

IMPACT OF CREDIT RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF NEPALESE COMMERCIAL BANKS

A Dissertation Submitted to the Office of the Dean, Faculty of Management in partial fulfillment of the requirements for the Master of Business Studies (MBS)

by

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Certification of Authorship

I at this moment corroborate that I have researched and submitted the final draft of the dissertation entitled “Impact of credit risk management on financial performance of Nepalese commercial banks”. The work of this dissertation has not been submitted previously for conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purposes

The assistance and cooperation I received during this research work have been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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Report of Research Committee

Mr. Shyam Hari Adhikari has defended a research proposal entitled “Impact of credit risk management on financial performance of Nepalese commercial banks” successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Asso. Prof. Dr. Kapil Khanal and submit the thesis for evaluation and viva voce examination.

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Approval Sheet

We have examined the dissertation entitled “Impact of credit risk management on financial performance of Nepalese commercial banks’ ’presented by Shyam Hari Adhikari, a candidate for the degree of **Master of Business Studies** (MBS). We hereby certify that the dissertation is acceptable for the award of degree.

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Shyam Hari Adhikari

Researcher

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ABBREVIATION

ANOVA	:	Analysis of Variance
CAR	:	Capital Adequacy Ratio
COVID-19	:	Coronavirus Disease of 2019
GDP	:	Gross Domestic Product
IFR	:	Inflation Rate/Rate of Inflation
LATA	:	Liquid Asset to Total Asset
LR	:	Liquidity position
LTD	:	Loans-to-Deposits
NPL	:	Non-Performing Loans
NRB	:	Nepal Rastra Bank
P-P	:	Probability–Probability or Percent–Percent
ROE	:	Return on Equity
SPSS	:	Statistical Package for the Social Science

ABSTRACT

Credit risk management in the banking sector is important not only because of the Global Financial Crisis (GFC) experienced in recent years but also due to its greater impact on banks' financial performance, growth and survival. Credit loans are one of the key sources of income of commercial banks, therefore managing the risk related to credit greatly impacts the banks' profitability.

This study examines the impact of credit risk management on the profitability of Nepalese Commercial Banks. Default rate, cost per loan assets and capital adequacy ratio are the independent variables used in this study. The dependent variables are return on assets (ROA) and return on equity (ROE). The secondary sources of data have been used from annual reports of selected commercial banks and supervision reports of Nepal Rastra Bank. The regression models are estimated to test the significance and effect of credit risk management on the profitability of Nepalese commercial banks.

The capital adequacy ratio is positively related to ROA and ROE which indicates that higher the capital adequacy ratio, higher would be banks' profitability. However, default rate and cost per loan assets ratio are negatively related with ROA and ROE which indicates higher the default rate and cost per loan assets ratio, lower would be banks' profitability. The beta coefficient of default rate and cost per assets with profitability (ROA, ROE) has been found negative and statistically significant. The negative sign indicates that there is a negative relationship between (default rate and cost per loan assets) with profitability. Likewise, the beta coefficient of capital adequacy ratio with ROA and ROE is found positive and statistically significant. The positive sign of beta coefficient indicates that there is a statistically positive relationship between capital adequacy ratio and profitability. The study thus recommends an effective credit risk management for commercial banks of Nepal based that maintains an optimum level of capital adequacy ratio, controls and monitors cost per loan assets and balances default rate to enhance financial performance.

CHAPTER I

INTRODUCTION

1.1 Background of Study

The banking industry is essential to a nation's ability to develop economically. Banking institutions are essential to the nation's development overall and to the mobilization of resources. They provide loans to people and have resources for a variety of market segments' economic confidence. The banking industry plays a major role in gathering home savings in the form of various deposit kinds and regulating them into the community by making loans to various economic sectors. Even in the most isolated regions of the nation, the banking industry has expanded its reach and contributed significantly to economic growth by lending its resources to small businesses as part of an extensive banking program that allows banks to participate in national economic growth.

Peter Rose (2011) "A bank is the most comprehensive range of services provided by any financial institution; it is a financial intermediary that takes deposits and extends loans." The most prominent group of financial intermediaries, commercial banks form the core of financial institutions. They keep the deposits of numerous people, organizations, businesses, and the government. Through their lending and investing activities, they provide money to individuals, businesses, and other sectors of the economy. A bank is an asset for economic growth that gives people credit and preserves the confidence of different societal groups.

As of right now, Nepal has 28 commercial banks, 36 development banks, 25 financial institutions, and 63 microcredit (Grameen) development banks. By permitting JVBs to operate in Nepal, HMG has liberated traditionally managed commercial banks to increase their bankable capacity through competition, promote computerization of local efficiency modernization mechanisms, and provide rapid customer service. The central bank of Nepal, Nepal Rasta Bank, oversees, controls, and gives orders to joint venture banks operating in the country. These banks' primary duties include providing standard financial services to all commercial banks. It also brings with it foreign capital, expertise, experience, and the newest methods and technologies.

It has also brought in the newest technology, including credit/debit cards, ATMs, and telebanking, as well as current management practices for customer satisfaction and staff detention. Commercial banks may be able to raise funds abroad for initiatives

that are feasible because of their creditworthiness and global reputation. Additionally, it is evident that JVBs have facilitated a vital and healthy level of rivalry among modern banks. The following six joint venture commercial banks in Nepal are authorized by the NRB: Nepal Bangladesh Bank, Himalayan Bank, Everest Bank, SBI Bank, Standard Chartered Bank, and Nabil Bank. The other is Nepal's non-joint venture banks. (2015, B Narteh)

Since the size and quality of a financial institution's credit portfolio largely determines how well it does business, credit activity is seen as being crucial to the success of banking and financial institutions. As a result, these institutions must devote the majority of their resources to managing and monitoring their credit portfolio. The need for standards that can be applied in banking and finance globally to guarantee a high degree of international financial stability in a competitive environment has arisen as a result of the significant expansion of banking activity on a global scale (Shrestha, 2017).

This is risky since Nepalese banks are still developing their customer service, banks' revenue largely stems from their leadership roles, and credit expansion is essential to the success of any financial company. Furthermore, the central bank's control efforts through its expanding position have not been sufficiently protective. Credit history and details are quite hard to get by. Many stories from a few years ago and more recently have suggested that certain development banks and financial firms may file for bankruptcy as a result of credit assessment procedures that resulted in significant losses for the banks. "Smoke cannot be released without a fire" . The bank's credit procedures must be flawed in some way (Dhakal, 2011).

The financial sector has significant distress due to the catastrophic debt crisis in Greece, which puts the European Central Bank (ECB) and many other institutions in the industry at risk, just as the world is starting to show signs of recovery. This suffering occurs after the euro zone. Not just Greek banks are under jeopardy. The banking industries in France and Germany are in similar situations, having exposure to the unstable nation of 80 billion and 45 billion dollars, respectively. In reaction to the current crisis, the Basel Committee on Bank Supervision (BCBS) has recently demanded an increase in both tier 1 and tier 2 capital levels (Murray, 2010).

In many respects, the East Asian financial crisis was unique since it struck one of the world's fastest-growing economies. Although it was not expected for a long time, this financial crisis is the worst to impact developing countries since the debt crisis of

1982 (Radelet & Sachs, 1998). New risk management banking strategies were introduced throughout the 1980s and 1990s global financial crises (Poudel, 2012), and they became focal points (Bessis, 2011) when the crisis spread globally.

According to Brown (2015), credit risk is the likelihood that a debtor will fail to make interest and/or principal payments on an outstanding debt. As was previously said, one of the main sources of income for commercial banks is loan interest, which also poses the biggest credit risk to the institutions. A bank expects its clients to return the principal and interest amount on the date specified when the loan is issued. On the other hand, a loan is also referred to as performing if the principal and interest are paid according to the conditions and at the agreed upon time. A loan is considered non-performing if the payment is not collected on schedule (NPL). Three types often comprise non-performing loans (NPLs): substandard loans, dubious

A loan is considered substandard if it is not returned after 90 days of the due date. A loan is considered questionable if it is not repaid after 180 days of the due date. A loan is considered lost if it is not repaid after 360 days of the due date. The bank suffers a significant loss when a loss loan category grows significantly (Gestel & Baesens, 2008). A loan is considered substandard if it is not returned after 90 days of the due date. A loan is considered questionable if it is not repaid after 180 days of the due date. In the event that the loan is not repaid after 360 days,

Despite the fact that poor credit risk management has left banks with an excessive number of significant issues, credit lending continues to be the primary activity of the global banking industry. Large portions of the bank's assets are derived from the interest it charges on loans and advances. Credit and advance delays and defaults create serious situations for both lenders and borrowers, and they can even destabilize the entire economy, as the financial crisis of 2008 demonstrated. Numerous studies conducted in the context of the global financial crisis reveal that bad credit is the main factor leading to bank failure (Bhattarai, 2016).

Profitability research is crucial because, in addition to offering insights into the state of the economy annually, it has a significant role in determining growth and employment in the medium run (Ongore & Kusa, 2013). According to Saeed (2016), having a well-structured and profitable banking sector is essential for any nation to be both competitive and prosperous. The banking industry's profitability affects the stability of the financial systems. A bank's ability to manage risk and raise capital is

demonstrated by its profitability. A business's profitability is a key indicator of its success. Despite the fact that different studies' definitions of profitability differ, research on profitability drivers has been conducted (Hallunovi & Berto, 2018).

Poor and ineffective credit risk management has a negative impact on bank performance. It is linked to the rising percentage of non-performing loans in banks, inadequate loan processing, undue interference in the loan granting process, and inadequate or nonexistent loan collaterals, among other things (Mariithi, Waweru & Muturi, 2016). Because credit risk management contributes to non-performing loans, it may therefore be essential to banks' profitability. A poor credit policy may result in an improper distribution of credit, bad debt, and consequent loss of income from interest and bank assets on the principle leased out.

In any economy, financial institutions (FI) are essential. Because FIs transfer money from stocks to the places where it is needed for economic growth, their function is comparable to that of blood vessels in the human body (Brooks, 2019). The primary suppliers of financial data to the economy are commercial banks (CBS) and financial institutions (FIs). In emerging economies where borrowers lack access to credit markets, they even play a crucial role. Research suggests that robust CBs drive economic expansion, but dysfunctional financial institutions impede economic advancement and exacerbate poverty (Muye & Muye, 2017). Financial, operational, and strategic risks are the three main types of hazards that commercial banks face. These hazards affect CB performance in a variety of ways, including the degree and

In both developed and developing nations, the number of sustainerbank problems has grown over time. One of the main causes of banking troubles has been recognized as credit issues, particularly a deficiency in credit risk management (CRM). Since loans typically make up a sizable amount of a bank's equity, they represent a considerable portion of credit risk. Therefore, even a small decline in loan quality is likely to cause problems for the banking industry. The information processing system is the fundamental cause of poor loan quality. According to Leaven (2014), these issues are at their most severe in developing nations.

The issue frequently arises throughout the loan application process and gets worse during the loan approval, monitoring, and controlling phases. This is especially true when there are inadequate or nonexistent CRM standards for policies and strategies related to credit processing. The foundation of the banking industry has been and continues to be lending, and this is especially true in developing nations like Nepal

where capital markets are still developing. However, financing has been a contentious and challenging topic for the majority of transition economies, and Ghana in particular. This is due to the fact that while CBs have incurred significant losses from poor loans, business firms are lamenting the lack of credit and the too strict standards set by banks.

CRM is an organized method of handling uncertainties by evaluating risk, creating management plans, and reducing risk by employing managerial resources. Transferring to a different party, avoiding the risk, minimizing its negative effects, and accepting some or all of the repercussions of a certain risk are some of the techniques. For banks, CRM is crucial since it plays a key role in the loan application process. By retaining credit risk exposure with the intention of protecting the banks from the negative impact of credit risk, it optimizes the banks' adjusted risk rate of return. Banks are spending a lot of money on modeling credit risk management. Thus, the purpose of this study is to look into how CRM affects a bank's bottom line in Nepal. The aim of

1.2 Problem Statement

The results of this study will be used as the foundation for policy recommendations that will help different authorities address the impact of credit risk and improve the quality of banks' riskier assets. Additionally, this study offers empirical support for the theories' viability, which helps bank management choose the credit risk management techniques that will maximize their profitability. Thus, the purpose of this study is to look at how Nepalese commercial banks' profitability is affected by credit risk management metrics. According to Boahane, Dasah, and Agyei (2012), credit risk is still a hot topic in financial studies today, drawing significant attention from academics and industry experts alike.

Actually, this argument gained more traction right after the most recent global financial crisis. Since extending credit is still a bank's main business, many academics agree that one of the main factors contributing to serious banking problems is ineffective credit risk management control. As a result, credit quality is seen as a critical indicator of a bank's stability and financial health. Studies of banking disasters worldwide have shown that bad loans (asset quality) are the main contributor to bank

distresses. Interest rates are levied on loans and advances from significant bank components.

Even if the aforementioned findings have been identified in the context of other nations, the following issues are addressed in the context of Nepalese commercial banks in this study:

- i. Do Nepalese commercial banks have efficient CRM practices?
- ii. What is the relationship of default rate, cost per loan asset and capital adequacy ratio with profitability of commercial banks measured by return in assets (ROA) and return on equity (ROE)?
- iii. How to evaluate the effectiveness of CRM among CBIL, GIBL, MBL, KBL and NSBL?

1.3 Objective of the Study

The main objectives main objectives of this study are to identify the impact of credit risk management on profitability of Nepalese commercial banks.

Other specific objectives are as;

- i. To analyze the CRM practices used by the Nepalese commercial banks.
- ii. To determine the relationship of default rate, cost per loan assets and capital adequacy ratio with profitability of commercial banks measured by return on assets (ROA) and return on equity (ROE).
- iii. To evaluate the effectiveness of CRM among CBIL, GIBL, KBL and NSBL.

1.4. Hypotheses

Hypotheses are particularly necessary in the research for cause-and-effect relationship. Followings are the alternative hypotheses have been formulated;

H11: There is a significant relationship between the default rate and return on assets of commercial banks.

H12: There is significant relationship between the default rate and return on equity of commercial banks.

H13: There is significant relationship between the cost per loan asset and return on assets of commercial banks.

H14: There is significant relationship between the cost per loan asset and return on equity of commercial banks.

H15: There is significant relationship between the capital adequacy ratio and return on assets of commercial banks.

H16: There is significant relationship between the capital adequacy ratio and return on equity of commercial banks.

1.5 Rationale of the Study

The study will become necessary since CRM is critical to the efficient running of commercial banks' credit departments. The ability of commercial banks to efficiently manage their whole loan portfolio determines their level of success. Bank insolvency will arise from the bad loans made by the bank as a whole. Nepalese commercial banks are currently up against fierce competition as they try to expand their lending portfolio. The risk element related to a bank's ability to create credit rises along with the fierce rivalry among banks. As a result, a thorough analysis of the commercial banks' present credit risk management procedures and how they affect their profitability is required.

1.6 Limitations of the Study

The research work conducted with certain constraints. Some of the limitations are as follows;

Time period

The secondary data that have been collected from NRB websites and sample commercial banks completing eleven years of operation may not be representative of entire population.

Limitations in research area

The literature review has been limited to few articles and research works due to unavailability of sufficient such matters even after very hard quest. Among the 27 Commercial banks in Nepal, the research is based only on five banks. So, the result may not be valid for all commercial banks.

Data

Among five sample commercial banks, Global IME bank has already been merged with Janata Bank Nepal Limited. Hence, the data for this bank used in the study as merged data. Therefore, the total number of commercial banks in Nepal as of 2019 rather than 2009 is considered due to unavailability of data as separate bank for the bank which has merged.

- i. Only limited variables are used for the analysis of the data due to time and financial constraints.
- ii. This study is only a case study; hence the conclusion drawn from the study does not ensure wide applicability in all type of enterprise running in different situations.
- iii. This study is completely based on secondary data i.e. published annual reports by commercial banks.
- iv. All the portion of analysis is based on the secondary data and available information. Therefore, the consistency of finding and conclusions are dependent upon the reliability of published data.
- v. In this study, only selected financial and statistical as well as techniques are used.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

In order to raise money, banks take deposits from individuals, businesses, and government agencies. On the other side, they lend money to these entities through a variety of different agreements. Thus, loans and bonds are the bank's most important assets, while customer deposits are its main liability. According to Cornett and Saunder (2005), loans make up the majority of a bank's assets on its balance sheet, but they are not without risk. If a bank makes poor loan decisions to its clients and those loans are not returned, the bank will face severe consequences. Hence, credit risk management is focused on reward and risk, which must be objectively managed by warnings and cautious risk assessment; otherwise, legal action may result.

The borrowing capacity that a bank provides to a person in the form of a loan or credit is known as bank credit. The underlying premise of the financial system is that when money is lent out, one should reasonably assume that the money would be returned, plus interest. The uncertainty about a counterparty's ability to fulfill the requirement of adhering to the terms and conditions of the credit arrangement gives rise to credit risk (Fatemi & Foolad, 2006).

It is the risk of loss brought on by a debtor's inability to make loan or credit card payments. Credit risk essentially results from a counterparty's questionable ability or willingness to fulfill its contractual obligations. A decrease in the counterparty's credit standing was also considered by Rene (2000) as a component of credit risk.

Similarly, Hay-Gibson (2011) contended that credit risk management reflects the possible fluctuation in net revenue resulting from non-payment or postponed payment of a credit facility extended to clients. According to the Global Risk Management Group (1999), credit risk is the chance that a bank borrower won't fulfill their obligations according to the terms set forth in the agreement. A thorough approach to risk management must include the efficient management of credit risk, which is also necessary for any banking business to succeed over the long run. One of the key responsibilities of bank management is lending, which entails the production and management of risk assets.

CRM includes all monitoring and reporting procedures, as well as the decision-making process that precedes the credit decision and the follow-up on credit obligations (Miller, 1996). According to chartered institute management accountants (2005), risk is the state in which there is a quantifiable dispersion in the probable outcomes from any operation. Put another way, it describes the procedure used to oversee the administration of all loans, advances, credit facilities, or accommodations that a bank extends to a client in order to guarantee that the facilities function satisfactorily within the parameters that regulate them and are eventually reimbursed on the due date.

By identifying all potential sources of loss, calculating the financial consequences of a loss occurring, and implementing controls to reduce actual losses or their financial consequences, modern risk management is the management process designed to eliminate or minimize the adverse effects of potential financial loss (Irukwu, 1998). Thus, the management and control of risk is the most crucial topic in the business world today. We hear about large, small, and medium-sized businesses that have failed or entered liquidation on a daily basis as a result of management's disregard for the dangers to which the company was exposed in the lack of an effective risk management system.

A thorough approach to risk management must include excellent credit risk management as a fundamental element if any banking firm is to succeed in the long run. Dealing in the credit market is one of the main responsibilities of commercial banks; to carry out this role, they raise money from surplus economic units and direct it toward deficit units for profitable endeavors. This suggests that the primary goal of commercial banks' loans to consumers from the public fund is to maximize earnings-based profitability. Now, as revenues from variable loans and advances determine profitability, it is imperative for those banks to efficiently manage their credit risks in order to safeguard and improve profitability.

2.1.1 The Concept of Credit Risk Management and Profitability

The Latin meaning of credit is "he believes," and it refers to a trust that allows one party to give resources or money to another, provided that the second party does not immediately or properly reimburse the first party. This creates a debt for the other party, which is then agreed to be paid back or returned at a later date along with the resources or extra possessions. Credit is a legal arrangement that enables a borrower

to obtain valuable or surplus items at a later time. A credit agreement is a written arrangement that allows a borrower to accept valuables in exchange for a later, usually interest-bearing repayment to the lender. According to (Tetteh, 2012), the materials

Credit is extended to borrowers by lenders, including banks, building societies, credit unions, and financing firms, on the condition that they guarantee payment by a certain date. Earlier research by Ouazad (2016), Renciere (2016), and Koulafetis (2017) revealed that there are several types of credit, such as mortgages, bank credit, and rent to buy. There are various reasons why people and businesses need credit. Short-term, medium-term, and long-term loans are distinguished based on the logic and type of lending (Sedlak, 2016). Advances given to borrowers with a maximum five-year payback period are known as short-term loans.

