MFIs. The study also found that the impact of M&A activities on stock returns was influenced by the type of M&A, the size of the MFI, and the level of financial development

H4: There is an impact of merger and acquisition on the stock return of microfinance companies.

The insurance sector has adopted the mergers and acquisitions (M&A) strategy frequently in order to achieve expansion, diversification, and increased market dominance. Duygun et. al., (2017) investigated the impact of M&A activities on the stock returns of insurance companies in the United States from 1990 to 2013. The study found that M&A activities had a positive impact on the stock returns of acquiring insurance companies. The study also found that the impact of M&A activities on stock returns was influenced by the type of M&A, the size of the insurance company, and the level of industry concentration.

H5: There is an impact of merger and acquisition on the stock return of insurance companies.

c) *Theoretical Framework*

i. *Efficient Market Hypothesis*

The Efficient Market Hypothesis (EMH) proposed by Fama et al. (1969) and Fama (1970) serves as the foundation for the event research approach. This states that "prices fully reflect all available information" when a market is efficient. One crucial presumption is that the capital markets are sufficiently effective to respond to unexpected occurrences and new information. Future financial gains for impacted companies. When the information set incorporates historical data, efficiency is categorized as "weak form." Pricing, "semi-strong form" when the information set contains all information that is readily

available to the public, and "strong form". When the information set contains all information, both publicly and privately available. Most event investigations are based on the evaluation of predicted "normal" and abnormal" returns based on the asset pricing model. The Efficient Market Hypothesis (EMH) is a theory suggests that financial markets are efficient and that asset prices fully reflect all available information. According to the EMH, it is not possible to consistently achieve above average returns through active trading or investment strategies because all relevant information is already incorporated into market prices.

ii. *Synergy Theory*

The idea that the combined efforts of individuals or teams working together can accomplish higher outcomes than those same individuals or teams working alone is known as synergy theory. It is a concept in organizational management and business strategy. According to this notion, a whole is worth more than the sum of its parts. The foundation of synergy theory is the idea that when people and teams collaborate rather than operate independently, they may produce more value and better results. Individuals and teams can innovate, come up with new ideas, address issues, and produce outcomes that would be challenging or impossible to achieve on their own by pooling their knowledge, expertise, and resources.

According to this theory, the amount of economic value that will arise from a merger will rely on the amount of the resource possessed by the firm, relative to the amount overall existing in the economy, and the availability of chances to exploit this resource (Chatterjee, 1986). It is anticipated that mergers and acquisitions will boost future cash flow and business value through operating and finance synergies, either as a result of increased economies of scale from increasing the firm's size or as a result of increased economies of scope from unique combination advantages between the combined enterprises. The benefits of new chances for tax savings and revenue increases due to cross- or up-selling, cost reduction due to efficiency improvements, and other factors all contribute to synergy. This hypothesis predicts that targets' and bidders' performances will both increase (Hankir al., 2011)

iii. *Agency Theory*

Agency theory is a concept in economics, finance, and management that examines the relationship between the owners of an organization (known as principals) and the individuals or groups who are entrusted with managing the organization on their behalf (known as agents). The theory focuses on the potential conflicts of interest that may arise between principals and agents due to their differing goals and incentives. According to agency theory, the principal agent relationship is characterized by a principal who

delegates decision-making authority to an agent, but who also has an interest in ensuring that the agent acts in the principal's best interests. The agent, on the other hand, may have their own goals and incentives that differ from those of the principal, and may not always act in the principal's best interests. Based on the agency theory, Asimakopoulou and Athanasoglou (2013) found that the management of bidder banks engages in

mergers and acquisitions for personal gain without taking into account the economic rationale. Hubris theory is comparable to agency theory. According to the idea of hubris, the management of bidder banks is paying a disproportionately high price as a result of their overconfidence in their capacity to identify the discounted target banks.

d) Empirical Review

Table 1: Summary of Nepalese findings

Study	Methodology	Major Findings
Bhatta (2008)	Event study, descriptive statistic, regression analysis, and Portfolio analysis	EMH does not hold for NEPSE, Certain size effect on the weekdays and calendar month have been found
Shrestha (2014)	Case study analysis	Merger and acquisition rely on the belief that they will produce synergistic benefit for the possible parties involve as well as the expectation of financial gain
Shrestha et. al., (2017)	Regression analysis	The financial performance of the bidding banks increased after merger
Sharma (2018)	Multiple regression analysis	Bank's performance increased after merger and acquisition
Chhetri and Baral (2018)	Event study approach	No impact of M&A on shareholder's wealth for the individual firm as well as for the overall Nepalese banking sectors
Koirala and Karki (2020)	Event study approach	M&A activities had a positive impact on the stock returns of acquiring banks, while target banks experienced negative abnormal returns.

Table 2: Summary of international findings

Study	Methodology	Major Findings
Yen and hoshineo (2000)	difference-in-differences (DID) regression analysis	Stock market responds favourably to news of merger and acquisition, but profitability decline from pre-merger to postmerger
Beitel and Schiereck (2001)	Descriptive and multivariate statistical analysis, cross-tabulations, regression analysis, and factor analysis.	Positive abnormal return- Increase for target banks and decrease for bidding banks
Sufian and Majid (2007)	Tobin's regression and data envelopment analysis	Consolidation increases the bank's performance and efficiency by enhancing credit quality
Mantravadi and Reddy (2008)	Multiple regression analysis	Merger increase the profitability of companies in financial sectors
Anand and Singh (2008)	Single factor model and two factor model	Merger increases the CAR of bidder banks, Merger created wealth for the shareholders
Sinha and Gupta (2011)	Paired sample t-test, regression analysis, Wilcoxon/mann whitney tests	Merger might affect the company's performance in both favourable and unfavourable ways
Liargovas and Repousis (2011)	Event study methodology	Shareholders get significant abnormal return before announcement but overall, M&A do not create shareholder's wealth
Padhmavathy and Ashok (2012)	Event study methodology	Merger announcement does not impact the creation of wealth of shareholders
Khan and Ikram (2012)	Standard risk adjusted event study methodology	Market efficiency is in semi strong form, investors cannot obtain abnormal return either before or after merger announcement
Kumar et. al., (2014)	Event study methodology	Merger announcement erode the value of bidding bank while it creates the wealth of target banks

Kyriazopoulos (2015)	Event study methodology and regression analysis	Target bank experiences high abnormal return during event time, whereas acquirer banks experience minor abnormal returns
Shah and Khan (2017)	Financial ratio analysis	Acquirer bank's performance deteriorates after M&A.
Hasan and Liu (2017)	fixed-effect panel regression models	Stock return of acquiring company increases positive and significantly due to M&A announcement
Boloupremo and Ogege (2019)	Longitudinal and time series analysis	Merger and acquisition increased the financial performance of banks
George et.al., (2021)	Descriptive research model with quantitative analysis	Recapitalization through merger and acquisition does not always increase post-acquisition financial performance

e) *Research Gap*

According to the study on the impact of merger and acquisition on the stock return on financial sectors, the various studies showed mixed reviews on the impact on the organization and the stock returns. The majority of the studies in the international context found that there is an impact of merger and acquisition on the stock return and performance of financial institutions. Yeh and Hoshino (2000), Beitel and Schiereck (2001), Anand and Singh, (2008), Gattofi et. al., (2009), (Sinha et.al., 2010), Kyriazopoulos, (2015) Hasan, and Liu (2017), Boloupremo and Ogege, (2019), and Shrestha, (2014) found cumulative abnormal returns because of

mergers and acquisitions. However, there are a lot of studies such as, Gjirja, (2003), Mantravadi and Reddy, (2008), Badreldin and Kalhoefer, (2009), Liargovas and Repousis, (2011), (Padhmavathy and Ashok, 2012), Shrestha et. al., (2017) and Chhetri and Baral, (2018) found a no impact of mergers and acquisitions on the stock return. On the other hand, some of the studies conducted from an international context found there is zero abnormal return because of the merger events. Moreover, some studies found the information leakage problem in merger events because the study revealed that the impact of merger and acquisition events is shown in the anticipation period near to event date.

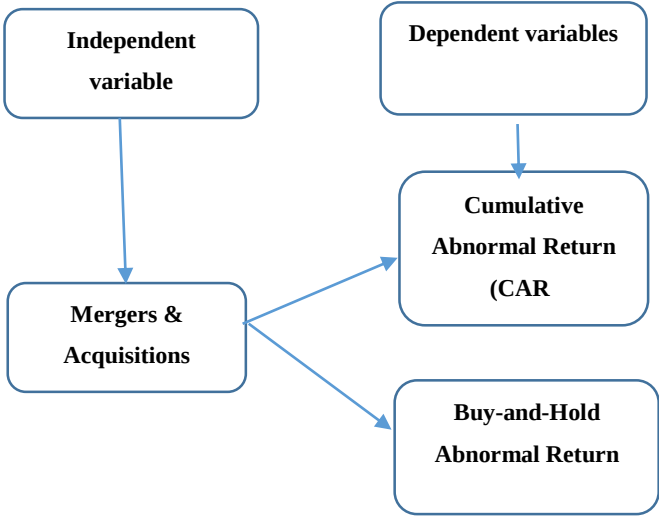


Figure 1: Conceptual framework

In the context of Nepal, very few studies have been conducted to analyze the impact of mergers and acquisitions on the stock return using event studies of financial institutions. There are few studies conducted in Nepal to analyze the post-merger performance of financial institutions but from the perspective of stock investors, very limited research has been done. The financial institutions of Nepal enter into a big merger after issuing merger and acquisition by-laws by Nepal Rastra Bank. Nepal Rastra Bank issued merger and acquisition by-laws in May 2011 and later NRB issued various guidelines to encourage banks and financial

institutions to merge and acquire. None of the event studies have been done since 2018 on this topic. Therefore, further research is required to determine how mergers and acquisitions affect stock return. Financial sectors in Nepal are the largest economic contributor and have a lot of problems in mergers and acquisitions because of uncertainty in stock returns after mergers and acquisitions. On the other hand, the stock price is especially determined by the investor's perception. The traffic of stock market operations in Nepal has increased heavily in the last 3 years the stock price may act differently than before

merger and acquisition by-laws. Furthermore, the previous studies have been done with a smaller number of events, and no large events were studied. So, there is a need for a study on this topic that includes large and more events covering all financial sectors which will help to gather a more accurate result in the present time.

f) *Research Framework and Definition of Variables*

The literature has highlighted on the impact of merger and acquisition on the stock return. The research framework describes the relationship between independent variable (i.e., merger and acquisition event) and the dependent variables (CAR & BHAR). One the basis of literature reviews like Dilshad (2012), Rani et. al., (2015), Bergmann et. al., (2015), and Chhetri and Baral (2018). The proposed framework for the research is:

i. *Merger and Acquisition (M&A)*

The term "merger and acquisition" (M&A) refers to the combining of two or more businesses into a single one by a variety of strategies, including acquisition, interest pooling, or a combination of these. Weston, Mitchell, and Mulherin (2004) stated that M&A is "a corporate strategy that involves the combination of two or more companies in a way that results in the creation of a new entity, or the acquisition of one company by another." M&A is frequently done to reach a variety of strategic objectives, including increasing market share, diversifying the company, generating economies of scale, and acquiring access to new products and technologies. The announcement or conclusion of a merger or acquisition transaction involving two or more companies is referred to as an M&A event. During an M&A transaction, the acquiring business may purchase the target company's assets or outstanding shares in order to acquire it. The event can also involve a merger or other business combination between the two companies.

According to Chatterjee and Wernerfelt (1991), an M&A transaction can have a major impact on both the target and acquiring companies' shareholders, employees, and other stakeholders. The stock prices of both companies may alter following the announcement of an M&A event, reflecting how the market views the transaction's possible advantages and hazards. An M&A event that is successfully concluded can give the newly created business better financial results, more market share, and stronger strategic capabilities.

ii. *Abnormal Return (AR)*

According to Fama, Fisher, Jensen, and Roll's research from 1969 titled "The Adjustment of the Stock Market to New Information," abnormal returns are defined as "the difference between the actual return on a security and the expected return, given its risk and the information available at the time of the investment" (Fama, Fisher, Jensen, & Roll, 1969). The authors use the concept of abnormal returns to assess the stock

market's effectiveness as well as how quickly it reacts to new information. The authors use the concept of abnormal returns to assess the stock market's effectiveness as well as how quickly it reacts to new information. They found that abnormal returns frequently rise immediately following the announcement of new information but frequently fall over time as the market assesses the new information. All things considered, the concept of abnormal returns has been widely applied in finance and has provided significant insights into the efficiency of the stock market and the performance of investments.

iii. *Cumulative Abnormal Return (CAR)*

The term "CAR" (cumulative abnormal return) in finance describes how much more money a stock or portfolio has made than was anticipated for a given period. It is determined by adding up the discrepancy between the stocks or portfolio's actual returns and projected returns throughout that time frame. It is computed by adding up the discrepancy between the securities or portfolio's actual returns and projected returns for that time frame. A benchmark or index is used to compute the expected return, and the excess return is the CAR. (Jordan, Chen, Hong, 2003).

