FINANCIAL PERFORMANCE ANALYSIS OF COMMERCIAL BANKS ON THE BASIS OF CAMEL

(With special reference to selected Nepalese Commercial Banks)

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

By

Laxman Panday
Exam Roll No.: 1163/17
T.U. Regd. No.: 7-2-39-874-2010
Campus: Central Department of Management

Kathmandu, Nepal
January, 2021

FINANCIAL PERFORMANCE ANALYSIS OF COMMERCIAL BANKS ON THE BASIS OF CAMEL Laxman Panday 2021

Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "**Financial Performance Analysis of Commercial Banks on the Basis of CAMEL**". The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it 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.

……..

Laxman Panday

Date: January, 2021

Report of Research Committee

Mr. Laxman Panday has defended research proposal entitled "**Financial Performance Analysis of Commercial Banks on the Basis of CAMEL**" 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. Manoj Kumar Chaudhary and submit the thesis for evaluation and viva voce examination.

Asso. Prof. Dr. Manoj Kumar Chaudhary
Signature:……
Position: Asso. Professor

Dissertation Proposal Defended Date:
September, 2019

Asso. Prof. Dr. Manoj Kumar Chaudhary
Signature: ……
Position: Asso. Professor

Dissertation Submitted Date:
21th January, 2021

Prof. Dr. Sanjay Kumar Shrestha
Signature: ……

Position: Research Committee Head

Dissertation Viva Voce Date:
26th January, 2021

APPROVAL SHEET

We have examined the dissertation entitled "**Financial Performance Analysis of Commercial Banks on the Basis of CAMEL**" presented by Mr. Laxman Panday for the degree of Master of Business Studies. We here by certify that the dissertation is acceptable for the award of degree.

.....……

Asso. Prof. Dr. Manoj Kumar Chaudhary
Thesis Supervisor

…….....
Asso. Prof. Dr. Achyut Gyawali
Internal Examiner

.....……..
Asso. Prof. Gyan Mani Adhikari
External Examiner

…….....
Prof. Dr. Sanjay Kumar Shrestha
Chairperson, Research Committee

…….....
Prof. Dr. Ramji Gautam
Head of the Department

Date: January, 2021

ACKNOWLEDGEMENTS

This study entitled **"Financial performance analysis of commercial banks on the basis of CAMEL"** has been conducted to satisfy the partial requirements for the degree of Master of Business studies (MBS), Tribhuvan University. Every project whether big or small is successful largely due to the effort of a number of wonderful people who have always given their valuable advice or lent a helping hand. I sincerely appreciate the inspiration, support and guidance of all those people how have been instructed in making this study a success. My foremost appreciation and thanks goes to my honorable supervisor, Ass. Prof. Dr. Manoj Kumar Chaudhary for his close supervision and professional advice and encouragement during the research work. I am highly indebted and very thankful to my internal supervisor Asso. Prof. Dr. Achyut Gyawali and external supervisor Asso. Prof. Gyan Mani Adhikari for their valuable comments and constructive suggestions that have enabled this research work to achieve its present form.

Special mention goes to Prof. Dr. Sanjay Kumar Shrestha (Chairperson, research committee) and all the members of research committee for timely and continuous guidance throughout the study. They not only reviewed my work but also suggested valuable advice and insights. I would like to express cordial gratitude to Prof. Dr. Ramji Gautam (Head of the Department) for his inspiration and support to complete this research work. I also highly appreciate the effort of all teacher and other member of the Central Department of Management.

Finally I am grateful to my parents and family for their full encouragement and support in order to make this study come fruitful. Their continuous motivation towards the path of my academic pursuit, constant financial and moral support has steered me to complete my Master's Degree. Lastly my special thanks goes to my father Mr. Tulsi Ram Panday and mother Goma Devi Panday, Brother Ramesh Raj Panday, Rajendra Prasad Panday, Resham Raj Panday, Bishnu Panday, Bishal Panday, Sister Januka Panday, Uncle Kul Prasad Panday, Dr. Parthibeshwor Prasad Timilsina and my all friends who always encouraged me in this paper.

Thank You

Laxman Panday

TABLE OF CONTENTS

Page No.:

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATION

a	:	Constant number
ACR	:	Capital Adequacy Ratio
ADBL	:	Agriculture Development Bank Limited
b	:	Regression Co-efficient
C.V.	:	Co-efficient of Variation
CCR	:	Cash Reserve Ratio
d. f.	:	Degree of Freedom
e.g.	:	For example
Ed.	:	Edition
EPS	:	Earning Per Share
F/Y	:	Fiscal Year
GA	:	Growth of Assets
i.e.	:	That is
MBNL	:	Mega Bank Nepal Limited
MER	:	Management Efficiency Ratio
MPS	:	Market Price Per Share
n	:	Number of Items
NABIL	:	Nabil Bank Limited
NBL	:	Nabil Bank Limited
NEPSE	:	Nepal Stock Exchange
NIBL	:	Nepal Investment Bank Limited
No.	:	Number
NPL	:	Non Performing Loan
Rs.	:	Rupees
S.D.	:	Standard Deviation
S.N.	:	Serial Number
SEBON	:	Security Board of Nepal
Vol.	:	Volume
www	:	World Wide Web

ABSTRACT

The study is to examine the Financial Performance of Commercial Bank on the Basis of CAMEL study in the context of Nepalese commercial Banks. Change in Earning Per Share is the dependent variable while the capital adequacy ratio (CAR), non-performing loan (NPL), management efficiency ratio (MER), return on assets (ROA) & cash reserve ratio (CRR) were chosen as independent variables. The data were collected from the annual reports of selected banks, annual report of SEBON, report of Nepal Rastra Bank and other official and unofficial publications. Data were analyzed by using appropriate financial and statistical tools and the descriptive research design were used. The multiple regression models were used to test the Financial Performance of Commercial Bank on the Basis of CAMEL. The regression of CAMEL parameter and its impact on earning shows that beta coefficients are positive for Non-performing loan Ratio (NPL), Return on Assets (ROA) and Cash Reserve Ration (CRR). However, beta coefficient is negative for capital adequacy ratio and management efficiency ratio. In this study, there is positive relationship between the, Return on Assets and Earning Per share, Non-performing loan and Earning per share and Cash Reserve Ratio and Earning Per Share. Hence, the result shows that higher the NPL, ROA & CRR, larger would be earnings and vice-versa. Whereas the beta coefficient of ROA, NPL & CRR is also significant at 5% level of significance. The relationship between EPS and CAR, NPL, MER, ROA and CCR of commercial bank is significant. The study found that the variables CAR, NPL, ROA and CRR is responsible on EPS only by 58.10% and around 41.90% is unexplained. The study recommends that other studies is to be done to identify other factors which may explain the remaining 41.90% roles on determining the earning price per share of Nepalese commercial banks.

CHAPTER 1
INTRODUCTION

1.1 Background of study

Financial Performance analysis is the one of the process of identifying the financial strengths and weakness of the firm by properly establishing relationship between the components of balance sheet and profit loss account and other operating data (Pandey, 1994:108). Moreover, financial analysis as both analytical and judgmental processes that helps answer the questions that have been proposed posed. Therefore it is a means to an end. One can stress enough that financial analysis is an aid that follows those who are responsible for results to sound decision (Erich; 1997:2).

On the review of Metcalf and tire analyzing financial statement is a process of evaluating relationship among components parts of financial statements to obtained a better understanding of a firm's position and performance, (Metcalf and tire; 1976:175) it is a largely study of a single set of statements and study of these factors as shown in a series of statements may be useful for different purpose such as knowing the positions and performance of the firm. In course of analysis different tools and techniques are used.

This analysis evaluated involves the use of various financial statements the first is the balance sheet, which represent a snapshot of the firm's financial position at the moments and next is the income statements that depicts summary of the firm's profitability over the time.

"Financial management may be defined as the part of management which is concerned mainly with raising funds in the most economic and suitable manner, using, these funds as profitable as possible, planning future operation, and controlling current performance and future developments through financial accounting cost accounting, budgeting, statistics, and other means. It guides investment where opportunity is the greatest producing relatively uniform yard stick for judging most of a firms operations and projects and is continually concerned with achieving an adequate rate of return on investment as this is necessary for survival and the attracting of new capital"(Kulkarni,1986).

The performance of commercial banks is governed by the policies and regulations set by the government. Central bank represents the government and plays the role of monitor and controller in every country. In our context, Nepal Rastra Bank (NRB) deserves the

authority to monitor and control the financial system of Nepal. Commercial banks and other financial institutions (FIs) have to be operated according to the directives issued by NRB.

Banks are such financial institutions which play an important role to collect scattered insufficient saving and use them into productive sectors. Most people like to save little money when they have a chance. They may save because they have no urgent need for the money later time. When they do need the money, they may not have saved enough. Many people who save money deposit it in some kind of bank. The borrowers pay interest price for the use of the money to the bank and the bank pays interest to the people, who have deposited their savings. The banks make a profit by charging more for lending money that it pays for holding money. Thus banking is the business of receiving, safeguarding and lending money.

There are different stakeholders that have interest in evaluations of the performance of banks including depositors, investors, bank managers and regulators (Ibrahim, 2014). For instance central banks and bank regulators may need to identify and call attention to banks that are experiencing chronic financial problems in order that they may fix them before they get out of control. On the other hand, Shareholders need to assess which banks they can deem suitable for financially invest in. The banks evaluate their own performance over a given period so that they may determine the efficacy and long term viability of management decisions or goals so that they can alter the course and make changes whenever it is appropriate.

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, the performance and health of 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, asset quality, management quality, 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 a significant and considerable improvement over the earlier criterions in terms of frequency, check, spread over and concentration (Misra & Aspal, 2013; Basel, 2011).

Hence, this study intends to analyze the performance of private commercial banks in Ethiopia by using CAMEL approach.

The stage of development of the banking industry is a good reflection of the development of the economy. To sustain the development of the economy, the performance and health of banks has to be checked and evaluated periodically (Alemu & Aweke, 2017). 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, asset quality, management quality, 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 a significant and considerable improvement over the earlier criterions in terms of frequency, check, spread over and concentration. Hence, this study intends to analyze the performance of private commercial banks in Ethiopia by using CAMEL approach (Alemu & Aweke, 2017).

Banks' debt usually referred as 'Bank Deposit' that is commonly accepted in final settlement of debt of other people. It is different from other financial institution in the sense that they cannot create credit though they may be accepting deposits and making advances. Thus, bank's business is basically to buy and sell of credit. Credit instruments are kept on stock-in-trade also on the basis of its own credit and banks create money transferred by credit instruments. They must gain the confidence and trust of the people to create credits. It is said that the flow of credit is very much important like the circulation of blood in human life. If the circulation of blood is not smooth it will do irreparable harm to the body. Similarly, unsteady and unevenly flow of credit harms the economy.

There is a trade-off between liquidity and profitability; gaining more of one ordinarily means giving up some of the other. Short meaning of liquidity is saving enough money in the form of cash, or near-cash assets, to meet your financial obligations. Alternatively, liquidity is the position with which assets can be converted into cash. Similarly, profitability is measure of the amount by which a company's revenues exceed its relevant expenses.

Profit is what accrues is added to capital at the end of an period of activity as a result of a difference between the value of sales and the cost of raw materials, labour and capital that went into the production of the goods sold. Liquidity is the availability of capital at each and every point of the working capital cycle to ensure the smooth flow of production through the business. Liquidity means enough cash and enough working capital to ensure the day-to-day running of the business (Edward, 2010).

Banks are most effective medium of mobilizing the national resources, their efficiency in mobilizing the resources lies in expanding their main business i.e. accepting deposits and advances along with making a marginal profit, the instrument of interest rate can also play an important role for such purpose. But the regulation of interest rates are done by the Nepal Rastra Bank, the central bank of Nepal and the a commercial bank need not face much problem in the fixation of such rates (Pradhan, 2004).

The performance of commercial banks is governed by the policies and regulations set by the government. Central bank represents the government and plays the role of monitor and controller in every country. In our context, Nepal Rastra Bank (NRB) deserves the authority to monitor and control the financial system of Nepal. Commercial banks and other financial institutions (FIs) have to be operated according to the directives issued by NRB. NRB as an apex of monetary authority of the country started to monitor and control the financial institutions especially at the end of the 1990s by issuing the directives to the financial institutions. As the banks play the pivotal role in the economy, their performance should be supervised by the central bank and take necessary corrective actions if their health is poor. NRB by means of regular auditing and timely supervision of FIs has been inspecting their activities to maintain their sound financial health and to build up the confidence of private sector in the liberalized economy and protect the interest of the investors. It has adopted the international banks rating system (CAMEL) to assess the financial performance of Nepalese commercial banks. Among them Nepal bank ,Agricultural development bank limited , NABIL bank limited and Nepal investment bank limited.

1.2 Problem statement and research questions

The banking sector's performance is perceived as the replica of economic activities of the economy. The stage of development of the banking industry is a good reflection of the development of the economy (Misra & Aspal, 2013). Evaluation of financial performance of the banking sector is an effective measure and indicator to check the soundness of economic activities of a nation.