Small business loans with a medium duration often have ten- to five-year repayment terms. As the name suggests, long-term loans have repayment terms longer than ten years. Most borrowers in Ghana have access to short- and medium-term loans (Tetteh, 2012). The fact that banks make money when they extend credit to consumers is evidence of this. While a focus can yield enormous profits, there is also a substantial risk involved. According to Bhasin (2015), credit threats result from borrowers who fail to meet repayment obligations (Maroro, 2018).

Credit Risk

When an investment's actual return differs from its anticipated return, it is considered risky. Risk is the potential loss of both the initial investment and the interest that was earned. Comparably, credit risk is the chance that credit events will cause the outstanding debt to be lost entirely or partially. Events that fall under the category of credit events often include bankruptcy, nonpayment of debt, repudiation or moratorium, and restructuring or modification of credit rating (BCBS, 1999). Put differently, credit risk refers to the possibility that a borrower would default and fail to fulfill their debt payment obligations. It may happen if the counterparty is unable to make a payment or fails to do so on schedule (Gestel & Baesens, 2008).

Because of the nature of their business, banks face a number of important risks, including credit risk. By efficiently managing their exposure to credit risk, banks not only maintain the viability and profitability of their own operations, but they also make significant contributions to systemic stability, efficient capital allocation in the

economy, and systemic stability (Psillaki, Tsolas, & Margaritis, 2010). A tiny percentage of defaulting customers could cause the bank to suffer a huge loss (Gestel & Baesems, 2008). The Basel committee has recognized it as the primary source of risk during the initial phases of the Basel accord.

Credit Risk Management (CRM)

Reducing the impact of hazards associated with a publicly acknowledged influence is the fundamental aim of credit risk management (Brigham, 2016). The main and most obvious source of credit risk for banks is typically loans. Nonetheless, there are additional sources of credit risk management that are present in all aspects of bank operations, such as the trade and banking books, which may be seen both on and off the balance sheet. These days, commercial banks are more vulnerable to levels of credit risk that are comparatively greater (Olson & Zoubi, 2017).

These financial mechanisms include swaps, bonds, trade finance, equating, foreign currency transactions, and interbank transactions. It was shown in 2017 by Falkner (2017) and Harper (2017) that risks come in many forms and are brought on by people, technology, organizations, the environment, and political systems. On the other hand, risk management entails using every resource accessible to individuals, teams, and institutions in order to reduce or eliminate a possible threat. A credit supervision team must be established by management to guarantee that credit is appropriately managed and maintained. (Gibson, 2014) refuted the claim that risk management ought to be a top priority for any firm.

Identification, measurement, and aggregation are all part of risk management; planning, management, and a strict internal rating system should be sufficient (Kalunda, 2012). Setting up a proper environment, following a credit-granting procedure, and maintaining a reasonable credit risk are all necessary for effective credit risk management (Gaitho, 2013). Ensuring that credit risk management criteria are suitable and unambiguous is a mandate of top management. They clearly define the extent and distribution of the bank's credit offerings as well as the methods used to manage a credit portfolio, including the initiation, assessment, supervision, and collection of loans. Given this, it is imperative that the policies be effectively disseminated throughout the company and that everyone involved in credit risk management comprehends them.

This will improve how those standards are applied more effectively for the benefit of the banking institution. An efficient system makes sure that loan payback by borrowers is essential, which lowers the number of loan losses and increases the bank's long-term performance. In terms of credit evaluation, screening borrowers is a strategic practice that is typically used in the banking industry (Philippon, 2015).

Compiling trustworthy data from potential borrowers is essential to performing efficient screening. Either qualitative or quantitative methodologies can be applied to the evaluation of debtors. Numbers corresponding to the sum of the values matched up to a threshold might be allocated to borrower characteristics as determined by qualitative models. This process is known as "credit scoring." The method not only lowers processing expenses but decreases potential biases and biased judgments. According to Paseda (2017), the models assess the relative significance of the determinants, enhancing the price of default risk, increasing the ability to weed out unqualified loan applicants, and improving the computation of any reserves required to cover projected future loan losses. The significant grading scheme indicates modifications in the

Profitability

Put simply, profitability is the state in which an organization's capacity to provide a sufficient return to its investors depends ultimately on the profit it makes. Every business's primary goal is to make a profit. Simultaneously, the goal of every business is to maximize profits both in absolute and relative terms. Comparably, profitability is a measure of how well a business operates based on profitability analysis, measure management, and overall effectiveness as demonstrated by return on investment and sales (Mwangi, 2012).

For any firm to run smoothly, profitability is a must. It is described as a situation or circumstance in which monetary benefit or profit is realized. Analysis of profitability shows how successful a business is at making depreciated profit. The profitability ratio provides an answer to the question of how well the bank's efficiency is gauged by the firm (Khan & Jain, 1998). Profitability was defined by Copland (2002) as the net outcome of numerous decisions and policies. Ratios are a useful tool for assessing profitability and providing conclusive information about how well a company is being run financially. As a result, the firm's profitability ratio interests managers, creditors,

and owners as well (Pandey, 1995). A company that financial firms are able to make an operational profit ratio on is said to have short-term profitability.

Banks' ability to take on risk and raise capital is demonstrated by their profitability. It evaluates the managerial caliber of banks and shows how competitive they are. In this research, one of the main ideas is profitability. This is because the relationship between the profitability of commercial banks and the research issue makes it essential for readers to comprehend the methods and significance of the study. The study will address two metrics (ROE and ROA) of profitability in the research as well as a detailed discussion of profitability in this part (LI & Zou, 2014).

2.1.2 Credit Risk Management System of Banks

In order for financial institutions to survive and expand, credit risk management has become essential. It is a methodical strategy to managing uncertainty that involves assessing risk, creating management plans, and deploying managerial resources to mitigate risk. Strategies impact risk acceptance when it comes to taking on part or all of the repercussions of a specific risk (Afriyie & Akotedey, 2013).

In this sense, a slight decline in loan quality could possibly cause problems for the banking industry. The information processing mechanism is where poor loan quality begins (Liukisila, 1996) and it subsequently gets worse during the loan approval, monitoring, and controlling phases. This issue is made worse in particular when there are no credit risk management guidelines, or when there are insufficient or poor policies, strategies, and procedures pertaining to credit processing. Banks must have an effective credit risk management system in place in order to reduce loan losses as well as credit risk (Basel, 1999).

Because banks and borrowers exchange routine information, banks need to have a mechanism in place to make sure they can analyze and assess default risk that is hidden from them. Asymmetry in information could make it possible to distinguish between them and good borrowers. Asymmetric information could allow for the separation of good and bad borrowers, which could result in moral hazard and adverse selection as well as a massive build-up of non-performing accounts in banks (Bester, 1994).

2.1.3 Relationship between Credit Risk Management and Profitability

Since a healthy and successful banking industry is better equipped to resist negative shocks and contribute to the stability of the financial system, banks continue to play a crucial role in financing economic activity, and their efficacy may have a positive impact on the economy as a whole (Athanasoglou, 2005). Since knowledge of the internal and external determinants of bank profits and margins is crucial for various parties, the determinants of bank performance have therefore drawn the attention of academic research as well as bank management, financial markets, and bank supervision (Mwangi, 2012).

Credit committees are another tool that banks may use to approve loans. The group of people tasked with making decisions on loan recovery is known as the credit committee. The risk of one person abusing the authority entrusted to him by easily granting loans to friends and relatives is reduced because the decision to grant a loan will have been made after an analysis conducted by a committee consisting of multiple individuals. This will result in poor loan recovery and consequently poor financial performances (Amahalu, Chineyre, Abiahu & Beatrice, 2017).

2.2 Review of Previous Empirical Studies

A comprehensive analysis of the literature has been done to look at the relationship between risk management and financial success from multiple angles. Since the subject of this study is credit risk management in banking, the evaluation primarily focused on research that examined how credit risk management affects banks' performance across national boundaries. The empirical investigations that writers have conducted to look into the connection between bank performance and credit risk management are summarized in Table 1, along with the variables and methodologies they employed.

Pandey (2016) studied this using a sample of six insurance companies. The rate of return, standard deviation, coefficient of variation, beta coefficient, and t-test are among the analytical tools she has utilized. His study's primary goals are to compute the risk and return of a portfolio of common stocks as well as to comprehend and pinpoint the issues that individual investors and insurance firms face.

The study's main conclusions are that, in general, the public has the least awareness of the risk associated with investments. This could be because of a lack of information,

inadequate education, or other factors that could impede the growth of the stock market. The performance of insurance firms' common stock and the entire market portfolio do not differ significantly. The study was conducted over a five-year period in response to Chand's request that ADB/N play a major role in meeting rural areas' credit demands. Credit should be routed through the borrower groups in order to successfully recover credit from the clients or borrowers.

Karki Manoj (2016) carried out a study with the primary goals of analyzing the degree of various risks that Himalayan Bank Ltd. faces and evaluating HBL's financial performance using financial measures and standards. The study runs from 2010 until 2015.

The study's main conclusions are that banks, at all levels, adhere to a corporate culture that stems from the "Think Customers" tenet. The corporate culture of the banks is based on several important elements, including equality, respect, equality, dignity, trust, teamwork, camaraderie, sincerity, dedication, and appreciating each individual's contribution. The banks offer a competitive benefits package that is updated frequently to recognize and reward exceptional work. Additionally, the staff members receive

Bhattarai (2016) used pooled data from fourteen Nepalese banks from 2010 to 2015, comprising 77 observations, to investigate the impact of credit risk management on the performance of Nepalese commercial banks. The 77 observations cover the following variables: bank size as an independent variable, return on assets as a dependent variable, capital adequacy ratio, non-performing loan ratio, cost per loan asset, and cash reserve ratio. To evaluate the data, regression analysis was employed. The study's conclusions demonstrated that the commercial banks that were taken into account had been handling credit risk improperly. The detrimental impact of the non-performing loan ratio on bank performance and the beneficial impact of cost per loan asset on bank performance provided more proof of this.

The author discovered that the cash reserve and capital adequacy ratio had no bearing on bank performance, in contrast to earlier studies. The author advises that banks adopt appropriate credit risk management methods by completing solid credit evaluation procedures before making loans to consumers, given the considerable correlation that exists between credit risk and bank performance.

Poudel (2012) used multiple regression analysis with data from 31 commercial banks in Nepal from 2001 to 2011 in an effort to determine the many characteristics relevant

to credit risk management as it influences financial performance. The study's parameters were the capital adequacy ratio, cost per loan asset, and default rate. The results showed that the default rate is the most important predictor of a bank's financial success, and that all other indicators have an inverse effect on that performance. Based on the research, the author suggests that Nepalese commercial banks place greater emphasis on risk management because it generally improves bank performance. Additionally, the author suggests that in order to lower loan risk and accomplish

Poudel (2018) investigated how Nepal's commercial banks' profitability was affected by credit risk management. Data were gathered from a sample of fifteen commercial banks that were active in the Nepali economy between 2002–2003 and 2014–2015. The primary analytical technique in panel data analysis is the one-way fixed effect model (FEM). Return on equity, a metric used to assess the profitability of commercial banks, is regressed against both macroeconomic and bank-specific variables. The findings demonstrated that credit risk significantly lowers the profitability of Nepal's commercial banks. Furthermore, inflation, interest spread rates, and solvency ratios all significantly harm profitability. On the other hand, GDP growth, total assets, and the capital adequacy ratio have the most

The effect of credit risk management on the profitability of commercial banks in Nepal is examined by Shrestha (2017). The dependent variables chosen are profitability as measured by return on equity and return on assets. The following ratios are considered independent variables: capital adequacy ratio, non-performing loan ratio, cost per loan asset, cash reserve ratio, assets growth ratio, and leverage ratio. The information was gathered from the annual reports of a few chosen commercial banks as well as bank supervisory reports released by Nepal Rastra Bank. Based on 126 observations from 18 Nepali commercial banks, the survey was conducted. Descriptive statistics and correlation analysis were used to give certain diagnostic tests for the assumptions made by the linear regression model. To determine the significance and importance of credit risk management on profitability in Nepalese businesses, regression models are estimated.

The findings indicate a positive relationship between return on equity, return on assets, and the capital adequacy ratio and growth ratio of cost per loan asset. It suggests that return on equity and return on assets would increase with a higher capital adequacy ratio. In a similar vein, rising cost per loan asset causes returns on

equity and assets to rise as well. Similarly, a greater assets growth ratio would result in a better return on equity and assets. The findings also indicate a negative relationship between return on equity and return on assets for the non-performing loan ratio, cash reserve ratio, and leverage ratio, indicating that an increase in the non-performing loan ratio results in a decrease in these variables.

In a similar vein, return on equity and return on assets would decrease with increasing cash reserve ratio. Similarly, a higher leverage ratio results in worse return on equity and assets. Similarly, a higher leverage ratio results in worse return on equity and assets. In contrast, the beta coefficient is negative for the non-performing loan ratio, cash reserve ratio, and leverage ratio and bank performance. The beta coefficient is positive for the capital adequacy ratio, cost per loan asset, and assets growth ratio and bank performance. At the five percent significance level, the beta coefficient is significant for the capital adequacy ratio, leverage ratio, assets growth ratio, and on-performing loan ratio.

The effect of credit risk management on Nepalese commercial banks' profitability is examined by Tuladhar (2017). Pooled regression analysis and panel data analysis have been used to gather and examine data from 27 commercial banks for the years 2011 to 2015. Return on equity (ROE) and return on asset (ROA) were used as indicators of bank profitability in the model specification, while the indicators of credit risk management included the number of female board members (FBM), cash reserve ratio (CRR), coverage ratio (CR), capital adequacy ratio (CAR), liquidity ratio (LR), bank size (BS), asset quality (AQ), leverage ratio (LER), and non-performing loan ratio (NPLR).

The results show that the profitability of Nepalese commercial banks is significantly impacted by credit risk management. Findings indicate that the female board, coverage ratio, and non-performing loan ratio. It was shown that the cash reserve ratio and quality were not important factors in predicting a bank's performance. Therefore, the study suggests that Nepal's commercial banks implement an efficient credit risk management program that maintains an ideal level of adequacy ratio, regulates and monitors non-performing loans, improves coverage ratio, balances leverage ratio, encourages the appointment of female board members, and grows bank size to improve financial performance. The impact of credit risk management on Kenya's commercial banks' profitability has been evaluated by Kithinji (2010). Information

was gathered for the project on the volume of credit, percentage of non-performing loans, and earnings.

The study Credit Risk and Profitability of Joint Venture Banks in Nepal was carried out by Adhikari (2013). This study's primary goals are to examine the joint venture banks' profitability and liquidity, assess the trends in deposit usage relative to total investment and loan & advance, and assess the various risks associated with joint venture bank investments in Nepal. The study is grounded in secondary data and employs an analytical research design. According to the analysis, NBBL's liquidity status is no better than that of HBL and NSBL. In terms of its actions on the balance sheet, the NBBL is in a better position. The wide variations in NBBL's ratios indicate that the company has not adhered to a consistent policy.

Kapur Manoj et al. (2022) This study aims to validate the variables that affect the banks' liquidity in the United Arab Emirates. The main author's argument, which is expanded upon in this research study, aims to demonstrate the test of significance and offer hard data supporting the notion that the peculiar and market-related factors that have been found have a major influence on the liquidity risk faced by UAE banks. In order to determine the relationship between the dependent and independent variables, the primary author used linear regression. After the test of significance was passed, the factors were ranked using the MURAME approach as part of the ultimate thesis research objectives (the MURAME approach is not included in this research paper).

The study, which covers the years 2010–2019, focuses on the top 10 banks in the United Arab Emirates. The study uses market parameters like GDP, inflation, unemployment, and oil prices as well as idiosyncratic factors like deposit growth, NPL, CAR, and ROA to examine the relationship between these factors and the dependent variable, liquidity. A range of diagnostic procedures are carried out to determine how liquidity affects peculiar and market-related variables.

Using a partial least squares structural equation model (PLS SEM) method, Gadzo, Kportorgbi, and Gatsi (2022) investigated the effects of credit risk and operational risk on the financial performance of universal banks in Ghana. Financial institutions, particularly commercial and universal banks throughout Africa, have experienced aggressive mergers and acquisitions in recent times. These incidents lower public trust in the financial system overall and hinder the degree of financial inclusion. Within the framework of the structural equation model (SEM), this study evaluated the impact of credit and operational risk on the financial performance of universal banks. Without

any missing variables, data were gathered from each of Ghana's 24 universal banks, and using the PLS-SEM.

The findings supported the information asymmetry tenet of the lemon theory but contradicted the empirical investigation by demonstrating a negative relationship between credit risk and financial performance. Additionally, it was discovered that operational risk had a detrimental impact on the universal banks' financial performance in Ghana. Additionally, the study showed that the universal banks' financial performance is positively impacted by bank-specific characteristics, as evaluated by asset quality, bank leverage, cost to income ratio, and liquidity, which in turn significantly influence credit risk and operational risk. Our recommendation is to incentivize banks to lower their lending rates with the aim of reducing credit risk and ultimately increasing their profitability. In order to increase profitability, banks should focus more of their portfolio on liquid investment income and minimize leverage when it comes to operational risk.

According to Kahuthu (2016), savings and credit cooperative societies (SACCOS) have preserved important assets in their books that would not be accounted for since they have extended loans over time without focusing on the quality of loans in their portfolios. In a similar vein, they have given clients cash without intentionally determining the amount of cash. Therefore, the goal of the study was to determine whether credit management and liquidity were significant factors in determining the revenues of deposit-taking SACCOS in Kenya. The study decided to look at the coefficients of Beta prior to statutory management, which was put into place in 2015, and the coefficients of Betas following 2015 in order to determine whether the two variables actually played any part. The rigorous research procedures were carried out, and recommendations, conclusions, and findings were made.

The study's conclusions indicated that, particularly when handled carefully and supported by the regulatory framework as a moderating factor, liquidity and credit management had a significant impact on SACCO's financial performance. The study suggests that in order to ensure their profitability and financial stability, SACCOS should consistently create appropriate loan products and keep sufficient cash reserves. Additionally, in order to help SACCOS improve their financial performance, they should create important rules for loan provisioning, liquidity, and personnel recruiting and retention. Through the acquisition of knowledge on prudential credit and liquidity

management, this study will enable SACCOS to ensure sustainability and profitability through the use of their own resources.

The research on liquidity status and its drivers in Bosnia and Herzegovina's (B&H) banking industry is presented by Ganic (2014). It analyzes data from 2002 to 2012 with the goal of examining banks' exposure to liquidity situation in the context of the nation's 17 commercial banks. Using a variety of data analytic approaches, multiple regression analysis, including correlation, R-squared, ANOVA, and F-test, was utilized to examine the statistical significance and power of selected variables. Capitalization, NPL, ROE, LLR, TOA, GDP, RR, LTD, and IRM were the independent variables of the model that were evaluated twice: first with L1 risk (liquid assets to total assets) and again with L2 risk (liquid assets to client deposits and short-term financing) as dependent variables.

The analysis revealed a consistent decline in the proportion of liquid assets to total assets across the time period. Depending on whatever variable is chosen as the dependent variable, several factors influence liquidity in the banking industry. The bank's liquidity situation is positively impacted by CAP, LLR, TOA, RR, LTD, and IRsp in the model where L1 Risk is the dependent variable; in contrast, CAP, LLR, TOA, GDP, RR, and IRsp have positive effects in the model assessed by L2 Risk.

In his work "Performance of Credit Risk Management in Indian Commercial Banks," Singh (2013) expounded on the significance of effectively managing credit risk as a critical component. Credit risk was the chance that a counterparty borrower would not fulfill its commitments within the prearranged time frame. Hence, credit risk results from a bank's lending to or dealings with corporations, which is the oldest and largest risk that the bank acquired due to its basic existence as a business. There are currently a large number of banks operating in India. Among them are the State Bank of India, Punjab National Bank, and Oriental Bank of Commerce, which are public sector banks.

