

**FINANCIAL PERFORMANCE OF JOINT VENTURE BANK OF  
NEPAL USING CAMEL**

**(With Reference HBL, EBL and Nepal SBI)**

A Dissertation submitted to the Office of the Dean, Faculty of Management in partial  
fulfilment of the requirements for the Master's Degree

by

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## **CERTIFICATION OF AUTHORSHIP**

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “Financial Performance of Joint Venture Banks of Nepal Using CAMEL (With Reference HBL, EBL and Nepal SBI)”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has 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

Ms. Suraja Chalise has defended research proposal entitled “**Financial Performance of Joint Venture Banks of Nepal Using CAMEL (With Reference HBL, EBL and Nepal SBI)**” 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, the undersigned, have examined the dissertation entitled “**Financial Performance of Joint Venture Banks of Nepal Using CAMEL (With Reference HBL, EBL and Nepal SBI)**” presented by Suraja Chalise, a candidate for the degree of Master of Business Studies (MBS Semester) and conducted the viva-voce examination of the candidate. We hereby certify that the dissertation is worthy of acceptance.

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## **ABBREVIATIONS**

CAPM	:	Capital Assets Pricing Model
CV	:	Coefficient of Variation
EBL	:	Everest Bank Limited
F/Y	:	Fiscal Year
GDP	:	Gross Domestic Product
HBL	:	Himalayan Bank Limited
MPS	:	Market Price Per Share
NEPSE	:	Nepal Stock Exchange
PA	:	Per annum
R&D	:	Research and Development
RRR	:	Realized Rate of Return
SBI	:	Nepal SBI Bank Limited
SEBON	:	Security Board of Nepal
TU	:	Tribhuvan University

## ABSTRACT

The general objective of this study is to analyze performance evaluation of Nepalese commercial banks using CAMEL model. The specific objectives of the study are; to analyze the financial performance of commercial banks by applying CAMEL model, to examine the relationship of CAMEL model and ROA and ROE of sample banks and to measure the impact of CAMEL model on financial performance of sample banks. To fulfil objective of the study, among the 20 commercial banks, only 3 (Himalayan Bank Ltd., Nepal SBI Bank Ltd and Everest Bank Ltd.) commercial banks have been selected using convenience sampling method. The study is based on secondary sources of data from 2013/14 to 2022/23.

The study concluded that profitability has positive significant relationship with CAR and negative significant relationship with NPLR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR. The study concluded that relationship of ROA and ROE with CAR and NPLR are significant at 1% level of significance. The study concluded that profitability has positive significant relationship with CAR and negative significant relationship with LLPR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR. It is concluded that there is highly positive relationship between CAR and profitability (ROE). This indicates as the CAR of sample commercial banks increases; the profitability of the banks also increases. The study concluded that the relationship between CRR and ROE is highly negative. This shows that as the CRR of commercial banks increases, the ROE of the banks decreases and vice-versa. It is concluded that there is negative relationship between LLPR with ROE of sample commercial banks. This concluded that as LLPR increases, the profitability of the banks also decreases and vice-versa.

The result found that the relationship between CRR and ROE is highly negative. This shows that as the CRR of commercial banks increases, the ROE of the banks decreases and vice-versa. It is found that there is positive relationship between LLPR with ROE of sample commercial banks. This indicates that as LLPR increases, the profitability of the banks also increases and vice-versa. The result shows that there is negative relationship between NPLR and ROE. This indicates that as NPLR and CRR of sample commercial banks increases, the profitability of the banks decreases and vice-versa.

**Keywords:** Commercial banks, capital adequacy ratio, profitability, non-performing loan, ROA, ROE.

## CHAPTER - I

### INTRODUCTION

#### 1.1 Background of the study

Bank is very old institution that is contributing towards the development of any economy and it is treated as an important service industry in modern world. Nowadays the function of bank is not limited to within the same geographical limit of any country. It is an important source of financing for most business (Nimalathasan, 2008). Bank is a financial institution that requires fund to carry out business. Fund may come from deposit and non deposit such as capital (AlMamun, 2013). Bank needs to find the best way to manage resources and assess its activities decisions of consumption of resources. Simply stated much of the current bank performance literature describes the objective of financial organizations as that of earning acceptable returns and minimizing the risks taken to earn this return. A competitive banking system promotes the efficiency and therefore important for growth, but market power is necessary for stability in the banking system (Northcott, 2004).

Generally, financial performance of banks and other financial institution is measured by using combination of financial ratio analysis, benchmarking, measuring performance against budget or mix of these methodologies. In simple accounting terms, performance of banks refers to the capacity in generating sustainable profitability. Banks need a way to evaluate performance and consider some important financial ratios and find the strength and weaknesses (Rozzan & Rahman, 2013).

The stage of development of the banking industry is a good reflection of the development of the economy (Misra & Aspal, 2013). To sustain the development of the economy, performance and health of the banks has to be checked and evaluated periodically. There are different approaches, used by different regulatory bodies. Among those approaches, most preferred parameters used by the regulators and different scholars are CAMEL (Capital adequacy, assets quality, management efficiency, earnings and liquidity) rating criterion to assess and evaluate the performance and financial soundness of the activities of the bank. The CAMEL supervisory criterion in banking sector is significant and considerable improvement

over the earlier criteria in terms of frequency, check, spread over and concentration (Misra & Aspal, 2013).

Performance evaluation is the important approach for enterprises to give incentive and restraint to their operators and it is an important channel for enterprise stakeholders to get the performance information. The performance evaluation of a commercial bank is usually related to how well the bank can use its assets, shareholders' equities and liabilities, revenues and expenses. The performance evaluation of banks is important for all parties including depositors, investors, bank managers and regulators. In order to probe how the banking system has performed and maintained the risk under the past economic and financial market conditions, a wide range of financial ratios are analyzed, covering the main development in income statements, balance sheet conditions, capital adequacy and asset quality (Biswas, 2014).

Generally financial performance of banks and other financial institution measured by using combinations of financial ratio analysis, benchmarking, measuring performance against budget or mix of these methodologies. Traditional method of applying financial ratios to evaluate bank's state of performance has been long practiced, with practitioners using CAMELS rating to measure their banks' performance. CAMELS bank rating is used by bank's management to evaluate financial health and performance. CAMELS bank rating is used by bank's management to evaluate financial health and performance. Each components of this rating are calculated on a 1 to 5 scale, being accumulated into a composite evaluation, also defined by the 1 to 5 scale. To banking regulators, a precise and ongoing measuring of bank's performance would allow allocation of resources to be more effective, assist in audits targeting, leading to a better understanding of the operation of banks. A competitive banking system promotes the efficiency and therefore important for growth, but market power is necessary for stability in the banking system (Northcott, 2004).

All FIs require regular health check up to maintain the confidence of private sector in financial system of the country and protect the interest of depositors, lenders, shareholders and other stakeholders. The gravity of the importance of sound financial sector has increased tremendously. Health of an individual FI is a function of multiple factors such as quality of its assets, liquidity position, capital base, management quality, market sensitivity and earnings (Baral, 2005).

In order to cope with the complexity and a mix of risk exposure to banking system properly, responsibly, beneficially and sustainable, it is of great importance to evaluate the overall performance of banks by implementing a regulatory banking supervision framework. One of such measures of supervisory information is the CAMEL rating system. CAMEL stands for Capital Adequacy, Assets Quality, Management Efficiency, Earning Quality and Liquidity. CAMEL rating system helps the banks to enhance required capital adequacy, strengthen asset quality, improve management, increase earnings and manage liquidity. It will be helpful for the bank to know the specific details of the model which in turn lead to identify the strengths and weaknesses of the banks (Saif, 2014). Financial ratios such as return on assets, return on equity, non-performing loan ratio, interest expenses to total loan, capital adequacy ratio, net interest margin and credit to deposit ratio based on CAMEL framework are related to capital, assets, management, earnings and liquidity considerations. These ratios would help to indicate the condition of capital, assets quality, management, and earning and liquidity position of different types of banks (Jha & Hui, 2012).

As of mid May 2024, the numbers of commercial banks in Nepal are twenty. The public sector banks, which are three in numbers and have large branch networks throughout the country, have still got substantial share in the total assets of the industry. Adopting the economic liberalization in the country in early 1990s, there has been tremendous growth in the number of private sector banks. The share of these banks on total deposits, loans, and total assets has been increasing gradually. The banks are becoming efficient in terms of capital, technologies, products and services and overall management. The competition in the market is getting tougher with the increase in the number of these financial institutions whilst the market size being the same. Therefore, it is felt necessary to strengthen their capacity in terms of product innovation, service delivery and public accountability (NRB, 2024). Hence this study intends to analyze the performance of one public and four private sector banks in Nepal by using CAMEL approach. The financial system enables an economy to be more productive as it allows investors with few resources to use savings from those with few prospects of investing. In this context, it is crucial to know how Nepalese banks are performing.

The study, therefore, aims to analyze and evaluate Nepalese Commercial Banks performance based on the CAMEL framework, which is used to evaluate the overall safety and soundness of a bank.

### **1.1.1 Profile of the organization**

#### **A. Himalayan Bank Limited (HBL)**

Himalayan Bank Limited is one of the largest private banks in Nepal. The Bank was incorporated in 1992 by a few eminent individuals of Nepal in partnership with the Employees Provident Fund and Habib Bank Limited of Pakistan. The bank commenced its operations in January 1993. The bank's total deposit has reached at Rs 274 billion while the total disbursed loan amount stands at Rs 250 billion. Also, the total branch network of the HBL is now 189, along with 263 ATM booths and 20 extension counters spread all over Nepal. HBL introduced the first Nepali Credit Card for the domestic market 'HBL PROPRIETARY CARD', which was the most popular card in the country ([www.hblbank.com](http://www.hblbank.com)).

#### **B. Everest Bank Limited (EBL)**

Everest Bank Limited (EBL) is joint venture with Punjab National Bank of India, which was established in 1994. The main objective of this Bank is to provide the banking facilities for the people in the country and to make the easy access of lending for the agriculture, industrial and commercial sectors. The joint venture partner of EBL, Punjab National Bank (PNB) is the largest public sector Bank of India having many years of banking history with more than 4600 office all over India. EBL has 105 branches, 3 extension counters, 31 revenue collection counter and 138 ATMs. The local Nepalese Promoters hold 50 percent stake in the Bank's equity, while joint venture partner PNB contribute 20 percent of equity where as the public holds remaining 30 percent ([www.eblbank.com](http://www.eblbank.com)).

#### **C. Nepal SBI Bank Limited (SBI)**

Nepal SBI Bank Ltd. (NSBL) is a subsidiary of State Bank of India (SBI) having 55 percent of ownership. The local partner viz. Employee Provident Fund holds 15% equity and General Public 30%. NSBL was established in July 1993 and has emerged as one of the leading banks of Nepal, with 923 skilled and dedicated Nepalese employees (as on Ashadh end 2080) working in a total of 138 outlets that include 96 full-fledged branches, 22 extension counters, 7 Province offices, 12 Branchless Banking Outlets and Corporate Office . With presence in 51 districts in Nepal, the

Bank is providing value added services to its customers through its wide network of 121 ATMs, internet banking, mobile wallet, SMS banking and IRCTC Ticket Online Booking facility ([www.nsbibank.com](http://www.nsbibank.com)).

## **1.2 Problems statement**

A financial institution's soundness is judged on the basis of capital adequacy, asset quality, management efficiency, earning, and liquidity (CAMEL). Some financial institution have very low capital adequacy ratio while some have pile of non-performing assets. Similarly, it appears that financial institutions do not have proper system managing the correctness of credit classification and provision of some commercial banks. The profitability position of a firm is generally known through financial statements but a major question emerges whether they are adequate to reflect the overall performance of company or not. The fundamental problem of this study is to check up the financial health of commercial banks in the framework of CAMEL (Jha & Hui, 2012).

Banks should now have to be aware of the need to identify, measure, monitor and control credit as well as to determine that they have hold adequate capital against it. These capitals that they are adequately compensated for risks incurred. So, to establish creditability position is a major issue in commercial banking sector during these days. There maybe no debate that high profitable or successful organization can easily fulfill every need of the organization, customers and can serve to the society. Thus, creditability is the major assets and building better creditability is the major strategy of every commercial banks. Based on the general problem, the following specific problems are set in this study.

- i) What is the financial performance of commercial banks by applying CAMEL model?
- ii) What is the relationship of CAMEL model and ROA and ROE of selected sample banks?
- iii) What is the impact of CAMEL model on financial performance of sample banks?

### **1.3 Objective of the study**

The general objective of this study is to analyze performance evaluation of Nepalese commercial banks using CAMEL model. The specific objectives of the study are as follows:

- i) To analyze the financial performance of commercial banks by applying CAMEL model.
- ii) To examine the relationship of CAMEL model and ROA and ROE of sample banks.
- iii) To measure the impact of CAMEL model on financial performance of sample banks.

### **1.4 Rationale of the study**

Research itself has its own importance because it aims to gain knowledge and to add the new literature to the existing field. The significance of this study lies mainly in filling a research gap on the study of performance evaluation of Nepalese commercial banks using CAMEL model. This study contributes significantly to solve the problem existing in the financial institution and to formulate the policy and strategies to maintain activities effectively. The following points justify the study:

This study assists respective banks and board of directors to specify the entire glory of by finding strength and weakness and helps to overcome from weakness. The study can assist researchers to fill a research gap on the study of comparative financial performance analysis of commercial banks under CAMEL rating. The study will assist scholars, investors and students in determining the financial position of the banks and disseminate the information to the investors and concerned management. The study can assist government to find out the comparative performance of commercial banks in the economic growth of nation. This study can assist policy maker to solve the problem existing in the financial institution especially for commercial banks and to formulate the policy and strategies to maintain their activities effectively.

### **1.5 Limitation of the study**

Some of the limitations will be as follows:

- i) Among 20 commercial banks, only three banks namely HBL, EBL and Nepal SBI have been taken for the study. This study is concerned with three private sector banks which cannot represent the entire banking sector and results of the study are limited to these three particular banks only. Hence, the results may be not applicable to the entire banking sector.
- ii) The study is based on secondary data which is collected from published annual reports of banks and various relevant internet sources. The data obtained through is subject to window dressing and may not show the actual position of the banks.
- iii) The study covers period of only ten years data from 2013/14 to 2022/23.
- iv) Only limited financial and statistical tools have been used for analysis.

## CHAPTER II

### LITERATURE REVIEW

This chapter provides current stage of the research work and guidelines for further study and helps to avoid unnecessary duplication of research work. This chapter devotes on identification, collection and evaluation of previous research work on the CAMEL analysis. While conducting literature survey, the author/s, country of research, period, sample, purpose/s, methodologies, major findings and conclusion have been carefully analyzed to develop a framework of the study. The review of the various literatures have given a direction to this work and helped for developing a research design.

This chapter is mainly divided into two parts as review of previous studies on the relevant field and theoretical framework. The first section provides reviews on empirical experience of previous studies. The second section of this chapter contains brief about research gap and theoretical framework. This chapter emphasizes about the literatures such as books, journals, research paper and other studies related to CAMEL Analysis.

#### **2.1 Theoretical review**

This section provides different variables that are used in the study. For CAMEL model, it includes the dependent and independent variables. The variables are discussed in this part. The variables are defined as follows:

##### **a) Capital adequacy ratio**

Capital adequacy represents the C in CAMEL and hence is the first part in the CAMEL analysis used as an independent variable in this study. Capital adequacy is a measure used in order to investigate the financial strength of the financial institutions. Capital adequacy ultimately determines how well financial institutions can manage with financial shocks to their balance sheets Baral (2005). Capital fund is the sum of tier 1 and tier 2 capitals of commercial banks. Risk weighted assets are a measure of amount of bank assets, adjusted for risks.

##### **Capital Fund to Risk Weighted Assets**

Among different capital adequacy ratios, Capital Fund to Risk Weighted Assets is most important Shar (2010) and Ishaq et al. (2016). In this ratio, capital is determined

against total risk weighted assets. CFRWA is the ratio in which tier 1 and tier 2 capital is summed then the risk based assets of the bank divides the sum.

The CFRWA is the ratio such that percentage of the capital must be placed at Nepal Rastra Bank or have to place by the bank idle of the risk-weighted assets. Higher the CFRWA ratio means higher amount of fund is placed idle which will not generate any return to the bank. No return mean the profit of the bank will be low and EPS will automatically be low. Thus, there would be negative relationship between CFRWA ratios with the EPS of bank.

### **b) Assets quality**

The A in CAMEL stands for evaluating the financial performance for a bank's asset quality used as an independent variable in this study. Ratings for asset quality present current conditions and prospects of future events that can cause changes within the asset quality ratios. The quality can be assessed by looking upon economic condition, practices and trends (Joshi, 2013).

Numerous studies used different proxies to reflect the assets quality in the study of CAMEL framework for commercial banks. Different proxies such as non-performing loans (NPLs) to total loans, loan loss provision to total loans, total loans to total assets, loan loss cover to investments, standard advances to total advances, priority sector advances to total advances, advances to total advances, loan loss provision ratio, portfolio in arrears, loan loss ratio, reserve ratio, percentage change in NPAs, immovable assets to total assets , bearing assets to total assets, non - performing loans to shareholder equity, classified loans to total loans, actual provision to required provision, volume of problem of all assets, volume of overdue or rescheduled loans, volume of concentrations are used by different researchers. Most of them used NPLs to total loans as a proxy for Assets Quality.