The main objective of the bank is to increase its returns for its owners. But to generate the increment in return or profit, banks also have to take high risks. Such risks may be: Credit Risk, Liquidity Risk, Interest Rate Risk, Market Risk, Off-balance sheet Risk, Foreign Exchange Risk, Country Risk, Technology Risk, Operational Risk, Insolvency Risk etc. In context to Nepal, Government owned banks were almost running in loss due to not following proper guidance set by Nepal Rastra Bank and as there is Government to fulfill those losses but now these banks have posted profit. Although, the private sector banks are making profits while facing those above mentioned risks.

It is said that the banking sector is the mirror of the larger economy, its linkage to all sectors makes it a proxy for what is happening in the economy as a whole, indeed, the Nepalese banking sector today is at boiling point. Questions frequently raised are in a situation where most business is struggling, how can banks show such large profits? Or if the banking sector mirrors the larger economy, why is this inverse relationship in their performance? Banks and FIs can be evaluated comparing with Nepal Rastra Bank's regulatory framework, in which banks and FIs are required to maintain a standard set by NRB. CAMEL is a widely used tool to analyze financial performance of banks.

Research questions

This study answers to the following questions such as;

1. What are the financial performances of commercial banks of Nepal on the basis of CAMEL analysis?
2. What is the financial strength and weakness of the Commercial banks of Nepal?
3. What is the relationship between CAMEL parameters in Nepalese Commercial Banks?

1.3 Objectives of the study

The basis objectives of the study is to analyze the financial performance of Nepalese commercial Banks on the basis of CAMEL. The main objective of this study as follows;

1. To analyze the financial performances of Commercial banks of Nepal on the basis of CAMEL.
2. To asses financial strength and weakness of the Commercial Banks of Nepal on the basis of CAMEL study.
3. To examine the relationship between CAMEL parameters.

1.4 Rationale of the study

The financial sector has evolved as the biggest sector in the economy. After the economic reforms initiated by the government, this sector has been going through the major changes. Increased competition due to mushrooming of financial institutions across the country has impacted the banking sector negatively, so the financial performance of the banks has to be evaluated properly to know the strength and weaknesses of the banks. Although the various studies have been carried out regarding financial performance of banks, very few studies have employed the CAMEL framework of analysis. This study aims to analyze the financial performance of Nepal bank limited, Agricultural development bank limited, NABIL bank limited and Nepal investment bank limited in the framework of CAMEL.

The researcher is quite confident that the research will be useful to the financial sector of Nepal. The study also be a great value for investors, equity holders, bankers, capital markets, government, financial intuitions, researchers, and students.

1.5 Limitations of the study

Every research has been conducted within certain size. So existing limitation of this research are as follows;

(i) Though a commercial bank has several function to analyzed but this study concentrates only on the CAMEL i.e. (Capital adequacy, Assets quality, Management, Earning, Liquidity) function of selected bank, other functions of the banks aren't covered in this research.

(ii) The period of study covers only five years (2071/72 to 2075/76 B.S.) i.e. five fiscal years.

(iii) The data used in the study is only on secondary data. The truth of the research based upon the data available from the bank's financial statement.

(iv) This study is limited to only four commercial banks which are as follows; Nepal Bank Limited, Agricultural Development Bank Limited, Nabil Bank Limited and Nepal Investment Bank Limited.

(v) This study focused on the financial analysis in the framework of components of CAMEL system. Due to unavailability of detail financial data, CAMEL component 'S' is missing in the study.

1.6 Chapter plan

This research has been organized in five chapters as below.

Chapter 1 Introduction

The first chapter deals with introduction. This includes background of the study, statement of problem and research questions, purpose of the study, and significance of the study, limitations of the study and chapter plan.

Chapter 2 Literature review

This chapter included of conceptual framework, theoretical analysis and review of related different studies. This chapter also includes how this present studies are different from previous studies.

Chapter 3 Research methodology

Research methodology is the process of arriving at the solution of the problem through planned and systematic dealing with collection, analysis and interpretation of facts and figures. It consists of nature and sources of data, population and sample, tools and techniques of data. Both financial and statistical tools are defined in the research methodology.

Chapter 4 Results and discussion

This is the main body of the chapter. Chapter deals with data collected from different sources based on the data analysis of investor's preferences is made by using statistical and non-statistical tools. This chapter also includes findings of the study.

Chapter 5 Summary and conclusions

The fifth chapter includes summary, conclusion and offers suggestions for further improvement. Conclusions are drawn and recommended on the basis of major findings. It also offers several avenues for future research.

The exhibits bibliography and appendixes are incorporated at the end of the study.

CHAPTER 2
LITERATURE REVIEW

The purpose of reviewing the literature is to develop some expertise in one's area, to see what new contribution can be made, and to receive some ideas for developing research design. The review of literature includes the reviews of previous writing and studies relevant to the problem being explored and with the frame work of theory structure.

2.1 Conceptual review

2.1.1 Financial performance analysis

Financial analysis is the one of the process of identifying the financial strengths and weakness of the firm by properly establishing relationship between the components of balance sheet and profit loss account and other operating data. Moreover, financial analysis as both analytical and judgmental processes that helps answer the questions that have been proposed posed. Therefore it is a means to an end. One can stress enough that financial analysis is an aid that follows those who are responsible for results to sound decision (Erich, 1997:2).

The financial statement is a process of evaluating relationship among components parts of financial statements to obtain a better understanding of a firm's position and performance, (Metcalf, 1976:175).Financial Performance Analysis is a process of synthesis and summarization of financial and operative data to get an insight into the operative activities of a business concern. It consists of comparisons for the same entity over periods of time or comparisons of different entities either of same sector or different sectors. It may be done for a variety of purposes, which may range from a simple analysis of the short term liquidity position to a comprehensive assessment of the strengths and weakness in various areas. It is helpful in assessing corporate excellence, operating efficiency, judging credit worthiness, forecasting bond ratings, predicting bankruptcy and market risk. There are numbers of tools and techniques available for the performance evaluation of a bank like CAMEL model and ratio analysis etc. Financial analysis of a bank is mainly done with the help of different ratios which enables the management of banks to identify the causes or reasons for the changes in their advances, income, deposits, expenditure and profitability over the period of time and thus help in pinpointing the necessary direction of action required for increased deposits, income,

advances and reducing the expenditure and for altering the profitability prospects of the banks in future. "Financial analysis is a process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the item of balance sheet and the profit and loss account" (*Pandey, 2000*).

2.1.2 CAMEL rating system

Federal Reserve Bank of New York (1997) has defined the component of CAMEL as rating system which produces a composite rating of an institution overall condition and performance by assessing five components: Capital Adequacy, Asset Quality, Management Administration, Earning and Liquidity.

CAMEL was originally developed by the FDIC for the purpose of determining when to schedule an on-site examination of bank. This system was designed by regulatory authorities to quantify the performance and the financial condition of the Banks which it regulates.

The CAMEL rating system is subjective. Benchmarks for each component are provided, but they are guidelines only, and present essential foundations upon which the composite rating is based. They do not eliminate consideration of other pertinent factors by the examiner. The uniform rating system provides the groundwork for necessary supervisors to be reasonably compared and helps institutions supervised by all three US supervisors to be reasonably compared and evaluated. Ratings are assigned for each component in addition to the overall rating of a financial institutions financial condition. The ratings are assigned on a scale from 1 to5. The CAMEL ratings are commonly viewed as summary measures of the private supervisory information gathered by examiners regarding financial institutions overall financial conditions, although they also reflect available public information.

The most important criteria for determining the appropriateness of FIs to act as financial intermediary are its solvency, profitability and liquidity. In this respect, the BCBS of the bank of international settlements (BIS), since 1988, has recommended using capital adequacy, assets quality, management quality, earnings and liquidity (CAMEL) as criteria for assessing FI.

During an on-site bank exam, supervisors gather private information, such as details on problem loans with which to evaluate a bank's financial condition and to monitor its

compliance with laws and regulatory policies. A key product of such an exam is a supervisory rating of the bank's overall condition, commonly referred to as a CAMEL rating. CAMEL rating system is used by the three federal banking supervisors the Federal Reserve, the FDIC, and the office of the comptroller of the currency and other financial supervisory agencies to provide a convenient summary of bank conditions at the time of an exam. In Nepal, the NRB plays the supervisory role for evaluating financial institution's financial condition through rating the financial institution's in accordance to CAMEL is still in its initial phase.

Composite rating

The FFIEC press release, USA (1996) describes the composite rating and defines the six components rating. According to the press release, composite ratings are based on a careful evaluation of an institution managerial, operational, financial and compliance performance. The six key components used to assess an institutions financial condition and operations are: capital adequacy, asset quality, management capability, earnings quality, the adequacy of liquidity and sensitivity to market risk. The rating scale range from 1 to 5, with a rating of 1 indicating: the strongest performance and risk management practices relative to the institutions size, complexity, and risk profile and the level of performance inadequate risk and the greatest supervisory concern. The composite ratings are defined in the FFIEC press releases (1996) are as follows.

Composite 1: FIs in this group are in every respect and generally have components rated 1 or 2. Any weaknesses are minor and can be handled in a routine manner by the board of directors and management. These FIs are the most capable of withstanding the vagaries of business condition and are resistant to outside influences such as economic instability in their trade area. These FIs are in substantial compliance and risk management practices relative to the institutions size, complexity, risk profile and supervisory concern.

Composite 2: FIs in this group are fundamentally sound. For a FI to receive this rating, generally no component rating should be more severe than 3. Only moderate weaknesses are present and are well within the board of directors and managements capabilities and willingness to correct. These FIs are in substantial compliance with laws and regulations. Overall risk management practices are satisfactory relative to the institutions size, complexity and risk profile.

Composite 3: FIs in this group exhibit some degree of supervisory concern in one or more of the component areas. These FIs exhibit a combination of weaknesses that may range from moderate to severe: however, the magnitude of the deficiencies generally will not cause a component to be rated more severely than 4. FIs in this group generally are more vulnerable to outside influences than those institutions rated a composite 1 or 2. Additionally, these FIs may be in significant noncompliance with laws and regulations.

Composite 4: FIs in this group generally exhibit unsafe and unsound practices or conditions. There are serious financial or managerial deficiencies that result in unsatisfactory performance. The problems range from severe to critically deficient. The weaknesses and problems are not being satisfactorily addressed or resolved by the board of directors and management. FIs in this group generally are not capable of withstanding business fluctuations. There may be significant noncompliance with laws and regulations. Risk management practices are generally unacceptable relative to the institutions size, complexity and risk profile. Close supervisory attention is required, which means, in most cases, formal enforcement action is necessary to address the problems. Institution in this group poses a risk to the deposit insurance fund. Failure is a distinct possibility if the problems and weaknesses are not satisfactorily addressed and resolved.

Composite 5: FIs in this group exhibit extremely unsafe and unsound practices or conditions exhibit a critically deficient performance, often contain inadequate risk management practices relative to the institutions size, complexity and risk profile are of the greatest supervisory concern. The volume and severity of problems are beyond management's ability or willingness to control or correct. Immediate outside financial or other assistance is needed in order for the FIs to be viable. Ongoing supervisory attention is necessary. Institutions in this group pose a significant risk to the deposit insurance fund and failure is highly probable.

Piyu (1992) notes "Currently, financial ratios are often used to measuring the overall soundness of a bank and quality of its management. Bank regulators, for example, use financial ratios to help evaluate a bank's performance as part of the CAMEL system". The evaluation factors are as follows:

Components of CAMEL rating system

1. Capital adequacy

The dimension of capital adequacy is an important factor to help the bank in understanding the shock attractive capability during risk. In this study, capital adequacy is measured by using the equity to total assets ratio (Vong & Chan, 2009). That means, capital adequacy enables a bank to meet any financial unexpected condition due to credit risk, market risk, interest risk. Capital adequacy protects the interest of depositors of a bank.

2. Assets quality

The dimension of asset quality is an important factor to help the bank in understanding the risk on the exposure of the debtors. In this paper, this parameter is measured by the provision for loan loss reserve to total assets ratio (Merchant, 2012). This ratio assures to cover the bad and doubtful loans of the bank. This parameter will benefit the bank in understanding the amount of funds that have been reserved by the banks in the event of bad investments.

3. Management quality

Management quality reflects the management soundness of a bank. The management acts as a safeguard to operate the bank in a smooth and decent manner and is called excellence management or skillful management, whenever it controls its costs and increase productivity, ultimately achieving higher profits. Here, this parameter is measured by total cost to total income ratio.

4. Earning quality

Earning is an important parameter to measure the financial performance of an organization. Earning quality mainly measures the profitability and productivity of the bank; explains the growth and sustainability of future earning capacity. In the same way, banks depends on its earning to perform the activities like funding dividends, maintaining adequate capital levels, providing for opportunities for investment for bank to grow, strategies for engaging in new activities and maintaining the competitive outlook. Here two ratios are used to determine the profitability of banks i.e. ROA and ROE.