Private sector banks include Axis Bank, ICICI Bank, Indus Bank, ING Vija Bank, Dhanlaxmi Bank, HDFC Bank, YES Bank, Kotak Mahindra Bank, Karnataka Bank, ABN Amro Bank, Federal Bank, Laxmi Vilas Bank, and Bank of India, Indian Bank, Indian Overseas Bank, Syndicate Bank, Bank of Baroda, Canada Bank, Allahabad Bank, UCO Bank, Vijaya Bank. The researcher took 11 years' worth of return on asset (ROA), non-performing asset (NPA), and capital adequacy ratio (CAR) data from

each bank in order to utilize multiple regression models to assess its impact level. For the aim of regression analysis, the researcher gathered data from RBI annual reports from 2003 to 2013.

In their study "Assessment of Credit Risk Approaches in Relation with Competitiveness Increase of the Banking Sector," Eva and Jaroslav (2014) demonstrated how more sophisticated approaches to measuring credit risk are adaptable to changes in the class of corporate exposures in a portfolio. The most popular method in the Czech Republic is the Standardized approach, which does not have an assigned external rating. However, it does have a capital minimum of 8 million. Kč is the highest value that has been computed.

Compared to the Standardized approach without an assigned external rating, the Standardized approach with an assigned external rating has a substantially lower capital adequacy. The rationale is that banks may employ the degrees of external agencies with regulator consent, and then risk weights may be imposed. The Foundation Internal Ratings Based Approach (FIRB), out of all the approaches tested, is the only one that offers the ability to define the parameters according to the bank's own assessments and has computed the lowest amounts of capital required. Our analysis led us to the conclusion that, if a bank's portfolio included exposures with a default chance of no more than 0.88 percent, the amount of capital saved between FIRB and the most popular strategy in the Czech Republic was about between 90% and 10%.

In an article titled "Credit Risk Management Practices of Commercial Banks in Kenya," Francis (2015) revealed that credit risk management techniques used by Kenyan commercial banks include careful loan appraisal, requesting collateral, and investigating borrowers' credit histories. In addition, the bankers employ loan syndication, credit restriction, covenants, and loan securitization as defensive measures for risk management. The development of a credit policy that precisely defines the extent and distribution of bank loan facilities is one aspect that affects the efficacy of credit risk management systems utilized by commercial banks in Kenya. upkeep of a credit administration system with sufficient controls over credit, support from upper management, dissemination of credit guidelines to all credit department officers, screening of potential borrowers, hiring of highly qualified personnel, ongoing evaluation of the borrowers' liquidity, and utilization of helpful technology in credit analysis.

Kenyan commercial banks utilize internal performance benchmarks for lending, including as return on equity, return on assets, and return on investment, in addition to the Basel II standards and bank profitability. The produced benchmarks comprise additional indices, such as the cost of a completed loan, the cost of a loan per thousand dollars, the non-interest revenue generated by each loan, and the number of loans per employee.

An essay on "Credit Risk Management of Commercial Banks" was published by Han (2017). The primary concern for the banking and financial industries has always been credit risk, which also serves as the primary goal and focus of regulatory agencies, financial institutions, and other organizations involved in the financial sector to prevent and regulate. As the global financial system continues to grow, domestic commercial banks are taking on increasing internal and external risk due to the influence of both domestic and international variables. Thus, there is theoretical and practical benefit to study on commercial banks' credit risk prevention. This study examines the origins of credit risk in Chinese commercial banks, evaluates the inadequacies in Chinese commercial banks' credit management practices, and suggests some corrective actions to reduce the credit risk in commercial banks.

An paper titled "The Effects of Non-performing Loans on Dynamic Network Bank Performance" was published in 2017 by Zhu, Wang, Yu, & Wu. The present discourse aims to investigate the correlation between the non-performing loans (NPLs) and the performance of banks. Through the use of NPLs in a network production process framework, the banks' performance is developed. The quality of lending assets is an important and influencing element for banks' operational risk, especially with the rise in non-performing loans (NPLs) in recent years. The study's approach involves incorporating both radial and nonradial efficiency metrics into the framework of the network production process with non-performing loans (NPLs). To assess the performance of the banking sector, the network epsilon-based measure model is employed.

Furthermore, the essential features of the banking sector, such as financial holding companies and government banks that have been privatized, must be identified in order to shed light on the factors that lead to unfavorable competitive environments for certain banks. The findings show that throughout the final five years of the study period, the banking industry expanded steadily in three areas: operating performance, profitability performance, and risk management. These findings demonstrated that,

while taking risk management into consideration, the banking industry as a whole was able to pursue expansion in operations and profitability. Additionally emphasized are the benefits and possible uses of network data envelopment analysis in evaluating financial institutions.

Review of Thesis

Shakya (2015) carried out a comparative analysis of Nepal Bank Limited's credit management. with the primary goal of analyzing the bank's lending program, as well as the connections between loans, advances, and net profit. The study runs from 2009 until 2014.

The study's main conclusions include the introduction of a loan investment program during the NBL's financial reengineering process. The new lending policy distributes loans based on collateral and emphasizes cash flow lending. These days, the majority of Nepali banks concentrate on providing consumer loans; NBL is no exception. Despite EBL's financial investments in expanding credit and advances, the bank is taking a while to recover. Management efficiency is not up to par. The majority of NBL's credit customers are happy with their banks. Consumers stated that NBL's lending interest rate is its primary strength. When measured against other banks, NBL's lending rate is found to be low.

According to Chhetri's (2015) research, "A study on financial Analysis of NIBL," the banks' analyses reveal that deposits have been steadily rising over the study period, which spans from 2010/11 to 2014/15. That being said, compared to 2014–15, the rate of increase in 2012–13 was somewhat lower. The total amount of advances and loans has also been rising.

Over the years, the bank's overall investment has increased, mostly as a result of its safe lending approach, growing customer deposits, and less chances for sensible lending. The bank's provision for loan loss has increased in tandem with the growth in loans and advances. Over the years, the bank has maintained a sufficient reserve for losses, with an average general loan loss provision of 4% of all risk assets.

She has suggested that the bank concentrate more on non-risky lending options such home loans, personal loans, and mortgages based on her analysis. It should thoroughly review the capital structure, safety of principal, sources of repayment, and the borrower's creditworthiness in order to grant credit. Stated differently, a credit

manager ought to assess credit risk by taking into account the well recognized five C's of credit: character, capacity, capital, collateral, and circumstances.

This thesis has examined and interpreted NIBL's financial analysis. The analysis of terms loan and advances is limited to a comparison with data from the previous year. There has only been a basic comparison made in regards to the loans and advances. There has been no explanation of whether or not the loan classifications, provisioning of loans, investment in priority, and deprived sector loan investment regulation of NRB's directives have been followed.

In order to provide this study significance and purpose, the review of the pertinent literature mentioned above has improved our basic comprehension and knowledge. Numerous articles about investment policy, loans, and advances from commercial banks have been written in recent years. A few studies have been done on the lending side of commercial banks, but most have focused on investment analysis and policy, as well as the impact and implementation of NRB rules in commercial banks.

Manandhar (2015) conducted a study on credit management in Nepal's commercial banks. The primary goals of the study were to examine the volume of credit and advances made by sample banks, the mobilization of deposits into sample banks' credit, and the relationship between deposit loan and advances and net profit. The study's main conclusions are that HBL has distributed more credit and advances than any other company. Compared to other banks, HBL has made the best use of the entire deposit while issuing loans and advances. In order to maximize interest revenue, SCBNL has continued to be more successful at controlling credit. Credit and advances are a significant source of revenue for banks, as evidenced by the interest income on credit and advances relative to total assets.

Shrestha, (2016), had conducted research on main objective of this study are to Analyze the functions, procedures and activities of commercial banks credit policy and to analyze the credit and advances provided by commercial banks. The period of 2011 to 2015. The Major Findings is IC has maintained higher loan and advances to total deposit which shows that NIC seems to be strong to mobilize its total deposit as loan and advances. NIB has lowest non-performing loan to total loan and advances, this NIB is the best performance than NIC. If non-performing loan increases the overall banking business is affected. So provision amount is increase and profit is

decrease. Correlation coefficient between non-performing loan and loans of NIB is moderate, negative correlation. It indicates that non-performing loan and loans were moderately, negatively related with each other.

Table 1

Summary of previous empirical study

Authors	Title	Design	Data analysis tools	Major findings
Bhattra (2016)	Effect of credit risk management on the performance of Nepalese commercial banks.	Descriptive	Regression analysis	The findings of the study showed that the commercial banks under the consideration have been practicing poor credit risk management. This was further evidence by the negative effect of non-performing loan ratio on bank performance and the positive effect of cost per loan assets on bank performance
Poudel (2012)	Identify the various parameters pertinent to credit risk management as it affects financial performance of commercial bank in Nepal.	Analytical and Descriptive	Applying multiple regression analysis	The findings revealed that all these factors have an inverse impact on banks financial performance, and that default rate is the most significant predictor of banks financial performance.
Poudel (2018)	the impact of credit risk management on profitability of the commercial banks in Nepal.	Descriptive	One way fixed effect model (FEM) of panel data analysis is used as major tool of analysis	The results confirmed that credit risk has the significant negative impact on profitability of commercial banks in Nepal. In addition, solvency ratio, interest spread rate, and inflation have the significant negative impact on profitability. Finally, inter-bank interest rate has significant positive impact on profitability.
Shrestha (2017)	Impact of credit risk	In case, descriptive	Correlation analysis	The results show that capital adequacy ratio, cost per loan assets growth ratio are

	management on profitability of Nepalese commercial banks			positively related with return on assets and return on equity. It indicates that higher the capital adequacy ratio, higher would be return on assets and return on equity.
Tuladhar (2017)	The effect of credit risk management on profitability	Analytical and descriptive	Pooled regression analysis and panel data analysis	The findings indicate that credit risk management has significant impact on the profitability of Nepalese commercial banks. Results show that coverage ratio, non-performing loan ratio and female board. Quality and cash reserve ratio turned out to be not significant variables in determining banks performance.
Adhikari (2013)	Credit risk and Profitability of Joint Venture Bank in Nepal	Analytical research design	Correlation and Regression	The study has used the analytical research design and based on secondary data. The research concludes that the liquidity position of NBBL has not better than that of HBL and NSBL. The NBBL is in better position regarding its on-balance sheet activities.
Gadzo, Kportorgbi, and Gatsi (2022)	Studied on credit risk and operational risk on financial performance of universal banks in Ghana	Analytical and Descriptive	A partial least squared structural equation model (PLS SEM).	The results showed that credit risk influences financial performance negatively contrary to the empirical study but in line with the information asymmetry tenant of the lemon theory. It was also found that operational risk influences the financial performance of the universal banks in Ghana negatively
Kahuthu (2016)	Effect of financial management practices on financial performance of savings and credit cooperative societies in kisumu county, kenya	The study adopted descriptive survey	unstandardized regression coefficients with standard errors in parentheses	The independent variables; liquidity management, capital adequacy, capitalization and leverage were significant predictors of SACCO performance (dependent variable). The study concludes that one; liquidity management is a significant predictor of financial performance of SACCOs, thus liquidity position of a SACCO in terms of cash position, capacity ratio and total deposits really influence financial performance of a SACCO; two; capital adequacy significantly influences financial

				performance of SACCOs, thus, improvement in effective capital adequacy requirements by SACCOs can have a positive impact on the performance of SACCOs.
Manoj Kapur et.al (2022)	Factors Impacting Liquidity of Banks: An Empirical Study From The Banking Sector In The UAE.	Descriptive	Regression and multiple correlation analysis	The test of significance and provide concrete evidence that the identified idiosyncratic and market related factors have significant impact on the liquidity risk for the banks in the UAE. The relation of the dependent and independent variables and once the test of significance is proved, the factors have been ranked using MURAME approach as part of ultimate thesis research objectives.
Ganic (2014)	Liquidity risk and its determinants in banking sector of Bosnia and Herzegovina	Descriptive	Multiple regression analysis such as correlation, R-squared, ANOVA and F-test	Revealed that capital and economic growth had a positive impact on liquidity risk.
Singh (2013)	Performance of Credit Risk Management in Indian Commercial Banks	Analytical and descriptive	Multiple regression models	Significant relationship between dependent variable and independent variables.
Eva and Jaroslav (2014)	Assessment of Credit Risk Approaches in Relation with Competitive ness Increase of the Banking Sector	Analytical	Regression and correlation	The Standardized approach with assigned external rating has worked out a much lower capital adequacy than The Standardized approach without assigned external rating. Significant relationship dependent and independent variables.
Francis (2015)	Credit Risk Management	Descriptive	Multiple regression	Deposit collection and NPL management have positive relationship and CAR has not

	Practices of Commercial Banks in Kenya		and T test	significant.
Han (2017)	Credit Risk Management of Commercial Banks	Descriptive	Regression and correlation	Finding of this study credit risk has always been the main risk of the banking industry and the financial industry also is the main object and the core content of financial institutions and regulatory departments to prevent and control. With the continuous development of international financial market, domestic commercial banks is under the impact of international and domestic factors more, take more internal and external risk
Zhu, Wang, Yu, & Wu (2017)	The Effects of Non-performing Loans on Dynamic Network Bank Performance	Methodology is to integrate the radial and nonracial	Multiple Regression model	Finding of study increasing NPLs in recent years, the quality of lending assets is a key significant and influencing factor for banks' operational risk. The results demonstrate that the banking sector grew consistently in three aspects of operation: operating performance, profitability performance, and risk management in the last five years of the subject period. These results showed that the overall banking sector was capable of pursuing growth in both operations and profits while accounting for risk management
Shakya, (2015)	Comparative study on credit management of Nepal Bank Limited	Descriptive	Regression ,Mean, Standard deviation and regression	The Major Findings of this study are, the time of financial reengineering process of NBL, loan investment policy has been brought. New policy of lending focuses on cash flow lending by passing out collateral based
Manandhar, (2015)	Credit Management in Commercial Banks of Nepal	Descriptive	Regression and correlation	The Major Findings of this study are HBL has disbursed highest credit and advances than others. HBL has utilized the total deposit maximal than other banks in granting loan and advances. SCBNL has remained more effective in managing credit to gain highest interest income.
Shrestha, (2016),	Credit risk management	Descriptive	Regression and	The Major Findings is IC has maintained higher loan and advances to total deposit

of commercial bank in Nepal	correlation	which shows that NIC seems to be strong to mobilize its total deposit as loan and advances. NIB has lowest non-performing loan to total loan and advances, this NIB is the best performance than NIC.
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2.3 Research Gap

The strength of banks is crucial to the stability and expansion of the economy, as previous studies have shown, and the profitability of banks determines their stability. A thorough examination of earlier studies on bank profitability has led us to recognize the incomplete picture of the connection between commercial bank profitability and credit risk management. The majority of studies have produced varying outcomes while concentrating on one or more nations. Upon careful examination of the literature, it is evident that very little research has been done on bank risk management and bank performance in relation to research gaps and the efforts required to fill them.

This study will close a research gap on the relationship between credit risk management and profitability in Nepalese commercial banks in terms of theoretical contributions. In addition, a bigger sample of commercial banks will be included in the study than in earlier research. Furthermore, the researcher incorporates data subsequent to the enforcement of policies concerning the credit standards of Nepal's commercial banks. Even while Nepalese commercial banks have generally performed well, several have nonetheless reported losses. In addition, the lessons learned from the recent global financial crisis (GFC) in developed nations and the subsequent deliverables serve as a driving force behind doing this study as a preventative and remedial action. It is critical to comprehend the banks' performance and its

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

In order to address the research issue, the study used both a casual comparative research design and a descriptive research approach. A descriptive research approach aids in the reduction of data to a manageable format. It entails the methodical gathering and presenting of data in order to paint a clear picture of a certain circumstance and make an effort to fully and accurately describe it. It is used to gain access to the beliefs, actions, or traits of a specific population and to provide the researcher with pertinent details from a person, group, or other source regarding the factors of interest under investigation.

Causal comparative research design is a type of research design that illustrates the relationship between the problem's source and its solution. Following the problem's analysis, it clarifies the relationship between two variables. By examining the outcomes and looking for potential contributing factors, this study explores the potential reasons impacting a certain scenario. It focuses on analyzing a scenario or issue to clarify how two variables relate to one another. Independent factors (default rate, capital adequacy ratio, cost per loan assets ratio) are used as the cause while dependent variables (ROA & ROE) are utilized as the impact in cause and effect study.

3.2 Population, sample and sampling design

The term "population" describes the whole set of individuals, occasions, or pertinent and interesting items that a researcher wants to look at for the study. Only a portion of the universe (population) is represented by a sample. According to Adhikari and Pandey (2018), sampling is the process of choosing a subset of the population to base a conclusion or inference about the universe on. The population of the study is comprised of all 27 commercial banks regulated by the NRB; five of these banks have been selected as samples. The global IME Bank Limited, Nepal SBI bank Limited, Machhapuchhre Bank Limited, Citizen Bank International Limited, and Kumari Bank Limited are these. This study has collected data over a period of eleven years, from 2009 to 2019.

3.3 Sampling Design

Sampling design or strategy is the process of creating a plan for sample selection and actually choosing samples from the complete population. The methods or process that the researcher would use to choose items for the sample from the population is referred to as sampling design (Adhikari & Pandey, 2018).

3.4 Nature and Sources of Data

The secondary data used in this investigation. The quantity research makes use of secondary data sources. The secondary data were sourced from Nepal Rastra Bank's banking and financial statistics, as well as the annual reports of the relevant sample banks.

Here are some important secondary sources: Financial reports published annually by CBIL, GIBL, MBL, KBL, and NSBL. Nepal Rastra Bank publishes quarterly statistics on banks and financial institutions. NRB Unified Directive. Numerous Journals and online resources.

3.5 Methods of Analysis

To achieve the study objectives, the available data is categorized based on the requirements of the research project. Various statistical tools have been utilized for the aim of analysis. The analysis of the data is done with SPSS software. Furthermore, the data are not displayed in tables in a format that is appropriate. The research's data is analyzed and interpreted using the following tools.

3.5.1 Financial Tools

One of the strongest instruments for financial analysis in this part is ratio analysis. As a measure of the relationship between two objects or a set of objects, ratios can be computed in any number of methods as long as a meaningful co-relationship can be found (Tuladhar, 2017). Ratio analysis is typically employed as a standard for assessing a company's performance and financial status. The data are analyzed using the bank-related ratios shown below:

Profitability Ratios

Profitability ratios are a useful tool for assessing a company's operational efficiency. It serves as a gauge for any institution's financial performance. This suggests that a bank's financial performance is positively correlated with its profitability ratio and vice versa. The commercial banks' sound health is maintained via profitability. Diverse profitability indicators exist. Commonly used profitability metrics include return on equity, return on assets, earning spread ratio, interest spread ratio, gross margin, operational profit margin, and net profit margin. Even if there are other metrics that can be used to assess sample banks' profitability, the following ratio has been utilized most frequently:

Return on Assets (ROA):

It is calculated by dividing the net profits after taxes by the entire amount of bank assets. It gauges how well available assets are used overall to generate profits. It is a crucial sign of revenue and the effectiveness of asset management. As a result, it shows how effectively the bank manages its assets to generate revenue for each rupee invested in the business or bank (Shrestha, 2017).

$$\text{Return on Assets} = \frac{\text{NetprofitAfterTax}}{\text{TotalAssets}} \times 100\%$$

Return on Equity (ROE):

It is calculated by dividing net income after taxes by reserves and equity capital. It calculates the earning potential of investments made by shareholders. This metric will be monitored by investors and shareholders, who will seek to optimize it for their own gain. When using shareholders' equity, the ratio is a crucial measure of a bank's profitability. Therefore, the banks' return on equity (ROE) will be more profitable or more efficient the better the management of the shareholders' equity (Poudel, 2018).

$$\text{Return on Equity} = \frac{\text{NetIncomeAfterTax}}{\text{TotalShareholdersEquity}} \times 100\%$$

Credit Risk Management

Default Rate (DR)

The phrase "default rate" refers to a process in the financial services sector when a specific lender modifies a loan's terms from its usual terms to the default terms—that is, the terms and interest rate assigned to borrowers who have fallen behind on their payments (Bhattarai, 2017). You can compute the DR ratio as follows:

$$\text{DR Ratio} = \frac{\text{NonPerformingLoans}}{\text{TotalLoan}} \times 100\%$$

Cost per Loan Assets (CPLA)

Price per loan The average cost per loan given to a customer in terms of money is called an asset. This ratio's objective is to show how well loans to customers are disturbed (Karawa & Garba, 2014). One way to compute the CPLA ratio is:

$$\text{CPLA Ratio} = \frac{\text{TotalOperatingLoans}}{\text{TotalLoans}} \times 100\%$$

Capital Adequacy Ratio (CAR)

Commercial banks have enough capital on hand to meet their needs. A bank's capital as a percentage of its risk-heightened credit exposures is measured by the capital adequacy ratio (LI & Lou, 2014). The minimum capital ratio (CAR) that Nepal Rastra Bank (NRB) recommends is 11% of the core capital ratio (CCR).

$$\text{Capital Adequacy Ratio} = \frac{\text{TotalCapitalFund}}{\text{TotalRiskWeightedAssets}} \times 100\%$$

Where,

Total Capital Fund= Core Capital + Supplementary Capital

Total Risk Weighted Assets=On balance sheet risk weighted items +Off Balanced Sheet Risk weighted Items.