The CAR variable is determined by adding the abnormal returns of a stock over a given period. Amihud and Mendelson, (1986) state that the CAR variable is frequently used in event studies, which examine how particular occurrences affect the performance of stocks. Consider a scenario in which a firm announces a significant purchase and an analyst wishes to research the impact of the news on the stock price of the company. The analyst might compute the abnormal returns of the stock before and after the announcement using the CAR variable and compare them to the expected returns based on the performance of the market as a whole.

iv. *Buy-and-hold Return (BHAR)*

Buy-and-Hold Abnormal Return, often known as BHAR, is a financial term used to assess the outperformance of an asset or portfolio in comparison to a benchmark over a given holding period. The Cumulative Abnormal Return (CAR) extension known as BHAR calculates the cumulative returns an investor receives from owning a security or portfolio over a predetermined period. According to the research "Event Study Methodology in the Presence of Event-Induced Volatility" by MacKinlay (1997), BHAR is computed by summing the discrepancy between the return of the asset or portfolio and the return of the benchmark at each point in time throughout the holding period. When comparing the performance of an asset or portfolio, the benchmark is often a market index or a peer group of securities.

II. RESEARCH METHODOLOGY

This section deals with the methodology used to carry out the research and to analyze the data for the conclusion of the required results. The methodology has been provided under a few distinct sub-headings for ease of presentation. The sub-heading includes research design, population and sampling procedures, nature and sources of data collection, research framework & definition of variables, and study method of analysis.

a) Research Design

The study is based on the descriptive research design to analyze the stock expert's perception of merger and acquisition regarding the stock return. Additionally, the study is based on the event study research design to investigate the impact of mergers and acquisitions on stock market return. The researcher has been used an event study to evaluate the impact of M&A in stock return. Fama, et al. (1969) introduced the event study, which is now widely used to examine the effects of a particular event. For instance, this study has employed the event study to assess how the market responds to any announcement related to M&A of the companies.

The foundation of the event study is to look at the returns produced from the stock prices of the relevant companies before and after the announcement of the merger and acquisition. The stock return of sample companies was measured for 10 days before and after the announcement of the merger and acquisition.

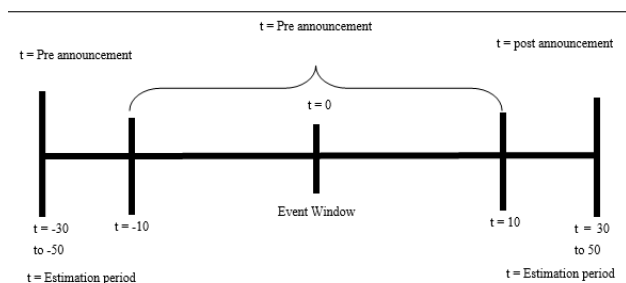


Figure 2: The Event study methodology

i. Day 0 (Announcement Date)

The announcement date is the best date to determine an event's impact, according to Halpern (1983). Before the event date, aberrant merger returns would be seen if information leaked before this deadline. In addition, according to Halpern (1983), the stock price of the acquiring company will change after the announcement to reflect the likelihood that the merger will be profitable, as well as the length of time needed to complete it. When quantifying any corporate event, it has been found that the event study approach is reliable

and accurate. Day 0 represents the first trading day after the market learns about the purchase or merger.

ii. Estimation Window

As it is uncertain whether day 0 was properly selected, a few days around the announcement date are included in the estimation and the event window. To determine the market model's parameters and determine the expected return on stocks when a merger announcement was made vs when it wasn't, an estimation window is used. According to MacKinlay (1997), one can account for information leaking, sluggish market reaction, and the consequences of a trading day ending in this way.

iii. Event Window

According to Dilshad (2013), the event window indicates how many days should be utilized to calculate any potential abnormal returns brought on by the event, such as a merger or acquisition. According to the notion of the efficient market hypothesis, any change in the security prices brought on by an event will be noticed right away since rational behavior tends to favor short event windows. The danger associated with the extended window could potentially erode the likelihood of discovering any meaningful empirical evidence.

b) Population and Sampling Procedure

All the listed banks and financial institutions that have gone for merger and acquisition in Nepalese history and those financial institutions that are going for merger and acquisition in the future are the populations of this study. The interview of experts from different relevant sectors is conducted to collect primary data. The companies that are already delisted from NEPSE made it difficult to collect the price history for the study. Thus, based on data availability, financial institutions that have gone through the merger and acquisition process from 2012 to 2022 and have a trading history of more than 30 days after completion of the merger and acquisition are taken as a sample for the study. Five different financial sectors are taken for the study, from which recent three to five companies are taken. For the event study, there should not coincide any other event that affects the price of the stock. Therefore, those mergers and acquisitions are not be taken as samples that are colliding with other major events. Based on the availability of data, the following Banks and Financial Institutions are selected as samples for the study:

Table 3: Sample Merger and acquisition events

S.N.	Name of the companies	Company Name (After Merge)	Sector	Event date
1	Nepal Credit and commerce bank limited and Kumari bank limited	Kumari bank limited	Commercial bank	26/12/2022
2	Prabhu bank limited and century bank limited	Prabhu bank limited	Commercial bank	03/01/2023
3	Nabil bank limited and Nepal Bangladesh limited bank	Nabil bank limited	Commercial bank	29/06/2022
4	Citizen bank international limited and srijana finance limited	Citizen bank international limited	Commercial bank	25/05/2021
5	NMB Bank Limited and Kanchan Development Bank Limited	NMB bank limited	Commercial bank	09/08/2020
6	Garima Bikas bank and Sahara bikas bank	Garima bikas bank	Development bank	18/10/2021
7	Tinai development bank limited and mission development bank limited	Tinai mission development bank	Development bank	17/03/2019
8	Shine Resunga Development Bank Limited, Bhargav Bikash Bank Limited and Purnima Bikas Bank Limited	Shine Resunga Development Bank Limited	Development bank	03/10/2019
9	Jyoti Bikash Bank Limited & Hamro Bikas Bank Limited	Jyoti Bikash Bank Limited	Development bank	11/03/2019
10	Nepal Finance Limited and Lalitpur Finance Limited.	Nepal Finance Limited	Finance	11/04/2016
11	Best Finance Company Limited & Synergy Finance Limited	Best Finance Company Limited	Finance	20/06/2018
12	Bhaktapur Finance Company Ltd. & Central Finance Ltd.	Central Finance Limited	Finance	11/04/2016
13	Mirmire Laghubitta Bittiya Sanstha Limited and Buddha Jyoti Laghubitta Bittiya Sanstha Limited	Mirmire Laghubitta Bittiya Sanstha Limited	Microfinance	22/08/2022
14	Aarambha Chautari Laghubitta and Deurali Laghubitta Bittiya Sanstha Limited.	Aarambha Chautari Laghubitta Bittiya Sanstha Limited	Microfinance	18/10/2021
15	Suryodaya Laghubitta Bittiya Sanstha Limited and Womi Laghubitta Bittiya Sanstha Limited	Suryodaya Womi Laghubitta Bittiya Sanstha Limited	Microfinance	31/08/2021
16	Samata Laghubitta Bittiya Sanstha Limited and Gharelu Laghubitta Bittiya Sanstha Limited	Samata Gharelu Laghubitta Bittiya Sanstha Limited	Microfinance	13/07/2022
17	Infinity Laghubitta Bittiya Sanstha Limited and Nepal Agro Laghubitta Bittiya	Infinity Laghubitta Bittiya Sanstha Limited	Microfinance	01/08/2021

18	Sanima General Insurance Limited and General Insurance Company Nepal Limited.	Sanima GIC Insurance Limited	Insurance	13/07/2022
19	Surya Life Insurance Company Limited and Jyoti Life Insurance Limited.	Suryajyoti Life Insurance Company Limited	Insurance	13/07/2022
20	Himalayan General Insurance Company Limited and Everest Insurance Company Limited	Himalayan Everest Insurance Limited	Insurance	05/05/2022

c) Data Analysis

The primary information was collected by interviewing five experts from different sectors. The information was collected from the interview of experts from- NEPSE, NRB, institutional investors, merged companies, and SEBON. The collected information was critically analyzed to get the required concrete results.

The secondary data is analyzed using the following models:

i. The Constant Mean Return Model

In the constant mean return model, it has been assumed that the normal return of security equals the constant K_t (mean value) over the estimation period. Although the ex-ante return will differ between securities, it has been assumed that the projected return of the security will be consistent throughout time. The function of abnormal return of the security is:

$$AR_t = R_t - K_t \dots \dots \dots (1)$$

Where:

R_t = the return on day t

K_t = Mean value of the daily return

The daily return has been calculated as:

$$R_t = (P_1 - P_0) / P_0 \dots \dots \dots (2)$$

Where:

P_1 = price per share of common stock of firm / at the end of day t

P_0 = price per share of common stock of firm / at the end of day t-1

t = - 10. . . +10 days

The cumulative abnormal return, CAR i, for the bidders and the target firms for the period of t = - 10 to t = 10 has been defined as:

$$CAR_t = \sum_{t=-10}^{t=10} AR \dots \dots \dots (3)$$

The buy-and-hold return, BHARi for the bidder firms for the period of t= -10 to t= +10 days can be defined as:

$$BHAR_t = \{ \prod (1 + AR_t) - 1 \} \dots \dots \dots (4)$$

ii. The Market-Adjusted Model

The market-adjusted model evaluates the performance of the stock. The market-adjusted model compares the actual return of the stock to its expected return based on the overall market return. The abnormal return of the stock is the difference between the stock return and market return on day t.

The function of abnormal return of the security is:

$$AR_t = R_t - R_{mt} \dots \dots \dots (5)$$

Where:

R_t = the return on day t

R_{mt} = Market return on day t

The daily return has been calculated as:

$$R_t = (P_1 - P_0) / P_0 \dots \dots \dots (6)$$

Where:

P_1 = price per share of common stock of firm/at the end of day t

P_0 = price per share of common stock of firm/at the end of day t-1

t = - 10. . . +10 days

The market return, R_{mt} has been calculated as:

$$R_{mt} = (M_1 - M_0) / M_0 \dots \dots \dots (7)$$

(t = - 10. , +10 days)

Where:

M_1 = stock market index at the end of the day

M_0 = stock market index at the end of day t-1

The cumulative abnormal return, CAR i, for the bidders and the target firms for the period of t = - 10 to t = 10 has been defined as:

$$CAR_t = \sum_{t=-10}^{t=10} AR \dots \dots \dots (8)$$

The buy-and-hold return, BHARi for the bidder firms for the period of t= -10 to t= +10 days can be defined as:

$$BHAR_t = \{ \prod (1 + AR_t) - 1 \} \dots \dots \dots (9)$$

iii. CAPM

In the CAPM model, the value of α and β have been calculated from the estimation period. The normal return of individual security is forecasted in the second step. Performance of share price from the event $t = -10$ to $t = +10$ is used to estimate the parameter, and the abnormal return of the merging firm during the window period is estimated in this CAPM model. The function of abnormal return by residual firm i on day t is as follows:

$$e_t = \alpha + \beta R_{mt} \dots \dots \dots (10)$$

Where:

R_t = daily share return for firm/in day t

α = the intercept term

β = the systematic risk of share

R_{mt} = rate of return on a market index in day t relative to the announcement of the offer

e_t = error term

$t = -10 \dots +10$ days

The daily share return, R_t has been calculated as:

$$R_t = (P_1 - P_0) / P_0 \dots \dots \dots (11)$$

$t = -10 \dots +10$ days

Where:

P_1 = price per share of common stock of firm/at the end of day t

P_0 = price per share of common stock of firm/at the end of day $t-1$

The market return, R_{mt} has been calculated as:

$$R_{mt} = (M_1 - M_0) / M_0 \dots \dots \dots (12)$$

$(t = -10 \dots, +10 \text{ days})$

where:

M_1 = stock market index at the end of the day

M_0 = stock market index at the end of day $t-1$

The abnormal returns for firm i in day t , AR_{it} , based on the market model have been defined as:

$$AR_t = R_t - \alpha - \beta R_{mt} \dots \dots \dots (4)$$

OR

$$AR_t = R_t - e_t$$

Where:

e_t and R_t for the individual firms are calculated daily by using the equation (1) and (2) from the event $t = -10$ to $t = +10$ days.