5. Liquidity

Liquidity ratio in a bank measures the ability to pay its current obligations (Hazzi & Kilani, 2013). For having sound banking operations it needs to have liquidity solvency. If any bank faces liquidity crisis, bank can't meet up its short-term obligations. Liquidity crisis seems to be a curse to the image of banks. So, it is a prime concern to banks. Cash and investments are the most liquid assets of a bank. An adequate liquidity position means a situation, where institution can obtain funds, either by rising liabilities or by converting its assets quickly at a reasonable cost. Hence liquidity performance is measured by net investment to total asset ratio. This ratio can be defined as the amounts of assets have been engaged in investment.

2.1.3 BASEL capital accord

The BASEL committee on banking supervision (BCBS) is a committee of banking supervisory authorities that was established by central bank governors of the group of ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom and the United States. It usually meets at the bank for international Settlements (BIS) in BASEL, where it's permanent is located (*BIS; 11-2005*).

Starting with its publication of "International Convergence of Capital Measurement and Capital Standards" in July 1988, popularly known as BASEL I "Capital Accord, BCBS set out a minimum capital requirement of 8 percent for banks. Prior to that, the committee introduced 25 core principles on effective banking supervision. In 1996, the committee incorporated market risk in the 1988 capital accord. With a major revision of the 1988 accord, there followed by the revised publication of the committee's first round of proposals for revising the capital adequacy framework in June 1999 popularly known as BASEL II capital Accord. Since then, it is revised in January 2001, April 2003 and released its final revised framework updated in November 2005. In this accord, the concept and rationale of the three pillars minimum capital requirements, supervisory review and market discipline approach was introduced, on which the revised framework is based. In the revised framework, BCBS retains key elements of the 1988 capital adequacy framework, including the general requirement for banks to hold total capital equivalent to at least 8 percent of

their risk-weighted assets; the basic structure of the 1996 market risk amendment regarding the treatment of market risk; and definition of eligible capital" (*BIS; 11-2005*).

The new BASEL capital accord (BASEL II), shall be applicable to internally active banks all over the world with effect from end of 2006. Implementing the new accord in Nepal has been a challenging task for the supervisors as well as FIs. Hence, certain preparatory homework is needed to Nepalese financial system to implement BASEL II. NRB and FIs need to have coordinated effort efficiency in Nepalese banks and FIs to establish certain baseline for the effective implementation of BASEL II. In this regard, second interaction program was held in Nepal with the banks executive to make them aware of the new development. The commercial banks so far has shown positive attitude towards the implementation of BASEL II. "New capital accord implementation preparatory core committee" was drafted "NRB's concept paper on new capital accord". According to the program of new capital accord implementation, concept paper was forwarded to all the commercial banks for comments and recommendations. A form was also developed so that commercial banks classify their exposures as per the new approach, which was reviewed by the "BASEL- II implementation working group". NRB has adopted Basel core principles for effective supervision as guideline for supervision of commercial banks. Core principle methodology adopted by BCBS provides a uniform template for both self-assessment and independent assessment. It involves four part qualitative assessment system: compliant, largely compliant, materially non-compliant and non-compliant. For each principle essential and additional criteria are defined. To achieve a "compliant" assessment with a principle, all essential and additional criteria must be met without any significant deficiencies. A "largely compliant" assessment is given if only minor shortcomings are observed, and these are not seen as sufficient to raise serious doubts about the authority's ability to achieve the objective of that principle. A materially non-compliant assessment is given when the shortcoming is sufficient to raise doubts.

About the authority's ability to achieve compliance, but substantial progress towards compliance has been achieved.

There is no doubt that the new accord though complex carries a lot of virtues and will be a milestone in improving banks internal mechanism and supervisory process and beneficial to the commercials banks.

2.2 Review of related studies

2.2.1 Review of journals and articles

Jha & Hui (2012), conducted a study on "A Comparison of Financial performance of commercial banks: A Case study of Nepal". The objective of this study was to compare the financial performance of different ownership structured commercial banks in Nepal based on their financial characteristics and identify the determinants of performance exposed by the financial ratios, which were based on CAMEL Model. Eighteen commercial banks for the period 2005 to 2010 were financially analyzed. In addition, econometric model (multivariate regression analysis) by formulating two regression models was used to estimate the impact of capital adequacy ratio, non-performing loan ratio, interest expenses to total loan, net interest margin ratio and credit to deposit ratio on the financial profitability namely return on assets and return on equity of these banks. The results found that public sector banks are significantly less efficient than their counterpart are; however domestic private banks are equally efficient to foreign-owned (joint-venture) banks. Furthermore, the estimation results revealed that return on assets was significantly influenced by capital adequacy ratio, interest expenses to total loan and net interest margin, while capital adequacy ratio had considerable effect on return on equity.

Mamun, A. (2013**),** Performance Evaluation of Prime Bank Limited in terms of Capital Adequacy. The objective of the study is to evaluate the performance of prime bank. Data of the bank is analyzed using capital adequacy ratio, debt equity ratio and advance to asset ratio for the period 2008 to 2012. The study found that through high debt equity ratio bank maintains capital above regulatory requirement. This would help the researcher and bank to further improvement in capital adequacy to meet regulatory requirement and enhance bank performance. The capital adequacy ratio is above 10% in each year. Loan to asset ratio is satisfactory whereas debt equity ratio is very high. Since bank financial institution is highly levered and different from other firms and lion portion of bank fund coming from deposit. The suggestion for the bank

to increase equity contribution for sustainability. Finally, the study concluded that prime is performing well.

Kavitha (2014) conducted on "Determinants of capital structure: Empirical evidence from India" The main objective of the study is to find out the most important determinants of capital structure. The study found that operating leverage, four- size, earning rate, tangibility and debt service capacity -are statistically significant determinants of financial leverage. Similarly, companies do not care of their liquidity and non-debt tax shield but do care of the expansion of their business and risk. Finally, the study also suggested that policy makers should focus on these determinants when making any decisions regarding capital structure.

Rostami (2015) conducted in his research *article* "Determination of Camels model on bank's performance". The main objective of this study was to find out the strengths and weaknesses through CAMEL model. Capital adequacy, Asset quality, Management soundness, Earnings and profitability and Liquidity are the focus points of this rating. There are significant relation between each category and Q-Tobin's ratio as bank's performance ratio. The important factor to analyze this model is to find and concentrate on effective indicators and elements in each category. The result found that it can be challengeable and interpreting since this indicators can be different in each industry. The study also suggested that banks can focus on risk and some important ratios and try to manage and control some possible crisis.

Kattel (2016) conducted research on "Evaluating the Financial Solvency of Selected Commercial banks of Nepal : An Application of Bankometer" .The aim of this study is to evaluate the financial soundness of joint venture banks and private sector banks in Nepal by using bank meter model. The bankometer model was used developed according to International Monetary Fund guidelines. The study found that all the private and joint venture banks are in sound financial position. The finding of the study reveals that private sector banks are financially sounder in comparison to joint venture banks. The study concludes that bankometer model will help the bank's internal management to mitigate the insolvency risk within proper control and supervision at the operational level. Moreover, this model helps to manage internal control system for sound financial efficiency at the operational level.

Ahsan (2016) conducted in his research article on "Measuring Financial Performance based on CAMEL: A Study on Selected Islamic Banks in Bangladesh" The main objective of this research was to analyze the financial performance of selected Islamic Banks in Bangladesh based on CAMEL Rating Analysis. This study was based on measuring performance of banks with respect to CAMEL model and shows that all selected Islamic banks (IBBL, EXIM bank, and SJIBL) financial performance under CAMEL rating was strong in every respect. The findings revealed that the performance of the bank was a continuous process, and it required the continuous innovation and improvement in order to adjust the increasing demand. Hence, the trend of the performance of Islamic banking sector in Bangladesh can be improved more if all concerns pay due attention and work according to the requirement of time.

Rahman & Islam (2018) had conducted a research entitled “Use of CAMEL Rating Framework: Comparative Performance Evaluation of Selected Bangladeshi Private Commercial Banks" with the objective to evaluate the comparative performance of the selected private commercial banks in Bangladesh using the CAMEL Rating framework and suggest some measures on the basis of the results of this study to further improve the financial performance of the sample banks under the study. This study has been conducted to examine the performance of 17 selected private commercial banks in Bangladesh during the period (2010-16) with respect to CAMEL ratios. It is found that on an average the Capital Adequacy ratio of all banks is much higher than the benchmark of 10% as mandated by Bangladesh Bank. The average CAR of City Bank is the highest (12.90%) among all the banks. As the NPLs of City Bank (6.94%) is much higher than other banks, Bangladesh Bank should look after the bank and suggest corrective measures to overcome potential losses due to increase in NPLs. The profit per employee (PPE) of Eastern Bank is the highest and it can be inferred that the efficiency of EBL is much higher as compared to other banks. Estimating the profitability ratios it can be observed that for long-term period, One Bank’s profitability is outstanding on an average as compared to other banks.

Rai, P., Ojha, P. et al (2018), in their article, - “Determinants of financial performance in Nepalese financial institutions”. This article is based on descriptive and causal comparative design to examine the relation between financial performances of Nepalese financial institutions. The study has been conducted to measure the impact

of bank capital adequacy, assets quality, liquidity management, gross domestic product and inflation on return on assets, return on equity and net interest margin to make a comparative performance analysis of banks. The study concludes that capital adequacy ratio, assets quality and management efficiency are among the most dominant variables that affect the return on assets, return on equity and net interest margin as the determinants of financial performance in the context of Nepalese financial institutions.

Gawde, S.U., Panda, A.C., et al (2018) – in their article, - "Study of camel rating system in banking supervision – A case study of Nepal Bangladesh Bank Ltd.". Capital adequacy ratio indicated that the financial position of the bank was strong. The assets quality of NBBL seems to be performing well. Management efficiency of Nepal Bangladesh Bank has excellent banking services and very good management as a whole. NBBL has more productive employees and customers are found to be more satisfied with the services provided by the NBBL. Return on Assets (ROA) Nepal Bangladesh Bank Ltd. was satisfactory in terms of profitability as measured by return on assets. NBBL have maintained the liquidity i.e., cash reserve ratio. NBBL has increased its investment in government securities. In short, CAMELS rules are the true measurement of financial performance of any bank. If a bank fails to obey CAMELS norms in true spirit and letter, it can be construed as a failed bank.

Nowfal, M.D., and Badusha, M.D (2019) – in their article, - "Comparison of operational efficiency of listed banks from Kerala – A study based on camel model". This article talks about the importance of banks is growing every day because banking system is the back born of our financial system and economic development. The study is conducted with a view to understand the operational efficiency of listed banks from the state of Kerala using camel model. The study covers three listed private banks namely South Indian bank, Federal and Dhanalakshmi bank. The ratings of the selected banks during the period from 2013-14 to 2017-18 provide the correct scenario of each of the selected banks. Based on the study, Federal bank has a strong base and they are in the top among three listed banks in all parameters of camel. Dhanalakshmi bank lacks must initiate corrective actions to survive in the highly competitive industry. The findings of the study will benefit all the people those

are using the services of the banks and those who are willing to invest in shares of these banks.

R. Mayakkannan and C. Jayasankar (2020) – in their article, - “A study on performance evaluation of selected public and private sector banks through camel model in India”. In this article, Different banks have obtained different performances with respect of CAMEL ratios. The public and private banks stood at top position in terms of capital adequacy. In terms of asset quality, the public sector bank was at top most position. In context of management quality, private sector banks positioned at first. In terms of earnings quality, public sector banks obtained the top position. The private sector bank was ranked top in liquidity criteria.

2.2.2 Review of thesis

Prior to this, several thesis works have been conducted by various researchers regarding different aspects of commercial banks like financial performance, capital structure, investment policy, interest rate structure and resources mobilization. Some of research works are relevant for these studies are reviewed over here.

Adhikari (1993), conducted a study evaluating the "Financial performance of Nepal Bank Ltd". The study has concluded that investment portfolio of the bank has not managed so efficient to maximize the return. Operational efficiency of the bank is indicated by the operational loss has been found unsatisfactory.

So the bank has been suggested to manage its investment portfolio efficiently. It is recommended that the bank should try to mobilize its resources efficiently by creating new business and service ideas which will certainly help for the better utilization of ideal resources and for the economic development of the country. It has focused on utilization and mobilization of funds and resources of Nepal Bank Ltd. This study especially concentrated on the deposit collection of the bank and disbursement of fund as loan and advances. Therefore, its main study areas are uses and sources of funds and income and expenses trends of the bank.

Poudel (2002), in the thesis entitled "Financial Performance Analysis of EBL" has focused on the objectives as to examine the financial statement of the bank and analyze them to see the financial soundness of the bank to observe the return over the equity to highlight the relationship between different variables. The research provides

suggestions and recommendation for the improvement of the future performance of EBL based on the findings of the analysis.