3.5.2 Statistical Tools

A subfield of science known as statistics is concerned with gathering, organizing, analyzing, and extrapolating conclusions from samples to the entire population. This necessitates using an acceptable statistical test, choosing the right study sample, and designing the study appropriately (Tuladhar, 2017). Descriptive statistics and inferential statistics are the two main categories of statistical techniques. The mean and standard deviation have minimal and maximum values in descriptive statistics. Correlation and regression analysis are examples of inferential statistics that are also provided using SPSS data program.

Descriptive Statistics

Descriptive statistics are those that describe the data that have been collected. These kinds of data are frequently presented as unprocessed, raw numerical figures. With just a few figures, descriptive statistics enable one to summarize the percentage of a

full score distribution (Adhikari & Pandey, 2018). The researcher employed the mean and standard deviation among other descriptive analytic tools in this investigation.

Measure of Central Tendency (Arithmetic Mean)

Measures of central value are straightforward statistical analyses of distributions that look for a single number that best captures the distribution as a whole. It is the set of variables' best values that individually represents the entire group. According to the statistical analysis, the central value is roughly in the middle of the entire set of data (Adhikari & Pandey, 2018). The mean is one of the instruments used to measure the central value, and it has been employed in analysis as needed. arithmetic The mean is the set of observations divided by the total number of observations.

Standard Deviation

As a measure of dispersion, the standard deviation (SD) is the most widely used and practical. It displays the ranges and magnitudes of the deviations from the mean or center. It gauges the dispersion in absolute terms. Variability will increase with a greater standard deviation value and vice versa. According to Adhikari and Pandey (2018), it is the positive square root of the average sum of squares of the observation's divergence from the distribution's arithmetic mean.

Tests of Normality

To ascertain if sample data was taken from a regularly distributed population (within a certain tolerance), a normality test is utilized. Numerous statistical approaches depend on the premise of normalcy, and as such, their validity must be verified. This article aims to provide an overview of normality checks in statistical analysis.

Inferential Statistics

The most crucial component of statistical analysis is typically inferential statistics, especially when the goal of the study is to determine the relationship between the variables, make predictions, and other such tasks (Adhikari & Pandey, 2018). The conclusions on the data are aided by this analysis. Determining whether to accept the link observed in basic data as true can be done with the use of inferential statistics. As the association that might be discovered through population-wide testing. With the assistance of SPSS and MS Excel, the following statistical tools are employed in this analysis.

Karl Pearson Correlation Analysis:

A common statistical measure of the degree of association or relationship between two sets of numbers (variables) that characterizes their degree of relatedness to one another is called correlation (Adhikari & Pandey, 2018). The relationship between the dependent variables, such as ROA and ROE, and the explanatory variables, such as default rate, cost per loan asset, and capital adequacy ratio, is displayed in a correlation matrix. For the purposes of the investigation, the Pearson correlation has been calculated. The value of "r" is always between -1 and +1; if $r = +1$, the correlation is perfect; if $r = -1$, the correlation is perfect; and if $r = 0$, there is no connection at all.

Hypothesis Testing

The most prevalent type of inference in statistics is the hypothesis test. A fundamental component of statistical inference is the formulation and testing of hypotheses. Using statistical hypothesis testing, a researcher can determine the likelihood that the same results will support the population hypothesis by applying mathematical principles (Pandey, 2009). In order to determine whether there is sufficient evidence to reject the null hypothesis and conclude that the researcher's hypothesis is supported by the data, the researcher in this study employed the p-value, or probability value. Conventionally, the null hypothesis can be rejected if the p-value is less than 0.10. In other words, results are considered statistically significant when p is higher than 0.10.

Multiple Regression Analysis

Although the precise nature of the relationship between two variables is unknown, a correlation coefficient suggests that there is a strong relationship between them. Additional details regarding the relationship's slope are provided via a regression analysis. It facilitates understanding how, when one of the independent variables is changed while the other independent variables remain constant, the dependent variable's usual value changes. A multiple linear regression analysis is performed with respect to five commercial banks for data spanning eleven years, from 2009 to 2019 AD, in order to determine the factors influencing the profitability of commercial banks. The model used in this study is based on the one proposed by Kargi (2014):

Credit risk is correlated with the performance of Nigerian banks, which use return on assets (ROA) to measure profitability. These ratios are based on two measures of credit risk: the ratio of total loan and advance to total deposit (TLA/TD) and the ratio of non-performing loan to total loan and advance (NPL/TLA). But by adding the ratio of the CPLA to the CAR as a credit risk indicator, this study enhanced the model. ROA and ROE were used in this study to quantify profitability as well.

A Multiple regression equation in this analysis can be expressed as;

$$ROA_{it}ROE = \beta_0 + \beta_1DR + \beta_2CPLA + \beta_3CAR + \varepsilon_{it}$$

β_0 = Constant Value

$\beta_1, \beta_2, \beta_3$, = Coefficient of Independent Variables

Where,

DR =Default Rate

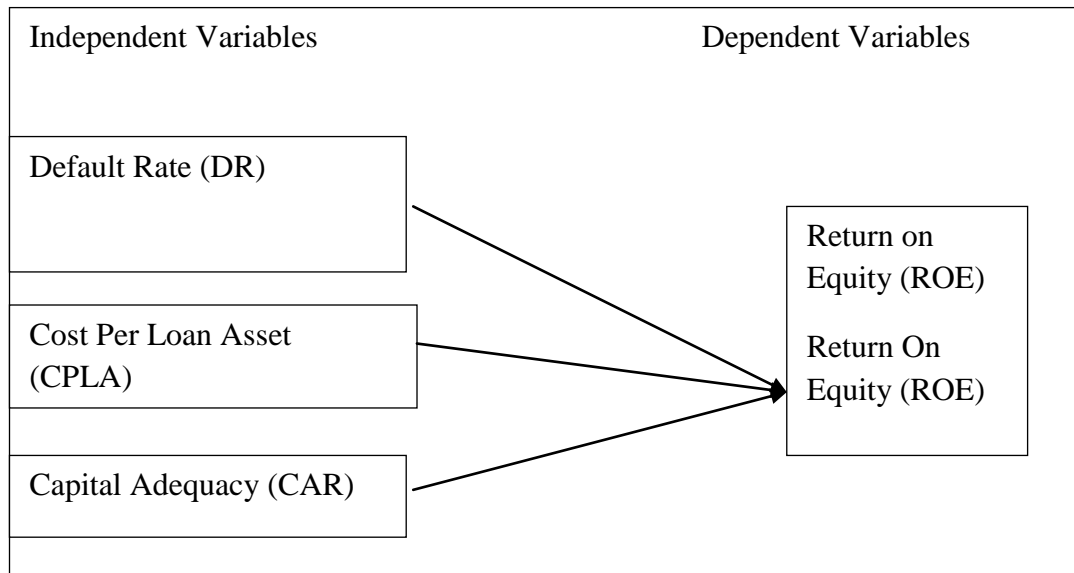
CPLA= Cost Per Loan Assets

CAR= Capital Adequacy Ratio

3.6 Research Framework and definition of variables

The study's conceptual and theoretical framework will be presented in this section. The research framework serves as the cornerstone around which the study is built. The key element in enhancing the bank's lending performance is credit risk management. On the other hand, the effect that credit risk management elements have on the profitability of commercial banks will be used to assess how well they perform. A few CRM independent variables and profitability dependent variables were used in this study, which was informed by the literature review. This study examines the ROA and ROE of the commercial banks in order to assess the profitability of Nepalese commercial banks.

Figure I shows the profitability of commercial banks will be measured by the ROA and ROE whose independent variables will be default rate ,cost per loan assets and capital adequacy ratio .

Figure 1*Dependent variable and independent variable*

The research framework in figure I show the relationship between dependent and independent variables.

3.7 Definition of Variables

Based on literature review and research framework, this section explains about some independent variables of CRM and dependent variables of profitability used for this study.

3.7.1 Dependent Variable (Profitability)

i. Return on Assets (ROA)

A company's profitability in relation to its total assets can be determined by looking at its return on assets. ROA provides insight into how well management uses its resources to produce profits. As stated by Apps (1996), ROA is computed as follows:

$$\text{Net Profit} / \text{Total Assets}.$$

Return on assets, a measure of managerial effectiveness, is employed as the dependent variable (Ekwe & Daru, 2012). According to Emekekwe (2008), return on assets is a ratio used to calculate how much profit a company may make from all of its assets. The return on assets (ROA) metric evaluates the bank management's capacity to

produce revenue through the utilization of firm assets. It also shows how effectively a company's management generates net income using all of its resources.

ii. Return on Equity (ROE)

The ratio of net income to total equity capital, or return on equity, or ROE, represents the return to shareholders on their equity. It gauges how successfully management turns shareholder capital into profits (Athanasoglou, Brissimis & Delis, 2008). One of the most crucial metrics for assessing the profitability and effectiveness of bank management is return on equity (ROE), which is based on the equity that shareholders have given to the bank. ROE is computed as follows: $ROE = \text{Net income} / \text{equity held by shareholders}$.

A bank that has a higher return on equity (ROE) is often better able to provide a higher return to its shareholders. The better a bank is, the higher its return on equity (ROE) relative to its rivals. As a result, bank stockholders always favor higher ROE; yet, since rising ROE suggests that net income is growing more quickly than total equity, this could occasionally pose a threat to the banks. Furthermore, a significant decline in equity capital could lead to a breach of the minimum regulatory capital requirement, raising the likelihood that the banks won't be able to maintain their solvency (Saunders & Cornett, 2011).

3.7.2 Independent Variables (CRM)

Default Rate (DR)

The financial services industry refers to a lender's practice of changing a loan's terms from its regular terms to default terms and rates for borrowers who have fallen behind on their payments as the "default rate." $DR = \text{Nonperforming Loans} / \text{Total Loans}$ is the formula for calculating the DR ratio (Ekwe & Daru, 2012).

ii. Cost per Loan Assets (CPLA)

The average cost per loan that is given to a customer in terms of money is called cost per loan assets. This is meant to demonstrate how well loans to clients are handled. As to Ekwe and Daru (2012), the formula for calculating the CPLA ratio is: $CPLA \text{ Ratio} = \text{Total Operating Cost} / \text{Total Amount of Loans}$.

iii. **Capital Adequacy Ratio (CAR)**

According to Mpuga (2002), one of the main causes of bank failures may be the minimum capital standard's insufficiency in accounting for risks in banks' asset portfolios. Sufficient capital for banks is defined as the point at which the agency's guarantee of individual banks' deposits, less the premiums paid by the banks, would break even (Yu, Chiang & Wu, 2017). Dang (2011) emphasized that the capital adequacy ratio is used to evaluate the adequacy of capital. The capital adequacy ratio shows how strong the bank is internally to withstand losses during a crisis. CAR can be computed as follows: $CAR = Risk\ Weighted\ Assets / Capital\ Fund\ (RWA)$. Nepal's commercial banks are required to uphold the capital adequacy ratio in accordance with NRB guidelines.

CHAPTER IV

RESULTS AND DISCUSSION

4.1 Results

The raw data analysis and study findings reported in this section are based on the technique described in Chapter 3. Two primary sections are dedicated to discussing the study's findings. To determine how different factors affect ROA and ROE, this study empirically analyzes secondary data. The findings obtained from the information analysis will satisfy the research's objectives. The tested hypothesis that was established in the first chapter is also covered in this section. Every idea is put to the test, examined in detail, and compared with other commercial banks in Nepal.

4.1.1 Financial Tools

The main ratios found in financial tools include return on equity, return on assets, default rate, capital adequacy ratio, and cost per loan asset ratio. Ratio analysis is the study of different financial data points seen in a company's financial statement. Their primary purpose is to ascertain different facets of the enterprise. Their primary purpose is to ascertain many facets of an enterprise, including its profitability, liquidity, and solvency. The following tables present many ratios that have been calculated, tabulated, and examined.

Return on Assets (ROA)

By comparing net income to the average total assets over a given time, the return on assets ratio—also known as the return on total assets—is a profitability ratio that assesses the net income generated by all assets. To put it another way, a company's ability to effectively manage its assets in order to generate profits over time is measured by the return on assets ratio, or ROA.

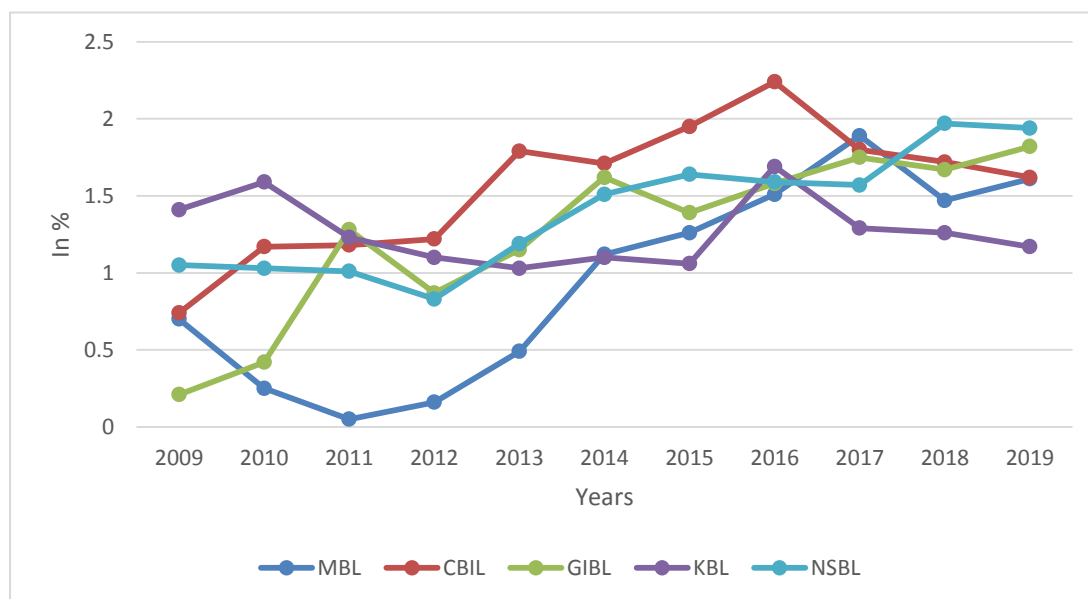
Table No. 4.1 displays the return on assets for the eleven-year period from 2009 to 2019 A.D. for the following banks: Machhapuchhre Bank Limited (MBL), Citizen Bank Limited (CBL), Global IME Bank Limited (GIBL), Kumari Bank Limited (KBL), and Nepal SBI Bank Limited (NSBL). The following table also displays the mean, standard deviation, and coefficient of variation for each particular bank:

Table 2*Return on Assets*

Year	MBL	CBIL	GIBL	KBL	NSBL
2009	0.7	0.74	0.21	1.41	1.05
2010	0.25	1.17	0.42	1.59	1.03
2011	0.05	1.18	1.28	1.23	1.01
2012	0.16	1.22	0.87	1.1	0.83
2013	0.49	1.79	1.15	1.03	1.19
2014	1.12	1.71	1.62	1.1	1.51
2015	1.26	1.95	1.39	1.06	1.64
2016	1.51	2.24	1.58	1.69	1.59
2017	1.89	1.8	1.75	1.29	1.57
2018	1.47	1.72	1.67	1.26	1.97
2019	1.61	1.62	1.82	1.17	1.94
Mean	.9555	1.5582	1.2509	1.2664	1.3936
S.D.	.65008	.43141	.54245	.21676	.39131
C.V.	0.6803	0.2768	0.4336	0.1711	0.2807

Source: Annual report of bank 2009 to 2019

Table 2 shows that the average (mean) return on assets (ROA) for MBL, CBIL, GIBL, KBL, and NSBL is, respectively, 0.9555, 1.5582, 1.2509, 1.2664, and 1.3936 percent. Comparably, the standard deviation for MBL, CBIL, GIBL, KBL, and NSBL is, in that order, 0.39131 percent, 0.65008, 0.43141, 0.54245, and 0.21676. MBL, CBIL, GIBL, KBL, and NSBL have coefficients of variation of 0.6803, 0.2768, 0.4336, and 0.2807, in that order. Table 1's results show that while Kumari Bank Limited has a smaller coefficient of variation (0.1711), Citizen Bank Limited has a greater return (1.5582). This indicates that Kumari Bank Limited's return on assets (ROA) has a lower coefficient of variation, or 0.1711, per unit risk. Given those circumstances, the study favored using CV to gauge banks' performance because it is utilized to identify

Figure 2*Return on Assets***Return on Equity (ROE)**

A profitability statistic called return on equity (ROE) gauges a company's capacity to make money off of the investments made in it by its owners. Additionally, return on equity (ROE) serves as a gauge for how well management uses equity financing to fund operations and expand the business. The ROE of the sampled commercial banks is shown in Table 3.

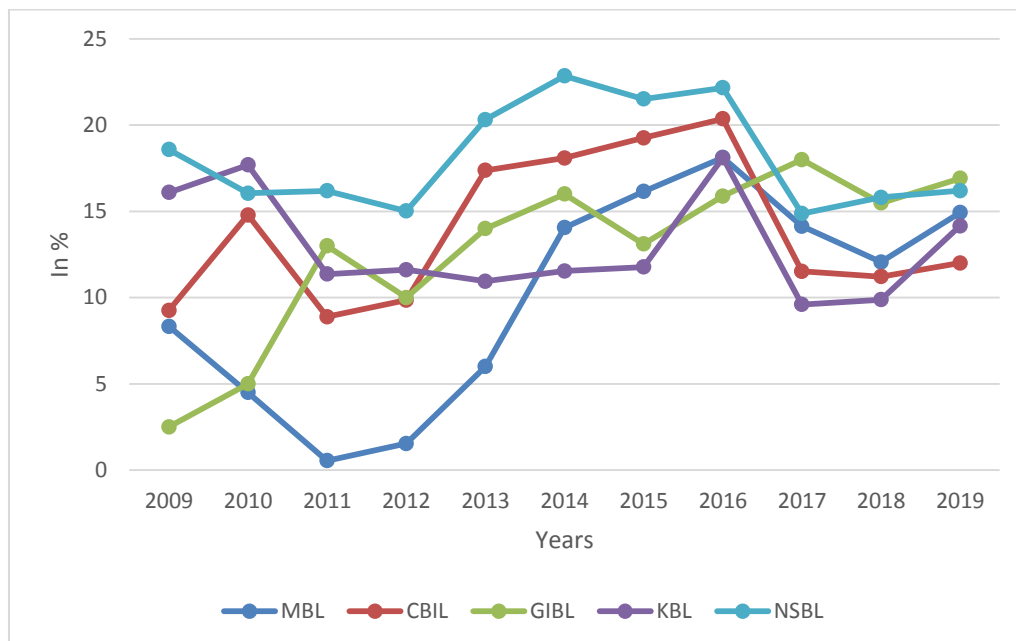
Table No. 3 displays the return on equity for the eleven-year period from 2009 to 2019 A.D. for the following banks: Machhapuchhre Bank Limited (MBL), Citizen Bank Limited (CBIL), Global IME Bank Limited (GIBL), Kumari Bank Limited (KBL), and Nepal SBI Bank Limited (NSBL). The following table also displays the mean, standard deviation, and coefficient of variation for each particular bank;

Table 3*Return on Equity*

Year	MBL	CBIL	GIBL	KBL	NSBL
2009	8.33	9.26	2.51	16.09	18.58
2010	4.5	14.79	5	17.69	16.05
2011	0.55	8.89	13	11.36	16.19
2012	1.54	9.85	10	11.61	15.02
2013	6	17.37	14	10.95	20.31
2014	14.05	18.09	16	11.54	22.85
2015	16.15	19.26	13.11	11.77	21.51
2016	18.12	20.36	15.88	18.11	22.16
2017	14.14	11.52	18	9.6	14.87
2018	12.06	11.22	15.48	9.88	15.81
2019	14.93	12	16.91	14.16	16.2
Mean	10.0336	13.8736	12.7173	12.9782	18.1409
S.D.	6.12983	4.24655	4.96896	3.04565	3.03964
C.V.	0.6109	0.3061	0.3907	0.2346	0.1675

Source: Annual report of bank 2009 to 2019

Table 3 shows that the mean ROE average for MBL, CBIL, GIBL, KBL, and NSBL are, in that order, 10.0336, 13.8736, 12.7173, 12.9782, and 18.1409 percent. For MBL, CBIL, GIBL, KBL, and NSBL, the corresponding standard deviations are 6.12983, 4.24655, 4.96896, 3.04565, and 3.03964 percent, respectively. MBL, CBIL, GIBL, KBL, and NSBL have coefficients of variation of 0.6109, 0.3061, 0.3907, 0.2346, and 0.1675, in that order. Table 4.2 presents the results of the aforementioned analysis, indicating that Nepal SBI Bank Limited has the best return with the lowest coefficient of variation and standard deviation. In other words, Nepal SBI Bank Limited has the highest average return and a lower risk per unit on return on equity. For this reason, compared to other banks, Nepal SBI Bank Limited is more profitable.