The cumulative abnormal return, CAR_i , for the bidder firms for the period of $t = -10$ to $t = +10$ can be defined as:

$$CAR_t = \sum_{t=-10}^{t=+10} AR \dots \dots \dots (13)$$

The buy-and-hold return, $BHAR_i$ for the bidder firms for the period of $t = -10$ to $t = +10$ days can be defined as:

$$BHAR_t = \{ \prod (1 + AR_t) - 1 \} \dots \dots \dots (14)$$

Significance Test

Null hypothesis: merger or acquisition event has no impact on stock returns. i.e., no abnormal mean return.

Alternative hypothesis: merger or acquisition has an impact on stock returns. i.e., abnormal mean return.

Parametric test

T-statistics are calculated as:

$$t_{CAR} = CAR_t / \text{stdev}_t \cdot \sqrt{n}$$

or

$$t_{BHAR} = BHAR_t / \text{stdev}_t \cdot \sqrt{n}$$

the null hypothesis will be rejected if the calculated value $>$ the critical value. The critical value for t-stat is:

at 10% = 1.64

at 5% = 1.96

at 1% = 2.58

The event data analysis has been done using three different models i.e., the constant mean return model, the market adjusted model, and the CAPM model. All three models calculate the cumulative abnormal return and buy-and hold abnormal return. The significance test of CAR and BHAR has been done at a 5% significance level.

III. RESULT AND ANALYSIS

This section analyzes the collected data from primary and secondary sources from various sources using statistical tools. The primary data has been analyzed critically to get the perception of authority, investors and merged institutions regarding the impact of merger and acquisition on the financial sectors. The secondary data has been analyzed to get the result about the impact of merger and acquisition on the stock return using the event study approach. This chapter aims to analyze and present the analyzed data to get the required result.

a) Descriptive Analysis

Descriptive statistics in this study helps to identify standard deviation, cumulative abnormal return, and buy and-hold abnormal return of merger and acquisition event of financial sectors in Nepal including commercial banks, development banks, finance companies, microfinance companies, and insurance companies using three different financial models (i.e.,

constant mean return model, market adjusted model, and CAPM model).

i. *Constant Mean Return (CMR) Model*

The constant mean return model calculates the anticipated return on an asset or investment over a certain period. It is predicated on the idea that the asset's returns have a normal distribution with a constant mean return and constant variance. The concept is predicated on the notion that, regardless of the degree of investment risk, the expected return on an asset is constant throughout time. This indicates that the predicted return is unaffected by changes in the market, the state of the economy, or any other elements that might affect the asset's return.

Commercial Banks

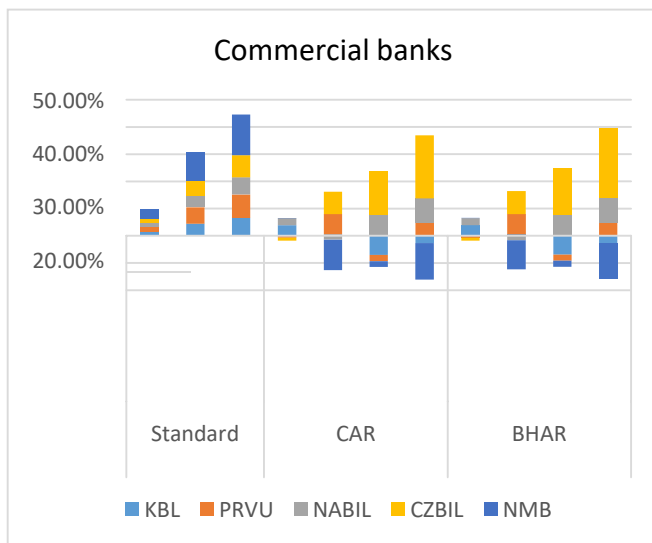


Figure 2: S.D., CAR, and BHAR of commercial bank (CMR model)

Figure 2 lists five commercial banks, their names, and associated standard deviations. Two separate time periods 10 days, anticipation and adjustment periods and 21 days for the entire window period are given for the standard deviations. Figure 1 also displays the cumulative abnormal return (CAR) and buy and hold abnormal return (BHAR) for each bank for the three different events of occurrence, anticipation, and adjustment. The figure then figures out the total CAR and BHAR for every bank.

Overall, figure 1 indicates that NMB had the lowest total CAR and BHAR, while CZBIL had the greatest total CAR and BHAR, followed by NABIL and KBL. According to the standard deviation data, NMB had the highest level of volatility among the banks.

Development Banks

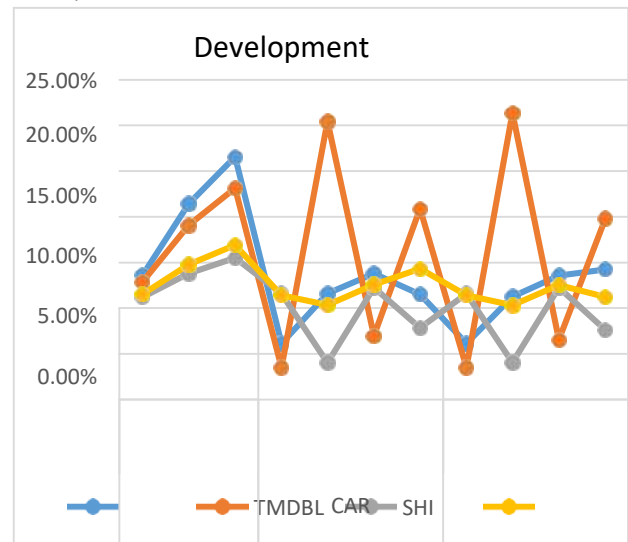


Figure 3: S.D., CAR, and BHAR of development banks (CMR model)

Figure 3 appears to analyze the performance of four different development banks: GBBL, TMDBL, SHINE, and JBBL. Figure 3 provides information on the standard deviation, cumulative abnormal returns (CAR), and buy and hold abnormal returns (BHAR) for each of these institutions. TMDBL records the least significant standard deviation, followed by JBBL, SHINE, and GBBL. All banks had negative CAR and BHARs indicating that they underperformed throughout the event period. Throughout the predicted period, TMDBL and JBBL exhibited positive CARs and BHARs, whilst SHINE and GBBL experienced negative CARs and BHARs. All banks had positive CARs and BHARs during the adjustment period, except for TMDBL. Overall, it appears that TMDBL and JBBL outperformed SHINE and GBBL by a wide margin.

Finance Companies

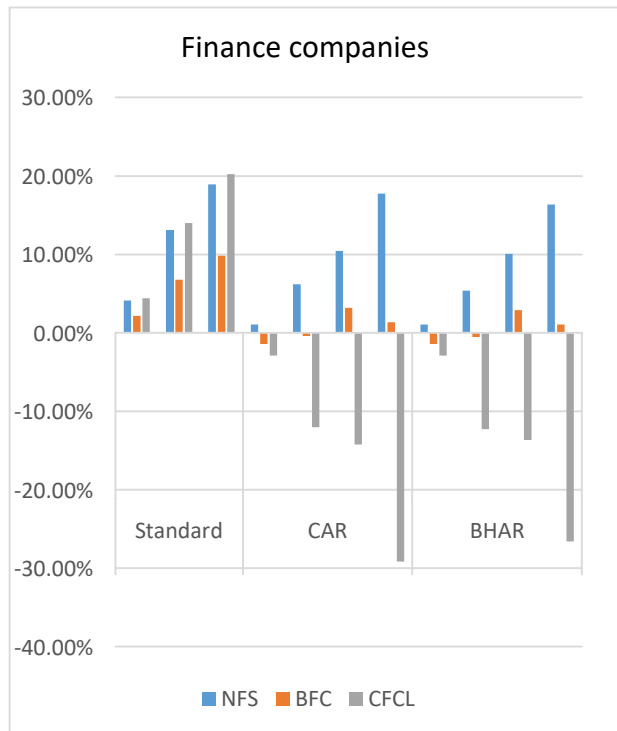


Figure 4: S.D., CAR, and BHAR of finance companies (CMR model)

Figure 4 demonstrates that Nepal's finance company outperformed expectations during the event time, having both a positive CAR and BHAR and a negative CAR and BHAR for the Best Finance and Central Finance. Nepal Finance had the highest positive CAR and BHAR throughout the anticipation period, whereas Best Finance and Central Finance had negative CARs and BHARs. Nepal Finance had the highest positive CAR and BHAR throughout the adjustment period, followed by Best Finance with a positive CAR and BHAR and Central Finance with negative CARs and BHARs. The results of the chart show that overall, Nepal Finance has outperformed Best Finance and Central Finance in terms of performance during the event, anticipation, and adjustment phases. Figure 4 also shows that central finance has the highest level of volatility.

Microfinance Companies

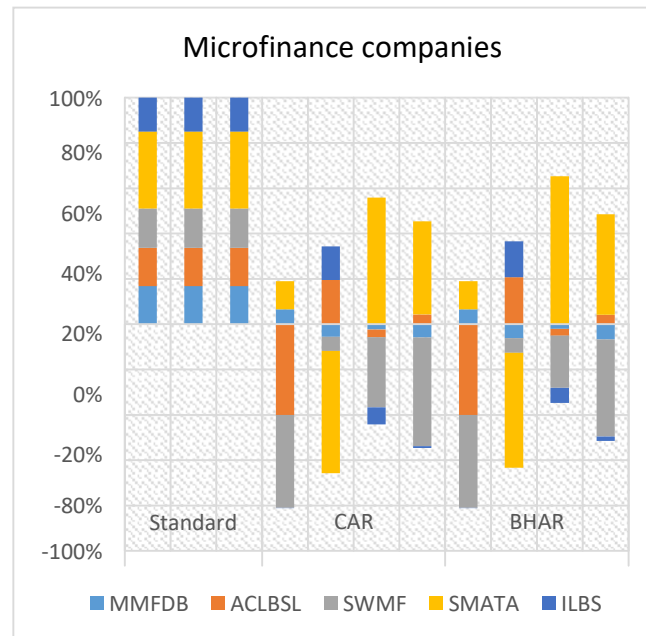


Figure 5: S.D., CAR, and BHAR of microfinance companies (CMR model)

Figure 5 shows that the standard deviation of the returns from microfinance varies. SMATA is the riskiest investment since it has the biggest standard deviation over the entire term as well as the anticipation and adjustment periods. The least dangerous games are MMFDB and ILBS since they have the lowest standard deviation. Bank performance on CAR and BHAR is inconsistent. While MMFDB has a good CAR but a negative BHAR measure across the entire period, ACLBSL and ILBS has positive CAR and BHAR measures. Over the whole era, SWMF and SMATA exhibit negative CAR and BHAR values.

The banks' performance in terms of the event, anticipation, and adjustment periods is likewise inconsistent. For instance, ILBS has a negative measure for the anticipation phase but a positive CAR and BHAR measure for the event and adjustment periods. For the anticipation phase, MMFDB has a negative BHAR measure, while for the event and adjustment periods, it has a positive measure. SMATA and SWMF have consistently low CAR and BHAR values. Overall, figure 4.4 indicates that while investing in SWMF and SMATA may result in losses over the long term, doing so in MMFDB and ACLBSL may be advantageous.