### **Non-Performing Loans to Gross Advances**

Non-Performing Loans to Gross Advances is considered as the rate of nonperforming loans to gross advances. It shows the quality of portfolio credit of a bank. It assesses the asset quality that is fortified on the loan portfolio. It is useful for banks that influence the productivity of banks. Non-performing assets mostly refers to those assets which does not give any return to the bank. Now, NPAs is a major issue for the banks as it has ever been a main worry for the bank promoters and the government.

The NPLGA ratio is derived if we divide the nonperforming loans by the gross advances. If there were higher NPL then there the interest income to the bank would be low because NPL does not give any interest to the bank. If the bank is unable to generate the interest income, by which there will be low profit for the bank. Low profit is the main reason for the low EPS to the bank. Thus, there would be negative relationship between NPLGA with the EPS of the bank.

### **c) Management efficiency**

The M in CAMEL stands for assessing management efficiency used as an independent variable in this study. Management can be seen as the component that has the largest focus on the future and is an important determinant of the ability to create properly computed analysis of how the bank responds to financial stress. Management factors should consider among others the risks of interest rate, liquidity, reputation and credit.

Different authors use different variables to gauge the management efficiency. Interest expenses to total loans, operating profit to net income, personnel expenses to total non-interest expenses, total advances to total deposits, business per employee, and profits per employee are the some of the variables used to gauge the management efficiency by researchers. Amongst them Jha and Hui (2012); Ishaq *et al.* (2016) used administrative expense to interest income ratio and interest expenses to total loans to measure the efficiency of management.

### **Administrative expense to interest income**

Administrative expense to interest income ratio measures the expenses that an organization incurs not directly tied to a specific function such as manufacturing/production or sales. These expenses are related to the organization as a whole as opposed to an individual department; also referred to as administrative cost. Administrative expense includes the employees' expenses and other operating expenses incurred in the bank. Moreover, the interest income incorporates the amount earned from the loan made by bank to its borrowers. This is the main profit and revenue source to the bank.

Administrative expense to interest income is the result of administrative expense divided by the interest income. Higher administrative expense will give the higher ratio on the administrative expense to interest income. On the other hand, lower

interest income will also give higher administrative expense to interest income ratio. Higher the administrative expense made by the bank, the more satisfied employees will devote on the works of the bank. This will increase the productivity of the bank and staffs. That will help to increase the customer loyalty and higher profit of the bank. Higher the bank's profit higher will be EPS of the bank. Thus, higher the administrative expense to interest income ratio helps to increase the EPS of the bank. That shows there is positive relationship between administrative expense to interest income ratio and EPS.

Administrative expense to Interest Income =  $\frac{\text{Administrative Expense}}{\text{Interest Income}}$

### **Interest Expenses to Total Loans**

Interest Expenses to Total Loans reflects the management efficiency. Interest expense is one of the major expenses that financial institutions have to incur. Interest expense is that expense that banks have to pay against the deposit of depositors (Muhmad & Hashim (2015)). The total loan provided by a bank is that amount of money, which is provided to the deficit units by collecting from the surplus units. The loan provided by the banks to the deficit units is the main source of income to the banks. Banks generate the income from the interest income and the interest income comes from the loan made by the banks.

The interest expense to total loan is that ratio which is obtained by dividing the total loan to the interest expense paid to the depositors. This ratio will have negative relationship with EPS because higher the interest expense to total loan means the bank is paying more money to its depositors. The money paid by the bank to the depositors is out of the shareholders fund. The higher ratio of interest expense to total loan will thus directly influence the profit of the bank. The more interest expense to total loan will help decrease the EPS of the bank.

### **d) Earnings quality**

The performance of the financial corporation's ability to make and maintain earnings is of vital importance; hence, the E in CAMEL symbolizes earnings quality used as an independent variable in this study. In 2015, Muhmad & Hashim said that earnings quality of an institution depends on the institutional effectiveness and efficiency of assets and liabilities management.

The quality of earnings represents the sustainability and growth of future earnings, value of a bank's competitiveness and its competency to maintain quality and earn consistently. Earnings and profitability are examined as against interest rate policies and adequacy of provisioning. In the words of Gupta (2014), the single best indicator used to gauge earning is the ROA, which is net income after taxes to total asset ratio.

Different researchers use different indicators to measure the earnings quality of the bank. Amongst them Baral (2005); Misra & Aspal (2013) used the ROA as a proxy for the earnings quality of bank.

### **Return on Assets**

ROA is major ratio that indicates the profitability of a bank. It is a ratio of Income to its total asset. It measures the ability of the bank management to generate income by utilizing company assets at their disposal. It also shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution Ongore & Kusa (2013). They also stated that a higher ROA shows that the company is more efficient in using its resources.

ROA is the result of net income generated by the bank divided by the total assets of the bank. Keeping the total assets of the bank constant, higher the net income higher the profit of the bank and that will increase the EPS of the bank higher. Thus, higher the ROA will give higher the EPS and vice versa.

### **e) Liquidity**

Liquidity is L in CAMEL and the final component used as an independent variable in this study. Liquidity is important because a bank or a financial institution must be able to respond to the depositors and creditors demands. In order to measure the liquidity of a bank a liquid assets to total deposits ratio is of relevance as well as the loan-to deposit ratio, cost-to-income ratio, current ratio and financial leverage ratio.

As per the demand of the objective of study, many researchers use different proxies to indicate the liquidity of the bank. Misra & Aspal (2013); Gupta (2014); Muhmad & Hashim (2015) used liquid assets to total deposits as a proxy for liquidity. Thus, this study used the many researchers' proxy as a proxy of liquidity.

### **Liquid Assets to Total Deposits**

The liquid assets in this study includes cash and cash equivalents which is the sum of cash balance, balance with NRB, balance with banks, and money at call. The result of liquid assets divided by the total deposits gives amount available in the bank in proportion with total deposits. The availability of liquid assets per deposit amount is shown by this ratio. When there is decrease in revenue that helps to decrease profit of bank that automatically decreases the EPS of the bank. Higher the ratio, lower will be the EPS and vice versa.

### **f) Earnings per Share**

The dependent variable in the study is EPS. Earnings per share shows the return earned per share. This proportion measures the market worth of the shares of the banks. Higher earnings per share show better future prospects of the Banks. EPS shows whether the acquiring force of the bank has expanded or not. (Tripathi, Meghani & Mahajan, 2014).

Earnings per share is a ratio that the stockbrokers and financiers will watch sensibly and deliberate it while determining the market worth of the equity share. Earnings per share is calculated as net income minus dividends on preferred stocks and then divided by average outstanding shares. The income received by a corporation after meeting cost of manufacture, then interest, devaluation and tax goes to the equity shareholders. These earnings are referred to as earnings per share. Bhatt & Sumangala (2012). EPS is a sequence proportion of income after tax divided by issued common stocks. EPS shows the amount that is going to be distributed among shareholders. EPS reflects future income or capital gain or loss. Silviana & Rocky (2013). It is the monetary value of earnings per outstanding share of common stock for a bank. Higher the EPS, more preferable company would be in the market and vice versa.

## **2.2 Empirical review**

National and international journals' articles and review of previous research and study are covered in review of previous studies. CAMEL analysis is an approach for researchers to measure bank's financial performance (Douglas, Lont, & Scott, 2014). The CAMEL framework also uses the financial ratios and analysis, but evaluates in categories such as capital adequacy, asset quality, management competency, earning quality and liquidity. It was developed by US Federal regulators to help structure the

bank examination process in the early of 1970s. In 1979, the Uniform Financial Institutions Rating System was adopted to provide federal bank regulatory agencies with a framework for rating financial condition and performance of individual banks.

### **2.2.1 Review of articles and journal**

Kaur (2010) have made an analysis of commercial banks operating in India with reference to CAMEL approach. The objective of that study was to evaluate the CAMEL analysis, to analyze assets quality and to absorb the liquidity position of sample banks. The study used both primary and secondary data. 100 samples had been used. Descriptive and analytical research designs were used. The study had conducted model experiments using statistical information on credit histories of clients of Indian commercial banks engaged in consumer lending. The study found that the researcher had categorized the banks into public sector bank, private sector banks and foreign banks. The researcher used the CAMEL analysis technique with the purpose of ranking the banks. Each component of CAMEL has been interpreted using two ratios and a final composite index has been established. The study found that the best bank from the public sector has been awarded to Andhra Bank and State Bank of Patiala. In the category of private sector banks, Jammu and Kashmir Bank has been assigned first rank succeeded by HDFC Bank. Among the foreign sector banks, Antwerp has bagged the first rank followed by JP Morgan Chase Bank. Among variables used are capital adequacy, asset quality, liquidity, and management abilities. Further, by using factor analysis the researcher discussed the difference of performance between holding company banks and ordinary banks after merger. The empirical results showed that according to the performance scores there were six banks of holding company on the top ten lists. This revealed that the merger between financial institutions have improved merger synergy. The study concluded that annual CAMEL scanning helps the commercial bank to diagnose its financial health and alert the bank to take preventive steps for its sustainability.

Liu and Pariyaprasert (2012) investigated the determinants of bank performance using CAMEL model to banks listed in China's stock exchanges from 2008 to 2011. The objective of the study was to determine the bank performance using CAMEL model, to analyze assets quality and to absorb the liquidity position of the banks. The study used secondary data from desktop research and primary data from interviews, qualitative research. The secondary information included the credit policies, lending

process, methods or system that the case bank is using in credit risk management. The sample size for this research was 13 Chinese banks listed in Shanghai Stock Exchange and Shenzhen Stock Exchange from 2008 to 2011. The fixed effects multiple linear regression model was adopted in this study to measure the relationship between internal determinants from CAMEL model and bank performance. The study found that return on assets could be influenced by shareholders' risk-weighted capital adequacy ratio, NPL to total loans ratio, costs to income ratio, net interest rate margins, and loans to deposits ratio. The findings indicated that in the world of banking, competition between commercial banks is increasing more and more. Lenders are trying to satisfy customers in various credit services, which include lending services. To keep them in the play, banks focus on improving credit growth. However, higher credit growth will not truly bring higher profits if banks fail to manage credit risk. Meanwhile, this study concluded that return on equity could be influenced by costs to income ratio, operating expenses to assets ratio, and loans to deposits ratio.

Gabriel (2012) investigated the performance of local and foreign Banks using the CAMEL rating system with data from the bank's annual report. The objective of the study was to analyse the banks' credit management policy and to examine different obstacles or problems resulting from credit risks. The study was based on a descriptive research approach the study had used survey-based primary data. The study is quantitative and descriptive in nature, as it elaborates the association between obstacles faced in performance of banks. Primary data has been used for analyzing the relationship between dependent and independent variables. For the purpose of generalization, twelve banks made of six foreign and six local banks were selected using simple random sampling method. The study found that foreign banks perform better on capital adequacy, asset quality, and management efficiency. The local banks on the other hand performed better than their foreign counterparts on the earnings ability perform and are more liquid than their foreign counterparts are. A model developed for this study revealed that not all the CAMEL variables influenced significantly on the performance of commercial banks in Ghana. The results from the study concluded that there is a positive relationship between ROA, OPTR, and NIM. In addition, a similar relationship exist between OPTR, NPLTAM and ROE of commercial banks in Ghana, however CAR and ROE are negatively correlated.

Tom (2012) tried to establish the effects of CAMEL variables on bank efficiency as measured by the efficiency ratio of Kenyan commercial banks. The objective of the study was to evaluate the capital adequacy ratio, to analyze assets quality and to analyze the liquidity position of the banks. The study adopted a panel data design and descriptive approach to meet its objectives. Annual financial statements of 37 Kenyan commercial banks from 2007 to 2011 were used as sample. The data comprising a sample of 185 study units was analyzed using multiple linear regressions. The study found that Capital Adequacy, Earnings and Liquidity ratio have a negative relationship to efficiency ratio while Management quality and Asset quality have a positive relationship. The study compared relative performance of commercial banks in India using CAMEL approach. The researcher used 61 sample data from 1999-2009 secondary data for analysis. The researcher used ratios, mean, standard deviation, and ranking for study. The study concluded that public sector banks have significantly improved indicating positive impact of the reforms in liberalizing interest rates, rationalizing directed credit and investments and increasing competition.

Ongore and Kusa (2013) made a research in Kenya to find out determinants of financial performance of commercial banks in Kenya. The objective of the study was to evaluate the capital adequacy ratio, to analyze assets quality and to analyze the liquidity position of the banks. The study used secondary data from desktop research and primary data from interviews, qualitative research. The study using 37 samples with the help of linear regression, t-statistic, descriptive, kurtosis, skewness, VIF, and correlation. The study found that bank specific factors significantly affect the performance of commercial banks in Kenya, except for liquidity variable. However, the overall effect of macroeconomic variables was inconclusive at 5% significance level. The moderating role of ownership identity on the financial performance of commercial banks was insignificant. Thus, it concluded that the financial performance of commercial banks in Kenya is driven mainly by board and management decisions, while macroeconomic factors have insignificant contribution. They used financial ratio and K-S test for the analysis. The study concluded that there is no significant difference in the performance of public and private banks. Overall mean suggested the better performance of private banks, but this difference is not significant.

Misra and Aspal (2013) attempted to evaluate the performance & financial soundness of State Bank Group using CAMEL approach between the periods of 2009-2011. The objective of the study was to evaluate the CAMEL analysis, to analyze assets quality and to analyze the liquidity position of the banks. The study used secondary data from desktop research. The secondary information included the credit policies, lending process, methods or system that the case bank is using in credit management. The study found that in terms of capital adequacy parameter SBBJ and SBP were at the top position, while SBI got lowest rank. In terms of asset quality parameter, SBBJ held the top rank while SBI held the lowest rank. Under Management efficiency parameter, it was observed that top rank taken by SBT and lowest rank taken by SBBJ. In terms of Earning Quality parameter, capability of SBM got top rank while SBP was at the lowest position. Under the Liquidity parameter, SBI stood on the top position and SBM was on the lowest position. The study concluded that SBI needs to improve its position with regard to asset quality, capital adequacy, SBBJ should improve its management efficiency, and SBP should improve its earning quality.

Mohiuddin (2014) made a study on financial performance of the two top banks of Bangladesh, representing the biggest nationalized commercial bank (i.e. Sonali Bank Limited, SBL) and the biggest private commercial bank (i.e. AB Bank Limited, ABBL). The objective of the study was to evaluate the financial ratio, to analyze assets quality and to analyze the liquidity position of the banks. The study was mainly based on secondary data drawn from the annual reports of the respective banks. This data was related to 5 years (2009-2013). For analysis of the data, two important statistical tools viz. mean and standard deviation has been used to arrive at conclusions in a scientific way. The study found that all of the selected banks are in a position to make a sustainable growth in respect of branches, employees, deposits, loans and advances, classified loan, net income and earnings per share with some fluctuation. Under trend equation analysis, the variables named branches, employees, deposits and net incomes hold more positive value than the other variables considered. It was a clear indication to the researcher that Bangladesh has a very good prospect in case of private commercial banks. The study concluded that position of the banks under the study is sound and satisfactory so far as their capital adequacy, asset quality, management capability and liquidity is concerned.

Saif (2014) studied financial performance of the commercial banks in the kingdom of Saudi Arabia. The objective of the study was to investigate the financial performances of Saudi commercial banks during the period 2000-2013. The research prioritised an 'action research' design that used both quantitative and qualitative data within a mixed methods research design. A sample of 21 commercial banks comprising of 10 foreign owned banks operating in the country and 11 Saudi domestic banks for the captioned 14 years period have been used in the study. Using panel data linear multiple regression model and ordinary least squares have been used in the present study to estimate the impact of the driver ratios like capital adequacy (CAR), asset quality (AQ), operational efficiency (OE), bank size (SIZE), net loan to total deposits (LIQR-1), liquid assets to total assets (LIQR-2) on the financial parameters like Return on Equity (ROE), Return on Asset (ROA), and Net Interest Margin (NIM). The study found that at the pool level, that CAR, OE, SIZE, LIQR-1 LIQR-2 have positive and significant relationship with ROA but AQ has negative and significant relationship with ROA. Similarly, CAR, SIZE and LIQR-2 have positive significant relationship with ROE, whereas LIQR-1 has positive but insignificant relationship with ROE. The study concluded that AQ has negative and significant relationship and OE has negative but insignificant relationship with ROE. All the determinant variables excepting CAR and OE of banks have positive significant relationship with NIM. CAR has positive but insignificant relationship with NIM and OE has negative but significant relationship with NIM.