Figure 3*Return on Equity***Default Rate (DR)**

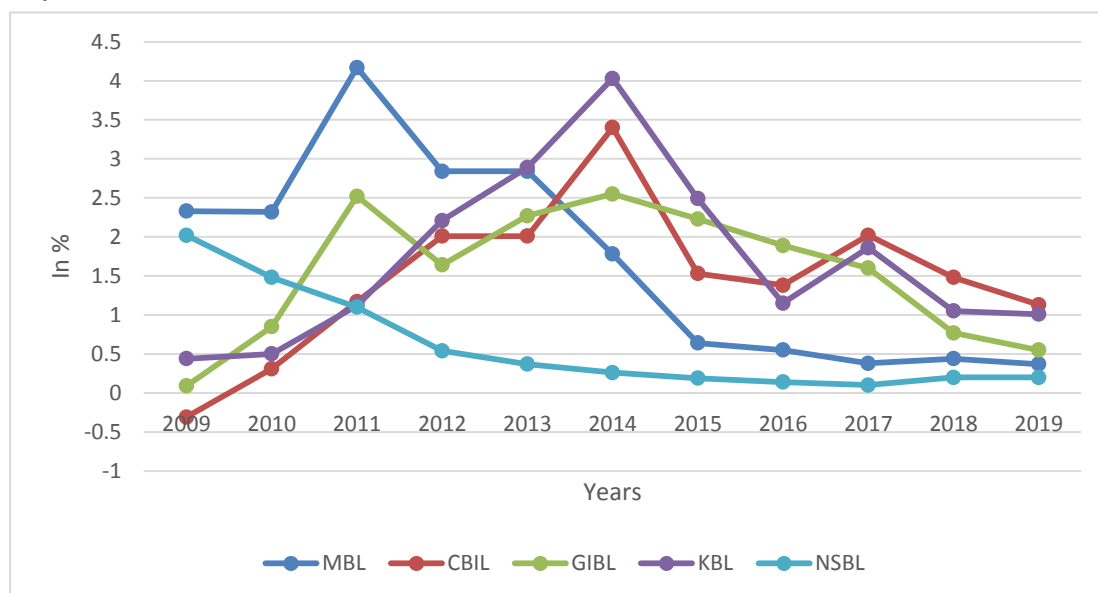
a variable interest rate that banks or other lending organizations will apply to consumers who default on loans or who make late payments on credit cards. The sampled commercial banks' default rate is shown in table 4.3. The default rate for the eleven-year period from 2009 to 2019 A.D. for all sample banks—Machhapuchhre Bank Limited (MBL), Citizen Bank Limited (CBIL), Global IME Bank Limited (GIBL), Kumari Bank Limited (KBL), and Nepal SBI Bank Limited (NSBL)—is provided in Table No. 4.3. Include the mean, standard deviation, and coefficient of variation for each bank in the same table.

Table 4*Default Rate*

Year	MBL	CBIL	GIBL	KBL	NSBL
2009	2.33	-0.31	0.09	0.44	2.02
2010	2.32	0.31	0.85	0.5	1.48
2011	4.17	1.17	2.52	1.12	1.1
2012	2.84	2.01	1.64	2.21	0.54
2013	2.84	2.01	2.27	2.89	0.37
2014	1.78	3.4	2.55	4.03	0.26
2015	0.64	1.53	2.23	2.49	0.19
2016	0.55	1.38	1.89	1.15	0.14
2017	0.38	2.02	1.6	1.86	0.1
2018	0.44	1.48	0.77	1.05	0.2
2019	0.37	1.13	0.55	1.01	0.2
Mean	1.6964	1.4664	1.5418	1.7045	.6000
S.D.	1.30509	.96653	.85306	1.10994	.64518
C.V.	0.7693	0.6591	0.5532	0.6512	1.0753

Source: Annual report of bank 2009 to 2019

The average (Mean) DR of MBL, CBIL, GIBL, KBL, and NSBL is 1.6964, 1.4664, 1.7045, and 0.6000, respectively, according to table 4 above. For MBL, CBIL, KBL, and NSBL, the corresponding standard deviations are 1.30509, 0.96653, 0.85306, 1.10994, and 0.64518, in that order. MBL, CBIL, KBL, and NSBL have coefficients of variation of 0.7693, 0.6591, 0.6512, and 1.0753, in that order. The findings displayed in Table 4.3 indicate that Global IMEbank Limited has the lowest per unit risk (CV), at 0.5532, whereas Kumari Bank Limited has the highest average return, at 1.7045 percent. GIBL bearded has a poor probability of earning a single unit return on DR. The study chose to use CV to gauge bank performance under certain circumstances. Because Global IME Bank Limited has a lower coefficient of variation, it is therefore more superior. Diminished

Figure 4*Default Rate***Cost per Loan Assets (CPLA)**

The average cost per loan that is given to a customer in terms of money is called cost per loan assets. This is done to show how well loans are disbursed to clients. The same table also displays the mean standard deviation and coefficient of variation for each bank:

Table 5*Cost per loan assets*

Year	MBL	CBIL	GIBL	KBL	NSBL
2009	4.88	4.94	1.58	1.54	3.88
2010	7.25	6.94	1.8	1.69	5.04
2011	10.12	1.55	2.24	1.86	6.07
2012	1.95	1.74	1.51	1.62	6.06
2013	1.98	1.69	1.99	1.54	5.22
2014	1.64	1.49	1.69	1.49	5.21
2015	1.56	1.58	1.99	1.44	4.8
2016	4.27	1.38	1.7	1.37	3.58
2017	5.45	1.62	1.54	0.48	4.58
2018	7.4	1.75	1.85	0.56	6.73
2019	8.09	1.7	1.77	1.57	7.57
Mean	4.9627	2.3982	1.7873	1.3782	5.3400
S.D.	2.98103	1.81072	.22127	.44380	1.19063
C.V.	0.6006	0.755	0.1238	0.322	0.2229

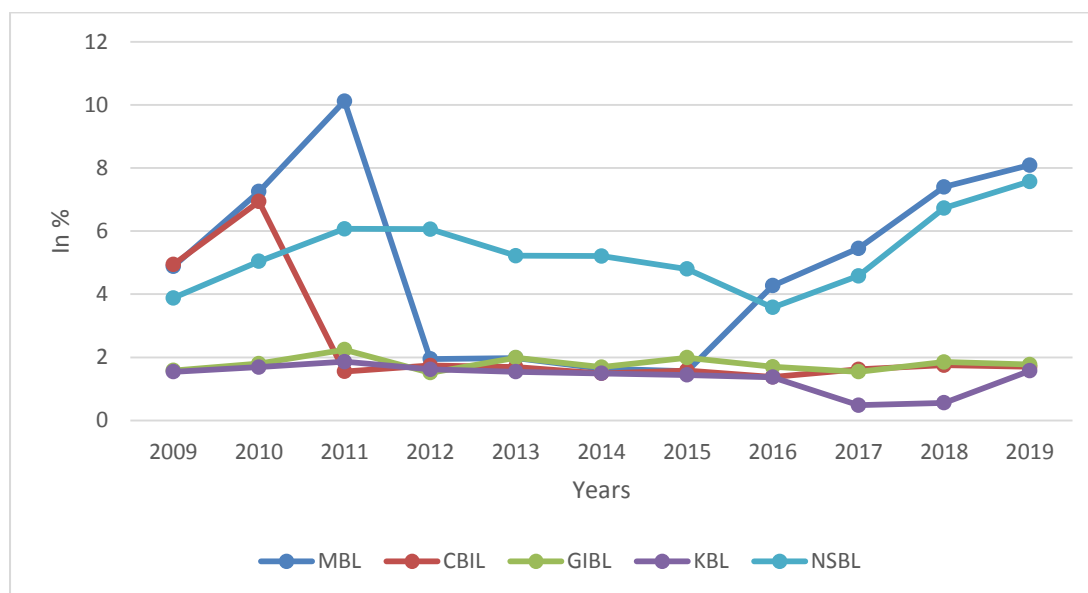
Source: Annual report of bank 2009 to 2019

The mean CPLA of MBL, CBIL, GIBL, KBL, and NSBL is 4.9627, 2.3982, 1.7873, 1.3782, and 5.3400 percent, on average, according to Table 5. In the same way, the standard deviations for MBL, CBIL, GIBL, KBL, and NSBL are 2.98103, 1.19063,

0.22127, 0.44380, and 1.81072, respectively. MBL, CBIL, GIBL, KBL, and NSBL have coefficients of variation of 0.6006, 0.755, 0.1238, 0.322, and 0.2229, in that order. Table 4.4 displays the results, which indicate that while Global IME bank limited has the lowest per unit risk (CV) of 0.1238, Nepal SBI bank limited has the highest average return of 5.3400 percent. Thus, there is little chance that GIBL bears will profit by one unit on CPLA. Given those circumstances, the study favored using CV to assess the banks' performance since it is utilized to determine

Figure 5

Cost per loan assets



Capital Adequacy Ratio (CAR)

A bank's available capital is measured and expressed as a percentage of its risk-weighted credit exposures, which is known as the capital adequacy ratio (CAR). The capital to risk weighted assets ratio, or capital adequacy ratio, is a tool used globally to safeguard depositors and advance the efficiency and stability of financial systems. To put it simply, a bank's capital serves as a safety net against possible losses and safeguards both its depositors and other lenders. It is given as a proportion of the risk-weighted credit exposures of a bank. It also demonstrates the bank's capacity and readiness to put up with unusual and operational losses. It shows that the company is capable of taking on new business. A bank's capital is divided to determine the CAR.

by its assets weighted by risk. Two layers of capital are utilized to compute the capital adequacy ratio.

Table 6 lists all of the sample banks' capital adequacy for the eleven-year period from 2009 to 2019 A.D. Global IME bank limited (GIBL), Kumari bank limited (KBL), Machhapuchhre bank limited (MBL), Citizen bank international limited (CBIL), and Nepal SBI bank limited (NSBL). The following table also displays the mean, standard deviation, and coefficient of variation for each particular bank:

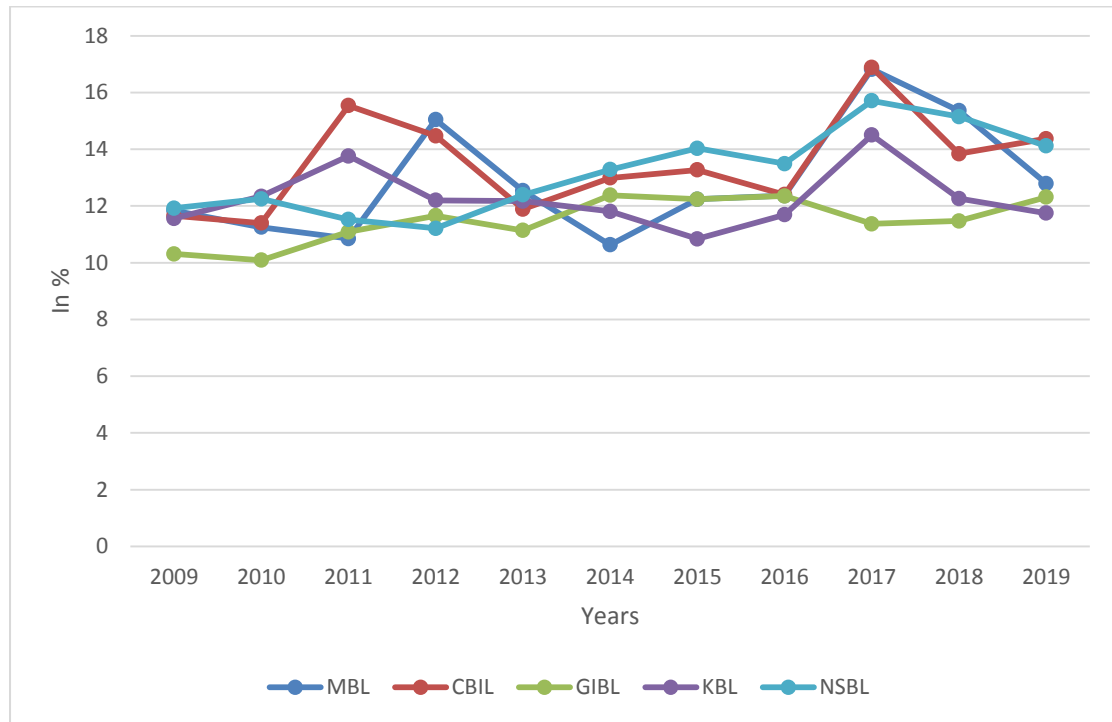
Table 6

Capital Adequacy Ratio (CAR)

Year	MBL	CBIL	GIBL	KBL	NSBL
2009	11.84	11.65	10.31	11.56	11.92
2010	11.25	11.4	10.09	12.34	12.25
2011	10.85	15.54	11.09	13.76	11.52
2012	15.04	14.47	11.66	12.2	11.21
2013	12.54	11.89	11.14	12.17	12.39
2014	10.63	12.99	12.38	11.81	13.28
2015	12.24	13.27	12.24	10.84	14.03
2016	12.36	12.4	12.35	11.69	13.49
2017	16.82	16.88	11.37	14.5	15.71
2018	15.36	13.84	11.47	12.26	15.15
2019	12.79	14.37	12.31	11.75	14.12
Mean	12.8836	13.5182	11.5655	12.2618	13.1882
S.D.	2.00163	1.71299	.69070	1.02857	1.47331
C.V.	0.1553	0.1267	0.0597	0.0838	0.1117

Source: Annual report of bank 2009 to 2019

The average mean CAR of MBL, CBIL, GIBL, KBL, and NSBL is 12.8836, 13.5182, 11.5655, 12.2618, and 13.1882%, respectively, according to Table No. 6. Likewise, the MBL, CBIL, KBL, and NSBL standard deviations are 2.00163, 1.71299, 0.69070, 1.02857, and 1.47331 percent, in that order. Additionally, MBL, CBIL, GIBL, KBL, and NSBL have coefficients of variation of 0.1553, 0.1267, 0.0597, 0.0838, and 0.1117, in that order. Table 4.5 displays the results, which indicate that Global IME bank limited has the lowest per unit risk and Citizen bank limited has the highest capital adequacy ratio (CAR). This indicates a low risk for GIBL beard to achieve a single unit return on CAR. Given such circumstances, the study favored using CV to gauge banks' performance because it may be used to determine the risk per unit on

Figure 6*Capital Adequacy Ratio (CAR)*

4.2 Statistical Tools

Statistics examines methods for collecting, examining, evaluating, and deriving conclusions from data. Descriptive statistics and inferential statistics are the two main categories of statistical techniques. The mean and standard deviation have minimal and maximum values in descriptive statistics. Correlation and regression analysis are also included in inferential statistics.

4.2.1 Descriptive Statistics

Descriptive statistics are those that describe the data that have been collected. These frequently take the shape of unprocessed, raw numerical values. With just a few data, one may summarise the fraction of a full score distribution using descriptive statistics. The researcher employed the mean and standard deviation among other descriptive analytic tools in this investigation. Table 7 summarizes the descriptive statistics.

The descriptive statistics are displayed in Table 7, which also provides the dependent variables' mean, standard deviation, minimum, and maximum values as well as percentages for ROA and ROE. Comparably, for the study period of 2009 to 2019, the five sample commercial banks were linked to the independent variables of default rate, cost per loan asset ratio, and capital adequacy ratio in percentage terms, yielding

a total of 55 observations. The average mean and standard deviation values for each of the five sample banks are shown in this table.

Table 7

Descriptive Statistics

	N	Minimum	Maximum	Mean	STD.Deviation
ROA	55	.05	2.24	1.2849	.49428
ROE	55	.55	22.85	13.5487	5.03390
DR	55	0.00	4.17	1.4075	1.04050
CPLA	55	.48	10.12	3.1733	2.31076
CAR	55	10.31	16.88	12.6835	1.56984
Valid N (list wise)	55				

Source: Calculation of data

Table 7 makes it abundantly evident that the return on assets (ROA) for commercial banks is 1.2849 percent on average, with a minimum of 0.05 percent and a maximum of 2.24 percent. This means that from 2009 to 2019, the total assets of commercial banks generated a return of 1.2849 percent. During the study period, the average return on equity for the selected banks was observed to be 13.5487 percent, with a minimum value of 0.55 percent and a maximum value of 22.85 percent. The default rate ranges from 0.00 percent at the minimum to 4.17 percent at the maximum, with an average of 1.4075 percent. Additionally, the average CPLA value of commercial banks produced a return of 3.1733 percent, with a minimum value of 0.48 and a maximum value of 3.1733 percent.

The standard deviation column shows the degree of the variable's departure from the mean. In this case, ROE has a large standard deviation of 5.03390 percent, while ROA has the least standard deviation of 0.49428 percent. This implies that the factor's variability increases with increasing standard deviation.

4.1.3 Tests of Normality

To ascertain if sample data was taken from a normally distributed population (with some tolerance), a normality test is utilized. Many statistical procedures depend on the premise of normalcy for their validity, which must be verified. This post aims to provide an overview of using SPSS to check for normalcy in statistical analysis.

Normality test for return on assets

The normality has been tested and results are presented in table 8.

Table 8

Return on assets test

	Statistic	Std. Error
Mean	.9555	.19601
95% confidence (Lower Bound)	.51871	
Interval for mean (Upper Bound)	1.3922	
5% trimmed Mean	.9538	
Median	1.1200	
Variance	.423	
STD. Deviation	.65008	
Minimum	0.5	
Maximum	1.89	
Range	1.84	
Interquartile Range	1.26	
Skewness	-.124	.661
Kurtosis	-1.609	1.279

Source: Calculation of data

Table 9

Tests of normality

	Statistic	DF	Sig.	Statistic	Df	Sig.
ROA	.149	11	.200	.923	11	0.348

There is a lower bound of true significance.

The Shapiro-Wilk test, skewness, and kurtosis tests were used to verify the bank profitability (ROA) assumption of normality. For banks, ROA scores were found to be approximately normally distributed with a skewness ($M=-0.124$, $SE= 0.661$) and a kurtosis ($m=-1.609$, $SE= 1.279$) for banks, according to a Shapiro test ($\beta= 0.923$, $p=0.348$ is less than 0.05) and a visual inspection of the histogram, normal Q-Q plots, and box plots (Cramer, 1998; Cramer and Howitt, 2004; and Doane and Seward, 2011). Additionally, a Kolmogorov-Smirnov test was deemed negligible, suggesting that the data is roughly regularly distributed.

ii. Normality test for return on equity

The normality has been tested and results are presented in table 4.8.