Insurance Companies

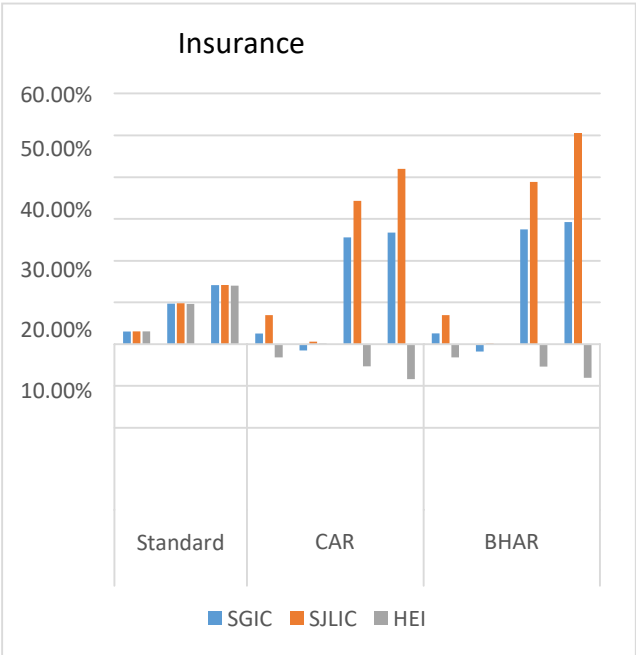


Figure 6: S.D., CAR, and BHAR of insurance companies (CMR model)

Figure 6 shows the performance of three insurance companies: SGIC, SJLIC, and HEI. The standard deviation of their returns is relatively similar, ranging from 3.05% to 3.09%. The CAR and BHAR metrics show the total returns of each company during an event, anticipation, and adjustment period. SGIC and SJLIC had positive returns during the event and adjustment periods, while HEI had negative returns during the event and adjustment periods. SGIC and SJLIC had high positive returns during the anticipation period, while HEI had a small positive return. SGIC and SJLIC had strong total returns, with gains of 26.70% and 41.93%, respectively. HEI had negative total returns of -8.33%.

ii. Market-Adjusted Model

The market-adjusted model adjusts for market risk by deducting the market rate of return from the investment's rate of return, the market-adjusted model accounts for market risk. The model shows the investment's performance and contrasts it with that of other investments and portfolios. If the market-adjusted return is positive, it means that, after considering market risk, the investment or portfolio has beaten the market. If the market-adjusted return is negative, it means that after considering market.

Table 2: S.D., CAR, and BHAR of commercial bank (MA model)

Bank Name		KBL	PRVU	NABIL	CZBIL	NMB
SD	Stdev	1.00%	1.38%	0.94%	1.12%	1.48%
	Stdev (10 days)	3.16%	4.37%	2.98%	3.54%	4.68%
	Stdev (21 days)	4.57%	6.34%	4.33%	5.13%	6.78%
CAR	event	0.60%	-0.63%	0.03%	-0.96%	-0.33%
	Anticipation	1.01%	-4.74%	-2.90%	1.29%	1.74%
	Adjustment	-6.17%	-1.62%	0.86%	7.47%	4.33%
	Total	-4.56%	-6.99%	-2.01%	7.81%	-6.41%
	event	0.60%	-0.63%	0.03%	-0.96%	-0.33%
BHAR	Anticipation	0.99%	-4.68%	-2.96%	1.24%	1.74%
	Adjustment	-6.07%	-1.76%	0.84%	7.62%	4.26%
	Total	-4.56%	-6.94%	-2.12%	7.91%	-6.24%

Kumari Bank (KBL), Prime bank limited (PRVU), NABIL Bank, Citizen bank international limited (CZBIL), and NMB bank limited are the five commercial banks whose market-adjusted model study results are presented in this table. Table demonstrates that standard deviations ranging from 0.94% to 1.48%, all five banks had reasonably low volatility. The CAR/BHAR data were more inconsistent, with certain banks (KBL, NABIL) reporting positive abnormal returns during the event window while others reported negative returns. (PRVU, CZBIL, NMB). The anticipation and adjustment results imply that stock performance for banks has been impacted by merger and acquisition events and that market expectations did not always correspond to actual results.

Development Banks

Table 3: S. D., CAR, and BHAR of development banks (MA model)

Bank Name		GBBL	TMDBL	SHINE	JBBL
SD	Stdev	2.10%	2.92%	1.12%	1.21%
	Stdev (10 days)	6.63%	9.25%	3.54%	3.83%
	stdev (21 days)	9.61%	13.40%	5.13%	5.55%
CAR	event	-1.12%	-7.26%	1.32%	0.19%
	Anticipation	3.82%	13.36%	-5.04%	-0.72%
	Adjustment	3.50%	-5.59%	3.04%	-0.44%
	Total	6.20%	0.52%	-0.68%	-0.96%
BHAR	event	-1.12%	-7.26%	1.32%	0.19%
	Anticipation	3.81%	13.34%	-5.09%	-0.76%
	Adjustment	3.38%	-5.87%	3.04%	-0.49%
	Total	5.64%	-1.06%	-0.92%	-4.03%

Table 3 indicates that Tinau mission development bank and Shine resunga development bank (SHINE) has positive CAR, suggesting outperformance of these stocks, GBBL and JBBL have negative CAR, indicating underperformance. Only SHINE has positive BHAR, indicating a potential gain, whereas GBBL, TMDL, and JBBL have negative BHAR, meaning investment in these banks will result in a loss. Tinau mission development bank has the highest standard deviation while SHINE has the lowest degree of volatility.

Finance companies

Table 4: S.D., CAR, and BHAR of finance companies (MA model)

Bank Name		NFS	BFC	CFCL
SD	Stdev	3.74%	2.16%	4.68%
	Stdev (10 days)	11.83%	6.84%	14.81%
	stdev (21 days)	17.15%	9.91%	21.47%
CAR	event	2.25%	-0.93%	-2.83%
	Anticipation	16.18%	7.88%	-13.12%
	Adjustment	10.00%	1.57%	-9.45%
	Total	28.43%	8.52%	-25.41%
BHAR	event	2.25%	-0.93%	-2.83%
	Anticipation	16.65%	7.89%	-13.21%
	Adjustment	9.90%	1.32%	-9.35%
	Total	31.08%	8.29%	-23.55%

Table 4 provides statistical measures for three finance companies: Nepal Finance, Best Finance, and Central Finance. The standard deviation of their stock returns, with values ranging from 2.16% to 4.68%. Nepal finance has the highest abnormal returns, with positive values for all three components. This suggests that investing in Nepal finance could result in high returns, particularly if investors correctly anticipate and adjust their investments. Best finance and Central finance, on the other hand, have negative values for all three-window periods, indicating that investing in these banks would result in losses. The negative values in anticipation and adjustment windows suggest that investors may not be able to earn abnormal returns through merger and acquisition events.

Microfinance Companies

Table 5: S.D., CAR, and BHAR of microfinance companies (MA model)

Bank Name		MMF DB	ACLB SL	SWMF	SMATA	ILBS
SD	Stdev	1.75%	1.51%	2.27%	14.31%	1.60%
	Stdev (10 days)	5.54%	4.78%	7.18%	45.24%	5.07%
	stdev (21 days)	8.03%	6.93%	10.41%	65.56%	7.35%
	event	0.91%	-0.74%	-0.85%	0.89%	0.02%
CA R	Anticipation	-0.03%	10.76 %	1.44%	0.60%	2.29%
	Adjustment	0.59%	-3.08%	-30.25%	-40.02%	-1.35%
	Total	1.47%	6.94%	-29.66%	-38.53%	0.95%
	event	0.91%	-0.74%	-0.85%	0.89%	0.02%
BH AR	Anticipation	-0.13%	11.08 %	1.31%	0.21%	2.06%
	Adjustment	0.50%	-3.10%	-26.90%	- 155.85%	-1.46%
	Total	1.29%	6.84%	-26.57%	- 156.46%	0.59%

Table 5 provides performance metrics for five different microfinance companies: MMFDB, ACLBSL, SWMF, SMATA, and ILBS. The table shows MMFDB has the lowest standard deviation at 1.75%, while Samata Gharelu Laghubitta has the highest at 14.31%. The table also shows the company's CAR for a specific event date, anticipation window, and adjustment window period. ACLBSL has a negative CAR for the event period (-0.74%), while MMFDB has a positive CAR (0.91%). For the anticipation period, ACLBSL has the highest CAR at 10.76%, while MMFDB has a slightly negative CAR (-0.03%). For the adjustment period, SMATA has the lowest CAR at -40.02%, while ACLBSL has a slightly positive CAR (0.59%). When looking at the total CAR for

all three periods, MMFDB has the highest at 1.47%, while SMATA has the lowest at -29.66%. BHAR considers the overall performance of the stock over the period, rather than just the abnormal return. Here, MMFDB Laghubitta has the highest total BHAR at 1.29%, while Samata Gharelu Laghubitta has the lowest at -156.46%.

Insurance Companies

Table 6: S.D., CAR, and BHAR of insurance companies (MA model)

Insurance companies		SGIC	SJLIC	HEI
SD	Stdev	2.15%	2.44%	2.53%
	Stdev (10 days)	6.79%	7.71%	8.01%
	stdev (21 days)	9.84%	11.17%	11.61%
CAR	event	-1.13%	0.64%	-2.09%
	Anticipation	-6.07%	-2.93%	-2.45%
	Adjustment	22.36%	22.69%	-10.72%
	Total		20.40%	-15.26%
	event	-1.13%	0.64%	-2.09%
BHAR	Anticipation	-5.97%	-3.09%	-2.51%
	Adjustment	23.80%	23.87%	-10.36%
	Total	15.09%	20.80%	-14.44%

Table 6 shows that among the three insurance companies, Sanima GIC has the lowest standard deviation (2.15%), while Himalayan Everest Insurance has the most (2.53). Table 6 shows similar results for both CAR and BHAR. Suryajyoti's stock outperformed the benchmark index throughout the event period, as seen by the company's positive event CAR of 0.64%. However, the company's stock lagged the benchmark index throughout those times, as seen by the fact that its anticipation and adjustment CAR were both negative. Suryajyoti's stock outperformed the benchmark index over the specified period, as shown by the company's positive total CAR of 20.40%.

Sanima GIC's shares underperformed the benchmark index at those times, according to the company's negative event and anticipation CARs. The company's stock outperformed the benchmark index over the adjustment window, however, as seen by the positive adjustment CAR. Sanima GIC's stock outperformed the benchmark index for the period by 15.16%, according to the company's overall positive total CAR. Himalayan Everest's shares underperformed the benchmark index over all periods, according to the company's negative event, anticipation, and adjustment CARs. Overall, Himalayan Everest's stock under-

performed the benchmarkindex throughout the specified period, as seen by its negative total CAR of -15.26%.

iii. CAPM Model

The CAPM model assumes that systematic and unsystematic risk are the two categories of risk for which investors are paid. The risk that has an impact on the entire market is known as systematic risk. The CAPM model assumes that investors may diversify their holdings to remove unsystematic risk and only retain systematic risk. According to the model, investors need to be compensated for systematic risk, which is quantified by beta. Investors need a greater expected return to make up for the increased risk, hence the higher the beta, the higher the expected return.

Commercial banks

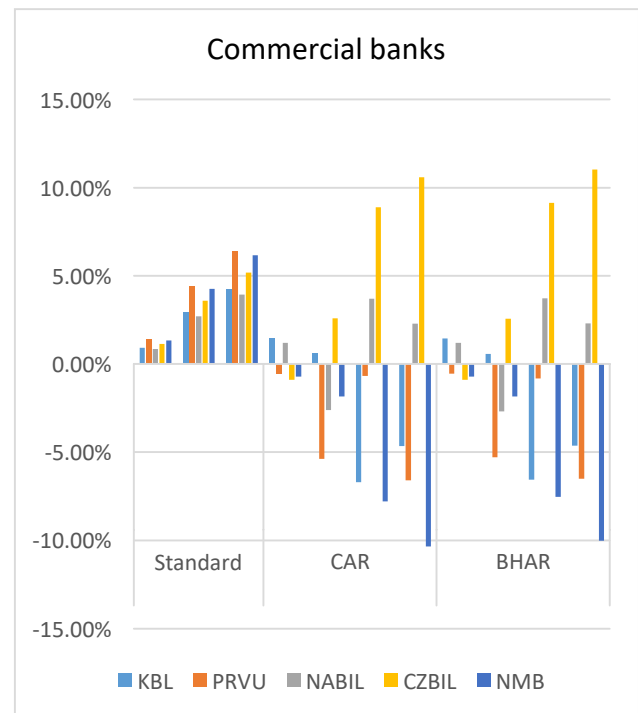


Figure 7: S.D., CAR, and BHAR of commercial bank (CAPM)

Figure 7 shows the standard deviation of each bank over the entire period. KBL has the lowest standard deviation at 0.92%, while NMB bank has the highest at 1.35%. The table also indicates that in terms of the event period, NABIL has the highest CAR at 1.20%, while CZBIL has the lowest at -0.90%. However, when looking at the total CAR across all three periods, CZBIL has the highest at 10.60%, while NMB bank has the lowest at -10.34%. Overall, the BHAR results are similar to the CAR results, with CZBIL having the highest total BHAR at 11.03% and NMB bank having the lowest at -10.01%.