The study is found that the liquidity position of the bank to meet the daily cash requirement is sound. There is strong position regarding the mobilization of total deposit on loan and advances, normal position and decreasing trend of regarding the mobilization of total deposit as investment and bank has average position towards the utilization of working fund. Analysis of EPS reveals that the bank has very good increasing trend regarding EPS even though first two years shows the negative figure. The trend analysis of deposit, net profit, loan and advances and EPS shows the increasing trend even though the value shows in the beginning of studying period.

Luintel (2003), conducted a study entitled "A Study on Financial Performance of Nepal Bank Limited", an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, T.U.

The main objectives of the study are: a) To measure the comparative financial strengths and weakness and to analyze the banks performance under priority sectors of government, (b) To evaluate whether the bank is efficient to face the challenges and assist the government in the points outlined in the statement of the problems of this study. The study pointed out the following findings in this study: The bank seemed to be unable to utilize its high cost resources in high yielding investment portfolio. Due to the bank's failed in collecting earned interest and matured loan, it has suffered continues loss. Liquidity position of the bank is also not satisfactory during this study period. This study also found that bank has not followed any policy regarding long-term debts, total debts and total deposit ratios. This study concluded that the financial position of the NBL is worse during the study period due to its failure to utilize its inefficiency in risk management. The overall financial position of the bank is unsatisfactory during the study periods.

Gautam (2013) conducted thesis on entitled on "A Study on Financial Performance of Nepal Bank Limited". The objectives of this study has**:** a)To evaluate the bank's efficiency to face the challenges and measure the comparative financial strengths and weakness, b) To analyze the bank's performance under priority sectors of government, C) To analyze income and expenditure of sample bank. The study found

that: a) The bank is seemed to be unable to utilize its high cost resources in high yielding investment portfolio b) The only positive aspect is, if risk can be managed, percentage of loans and advances on total deposits has increased, c) Long –term debts, total debts and total deposit ratios have gradually decreased. It indicates that bank has not followed any policy regarding these items, d) the bank has experienced negative EPS and P/E ratios which have also heavily fluctuated during the study periods. Thus, it can be said that the financial position of the NBL is worse due to its failure to utilize its resources efficiently and due to its inefficiency in risk management.

Shrestha (2016) conducted on "Financial performance analysis of Nepal SBI bank Limited in the CAMEL framework". The main objectives of this study has: a) To examine the capital adequacy of the bank, b) To assess the quality of the bank's assets, c) To analyze the efficiency of the bank's management, d) To evaluate the earning performance of the bank. The study found that: The risk based core capital ratio of NSBL is distributed from the minimum of 8.67 percent in the year 2007/08 to the maximum of 10.89 percent in the year 2009/10. The core capital adequacy ratio is above the NRB standard in the entire study period .The ratio of past due loan to total loan has decreasing trend during the study period. The total loan of the bank has gone up throughout the study period. Hence, the assets quality of the bank is strong as indicated by this ratio. It is found that the percentage of substandard loan to total loan is below 5 percent throughout the study period which indicates the quality of loan is strong from the perspectives of total substandard loan to total loan ratio Bank's inefficiency to recover it NPAs. Thus, the quality of assets is strong during the study period. The bank has not made adequate provision for substandard loan prescribed by NRB. The provision for loss loan is observed below the NRB standard in the study period. Therefore, the bank has made no adequate provisioning for loss loan. The net interest margin of the bank is satisfactory. Similarly, loan to deposit ratio of the bank shows that the bank has maintained reasonable liquid position of its fund.

Gautam (2017) conducted thesis on "Financial performance analysis of Nepal SBI bank Ltd. in the CAMEL framework". The objectives of this study has: a) To examine the capital adequacy of the bank, b) To assess the quality of the bank's assets, b) To evaluate the earning performance of the bank, c) To analyze the liquidity

position of the bank. The study found that: the capital fund of the bank is in increasing trend. The total risk based assets has also in increasing trend during the study period. Compared to the NRB standard, the risk based capital ratio of the bank is excess all over the study period. The bank has to say capital adequacy had been maintained as per the NRB guideline/directives for the study period. The core capital of the bank has been fluctuating. The risk based core capital ratio is maximum i.e. 11.18% in the year 2014/15 and the lowest is 9.16% in the fiscal year 2011/12. The supplementary capital ratio of the bank is slightly fluctuating trend. SBI has maintained adequate supplementary capital during the study period. The total loan of the bank has gone up throughout the study period whereas the portion of the total non-performing loan in total loan is decreasing trend. Hence, SBI is good performer in regards to credit risk as maintain the NRB directives. Thus, the bank has maintained strong position regarding the net earning to core capital ratio.

2.3 Summary

To sum up, the review of literature indicates mixed results on the impact of CAMEL elements on the performance of banks. While some studies indicate positive impact on performance of banks, there are also cases where negative effects on financial performance have been reported. The banks financial soundness is judged being based on some factors such as capital adequacy, asset quality, management efficiency, earning quality, liquidity position. The study is based on secondary data and the data obtained were analyzed by using various financial and statistical tools.

2.4 Research gap

Various studies have been conducted on financial analysis of commercial banks. The previous studies mainly emphasized on liquidity, profitability and leverage of the commercial banks. There is need of study related capital adequacy, liquidity, NRB balance, cash in vault etc. In the context of Nepalese banking environment, there are academic researchers found conducted in the frame work of CAMEL and few researches are found in the comparative analysis on the commercial banks. But those studies were comparative study of private commercial banks or government banks and there is need of comparative study between private and government bank. That will show what is going on government bank’s financial performance as compared to private bank. So, this research is conducted to know actual financial performance

analysis of commercial Banks in Nepal such as government bank and private bank and for this purpose research is conducted taking Nepal Bank Limited (NBL), Agricultural Development Bank Limited (ADBL), Nabil Bank Limited (NABIL) and Nepal Investment Bank Limited (NIBL) in the frame work of CAMEL from the year 2070/71 to 2075/76.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research design

Research design is an overall plan or framework for the collection and analysis of data. It is provide the framework for the study, guidelines for the collection and analysis of data. This research study attempts to analyze the financial performance of commercial bank on the basis of CAMEL analysis. In order to achieve the objective of the study, descriptive research design has been employed because it is more scientific method to classification, tabulation, analysis and comparison of data and it also estimates the relationship and the trends of variable.

For this, at first, required information and data the annual reports and the financial statements published by the related banks are collected for the F/Y 2070/71 to F/Y 2075/76, for the analytical purpose. Then the important information and data are selected for the study. 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 some findings, summary, conclusions and implication. In analysis part, interpretation and comments are also made wherever necessary

3.2 Population and sample

The population refers to the organizing of the same nature on its services and product in general and for this study all twenty-Seven commercial banks (until March, 2020) including three governments owned commercial banks operating in the Nepal is the total population. Due to the limited time and resources factors too, it is not possible to study all of them, so sampling has been done. To fulfill objective of the study, Among the 27 commercial banks, only 4 commercial banks (that represents 14.81%) has been selected for the purpose of the study. For this, the judgmental sampling method is used for selection of sample banks. The selected banks include Nepal Bank Limited, Agricultural Development Bank Limited, Nabil Bank Limited and Investment Bank.

Table 3. 1: Number of commercial banks selected for the study:

S. No.	Name of commercial banks	Study period
1.	Nepal Bank Limited	2070/71 - 2075/76
2.	Agriculture Development Bank Limited	2070/71 - 2075/76
3.	Nabil Bank Limited	2070/71 - 2075/76
4.	Nepal Investment Bank Limited	2070/71 - 2075/76

In conclusion, Population size = 27 Commercial Banks, Sample size = 4 Commercial Banks. Sample percentage = 14.81%.

3.3 Source of data

Without any data, nothing can be studied. So for any statistical investigation, the collection of data is most important. The importance of data collections lies in the fact that the collected numerical facts can be utilized to examine the problems concerning a field enquiry in their true perspective to find out the causes of change and to estimate their probable effect. This thesis writing is based on secondary data. These data has been collected from annual report and website of Nepal Bank Limited, Agricultural Development Bank Limited, Nabil Bank Limited and Investment Bank., Annual report of SEBON, Website of Nepal Stock Exchange Ltd, Nepal Rastra Bank and other official and unofficial publications.

3.4 Data collection procedure

The study is mainly based on secondary data. Published materials are viewed; books of by different authors, unpublished thesis reports, journals, magazines, Internet web sites, Annual reports of commercial banks, bulletins published by NRB are major sources of the secondary data. To collect these secondary data, the researchers has visited campus library of Shanker Dev Campus including online library, TU central library, SEBON library and NRB library. Different websites were searched to collect necessary information for the study.

3.5 Data processing procedure

First of all, necessary data are collected from the published documents and then audited financial statements recorded in master sheet manually. Then, data are entered in to table to work out CAMEL financial ratio and prepare the necessary figures. Finally, different financial tools under CAMEL are worked out with the help of computer programmers.

3.6 Data analysis tools and techniques

The data collected from different sources are recorded systematically as necessary. Only useful and related data are grouped as per need of the research work. Data are presented in appropriate forms of tables, and charts. For analysis appropriate mathematical, financial as well as statistical tools are used. Some of them are:

3.6.1 Financial tools

For proper financial analysis of data, ratio analysis is the best tool. It is very simple analyzing tools under which ratios are taken to express the relation between two or more data. Through ratio analysis we can establish the relationship among the data and research into conclusion. Under ratio analysis following ratio related to bank are analyzed.

1) Capital adequacy requirement ratio (CAR)

The term used to describe or measure a bank's capital fund. It is expressed as a percentage of a bank's risk weighted credit exposures. Capital adequacy ratio is calculated on the basis of core capital, supplementary capital and total risk weighted assets of the bank. This ratio is use to protect depositors and promote the stability and efficiency of financial system around the world and to examine adequacy of the total capital fund and core capital, which is yielded by the following formulas:

$$\text{CAR}=\frac{\text{Total Capital Fund}}{\text{Total Risk Weight Assets}}\times 100$$

Where, Total capital fund = Core capital + supplementary capital, Total risk weighted assets = on balance Sheet Risk Weighted Item + Off Balance Sheet Item.

2) Core capital ratio (CCR)

Core capital is the capital of owners which is not used for specific purpose. More core capital fund indicates more owners' fund being utilized by the bank. CCR can be computed as follows:

$$\text{CRR} = \frac{\text{Total Core Capital}}{\text{Total Risk Weighted Assets}} \times 100$$

3) Management efficiency ratio

The loan and advance to total deposit ratio shows the relationship between the loan and advance and total deposit. It shows how much funds of deposit provided as loan and advance. This ratio is used to find out how successfully the banks are utilizing their deposited fund on credit or loan for profit generating purpose as loans and advances yield high rate of return. Higher CD Ratio implies the better utilization of total deposits and better earning. Hence 70% to 80% CD ratio is considered as more appropriate. This ratio can be calculated as follows:

$$\text{Loan and Advances to Total Deposit Ratio} = \frac{\text{Loan and Advance}}{\text{Total Deposits}} \times 100$$

4) Earnings per share (EPS)

It measures the profit available to the equity shareholders on a per share basis, i.e., the amount that they can get on each share held. In other words, this ratio measures the earnings available to equity shareholders on a per share basis. It is calculated as:

$$\text{Earnings per share (EPS)} = \frac{\text{Net Profit After Tax}}{\text{Total No. of Share}}$$

5) Price earnings ratio (P/E Ratio)

Price earnings ratio relates the price currently paid by the market for each rupee of currently reported earnings per share. It is calculated by dividing the market price per share by earning per share.

6) Return on assets (ROA)

Every financial institute has their own assets and ROA shows the productivity of these assets. It measure how efficiently the assets are utilized in the financial organization. This ratio judges the effectiveness in using the total fund supplied by the owners and creditors. Higher ratio shows the higher return on the assets used in bank thereby indicating effective use of the resources available and vice-versa. It is calculated in terms of relationship between net profit and assets.