Table 10

Return on equity Test

	Statistic	Std. Error
Mean	10.0336	1.84821
95% confidence (Lower Bound)	5.9156	
Interval for mean (Upper Bound)	14.1517	
5% trimmed mean	10.1113	
Median	12.0600	
Variance	37.575	
Std. Deviation	6.12983	
Minimum	.55	
Maximum	18.12	
Range	17.57	
Interquartile range	10.43	
Skewness	-.365	.661
Kurtosis	-1.399	1.279

Source: Calculation of data

Table 11

Tests of Normality

	Statistic	Df	sig.	Statistic	Df	Sig.
ROE	.198	11	.200	.921	11	0.329

This is the lower bound of the true significance.

4.2.3 Correlation Analysis

One of the most crucial components of inferential statistics that illustrates the correlation of the dependent variable is a correlation analysis. Together with explanatory variables like default rate, cost per loan asset, and capital adequacy ratio, profitability (ROA) and (ROE) are measured. The results of the computation of the Pearson correlation are shown in tables 4.9 and 4.10.

Table 12

Bivariate Pearson Correlation Coefficient for Return on Assets(ROA) and components of CRM.

		ROA	DR	CPLA	CAR
ROA	Pearson correlation	1	1	1	.417
DR	Pearson correlation		1	1	-.204
CPLA	Pearson correlation			1	.076
CAR	Pearson correlation				1

Source: Calculation of data

Correlation is significant at the 0.05 level.

Correlation is significant at the 0.01 level

Return on assets and the capital adequacy ratio are positively correlated, meaning that a greater capital adequacy ratio would translate into a better return on assets. The return on assets would be lower, nevertheless, if the default rate and cost per loan asset ratio were lower.

Table 13

Bivariate Pearson correlation coefficient for return on equity(ROE) and components of CRM

		ROE	DR	CPLA	CAR
ROE	Pearson correlation	1	-.407	-.006	.063
DR	Pearson correlation		1	-.240	-.204
CPLA	Pearson correlation			1	.076
CAR	Pearson correlation				1

Source: Calculation of data

Correlation is the significance at the 0.01 level.

Similarly, there is a positive correlation between the capital adequacy ratio and return on equity, meaning that a greater ratio corresponds to a higher return on equity. Similarly, there is a negative correlation between return on equity and the default rate and cost per loan asset. This means that the higher the ratio of default rate to cost per loan asset, the lower the return on equity.

4.2.4 Regression Analysis

Inferential statistics also includes regression analysis. For assessing the relationship between independent and dependent variables, it is a collection of statistical

procedures. In linear regression, which is the most popular type of regression analysis, a researcher determines which line best fits the data in terms of a given mathematical criterion. In order to investigate the effect of credit risk management on the profitability of Nepalese commercial banks using secondary data gathered from 55 observations, this part deals with regression results from various model assumptions. Tables 12 and 13 display the regression results for credit risk management and bank profitability, or return on equity and return on assets, respectively.

The findings rely on panel data from five commercial banks, totaling 55 observations, covering the years 2009 to 2019 A.D. The linear regression model was employed, with $Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + \beta_8 X_{8it} + \beta_9 X_{9it} + \beta_{10} X_{10it} + \beta_{11} X_{11it} + \beta_{12} X_{12it} + \beta_{13} X_{13it} + \beta_{14} X_{14it} + \beta_{15} X_{15it} + \beta_{16} X_{16it} + \beta_{17} X_{17it} + \beta_{18} X_{18it} + \beta_{19} X_{19it} + \beta_{20} X_{20it} + \beta_{21} X_{21it} + \beta_{22} X_{22it} + \beta_{23} X_{23it} + \beta_{24} X_{24it} + \beta_{25} X_{25it} + \beta_{26} X_{26it} + \beta_{27} X_{27it} + \beta_{28} X_{28it} + \beta_{29} X_{29it} + \beta_{30} X_{30it} + \beta_{31} X_{31it} + \beta_{32} X_{32it} + \beta_{33} X_{33it} + \beta_{34} X_{34it} + \beta_{35} X_{35it} + \beta_{36} X_{36it} + \beta_{37} X_{37it} + \beta_{38} X_{38it} + \beta_{39} X_{39it} + \beta_{40} X_{40it} + \beta_{41} X_{41it} + \beta_{42} X_{42it} + \beta_{43} X_{43it} + \beta_{44} X_{44it} + \beta_{45} X_{45it} + \beta_{46} X_{46it} + \beta_{47} X_{47it} + \beta_{48} X_{48it} + \beta_{49} X_{49it} + \beta_{50} X_{50it} + \beta_{51} X_{51it} + \beta_{52} X_{52it} + \beta_{53} X_{53it} + \beta_{54} X_{54it} + \beta_{55} X_{55it}$. In this case, X_1 = independent variables default rate for firm "i" during time period "t," β_0 = constant, and β_1 = regression coefficient of default rate. Y_{it} denotes the dependent variable (ROA) for firm "i" during time period "t." Regression coefficient of cost per asset (β_2), independent variable cost per asset for firm "i" during time period "t" (X_2), regression coefficient of capital adequacy ratio (β_3), and independent variable capital adequacy ratio for firm "i" during time period "t" are all indicated by these symbols. The t-statistics are represented by the figures in parenthesis.

Table 14

Regression Analysis

Specification	Intercept	DR	CPLA	CAR	R2	F Value	Significance
I	1.519(14.082)	-0.160 (-2.60)			0.336	6.759	0.012
II	1.39 (12.234)		-0.133 (-1.137)		0.304	1.293	0.026
III	-0.381 (-0.758)			0.131 (3.340)	0.417	11.159	0.002
IV	1.719 (11.373)	-0.188 (-3.048)	-0.053 (-1.920)		0.414	5.393	0.007
V	-0.008 (-0.16)	-0.125 (-2.122)		0.144 (2.944)	0.490	8.201	0.001
VI	-0.310 (-0.623)		-0.40 (-1.514)	0.136 (3.487)	0.457	6.861	0.002
VII	0.196 (0.385)	-0.154 (-2.635)	-0.056 (-2.162)	0.117 (3.107)	0.551	7.411	0.000

Source: Calculation of data

Model 1: $Y_1 = \beta_0 + \beta_1 X1_{it} + e_{it}$

The model 1's R2 value indicates that 33.6 percent of the variation in the ROA can be described by this model, but the remaining 66.4 percent cannot be explained, suggesting the possibility of additional factors influencing the banks' performance. At the five percent significance level, the default rate variable of ROA has a negative (-0.160) coefficient that is statistically significant (p-value is less than 0.05). This suggests that ROA will rise in proportion to how well commercial banks reduce non-performing loans at a given amount of outstanding loan portfolio.

Model 2: $Y_1 = \beta_0 + \beta_2 X2_{it} + e_{it}$

Model II's R2 value indicates that just 30.4% of the variation in the ROA can be explained by this model, leaving 69.6% of the variation unexplained and suggesting the possibility of other factors influencing the banks' performance. At the five percent significant level, the cost per loan asset variable's coefficient is statistically significant (p-value) and negative (-0.133) for ROA. A coefficient that is negative suggests that the

Model 3: $Y_1 = \beta_0 + \beta_3 X3_{it} + e_{it}$

Model III's R2 value indicates that 41.7 percent of the variation in the ROA can be described by this model, but the remaining 58.3 percent cannot be explained, suggesting that other factors might also have an impact on the banks' performance. At the one percent significant level, the capital adequacy ratio available for ROA has a positive coefficient (0.131) that is statistically significant. The positive coefficient indicates that CAR and ROA have a favorable relationship.

Model 4: $Y_1 = \beta_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + e_{it}$

Model IV's R2 value indicates that 41.4 percent of the variation in the ROA can be described by this model, but the remaining 58.6 percent cannot be explained, suggesting the possibility of other factors influencing the banks' performance. Additionally, the ROA default rate (-0.188) and cost per loan asset (-0.053) coefficients are both negative and statistically significant at the one percent significance level.

Model 5: $Y_{1i} = \beta_0 + \beta_1 X1_{it} + \beta_3 X3_{it} + e_{it}$

Model V's R2 value indicates that this model can account for 49% of the variation in ROA, leaving 51% of the variation unexplained and suggesting the possibility of other factors influencing bank performance. Additionally, the capital adequacy ratio (0.144) and default rate (-0.125) variables for ROA have positive and negative coefficients, respectively, and both are statistically significant at the one percent significance level.

Model 6: $Y_{1i} = \beta_0 + \beta_2 X2_{it} + \beta_3 X3_{it} + e_{it}$

Model VI's R2 value indicates that 45.7 percent of the variation in ROA can be described by this model, but the remaining 54.3 percent cannot be explained, suggesting that other factors might also have an impact on the banks' performance. Furthermore, both the positive and negative coefficients for the capital adequacy ratio (0.136) and cost per loan asset (-0.40) variables related to return on assets (ROA) are statistically significant at the one percent significance level.

Model 7: $Y_{1i} = \beta_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 X3_{it} + e_{it}$

The R2 value for model VII indicates that this model accounts for 55.1% of the overall variation in the ROA, leaving 44.9 percent unexplained and suggesting the possibility of additional factors influencing the banks' performance. Additionally, the ROA variables for default rate (-0.154) and cost per loan asset (-0.056) have negative coefficients. Likewise, the capital adequacy ratio (-0.117) variable's coefficient for return on assets (ROA) is positive. Consequently, at the one percent significance level, there is statistical significance.

Based on panel data from five commercial banks with fifty-five observations between 2009 and 2019 A.D., the findings were obtained using the linear regression model $Y2 = \beta_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 X3_{it} + e_{it}$ where. The dependent variable (ROE) for firm "I" during time period "t" is denoted by Y2. For firm "i" during time period "t," X1it= independent variables default rate; β_0 denotes constant; β_2 denotes regression coefficient of cost per loan asset; and X2 denotes independent variable cost per loan asset for firm "I." For firm "I" during time period "t", the independent variable capital adequacy ratio is denoted by X3, and the regression coefficient of capital adequacy ratio is represented by β_3 . The t-statistics are shown in the figure that is included in parenthesis.

Table 15*Estimated Regression of Return on equity*

Specification	Intercept	DR	CPLA	CAR	R ²	F Value	Significance
I	16.322 (15.414)	-1.970 (-3.246)			0.407	10.537	0.002
II	13.594 (11.609)		-0.014 (-0.047)		0.306	0.202	0.096
III	11.004 (1.959)			0.201 (0.456)	0.363	0.208	0.065
IV	17.269 (11.255)	-2.099 (-3.348)	-0.241 (-0.855)		0.421	5.607	0.006
V	17.221 (3.106)	-1.991 (-3.182)		-0.069 (-0.165)	0.408	5.186	0.009
VI	15.344 (10.30)		-1.870 (-3.133)	-0.049 (-0.169)	0.41	3.20	0.021
VII	18.032 (3.196)	-2.166 (-3.182)	-0.240 (-0.842)	0.059 (0.141)	0.422	3.674	0.018

Source: Calculation of data

Model 1: $Y_2 = \beta_0 + \beta_1 X1_{it} + e_{it}$

Model 1's R2 value indicates that 40.7 percent of the variation in the ROE can be described by this model, but the remaining 59.3 percent cannot be explained, suggesting the possibility of additional factors influencing the banks' performance. At the one percent significance level, the default rate variable of ROE has a negative (-1.970) coefficient that is statistically significant (p-value is less than 0.01). This suggests that ROE will rise in proportion to how effectively commercial banks reduce non-performing loans at a particular level of outstanding loan portfolio.

Model 2: $Y_2 = \beta_0 + \beta_2 X2_{it} + e_{it}$

The R2 value of model II indicates that other factors may have an impact on the banks' performance because it explains only 30.6% of the overall variation in the ROE. The remaining 69.4% of the variation in the ROE cannot be explained by this model. At the 10% significant level, the cost per loan asset variable of ROE has a negative (-0.014) coefficient that is statistically significant (p-value is less than 0.10). A negative coefficient means that the ROE will increase as the cost per loan ratio decreases.

Model 3: $Y_2 = \beta_0 + \beta_3 X_{3it} + e_{it}$

The R2 result for model III indicates that 36.3 percent of the variation in the ROE can be described by this model, but the remaining 63.7 percent cannot be explained, suggesting the possibility of additional factors influencing the banks' performance. At the 10% significant level, the capital adequacy variable of ROE has a positive coefficient of 0.201 and is statistically significant (p-value is less than 0.10). The positive coefficient indicates that CAR and ROE have a positive relationship.

Model 4: $Y_2 = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + e_{it}$

Model IV's R2 value indicates that 42.1 percent of the variation in the ROE can be described by this model, but the remaining 57.9 percent cannot be explained, suggesting that other factors might have an impact on the banks' performance. At the one percent significant level, the ROE's default rate coefficient (-2.099) and cost per loan asset coefficient (-0.241) are both negative and statistically significant (p-value is less than 0.01).

Model 5: $Y_2 = \beta_0 + \beta_1 X_{1it} + \beta_3 X_{3it} + e_{it}$

Model V's R2 value indicates that 40.8 percent of the variation in the ROE can be described by this model, but the remaining 59.2 percent cannot be explained, suggesting the possibility of additional factors influencing the banks' performance. The ROE's capital adequacy ratio (-0.069) and default rate (-1.991) coefficients are both negative and statistically significant (p-value is less than 0.01) at the one percent significance level.

Model 6: $Y_2 = \beta_0 + \beta_2 X_{2it} + \beta_3 X_{3it} + e_{it}$

Model VI's R2 value indicates that 41% of the variation in the ROE can be described by this model, but the remaining 59% cannot be explained, suggesting that other factors might also have an impact on the banks' performance. The ROE's coefficients for capital adequacy (-0.049) and cost per loan asset (-1.870) are both negative and statistically significant (p-value is less than 0.05) at the five percent significance level.

Model 7: $Y_2 = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + e_{it}$

Model VII's R2 score indicates that 42.2 percent of the variation in the ROE can be described by this model, but the remaining 57.8 percent cannot be explained, suggesting the possibility of other factors influencing the banks' performance. The

ROE variables with negative coefficients are the default rate (-2.166) and cost per loan asset (-0.240). At the five percent significance level, the capital adequacy ratios (0.059) coefficient for ROE is positive and statistically significant (p-values less than 0.05).

4.3 Test of Hypothesis

This section deals with analysis of relationship between dependent and independent variables as stated in the hypothesis.

i. ROA with default rate

At the five percent level, the beta coefficient of the default rate with ROA was shown to be negative and statistically significant. The alternative hypothesis is supported by the negative sign, which implies a negative link between the default rate and return on assets.

ii. ROE with default rate

At the one percent level, the beta coefficient of default rate with ROE is determined to be statistically significant and negative. The alternative hypothesis is supported by the statistically significant negative association between default rate and ROE, as indicated by the negative sign of the beta coefficient.

iii. ROA with cost per loan assets

The beta coefficient of cost per loan assets with ROA is found to be negative and statistically significant 5 percent level. The negative sign of beta coefficient indicates that there is statistically negative relationship between cost per loan assets and ROA which supports the alternative hypothesis.

iv. ROE with cost per loan assets

At the 10% level, it is discovered that the beta coefficient of cost per loan asset with ROE is negative and statistically significant. The alternative hypothesis is supported by the beta coefficient's negative sign, which shows that the link between ROE and cost per loan asset is statistically negative.

v. ROA with capital adequacy ratio

At the one percent significance level, the beta coefficient of the capital adequacy ratio with ROA is determined to be positive and statistically significant. The alternative hypothesis is supported by the positive sign of the beta coefficient, which shows that

the capital adequacy ratio and ROA have a statistically significant positive association.

vi. ROE with capital adequacy ratio

At the 10 percent significance level, the beta coefficient of the capital adequacy ratio with ROE is determined to be positive and statistically significant. The alternative hypothesis is supported by the positive sign of the beta coefficient, which shows that the capital adequacy ratio and ROE have a statistically significant positive association.

4.4 Major Findings

The major findings of the study come from the annual reports of sample commercial banks, study of NRB directives and other internet websites, which is taken from the websites of the 5 sample commercial banks. Each information related to “The impact of credit risk management on profitability of Nepalese commercial banks”.

1. The default rate and cost per loan assets ratio are negatively related on assets which indicates that higher the default rate ratio and cost per loan ratio lower would be return on assets. However, capital adequacy ratio is positively related with return on assets which indicates higher the capital adequacy ratio, higher would be return on assets.
2. Likewise, the default rate and cost per loan assets are negatively related to return on equity which indicates that higher the default rate and cost per loan assets ratio lower would be return on equity. Likewise, capital adequacy ratio is positively related with return on equity which indicates higher the capital adequacy ratio, higher would be return on equity.
3. Moreover, results presented in table 2 reveal that Citizen bank has higher return i.e.1.5582 percent but Kumari bank has lower coefficient of variation i.e.0.1711. That means, per unit risk on return on assets of Kumari bank limited is lower than other banks risk per unit or KBL beard low risk to earn one unit return on ROA. In that condition the study preferred CV to measure bank performance because it is used to find out per unit risk on return. Thus,Kumaribank is superior to other banks.
4. Similarly, based on the results shown in table 3, it reveals that Nepal SBI bank limited has highest return with less standard variation. It means Nepal SBI

bank limited has lower per unit risk on (ROE) but highest average return. That's why, Nepal SBI bank is more profitable than other banks.

5. The study results presented in table 4 reveal that Kumari bank limited has highest average return i.e. 1.7045 percent but Global IME bank limited has least per unit risk (CV) i.e. 0.5532. It means GIBL beard low risk to earn one unit return on DR. in that condition, the study preferred CV to measure banks performance. Hence, Global IME bank is more superior due to lower coefficient of variation.
6. Similarly, the study results presented in table 5 reveal that Nepal SBI bank has highest average return i.e.5.3400 percent but Global IME bank limited has least per unit risk i.e.0.1238. In that condition, the study preferred CV to measures the bank performance because it is used to find out per unit risk on return.
7. Moreover, the study results presented in table 6 reveal that Citizen bank has highest average return i.e.13.5182 percent but Global IME bank has least per unit risk(CV) i.e. 0.0597. That means GIBL beard low risk to return on CAR. In that condition, the study preferred CV to measure banks performance because it is used to find out per unit risk on return. Hence, Global IME bank is more superior to other banks.
8. The beta coefficient of default rate with ROA has been found negative and statistically significant at 5 percent level. The negative sign indicates that negative relationship between default rate and ROA. Similarly, the beta coefficient of cost per loan assets with ROA is found to be negative and significant at 5 percent level. The negative sign of beta coefficient indicates that there is negative relationship between cost per loan assets and ROA and the beta coefficient of capital adequacy ratio with ROA is found to be positive and statistically significant at 1 percent level. The positive sign of beta coefficient indicates that there is statistically positive relationship between capital adequacy ratio and ROA.
9. Likewise, the beta coefficient of default rate with ROE is found to be negative and statistically negative relationship between default rate and ROE. The beta coefficient of cost per loan assets with ROE found to be negative relationship between default rate and ROE. The beta coefficient of cost per loan assets with ROE is found to be negative relationship between cost per loan assets and

ROE and the beta coefficient of capital adequacy ratio with ROE is found to be positive and significant at 10 percent level. The positive sign of beta coefficient indicates that there is positive relationship between capital adequacy ratio and ROE.

4.5 Discussion

Understanding the connections between the weaknesses in the financial sector and the overall health of the economy has become more crucial in light of the global financial crises that have afflicted many countries in recent decades. The variables of CRM (DR and CPLA) have a considerable negative impact on profitability (ROA and ROE), according to the data. In a similar vein, the profitability of Nepalese commercial banks has been greatly enhanced by CAR. The findings of this study show a strong inverse association between profitability and default rate. That implies that a rise in DR causes banks' profitability to rise.

According to Poudel's (2012) research, the default rate and return on assets have a substantial inverse connection. According to Garba (2014), CRM, as determined by the default rate, significantly increases the likelihood that Nigerian banks would exist, as shown by the coefficient of determination (or "R2") value. To reduce the high rate of non-performing loans and their detrimental impact on profitability, the study advises bank management to evaluate credit risk more scientifically and manage the loan portfolio.