Development Banks

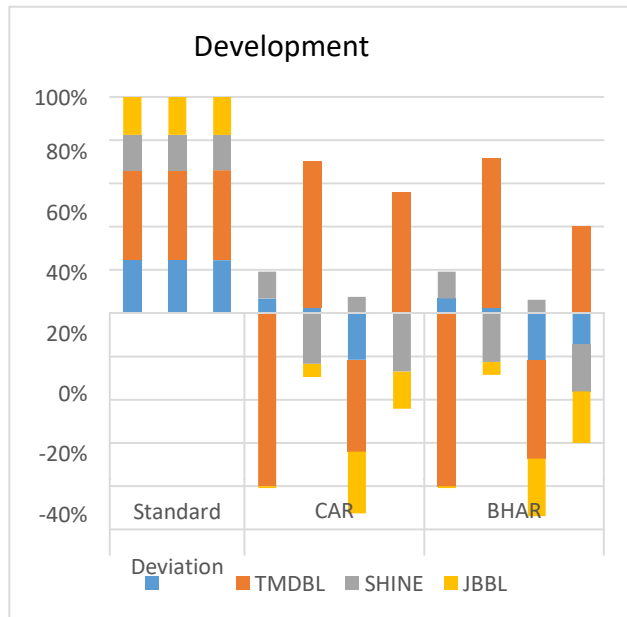


Figure 8: S.D., CAR, and BHAR of development bank (CAPM)

Figure 8 shows the standard deviation, CAR (cumulative abnormal return), and BHAR (buy-and-hold abnormal return) for four different banks: GBBL, TMDBL, SHINE, and JBBL. GBBL has the lowest standard deviation, indicating lower risk than the other banks. CAR and BHAR represent abnormal returns relative to the market, with positive values indicating outperformance and negative values indicating underperformance. TMDBL has the highest CAR and BHAR, indicating that it has outperformed the market, while JBBL has the lowest CAR and BHAR, indicating underperformance. Figure 8 also breaks down the abnormal returns into three categories: event, anticipation, and adjustment. TMDBL has the highest anticipation return, while JBBL has the lowest event return. Overall, TMDBL had the highest abnormal return, while JBBL had the lowest.

Finance Companies

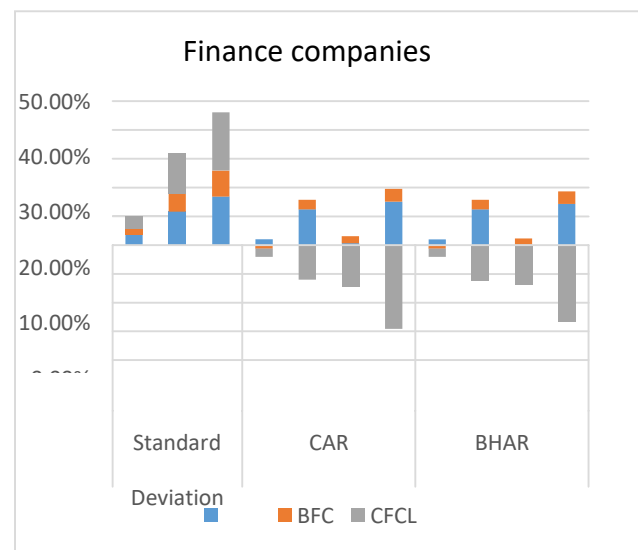


Figure 9: S.D., CAR, and BHAR of finance companies (CAPM)

Figure 9 shows the standard deviation, CAR and BHAR for Nepal finance, Best finance, and Central finance. Nepal Finance has the highest standard deviation among the three companies, while Best Finance has the lowest. In terms of CAR and BHAR, Nepal Finance has the highest positive return, Best Finance has a slightly negative return, and Central Finance has the highest negative return. However, all three banks have negative BHAR, indicating that holding their stocks would not have been profitable during the given period.

Microfinance Companies

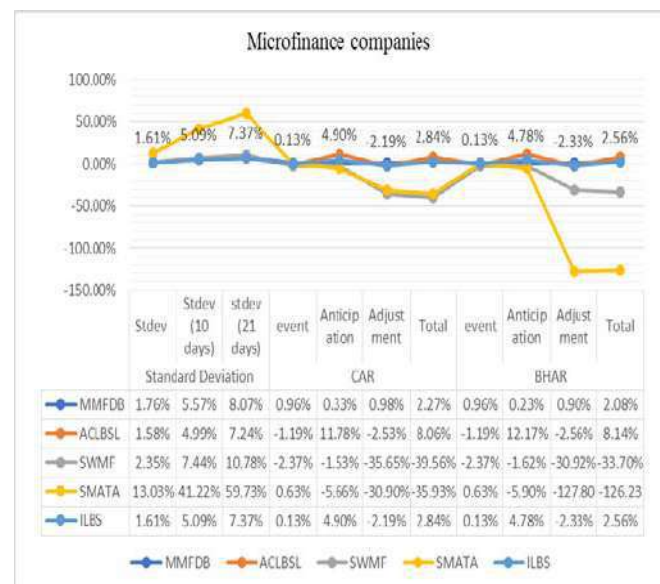


Figure 10: S.D., CAR, and BHAR of microfinance companies (CAPM)

Figure 10 shows SMATA has the highest standard deviation (13.03%), while MMFDB has the lowest standard deviation (1.76%), followed by ACLBSL (1.58%) and ILBS (1.61%). CAR values for ACLBSL and SWMF are negative (-1.19% and -2.37%, respectively), whereas MMFDB has a positive CAR of 0.96%. ILBS has an insignificant CAR of 0.13%, while SMATA has a somewhat positive CAR of 0.63%.

During the anticipation period, MMFDB and ILBS have positive returns (0.33% and 4.90%, respectively), while ACLBSL and SWMF have negative returns (-11.78% and -1.53%, respectively). SMATA has a negligible return of -5.66%. In the adjustment period, MMFDB has a positive return of 0.98%, while ACLBSL and ILBS have negative returns (-2.53% and -2.19%, respectively). SWMF and SMATA have significantly negative returns (-35.65% and -30.90%, respectively, and -127.80% and -30.92%, respectively, for BHAR).

Overall, MMFDB and ILBS have positive BHARs of 2.08% and 2.56%, respectively, while ACLBSL and SWMF have negative BHARs of -33.70% and -126.23%, respectively. SMATA has a slightly negative BHAR of -35.93%.

Insurance Companies

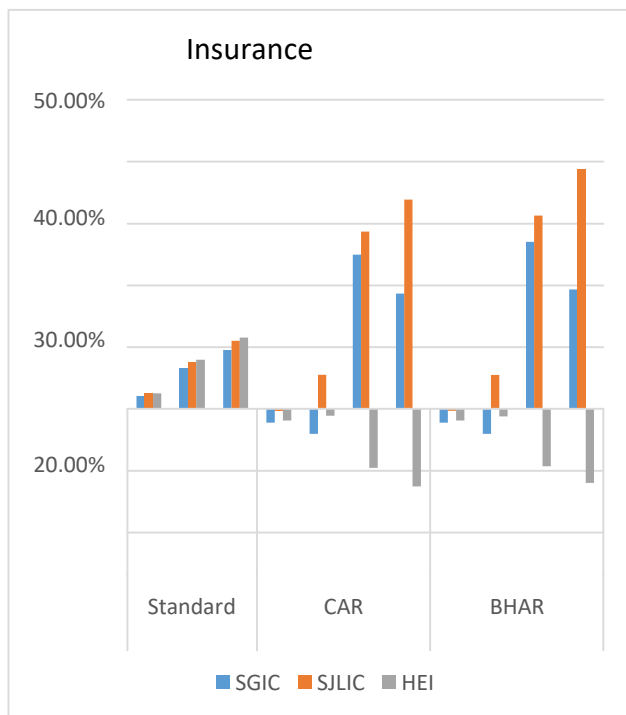


Figure 11: S.D., CAR, and BHAR of insurance companies (CAPM)

The figure 11 show that the rewards from insurance have various degrees of risk. HEI is the riskiest investment because it has the biggest standard deviation over the entire term as well as the anticipation and adjustment period. The least hazardous investment is SGIC, which has the lowest standard deviation for the

entire time as well as the anticipation and adjustment periods.

Bank performance on CAR and BHAR is inconsistent. SGIC's CAR and BHAR measurements for the event time are negative, which suggests that investing in SGIC during an event can result in losses. SGIC, however, has a favourable CAR and BHAR measure for the anticipation and adjustment periods, suggesting that making investments in SGIC at these times may be profitable. For the event time, SJLIC's CAR measure is negative, but it is positive for the anticipation and adjustment periods. HEI has consistently low CAR and BHAR values. Overall, the data indicates that while investing in SJLIC and HEI may result in losses during the anticipation and adjustment phases, doing so in SGIC may be advantageous.

b) Test of Significance

The T-statistics is used to test whether the mean return of each bank is significantly different from zero (the null hypothesis). In general, if the absolute value of the T statistic is greater than 1.96, then we can reject the null hypotheses at the 5% level of significance.

i. Test Statistics of Commercial Banks

Table 7: Test of significance for commercial banks

	Bank Name	KBL	PRV U	NAB IL	CZBIL	NM B
Constant mean return model	event	2.68**	-0.33	1.88	-0.64	0.01
	Anticipation	0.11	1.26	-0.31	1.47	-
	Adjustment	-1.56	-0.36	1.78	2.84**	-
	Total	-0.41	0.55	1.42	2.84**	0.90
Constant mean return model (BHAR)	event	2.68**	-0.33	1.88	-0.64	0.01
	Anticipation	0.10	1.28	-0.36	1.51	-
	Adjustment	-1.51	-0.38	1.81	2.99**	-
	Total	-0.40	0.54	1.49	3.11**	0.88
Market-adjusted model	event	0.60	-0.45	0.03	-0.86	-
	Anticipation	0.32	-1.08	-0.97	0.37	-
	Adjustment	-1.95	-0.37	0.29	2.11**	-
	Total	-1.00	-1.10	-0.47	1.52	-
Market-adjusted model (BHAR)	event	0.60	-0.45	0.03	-0.86	-
	Anticipation	0.31	-1.07	-0.99	0.35	-
	Adjustment	-1.92	-0.40	0.28	2.15**	-
	Total	-1.00	-1.09	-0.49	1.54	-
CAPM model	event	1.56	-0.39	1.40	-0.79	-
	Anticipation	0.20	-1.22	-0.96	0.73	-
	Adjustment	-2.29**	-0.15	1.36	2.48**	-
	Total	-1.10	-1.03	0.58	2.04**	-
CAPM model (BHAR)	event	1.56	-0.39	1.40	-0.79	-
	Anticipation	0.20	-1.20	-0.99	0.72	-
	Adjustment	-2.24**	-0.19	1.37	2.55**	-
	Total	-1.09	-1.02	0.59	2.12**	-

Table 7 shows the results of various statistical tests (T stats) for different models applied to different commercial banks (KBL, PRVU, NABIL, CZBIL, NMB) about an event (such as a merger and acquisition) over some time.

The table shows no difference in significance statistics for CAR and BHAR for all three models.

ii. Test Statistics of Development Banks

Table 8: Test of Significance for Development Banks

	Bank Name	GBBL	TMDB L	SHIN E	JBB L
Constant mean return model	event	-1.07	-2.27**	1.32	0.93
	Anticipation	0.14	2.26**	-1.59	0.07
	Adjustment	0.33	-0.34	0.59	0.54
	Total	0.09	0.83	-0.40	0.62
Constant mean return model (BHAR)	event	-1.07	-2.27**	1.32	0.93
	Anticipation	0.11	2.36**	-1.58	0.06
	Adjustment	0.31	-0.39	0.59	0.52
	Total	0.26	0.74	-0.44	0.18
Market-adjusted model	event	-0.54	-2.48**	1.18	0.16
	Anticipation	0.58	1.45	-1.42	-0.19
	Adjustment	0.53	-0.60	0.86	-0.11
	Total	0.64	0.04	-0.13	-0.17
Market-adjusted model (BHAR)	event	-0.54	-2.48**	1.18	0.16
	Anticipation	0.58	1.44	-1.44	-0.20
	Adjustment	0.51	-0.63	0.86	-0.13
	Total	0.59	-0.08	-0.18	-0.73
CAPM model	event	0.31	-2.20**	0.87	-0.05
	Anticipation	0.16	2.39**	-	-0.50
	Adjustment	-0.27	-0.31	0.14	-0.49
	Total	-0.01	0.95	-1.16	-0.70
CAPM model (BHAR)	event	0.31	-2.20**	0.87	-0.05
	Anticipation	0.15	2.51**	-	-0.51
	Adjustment	-0.29	-0.36	0.12	-0.50
	Total	-0.54	0.88	-1.22	-1.24

Table 8 shows various statistical tests (T-stat) for three different models applied to different development banks (GBBL, TMDBL, SHINE, and JBBL) about merger and acquisition events over some time. The result indicates that there is no difference in significance statistics for both CAR and BHAR for all three models.