Getahun (2015) studied financial performance of commercial banks in Ethiopia using CAMEL Approach for the period of 2010-2014. The objective of the study was to evaluate the banks through CAMEL ratio analysis, to analyze assets quality and to analyze the liquidity position of the banks. The study used secondary data. Descriptive and analytical research designs were used. The study employed data in annual frequency from Ethiopia's 14 banks. ROA and ROE used as proxies for dependent variables whereas gross capital to total asset ratio, provision for loan loss to total loans, Non-interest expense to net interest income plus non-interest income ratio, net interest income to total interest Income, and total loans to total deposits used as independent variables. The researcher used multiple linear regression models for the analysis. The study found that risk should be taken as one of the challenges of the banking industry but it is not sufficient to minimize the potential disasters. Banking

risk should be managed as a separate part of the management. The researcher concluded that capital adequacy, asset quality and management efficiency have negative relation whereas earning and liquidity shows positive relationship with both profitability measures with strong statically significance except capital adequacy which is insignificant for ROA whereas asset quality for ROE.

Kumar and Sayani (2015) studied the soundness of Islamic banks in the GCC for the period 2008 to 2014. The objective of the study was to evaluate the CAMEL ratio, to analyze assets quality and to analyze the liquidity position of the banks. The study used secondary data from desktop research and primary data from interviews, qualitative research. The secondary information included the credit policies, lending process, methods or system that the case bank is using in credit management. The analysis is based on CAMEL methodology. The study involved 11 listed Islamic banks based in the GCC countries of Saudi Arabia, United Arab Emirates, Qatar, Bahrain, and Kuwait. The study applied the CAMEL parameters, which include capital adequacy, asset quality, management capability, earning ability, and liquidity ratio. Multivariate Z- score model was used to ensure robustness of the results. The study found that although the Islamic banks in the GCC have adequate capital, their asset quality and earning ability have deteriorated over the period of study. However, impact was not so significant that these banks will be pushed to brink of bankruptcy. The study concluded that changes in the economic environment and the emergence of new risks should be considered from both, bank managers and regulators, by the implementation and evaluation of Banks' rating system.

Muhmad and Hasim (2015) assessed the bank performance in Malaysia. The objective of the study was to highlight the evaluation of bank performance, including both domestic and foreign banks in Malaysia, using the capital adequacy, asset quality, management competency, earning quality, and liquidity (CAMEL) framework for the period 2008 to 2012. The study used secondary data. Descriptive and analytical research designs were used. The researchers used regression analysis for the study. The results of the study showed that capital adequacy, asset quality, earning quality and liquidity have a significant impact on performance of Malaysian banks. Quantitative analysis was undertaken by looking at various sets of financial ratios that are routinely used to measure bank performance. The main ratios that were employed put a particular focus on the banks liquidity, profitability, management capacity,

capital structure and share performance as reliable indicators of a bank performance. The findings showed that both banks performed reasonably well during the period studied. While the bank of Sharjah benefitted by having an overall higher degree of liquidity, profitability, management capacity and capital structure. Dubai Islamic bank was better off in relation to share indicators performance and in terms of overall stability. The study concluded because of their effective persuasion on long recovery, overdue and defaulting loans have been limited resulting in high margins between interest income and interest payment.

Sapto, Noer, Achsani, Hakim and Muhamad (2015) conducted study on market concentration, market share, and profitability. The objective of the research was to examine the influence of market structure on Indonesian commercial banking performance by using concentration ratio and to examine individual market share through deposits market channel and credits market channel. The study used secondary data. Descriptive and analytical research designs were used. There were 101 banks chosen from 120 banks in a period of 2001-2012 as sampling of research by using purposive sampling. This research used data panel that combines data cross section and data time series, therefore panel data regression is used in this research. The study found that the condition of Indonesian banking during 2001-2012 showed a good achievement. The market dynamic is marked by the reduction of the number of banks which operated in Indonesia, from 145 banks in 2001 to 120 banks in 2012. However, the number of bank offices is increasing from 6.765 bank offices (in 2001) to 16.625 bank offices (in 2012). The total assets, deposits, and credits of Indonesian banking shows the significant improvement. Even though Indonesian banking still can't distribute credits optimally (credits is still lower than deposits), but LDR tended to rise from 40% (2001) to 84% (2012). The study concluded that concentration ratio of deposits market has a significant and positive influence on ROA, meanwhile concentration ratio of credits market, individual market share of deposits, and individual market share of credits market have no significant effects on ROA.

Ishaq, Karim, Ahmed, & Zaheer (2016) made a research to assess the financial execution of the ten commercial banks working in Pakistan. The objective of the study was to evaluate the financial performance ratio, to analyze assets quality and to analyze the liquidity position of the banks. The study used secondary data. The study used quantitative data. Descriptive research design was used. The study used

statistical and financial tools. The data has been taken for seven years i.e. 2007-2013. The study found that total deposit to equity, non-performing loans to gross advances, non-performing loans to equity, administrative expenditure to interest income ratio, gross advances to total deposits ratio were significantly but negative correlated with a bank's performance. The return on assets and return on equity were significantly and positively correlated with bank's performance. The interest income to total assets ratio is statistically insignificant with bank's performance, whereas the study concluded that Interest Income to Total Assets Ratio is statistically significant with bank's performance. The cash ratio is also showing insignificant correlated bank's performance, whereas the regression result shows that the cash ratio is statistically significant with a bank's performance.

Pallavi and Saluja (2017) conducted study on profitability analysis of scheduled commercial banks in India. The objectives of the study was to analyse the profitability of scheduled commercial Banks, and to study trends of profitability of scheduled commercial banks. The present paper study trends in productivity of SBI and its associates. The study used secondary based and analytical in nature. The time period of the study is from 2010-11 to 2014-15. The various sources of data were used. Statistical tables relating to banks in India, Trend and Progress of Banking in India published by RBI Statistical tools such as mean, standard deviation, coefficient of variation, correlation coefficient and growth rate both simple growth rate and compound growth rate were used to provide analytical results of the data.. The study found that measurement of profitability in banking is necessary to improve the financial soundness of banks. Profitability is an important criterion to evaluate the overall efficiency of the bank. The objective of profitability ratio is to evaluate the performance of banks on the basis of the degree of relationship existing between the profits and fund on one hand and between the profit and total income of banks on the other. Increase in the ratio implies increase in the profitability of banks. Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings compared to its expenses and other relevant costs incurred during a specific period of time. For most of these ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well. The study concluded that that net profit to working fund is

better than of operating profit to working fund as far as net profit as percentage of total income is better than of net profit to total deposits.

Jana and Lace (2018) conducted study on Commercial Banks Profitability Indicators: Empirical Evidence from Latvia. The objective of the article was to determine the impact of the external and internal factors of bank performance on the profitability indicators of the Latvian commercial banks in the period from 2006 to 2011. The study used the survey of scientific literature and analyzed profitability indicators of commercial banks using descriptive methods, as well as SPSS data analysis methods, data correlation and regression analysis. The study found that GDP has a positive impact on profitability as measured by ROA and ROE. The methodology used in the present research can be applied to determine not only profitability indicators of some commercial bank in particular, but also to compare performance indicators of several banks. One of the most important conditions for economic development is an effective Latvian banking system. In the recent years the country created and developed a modern two-tier banking system. Competitive credit and financial infrastructure is gradually emerging, and commercial banks are its basic elements. Some of them have received high international ranking. The study concluded that profitability has had a positive effect on operational efficiency, portfolio composition and management, while it has had a negative effect on the capital and credit risks, as measured according to ROA, while according to ROE, positive influence is exerted on composition of the capital portfolio and negative – on operational efficiency and credit risk.

Wardhani, et al; (2021). Banking financial performance during Covid-19. Pandemic Covid-19 has made every company improve its business operations, continue to run well, and produce good financial performance optimal. Financial performance is a measuring tool for describing the financial conditions of a company. Measurement of financial performance in this study using the DuPont system method. The reason for this consideration is to analyze contrasts in money related execution sometime recently and amid Covid-19 and analyzing the impact of the pointers contained on Dupont framework strategies, to be specific Net Benefit Edge (NPM), Total Asset Turnover (TATO), Financial Leverage Multiplier (FLM), Return on assets (ROA) and return on equity (ROE). This study's population is a listed banking sector company Indonesia Stock Exchange (IDX), for the period 2019-2020. This study's sample is

based on a purposive sampling technique to obtain as many as 23 banking companies. Information in this think about was analyzed by Wilcoxon signed-rank test approach. The test result shows that the sector's financial performance banking experienced no difference before and during Covid-19. Thus, banks are still able to maintain banking financial stability during a pandemic.

Jao, et al (2020) studied on financial performance, reputation, and firm value: empirical evidence of non-financial companies listed in Indonesia stock exchange. The research aims to investigate the influence of financial performance on reputation, the influence of financial performance on firm value, the influence of reputation on firm value, the influence of financial performance on firm value with reputation as a mediating variable. The sample of this study consisted of 108 non-financial companies listed in the Indonesia Stock Exchange during 2016-2018 which was selected using a purposive sampling method. The analysis method in this study uses path analysis. The reputation measurement used the corporate image index (CII) published by Frontier Consulting Group. The results showed that financial performance has a positive and significant influence on company reputation, financial performance has a positive and significant effect on firm value, reputation has a positive and significant influence on firm value, reputation mediates the influence financial performance on firm value. The implication of this research was the financial performance as a positive signal in improving the company's reputation which has an impact on increasing investor belief in the capital market.

IJCRT (2022) conducted study on CAMEL model analysis of public banks in India. The study stated reliable indicator and metric for determining whether an economy's economic operations are sound is performance review of the banking sector. This study is solely based on secondary data that was gathered from the Reserve Bank of India. The performance and financial soundness of a few Indian public banks have been assessed in the current study for the years 2018 through 2022. The financial health of the chosen banks has been examined using the CAMEL technique. To arrive at the result through the comparison and significant examination of several CAMEL factors, Composite Rankings, mean ( $\mu$ ), median (Med.) and standard deviation ( $\sigma$ ) have been utilised. According to the CAMEL analysis, State Bank of India is placed first, followed by Union Bank of India, while Bank of Baroda took the third spot. Punjab National Bank is in the fourth spot, and the last spot was acquired by Bank of

India. The State Bank of India is ranked first among the other banks included in the study when all of CAMEL's criteria are taken into account, according to the model. While State Bank of India lags behind in terms of capital adequacy and liquidity, it performs well in terms of asset quality, management effectiveness, and earning capacity.

Sah and Pokharel (2023) analyzed the financial performance of Nepalese commercial banks using CAMEL approach. Bank and financial institutions require a method for assessing performance, considering some crucial financial statistics, and identifying strengths and weaknesses. The "CAMEL" model is an effective tool for assessing the performance of bank and financial institution. This model studied Capital adequacy, Asset quality, Management quality, Earnings capacity, and Liquidity condition of sample banks. The study has made a modest attempt to use the CAMEL technique to examine the performance of three commercial banks in Nepal from 2011/12 to 2020/21. Rastriya Banijya Bank, a wholly government-owned, Nepal SBI Bank Limited (NSBIL) joint venture, and Prime Commercial Bank Limited (PCBL), privately owned, were considered as a sample banks for the analysis. The result explained that PCBL and NSBIL could keep their risk-weighted assets at more excellent Tier I and II capital levels, demonstrating their financial soundness. This also revealed that NSBIL could support a higher percentage of well-performing loans. RBBL, NSBIL, and PCBL, all BFIs maintained average returns on shareholder equity and returns on assets. It also found PCBL was first in terms of the ratio of liquid assets to total deposits, followed by NSBIL banks and RBBL. In light of this, this research will be tremendously instructive to academics, researchers, and bank management. They can utilize it to create a financial plan for the effectiveness of the bank performance as a whole.

### **2.2.2 Review of previous studies**

Khadka (2018) had carried out research on comparative study on investment policy of *commercial banks*. The main objective was to find out the relationship between deposits, investment, loans and advances and net profit. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. Two commercial banks were taken as sample out of 28 commercial banks. purposive sampling method was used. The study found that while comparing the performance of NBL with NABIL, SCBNL and NIMBL; NBL is comparatively less

successful in on balance sheet as well as off-balance sheet operations than that of other commercial banks. It predicted that in the coming days if it could not mobilize and utilize its resources as efficiently as other CBs to maximize the returns, it would lag behind in the competitive market of banking. The study concluded that profitability positions of NBL are comparatively worse than that of other commercial banks. It concluded that NBL may not maintain the confidence of shareholders, depositors and its all customers if it cannot increase its volume even in future.

Pandey (2019) had carried out study on ‘Nepal Rastra Bank directives their *implementation and impact on the commercial banks- a case study of Himalayan Bank Limited*. The main objectives were to find out the impact of change in NRB directives on the performance of the commercial banks and to find out whether the directives were implemented or not. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. The study found that the directives of not properly addressed brave potential to wreck the financial system of the country as they are the only tool of the NRB to supervise and monitor the financial institutions. The directives in themselves are not that important unless properly implemented. The implementation part depends upon the commercial banks. In case commercial banks are making such huge profit with full compliance of NRB directives, then the commercial banks would deserve votes of praise because they would then be instrumental in the economic development of the country. All the changes in NRB directives made impacts on the bank and the result are the followings: Increase in operational procedures of the bank, which increases the operational cost of the bank. The study concluded that increase protection to the money of the depositors through increased capital adequacy ratios and more stringent loan related documents. Increase demand for shareholder’s contribution in the banks by foregoing dividends for loan loss provisions and various other reserves to increase the core capital. The study recommended that there is a positive relationship between market capitalization and return on assets. Hence, the banks willing to increase return on assets, should increase its market capitalization. The study revealed a negative relationship between liquidity and return on assets.

Karki (2019) studied on *liquidity and profitability position of commercial banks of Nepal*. The main objectives of the study were to examine the liquidity and profitability position of the commercial banks of Nepal and to calculate the ROA of

the sample banks. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. The study found that though the liquid asset maintained by SCBNL was highest, the liquidity position of NABIL was strongest in terms of current ratio and CRR. Furthermore, NABIL was most successful in optimizing the assets mobilization due to its highest ROA. The study concluded that except in HBL, there existed a positive relationship between cash and bank balance with the net profit. The study recommended that the C.V of liquidity ratio of NABIL, HBL and SCBNL are very high. So these banks should be maintained consistent in liquidity position in term of liquidity ratio and quick ratio.

Shrestha (2019) conducted study on *Determinants of Financial Performance of Nepalese Commercial Banks: Evidence from Panel Data Approach*. The basic objective this paper was to identify the determinants of the financial performance of Nepalese commercial banks. This paper also aims to identify the factor that plays significant role for explaining the financial performance of Nepalese commercial banks. This study is based on descriptive, correlation and causal comparative research design. The fact and behavior of the variables under the study has been analyzed using descriptive analysis. The causal comparative research design is used to evaluate the explanatory power of bank specific factors for explaining financial performance of Nepalese commercial banks. This study has used financial performance of Nepalese commercial banks measured by return on assets (ROA) as dependent variable. The aim of this study is to identify the impact of bank specific factors on the financial performance of Nepalese commercial banks. Thus, this study used bank specific variables as explanatory variables which are measured by management efficiency (ME), liquidity (LIQ), credit risk (CR) and assets quality (AQ) and operational efficiency (OE). The impact of bank specific factors on the financial performance of Nepalese commercial banks is analyzed in this paper. The financial performance is measured by using return on assets (ROA). Similarly, managerial efficiency (ME), liquidity (LIQ), credit risk (CR), assets quality (AQ) and operational efficiency (OE) is used as proxy of bank specific factors. This study used panel data of 17 commercial banks for the period of 2010/11 to 2017/18. This study reveals that ME, AQ and OE have significant positive impact, and CR has negative impact on the financial performance of Nepalese commercial banks. The study recommended that the C.V of liquidity ratio of NABIL, HBL and SCBNL are very high. So these banks should be

maintained consistent in liquidity position in term of liquidity ratio and quick ratio. And EPS for NABIL, HBL, and SCBNL is low. So, this study is suggested to enhance their EPS. HBL has more consistent in maintaining the EPS. NABIL has more fluctuated too over six year as compared to other bank.

Neupane (2020) conducted study on *profitability determinants of Nepalese commercial banks*. The objective of this study is to examine the the key determinants of profitability of Nepalese commercial banks. This study employs descriptive statistics to describe the profitability of Nepalese banks and its determinants. Further, the degree of correlation among different indicators of profitability and its determinants has been assessed by calculating correlation coefficient. Finally, this study has adopted a panel data regression model (Fixed Effect Model and Random Effect Model) to investigate the determinants and their impact on profitability of Nepalese commercial banks. The analysis reveals that the bank pofitability measured by ROA of Nepalese commercial banks is significantly affected by concentration ratio, banking sector development, GDP growth, inflation and exchange rate significantly in opposite direction rather it is not significantly affected by the internal factors like bank size, capital base, deposit, loan, off-balance sheet activities and number of branches. Another indicator of bank profitability; NIM is significantly affected only by capital adequacy, absolute number of branches and inflation rate. This study concluded that the profitability of Nepalese commercial banks measured by return on assets is significantly influenced by the external factors. Among external factors, industry specific factors have high degree of impact on return on assets whereas macroeconomic variables have quite a weak degree but significant impact on profitability of Nepalese commercial banks as measured by return on assets.