Return on Assets (ROA) = $\frac{\text{Net profit after tax}}{\text{Total Assets}} \times 100$

7) Cash reserve ratio(CRR)

According to NRB directives all commercial banks are required to maintain certain of their deposits as CRR in their accounts maintained with NRB. NRB has issued this guideline to the bank to ensure that the bank maintain their adequate liquidity. NRB has prescribed this mandatory requirement because all commercial bank can face unexpected liquidity risk. It is calculated as:

Cash Reserve Ratio = $\frac{\text{NRB Balance(LY C)}}{\text{Liquidity deposit - Margin Deposits}} \times 100$

3.6.2 Statistical tools

1. Arithmetic mean ($\overline{X}$)

Arithmetic Mean or Simply a 'mean' of a set of observation is the sum of the entire observation dividend by the number of observation .it is also known as the arithmetic average. It is the sum of total value of dividend by number of value .It is calculated as;

Mean ($\overline{X}$) = $\frac{\sum Xi}{N}$

Where,

Xi = Value of Variable i, N = Number of Items

1. Standard deviation (σ)

Standard Deviation is defined as the positive square root of the mean of the square of the deviations taken from the arithmetic mean. The standard Deviation is the absolute in other measure of dispersion are removed. it is said to be the best measure of dispersion as it satisfies most of the requisites of a good measure of dispersion .it is calculated as; Standard Deviation (σ) = $\sqrt{\frac{\sum(X-\overline{X})^2}{N-1}}$

3. Coefficient of variation (CV)

The coefficient of dispersion based on standard deviation multiply by 100 is known as the coefficient of variation (CV). It is independent of unit. So, two distributions can bitterly be compared with the help of C.V for their variability .Less the C.V more

will be the uniformity, consistency and more than C.V less will be the uniformity, consistency. It is calculated as; C.V = $\frac{\sigma}{\bar{X}} \times 100$

4. Correlation of coefficient (r)

Correlation analysis is the statistical tools that can be used to describe the degree to which one variable is linearly related to another. The correlation coefficient measures the degree of relationship between two sets of figures. In this study, correlation coefficient is used to determine the relationship between different factors such as earning per share, non-performing loan ratio and return on equity. Correlation coefficient is most widely used in practice. Correlation can either be positive or it can be negative. It is denoted by r. symbolically,

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

Where, r = Correlation Coefficient, n = Number of Observation.

The value of the correlation coefficient obtained by the above formula shall always lie between –1 and +1. When r = -1, it means, there is perfect negative relationship between the variables and when r = +1, it means, there is perfect positive relationship between the variables. However, in practice such values of r is +1, -1 and 0 are rare.

Correlation co-efficient between the following financial variable have been calculated and interpreted:

i. Between earning per share and capital adequacy ratio.
ii. Between earnings per share and non-performing loan
iii. Between earning per share and return on assets.
iv. Between earning per share and management efficiency ratio.
v. Between earnings per share and cash reserve ratio.

5. R-Squared and overall significance of the regression

The R-squared of the regression is the fraction of the variation in dependent variable that is accounted for (or predicted by your independent variables. (In regression with a single independent variable, it is same as the square of the correlation between the dependent and independent variable.) The R-squared is generally of secondary importance, unless researchers concern is using the regression equation to accurate predictions. The P value tells that how confident researchers can be that each

individual variable has some correlation with the dependent variable, which is the important thing.

6. P-value and overall significance of the regression

The P-value for each term tests the null hypothesis that the coefficient is equal to zero (no effect). A low P-value (< 0.005) indicates that the researchers can reject the null hypothesis. In other words, a predictor that has a low p-value is likely to be a meaningful additional to the model because changes in the predictor's value are related to changes in the response variable. Similarly, a larger (insignificant) P-value suggests that changes in the predictor are not associated with change in response.

7. Regression analysis

Correlation coefficient tells the relationship and direction of movement but it does not tell the relative movement in the variables under study. Regression analysis helps us to know the relative movement in the variables. Regression analysis of the following variables have been calculated and interpreted.

7.1 The multiple regression model between the EPS, ROA, NPL and CAR

The regression of CAMEL variables and earning has been analyzed by defining the earning changes in terms of ROA, NPL and CAR. The equation for this regression module is as follows:

EPS= a_1 + b_1 CAR + b_2 NPL +b_3 ROA + b_4 MER +b_5 CRR+e..... (I)

Where, EPS=Earnings per Share, a_1= Constant

b_1,b_2 , $b_3 b_4$, b_5 = Regression Coefficient

The results are based on the 5 year (2071/72-2075/76) time series data of Nepalese commercial banks with 27 observations by using linear regression model. The model is EPS= a_1 + b_1 CAR + b_2 NPL +b_3 ROA + b_4 MER +b_5 CRR

CHAPTER 4
RESULTS AND DISCUSSION

This part of the chapter deals with the analysis of collected data and presentation and the result obtained from the analysis. This study will be focused on the comparative financial performances of these four sample banks (NBL, ADBL, NABIL and NIBL) with the help of their annual reports of the FY 2071/72 to FY 2075/76 to perform its CAMEL analysis through ratio analysis and also using correlation coefficient and multiple regression model to measure the degree of variables.

4.1 Analysis of capital adequacy.

Capital requirement also known as regulatory capital or capital adequacy is the amount of capital a bank or other financial institution has to hold as required by its financial regulator. This is usually expressed as a capital adequacy ratio of equity that must be held as a percentage of risk – weighted assets .Banking transaction directly affected by adequacy and inadequacy of bank capital if there is inadequate capital the bank should take step for the adequacy of capital as per legal requirement.

4.1.1 Capital adequacy requirement ratio (CAR)

The capital adequacy ratio is based on total risk weighted assets. The sum of core and supplementary capital is measured to be total capital fund .For the purpose of calculation of capital fund; the risk weighted assets have been classified into two parts-On Balance sheet Risk Weighted Assets and Off Balance sheet Risk Weighted Assets. It defines relationship between capital fund and total risk weighted assets off the bank.

Table 4.1: Capital adequacy requirement ratio (CAR in %)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	7.49	17.16	11.57	11.90
2072/73	10.20	17.18	11.73	14.92
2073/74	14.47	20.41	12.90	13.02
2074/75	11.27	20.33	13.00	12.66
2075/76	16.80	20.37	12.50	13.26
High	16.80	20.41	13.00	14.92
Low	7.49	17.16	11.57	11.90
Mean	12.05	19.09	12.34	13.15
Standard deviation'	3.65	1.75	0.66	1.11
CV	30.29	9.18	5.34	8.47

Sources Annual general report of banks

The above table shows the capital adequacy ratio of four sample banks i.e. Nepal Bank Limited, Agricultural Development Bank Limited, Nabil Bank Limited& Nepal Investment Bank Limited (NBL, ADBL, NABIL and NIBL) from the year 2071/72 to 2075/66. The CAR of NBL is highest in FY 2075/76 i.e. 16.80% and 7.49% is the lowest in year 2071/72. Similarly, the highest capital adequacy ratio of ADBL is 20.41% and the lowest is 17.16% during study period. In the same way, the CAR of NABIL is highest in FY 2074/75 i.e. 13.00% whereas, the lowest CAR is 11.57% in study period. The Average CAR of NBL, ADBL, NABIL and NIBL are 12.05%, 19.09% 12.34% and 13.15% respectively. The CAR of all four banks is higher than the minimum capital requirement prescribed by NRB each year (expect NBL on FY 2071/72. Similarly, the coefficient of variation of sample bank i.e. NBL, ADBL, NABIL and NIBL is 30.29%, 9.18%, 5.34% and 8.47% respectively. Thus, it is satisfactory and also the depositors of these banks can feel safe here about their deposits in these banks. We plot the capital adequacy ratio of each bank for five year period as follows:

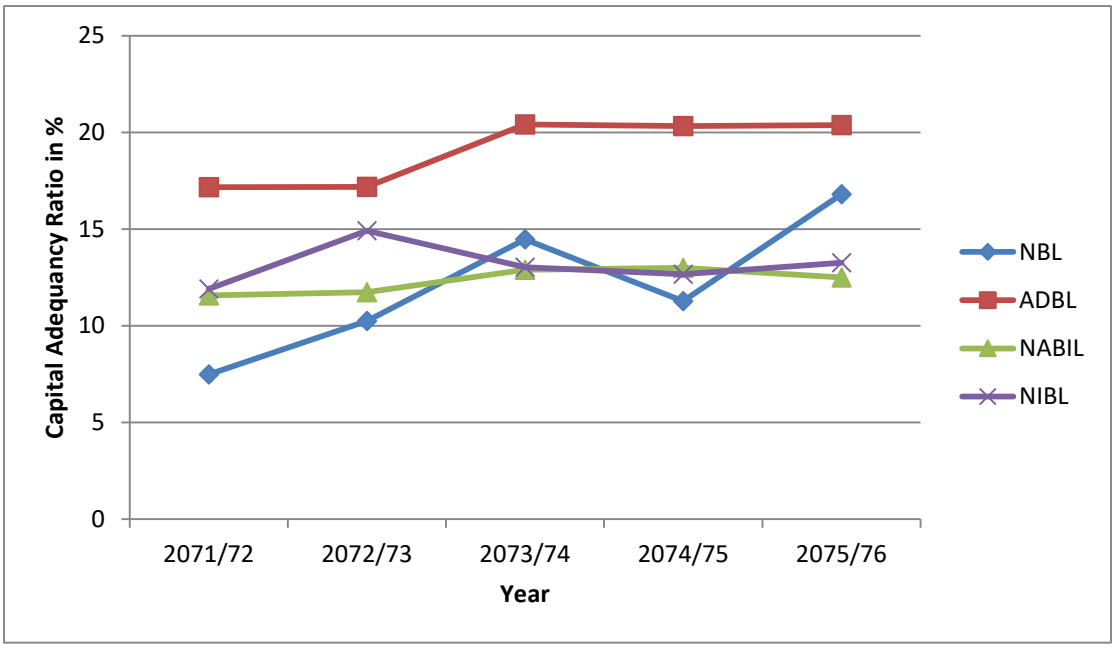

Figure 4.1: Capital adequacy requirement ratio

From the above figure, the capital adequacy ratio of Agricultural Development Bank is in highest level with 20.41% in FY 2073/74 which has decreasing trend with successive years. Although it has decreasing trend it remains in first position. Whereas, NABIL and NIBL has fluctuating trend in which CAR of NABIL in 1st four years increases and decreases in last years and while CAR of NIBL is in fluctuation in over the study period. Similarly, CAR of NBL is increase in first three years up to FY 2073/74, then decrease in FY 2074/75 and increase at highest point in FY 2075/76.

4.1.2: Core capital requirement ratio (CCR)

Core Capital is also known as primary capital. It is also called Tier- I capital. Tier-I Capital includes paid up capital, share premium, non –redeemable preference share, general reserve, retained earnings, proposed bonus share and goodwill deductible if any. Core capital ratio measure the adequacy of internal sources of shareholders to support the financial activities.

Table 4.2 Core capital requirement ratio (CCR in %)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	6.32	15.17	10.18	9.54
2072/73	9.01	15.19	10.51	13.05
2073/74	13.37	18.61	11.7	11.58
2074/75	10.29	19.28	11.81	11.58
2075/76	15.87	19.27	11.4	11.39
High	15.87	19.28	11.81	13.05
Low	6.32	15.17	10.18	9.54
Mean	10.97	17.50	11.12	11.43
Standard deviation'	3.73	2.14	0.73	1.25
CV	34.01	12.22	6.59	10.93

Sources: Annual general report of Banks

Table 4.2. Shows the descriptive statistics for the selected variable considered in this study i.e. Core Capital Requirement Ratio of selected sample bank in period of five year. Clearly, the CCR of NBL has maximum of 15.87% and minimum of 6.32% with a mean of 10.97% and the standard deviation of 3.73. The average Core Capital Requirement of ADBL during the study period considered is noticed to be 17.50% with maximum CCR of 19.28% and minimum CRR of 15.17% and the standard deviation of this period is 2.14. Similarly, the CCR of NABIL ranges from a minimum of 10.18% to 11.81% with an average of 11.12% and the standard deviation of 0.73%. CCR of NIBL has minimum value of 9.54% to maximum of 13.05% with mean of 11.43%similarly, the coefficient of variation of sample bank i.e. NBL, ADBL, NABIL and NIBL is 34.01%, 12.22%, 6.59% and 10.93% respectively. The CAR of all four banks is higher than the minimum core capital requirement prescribed by NRB. Thus, it’s satisfactory and reflects the financial strength and soundness.