The result indicates that only the Tinau mission development bank is significant for event and anticipation windows as it is tested based on the constant mean return model and only the event period is significant as it is tested based on a market-adjusted model. Hence null hypothesis for Tinau mission development bank has been rejected which indicates that there is an abnormal return because of the merger and acquisition event. The result shows the majority of

sample banks are not significant for all the window periods. Therefore, the result suggests that there is no impact of merger and acquisition on stock return in any window period for the development banking sector.

iii. Test Statistics of Finance Companies

Table 9: Test of significance for finance companies

Bank name		NFS	BFC	CFCL
Constant mean return model	event	0.26	-0.67	-0.66
	T-stat (CAR)			
	Anticipation	0.48	-0.06	-0.86
	Adjustment	0.80	0.47	-1.02
	Total	0.94	0.14	-1.44
	event	0.26	-0.67	-0.66
	T-stat (BHA R)			
	Anticipation	0.41	-0.08	-0.88
	Adjustment	0.77	0.43	-0.98
	Total	0.86	0.11	-1.31
	event	0.53	-0.61	-0.66
	T-stat (CAR)			
Market-adjusted model	Anticipation	1.06	0.53	-0.86
	Adjustment	0.06	0.38	-1.02
	Total	0.89	0.50	-1.44
	event	0.53	-0.61	-0.66
	T-stat (BHA R)			
	Anticipation	1.07	0.52	-0.88
	Adjustment	0.02	0.34	-0.98
	Total	0.85	0.47	-1.32
	event	0.60	-0.43	-0.60
	T-stat (CAR)			
	Anticipation	1.37	1.15	-0.89
	Adjustment	0.85	0.23	-0.64
CAPM model	Total	1.66	0.86	-1.18
	event	0.60	-0.43	-0.60
	T-stat (BHA R)			
	Anticipation	1.41	1.15	-0.89
	Adjustment	0.84	0.19	-0.63
	Total	1.81	0.84	-1.10

Table 9 presents the results of three different models used in event studies- the constant mean return model, the market-adjusted model, and the CAPM model. For each model, the table shows the t-statistics for the cumulative abnormal returns (CAR) and the buy-and-hold abnormal returns (BHAR) for three different periods - the event period, the anticipation period, and the adjustment period, as well as for the total period.

The result shows that the CAR and BHAR are not significant at a 5% level of significance for any of the sample finance companies for all the periods from all three models. Hence, the null hypothesis for the sample finance companies has not been rejected which indicates that there is no abnormal return due to the merger and acquisition event. Therefore, the result suggests that the investors of finance companies did not get any abnormal returns from the merger and acquisition events.

iv. Test Statistics of Microfinance Companies

Table 10: Test of significance for microfinance companies

Bank Name		MM FDB	ACLBSL	SWMF	SMATA	ILBS
constant mean return model	event	0.21	-1.30	-1.29	0.20	0.00
	T-stat (C AR)					
	Anticipation	-0.43	1.51	-0.46	-	2.05**
	Adjustment	-0.37	-0.57	-4.91**	4.53**	-1.40
	Total	-0.51	0.37	-3.98**	1.75	-0.09
	event	0.21	-1.30	-1.29	0.20	0.00
	T-stat (B HA R)					
	Anticipation	-0.45	1.53	-0.46	-1.83	1.30
	Adjustment	-0.38	-0.57	-4.19**	6.09**	-1.42
	Total	-0.53	0.33	-3.29**	1.74	-0.18
	event	0.52	-0.49	-0.37	0.06	0.01
	T-stat (C AR)					
Market-adjusted model	Anticipation	-0.01	2.25**	0.20	0.01	0.45
	Adjustment	0.11	-0.64	-4.21**	-0.88	-0.27
	Total	0.18	1.00	-2.85**	-0.59	0.13
	event	0.52	-0.49	-0.37	0.06	0.01
	T-stat (B HA R)					
	Anticipation	-0.02	2.32**	0.18	0.00	0.41
	Adjustment	0.09	-0.65	-3.75**	3.44**	-0.29
	Total	0.16	0.99	-2.55**	2.39**	0.08
	event	0.55	-0.75	-1.01	0.05	0.08
	T-stat (C AR)					
	Anticipation	0.06	2.36**	-0.21	-0.14	0.96
	Adjustment	0.18	-0.51	-4.79**	-0.75	-0.43
CAPM model	Total	0.28	1.11	-3.67**	-0.60	0.38
	event	0.55	-0.75	-1.01	0.05	0.08
	T-stat (B HA R)					
	Anticipation	0.04	2.44**	-0.22	-0.14	0.94
	Adjustment	0.16	-0.51	-4.16**	3.10**	-0.46
	Total	0.26	1.12	-3.13**	2.11**	0.35

Table 10 shows the results of various statistical tests (T stats) for different models applied to different microfinance companies (MMFDB, ACLBSL, SWMF, SMATA, and ILBS) about a merger and acquisition event over some time. The table shows different significance test statistics results of both CAR and BHAR for all three models.

Table 10 indicates that the stock return of Aarambha Chautari Laghubitta has been significant for the anticipation period based on both market-adjusted and CAPM models. Similarly, the stock return of Suryodaya Womi Laghubitta has been statistically significant for adjustment and total window period based on both market adjusted and CAPM models which indicate that the merger and acquisition event has impacted the stock return of ACLBSL and SWMF for specified window periods.

The result also indicates that the stock return of Samata Gharelu Laghubitta has a significant BHAR result for adjustment and total window period based on both the market-adjusted model and the CAPM model.

Hence, the null hypothesis has been rejected which indicates that there is an abnormal return for stock of Samata Gharelu Laghubitta during the adjustment and total window period due to the merger and acquisition event. Overall, the result shows mixed interpretations of the impact of merger and acquisition events on stock return for the microfinance sector.

v. *Test Statistics of Insurance Companies*

Table 11: Test of Significance for Insurance Companies

		Insurance companies	SGIC	SJLIC	HEI
constant mean return model	T-stat	event	0.84	2.25**	-1.04
	(CA R)	Anticipation	-0.15	0.06	0.01
		Adjustment	2.62**	3.51**	-0.55
		Total	1.89	2.96**	-0.60
	T-stat	event	0.84	2.25**	-1.04
	(BH AR)	Anticipation	-0.18	0.02	-0.02
		Adjustment	2.82**	3.97**	-0.56
		Total	2.07**	3.56**	-0.58
Market-adjusted model	T-stat	event	-0.53	0.26	-0.83
	(CA R)	Anticipation	-0.89	-0.38	-0.31
		Adjustment	3.29**	2.94**	-1.34
		Total	1.54	1.83	-1.31
	T-stat	event	-0.53	0.26	-0.83
	(BH AR)	Anticipation	-0.88	-0.40	-0.31
		Adjustment	3.50**	3.10**	-1.29
		Total	1.53	1.86	-1.24
CAPM model	T-stat	event	-1.08	-0.13	-0.74
	(CA R)	Anticipation	-0.62	0.72	-0.14
		Adjustment	3.80**	3.77**	-1.20
		Total	1.96**	3.07**	-1.09
	T-stat	event	-1.08	-0.13	-0.74
	(BH AR)	Anticipation	-0.62	0.72	-0.15
		Adjustment	4.12**	4.11**	-1.17
		Total	2.03**	3.52**	-1.04

Table 11 shows various statistical tests (T-stat) for three different models applied to different insurance companies (Sanima GIC, Suryajyoti Life, and Himalayan Everest Insurance) about merger and acquisition events over some time. The table indicates that there is no difference in significance statistics for both CAR and BHAR for all three models.

Overall, the result suggests that the majority of sample insurance companies have significant test statistics results for the adjustment window and total window period which indicates that the merger and acquisition event has influenced the stock return of the insurance sector.

vi. *Significance Test of the Financial Sector (CMR Model)*

Table 12: Test of significance for the financial sector (CMR model)

Financial sector	T-statistics		
	Anticipation	Adjustment	Total
Commercial bank	-0.29	1.21	0.65
Development bank	-0.81	-0.65	-1.03
Finance company	-1.19	-0.08	-0.91
Microfinance company	1.43	-1.9	-0.34
Insurance company	-2.88**	-0.01	-2.04**

Table 12 shows the significance test statistics of the financial sector at a 5% level of significance based on the constant mean return model. The significance test has been conducted for three different window periods anticipation, adjustment, and total window period.

The result shows that the stock return of insurance companies has been statistically significant for the anticipation and total window period. Hence, the result indicates that merger and acquisition events have impacted the stock return of insurance companies in an anticipation window and total window period.

However, the stock return of commercial banks, development banks, finance companies, and microfinance companies is not statistically significant for the entire event window. Therefore, the null hypothesis has not been rejected which indicates that there is no abnormal return due to merger and acquisition events. The result suggests that the merger and acquisition event will not affect the entire return of stock investors of commercial banks, development banks, finance companies, and microfinance companies.

vii. *Significance Test of the Financial Sector (MA Model)*

Table 13: Test of significance for the financial sector (MA model)

Financial sector	T-statistics		
	Anticipation	Adjustment	Total
Commercial bank	-1.06	-0.14	-0.85
Development bank	-0.4	-0.16	-0.4
Finance company	0.58	0.08	0.53
Microfinance company	2.29**	-0.11	1.57
Insurance company	-1.45	0.29	-0.82

Table 13 shows the significance test statistics of the financial sector at a 5% level of significance based on the market-adjusted model. The significance test has

been conducted for three different window periods anticipation, adjustment, and total window period.

Table 13 shows that other than microfinance companies in the anticipation period, the stock return of all the companies in all studied window periods has not seen a significant impact which indicates that the merger and acquisition event cannot influence stock return to generate abnormal returns. However, there is a significant impact of merger and acquisition on the stock return of microfinance companies in the anticipation window which indicates that there is a leakage of information before merger and acquisition in the microfinance sector.

viii. Significance Test of Financial Sectors (CAPM)

Table 14: Test of significance for financial sectors (CAPM)

Financial sector	Statistics		
	Anticipation	Adjustment	Total
Commercial bank	0.11	1.6	1.2
Development bank	-0.12	0.12	0
Finance company	-0.46	0.46	0
Microfinance company	1.38	-1.06	0
Insurance company	-1.35	1.35	0

Table 14 shows the significance test statistics of the financial sector at a 5% level of significance based on the CAPM. The significance test has been conducted for three different window periods - anticipation, adjustment, and total window period.

Table 14 indicates that the stock return of all the participating financial sectors is not statistically significant for the entire event window. Therefore, the null hypothesis has not been rejected which indicates that there is no abnormal return due to merger and acquisition events. The result suggests that the merger and acquisition event does not affect the entire return of stock investors of commercial banks, development banks, finance companies, microfinance companies, and insurance companies.

c) Qualitative Analysis

i. Perspective of NEPSE

Share is a raw material for the NEPSE from which it generates revenue. According to Niranjan Phuyal senior manager of Nepse, merger and acquisition has not created such a huge impact on the stock performance but in the past, there is a negative impact because of the negative aspect of regulatory weakness such as trading halt. Mr. Phuyal further elaborates that in Nepal consolidations are being conducted with the mutual understanding of two companies so there is no such theoretical problem of eat or be eaten in the market. The problem of information leakage can be seen when the stock market

movement is in a fast phase but in a slow period or bearish trend, there is no information leakage. The leakage of information to manipulate the stock can be seen worldwide but in Nepal, such practice is comparatively low which might happen sometimes but doesn't create a huge problem.