Panta (2021) studied on *cash and liquidity management of commercial banks in Nepal*. Main objectives of the study were to comparatively examine and analysis the liquidity position and cash management practices of SBL and NIMBL and to find out the correlation between loan and advances and total deposit. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. Two commercial banks were taken as sample. Purposive sampling method was used. The research found that the total deposit of SBL and NIMBL is in increasing trend over the period. Both of them have high positive correlation between total deposit and loan and advances. The trend line of loan and advances for both

banks is upward slopping which refers to the increase in the disbursement of loan and advances. The study concluded that lack of adequate liquidity is one of the first signs that the bank is in trouble, thus ensuring adequate liquidity is a never ending problem of bank management that will have significant impact on bank's profitability.

Khanal (2022) studied on *comparative study on liquidity management of Everest Bank Ltd and Himalayan Bank Ltd*. The main objectives of the study were to have true insight into the liquidity management of the above mentioned banks and to examine the efficiency and effectiveness in disbursing and recovery of loans. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. Two commercial banks were taken as sample out of total commercial banks. Convenience sampling method was used. The study found that EBL is more efficient in utilizing the outsider's funds in extending credit for profit generating sectors while HBL is more successful in utilizing its total deposits by investing in marketable securities. It seems HBL is successful in earning high profit on loan and advances but the return has not been consistent. Since both banks have small mean returns on its loans and advances, neither seems to perform better in order to receive reasonable returns from these loans. The study concluded that the overall aspect of liquidity position of EBL is comparatively better than HBL as it is sound in meeting short term obligations. The study recommended that capital ratio for EBL is comparatively lower than HBL bank and coefficients are consistent for sample banks which should be maintained consistent upcoming year and EBL should increase the capital ratio for increasing the profitability.

### Summary of review of literature

Article	Writers and (Date of Publications)	Objectives	Methodology	Findings
Analysis of financial performance of Nepalese commercial	Sah and Pokharel (2023).	To analyze the performance of three Nepali commercial banks using CAMEL approach	The study was based on secondary information from three selected banks. The study has	The study found that NSBIL could support a higher percentage of well-performing loans. RBBL, NSBIL, and PCBL, all BFIs maintained average returns on shareholder equity and returns on assets. It

al banks using CAMEL approach			made a modest attempt to use the CAMEL technique to examine the performance of three commercial banks in Nepal from 2011/12 to 2020/21.	also found PCBL was first in terms of the ratio of liquid assets to total deposits, followed by NSBIL banks and RBBL. In light of this, this research will be tremendously instructive to academics, researchers, and bank management. They can utilize it to create a financial plan for the effectiveness of the bank performance as a whole.
Study on CAMEL model analysis of public banks in India	IJCRT (2022)	To evaluate the financial performance of a few public banks in India and to look into the main elements that influence those banks' financial performance	The study is solely based on secondary data. To arrive at the result through the comparison and significant examination of several CAMEL factors, composite rankings, mean, median and standard deviation have been used.	The study found that the as per CAMEL analysis, State Bank of India is placed first, followed by Union Bank of India, while Bank of Baroda took the third spot. Punjab National Bank is in the fourth spot, and the last spot was acquired by Bank of India. The State Bank of India is ranked first among the other banks included in the study when all of CAMEL's criteria are taken into account, according to the model. While State Bank of India lags behind in terms of capital adequacy and liquidity.
Banking financial performance during Covid-19.	Wardhani, Rosalina, Elvany and Awaluddin (2021).	Measurement of financial performance in this study using the DuPont system method. The reason for this consideration is to analyze	A multiple linear regression model was adopted. It was revealed that a strong positive and significant relationship between	The test result shows that the sector's financial performance banking experienced no difference before and during Covid-19. Thus, banks are still able to maintain banking financial stability during a pandemic.

		contrasts in money related executions	financial performance of commercial banks and interest rate spread	
Financial performance, reputation, and firm value: empirical evidence of non-financial companies listed in Indonesia stock exchange	Jao, Hamzah and Laba (2020)	The research aims to investigate the influence of financial performance on reputation, the influence of financial performance on firm value, the influence of reputation on firm value, the influence of financial performance on firm value with reputation as a mediating variable	The profitability ratios (ROA and ROE) are assumed as dependent variables while Leverage, Size, Tangibility and liquidity status are as independent variables.	The test result shows that the sector's financial performance banking experienced no difference before and during Covid-19. Thus, banks are still able to maintain banking financial stability during a pandemic. The implication of this research was the financial performance as a positive signal in improving the company's reputation which has an impact on increasing investor belief in the capital market.
Commercial Banks Profitability Indicators: Empirical Evidence from Latvia.	Jana and Lace (2018)	To determine the impact of the external and internal factors of bank performance on the profitability indicators of the Latvian commercial banks	The study used the survey of scientific literature and analyzed profitability indicators of commercial banks using descriptive methods.	The study found that GDP has a positive impact on profitability as measured by ROA and ROE. The study concluded that profitability has had a positive effect on operational efficiency, portfolio composition and management, while it has had a negative effect on the capital and credit risks, as measured according to ROA.
Profitability	Pallavi and	To analyze the	Correlation	The study found that

ty analysis of scheduled commercial banks in India	Saluja (2017)	profitability of scheduled commercial Banks, and to study trends of profitability of scheduled commercial banks.	and regression analysis used	measurement of profitability in banking is necessary to improve the financial soundness of banks. Profitability is an important criterion to evaluate the overall efficiency of the bank.
Financial execution of the ten commercial banks working in Pakistan	Ishaq, Karim, Ahmed, & Zaheer (2016)	To evaluate the financial performance ratio, to analyze assets quality and to analyze the liquidity position of the banks.	The study used quantitative data. Descriptive research design was used. The study used statistical and financial tools.	The study found that total deposit to equity, non-performing loans to gross advances, non-performing loans to equity, administrative expenditure to interest income ratio, gross advances to total deposits ratio were significantly but negative correlated with a bank's performance.
Study on market concentration, market share, and profitability in Indonesia.	Sapto, Noer, Achsani, Hakim and Muhamad (2015)	To examine the influence of market structure on Indonesian commercial banking performance by using concentration ratio.	Descriptive and analytical research designs were used.	The study concluded that concentration ratio of deposits market has a significant and positive influence on ROA, meanwhile concentration ratio of credits market, individual market share of deposits, and individual market share of credits market have no significant effects on ROA.
Bank performance in Malaysia	Muhmad and Hasim (2015)	To highlight the evaluation of bank performance, including both domestic and foreign banks in Malaysia.	Descriptive and analytical research designs were used. The researchers used regression analysis for the study.	The findings showed that both banks performed reasonably well during the period studied. While the bank of Sharjah benefitted by having an overall higher degree of liquidity, profitability, management capacity and capital structure.

Soundness of Islamic banks in the GCC for the period 2008 to 2014.	Kumar and Sayani (2015)	To evaluate the CAMEL ratio, to analyze assets quality and to analyze the liquidity position of the banks.	The study used secondary data from desktop research and primary data from interviews, qualitative research.	The study found that although the Islamic banks in the GCC have adequate capital, their asset quality and earning ability have deteriorated over the period of study. However, impact was not so significant that these banks will be pushed to brink of bankruptcy.
Financial performance of commercial banks in Ethiopia using CAMEL Approach	Getahun (2015)	To evaluate the banks through CAMEL ratio analysis, to analyze assets quality and to analyze the liquidity position of the banks.	Descriptive and analytical research designs were used. The study employed data in annual frequency from Ethiopia's 14 banks.	The study found that risk should be taken as one of the challenges of the banking industry but it is not sufficient to minimize the potential disasters. Banking risk should be managed as a separate part of the management.
Financial performance of the commercial banks in the kingdom of Saudi Arabia.	Saif (2014)	To investigate the financial performances of Saudi commercial banks during the period 2000-2013.	The study used 'action research' design that used both quantitative and qualitative data within a mixed methods research design.	The study concluded that AQ has negative and significant relationship and OE has negative but insignificant relationship with ROE. All the determinant variables excepting CAR and OE of banks have positive significant relationship with NIM. CAR has positive but insignificant relationship with NIM and OE has negative but significant relationship with NIM.
Financial performance of the two top banks of Bangladesh,	Mohiuddin (2014)	To evaluate the financial ratio, to analyze assets quality and to analyze the liquidity position of the	The study was mainly based on secondary data drawn from the annual reports of the	The study found that all of the selected banks are in a position to make a sustainable growth in respect of branches, employees, deposits, loans and advances, classified loan, net income and earnings per share

representing the biggest nationalized commercial bank		banks.	respective banks.	with some fluctuation.
Performance & financial soundness of State Bank Group using CAMEL approach	Misra and Aspal (2013)	To evaluate the CAMEL analysis, to analyze assets quality and to analyze the liquidity position of the banks.	The study used secondary data from desktop research. The secondary information included the credit policies and lending process.	The study found that in terms of capital adequacy parameter SBBJ and SBP were at the top position, while SBI got lowest rank. In terms of asset quality parameter, SBBJ held the top rank while SBI held the lowest rank. Under management efficiency parameter, it observed that top rank taken by SBT and lowest rank taken by SBBJ.

### 2.3 Research gap

There are number of studies that have been conducted on financial performance and its evaluation of commercial banks in Nepal, performance comparison between joint ventures and private sector banks and other financial institutions but analysis in the case of HBL, EBL and Nepal SBI Bank Limited still remains unexplored on certain parameters. The researchers try to fill this lack of evidence by extending the issue to the specific context of the banks. It has only explained the trend that has been established between the CAMEL, it has become incomplete to explain the impact over the operational efficiency and the specific problem faced by the banks due to conflicting impact of CAMEL specially in commercial banks. Therefore, this research is border and is aimed to analyze their trends using statistical and financial tools to draw the effective conclusion. The previous researchers have selected sample of renowned commercial banks only but in this study sample has selected from public sector and private sector banks. So this is the research gap of study. Thus, the previous studies cannot be ignored because the studies provide the foundation to the present study. In other words, there has to be continuity in research is ensured by linking the present study with the past research studies. Here, it is clear that the few

researches have been carried out on related topic. Therefore, to fulfill this gap, this research is selected. To complete this research work, many books, journals, articles and various published and unpublished thesis were followed as guideline to make the research easier and smooth. In this regard, here researcher going to analyze the performance evaluation of Nepalese commercial banks using CAMEL model of HBL, EBL and Nepal SBI Bank Limited. To achieve these objectives, various financial and statistical tools are used. Therefore, this study is useful to the concern banks as well as different person, Such as shareholders, investors, policy makers, state of government etc.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

Research is common parlance that refers to a search for knowledge. Research is a careful critical inquiry or examination on seeking facts and principles, diligent investigation in order to ascertain something. Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically (Kothari, 1990).

#### **3.1 Research design**

This study is based on descriptive research design. The study is based on secondary data with the aim of comparative study of financial performance of selected banks in Nepal by applying CAMEL model. The data were collected from the annual reports of HBL, EBL and Nepal SBI Bank Limited. CAMEL Model is used to evaluate the performance of selected banks. The study was completed after the analysis of collected data to meet the study objectives followed by drawing of some findings, conclusion and recommendation. Thus descriptive research design has been used for the study purpose.

#### **3.2 Population and sample**

It is not possible to study all the banks of Nepal. Therefore, all the 20 commercial banks operating in Nepal till May, 2024 have been considered as population and three banks namely HBL, EBL and Nepal SBI Bank Limited have been considered as sample. The study covers secondary data of ten years. The study period covers latest fiscal year 2013/14 to 2022/23. So, all the commercial banks that are operating in Nepal are considered as the population by using convenient sampling method. Among them three private sector banks are taken as a sample for study which is based on convenience sampling method.

#### **3.3 Nature and sources of data**

This study is mainly depended upon secondary sources of data. The main sources of data are annual reports of related banks, Nepal Rastra Bank and Nepal Stock Exchange (NEPSE) database. Along with the financial data, different websites are frequently visited for the purpose of data collection. The data and information are used for ratio analysis. All these data are collected personally. Major secondary sources are as follows:

- i. Annual reports of sample commercial banks.
- ii. Quarterly bank and financial institution statistics published by Nepal Rastra Bank.
- iii. Annual reports of commercial banks published by Nepal Rastra Bank.
- iv. Economic Survey published by Nepal Government, Ministry of Finance.
- v. Statistical Year Book of Nepal published by Central Bureau of Statistics.
- vi. Previous Research Studies and Articles on the subject.

### **3.4 Data collection techniques**

Study is based on secondary data. For the secondary data and information, directives of Nepal Rastra Bank, annual reports of EBL, NABIL and NIMBL Bank Limited and various publications of Nepal Rastra Bank has been used. A part from these various books, journals, seminar papers available in the library and relevant articles from the website has been used. As stated earlier, the study is mainly based on secondary data. The annual reports and other information have been obtained from sample banks. NRB directives, banking and financial statistics and other publications are collected from the web site of NRB.

### **3.5 Data analysis tools**

Generally different methodologies of data analysis have been adopted. However, in this study attempts have been made to apply some financial tools and statistical tools.

#### **3.5.1 Financial tools**

The best tool for financial analysis is ratio analysis. Ratio can be taken as expression of relationships between two items or group of items and may be calculated in any number and ways so far meaningful co-relation is obtainable. Ratios are relationship, expressed in mathematical terms between figures which have a cause effect relationship or which are connected with each other in some other manners (Grewal, 1974). The study is basically focused on profitability analysis which has been done with the help of different financial ratios and statistical tools.

##### **3.5.1.1 Capital**

In economics, the term capital means the accumulated fund employed by the entrepreneur for the operation of the business. In the context of commercial bank, it is the fund employed by the shareholders and the funds retained in various reserves.

According to the Bank and Financial Institution Act 2063, bank capital includes paid-up equity, statutory reserve, retained profit and any other reserves prescribed by the Nepal Rastra Bank. Deposits and loans taken by the bank are working capital which make temporary fund for the banks.

Adequate capital is required to the efficient operation and functioning of the firm in the modern competitive environment is always the matter of controversial debate. In one hand, holding excess capital tides up the fund and yields low profit margin while on the other hand; inadequate capital limits the firm to meet the public demand of loan and grab other opportunities and also to protect against contingent liabilities. However, extremely high or low capital adequacy ratio is undesirable in terms of lower return and lower solvency respectively. The following ratios related to the banks are used to analyze the data:

To determine the adequacy of total capital fund:

$$\text{Capital Adequacy Ratio} = \frac{\text{Total Capital Fund}}{\text{Total Risk - Weighted Assets}} \times 100\%$$

**Total risk-Weighted assets (TRWA)** = Assets held by a financial institution to which degree of risk have been assigned, so that adequate provision can be set aside.

To determine the adequacy of core capital:

$$\text{Capital Adequacy Ratio} = \frac{\text{Core Capital}}{\text{Total Risk - Weighted Assets}} \times 100\%$$

**b) Capital to Deposit ratio:** The capital/deposit ratio is an important tool in measuring capital adequacy ratios of banks. Naturally, the function of a bank requires a lot of capital. It is known on the basis of deposit in the bank, whether a bank has an adequate ownership capital or not. But this ratio cannot reflect the capital adequacy of a bank. The capital to deposit ratio is derived by the following method:

$$\text{Capital to Deposit ratio} = \frac{\text{Total Capital Fund}}{\text{Total Deposit Collected}} \times 100\%$$

**c) Credit to Deposit Ratio:** The major tool to examine the liquidity of a bank is credit/ deposit ratio. It measures the ratio to fund that a bank has utilized in credit out of the deposit total collected. In other words, credit and deposit are the major function of commercial banks. The ratio of credit and deposit declares the effective utilization of collected resources. The credit /deposit ratio is derived by the following method:

$$\text{Credit to Deposit ratio: } \frac{\text{Total Credit}}{\text{Total Deposit Collected}} \times 100\%$$

### **3.5.1.2 Assets Quality**

Assets quality refers to the degree of financial strength and risk in bank assets typically on loan, advances & bills purchase and investment. A comprehensive evaluation of assets qualities is one of the most important components in accessing the current and future viability of the bank. It is not only the assets that plays vital role in the development and success of financial institution but it also includes the types of assets. Thus, any financial institution requires accessing and ensuring that its assets are performing the same role as it is supposed to do.

#### **1. Loan Classification and Provisions:**

All the loans provided by bank are good at the time of disbursement, but they can not be remain always remain so. Based on the health of the loan they are classified into two types and the provision is made as cushion against possible losses and to reflect the true picture of bank. To measure the Assets quality of the banks, the ratios Non-Performing Ratio and Loan Loss Provision to Total Loan Ratio are used. The ratios used for analyzing the assets qualities have been explained below:-

$$\text{NPL Ratio} = \frac{\text{Total Non Performing Loan (TNPL)}}{\text{Total Loan (TL)}} \times 100\%$$

$$\text{Loan Loss Provision Ratio} = \frac{\text{Total Loan Loss Provision (TLLP)}}{\text{Total Non Performing Loan (TNPL)}} \times 100\%$$

#### **Loan Loss Provision to Total Loan:**

The loan loss provision to total loan ratio indicates the ratio of the provision made by any bank against its non performing loan to its total loan volume. The higher ratio

indicates that the management is not efficient enough to handle proper credit transaction. Therefore more funds have been tied up as loan loss provision. This ultimately reduces the profit volume. Therefore lower ratio is preferable. The ratio can be calculated by using following formula:-

$$\text{LLP /TL} = \frac{\text{Total Loan Loss Provision (TLLP)}}{\text{Total Loan (TL)}} \times 100\%$$

### **3.5.1.3 Management**

For efficient and effective management, the bank should have following other qualities:

- Proper structure of the management
- Qualitative Human recourse management
- Customer care department
- Use of modern Information Technology
- Adequate management of loan and advances
- Fair Decision making
- Proper Communication system
- Working Atmosphere and management

In addition to the physical observation of the management, one of the very important financial ratios has been used is to analyze the management efficiency.