We plot the core capital requirement of each bank for five year period as follows:

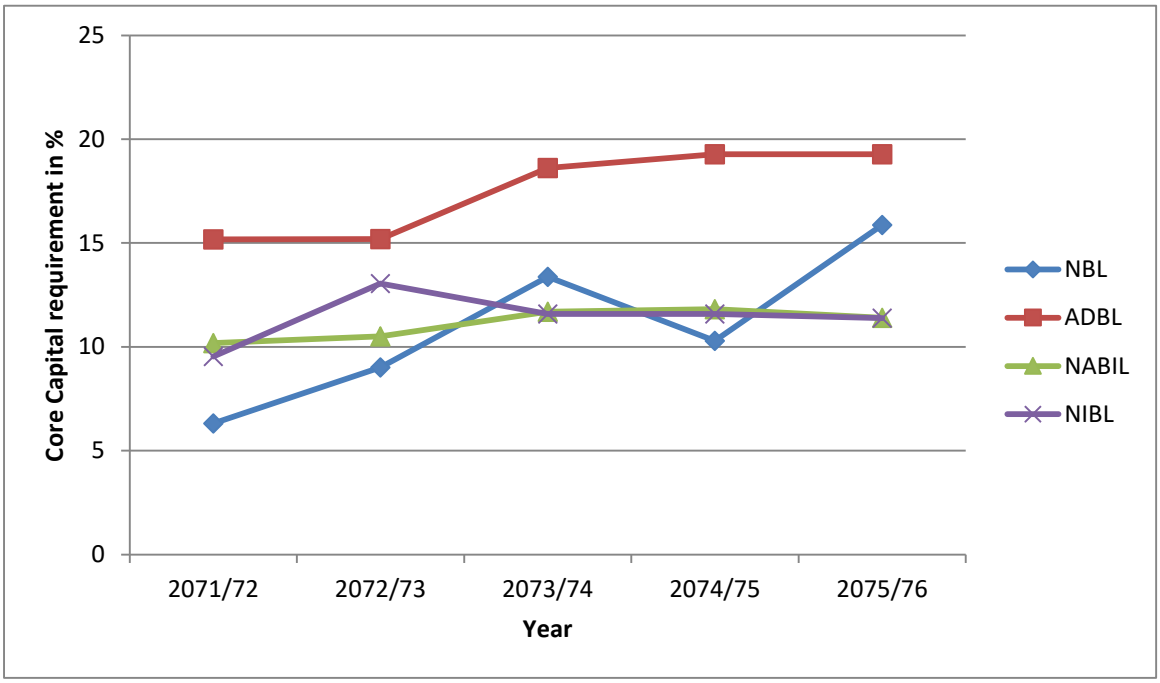

Figure 4.2: Core capital requirement ratio

Figure 4.2 shows the core capital requirement of selected sample bank in period of fiscal year 2071/72 to 2075/76. In fiscal year 2075/76, the CCR of ADBL is higher compared to CCR of other banks and it was minimum in year 2074/75. The CCR of NBL is increasing trend from 2071/72 to 2073/74, then decreases in 2074/75 and reached at higher in year 2075/76. In this fiscal year, the CCR of ADBL is higher than CCR of other sampled banks. Similarly, the CCR of NABIL & NIBL is in volatile over the study period.

4.2 Analysis of assets quality

Assets are the most vital factors in determining the strength of the bank. The major asset for the bank is loan and advances. This is the most risky assets item that needs crucial assessment. Banks collect funds in the form of capital, deposits, borrowing, etc. It mobilizes these funds to generate certain returns by giving loans and advances to the users of money to invest in various alternatives.

4.2.1 Non performing loan ratio (NPL)

This ratio is used for find out the portion of non-performing loan in the portfolio of total loan and advances. Higher ratio shows that bank has bad quality of assets in the form of loan and advances. Hence, lower ratio is preferred.

Table 4.3: Non-performing loan ratio (NPL in %)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	3.98	5.35	1.82	1.25
2072/73	3.11	4.36	1.14	0.68
2073/74	3.32	4.6	0.8	0.83
2074/75	3.37	3.5	0.55	1.36
2075/76	2.64	3.29	0.74	2.77
High	3.98	5.35	1.82	2.77
Low	2.64	3.29	0.55	0.68
Mean	3.28	4.22	1.01	1.38
Standard deviation'	0.48	0.84	0.50	0.83
CV	14.75	19.91	49.54	60.08

Sources Annual general report of banks

Table 4.3 shows the descriptive statistics. Clearly, the non-performing loan of NBL ranges from 2.64% to 3.98% with average of 3.28%. The average NPL of ADBL has been observed to 4.22% with standard deviation of 0.84%, which ranges minimum 3.29% to 5.35%. Similarly, the NPL of NABIL varies from 0.55% to 1.82% with average of 1.01% and standard deviation of 0.50%. The average NPL of NIBL has 138% and it was ranges from 0.68% to 2.77% with standard deviation of 0.83%. Likewise, the coefficient of variation of sample bank i.e. NBL, ADBL, NABIL and NIBL is 14.75%, 19.91%, 49.54% and 60.08% respectively. The NPL of all four banks is lower than the minimum NPL prescribed by NRB (i.e. below 5%). Thus, it’s satisfactory and reflects the financial strength and soundness. The non-performing loan of sampled bank for study period can be plotted as follow:

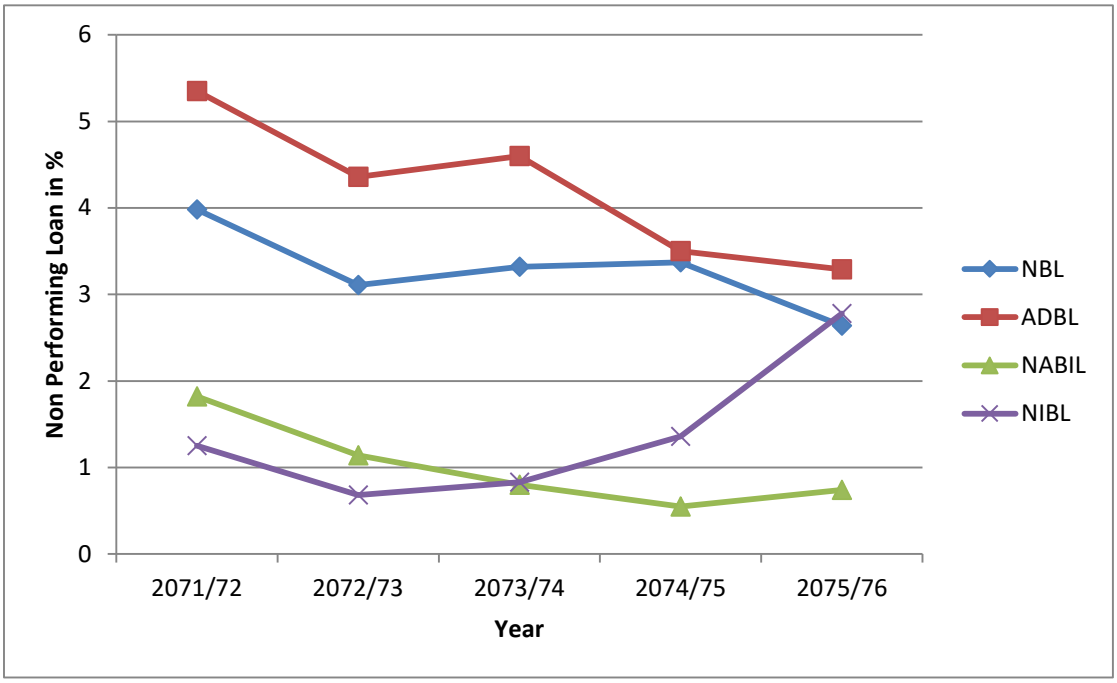

Figure 4.3: Non-performing loan ratio (NPL)

Figure 4.3 shows the non-performing loan ratio of four commercial banks from the FY 2071/72 to 2075/66. The comparatives study of four banks indicates that NABIL is better than other three banks because the average non-performing loan ratio of NABIL is less than NBL, ADBL& NIBL. The NPLR of three banks i.e. NBL, ADBL & NIBL have same trend i.e. decreasing trend. Over the study period, the highest non-performing loan ratio of ADBL is in FY 2071/71.

4.3 Analysis of management efficiency

4.3.1 Total loan and advance to total deposit

For management efficiency ratio, we take Total Loan to Total Deposit (Called LTD Ratio). Loan-deposit ratio (LTD ratio) is a ratio between the banks total loans and total deposits. The ratio is generally expressed in percentage terms. Banks may not be earning an optimal return if the ratio is too low. If the ratio is too high, the banks might not have enough liquidity to cover any unforeseen funding requirements or economic crises. So, it shows the contribution of generating total net income after tax. Higher the ratio indicates existence of the efficient management and the lower ratio indicates inefficient management.

Table 4.4 Management efficiency ratio (MER in %)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	68.45	93.77	64.43	74.7
2072/73	71.05	95.46	70.49	80.1
2073/74	79.17	92.9	65.38	84.9
2074/75	75.68	95.64	82.66	74.7
2075/76	78.14	93.62	81.96	72
High	79.17	95.64	82.66	84.90
Low	68.45	92.90	64.43	72.00
Mean	74.50	94.28	72.98	77.28
Standard deviation'	4.61	1.21	8.82	5.18
CV	6.19	1.28	12.09	6.70

Sources Annual general report of banks.

Figure 4.4 shows the descriptive statistics. It is evident that the Management efficiency ratio (MER) of NBL ranges from 68.45% to 79.17%, leading the average MER to be 74.50% and standard deviation is 4.61% with coefficient of variation of 6.19%. Similarly, MER of ADBL ranges from 92.90% to 95.64%, leading to the mean average of 94.28% with standard deviation and coefficient of 1.21% & 1.28% respectively. Likewise the MER of NABIL has minimum value of 64.43% to maximum 82.66% with mean and standard deviation of 72.98% and 8.82% respectively. The MER of NIBL varies from minimum 72% to maximum growth value of 84.90% with 77.28% of mean and 5.18% of standard deviation. The management efficiency ratio of sampled bank for study period can be plotted as follow:

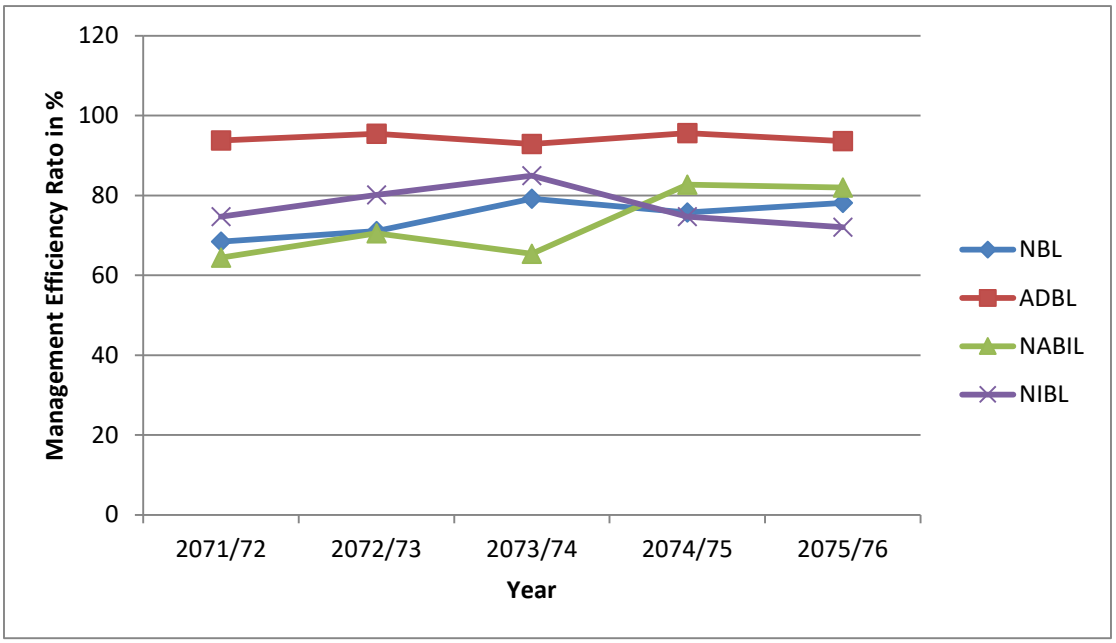

Figure 4.4: Management efficiency ratio

Figure 4.4 shows bar diagram of Management Efficiency Ratio of NBL, ADBL, and NABIL & NIBL from year 2071/72 to 2075/76. From above figure 4.5 we come to know that ADBL has highest management efficiency ratio than other sample bank. All the four sample banks have increasing trend in terms of management efficiency ratio. This explains that banks per employee contribution to net profit is high so, it is successful to manage its employee efficiently to generate net income by mobilizing its' deposit in different productive sectors which is prescribed by the NRB guidelines.

4.4 Analysis of earning

Commercial banks are the profit-oriented business organization. They are established by issue of shares to general public, who purchase share to earn profit in terms of dividend. Therefore, earning should be the cardinal principle for making investment. According to principle of profit earning, banks should invest their funds in such sectors, which ensures higher rate of return.

4.4.1 Earning per share (EPS)

Earnings per share (EPS) are the portion of a company's profit to each outstanding share of common stock. Earnings per share serve as an indicator of a company's profitability. The higher ratio of EPS shows the higher return to shareholder.

Table 4.5 Earnings per share (EPS in Rs)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	7.48	78.83	57.24	30.9
2072/73	44.59	52.79	59.27	29.3
2073/74	38.77	31.59	59.86	29.3
2074/75	39.98	36.91	51.84	35.7
2075/76	26.99	42.88	50.57	26.4
High	44.59	78.83	59.86	35.70
Low	7.48	31.59	50.57	26.40
Mean	31.56	48.60	55.76	30.32
Standard deviation'	14.94	18.64	4.29	3.42
CV	47.35	38.36	7.69	11.27

Sources Annual general report of banks.