Mr. Phuyal states that the volatility in the stock price is all determined by the investor's perception. In past, there we can see stock price volatility because of mergers and acquisitions but in recent times there is no such volatility in the stock market because nowadays most investors are aware of the actual practice of merger and acquisition and how it works. But the merger is cost occurring process in the short term, so there might be seen some loss in profitability in the short-run. Nepse only adjusts the shareholder's wealth that it should not change after the merger and they have not seen such changes because of the merger. According to Mr. Phuyal, the banking sector is the most active in consolidation in recent times but there are small microfinance and mushrooming companies which are easy in cornering and very hard to consolidate. Such a growing company can create an impact on corporate governance. Additionally, these companies cannot create a synergy impact from mergers and acquisitions. Mr. Phuyal states that only conglomerate mergers can bring a synergy effect which is not practiced in Nepal for BFI.

ii. The Perspective of the Merged Company

According to Mr. Ramesh Thapa, HR head of Prabhu bank limited, merger and acquisition can create synergy in the long run because the merger helps the company to play a bigger role and has a bigger presence in the market. Sometimes, the smaller company has inferior feelings and fear of loss in the case of an acquisition. Further, Mr. Thapa stated that the success of merger and acquisition depends on the economic, political, and internal conditions of the company. The merger is also problematic because investors and customers have the feeling of loss that if the company become too big it might fall as they are seeing some examples in the international market. Mr. Thapa further explained that the major motivation for the merger is to become a larger entity and diversify the portfolio so that the company can improve its performance. In the end, he concludes that in the short-run merger may create problems but it is beneficial in the long run.

iii. The Perspective of Institutional Investor

The institutional investor doesn't perceive merger and acquisition in a positive sense because there is a fear of stuck of liquidity and no strict provision for merger time certainty. According to Mr. Pratik Koju scheme manager of NMB Capital, the merger and acquisition have no significant impact on the stock return. As Mergers and acquisitions in Nepal are driven

by regulatory requirements rather than perceiving theoretical benefits like the synergy effect and power theory. The merger between a few companies has been done for the expansion which reduces the cost as well in the long run and the profitability of the company has been increased but not significantly. Mr. Koju further stated that few target companies are benefitted from the merger and acquisition because when the SWAP ratio favors one company, in such case investors perceive it positively.

Mr. Koju explains that the merger effect also depends on the economic and stock market cycle. In bullish times, investors perceive mergers and acquisitions positively and in the bearish time, they perceive them negatively because of the uncertainty of loss. In Nepal, sometimes there have been seen the impact of the merger in the anticipation period which indicates an information leakage problem. Mr. Koju further explains sometimes two companies can go for the merger to manipulate the stock but there is no speculation about the stock performance because of the merger and acquisition. In the end, Mr. Koju explains that moreover, investors perceive mergers as a negative event for stock market performance. But, the performance of merged BFIs has been seen as positive because the regulator provides incentives and the cost of the company has been decreased in the long run.

From the various point of view, it can be concluded that the merger or acquisition has no impact on the stock return of the company. Sometimes it might see positive and negative impacts but the driving force at that time might be another factor. The market condition is also a major factor to determine the success of a merger or acquisition such as a bullish market or bearish market. However, the merger has a long-term impact on the performance of the merged company. Merger or acquisition helps the company to reduce the long-term cost and bring synergy effect.

d) Major Findings

The study has concentrated on the impact of mergers and acquisitions on the stock return of financial sectors. The study has used primary data to analyze the investment perception toward mergers and acquisitions. The secondary data has been used to investigate the impact of merger and acquisition on stock return. The major findings of the study are summarized as follows:

Commercial Bank

- *Constant Mean Return Model:* the result shows that the t-stat (CAR) and t-stat (BHAR) value of KBL for event date (i.e., 2.68 and 2.68) and of CZBIL for adjustment window (i.e., 2.84 & 2.99) and total period (i.e., 2.84 & 3.99) are significant at 5% level of significance. The result also shows that the value of CAR and BHAR for PRVU, NABIL & NMB has less than 1.96 which indicates that there is no impact of merger and acquisition on these banks.

- *Market-Adjusted Model:* the t-stat value of CAR and BHAR for CZBIL on the adjustment window (2.11 & 2.15) is greater than 1.96 which indicates the significant impact of merger and acquisition. However, all other banks (i.e., KBL, PRVU, NABIL & NMB) for all the window period (i.e., event date, anticipation, adjustment & total period) has the CAR & BHAR value of less than 1.96 which indicate there is no impact of merger and acquisition on stock return of these banks.
- *CAPM Model:* the result shows that the t-stat (CAR) and t-stat (BHAR) value of KBL for event date (i.e., -2.29 and -2.24) and of CZBIL for adjustment window (i.e., 2.48 & 2.55) and total period (i.e., 2.04 & 2.12) are significant at 5% level of significant. The result also shows that the value of CAR and BHAR for PRVU, NABIL & NMB has less than 1.96 which indicates that there is no impact of merger and acquisition on these banks.

The overall commercial banking sector has shown the insignificant impact of merger and acquisition events in anticipation, adjustment and total window period from all three models.

Development Bank

- *Constant Mean Return Model:* the t-stat value of CAR and BHAR for TMDBL on the event (-2.27 & -2.27) and anticipation window (-2.26 & -2.36) is greater than 1.96 which indicates the significant impact of merger and acquisition on the event date and anticipation window. However, all other development banks (i.e., GBBL, SHINE, & JBBL) for all the window period (i.e., event date, anticipation, adjustment & total period) has the CAR & BHAR value of less than ± 1.96 which indicate there is no impact of merger and acquisition on stock return of these development banks.
- *Market-Adjusted Model:* the t-stat value of CAR and BHAR for TMDBL on the event date (-2.48 & -2.48) is greater than -1.96 which indicates the significant impact of merger and acquisition. However, all other development banks (i.e., GBBL, SHINE, & JBBL) for all the window period (i.e., event date, anticipation, adjustment & total period) has the CAR & BHAR value of less than ± 1.96 which indicate there is no impact of merger and acquisition on stock return of these development banks.
- *CAPM Model:* the result indicates that the t-stat (CAR) and t-stat (BHAR) value of TMDBL for event date (i.e., -2.20 and -2.20) and anticipation window (i.e., 2.39 & 2.51) and of SHINE for adjustment window (i.e., -2.09 & -2.07) are significant at 5% level of significance. The result also shows that the value of CAR and BHAR for GBBL and JBBL has less than ± 1.96 which indicates that there is no



impact of merger and acquisition on stock returns of these development banks.

The overall development banking sector has shown the insignificant impact of merger and acquisition events in anticipation, adjustment and total window period from all three models.

Finance Companies

- *Constant Mean Return Model:* the t-stat value for all the sample finance companies is less than ± 1.96 for all the studied periods, meaning that the CAR & BHAR of stock return are not significant at a 5% level of significance, which indicates that the stock return of finance companies has no impact of merger and acquisition event on any studied period (i.e., event date, anticipation window, adjustment window, and total period).
- *Market-Adjusted Model:* all the sample finance companies (NFS, Best, and Central) have a t-stat value of CAR & BHAR is less than ± 1.96 for all the studied periods (i.e., event date, anticipation window, adjustment window, and total period) which indicates that the stock return of sample finance companies is insignificant, and can be concluded that the merger and acquisition event has no impact on the stock return of finance companies.
- *CAPM Model:* the t-stat value for CAR & BHAR of all the sample finance companies is less than ± 1.96 for all the studied period, meaning that the CAR & BHAR are not significant at a 5% level of significance, from the result it can be concluded that the stock return of finance companies has no impact of merger and acquisition event on any studied period.

The overall finance company sector has shown the insignificant impact of merger and acquisition events in anticipation, adjustment and total window period from all three models.

Microfinance Companies

- *Constant Mean Return Model:* the result indicates that the t-stat (CAR) and t-stat (BHAR) value of SWMF for adjustment window (i.e., -4.91 and -4.19) and total period (i.e., -3.98 & -3.29) and of SMATA for adjustment window (i.e., 4.53 & 6.09) are significant at 5% level of significance. The result also shows that the value of t-stat (CAR) and t-stat (BHAR) for all other sample microfinance companies (i.e., MMFDB, ACLBSL, and ILBS) has less than ± 1.96 which indicates that there is no impact of merger and acquisition on stock returns of these microfinance companies.
- *Market-Adjusted Model:* the result shows that the t-stat (CAR) and t-stat (BHAR) value of ACLBSL for anticipation (i.e., 2.25 and 2.32) and of SWMF for adjustment window (i.e., -4.21 & -3.75) and total period (i.e., -2.85 & -2.55) are significant at 5% level

of significant. However, the result shows SMATA only has the t-stat (BHAR) significant value of -3.44 & -2.39 for the adjustment window and total period respectively at a 5% level of significance. The result also shows that the value of t-stat (CAR) and t-stat (BHAR) for MMFDB and ILBS has less than ± 1.96 which indicates that there is no impact of merger and acquisition on stock returns of these finance companies in all studied periods.

- *CAPM Model:* the result indicates that the t-stat (CAR) and t-stat (BHAR) value of ACLBSL for anticipation (i.e., 2.36 and 2.44) and of SWMF for adjustment window (i.e., -4.79 & -4.16) and total period (i.e., -3.67 & -3.13) are significant at 5% level of significance. However, the result shows SMATA only has the t-stat (BHAR) significant value of -3.10 & -2.11 for the adjustment window and total period respectively at a 5% level of significance. The result also shows that the value of t-stat (CAR) and t-stat (BHAR) for MMFDB and ILBS has less than ± 1.96 which indicates that there is no impact of merger and acquisition on stock returns of these finance companies in all studied periods.

The stock return of the overall microfinance companies' sector has shown an insignificant impact of merger and acquisition events in anticipation, adjustment and total window period from the CMR model and CAPM. However, the stock return of the microfinance company sector has shown a significant impact in the anticipation period from the MA model.

Insurance Companies

- *Constant Mean Return Model:* for SGIC insurance, the t-stat value of CAR and BHAR for on adjustment windows (i.e., 2.62 & 2.82) and t-stat (BHAR) value on the total period (i.e., 2.07) is greater than 1.96 which indicate the significant impact of merger and acquisition on stock return for SGIC insurance for those specific periods. Moreover, Suryajyoti life insurance has the value of t-stat (CAR) and t-stat (BHAR) for event date (i.e., 2.25 & 2.25), for adjustment window (i.e., 3.51 & 3.97), and total period (i.e., 2.96 & 3.56) is greater than 1.96, indicates that the merger and acquisition event generate abnormal returns on those specific periods. The Himalayan Everest Insurance has calculated the t-stat value for all the window period (i.e., event date, anticipation, adjustment & total period) has the CAR & BHAR value of less than ± 1.96 which indicate there is no impact of merger and acquisition on stock return of that insurance company.
- *Market-Adjusted Model:* the t-stat value of CAR and BHAR on the adjustment window for SGIC (i.e., 3.29 & 3.50) and for SJLIC (i.e., 2.94 & 3.10) is greater than 1.96 which indicate the significant impact of merger and acquisition on adjustment period at 5%

level of significance. However, HEI for all the window period (i.e., event date, anticipation, adjustment & total period) has the CAR & BHAR value of less than ± 1.96 which indicate there is no impact of merger and acquisition on the stock return of these banks.

- *CAPM Model:* the result indicates that the t-stat (CAR) and t-stat (BHAR) value on the adjustment window of SGIC (i.e., 3.80 & 4.12) & of Jyoti (i.e., 3.77 & 4.11) and on the total period of SGIC (i.e., 1.96 & 2.03) & Jyoti (i.e., 3.07 & 3.52) is greater than 1.96, indicating significant result at 5% level of significance. However, the result for HEI shows insignificant at a 5 % level of significance indicating that merger and acquisition have no impact on the stock return of Himalayan Everest general insurance.

The stock return of the overall insurance sector has shown the insignificant impact of merger and acquisition events in anticipation, adjustment and total window period from the MA model and CAPM. However, the stock return of the insurance sector has shown a significant impact in anticipation and total window period from the CMR model.

From the in-depth interview, the major finding of the impact of merger and acquisition from the perspective of NEPSE, merged company and institutional investor are as follows:

1. Merger and acquisition have no impact on the stock return of the merged company but the investor perceives merger and acquisition as a negative event for stock performance.
2. Merger and acquisition can impact the performance of the company in the long run because it helps to reduce the cost of the company in the long-run and expand the presence of the company which makes the company more powerful.
3. The major driving force for the merger and acquisition in Nepal is a regulatory requirement rather than the theoretical benefit such as synergy, power exercise, eat or be eaten in the market.