#### **a) Management Efficiency Ratio:**

Management Efficiency Ratio is the ratio of net income of any bank to its number of working employees. This ratio shows the contribution of each employee in generating total net income. A good management always has sufficient number of efficient, motivated, responsible and dedicated manpower in the team. It is always confident at its system. The higher ratio indicates existence of efficient management and vice versa. It can be calculated by using following formula:-

$$\text{ME Ratio} = \frac{\text{Net profit after tax}}{\text{No of employees}}$$

#### **3.5.1.4. Earning**

Earning is the difference between income and expenses. Higher earning indicates higher income and lower expenses. Higher earning is always a result of better performance. Therefore earning is one of the measuring rods of any banks financial performance.

##### **a) Return on Equity:**

It measures a company's success in earning a return for the common stockholders. Higher ROE indicates better utilization of capital fund. The Return on Equity ROE is derived by dividing net profit after tax by total equities. Mathematically,

$$\text{ROE} = \frac{\text{Net Profit after Tax (NPAT)}}{\text{Total Equities (TE)}} \times 100\%$$

##### **b) Return on Assets (ROA):**

It measures a company's success in earning a return for all providers of capital. Higher ROA means optimum utilization and management of the total assets. This ratio is calculated by dividing the net profit after tax by total assets, it can be expressed as,

$$\text{ROA} = \frac{\text{Net Profit after Tax (NPAT)}}{\text{Total Assets (TA)}} \times 100\%$$

##### **c) Earning Per Share (EPS):**

It measures the amount value of shareholders gain from each share held. It is an important ratio for an investor because of its relationship to dividends and market price. Higher EPS indicates higher return for the shareholders.

$$\text{EPS} = \frac{\text{Net Profit after Tax (NPAT)}}{\text{No. of Shares}}$$

#### **3.5.1.5 Liquidity**

Liquidity means the capability of the bank to meet the demand on the customer's deposits. Banks maintain liquidity in various forms like ready cash at its disposal, certain percentage at central bank as a statutory requirement, makes placements in other banks and some percentage is utilized in investment on government securities.

Banks pay the depositors their money when demanded and if this is not met, it damages bank's image. The confidence of the public will be lost and this leads the bank towards its down fall. To maintain Liquidity we have to analyze few ratios, which are as follows:

**a) Calculation of Cash Reserve Ratio:**

$$\text{CRR} = \frac{\text{Cash balance in NRB}}{\text{Total deposit}}$$

**b) Cash and bank balance to total deposit:**

This Ratio is designed to measure the Banks ability to meet immediate obligation, mainly cash withdrawal by depositors. Lower Ratio indicates that banks might face a liquidity crunch while paying its obligations whereas very high ratio indicates that the bank has kept idle funds and not deploying them properly. Cash and Bank Balance Ratio is derived by dividing the cash and bank balance by total deposits. Symbolically,

$$\text{Cash \& Bank Balance Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit}} \times 100\%$$

**c) Investment in Government Securities:**

Liquidity is a sensitive factor for the banking sector. All the banks all over the world invest a significant amount of total deposit on the government securities in their respective central banks to ascertain to meet the liquidity shortages in the banks incase of huge unanticipated withdrawals. Banks are highly encouraged to invest in the government securities because it is as good as liquid assets and there is no risk in government securities. NRB has not laid down any specific rule regarding the percentage to be invested in the government securities like treasury bills, development bonds, and national saving bonds. The ratio is calculated by dividing the investment in government securities by total deposits. Mathematically,

$$\text{Investment in Government Securities} = \frac{\text{Investment in Government Securities}}{\text{Total Deposit}} \times 100\%$$

### 3.5.2 Statistical Tools

#### 3.5.2.1 Mean

A simple arithmetic average is used to summarize the data as a representation of mean data. A simple arithmetic average is a value obtained by dividing the sum of the values by their numbers. Thus, the average is expressed as:

$$\bar{X} = \frac{\sum X}{N}$$

Where:

$\bar{X}$  = Arithmetic mean

N = Number of observations

$\sum X$  = Sum of observations

#### 3.5.2.2 Standard Deviation

The standard deviation is commonly used tool to measure risk. It shows the deviation of actual mean with average mean. The standard deviation measures the absolute variability or dispersion, greater the standard deviation or vice versa. The standard deviation is found from the following formula.

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum(x - \bar{x})^2}{N}}$$

Where,

$(\sigma)$  = Standard deviation

X = Variables

$\bar{x}$  = mean value

N = Number of years

#### 3.5.2.3 Coefficient of Variation

The corresponding relative measure of dispersion is known as the co-efficient of variation. It is used in such problems, where the study needs to compare the variability of two or more than the series. The higher co efficient of variations of series refers more variable or less consistency or less uniformed and the series for which co efficient of variation is less, is said to be less variable or more consistent and more uniform variable, it is calculated by the following formula.

$$\text{Co-efficient of variation. (C.V.)} = \frac{\sigma}{\bar{X}}$$

Where,

$\bar{X}$  = Mean of Series

CV = Coefficient of variation

$(\sigma)$  = Standard deviation

In this study the coefficient of variation is calculated to measure the variability on different ratios.

### 3.5.2.4 Correlation Coefficient

Correlation may be defined as the degree of linear relationship existing between two or more variables. Two variables are said to be correlated is accompanied by the change of another variable. If the increase (decrease) in the value of one variable on an average is associated with the increase (decrease) in the value of another variable, positive relationship is said to be existed. The relationship is negative if increased (decreased) in the variable of one variable is associated with the decreased (increased) in the value of another variable. But the correlation coefficient always remains within the limit of +1 to -1. By Karl Pearson, the simple correlation coefficient (between two variables say X and Y) is given by:

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

Where,

- r : Correlation between X and Y
- n : Number of observations in series X and Y
- $\sum X$  : Sum of observations in series X
- $\sum Y$  : Sum of observations in series Y
- $\sum X^2$  : Sum of square observations in series X
- $\sum Y^2$  : Sum of squared observations in series Y
- $\sum XY$  : Sum of product of observations in series X and Y

### 3.5.2.5 Regression Analysis

#### Multiple Regression Analysis

Multiple regression analysis is a logical extension of the simple linear regression analysis. Instead of single independent variable, two or more independent variables are used to estimate the unknown values of a dependent variable. However, the fundamental concept in the analysis remains the same. Multiple regression is defined as statistical device which is used to estimate (or predicts) the most probable value of dependent variable on the basis of known value of two or more independent variables. To examine the impact of financial performance on profitability, the following multiple regression equation is analyzed.

Multiple Regression Model

$$\hat{Y}_{ROA} = \beta_0 + CAR_i \beta_1 + LLPR_i \beta_2 + NPLR_i \beta_3 + CRR_i \beta_4 + e_i$$

$$\hat{Y}_{ROE} = \beta_0 + CAR_i \beta_1 + LLPR_i \beta_2 + NPLR_i \beta_3 + CRR_i \beta_4 + e_i$$

Y = profitability (ROA) and (ROE)

CAR<sub>i</sub> = Capital adequacy ratio of i<sup>th</sup> bank in year t

LLPR<sub>i</sub> = loan loss provision ratio of i<sup>th</sup> bank in year

NPLR<sub>i</sub> = Non-Performing loan ratio of i<sup>th</sup> bank in year t

CRR<sub>i</sub> = Cash reserve ratio of i<sup>th</sup> bank in year t

e<sub>i</sub> = error component

β<sub>0</sub> = the intercept (constant)

β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub>, = the slope which represents the degree with which bank profitability changes as the independent variable change by one unit variable.

#### 3.5.2.6 Coefficient of Determination

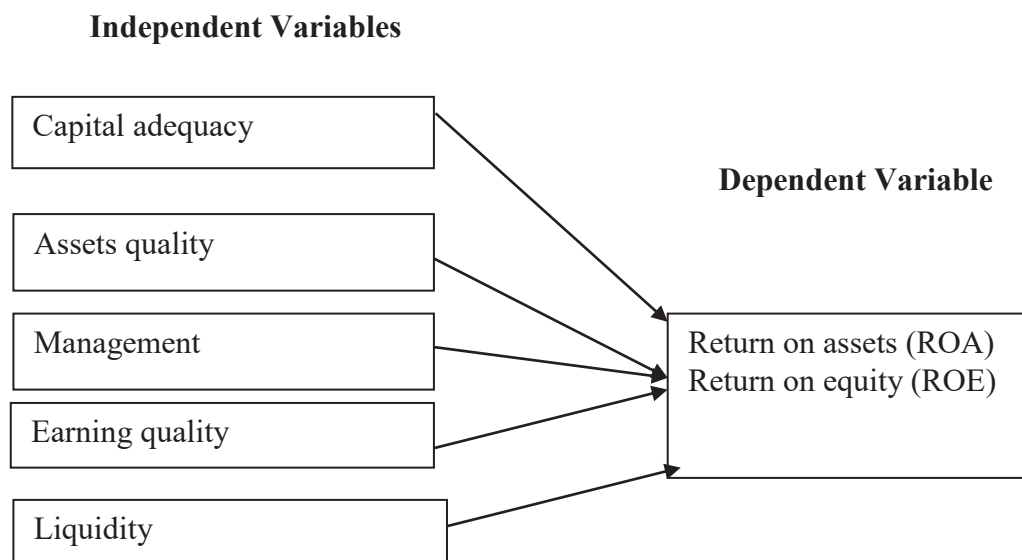
The coefficient of determination gives the percentage variation in the dependent variable that is accounted for by the independent variables. In other words, the coefficient of determination gives the ratio of expected variance to the total variance.

The coefficient of determination is given by the square of the correlation coefficient, i.e.  $r^2$  so the coefficient of determination = Square of correlation =  $(r^2)$ .

### 3.6 Research framework and definition of variables

#### 3.6.1 Research Framework

In this study, return on assets and equity are taken as dependent variable and the CAMEL parameters operationalization variables chosen that is, capital fund to risk weighted assets, non-performing loans to gross advances, loan loss provision and cash reserve ratio are independent variables. Figure 1 illustrates the conceptual framework that forms the base of this study that is developed after reviewing past empirical studies and has been tested in this study after analyzing their suitability to conduct this study. The following schematic diagram of the theoretical framework gives the reader that they can visualize the theorized relationships.



*Source: Misra and Aspal, 2013*

Figure 1

*Research framework for the study under CAMEL model*

From the above figure independent variables Capital adequacy ratio has significant relationship with ROA and ROE. Similarly, liquidity ratio has significant relationship with ROA and ROE. However, other independent variables assets quality, management and earning quality ratio may have significant relationship with ROA and ROE.

**Capital Adequacy Ratio:**

The capital adequacy ratio is one of the most significant ratios, used specially to assess the bank's strength of the capital structure of the adequacy of the capital. Capital adequacy ratio is the primary tool to analyze the capital fund of a bank. It is based on total risk-weighted assets of the bank. Capital adequacy ratios are a measure of the amount of a bank's capital expressed as a percentage of its risk weighted credit exposure. Capital Adequacy Ratio is a parameter prescribed by NRB as per which banks need to maintain their capital as a percentage of their risk weighted assets. For this Fiscal Year, NRB has prescribed 11% of capital adequacy ratio for all the banks. Thus, the banks maintaining 11% of capital adequacy ratio are having good capital fund. They are neither having too much of idle tied up fund nor insufficient fund. Their adequate capital always grabs the opportunities, protects the interest of depositors and creditors, ensures to absorb unexpected losses and protects them against the contingent liabilities. Higher ratio is preferable.

**Non Performing Loan Ratio:**

Non Performing loan are those loan which are less likely to produce any outcomes. Substandard, Doubtful and Bad loan are non performing loan. This ratio measures the share of risky loan out of total loan. The ratio is derived by dividing the non performing loan by the total loan. Lower ratio indicates the management's better efficiency in credit management. So lower the ratio better the performance.

**Loan Loss Provision Ratio:**

The provision for the loan is made as per the rules and regulation of NRB and Banks own. The Loan Loss Provision Ratio measures how much provision is made by the bank out of its Non Performing loan. Higher ratio indicates that the bank has adequate provision to secure itself from the loss incurred from non performance of the loan. So, higher ratio is preferable. This ratio is calculated by dividing the total provision made by the bank by its Total Non Performing loan.

**Calculation of Cash Reserve Ratio:**

As we know that every bank has to maintain a reserve with Nepal Rastra Bank (NRB) equal to 5% of total local currency deposit. This is done so that there will be no problem relating to deficiency of liquid cash as it affects the goodwill of the banks. Cash Reserve Ratio is percentage of cash deposited by commercial bank in Nepal Rastra Bank out of total deposit collected as per NRB directive.

## CHAPTER IV

### RESULTS AND DISCUSSION

This section presents the comparative analysis of CAMEL model of EBL, SBI and HBL Bank Limited over ten years in order to achieve the objectives of the study. The data was analyzed by using descriptive statistics. This chapter deals with the presentation of data collected and its analysis with focus on the performance evaluation of banks using CAMEL analysis. Which were collected from various sources, are changed into an understandable presentation using financial as well as statistical tools mentioned in the previous chapter

#### 4.1 Descriptive statistics

The descriptive statistics of sample commercial Banks have been presented below: Capital adequacy ratio above the NRB standard indicates adequacy of capital and signifies higher security to depositors, higher internal sources and higher ability to cushion operational and unanticipated losses. The lower value, on the contrary, indicates lower internal sources, comparatively weak financial position and lower security to depositors.

**Table 1**

*Descriptive statistics* (in %)

Variables	HBL		EBL		SBI	
	Mean ( $\bar{x}$ )	Standard Deviation ( $\sigma$ )	Mean ( $\bar{x}$ )	Standard Deviation ( $\sigma$ )	Mean ( $\bar{x}$ )	Standard Deviation ( $\sigma$ )
CAR	12.80	1.34	13.08	1.01	14.10	1.05
NPLR	1.47	1.26	0.44	0.32	0.41	0.71
LLPR	93.28	76.12	32.22	11.79	47.15	10.37
EPER	213.51	51.99	244.28	58.69	31.50	8.23
TETIR	52.11	18.79	59.27	11.63	30.47	3.30
ROE	17.12	6.49	21.66	6.42	14.13	4.84
ROA	1.70	0.54	1.63	0.42	1.42	0.41
EPS	27.69	9.44	41.51	22.18	25.49	9.36
CRR	26.97	2.54	15.68	5.32	7.17	2.86
CBBTDR	4.13	2.47	4.22	2.39	1.35	0.36
IGSR	17.86	6.53	2.01	0.44	0.81	0.34

*Note. Annual Reports of Sample Banks*

Table 1 shows the total capital adequacy ratio of HBL Bank Limited. The standard deviation of ratio for CAR is 1.34 and coefficient of variation is 10.50% for HBL.

The ratio is found fluctuating with minimum NRB standard in all the study period. In all study period, the capital adequacy ratio was seen above the NRB standard ratio. It indicates that the capital adequacy ratio (CAR) is an indicator of how well a bank can meet its obligations. Also known as the capital-to-risk weighted assets ratio (CRAR), the ratio compares capital to risk-weighted assets and is watched by regulators to determine a bank's risk of failure. It's used to protect depositors and promote the stability and efficiency of financial systems around the country.

Table 1 shows the non-performing loan ratio of HBL Bank Limited. The standard deviation of ratio for NPLR is 1.26 and coefficient of variation is 85.69% for HBL. It indicates that the non-performing loan ratio in relation to the total loan is in slightly fluctuating trend. A non-performing loan is a loan in which the borrower is in default and has not paid the monthly principal and interest repayments for a specified period. Usually, banks classify loans as non-performing loans when the repayments of principal and interest are due for more than 90 days or depending on the terms of the loan agreement.

Table 1 shows the loan loss provision ratio of HBL Bank. The standard deviation of ratio is 76.12 and coefficient of variation is 81.60% for HBL. The study found that HBL had the highest average non-performing loan to loan loss provisioning ratios, given by non-performing loan to loan loss provision ratio. Table 1 shows the earning per employee ratio of HBL Bank Limited. Effectively mobilized human resources leads to the better earning of the banks/financial institutions. So, the remedy would be either to reduce number of staffs or to increase efficiency or to increase profit volume.

The total expenses to total income ratio of HBL has increased. The mean ratio of the review period was 52.11%. It can be concluded that the ratios are in decreasing trend. The mean ratio of the review period was 30.47% which indicate the ratios are lesser, stable and consistent for SBI as compared to HBL. The mean ratio of EBL, and SBI are 59.27% and 30.47% respectively and CV of SBI is 10.84% which lowest among three sampled banks which means it has consistency in expenses to total income ratio.