Table 4.5. Shows the descriptive statistics for the selected variable considered in this study i.e. Annual earnings per share of selected sample bank in period of five year. Clearly, the earning per share of NBL has maximum amount of Rs. 44.59 and minimum of Rs. 7.48 with a mean of Rs. 31.56 and the standard deviation of 14.94%. The average earning per share of ADBL during the study period considered is noticed to be Rs. 48.60 with maximum EPS of Rs. 78.83 and minimum EPS of Rs. 31.59 and the standard deviation of this period is 18.64%. Similarly, the EPS of NABIL ranges from a minimum of Rs. 50.57 to Rs. 59.86 with an average of Rs. 55.76 and the standard deviation of 4.29. EPS of NIBL has minimum value of Rs. 26.40 to maximum of Rs. 35.70 with mean of Rs. 30.32. Similarly, the coefficient of variation of sample bank i.e. NBL, ADBL, NABIL and NIBL is 47.35%, 38.36%, 7.69% and 11.27% respectively.

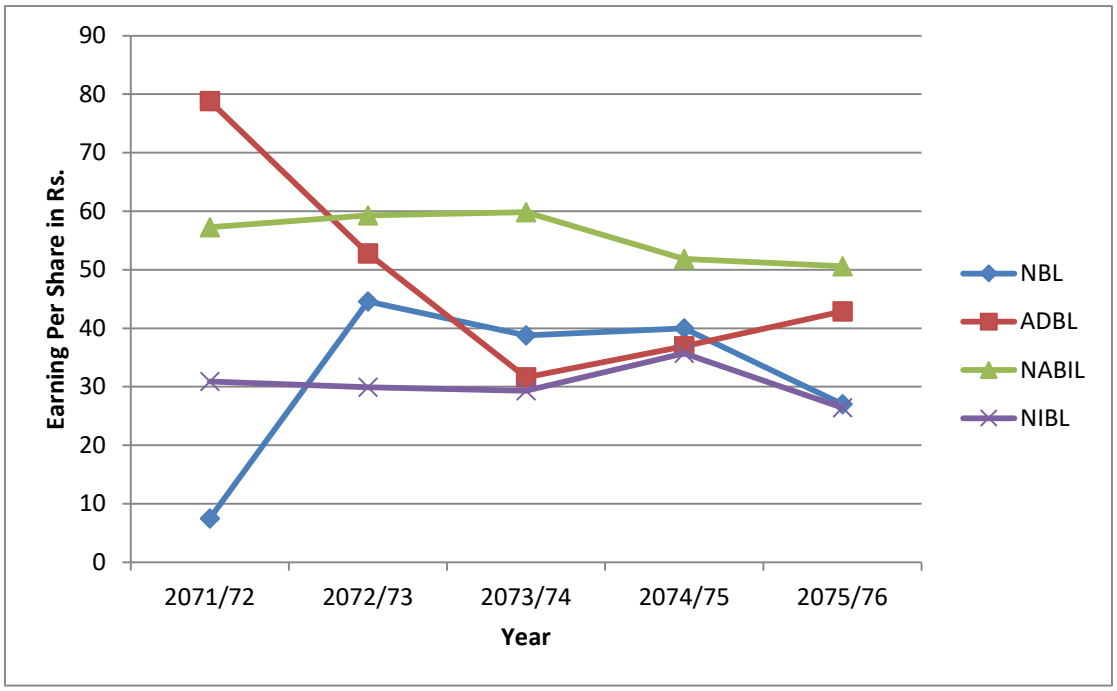

Figure 4.5: Earnings per share

The figure reveals that EPS of ADBL is decrease from 2071/72 to 2073/74 then after going to increasing trend and EPS of NBL and NABIL are in fluctuating trend. Throughout the study period of five year, EPS of NBL is less than other bank in FY 2071/72. This figure depicts the earning power of equity share is strong of all four banks but among these four banks, NABIL has strong earning power of equity share in average over the study period.

4.4.2Price earnings ratio (P/E Ratio)

Price earnings ratio relates the price currently paid by the market for each rupee of currently reported earnings per share. It is calculated by dividing the market price per share by earning per share.

Table 4.6 Price earnings ratio (P\E in times)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	40.78	5.48	33.37	22.8
2072/73	10.54	14.55	39.55	35.5
2073/74	9.39	13.77	25.44	26.3
2074/75	7.03	8.51	18.6	17.4
2075/76	12.45	9.54	17.01	19.6
High	40.78	14.55	39.55	35.50
Low	7.03	5.48	17.01	17.40
Mean	16.04	10.37	26.79	24.32
Standard deviation'	13.97	3.78	9.63	7.10
CV	87.10	36.43	35.93	29.18

(Sources Annual general report of banks

Table 4.6 shows descriptive statistics- mean, standard deviation, maximum and minimum value of Price Earning per Share (P/E Ratio) associated with four commercial banks for five year period. The table shows that average P/E of NBL is 16.04% with maximum 40.78% and minimum of 7.03% with standard deviation of 13.97% & Coefficient of variation of 87.10%. The P/E Ratio of ADBL ranges from 5.48% to 14.55% leading to average of 36.43% with standard deviation of 3.78% & coefficient of variation 36.43%. The NABIL has least P/E Ratio of 17.01% and the highest value of 39.55% with a mean of 26.79% with 35.93% of coefficient of variation.. By analyzing the descriptive statistics, the P/E Ratio of NIBL ranges from 17.40% to 35.50% with an average of 24.32% & coefficient of variation of 29.18%.

The price earnings ratio of stock of each sample bank can be presented on graphs as follows:

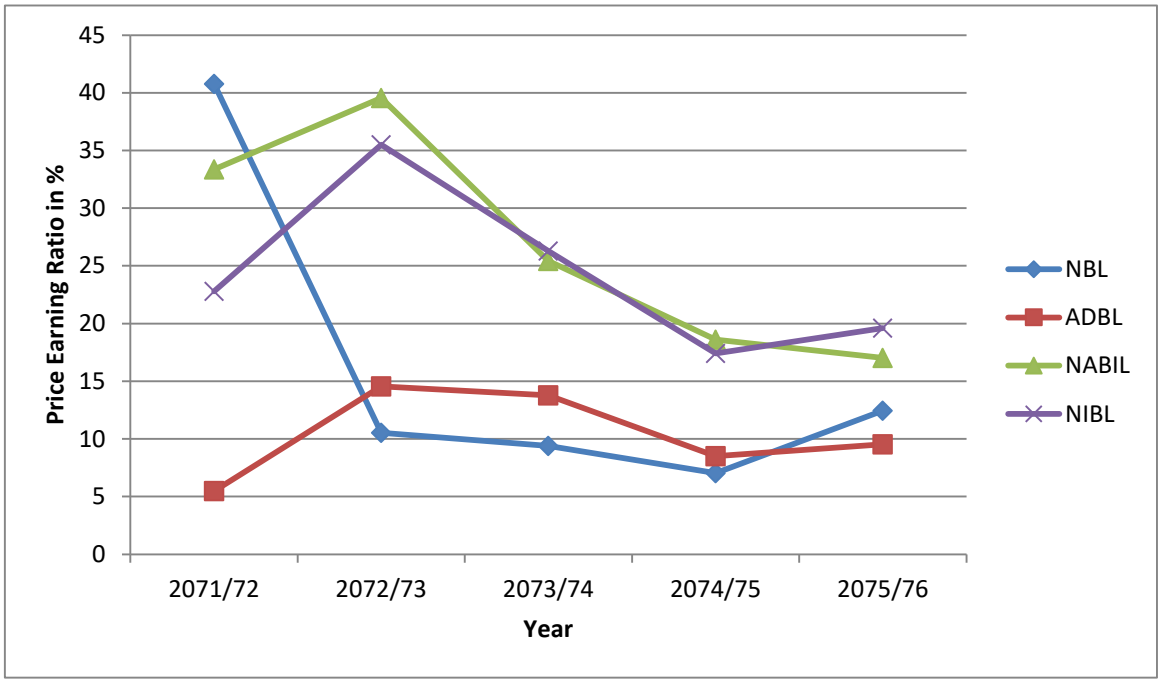

Figure 4.6: Price earnings ratio

From the above figure, we come to know that P\E ratio of all four banks is in fluctuating trend. Although NBL has highest P/E ratio in FY 2071/72 only & then, its decrease. Similarly, the price earnings ratio of all three banks except NBL have highest in FY 2072/73 and lowest in FY 2074/75. & going to increase in FY 2075/76 respectively.

4.4.3 Return on assets (ROA)

This ratio is very much crucial for measuring the profitability of funds invested in the bank's assets. ROA is a popular tool to measure how well its assets are utilized in generating profit. It measures the profit earning capacity by utilizing available resources i.e. Total Assets. Return will be higher if the banks resources are well managed efficiently utilized. Generally, the return on assets ratio should be 1% and higher is desired to the banking industry (World Bank, 1996).

Table 4.7: Return on assets (ROA in %)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	0.55	3.12	2.06	1.9
2072/73	2.79	2.32	2.32	2
2073/74	2.78	2.15	2.69	2.1
2074/75	2.41	2.71	2.61	2.13
2075/76	1.51	2.77	2.11	1.79
High	2.79	3.12	2.69	2.13
Low	0.55	2.15	2.06	1.79
Mean	2.01	2.61	2.36	1.98
Standard deviation'	0.97	0.38	0.29	0.14
CV	48.17	14.71	12.10	7.12

Sources Annual general report of banks

Table 4.7 shows the descriptive statistics. Clearly, the return on assets of NBL ranges from 0.55% to 2.79% with average of 12.63%. The average ROA of ADBL has been observed to 2.61% with standard deviation of 0.38%, which ranges minimum 2.15% to 3.12%. Similarly, the ROA of NABIL varies from 2.06% to 2.69% with average of 2.36% and standard deviation of 0.29%. The average ROA of NIBL has 1.98% and it was ranges from 1.79% to 2.13%. Likewise, the coefficient of variation of NBL, ADBL, NABIL & NIBL is 48.17%, 14.71%, 12.10% & 7.12% respectively. The ROA of sampled bank for study period can be plotted as follow:

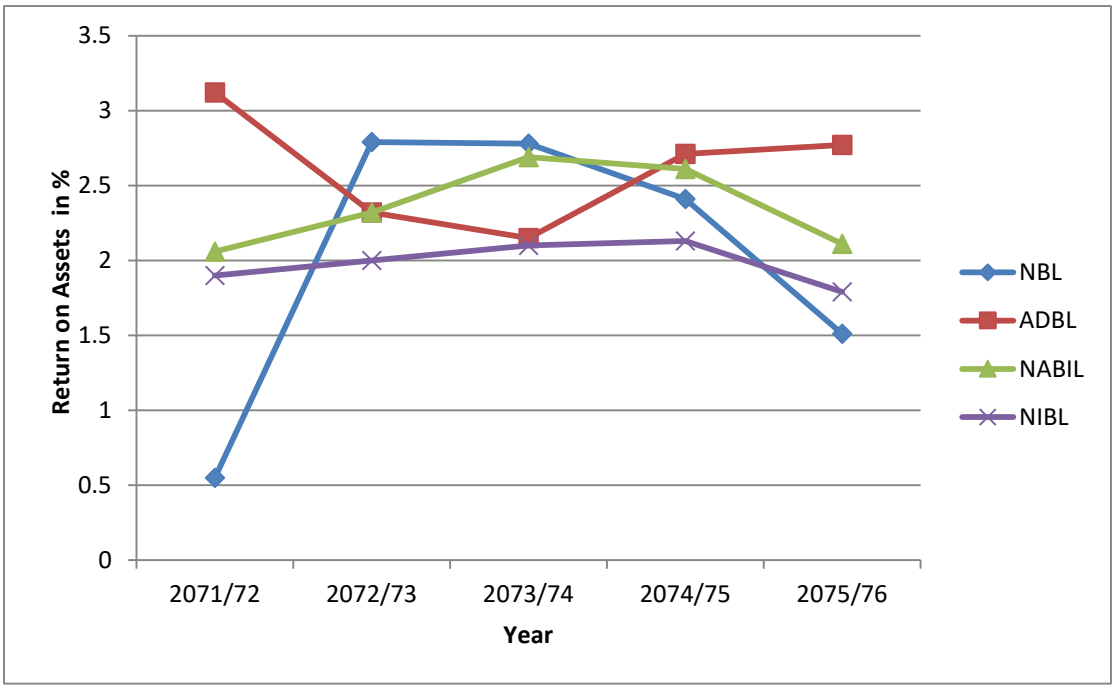

Figure 4.7: Return on assets (ROA In %)

From the above figure it is clear that, ROA of all four banks have fluctuating trend. In FY 2071/72, ROA of ADBL is highest whereas in F.Y 2073/74 it is lowest and again then after it is in increase trend up to in FY 2075/76. Similarly, the ROA of NBL, NABIL and NIBL it is fluctuation trend up to FY 2075/76. From the above figure, it can be analyzed that all bank has managed its resources effectively and efficiently in generating profit.

4.5 Analysis of liquidity

Liquidity means allocation of funds in close relation to their respective source. Liquidity is the status and part of the assets which can be used to meet the obligation. Liquidity can be viewed in term of liquidity store in the balance sheet and in terms of liquidity available through purchase funds. The degree of liquidity depends upon the relationship between cash assets plus those assets which can be quickly turned into cash and the liability awaiting payment.