IV. DISCUSSIONS, CONCLUSION AND IMPLICATIONS

This chapter presents a summary of the study and highlights the major findings of the study. In addition, the major conclusions are discussed in this chapter in comparison to the previous several studies. This chapter also includes the implication regarding the impact of mergers and acquisitions on the stock return of Nepalese financial sectors. Analysis of the calculated result by using the statistical tool is summarized in this chapter.

a) Discussions

Examining the effect of mergers and acquisitions on the stock return of Nepalese financial

sectors is the main objective of the research. The study used primary and secondary data to conclude the results. Through the analysis of interviews with experts from different relevant organizations, the study found that the merger or acquisition has no impact on the stock return of the company. Sometimes it might see positive and negative impacts but the driving force at that time might be another factor. The market condition is also a major factor to determine the success of a merger or acquisition such as a bullish market or bearish market. However, the merger has a long-term impact on the performance of the merged company. Merger or acquisition helps the company to reduce the long-term cost and bring synergy effect.

Moreover, by analyzing the 20 merger and acquisition event data, the study found that the majority of the participated merger and acquisition events have an insignificant impact on the stock return of Nepalese financial sectors. The study revealed that in the Nepalese financial sector, most of the participated merger and acquisition events cannot create any abnormal return for the investors of commercial banks, development banks, finance companies, and micro-finance companies. However, the result showed that the majority of participating insurance companies in Nepal can generate positive abnormal returns from merger and acquisition events.

The findings of this research are consistent with the various previous studies. This study is consistent with the study by Beitel and Schiereck (2001) and Kumar et. al., (2014) found a similar result that the stock return of the bidding company has decreased because of merger and acquisition events. However, the author also found that M & A is beneficial for the investor of target companies. Similarly, Gjirja (2003) found that the consolidation did not significantly enhance post-merger and this result is also similar to the finding of this result. Additionally, similar findings by Mantravadi and Reddy (2008) imply that there are slight variations in the effects of mergers on operating performance across various Indian industries. However, the result also revealed that mergers have somewhat increased the profitability of companies in the banking and financial sector.

A similar result was found by Badreldin and Kalhoefer (2009), who found that mergers & acquisitions have not had significant improvements in the performance of commercial banks in Egypt. The consolidation minor supports the credit risk position and does not have a clear effect on the profitability of the Egyptian banking sector. Another consistent result of this study was by Liargovas and Repousis (2011), who revealed that merger and acquisition announcements do not have an impact and do not create wealth but shareholders can get significant abnormal returns before the announcement of merger and acquisition. The merger announcement does not impact the movement of share price during the event window.

Therefore, the study concluded that a merger announcement does not impact the creation of a wealth of shareholders (Padhmavathy and Ashok, 2012), this result is similar to this study. The study also found that investors cannot obtain an exceptional or excessive return either before or after the merger announcement. Poposki (2007) determined that mergers improved business efficiency in the insurance sector which is a similar result to this research result.

Additionally, this study has a similar result to the study by Bergmann et. al., (2015), who found that the merger and acquisition process help to reduce competition, which leads to negative abnormal returns. Shah and Khan (2017) found that the financial performance of the acquirer bank deteriorated after the merger of banks. The fact is that recapitalization through merger and acquisition does not always increase post-acquisition financial performance (George et. al., 2021). Shrestha et. al., (2017) found that the financial institution should not follow a merger strategy to overcome the challenges faced in the market. Moreover, this study is also consistent with the research by Chhetri and Baral, (2018), who found that there is no impact of merger announcements on shareholder wealth for the individual firm as well as for the overall Nepalese banking sector. Additionally, the shareholder did not get any abnormal returns before and after the merger announcement.

Similarly, a similar result was also found by Rani et. al., (2015), who found that investors start reacting after the announcement information has become public and stock prices start to rise, however, the market starts reacting before the announcement. The study also found a speculator can gain substantial returns in the short run if the speculator gets information before the announcement. This research also found a similar result that many events have a significant impact on M & A in-stock return during the anticipation period. Dilshad (2012) study reveals that there is a short impact of the M & A announcement on stock price but at the end of the event window, there is no abnormal return. The study also found that leakage of information resulted in an increase in stock price before the announcement of the merger and acquisition.

However, this study also has many contradictions with previous studies. Yeh and Hoshino (2000) found that the stock market responds favorably to news of mergers and acquisitions. Similarly, Sufian and Majid (2007) indicated that while low credit quality has a large negative impact on a bank's performance, bank profitability has a considerable beneficial impact on a bank's efficiency. Anand and Singh (2008) found that the cumulative abnormal return of bidder banks in Indian private sector banks increased because of the merger announcement. Moreover, the study also showed that the merger announcement in the Indian banking industry created wealth for the shareholders. Gattofi et. al., (2009) also found a similar result as this

result that commercial banks involved in mergers & acquisitions provide a better return than those banks without consolidated. The study also shows that merger & acquisition helps to improve performance faster.

Additionally, this study has a similar result to the study by Chaudhary et. al., (2010), who found that financial performance and M&A deals in India show a significant association, and the acquiring corporations were able to create value. Similarly, financial performance and M&A deals in India show a significant association, and the acquiring corporations were able to create value (Sinha et.al., 2010). Moreover, Joshua (2011) found that the time after mergers and acquisitions was more financially efficient than the time before. The contradicting result was also found by Bhardwaj (2014), who revealed that merger and acquisition activity is good for employees, customers, organizations, and shareholders. Mergers and acquisitions help the organization increase productivity and overall efficiency in the long run. Kyriazopoulos (2015) contradict this research result, it found that targets experience high abnormal returns during event times, whereas acquirers appear to experience minor excess returns. Furthermore, cash payments made during bank mergers and acquisitions increase stock prices near event dates.

Similarly, the study contradicts this research result by Hasan, Hasan, and Liu (2017), who found both positive and significant for the stock returns of acquiring corporations. However, they discovered that there was little effect of M&A announcements on target company stock returns. Boloupremo and Ogege (2019) also found contradicting results that mergers and acquisitions have increased the financial performance of banks and suggest that M & A strategy should be taken for long-term goal achievement. The Nepalese study by Shrestha (2014) found that M&A can produce synergistic benefits for the possible parties involved as well as the expectation of financial gain drives increase in stock return. Shrestha et. al., (2017) found that the financial performance of the banks increased after the merger when larger, more stable institutions like commercial banks act as bidders. Additionally, Sharma (2018) found that the bank's financial performance increased after the merger and acquisition. Moreover, mergers and acquisitions are also beneficial for the shareholder and employees of banks and financial institutions. The merger and acquisition have helped the BFIs to create synergy and provide competitive advantages which ultimately helps to create wealth for shareholders.

Finally, the stock returns of the commercial banking, development banking, finance, microfinance, and insurance sectors have no significant effect on merger and acquisition activity. Regulatory requirements in Nepal encourage mergers and acquisitions, while stock investors in the country's banking sectors

are unmotivated. A bullish market encourages mergers and acquisitions, but a bearish trend is detrimental to the stock returns of the financial industries. Depending on where the stock market cycle is at, mergers and acquisitions may or may not have an effect on stock returns.

b) Conclusion

The study has used quantitative and qualitative data analysis to examine the effects of merger and acquisition on the stock return of Nepal's five different financial sectors (commercial banking, development banking, finance companies, microfinance companies, and insurance). Quantitative data from the 20 sample events from 5 distinct sectors in Nepal are examined using the event study approach. Three alternative models: the constant mean return, market-adjusted, and CAPM models are used to analyze the effect of merger and acquisition on stock return.

From the constant mean return model, the stock return of the commercial banking sector, development banking sector, finance company sector, and microfinance company sector has an insignificant impact of merger and acquisition on the stock return for anticipation, adjustment, and total window period. However, the stock return of the insurance sector has a significant impact on merger and acquisition on the anticipation period and total window period. The result suggests that except insurance sector, the merger activity has not grabbed the attention of investors. The result also stock investors of the insurance sector can generate positive abnormal returns from the merger and acquisition event in the anticipation window and total event window period of 21 days.

From the market-adjusted model, the analysis of participating financial institutions from the different sectors have shown an insignificant impact of M & A on stock return for all the studied periods. Similarly, the result from the overall financial institution has shown that except for microfinance companies in the anticipation window, all the participated financial sectors have an insignificant impact of M & A on the stock return for all studied periods. The market-adjusted model suggests that investors in microfinance can generate a positive abnormal return from the merger and acquisition event in the anticipation window.

From the CAPM model, the analysis of participating financial institutions from different sectors have shown an insignificant impact of M & A on stock return. Similarly, the stock return of overall participating financial sectors has no significant impact on mergers and acquisitions for the studied period. The CAPM model suggests that investors cannot generate any abnormal return from the M & A event.

The disclosure of the merger news has not had an impact on investors' views and motivations because the test numbers are not substantial in any case for the

entire banking sector. NRB is implementing several policies and directives to strengthen the banking industry. The idea of a forced merger does not function since bankers and investors do not support such regulations, which makes the impact less powerful. Inappropriate partners are yet another reality with no impact on shareholders. Partners ought to be selected from the same group. Partnerships of the same class have the potential to significantly affect shareholder returns. Banks are merely complying with NBB's directives, not to benefit from synergistic effects.

From the interview of experts, it can be interpreted that merger and acquisition cannot generate synergy in the short run. The M&A is being done with the drive of NRB regulations rather than voluntarily and that results in cost in the short run. The experts have explained that M&A has no impact on the stock return. However, M&A has positively increased the performance of the consolidated company because the event can reduce the cost in the long run. For the stock return, market return plays a more crucial role rather than the event itself. The market condition is also a major factor to determine the success of a merger or acquisition such as a bullish market or bearish market.

Finally, it is determined that the merger practices have no beneficial effects on shareholders' returns. Investors were unable to receive an abnormal return either before or after the merger announcement. According to the study, merger activity in Nepal is unable to have a beneficial impact on shareholder perception and motivation. The result of this study concludes that Nepalese stock market is in the weak form efficiency as per the efficient market hypothesis theory.

In a country like Nepal, where public sector banks predominate the banking industry, the Government is the major owner of such enterprises and will suffer financial loss if mergers are not generating any wealth, making this study important not only to shareholders who are an important stakeholder of a banking firm but also to policymakers. Since most bank mergers in Nepal are policy-driven rather than market-driven, policymakers must recognize whether their initiatives add value for all stakeholders.

This study offers valuable insights into the impact of M&A in stock returns. However it is important to acknowledge some limitations of this study, such as: interviews were taken from imitated numbers of experts of different sectors, only 20 companies were selected for secondary analysis, which may not widely represent the diversity of the entire stock market and this study employed only single event to assess the impact, which may not serve a comprehensive understanding of the nature of stock return.



c) Implications

This study enhances our understanding of how mergers and acquisitions affect stock return in the financial sectors of Nepal. The conclusion implies that M&A-related events cannot provide investors with abnormal returns, suggesting that investors cannot get abnormal returns on their investments. The study's theoretical and practical implications are presented below:

Theoretical Implication: The study can contribute to the existing literature on the impact of mergers and acquisitions on the stock returns of financial sectors in emerging markets like Nepal. The study can provide insights into the unique characteristics of the Nepalese financial sector and how it responds to M&A activities. The study can also highlight the importance of analyzing the cumulative abnormal return and buy-and-hold abnormal return to better understand the impact of M&A activities.

Practical Implication: The study can provide valuable insights to policymakers, investors, and other stakeholders in the Nepalese financial sector. The findings can help policymakers to design appropriate regulations and policies to manage M&A activities in the financial sector. The study can also help investors to make informed decisions regarding their investments in the financial sector, taking into account the impact of M&A activities on stock returns. Finally, the study can provide useful information to financial institutions and other stakeholders considering M&A activities, helping them to understand the potential impact of such activities on their stock returns.

Implication For Academicians For Further Research: The study has some shortcomings that could be resolved by additional research. Therefore, this study could serve as the foundation for subsequent research. The study may add to the ongoing discussion about M&A and guide future research on the subject.

- Further research could investigate the impact of other specific events, such as earning announcements, dividend announcements, political events, economic events and news events.
- This research examines only the Nepalese financial sector, it would be worthwhile to investigate remaining unanalyzed sectors that could be helpful for investors investing in other sectors.

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