Table 1 shows the return on equity ratio of HBL Bank Limited. The study shows that the average return on equity ratio of HBL, EBL and SBI are 17.12%, 21.66% and 14.13% respectively. The mean ratio of EBL is the higher than the ratios of other

banks which indicates the bank was most successful in mobilizing its equity to yield highest return. However the movement of ratio of all the banks is in fluctuating trend through out the study period. The standard deviation of return on equity is 4.84 and coefficient of variation is 34.27% for SBI. The average ratio indicates that EBL has more return on equity as compare to other banks.

Table 1 shows the return on assets ratio of HBL Bank Limited. The study shows that the average return on assets ratio of HBL is 1.7%. The average return on assets ratio of EBL and SBI are 1.63% and 1.42% respectively. Mean return on assets ratio of HBL is highest among sample banks which indicate that the bank is most successful in mobilizing its assets to yield highest return.

From the finding of the study it can said that HBL Bank is able to make higher return to its assets because it has more collection of non-performing loan of previous years and decrease in NPA. However, HBL has higher risk associated with ROA and SBI has lowest risk associated with ROA.

The standard deviation of ratio is 0.41 and coefficient of variation is 28.85% for SBI and standard deviation of ratio is 0.42 and coefficient of variation is 25.71% for EBL. It indicates that the net profits ratio in relation to the total assets is in slightly fluctuating trend. The average ratio indicates that HBL has more return on assets as compare to sample banks. CV of SBI is lesser than other sampled banks; this showed the consistency of net profit in relation to the total assets for SBI bank.

Table 1 shows the earning per share of HBL Bank Limited. The study shows that the average earning per share of SBI is highest, which is Rs. 41.51, which indicates the bank is most successful in mobilizing its assets to yield highest return as a result of more retain earnings. The mean ratio of HBL and EBL are Rs. 27.69 and Rs. 25.49 respectively. The standard deviation of earning per share is 9.44 and coefficient of variation is 34.09% for HBL and standard deviation of earning per share is 9.36 and coefficient of variation is 36.73% for SBI. The average ratio indicates that SBI has more return on earning per share as compare to other banks. CV of HBL is lesser than other banks, this showed the consistency of net profit in relation to the total shareholders for HBL. As we know that every bank has to maintain a reserve with Nepal Rastra Bank (NRB) equal to 5% of total local currency deposit. This is done so

that there will be no problem relating to deficiency of liquid cash as it affects the goodwill of the banks.

The study shows that EBL, SBI and HBL Bank Limited are able to maintain the average reserve above the 5%. EBL has highest average reserve ratio i.e. 15.68%. This annual end calculation shows that all sample banks may be able to pay its depositors when needed whereas the HBL has more cash idle in bank. As NRB require bank to maintain CRR on weekly basis, the above shown CRR may not reflect actual position of banks.

According to NRB directive 2022/23, CRR should not be less than the 4% of the bank's total deposit. Mean value of all sample bank have more than industry average set by NRB i.e. 4%. Therefore, the overall mean value of CRR is satisfactory level.

The study shows the cash reserve ratio of EBL, SBI and HBL Bank Limited. The standard deviation of cash reserve ratio of SBI is 2.86 and coefficient of variation is 39.82%. It indicates that the cash reserve ratio is in slightly fluctuating trend. The average ratio indicates that HBL has more cash reserve ratio as compare to other banks. CV of SBI is higher than other banks, this showed the very scatter ness of cash reserve ratio for SBI.

Cash and bank balance to total deposit ratio reflects the banks ability to pay short term and immediate obligation to the average customers. HBL has the average ratio of 4.13%, whereas EBL and SBI have the average ratio of 4.22% and 1.35% respectively. It can be seen that the ratios are in fluctuating trend in all the sample banks which shows that the banks are trying to manage their cash effectively so that there won't be extra idle cash and the obligation should also meet.

The standard deviation of cash and bank balance to total deposit ratio is 2.47 and coefficient of variation is 59.80% for HBL and standard deviation of cash and bank balance to total deposit ratio is 2.39 and 0.36 and coefficient of variation are 6.81% and 26.98% for EBL and SBI respectively. It indicates that the cash and bank balance to total deposit ratio is in slightly fluctuating trend. CV of HBL is higher than other banks, this shows scatterness of cash and bank balance to total deposit ratio for HBL.

Similarly the standard deviation of ratio are 1.01 and 1.05 & coefficient of variation are 7.69% and 7.45% respectively for EBL and SBI Bank. The average ratio indicates that SBI has more total capital ratio i.e. 14.10% as compared to other sample banks.

Hence the bank requires increasing its capital fund either through internal sources or decreasing risky assets investments in the years to come. Similarly the standard deviations of ratio are 1.01 and 1.05 & coefficients of variation are 7.69% and 7.45% respectively for EBL and SBI Bank.

The average ratio indicates that SBI has less non-performing loan ratio as compared to other banks. CV of SBI is lesser than other banks, this showed the very few scatterness between non-performing loan ratio in relation to the total loan for SBI.

The comparison of non-performing loans to total gross loan ratios shows that SBI has the lowest non-performing loans to total gross loan ratio among the three banks. Similarly the standard deviations of ratio are 0.32 and 0.71 & coefficients of variation are 73.98% and 171.99% respectively for EBL and SBI Bank. As soon as loan is classified as an NPL, it means that the likelihood of receiving repayments are significantly lower. A high ratio means that the bank is at a greater risk of loss if it does not recover the owed loan amounts, whereas a small ratio means that the outstanding loans present a low risk to the bank.

The mean loan loss provisioning ratios of EBL is relatively less than other banks. EBL had the lowest average non-performing assets to loan loss provision ratio over the study period. It indicated that EBL has been recovering its non-performing assets for possible cause of loan loss as compared to NPA in an efficient way as compared to the other banks. It shows the conditions of all banks are good. Among those banks, EBL Bank is the best one. It shows the result of effective credit management of the bank and its efforts of recovering bad debts through establishment of recovery unit.

The table 1 shows that the average earning per employee ratio of EBL is higher than other sample banks. The study shows the investment in government securities ratio of EBL, SBI and HBL Bank Limited. Table 1 shows that HBL has invested the average proportion of its deposit in the government securities i.e. 17.86%. Similarly EBL and SBI have the average ratio of deposit in the government securities in the ratios 2.01% and 0.81% respectively. This scenario showed that the banks are adopting their own initiation and investing in government securities accordingly. Generally the investment depends on the combination of deposits of the bank. The more the percentage of fixed deposits, higher the investment in government securities. The higher percentage shows the better liquidity position of the bank.

The standard deviation of investment in government securities ratio is 6.53 and coefficient of variation is 36.59% for HBL. Similarly standard deviation of investment in government securities ratio are 0.44 & 0.34 and coefficient of variation are 22.03% and 42.69% for EBL and SBI respectively. It indicates that the investment in government securities ratio is in slightly fluctuating trend. The average ratio indicates that HBL has more investment in government securities ratio as compared to other banks.

## 4.2 Relationship between CAR, LLPR, NPLR and CRR to ROA and ROE

The relationship of capital adequacy ratio, non-performing loan ratio and cash reserve ratio to return on assets and return on equity is determined in this section. For the analytical purpose, the return on assets and return on equity are assumed to be influenced with the volatility occurred in CAR, LLPR, NPLR and CRR Hence, ROA and ROE are taken as dependent variable whereas CAR, LLPR, NPLR and CRR are taken as independent variable. The correlation analysis is performed to determine the relationship of CAR, LLPR, NPLR, and CRR with ROA and ROE.

### 4.2.1 Correlation analysis

The correlation analysis of the overall data is done to find out the relationship between different independent variables (CAR, LLPR, NPLR and CRR) with dependent variables (ROA and ROE).

**Table 2**

*Relationship of ROA and ROE with CAR, LLPR, NPLR and CRR for HBL*

Variables	ROA	ROE	CAR	LLPR	NPLR	CRR
ROA	1	0.768*	0.991**	-0.591*	-0.871**	-0.372
ROE	-	1	0.336*	-0.481*	-0.739*	-0.361
CAR	-	-	1	0.111	0.603*	0.198
LLPR	-	-	-	1	0.162	-0.534*
NPLR	-	-	-	-	1	0.806**
CRR	-	-	-	-	-	1

Note. *Estimation from SPSS*

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed)

Table 2 shows the correlations between different variables for HBL. Table 4 shows the correlation between independent and dependent variable i.e. independent variable

consist CAR, LLPR, NPLR and CRR and dependent variable consist ROA and ROE. The table 2 shows the relationship of profitability (i.e. ROA and ROE) is strongly correlated with CAR and NPLR. The relationship of ROA and ROE with CAR and NPLR are significant at 1% level of significance. The table shows that profitability has positive significant relationship with CAR and negative significant relationship with CRR and NPLR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR.

**Table 3**

*Relationship of ROA and ROE with CAR, LLPR, NPLR and CRR for EBL*

Variables	ROA	ROE	CAR	LLPR	NPLR	CRR
ROA	1	0.846**	0.563*	-0.908**	-0.482*	-0.756**
ROE	-	1	0.820**	-0.547	-0.620*	-0.792**
CAR	-	-	1	0.621*	-0.375	0.488*
LLPR	-	-	-	1	0.940**	0.512*
NPLR	-	-	-	-	1	0.543*
CRR	-	-	-	-	-	1

Note. *Estimation from SPSS*

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed)

Table 3 shows the correlations between different variables for EBL. Table 5 shows the correlation between independent and dependent variable i.e. independent variable consist CAR, LLPR, NPLR and CRR and dependent variable consist ROA and ROE. The table 5 shows the relationship of profitability (i.e. ROA and ROE) is strongly correlated with CAR and NPLR. The relationship of ROA and ROE with CAR and NPLR are significant at 1% level of significance. The table shows that profitability has positive significant relationship with CAR and negative significant relationship with NPLR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR.

**Table 4***Relationship of ROA and ROE with CAR, LLPR, NPLR and CRR for SBI*

Variables	ROA	ROE	CAR	LLPR	NPLR	CRR
ROA	1	0.660*	0.586*	-0.656*	-0.363	-0.943**
ROE	-	1	0.780**	-0.435*	-0.889	-0.355*
CAR	-	-	1	0.612*	-0.861**	0.436*
LLPR	-	-	-	1	0.666*	0.882**
NPLR	-	-	-	-	1	0.485*
CRR	-	-	-	-	-	1

Note. Estimation from SPSS

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed)

Table 4 shows the correlations between different variables for SBI. Table 6 shows the correlation between independent and dependent variable i.e. independent variable consist CAR, LLPR, NPLR and CRR and dependent variable consist ROA and ROE. The table 6 shows the relationship of profitability (i.e. ROA and ROE) is strongly correlated with CAR and CRR. The relationship of ROA and ROE with CAR and NPLR are significant at 1% level of significance. The table shows that profitability has positive significant relationship with CAR and negative significant relationship with LLPR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR.

### 4.3 Regression analysis

To determine the effect of CAR, LLPR, NPLR and CRR on ROA and ROE, regression as well as their coefficient of determination are calculated. To determine the magnitude of the effects of the independent variable to the dependent variable, multiple regression analysis is performed.

**Table 5***Model Summary of HBL Bank*

Model	RR Square	Adjusted R Square	Std. Error of the Estimate	Change in Statistics	F Change	df1	df2	Sig. F Change	
1	.377	.142	.545	.43038	.142	.207	4	5	.924

a. Dependent Variable: Return on assets of HBL Bank

a Predictors: (Constant), CAR, LLPR, NPLR, CRR

The value of multiple coefficient of determination ( $R^2$ ) is 0.142 in HBL bank indicated that 14.2% of total variation in ROA of this bank is explained by independent variables and only 85.8% is explained by other variables. F-statistic takes value of .207 and sig. value is 0.924 indicate that regression fits the data. Model summary also indicates the standard error of estimate is 3.452 which show the variability of the observed value of factors influencing profitability in commercial banks in Nepal from regression line is 3.452 units.

**Table 6**  
*Analysis of Variance (ANOVA) of HBL Bank*

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.153	4	.038	.207	.924b
Residual	.926	5	.185		
Total	1.079	9			

a. Dependent Variable: Return on assets of HBL Bank

b. Predictors: (Constant), CAR, LLPR, NPLR, CRR

Further the significant value of F is 0.924 which is higher than 0.05 (level of significant) which shows the overall linear regression model is not significant. F-statistic takes value of 0.207 and sig. value is 0.924 indicate that regression fits the data. The regression model is  $\hat{Y}_{ROA} = 20.13 + 0.016X_{CAR} + 0.0135X_{LLPR} - 0.012X_{NPLR} - 0.028X_{CRR}$ . The reported results also include the values of F-statistics (F) and coefficient of determinants ( $R^2$ ). The regression of dependent variable of ROA shows that beta coefficient for total CAR and LLPR are positive except NPLR and CRR as indicated in table.

**Table 7**  
*Regression Coefficients*  
(Multiple regression analysis of ROA on CAR, LLPR, NPLR and CRR of HBL Bank)

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Beta		
1 (Constant)	20.13		2.938	.019
CAR	0.016	.014	4.693	.003
LLPR	0.0135	0.0132	3.720	.0113
NPLR	-0.012	-.011	-3.072	.010
CRR	-0.028	-.023	--3.057	.016

a. Dependent Variable: ROA

The result shows that banks with better CAR would have higher ROA keeping LLPR, CRR and NPLR constant. Similarly, increase in LLPR by Rs.1 leads to increase in ROA by Rs. 0.0135 holding the CAR, NPLR and CRR variable constant and increase in NPLR by Rs.1 leads to decrease in ROA by Rs. 0.012 holding the CAR, LLPR and CRR constant and increase in CRR by Rs. 1 lead to decrease in ROA by Rs. 0.028 keeping CAR, LLPR and NPLR constant. The beta coefficient is significant for total CAR, LLPR, NPLR and CRR. The constant  $a=20.13$  indicated that if all variables used in this model is zero, ROA is Rs. 20.13.

The significant values of CAR, LLPR, NPLR and CRR are respectively 0.003 lesser than 0.05, 0.0113 is lesser than 0.05, 0.010 lesser than 0.05 and 0.016 lesser than 0.05 which shows that there exist significant relationship between dependent variable ROA with independent variable CAR, LLPR, NPLR and CRR.

The regression model is  $\hat{Y}_{ROA} = 15.0 + 0.04X_{CAR} + 0.0153X_{LLPR} - 0.029X_{NPLR} - 0.031X_{CRR}$ . The reported results also include the values of F-statistics (F) and coefficient of determinants ( $R^2$ ). The regression of dependent variable of ROA shows that beta coefficient for CAR and LLPR are positive except NPLR and CRR as indicated in table. The result shows that banks with better CAR would have higher ROA keeping LLPR, CRR and NPLR constant. Similarly, increase in LLPR by Rs.1 leads to increase in ROA by Rs. 0.0153 holding the CAR, NPLR and CRR variable constant and increase in NPLR by Rs.1 leads to decrease in ROA by Rs. 0.029 holding the CAR, LLPR and CRR constant and increase in CRR by Rs. 1 lead to decrease in ROA by Rs. 0.031 keeping CAR, LLPR and NPLR constant. The beta coefficient is significant for total CAR, LLPR, NPLR and CRR. The constant  $a=20.13$  indicated that if all variables used in this model is zero, ROA is Rs. 15.0.

**Table 8**  
*Model Summary of EBL Bank*

Model	RR Square	Adjusted R Square	Std. Error of the Estimate	Change in Statistics	F Change	df1	df2	Sig. F Change	
1	.705	.497	.494	.2777	.497	1.235	4	5	.0403

a Predictors: (Constant), CAR, LLPR, NPLR, CRR

The value of multiple coefficient of determination ( $R^2$ ) is 0.497 in EBL bank indicated that 49.7% of total variation in ROA of this bank is explained by independent variables and only 50.3% is explained by other variables.

**Table 9**  
*ANOVA of EBL Bank*

Df	Mean Square	F	Sig.
4	.095	1.235	.0403b
5	.077		
9			

a. Dependent Variable: Return on assets of EBL Bank

b. Predictors: (Constant), CAR, LLPR, NPLR, CRR

Further the significant value of F is 0.040 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 1.235 and sig. value is 0.0403 indicate that regression fits the data.

The regression model is  $\hat{Y}_{ROA} = 17.21 + 0.014X_{CAR} + 0.0143X_{LLPR} - 0.014X_{NPLR} - 0.027X_{CRR}$ . The reported results also include the values of F-statistics (F) and coefficient of determinants ( $R^2$ ). The regression of dependent variable of ROA shows that beta coefficient for total CAR and LLPR are positive except NPLR and CRR as indicated in table.

**Table 10**  
*Coefficients*

(Multiple regression analysis of ROA on CAR, LLPR, NPLR and CRR of EBL Bank Limited)

Model		Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
		B	Std. Error			
1	(Constant)	15.0	17.241		2.080	.0173
	CAR	0.04	.350	0.035	3.720	.0113
	LLPR	0.0153	.301	0.0145	4.48	.0598
	NPLR	-0.029	.301	-0.028	-3.448	.0598
	CRR	-0.031	0.352	-0.0395	-3.558	0.0795

a. Dependent Variable: ROA

The significant values of CAR, LLPR, NPLR and CRR are respectively 0.0113 lesser than 0.05, 0.0598 is greater than 0.05, 0.0598 greater than 0.05 and 0.0795 greater than 0.05 which shows that there exist significant relationship between dependent variable ROA with independent variable CAR and not significant ROA with LLPR,

NPLR and CRR. Further the significant value of F is 0.0171 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant.