According to the findings, profitability is significantly impacted negatively by the cost per loan asset ratio.

According to Shrestha (2017), bank performance and cost per loan asset are positively correlated. High profits are obtained by banks that effectively control their costs while maintaining other parameters. As a result, a negative correlation between bank performance and cost per loan asset is anticipated. This may not always be the case because the bank has the ability to raise returns even in situations where there are significant expenses brought on by a high volume of business.

Empirical research, however, produced contradictory findings about these matters. While Karuwa and Garba (2014) found a significant positive association between the cost per loan assets (CPLA) ratio and bank profitability from a Nigerian perspective,

Poudel (2012) found a negative but statistically insignificant association between CPLA and bank performance (ROA). A negative correlation is anticipated between banks' performances and cost per loan asset based on theoretical perspectives and practical evidence.

The findings of this study show a strong positive correlation between profitability and appropriateness. In other words, a higher capital adequacy ratio results in higher profitability.

Capital adequacy ratio and ROA were found to be negatively correlated by Jha and Hui (2012), and the coefficient was statistically significant. According to Gizawet al. (2015), ROE is significantly improved by the CAR, but ROA is not. that keeping capital above the ideal level will improve commercial banks' productivity and profitability. The capital adequacy variable and the banks' financial performance were found to have a substantial positive link by Aruwa and Musa (2014) and Karuwa and Garba (2014). Alshatti (2015) discovered no connection between bank performance and the capital adequacy ratio. In the context of Nepal, Shrestha (2017) has discovered

It suggests that credit risk management in the banking industry has a reasonable impact on profitability. The impact of credit risk management on profitability varies throughout banks due to their distinct features and approaches to risk management. Thus, the primary responsibility for bank stability and profitability is credit risk management.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

Since banks are the actual means of resource mobilization, economic development in a nation cannot occur without the banking sector developing properly. The goals and reasoning for the study were outlined and examined in chapter I. As previously said, the primary goal of this research is to determine how credit risk management affects the profitability of commercial banks in Nepal. Chapter II was a presentation of the numerous studies on the topic review in relation to developed and emerging nations. Appropriate variables were chosen for the analysis based on the review. After that, each variable was specified and the justification for its selection was presented.

We also spoke about the predicted sign and the calculating formula. Due to their popularity in the literature, ROA and ROE were chosen as the dependent variables showing the profitability of commercial banks. The credit risk management variables DR, CPLA, and CAR are examples of explanatory variables. Multiple regression analysis and correlation analysis were used for the sample commercial banks in this study for the years 2009 to 2019.

"How does credit risk management affect the profitability of sample commercial banks from 2009 to 2019" is the main research question. is handled by applying the findings of different statistical analyses. Overall, the findings suggest that CRM and the profitability of Nepal's commercial banks are related. The study specifically determined the variables that affect Nepalese commercial banks' financial performance. The results of the investigation showed that profitability is positively and statistically significantly impacted by the capital adequacy ratio (CAR). The results support the expectations of Ogboi and Unuafe (2013), however they contradict Poudel's (2012) conclusions. Furthermore, the majority of the other research that were analyzed produced contradictory findings and failed to show a connection between bank profitability and CAR. This research in

Additionally, the analysis showed that the default rate (DR) negatively affects profitability in a statistically significant way. The results are in opposition to those of Karuwa & Garba (2014) but similar to those of Poudel (2012) and Bhattarai (2017). While other research have produced contradictory findings, none have been able to link DR to profitability. In conclusion, the study's findings show that Nepal's

commercial banks have sound credit risk management procedures, as shown by the noteworthy outcomes for DR, CPLA, and CAR. Overall, the results demonstrated that CRM is a significant predictor of bank profitability, suggesting that risk management is critical to a bank's ability to be profitable.

5.2 Conclusion

The conclusion of the results of the statistical tool analysis carried out to look into the study's objectives is included in this section. This study's main goal is to ascertain "The impact of credit risk management on Nepalese commercial banks' profitability." A descriptive and causal comparative study strategy was used, with data collection, analysis, and discussion of the results coming next. The study's foundation is secondary data from five commercial banks spanning the years 2009 through 2019. The statistical package (SPSS,20) has been used to process the gathered data.

The findings demonstrate a favorable relationship between return on assets and capital adequacy ratio. It suggests that the return on assets would be higher with a higher capital adequacy ratio. On the other hand, return on assets is inversely correlated with both default rate and cost per loan asset, meaning that the higher the ratio of default rate to cost per loan asset, the lower the return on assets. In a similar vein, return on equity is inversely correlated with both the default rate and the cost per loan asset, meaning that greater default rates and higher ratios of cost per loan asset translate into poorer return on equity. Nonetheless, the capital adequacy ratio and return on equity have a positive relationship, meaning that a higher capital adequacy corresponds to a higher return on equity.

There exists a noteworthy correlation between the default rate and the profitability of banks. At the five percent level and the one percent level, respectively, the beta coefficient of default rate with ROA and ROE has been determined to be negative and statistically significant. The negative symbol suggests that the default rate and profitability have a negative relationship. In a similar vein, it is discovered that the beta coefficient of cost per loan asset with ROA is negative, significant, and at the 5 percent level, while ROE is at the 10 percent level. The negative sign of the beta coefficient denotes a negative correlation between profitability and cost per loan asset. Furthermore, the analysis showed that there is a substantial correlation between banks' profitability and their capital adequacy ratio. It is discovered that the capital adequacy ratio's beta coefficient with ROA is positive.

It was anticipated that the results of this study would offer fresh perspectives on how credit risk management would ultimately affect bank survival and profitability. Numerous factors that are related to the profitability (ROA, ROE) of banks were looked at, including DR, CPLA, and CAR. The study's findings that the credit risk indicator and bank profitability are positively correlated are intriguing and somewhat unexpected. This indicates that Nepalese banks are taking on credit risks in exchange for interest rates, fees, commissions, and other rewards. The findings also show a favorable correlation between profitability and the capital adequacy ratio. It can play a crucial role in maximizing bank safety and soundness, hence banks ought to be

A few small negative correlations do exist, though, such as the idea that credit risk raises bank profits. As a result, Nepalese banks ought to feel secure in lowering loan rates as well as commission and fee costs. Additionally, it is crucial that borrowers pay back their entire debt as agreed upon at the outset.

5.3 Implications

There is theoretical, practical, and policy importance to this work. Many parties, including academics, regulators, and commercial banks, gain from the study. In order to ensure that banks are in a position where they can increase their profitability as well as handle negative shocks, it may assist management of the concerned banks in formulating and designing effective policies that make use of regulatory authorities such as the central bank of Nepal.

For MBL, GIBL, NSBL, and CBIL, the return on assets varies. For these banks, the CV is strong. In order to reduce the variance in ROA, these banks ought to concentrate on matters pertaining to return on assets. Similarly, the MBL, GIBL, CBIL, and KBL's return on equity ratios are likewise unsatisfactory. In a same vein, there are no standards for other types of ratios where there is a lot of volatility to regulate the variation, such as the default, cost per loan, and capital adequacy ratios. As a result, these institutions ought to have the proper guidelines so that commercial banks can continue to maintain this ratio.

The profitability of banks and CRM are related in a number of ways. The current study is being expanded to include the effect of CRM on profitability. The current study uses solely secondary data as a sample and covers the analysis of five commercial banks. With only 11 years' worth of data and few statistical and financial tools, it is incomplete. To increase the validity of the results, more research should

encompass a wider range of banks and time periods. It could be analyzed and used using more scientific tools. Therefore, it is necessary to compare government-owned banks with other banks that are joint ventures, as well as private banks, using a number of CRM and profitability factors. Additionally, if the study is enhanced by a qualitative investigation of credit

There exist multiple correlations between the profitability of banks and CRM. The impact of CRM on profitability is being added to the existing study. The current study analyzes five commercial banks using only secondary data as a sample. It is insufficient, with only 11 years' worth of data and limited statistical and financial tools. Additional study encompassing a broader range of banks and time periods is necessary to enhance the validity of the findings. More scientific instruments could be used for analysis and application. As a result, a variety of CRM and profitability metrics must be used to compare government-owned banks with joint venture banks and private banks. Furthermore, if the research is improved by

In a similar vein, all commercial banks ought to create credit policies that unambiguously state the senior management's intentions for company development as well as the requirements that must be met in order for loans to be authorized. The lending rules should be issued to the marketing officers and updated at least once a year to account for shifts in the bank loan portfolio's evolution and the economic outlook. The head of corporate and commercial banking as well as the managing director/CEO of the bank should support the lending standards before they are approved by the board of directors.

REFERENCES

- Abdelrahim, K. E. (2013). Effectiveness of credit risk management of Saudi bank in the Light of global financial crisis: A qualitative study. *Asian Transactions on Basic and applied sciences*, 3(2), 73-91.
- Abubakar, M.Y., Shaba, Y, Ezeji, M. O. & Ahmad, S.S. (2016). Effect of credit risk management on return on assets and return on equity: Empirical Evidence from Nigerian banks. *IOSR Journal of business and management*, 18 (12), 96-104.
- Achou, T.F. & Tenguh, N.C. (2008). Bank performance and credit risk management. *Finance university of Skodve School of technology*, 18 (12), 96-104.
- Adeusi, S.O., Akeke, N.I., Adebisi, O.S. & Oladunjoye, O. (2014). Risk management and financial performance of Banks in Nigeria. *Risk management, Journal of Modern Accounting and Auditing* 6(31), 336-342.
- Adhikari, D.R. & Pandey, D.L. (2018). *Research methodology for management*. Kathmandu: Asmita Books Publishers & distributors (p) ltd.
- Aduda, J. & Gitonga, J. (2011). The relationship between credit risk management and profitability among the commercial banks in Kenya. *Journal of Modern Accounting and Auditing*, 7(9), 934-1002.
- Afriyie, H.O. & Akotey, J.O., (2012). Credit risk management and profitability of selected rural banks in Ghana: *Catholic university college of Ghana*.
- Afriyie, H.O. & Akotey, J.O (2013). Credit risk management and profitability of rural banks in the Brong Ahafo region of Ghana management, 5, 24.
- Allen, F. & Gale, D. (2004). *Financial intermediaries and markets*. *Econometrica*, 72 (4), 1023-1061.
- Alshatti, A.S. (2015). The effects of credit risk management on financial performance of the Jordanian commercial banks. *Investment Management and Financial Innovations*, 12(1), 338-345.
- Altman, E., Caouette, J. & Narayanan, P. (1998). Credit- risk measurement and the management: The ironic challenge in the next decade. *Financial Analysis Journal*, 54(1), 7-11.
- Amahalu, N., Chinyere, O., Abiahu, M. F. C. & Beatrice, E. (2017). Loan management and financial performance of quoted deposit money banks in Nigeria. In the

2017 international conference on *African entrepreneurship and innovation for sustainable development (AEISD)*.

- Anbar, A.&Alper, D. (2011). Bank specific and macroeconomic determinants of commercial bank profitability: empirical evidence from Turkey. *Business and Economic Research Journal*, 2(2), 139-152.
- Aruwa, S.A.&Musa, A.O. (2014). Risk components and the financial performance of deposit money banks in Nigeria.*International Journal of Social Sciences and Entrepreneurship*, 1(11), 514-522.
- Athanasoglou, P.P.,Brissimis, S. N.&Delis, M.D. (2005). Bank- Specific, Industry specific and macroeconomic determinants of banks profitability.*Business and Economic Research Journal*, 2(2), 139-152.
- Athanasoglou, P. P., Brissimis, S. N.& Delis, M.D. (2008).Bank- specific, industry specific and macroeconomic determinants of banks profitability. *Journal of International Financial Markets, Institution and Money*, 18(2), 121-136.
- Basel committee on banking supervision (1999). Principles for the management of credit risk , CH-4002 BASEL, *Switzerland Bank for International Settlements* 23-45.
- BCBS, B. I. (2004). International convergence of capital measurement and capital standards: A revised framework. *Bank for international settlements*, Basel (June 2004).
- Bratanovic, M.R. (2003). The relationship between bank credit risk and profitability and liquidity.*The International Journal of Business and Finance Research*, 7(3), 105-118.
- Benedikt, G., Ian, M.,Judit, V.C.&Wolf, W. (2007). Bank behavior with access to credit risk management transfer markets. Research Discussion Papers, 4, bank final and Benink, H. (2002).
- BCBS, B. I. (1999). International convergence of capital measurement and capital standards: A revised framework. *Bank for International Settlements*, Basel (June 2004).
- Berger , A. N. (1995). The profit structure relationship in banking- tests of market – power and efficient-structure hypothesis.*Journal of Money Credit and Banking*, 27(2), 404-431.
- Bernanke, B. (1993). Credit in the macro economy.*quarterly review- federal reserve bank of New York*, 18, 50-50.

- Berrios, M.R. (2013). The relationship between bank credit risk and profitability and liquidity. *The international Journal of Business and Finance Research*, 7(3), 105-118.
- Benink, R. (2006) .Effect of credit risk on the performance of Nepalesecommercial banks. *NRB Economic Review*, 28(1), 41-64.
- Bessis, J. (1998). Risk management in banking. Chichester: John Wiley and sons.
- Bessis, K. (2011). The integration of qualitative factors into expert system for evaluating Agriculture loans. *Papers presented at the Australian conference on information system*.
- Bester, A. (1994). How the industry has changed since deregulation: *PersonalInvestment* , 11 (8), 85-86.
- Bhasin, M.L. (2015). Menace of frauds in the Indian banking industry: An empirical study. *Australian Journal of Business and Management Research*, 4(12),85-86.
- Bhattarai, Y.R. (2016). Effect of credit risk on the performance of Nepalesecommercial banks. *NRB Economic Review*, 28(1), 41-64.
- Bhattarai, Y.R. (2017). Credit risk and commercial banks profitability in Nepal: A panel approach. *Journal for Studies in Management and Planning*, 3(6), 1-15.
- Biermanjr, H.&Smidt, S. (1980). The capital budgeting decision: economic analysis of Investment projects, fifth edition. Published by routledge. New York and London.
- Boahene, S.H., Dasah, J.&Agyei, S.K. (2012). Credit risk and profitability of selected banks in Ghana. *Research Journal of Finance and Accountining*, 3(7), 6-14.
- Bohnstedt, A., (2000). *Capital markets development in Uganda-private sector opinion on listing*. FBD series no.2
- Boyd, A. (1993). How the industry has changed since deregulation: *PersonalInvestment* , 11 (8), 85-86.
- Brigham, E.F., Ehrhardt, M.C., Nason, R.&Gessaroli, J. (2016). *Financial management:theory and practice*, Canadian edition. Nelson education.
- Brooks, C (2019). Introductory econometrics for finance. *Cambridge university press*.
- Bryant, K. (1999). The integration of qualitative factors into expert system for evaluating Agriculture loans. *Papers presented at the Australian conference on information system*.

- Burton, M, Nesiba, R.F.& Brown, B (2015).*An introduction to financial markets and institution second Edition.Published by Routledge.* New York and London
- Brown, A. (2015). How the industry has changed since deregulation:*personal investment , 11 (8), 85-86.*
- Campbell, A. (2007). Bank insolvency and the problem of non-performing loans.*Journal of Banking Regulation, 9(1), 25-45.*
- Caouette, J., B., Caouette, J.B., Altman, E. I.&Narayanan, P. (1998). Managing Credit risk: the next great financial challenge (vol.2). John Wiley & Sons.
- Chartered Institute Of Management Accountants.(2005). *Financial management.* CIMA
- Chirwa, E.W. (2003). Determinant of commercial banks profitability in malawi: A cointegration approach. *Applied Financial Economics, 13(8), 565-571.*
- Colquitt, J. (2007). *Credit risk management: how to avoid lending disasters and maximize earnings.* MC Graw Hill Professional.
- Copeland, T.E (2002). What do practitioners want? *Journal of Applied Finance, 12(1), 5-12.*
- Cornett, M., M.& Saunders, A. 2003.*Financial institutions management: A risk management approach.* MC Graw- Hill, Irwin.
- Cuthberston, K.&Campbell .D. (2003). Long rates, risk premia and the overreaction/hypothesis. *Economic modeling 20, 413-435.*
- Dang, R.&Uyen, A. (2011). The CAMEL rating system in banking supervision: A case study of Arcada University of applied sciences, *International business.*
- Das, A.&Ghosh, S. (2007). Determinants of Credit risk in Indian state-owned banks: an Empirical investigation. *Economic Issue-Stroke and Trent, 12(2), 27-46.*
- Dhakar,M.N. (2011). *A Study on credit risk management of standard chartered bank(SCB) and RastriyaBanijya Bank (RBB).*
- Djan, G.O, Stephen, F, Bawuah, J, Halidu, O.B. &Kuutol, P.K. (2015). Credit risk management and its impact on financial performance of listed banks in Ghana.*International Journal of Financial Markets, 2(2), 24-32.*
- Ejoh, N.O, Okpa, I.B, &Egbe, A.A. (2014).The Impact of credit and liquidity risk management on the profitability of deposit money banks in Nigeria.*International Journal of Economics, Commerce and Management, 2(9), 1-15.*

- Ekwe, M. C.&Daru, A.N. (2012).Liquidity management and corporate profitability in Nigeria.*Journal of Accountancy*, 3(1), 22-28.
- Emekewue, P. E., (2008). Corporate financial management .African Bureau of Educational science, fifth revised.
- Enders, A (2004). Commercial banks in investment banking.In hand book of financial intermediation and banking (pp. 163-188).Elsevier.
- Ezike, J.E.& MO, O. (2013). Capital adequacy standards, Basel accord and bank performance: The Nigerian experiences (A case study of selected banks in Nigeria). *Asian Economic and Financial Review*, 3(2), 146.
- Falkner, R. (2017). Business power and conflict in international environment politics.*London School of Economics and Political Science*, UK Springer.
- Fatemi, A. &Fooladi, I. (2006).*Credit risk management: a survey of practices. Managerial Finance*, 3(32), 227-233.
- Fredrick, O. (2013). The impact of credit risk management on financial performance of commercial banks in Kenya .*DBA African Management Review*, 3 (1), 282-320.
- Gaitho, N.W. (2013). Role of credit reference bureaus on credit access in Kenya: A survey of commercial banks in Kenya. *European Scientific Journal*, 9 (13),293-458.
- Gestel, A.& Baesens, N. (2008). Liquidity management and corporate profitability in Nigeria.*Journal of Accountancy*, 3(1), 22-28.
- Gande, A(2008). Commercial banks in investment banking.In hand book of financial intermediation and banking (pp. 163-188).Elsevier.
- Gizaw, M., Kebede, M.&Selvaraj, S. (2015).The impact of credit risk on profitability performance of commercial banks in Ethiopia.*African Journal of Business Management*, 9(2), 59-66.
- Gottschalk, R. (2007). Basel II implementation in developing countries and effects on SME development. An open access repository of middle sex university research, London.
- Ejoh, H. V. & Okpa, S.& Egbe, B. (2014). Analyzing banking risk:*A framework for Assessing Corporate Governance and Risk Management third edition*. The World Bank. Washington, USA.

- Gray, B., Cassidy, C. & RBA (1997). *Credit risk banking: proceedings of a conference at H.C. Coombs Centre for financial studies*, 1-2 May 1997. (Melbourne); Reserve Bank of Australia, Bank Supervision Department.
- Greuning, Bester, H. (1994). The role of collateral in a model of debt recognition. *Journal of Money, Credit and Banking*, 26 (1) 72-86.
- Greuning, H. V. & Bratanovic, S.B. (2009). *Analyzing banking risk: A framework for assessing corporate governance and risk management third edition*. The World Bank. Washington, USA.
- Greening, V.H. & Bratanovic, B.S. (2003), *Analyzing and managing banking risk: A framework for banking risk; A framework for assessing corporate governance and financial risk*, World Bank Publication, second edition, 39-135.
- Guru, B.K., Staunton, J. & Balashanmugam, B. (1999), "Determinants of Commercial Bank Profitability in Malaysia", Paper presented at the twelve annual Australian finance and banking conference, Sydney, Australia, 16-17 December.
- Gestel, R. & Baeseme, H. (2008). The role of collateral in a model of debt recognition. *Journal of Money, Credit and Banking*, 26 (1) 72-86.
- Hallunovi, A. & Berdo, M. (2018). The relationship between risk management and profitability of commercial banks in Albania. *Asian Themes in Social Sciences Research*, 1(2), 44-49.
- Harper, C. & Snowden, M. (2017). *Environment and society: Human perspectives on environment issues*, sixth edition, Creighton University. Taylor & Francis group, New York and London.
- Haslem, J. A. (1968). A statistical analysis of the relative profitability of commercial banks. *The Journal of Finance*, 23(1), 167-176.
- Hay-Gibson, N. (2011). *Risk and records management: investigating risk and risk management in the context of records and information management in the electronic environment* (Doctoral dissertation, North Umbria University).
- Hennie, F.C. (2003). *Iterative arrays of logical circuits*. MIT press.
- Hosna, A., Manzura, B. & Juanjuan, S. (2009). *Credit risk management and profitability in commercial banks in Sweden. Rapport nr*; Master degree project 2009:36.
- Irukwu, J. (1998). *Insurance law practice in Nigeria*. Ibadan: Caxton press (WA) ltd.

- Jain P.K, Khan M.Y. (2007). *Financial management fifth edition*, Tata McGraw Hills Publishing Co. Ltd, New Delhi, ISBN NO. 0-07-065614-2 pg. no. 17.4
- Jha, S, &Hui, X. (2012). A comparison of financial performance of commercial banks: A case study of Nepal, *African Journal of Business Management*, 6 (25), 7601-7611.
- Jimenez, A, & Saurina, M. (2006). The relationship between risk management and profitability of commercial banks in Albania. *Asian Themes in Social Sciences Research*, 1(2), 44-49.
- Kaaya, I. &Pastory, D. (2013). *Credit risk and commercial banks in performance in Tanzania: A panel data analysis*. *Research Journal of Finance and Accounting*, 4(16),55-62.
- Kalunda, E., Nduku, B.&Kabiru, J. (2012). Pharmaceutical manufacturing companies in kenya and their credit risk management practices. *Research Journal of Finance and Accounting*. 3, 159-167.
- Karuwa, P.K, & Garba M.Y. (2014). *Financial management fifth edition*, Tata McGraw Hills Publishing Co. Ltd, New Delhi, ISBN NO. 0-07-065614-2 pg. no. 17.4
- Kargi, H.S. (2011). *Credit risk and the performance of Nigerian banks*. Ahmadubello University, Zaria.
- Kargi, H.S. (2014). Credit risk and the performance of Nigerian banks. *Acme Journal of Accounting Economics and Finance*, 1(1) 7-14.
- Khan, P.K,&Jain M.Y. (2007). *Financial management fifth edition*, Tata McGraw Hills Publishing Co. Ltd, New Delhi, ISBN NO. 0-07-065614-2 pg. no. 17.4
- Kharwish, H, A. (2011). Determinants of commercial banks performance: Evidence from Jordan. *International Research Journal of Finance and Economics*, 5 (5), 19-45.
- Kithini, A.M. (2010). Credit risk management and profitability of commercial banks in Kenya. School of business, university of Nairobi, Nairobi- Kenya.
- Kodithuwakku, S. (2015). Impact of credit risk management on the performance of commercial banks in Srilanka. *International Journal of Scientific Research and Innovative Technology*, 2(7), 1-6.
- Koford, k., Tschoegl, A. (1999). Problem of bank lending in Bulgaria: information asymmetry and institutional learning. MOCT- MOST: *Economic Policy in Transactional Economies*, 9(2), 123-152.

- Kolapo, T.F. (2012). Study on credit risk management and commercial banks performance in Nigeria: a panel model approach, *Australian Journal of Business and Management Research*, 2(2), 31-18.
- Kosmidou, K., Tanna, S.&Pasiouras, F. (2005). Determinants of profitability of domestic UK commercial banks: panel evidence from the period 1995-2002. In money macro and finance (MMF) Research Group Conference (vol.45, 1-27).
- Koulafetis, P. (2017). Modern credit risk management: theory and practice. Springer.
- Kuo, S. H.& Enders, W. (2004). The term structure of Japanese interest rate: the equilibrium spread with asymmetric dynamics. *The Japanese and International Economies*, 18, 84-98.
- Karuwa, J.M.&Garba, S. (2014). An evaluation of the effects of credit risk management (CRM) on the profitability of Nigerian banks.*Journal of Modern Accounting and Auditing*, 10(1), 104.
- Ladley, D.(2013). Contagion and risk-sharing on the inter-bank market.*Journal of Economics Dynamics and Control*,37 (7), 1384-1400.
- Leaven, M. L. (2014). The development of local capital markets: rationale and challenges (no.14-234). International Monetary Fund.
- Lalon, R.M. (2015). Credit risk management (CRM) practices in commercial banks of Bangladesh: “A study on basic bank ltd”. *International Journal of Economics, Finance and Management Sciences*, 3(2), 78-90.
- Liberman, A. (2016). The value of a good credit reputation: evidence from credit card renegotiations. *Journal of Financial Economics*, 120 (3), 644-660.
- Lymon, P.K, Carles, M.Y. (1978). *Financial management fifth edition*, New Delhi Tata McGraw Hills Publishing Co. Ltd, ISBN NO. 0-07-065614-2 pg. no. 17.4
- Liukisila, C. (1996). IMF survey, healthy banks are vital for a strong economy, finance and development. Washington DC: Taylor & Francis group, New York and London.
- Lymon, P.K, Carles, M.Y. (1978). *Financial management fifth edition*, New Delhi Tata McGraw Hills Publishing Co. Ltd, ISBN NO. 0-07-065614-2 pg. no. 12.6
- Macaulay, F.R. (1988). Some theoretical problems suggested by the movements of interest rate, bond yields, and stock prices in the united states since 1856., New York, NBER.

- Maroro, R. K., Kamau, J.G. & Koima, J. (2018). Effect of asset restricting on return on equity of financially distressed commercial banks in Kenya. *International Journal of Business and Processes (ISSN 2616-3209)*, 3(2), 14-14.
- Muroet, M.Y. (2013). *Financial management (fifth edition)*. New Delhi: Tata McGraw Hills Publishing Co. Ltd, ISBN NO. 0-07-065614-2 pg. no. 17.4
- Marsh, I.W. (2008). The effect of lenders credit risk transfer activities on borrowing firms' equity returns, Cass business school research paper, 31, 29-40.
- Mavhiki, S., Mavhiki, S., Mapetere, D. & Mhonde, C. (2012). An analysis of the challenges faced by banks in managing credit in Zimbabwe. *European Journal of Business and Management*, 4(1), 38-46.
- McIlwraith, A. (2006). Information security and employee behavior: how to reduce risk through employee education, training and awareness, Gower publishing Ltd, England.
- Mapetere, P.K. (2012). *Financial management fifth edition*, New Delhi, Tata McGraw Hills Publishing Co. Ltd, ISBN NO. 0-07-065614-2 pg. no. 17.4
- Miller, G.P. (1996). Is deposit insurance inevitable? Lessons from Argentina. *International Review of Law and Economics*, 16(2), 211-232.
- Molyneux, P. & Thornton, J. (1992). Determinants of European bank profitability A note. *Journal of Banking and Finance*, 16 (6), 1173-1178.
- Mwangi, Y. (2012). *Financial management fifth edition*, New Delhi: Tata McGraw Hills Publishing Co. Ltd, ISBN NO. 0-07-065614-2.
- Mpuga, P. (2002). The 1998-1999 banking crisis in Uganda: what was the role of the new capital requirement? *Journal of Financial Regulation and Compliance*, 10(3), 224-242.
- Muasya, B.W. (2009). The impact of non-performing loans on the performance of the banking sectors in Kenya (Doctoral dissertation, University of Nairobi).
- Maurithi, J.G., Waweru, K.M. & Muturi, M.W. (2016) *Effect of credit risk on financial Performance of commercial banks Kenya*. 4(7), 72-83.
- Muro, M.B., Magutu, P.O. & Getembe, K.N. (2013). The strategic benefits and challenge in the use of customer relationship management systems among commercial banks in Kenya. *European Scientific Journal*, 9(13), 327-349.
- Muthee, J.G. (2010). The relationship between credit risk management and profitability. A study of commercial banks in Kenya (Doctoral dissertation, university of Nairobi, Kenya).

- Murray, A. (2010). *The wall street journal essential guide to management: lasting lessons from the best leadership minds of our time*. Harper Collins.
- Muye, I.M., & Muye, I. Y. (2017). Testing for causality among globalization, institution and financial development: further evidence from three economic blocs. *Borsa Istanbul Review*, 17(2), 117-132.
- Mwangi, G.N. (2012). *The effect of credit of credit risk management on the financial performance of commercial banks in Kenya* (Doctoral dissertation).
- Nawaz, M., Munir, S., Siddiqui, S.A. Tahseen-UI-Ahad, Afzal, F., Asif, M. & Ateeq, M. (2012). Credit risk and the performance of Nigerian banks. *Interdisciplinary Journal of Contemporary Research in Business*, 4(7), 49-63.
- Ndoka, S, & Islamic, M. (2016). The impact of credit risk management in the profitability of Albanian commercial banks during the period 2005-2015. *European Journal of Sustainable Development*, 5(3), 445-445.
- NRB (2010). Risk management guidelines. Bank supervision departments, Nepal Rastra Bank, Baluwatar, Kathmandu Nepal.
- Ogboi, C, & Unsafe, O. K. (2013). Impact of credit risk management and capital adequacy on the financial performances of the commercial banks in Nigeria. *Journal of Emerging Issues in Economics, Finance and Banking*, 2(3), 703-717.
- Olamide, O., Uwalomwa, U. & Ranti, U.O. (2015). The effects of risk management on banks financial performances in Nigeria. *Journal of Accounting and Auditing*, 2015, 1.
- Olson, D. & Zoubi, T. (2017). Convergence in bank performance for commercial and Islamic banks during after the global financial crisis. *The Quarterly Review of Economics and Finance*, 65, 71-87.
- Ongore, V. O. & Kusa, G.B. (2013). Determinant of financial performance of commercial banks in Kenya. *International Journal of Economics and Financial Issues*, 3(1), 237.
- Otieno, S., Nyagol, M. & Onditi, A. (2016). Empirical analysis on relationship between liquidity risk management and financial performance of microfinance banks in Kenya. *Research Journal of Finance and Accounting*, 7(6), 115-142.
- Ouazad, A. & Ranciere, R. (2016). Credit standards and segregation. *Review of Economics and Statistics*, 98(5), 880-896.

- Pandey, I. M. (1995). *Financial management ninth edition*. Noida (UP): Vikas Publication House Pvt.Ltd.
- Pandey, U. (1995). *Credit risk management of commercial banks of Nepal*. Doctoral dissertation submitted to office of the dean faculty of management Tribhuvan University.
- Paseda, O. (2017). Credit risk models: Lessons for Nigerian banks: University of lagos. Available at SSRN 2925813.
- Philippon, T. (2015). Has the US finance industry become less efficient? On the theory and measurement of financial intermediation. *American economic review*, 105, 1408-1438.
- Poudel, R.(2012). The impact of credit risk management on financial performance of commercial banks in Nepal. *International Journal of Arts and Commerce*, 1(5), 9-15.
- Poudel, S.R. (2018). Impact of credit risk management on profitability of commercial banks in Nepal. *Journal of Applied and Advanced Research*, 3(6), 161-170.
- Psillaki, M., Tsolas, I.E. & Margaritis, D. (2010). Evaluation of credit risk based on firm performance. *European Journal of Operational Research*, 201(3), 873-888.
- Radelet, S., Sachs, J.D., Cooper, R.N. & Bosworth, B. P. (1998). The East Asian financial crisis: Diagnosis, remedies, prospects. *Brookings Papers on Economic Activity*, 1998(1), 1-90.
- Rene, S. (2000). Survey of mastering risk: Diminishing the threats to shareholders wealth. *The Financial Times*.
- Saeed, M. S.&Zahid, N. (2016).The impact of credit risk on profitability of the commercial banks. *Journal of Business & Financial Affairs*, 5(2), 167-234.
- Santomero, A. M. (1997). Commercial bank risk management: An analysis of the process. *Journal of Business & Financial Services Research*, 12(2-3), 83-115.
- Sastroswito, S.& Suzuki, Y. (2011). Post crisis Indonesian banking system profitability: bank-specific, and macroeconomics determinants. In the second international research symposium in service management (pp. 588-597).
- Saunders, A.& Cornett, M.M. (2011). *Financial markets and institutions*. New Delhi: Tata McGraw-hill education.

- Sadlak, O., Jovin, S., Pejanovic, R., Ciric, Z.&Dodic, J. E. (2016). Access to finance for micro, small and medium business units in Serbian agribusiness. *Economics of Agriculture*, 63(4), 1219-1235.
- Shabbier, M. S. &Rehman, A.K. (2016). The impact of financial crisis and economic growth of East Asian countries. *The Journal of Internet Banking and Commerce*, 21(1).180-520.
- Shrestha, R. (2017). The impact of credit risk management on profitability: Evidence from Nepalese commercial banks. Available at SSRN 2938546.
- Silvestro, R&Lustrato, P. (2014). Integrating financial and physical supply chains. The role of banks in enabling supply chains integration. *International Journal of Operations & Productions Management*, 34, 298-324.
- Simiyu, R.S. (2008). A survey of techniques of credit risk management in micro-finance institutions in Kenya. Doctoral dissertation submitted to University of Nairobi.
- Sinkey, J. C. & Thomas, C.R. (1992). *Commercial banks' financial management (sixth edition)*. New York: Macmillan publishing company.
- Tehulu, T. A.&Olana, D.R. (2014). Bank-specific determinants of credit risk management: empirical evidence from Ethiopian banks. *Research Journal of Finance and Accounting*, 5(7), 80-85.
- Tetteh, F.L. (2012). Evaluation of credit risk management practices in Ghana commercial banks limited. Kwame NKRUMAH University of science and technology, Kumasi.
- Tuladhar, R. (2017).The effect of credit risk management on profitability: An empirical study of private bank in Syria. *Oradea Journal of Business and Economics*, 3(2), 43-51.
- Van Gestel, T. &Baesens, B. (2008). Credit risk management: basic concepts: financial risk components, rating analysis, models, economics and regulatory capital. OUP Oxford.
- Van Greuning, H.&Brajovic,B. S. (2009). Analyzing banking risk a framework for assessing corporate governance and financial risk. The World Bank.
- Van Horne, J. (1995). *Financial management and policy: Case studies in modern corporate finance package*.Prentice Hall.University of lagos. Available at SSRN 2925813.

- Wanjira, L. T. (2010). The relationship between non-performing loans management practices and financial performances of commercial banks in Kenya. Unpublished thesis submitted to School of Business, University of Nairobi.
- Wen, W. (2010). Ownership structure and banking performance: New evidence in China. *University autonoma de barcelona department D economia de L empresa*, 12 (2), 132-137.
- Yousuf, A. & Felfoldi, J. (2018). The effect of credit risk management on profitability: An empirical study of private bank in Syria. *Oradea Journal of Business and Economics*, 3(2), 43-51.
- Yu, M.T., Chiang, T. F. & Wu, E.C. (2007). Premium setting and bank behavior in a voluntary deposit insurance scheme. *Review of Quantities Finance and Accounting*, 29(2), 205-222.
- Zou, Y. (2014). The impact of credit risk management on profitability of commercial banks: A study of a Europe.
- Zubairi, H. J. (2010). *Impact of working capital management and capital structure on profitability of automobile firms in Pakistan.*

Appendices

Appendix 1

YEAR/BANK	Machhapuchhre Bank Ltd.	Citizen Bank international Ltd.	Global IME Bank Ltd.	Nepal SBI Bank Ltd.	Kumari Bank Ltd.
2009	0.7	0.74	0.21	1.05	1.41
2010	0.25	1.17	0.42	1.03	1.59
2011	0.05	1.18	1.28	1.01	1.23
2012	0.16	1.22	0.87	0.83	1.1
2013	0.49	1.79	1.15	1.19	1.03
2014	1.12	1.71	1.62	1.51	1.1
2015	1.26	1.95	1.39	1.64	1.06
2016	1.51	2.24	1.58	1.59	1.69
2017	1.89	1.8	1.75	1.57	1.29
2018	1.47	1.72	1.67	1.97	1.26
2019	1.61	1.62	1.82	1.94	1.17

Appendix 2

YEAR/BANK	Machhapuchhre Bank Ltd.	Citizen Bank international Ltd.	Global IME Bank Ltd.	NepalSBI Bank Ltd.	Kumari Bank Ltd.
2009	8.33	9.26	2.51	18.58	16.09
2010	4.5	14.79	5	16.05	17.69
2011	0.55	8.89	13	16.19	11.36
2012	1.54	9.85	10	15.02	11.61
2013	6	17.37	14	20.31	10.95
2014	14.05	18.09	16	22.85	11.54
2015	16.15	19.26	13.11	21.51	11.77
2016	18.12	20.36	15.88	22.16	18.11
2017	14.14	11.52	18	14.87	9.6
2018	12.06	11.22	15.48	15.81	9.88
2019	14.93	12	16.91	16.2	14.16

Appendix 3

YEAR/BANK	Machhapuchhre Bank Ltd.	Citizen Bank international Ltd.	Global IME Bank Ltd.	Nepal SBI Bank Ltd.	Kumari Bank Ltd.
2009	2.33	-0.31	0.09	2.02	0.44
2010	2.32	0.31	0.85	1.48	0.5
2011	4.17	1.17	2.52	1.1	1.12
2012	2.84	2.01	1.64	0.54	2.21
2013	2.84	2.01	2.27	0.37	2.89
2014	1.78	3.4	2.55	0.26	4.03
2015	0.64	1.53	2.23	0.19	2.49
2016	0.55	1.38	1.89	0.14	1.15
2017	0.38	2.02	1.6	0.1	1.86
2018	0.44	1.48	0.77	0.2	1.05
2019	0.37	1.13	0.55	0.2	1.01

Appendix 4

YEAR/BANK	Machhapuchhre Bank Ltd.	Citizen Bank international Ltd.	Global IME Bank Ltd.	Nepal SBI Bank Ltd.	Kumari Bank Ltd.
2009	4.88	4.94	1.58	3.88	1.54
2010	7.25	6.94	1.8	5.04	1.69
2011	10.12	1.55	2.24	6.07	1.86
2012	1.95	1.74	1.51	6.06	1.62
2013	1.98	1.69	1.99	5.22	1.54
2014	1.64	1.49	1.69	5.21	1.49
2015	1.56	1.58	1.99	4.8	1.44
2016	4.27	1.38	1.7	3.58	1.37
2017	5.45	1.62	1.54	4.58	0.48
2018	7.4	1.75	1.85	6.73	0.56
2019	8.09	1.7	1.77	7.57	1.57

Appendix 5

YEAR/BANK	Machhapuchhre Bank Ltd.	Citizen Bank international Ltd.	Global IME Bank Ltd.	Nepal SBI Bank Ltd.	Kumari Bank Ltd.
2009	11.84	11.65	10.31	11.92	11.56
2010	11.25	11.4	10.9	12.25	12.34
2011	10.85	15.54	11.09	11.52	13.76
2012	15.04	14.47	11.66	11.21	12.2
2013	12.54	11.89	11.14	12.39	12.17
2014	10.63	12.99	12.38	13.28	11.81
2015	12.24	13.27	12.24	14.03	10.84
2016	12.36	12.4	12.35	13.49	11.69
2017	16.82	16.88	11.37	15.71	14.5
2018	15.36	13.84	11.47	15.15	12.26
2019	12.79	14.37	12.31	14.12	11.75

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ABSTRACT Credit risk management is the banking sector is important not only because of the Global Financial Crisis (GFC) experienced in recent years but also due to its greater impact on banks financial performance, growth and survival. Credit loans is one of the key sources of income of commercial banks, therefore managing the risk related to credit greatly impacts the banks' profitability

This study examines the impact of credit risk management on profitability of Nepalese Commercial Banks. Default rate, cost per loan assets and capital adequacy ratio are the independent variables used in this study. The dependent variables are return on assets (ROA) and return on equity (ROE). The secondary sources of data have