**Table 11**  
*Model Summary of SBI Bank*

Model	RR Square	Adjusted R Square	Std. Error of the Estimate	Change in Statistics	F Change	df1	df2	Sig. F Change	
1	.780	.608	.295	.2238	.608	1.940	4	5	.0242

a Predictors: (Constant), CAR, LLPR, NPLR, CRR

The value of multiple coefficient of determination ( $R^2$ ) is 0.608 in SBI bank indicated that 60.8% of total variation in ROA of this bank is explained by independent variables and only 39.2% is explained by other variables.

**Table 12**  
*ANOVA of SBI Bank*

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.389	4	.097	1.940	.0242b
	Residual	.251	5	.050		
	Total	.639	9			

a. Dependent Variable: Return on assets of SBI Bank

b. Predictors: (Constant), CAR, LLPR, NPLR, CRR

Further the significant value of F is 0.024 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 1.940 and sig. value is 0.024 indicate that regression fits the data.

The result shows that banks with better CAR would have higher ROA keeping LLPR, CRR and NPLR constant. Similarly, increase in LLPR by Rs.1 leads to increase in ROA by Rs. 0.0143 holding the CAR, NPLR and CRR variable constant and increase in NPLR by Rs.1 leads to decrease in ROA by Rs. 0.014 holding the CAR, LLPR and CRR constant and increase in CRR by Rs. 1 lead to decrease in ROA by Rs. 0.027 keeping CAR, LLPR and NPLR constant. The beta coefficient is significant for total CAR, LLPR, NPLR and CRR. The constant  $a=17.21$  indicated that if all variables used in this model is zero, ROA is Rs. 17.21. F-statistic takes value of 1.235 and sig. value is .0403 indicate that regression fits the data. Model summary also indicates the standard error of estimate is 17.241 which show the variability of the observed value

of factors influencing profitability in commercial banks in Nepal from regression line is 17.241 units.

**Table 13**

*Coefficients*

(Multiple regression analysis of ROA on CAR, LLPR, NPLR and CRR of SBI Bank)

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	17.21	5.132		3.701	.021
	CAR	0.014	.682	.014	2.165	.014
	LLPR	0.0143	.340	0.0132	3.125	.019
	NPLR	-0.014	-1.173	-.009	-3.012	.017
	CRR	-0.027	-1.207	-.027	-3.011	.013

a Dependent Variable: ROA

The significant values of CAR, LLPR, NPLR and CRR are respectively 0.014 lesser than 0.05, 0.019 is lesser than 0.05, 0.017 lesser than 0.05 and 0.013 lesser than 0.05 which shows that there exist significant relationship between dependent variable ROA with independent variable CAR, LLPR, NPLR and CRR. Further the significant value of F is 0.0242 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 1.940 and sig. value is .0242 indicate that regression fits the data. Model summary also indicates the standard error of estimate is 5.132 which show the variability of the observed value of factors influencing profitability in commercial banks in Nepal from regression line is 5.132 units.

**Table 14**

*Model Summary*

Model	RR Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics F Change	df1	df2	Sig. F Change
1	.910	.829	.692	4.0089	.829	6.059	4 5 .037

a Predictors: (Constant), CAR, LLPR, NPLR, CRR

The value of multiple coefficient of determination ( $R^2$ ) is 0.829 in HBL bank indicated that 82.9% of total variation in ROE of this bank is explained by independent variables and only 17.1% is explained by other variables. Model summary also indicates the standard error of estimate is 4.0089 which show the variability of the observed value of factors influencing profitability in commercial banks in Nepal from regression line is 4.0089 units.

**Table 15**  
*ANOVAa*

Sum of Squares	Df	Mean Square	F	Sig.
389.489	4	97.372	6.059	.037b
80.360	5	16.072		
469.849	9			

a. Dependent Variable: Return on equity of HBL Bank

b. Predictors: (Constant), CAR, LLPR, NPLR, CRR

Further the significant value of F is 0.037 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 6.059 and sig. value is 0.037 indicate that regression fits the data.

The regression model is  $\hat{Y}_{ROE} = 18.13 + 0.014X_{CAR} + 0.0112X_{LLPR} - 0.010X_{NPLR} - 0.022X_{CRR}$ . The reported results also include the values of F-statistics (F) and coefficient of determinants ( $R^2$ ). The regression of dependent variable of ROE shows that beta coefficient for total CAR and LLPR are positive except NPLR and CRR as indicated in table. The result shows that banks with better CAR would have higher ROA keeping LLPR, CRR and NPLR constant. Similarly, increase in LLPR by Rs.1 leads to increase in ROE by Rs. 0.0112 holding the CAR, NPLR and CRR variable constant and increase in NPLR by Rs.1 leads to decrease in ROE by Rs. 0.010 holding the CAR, LLPR and CRR constant and increase in CRR by Rs. 1 lead to decrease in ROE by Rs. 0.022 keeping CAR, LLPR and NPLR constant. The beta coefficient is significant for total CAR, LLPR, NPLR and CRR. The constant a=18.20 indicated that if all variables used in this model is zero, ROA is Rs. 18.20.

**Table 16**  
*Coefficients*

(Multiple regression analysis of ROE on CAR, LLPR, NPLR and CRR of HBL Bank)

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
1 (Constant)	18.20	3.462		2.973	.017
CAR	0.014	.692	.015	4.681	.002
LLPR	0.0112	.360	0.0151	3.782	.0111
NPLR	-0.010	-1.174	-.012	-3.091	.009
CRR	-0.022	-1.284	-.024	-3.082	.011

a. Dependent Variable: ROE

The significant values of CAR, LLPR, NPLR and CRR are respectively 0.02 lesser than 0.05, 0.0111 is lesser than 0.05, 0.009 lesser than 0.05 and 0.011 lesser than 0.05

which shows that there exist significant relationship between dependent variable ROA with independent variable CAR, LLPR, NPLR and CRR. Further the significant value of F is 0.037 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 6.059 and sig. value is 0.037 indicate that regression fits the data.

The regression model is  $\hat{Y}_{ROE} = 19.0 + 0.08X_{CAR} + 0.0123X_{LLPR} - 0.024X_{NPLR} - 0.042X_{CRR}$ . The reported results also include the values of F-statistics (F) and coefficient of determinants ( $R^2$ ). The regression of dependent variable of ROE shows that beta coefficient for CAR and LLPR are positive except NPLR and CRR as indicated in table.

**Table 17**  
*Model Summary*

Model	RR Square	Adjusted R Square	Std. Error of the Estimate	Change in Statistics	F Change	df1	df2	Sig. F Change	
1	.942	.888	.798	2.8810	.888	9.915	4	5	.014

a Predictors: (Constant), CAR, LLPR, NPLR, CRR

The value of multiple coefficient of determination ( $R^2$ ) is 0.888 in EBL bank indicated that 88.8% of total variation in ROE of this bank is explained by independent variables and only 11.2% is explained by other variables.

**Table 18**  
*ANOVAa*

Df	Mean Square	F	Sig.
4	82.298	9.915	.014b
5	8.300		
9			

a. Dependent Variable: Return on equity of EBL Bank

b. Predictors: (Constant), CAR, LLPR, NPLR, CRR

Further the significant value of F is 0.014 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 9.915 and sig. value is 0.014 indicate that regression fits the data.

**Table 19***Coefficients*

(Multiple regression analysis of ROE on CAR, LLPR, NPLR and CRR of EBL Bank Limited)

Model		Unstandardized Coefficients		Std. Error	Standardized Coefficients		t	Sig.
		B			Beta			
1	(Constant)	19.05		16.154		2.085		.0185
	CAR	0.08		.385	0.058	3.940		.0172
	LLPR	0.0123		.354	0.0172	4.502		.0680
		-0.024		.325	-0.032	-3.172		.0720
	NPLR							
	CRR	-0.042		0.378	-0.0401	-3.577		0.0802

a Dependent Variable: ROE

The result shows that banks with better CAR would have higher ROE keeping LLPR, CRR and NPLR constant. Similarly, increase in LLPR by Rs.1 leads to increase in ROE by Rs. 0.0123 holding the CAR, NPLR and CRR variable constant and increase in NPLR by Rs.1 leads to decrease in ROE by Rs. 0.024 holding the CAR, LLPR and CRR constant and increase in CRR by Rs. 1 lead to decrease in ROE by Rs. 0.042 keeping CAR, LLPR and NPLR constant. The beta coefficient is significant for total CAR, LLPR, NPLR and CRR. The constant a=19.05 indicated that if all variables used in this model is zero, ROE is Rs. 19.05.

The significant values of CAR, LLPR, NPLR and CRR are respectively 0.0172 lesser than 0.05, 0.0680 is greater than 0.05, 0.0720 greater than 0.05 and 0.0802 greater than 0.05 which shows that there exist significant relationship between dependent variable ROE with independent variable CAR and not significant with LLPR, NPLR and CRR.

**Table 20***Model Summary*

Model	RR Square	Adjusted R Square	Std. Error of the Estimate	Change in Statistics	F Change	df1	df2	Sig.	
								F Change	
1	.945	.893	.808	2.6950	.893	10.467	4	5	.012

a Predictors: (Constant), CAR, LLPR, NPLR, CRR

The value of multiple coefficient of determination ( $R^2$ ) is 0.893 in SBI bank indicated that 89.30% of total variation in ROE of this bank is explained by independent variables and only 10.7% is explained by other variables. Model summary also

indicates the standard error of estimate is 2.6950 which show the variability of the observed value of factors influencing profitability in commercial banks in Nepal from regression line is 16.154 units.

**Table 21**  
*ANOVAa*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	304.119	4	76.030	10.467	.012b
	Residual	36.317	5	7.263		
	Total	340.436	9			

a. Dependent Variable: Return on equity of SBI Bank

b. Predictors: (Constant), CAR, LLPR, NPLR, CRR

Further the significant value of F is 0.012 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 10.4675 and sig. value is 0.012 indicate that regression fits the data.

**Table 22**  
*Coefficients*

(Multiple regression analysis of ROE on CAR, LLPR, NPLR and CRR of SBI Bank)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.980	5.285		3.651	.025
	CAR	0.0121	.781	.013	2.753	.017
	LLPR	0.0145	.502	0.0145	3.568	.013
	NPLR	-0.016	-1.144	-.007	-3.048	.014
	CRR	-0.025	-1.125	-.026	-3.098	.015

a Dependent Variable: ROE

The regression model is  $\hat{Y}_{ROE} = 13.980 + 0.0121X_{CAR} + 0.0145X_{LLPR} - 0.016X_{NPLR} - 0.025X_{CRR}$ . The reported results also include the values of F-statistics (F) and coefficient of determinants ( $R^2$ ). The regression of dependent variable of ROE shows that beta coefficient for total CAR and LLPR are positive except NPLR and CRR as indicated in table. The result shows that banks with better CAR would have higher ROE keeping LLPR, CRR and NPLR constant. Similarly, increase in LLPR by Rs.1 leads to increase in ROE by Rs. 0.0145 holding the CAR, NPLR and CRR variable constant and increase in NPLR by Rs.1 leads to decrease in ROE by Rs. 0.016 holding the CAR, LLPR and CRR constant and increase in CRR by Rs. 1 lead to decrease in ROA by Rs. 0.025 keeping CAR, LLPR and NPLR constant. The beta coefficient is

significant for total CAR, LLPR, NPLR and CRR. The constant  $a=13.980$  indicated that if all variables used in this model is zero, ROA is Rs. 13.980.

The significant values of CAR, LLPR, NPLR and CRR are respectively 0.017 lesser than 0.05, 0.013 is lesser than 0.05, 0.014 lesser than 0.05 and 0.015 lesser than 0.05 which shows that there exist significant relationship between dependent variable ROA with independent variable CAR, LLPR, NPLR and CRR. Further the significant value of F is 0.012 which is lesser than 0.05 (level of significant) which shows the overall linear regression model is significant. F-statistic takes value of 10.467 and sig. value is 0.012 indicate that regression fits the data. Model summary also indicates the standard error of estimate is 5.285 which show the variability of the observed value of factors influencing profitability in commercial banks in Nepal from regression line is 5.285 units.

#### **4.4 Results**

The study has been concentrated on the comparative study of performance evaluation of commercial banks using CAMEL model with reference to HBL, EBL and SBI. The major findings based on the analysis are given below:

- The value of multiple coefficient of determination ( $R^2$ ) is 0.142 in HBL bank indicated that 14.2% of total variation in ROA of this bank is explained by independent variables and only 85.8% is explained by other variables. The t value of coefficient of CAR, LLPR, NPLR and CRR are statistically significant given model at 5% level of significance; therefore the regression equation could provide statistically significant explanation of variation in the ROA due to CAR, LLPR, NPLR and CRR.
- The value of multiple coefficient of determination ( $R^2$ ) is 0.497 in EBL bank indicated that 49.7% of total variation in ROA of this bank is explained by independent variables and only 50.3% is explained by other variables. The t value of coefficient of CAR, LLPR, NPLR and CRR are statistically significant given model at 5% level of significance; therefore the regression equation could provide statistically significant explanation of variation in the ROA due to CAR, LLPR, NPLR and CRR.

- The value of multiple coefficient of determination ( $R^2$ ) is 0.608 in SBI bank indicated that 60.8% of total variation in ROA of this bank is explained by independent variables and only 39.2% is explained by other variables. The t value of coefficient of CAR, LLPR, NPLR and CRR are statistically significant given model at 5% level of significance; therefore the regression equation could provide statistically significant explanation of variation in the ROA due to CAR, LLPR, NPLR and CRR.
- The value of multiple coefficient of determination ( $R^2$ ) is 0.829 in HBL bank indicated that 82.9% of total variation in ROE of this bank is explained by independent variables and only 17.1% is explained by other variables. The t value of coefficient of CAR, LLPR, NPLR and CRR are statistically significant given model at 5% level of significance; therefore the regression equation could provide statistically significant explanation of variation in the ROE due to CAR, LLPR, NPLR and CRR.
- The value of multiple coefficient of determination ( $R^2$ ) is 0.888 in EBL bank indicated that 88.8% of total variation in ROE of this bank is explained by independent variables and only 11.2% is explained by other variables. The t value of coefficient of LLPR, NPLR and CRR are not statistically significant in given model at 5% level of significance but significant with CAR; however F-value is lesser than 0.05, therefore the regression equation could provide statistically significant explanation of variation in the ROE due to CAR, LLPR, NPLR and CRR.
- The value of multiple coefficient of determination ( $R^2$ ) is 0.893 in SBI bank indicated that 89.30% of total variation in ROE of this bank is explained by independent variables and only 10.7% is explained by other variables. The t value of coefficient of CAR, LLPR, NPLR and CRR are statistically significant given model at 5% level of significance; therefore the regression equation could provide statistically significant explanation of variation in the ROE due to CAR, LLPR, NPLR and CRR.
- The study found that the average return on equity ratio of HBL, EBL and SBI are 17.12%, 21.66% and 14.13 respectively. The mean ratio of EBL is the higher than the ratios of other banks which indicated the bank was most successful in

mobilizing its equity to yield highest return. It indicates that the return on equity is in slightly fluctuating trend. The average ratio indicates that SBI has more return on equity as compare to other banks.

- The study found that the average return on assets ratio of HBL is 1.7%. The average return on assets ratio of EBL and SBI are 1.63% and 1.42% respectively. Mean return on assets ratio of SBI is highest among sample banks which indicated the bank was most successful in mobilizing its assets to yield highest return. The average ratio indicates that SBI has more return on assets as compare to sample banks. CV of SBI is lesser than other sampled banks; this showed the low scatterness of net profit in relation to the total assets for SBI bank.
- The study found that the average earning per share of EBL is highest, which is Rs. 41.51, which indicated the bank was most successful in mobilizing its assets to yield highest return due to keep more retain earnings. The mean ratio of HBL and EBL are Rs. 27.69 and Rs. 25.49 respectively. It indicates that the net profits in relation to the total shareholders are in slightly fluctuating trend. The average ratio indicates that EBL has more return on earning per share as compare to other banks. CV of HBL is lesser than other banks, this showed the less scatterness of net profit in relation to the total shareholders for HBL.
- The study found that EBL, SBI and HBL Bank Limited are able to maintain the average reserve above the 5%. The EBL has highest average reserve ratio i.e. 16.70%. The average ratio indicates that EBL has more cash reserve ratio as compare to other banks. CV of EBL is higher than other banks, this showed the very scatterness of cash reserve ratio for EBL.
- It indicates that the cash and bank balance to total deposit ratio is in slightly fluctuating trend. The average ratio indicates that SBI has more cash and bank balance to total deposit ratio as compare to other banks. CV of HBL is higher than other banks, this showed the very scatterness of cash and bank balance to total deposit ratio for HBL.
- The study found that HBL has invested the average proportion of its deposit in the government securities i.e. 17.86%. Similarly EBL and SBI have the average ratio of deposit in the government securities are 2.01% and 0.81%. This scenario

showed that the banks are adopting their own initiation and investing in government securities accordingly.

- It indicates that the investment in government securities ratio is in slightly fluctuating trend. The average ratio indicates that HBL has more investment in government securities ratio as compare to other banks.
- Based on the results of correlation between dependent variable and independent variables, it can be found that there is significant relationship of CAR and CRR with ROA and ROE and insignificant relationship of LLPR and NPLR with ROA and ROE.
- The results show that LLPR has negative relationship with ROA. This shows that as the LLPR of the banks increases, the ROA of the banks decrease and vice-versa. The result found that NPLR and CRR have negative relationship with ROA. This indicates that as increases in NPLR and CRR of commercial banks, the ROA of the banks decreases.
- It is found that there is highly positive relationship between CAR and profitability (ROE). This indicates as the CAR of sample commercial banks increases; the profitability of the banks also increases.
- The result found that the relationship between CRR and ROE is highly negative. This shows that as the CRR of commercial banks increases, the ROE of the banks decreases and vice-versa. It is found that there is negative relationship between LLPR with ROE of sample commercial banks. This indicates that as LLPR increases, the profitability of the banks also decreases and vice-versa. The result shows that there is negative relationship between NPLR and ROE. This indicates that as NPLR and CRR of sample commercial banks increases, the profitability of the banks decreases and vice-versa.

#### **4.5 Discussion**

This study is set out to measure performance of Nepalese banking sector from 2013/14 to 2022/23 period for three sample banks under CAMEL model. The finding of this study shows that there is significantly relationship between financial performance and the profitability. The study shows a positive relationship between CAR with ROA and ROE. The result shows that increase in capital adequacy ratio leads to significant increase in the profitability of the banks. Importantly this outcome

is consistent with the finding provided in Aspal & Dhawan (2014), Biswas (2014), Douglas, Lont, & Scott (2014), Iqbal (2012), Muhmad & Hashim (2015) and Tom (2012). Similarly, LLPR has an insignificant negative relationship with ROA and positive insignificant relationship with ROE. Similarly, LLPR has insignificant positive relationship with ROA and ROE. The result indicates that increase in LLPR leads to increase in the profitability. The result is supported with the findings of Aspal & Dhawan (2014), Biswas (2014), Douglas, Lont, & Scott (2014) and Iqbal (2012). In addition, from most of other studies reviewed there were mixed results and were unable to establish a relationship between LLPR and bank profitability.

Another empirical finding from the regression analysis shows that there is insignificant another empirical finding from the regression analysis shows that there is insignificant negative relationship between NPLR with ROA and ROE. This outcome is consistent with finding of Lont, & Scott (2014), Iqbal (2012), Muhmad & Hashim (2015) and Tom (2012). The results indicate that increase in NPLR leads to decrease in the profitability of the banks. Likewise, the findings of the study show that there is statistically significant negative relationship of CRR with ROE the result is supported with the finding of Muhmad & Hashim (2015) and Tom (2012). Finally, CRR has insignificant negative relationship with the ROA and significant negative relationship with ROE of the banks. The result can be explained as increases in CRR leads to decreases in the profitability of the banks. This result is supported with the findings of Lont, & Scott (2014) and Iqbal (2012). So, there is different result with different topic under credit risk management but this study included almost part of financial performance.

## **CHAPTER V**

### **SUMMARY AND CONCLUSIONS**

#### **5.1 Summary**

Bank is very old institution that is contributing towards the development of economy and it is treated as an important service industry in the modern world. Nowadays the function of bank is not limited to within the same geographical limit of any country. It is an important source of financing for most business. Bank is a financial institution that require fund to carry out business. Fund may come from deposit and non deposit

such as capital. Bank need to find best way to manage resources and assess its activities decisions of consumption of resources. Simply stated much of the current bank performance literature describes the objective of financial organizations as that of earning acceptable returns and minimizing the risks taken to earn this return. A competitive banking system promotes the efficiency and therefore important for growth, but market power is necessary for stability in the banking system.

Generally, financial performance of banks and other financial institution is measured by using combination of financial ratio analysis, benchmarking, measuring performance against budget or mix of these methodologies. In simple accounting terms, performance of banks refers to the capacity in generating sustainable profitability. Banks need ways to evaluate performance and consider some important financial ratios and find the strength and weaknesses.

The general objective of this study is to analyze performance evaluation of Nepalese commercial banks using CAMEL model. The specific objectives of the study are as follows: a) to analyze the financial performance of commercial banks by applying CAMEL model, b) to examine the relationship of CAMEL model and ROA and ROE of sample banks and c) to measure the impact of CAMEL model on financial performance of sample banks. This study is based on descriptive research design. The study is based on secondary data with the aim of comparative study of financial performance of selected banks in Nepal by applying CAMEL model. The data were collected from the annual reports of HBL, EBL and Nepal SBI Bank Limited. It is not possible to study all the banks of Nepal. Therefore, all the 20 commercial banks operating in Nepal till July, 2024, May have been considered as population and three banks namely HBL, EBL and Nepal SBI Bank Limited have been considered as sample. The study covers secondary data of ten years. The study period covers latest fiscal year 2013/14 to 2022/23.

The study found that the standard deviation of ratio of CAR is 1.34 and coefficient of variation is 10.50% for HBL. The ratio is found fluctuating with minimum NRB standard in all the study period. In all study period, the capital adequacy ratio was seen above the NRB standard ratio. It indicates that the capital adequacy ratio (CAR) is an indicator of how well a bank can meet its obligations. Also known as the capital-to-risk weighted assets ratio (CRAR), the ratio compares capital to risk-weighted

assets and is watched by regulators to determine a bank's risk of failure. It's used to protect depositors and promote the stability and efficiency of financial systems around the country.

The standard deviation of ratio for NPLR is 1.26 and coefficient of variation is 85.69% for HBL. It indicates that the non-performing loan ratio in relation to the total loan is in slightly fluctuating trend. A non-performing loan is a loan in which the borrower is in default and has not paid the monthly principal and interest repayments for a specified period. Usually, banks classify loans as non-performing loans when the repayments of principal and interest are due for more than 90 days or depending on the terms of the loan agreement.

The study shows that the average return on equity ratio of HBL, EBL and SBI are 17.12%, 21.66% and 14.13% respectively. The mean ratio of EBL is the higher than the ratios of other banks which indicates the bank was most successful in mobilizing its equity to yield highest return. However the movement of ratio of all the banks is in fluctuating trend through out the study period. The standard deviation of return on equity is 4.84 and coefficient of variation is 34.27% for SBI. The average ratio indicates that EBL has more return on equity as compare to other banks.

The study shows that the average return on assets ratio of HBL is 1.7%. The average return on assets ratio of EBL and SBI are 1.63% and 1.42% respectively. Mean return on assets ratio of HBL is highest among sample banks which indicate that the bank is most successful in mobilizing its assets to yield highest return.

From the finding of the study it can said that HBL Bank is able to make higher return to its assets because it has more collection of non-performing loan of previous years and decrease in NPA. However, HBL has higher risk associated with ROA and SBI has lowest risk associated with ROA.

The standard deviation of ratio is 0.41 and coefficient of variation is 28.85% for SBI and standard deviation of ratio is 0.42 and coefficient of variation is 25.71% for EBL. It indicates that the net profits ratio in relation to the total assets is in slightly fluctuating trend. The average ratio indicates that HBL has more return on assets as compare to sample banks. CV of SBI is lesser than other sampled banks; this showed the consistency of net profit in relation to the total assets for SBI bank.

The study shows that the average earning per share of SBI is highest, which is Rs. 41.51, which indicates the bank is most successful in mobilizing its assets to yield highest return as a result of more retain earnings. The mean ratio of HBL and EBL are Rs. 27.69 and Rs. 25.49 respectively. The standard deviation of earning per share is 9.44 and coefficient of variation is 34.09% for HBL and standard deviation of earning per share is 9.36 and coefficient of variation is 36.73% for SBI. The average ratio indicates that SBI has more return on earning per share as compared to other banks. CV of HBL is lesser than other banks, this showed the consistency of net profit in relation to the total shareholders for HBL. As we know that every bank has to maintain a reserve with Nepal Rastra Bank (NRB) equal to 5% of total local currency deposit. This is done so that there will be no problem relating to deficiency of liquid cash as it affects the goodwill of the banks.

The study found that EBL, SBI and HBL Bank Limited are able to maintain the average reserve above the 5%. EBL has highest average reserve ratio i.e. 15.68%. This annual end calculation shows that all sample banks may be able to pay its depositors when needed whereas the HBL has more cash idle in bank. As NRB require bank to maintain CRR on weekly basis, the above shown CRR may not reflect actual position of banks.

The study found the cash reserve ratio of EBL, SBI and HBL Bank Limited. The standard deviation of cash reserve ratio of SBI is 2.86 and coefficient of variation is 39.82%. It indicates that the cash reserve ratio is in slightly fluctuating trend. The average ratio indicates that HBL has more cash reserve ratio as compare to other banks. CV of SBI is higher than other banks, this showed the very scatter ness of cash reserve ratio for SBI.

## **5.2 Conclusion**

In general, sample banks have maintained Tier I capital adequately above the NRB standard during the study period. It means the banks are maintaining adequate amount of internal sources of shareholders' fund with significant core capital adequacy ratio in all the years over the study period. The average ratio indicates that SBI has more total capital ratio as compare to other sample banks. Hence the bank requires increasing its capital fund either through internal sources or decreasing risky assets investments in the years to come. The comparison of non- performing loans to total

gross loan ratios showed that SBI had the lowest non-performing loans to total gross loan ratio among the three banks.

The average ratio indicates that SBI has less non-performing loan ratio as compared to other banks. CV of SBI is lesser than other banks, this showed the very few scatterness between non-performing loan ratio in relation to the total loan for SBI. The comparison of non-performing loans to total gross loan ratios shows that SBI has the lowest non-performing loans to total gross loan ratio among the three banks.

The mean loan loss provisioning ratios of EBL is relatively less than other banks. EBL had the lowest average non-performing assets to loan loss provision ratio over the study period. It indicated that EBL has been recovering its non-performing assets for possible cause of loan loss as compared to NPA in an efficient way as compared to the other banks. It shows the conditions of all banks are good. Among those banks, EBL Bank is the best one. It shows the result of effective credit management of the bank and its efforts of recovering bad debts through establishment of recovery unit.

Regarding to the objective of the study, the mean CAR of the all sample banks have above the regulatory requirements which shows that all banks have become successful to minimize its risk to maintain standard capital as adequate as required by regulations. Mean CRR of all sample bank have more than 3%. According to NRB directive 2078/79, CRR should not be less than the 3% of the bank's total deposit. Therefore, the overall mean value of CRR is satisfactory level.

Similarly, relating to objective, the finding of the study period revealed that CAR has positive significant correlation with profitability. Similarly, LLPR has positive insignificant correlation with ROA and ROE. Likewise, NPLR has negative insignificant correlation with profitability. Finally, CRR has negative significant correlation with ROA and ROE.

The regression analysis concluded that CAR has significant positive relationship with profitability, where it has been observed that capital adequacy ratio is a major influencer of profitability of the banks. The overall result concluded that the financial performance is an important predictor for the profitability of banks. Therefore, the success of the bank in term of profitability depends on its credit risk management.

The relationship of ROA and ROE with CAR and NPLR are significant at 1% level of significance. The table shows that profitability has positive significant relationship with CAR and negative significant relationship with CRR and NPLR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR.

The study concluded that profitability has positive significant relationship with CAR and negative significant relationship with NPLR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR.

The study concluded that relationship of ROA and ROE with CAR and NPLR are significant at 1% level of significance. The study concluded that profitability has positive significant relationship with CAR and negative significant relationship with LLPR. It also shows that profitability has negative significant relationship with LLPR and negative significant relationship with NPLR.

It is concluded that there is highly positive relationship between CAR and profitability (ROE). This indicates as the CAR of sample commercial banks increases; the profitability of the banks also increases. The study concluded that the relationship between CRR and ROE is highly negative. This shows that as the CRR of commercial banks increases, the ROE of the banks decreases and vice-versa. It is concluded that there is negative relationship between LLPR with ROE of sample commercial banks. This concluded that as LLPR increases, the profitability of the banks also decreases and vice-versa.

### **5.3 Implications**

The recommendation of this study may be the important information for those who are very much concerned directly with the performance of the concerned banks and capital adequacy norms. Thus, following recommendation can be outlined.

- The capital fund of sampled commercial bank i.e. HBL, EBL and SBI is largely depended upon share capital. It is recommended to the sampled banks to follow optimal capital structure which maximizes the market value of the firm. The banks should use some sort of debt financing depending upon its viability. Still in Nepal, debt financing is an accustomed source of financing

for commercial banks. But it is notable that NIMBL has already started the debt financing.

- In general, HBL was able to maintain CAR above the minimum NRB standard during the study period. EBL and Nabil were able to maintain CAR above the minimum NRB standard efficiently during the study period. Hence the bank requires increasing its capital fund either through internal sources or decreasing risky assets investments in the years to come.
- The liquidity ratios of HBL, EBL and SBI showed that their liquidity position is quite sound. The liquidity ratios of EBL were comparatively less than that of HBL. This ratio shows how effectively the banks have been using the fund they collected from depositors. It is recommended to EBL that it should concentrate more on credit and investment. The bank shall expand its branches in rural areas and search investment opportunity there. The liquidity ratios of HBL is nearer to this standard but in overall point of view, EBL cannot relax with such liquidity ratios.
- HBL, EBL and SBI are quite successful in maintaining capital adequacy as prescribed by NRB. But as compared to sampled banks, HBL has higher capital fund than EBL. The supplementary capital for HBL and EBL is not good. It should be noted here that shortfall in the supplementary capital can be compensated by the use of the excess amount of core capital. Therefore, it is recommended that sampled banks should improve their supplementary capital.
- The bank should increase its core capital in order to expose itself to more credit risk. With the reduction in the single obligor limit, there are only two choices for the bank to limit its clients within standards or to increase the core capital. While staying with the existing core capital, HBL, EBL and SBI are exposing to the risk of losing huge and good clients to other banks with huge amount of core capital that can withstand the loan exposure of such client. On doing this, HBL, EBL and SBI will on one way not be able to mobilize its deposits and on the other will have to stick to small client.

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# FINANCIAL PERFORMANCE OF JOINT VENTURE BANK OF ...

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ABSTRACT This study's main goal

is to use the CAMEL model to examine the performance evaluation of Nepalese commercial banks

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. The study's particular goals are to apply

the CAMEL model to analyze the financial performance of commercial banks

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, investigate the relationship between the model and sample banks' ROA and ROE, and gauge the model's influence on sample banks' financial performance. Only three of the study's twenty commercial banks—Himalayan Bank Ltd., Nepal SBI Bank Ltd., and Everest Bank Ltd.—were chosen through the convenience sampling approach in order to meet the study's goal. Secondary sources of data from 2013–14 to 2022–23 served as the study's foundation. The study found a negative significant association between profitability and NPLR and a positive significant relationship with CAR. Additionally, it demonstrates that profitability and LLPR and NPLR have negative, substantial relationships. The analysis found that, at the 1% significance level, there is a substantial link between ROA and ROE and CAR and NPLR. The research findings indicate that there is a substantial positive correlation between profitability and CAR, and a significant negative correlation with LLPR. Additionally, it demonstrates that profitability and LLPR and NPLR have negative, substantial relationships. The conclusion is that there is a strong correlation between profitability (ROE) and CAR. This suggests that the profitability of the sample commercial banks rises in tandem with their CAR. The investigation came to the conclusion that there is a very negative association between CRR and ROE. This demonstrates that the ROE of commercial banks falls as their CRR rises and vice versa. The analysis concludes that the LLPR and ROE of the sample commercial banks have a negative connection. This led to the conclusion that banks' profitability falls as LLPR rises and vice versa. The outcome showed that there is a very negative association between CRR and ROE. This demonstrates that the ROE of commercial banks falls as their CRR rises and vice versa. It is discovered that the LLPR and ROE of the sample commercial banks have a positive correlation. This suggests that the profitability of the banks rises in tandem with an increase in LLPR and vice versa. The study demonstrates that there is negative association between NPLR and ROE. This suggests that the profitability of the sample commercial banks falls when their NPLR and CRR rise, and vice versa. Keywords: Commercial banks, capital adequacy ratio, profitability, non-performing loan, ROA, ROE. CHAPTER - I INTRODUCTION 1.1 Background of the study In the current world, banks are regarded as significant service industries that play a significant role in the growth of any economy. They are an incredibly old institution. These days, a bank's operations are not restricted to the borders of any one nation. For the majority of businesses, it is a significant source of funding (Nimalathan, 2008). A bank is a type of financial institution that needs money to operate. Capital and other non-deposit sources of funding are also possible (AIMamun, 2013). The bank must determine the most effective method for managing its resources and evaluate its decisions regarding resource use. In summary, a significant portion of the existing literature on bank performance characterizes the goal of financial institutions as being to maximize profits while reducing the risks involved in achieving these returns. Market strength is required for the banking system to remain stable, yet a competitive banking system encourages efficiency and is therefore vital for growth (Northcott, 2004). Financial ratio analysis, benchmarking, performance against budget, or a combination of these techniques are typically