4.5.1 Cash reserve ratio (CRR)

This ratio shows whether bank is holding the balance as required by NRB. NRB has put the directives to maintain certain percentage of total deposit in NRB by the commercial banks in order to ensure adequate fund in the commercial bank, to meet the depositors demand for cash at any time and to inject confidence in depositors regarding the safety of their deposited funds. According to NRB directives all commercial banks are required to maintain 6% of their deposits as their NOSTRO account maintain with NRB.

Table 4.8: Cash reserve ratio (CRR in %)

Bank/ Year	NBL	ADBL	NABIL	NIBL
2071/72	11.55	28.74	14.15	12
2072/73	17.46	28.33	6.77	7.2
2073/74	18.81	31.18	10.02	10.5
2074/75	9.05	29.15	10.05	8.2
2075/76	4.06	27.2	4.78	5.5
High	18.81	31.18	14.15	12.00
Low	4.06	27.20	4.78	5.50
Mean	12.19	28.92	9.15	8.68
Standard deviation'	6.08	1.46	3.58	2.59
CV	49.91	5.04	39.13	29.86

(Sources Annual general report of banks

The table 4.8 shows the CRR of NBL, ADBL, and NABIL & NIBL from F.Y 2071/72 to 2075/76. From the above table it is clear that all three banks have their CRR ratio above NRB standard i.e. 6%. Among four banks, average CRR of NBL, ADBL, NABIL & NIBL is 12.19%, 28.92%, 9.15% & 8.68% respectively. The standard deviation of NBL, ADBL, NABIL & NIBL are 6.08%, 1.46%, 3.58% & 2.59% respectively with coefficient of variation of 49.91%, 5.04%, 39,13% & 29.86% respectively. The Cash Reserve Ratio (CRR) of sampled bank for study period can be plotted as follow:

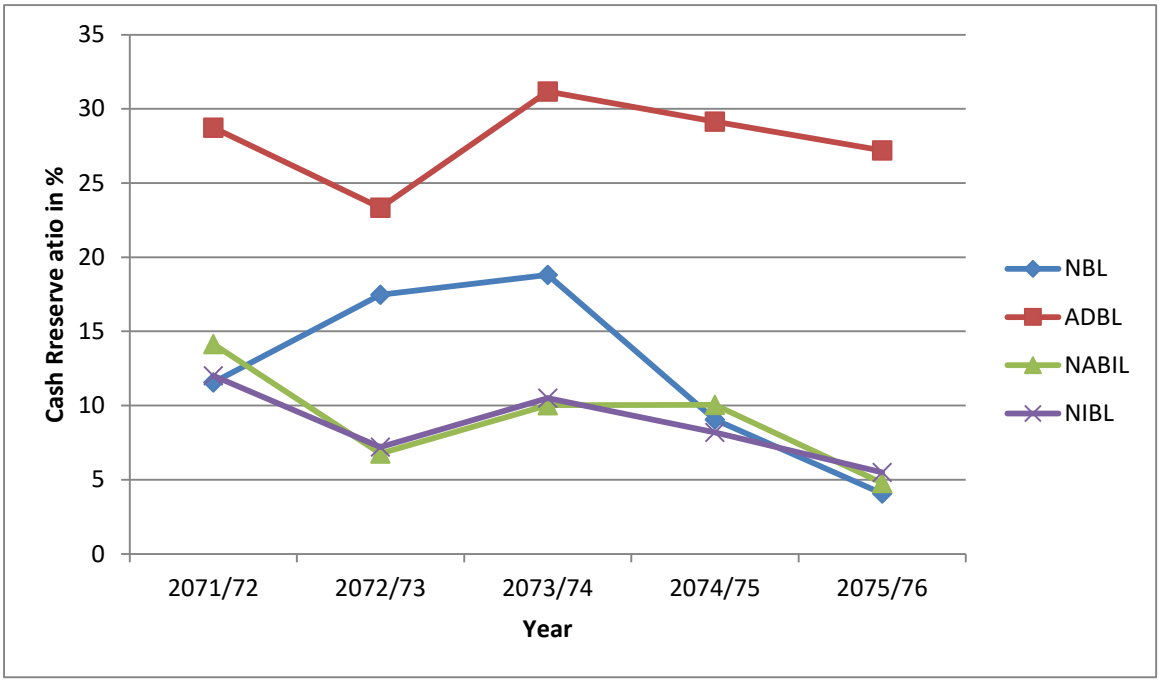

Figure 4.8 Cash reserve ratio

Above figure 4.8 shows Bar Diagram of NBL, ADBL, NABIL & NIBL and from the F.Y 2071/72 to 2075/76. From above figure, we come to know that all four CBs have its CRR above the NRB's standard (i.e. 6%). In accordance with the figure, all four banks have their CRR in fluctuating Trend. The CRR of all sample bank since last two year, it is in decreasing trend.

4.6. Analysis of statistical indicators and variables

This analysis includes as Correlation co-efficient and the Regression coefficient between the following financial variables and it have been calculated and interpreted. Simple correlation and regression coefficient:

i. Between earning per share and capital adequacy ratio.
ii. Between earnings per share and non-performing loan
iii. Between earning per share and return on assets.
iv. Between earning per share and management efficiency ratio.
v. Between earnings per share and cash reserve ratio.

4.6.1. Relationship between the earning per share (EPS) and capital adequacy ratio (CAR)

The correlation coefficient may be defined as the degree of linear relationship existing between two or many variables.

Table 4.9: Correlation between EPS and CAR

Variables	Mean	Std. Deviation	Coefficient of Correlation (r)	P- Value	Result
EPS	41.5595	15.87914	0.151	0.525	Not Significant
CAR	14.1570	3.53740			
N =20					

Note: Correlation is significant at the 0.05 level (2-tailed),

Having indicated the descriptive statistics, the Pearson Correlation Coefficient has been computed and result is presented in table 4.9. This indicates that the earning per share (EPS) and the Capital Adequacy Ratio (CAR) have positive correlation on each sample banks. There is low degree of positive correlation between EPS and CAR of all sample bank i.e. 0.151. It means, when EPS increases in one percent then the CAR also increase to 0.15 percent and vice -versa.

In table 4.5, the P - value also calculated. Since P-value of EPS and CAR of each sample banks are calculated by using SPSS software, which indicates the significant or not significant of the study in 0.05 level of significance (95% of confidence level). Since, above table 4.5, there is not significant of EPS on CAR in sample banks NBL, ADBL, NABIL and NIBL.

4.6.2. Relationship between earning per share (EPS) and non-performing loan (NPL)

The table 4.10 shows the relationship between EPS and NPL. Generally, the relationship between EPS and NPL is negative but here according to results, there is positive correlation between the EPS and NPL of all four sample banks. There is very low degree of positive correlation between EPS and NPL i.e. 0.012 It means the increase in non-performing assets leads to increase in EPS of these banks and vice-versa.

Table 4.10: Correlation between EPS and NPL

Variables	Mean	Std. Deviation	Coefficient of Correlation (r)	P- Value	Result
EPS	41.5595	15.87914	0.012	0.962	Not Significant
NPL	2.4730	1.50002			
N =20					

Note: Correlation is significant at the 0.05 level (2-tailed).

It is clear from the table that the correlation between EPS and NPL of sample bank is positive i.e. 0.012 & it is not significant because calculated p value 0.962 is more than 0.05.

4.6.3. Relationship between earning per share (EPS) and return on assets (ROA)

The relationship between the Earning per Share (EPS) and Return on Assets (ROA) of sample banks and results has been presented in table:

Table 4.11: Correlation between EPS and ROA

Variables	Mean	Std. Deviation	Coefficient of Correlation (r)	P- Value	Result
EPS	41.5595	15.87914	0.739	0.00	Significant
ROA	2.2410	0.56686			
N =20					

Note: Correlation is significant at the 0.01 level (2-tailed).

Analyzing the result, the earning per share (EPS) is positively correlated with Return on Assets (ROA) of all sample bank with r value of 0.739. It indicates that increase in ROA of banks leads to increase in EPS of sample banks and vice -versa. There is significant of EPS on ROA of all the sample bank because it has smaller P-value than 5% level of significance.

4.6.4. Relationship between the earning per share (EPS) and management efficiency ratio (MER)

The correlation coefficient may be defined as the degree of linear relationship existing between two or many variables.

Table 4.12: Correlation between EPS and MER

Variables	Mean	Std. Deviation	Coefficient of Correlation (r)	P- Value	Result
EPS	41.5595	15.87914	0.137	0.566	Not Significant
MER	79.7600	10.16195			
N =20					

Note: Correlation is significant at the 0.05 level (2-tailed),

Having indicated the descriptive statistics, the Pearson Correlation Coefficient has been computed and result is presented in above table. This indicates that the earning per share (EPS) and the Management Efficiency Ratio (MER) have positive correlation on each sample banks. There is low degree of positive correlation between EPS and MER of all sample bank i.e. 0.137. It means, when EPS increases in one percent then the CAR also increase to 0.137 percent and vice -versa.

In above table, the P - value also calculated. Since P-value of EPS and MER of each sample banks are calculated by using SPSS software, which indicates the significant or not significant of the study in 0.05 level of significance (95% of confidence level). Since, above table 4.12, there is not significant of EPS on MER in sample banks NBL, ADBL, NABIL and NIBL.

4.6.5 Relationship between earning per share (EPS) and cash reserve ratio (CRR)

The relationship between the Earning per Share (EPS) and Cash Reserve Ratio (CRR) of sample banks and results has been presented in below table:

Table 4.13: Correlation between EPS and CRR

Variables	Mean	Std. Deviation	Coefficient of Correlation (r)	P- Value	Result
EPS	41.5595	15.87914	0.255	0.279	Not Significant
CRR	14.7350	9.21175			
N =20					

Note: Correlation is significant at the 0.05 level (2-tailed).

Analyzing the result, the earning per share (EPS) is positively correlated with Cash Reserve Ratio (CRR) of all sample bank with r value of 0.255. It indicates that

increase in CRR of banks leads to increase in EPS of sample banks and vice -versa. There is not significant of EPS on CRR of all the sample bank because it has higher P-value than 5% level of significance.

4.7. Impact of CAR, NPL, ROA, MER and CRR on EPS

EPS= a_1 + b_1 CAR + b_2 NPL +b_3 ROA + b_4 MER +b_5 CRR+ e..... (I)

Where,

EPS=Earnings per Share

a_1= Constant

b_1,b_2 , $b_3 b_4$, b_5 = Regression Coefficient

The results are based on the 5 year (2071/72-2075/76) time series data of Nepalese commercial banks with 27 observations by using linear regression model. The model is EPS= a_1 + b_1 CAR + b_2 NPL +b_3 ROA + b_4 MER +b_5CRR.

Table 4.14: Regression Result

Model	**Regression Coefficient**	**Coefficient of Determination (r^2)**	**P- Value**	**F-test**	**Result**
Constant	9.180	0.581	0.020	3.888	Significant
CAR	-0.655				
NPL	0.238				
ROA	23.150				
MER	-0.141				
CRR	0.030				

Dependent variable: EPS, (b) Predictors: (Constant), CAR, NPL, ROA & CRR, (c) Correlation is significant at the 0.05 level (2-tailed). (Annex – 1)

In table 4.14, the regression of CAMEL parameter and its impact on earning shows that beta coefficients are positive for Non-performing loan Ratio (NPL), Return on Assets (ROA) and Cash Reserve Ratio (CRR). Hence, larger the Return on Assets higher will be the impact on earnings. Similarly, beta coefficient of earning per share is significant at 5% level of significance. However, beta coefficient is negative for capital adequacy ratio and management efficiency ratio, which indicates that increase in CAR and MER, leads to decrease in earnings and vice versa. In this study, there is positive relationship between the, Return on Assets and Earning Per share, Non-performing loan and Earning per share and Cash Reserve Ratio and Earning Per

Share. Hence, the result shows that higher the NPL, ROA & CRR, larger would be earnings and vice-versa, whereas the beta coefficient of ROA, NPL & CRR is also significant at 5% level of significance.

Similarly, in above table, the coefficient of determination of the equation is 58.10%. That means the variables CAR, NPL, ROA and CRR is responsible on EPS only by 58.10% and the rest 41.90% are covered by other factors on determining the earnings of commercial banks.

Similarly, the test of P-value aid to include that the relationship between CAR, NPL, ROA and CRR of commercial bank is significant. Since calculated P-value is 0.020, which is smaller than P-value of 0.05 at 5% level of significance.

4.8 Findings:

The major finding in this study based on the result of comparative analysis of required data for CAMEL analysis which are taken from published annual report of each selected CBs for fiscal year 2071/72 to 2075/76. Major finding from data are as follows;

i. From CAR analysis we found that, the CAR of all four banks is higher than the minimum core capital requirement prescribed by NRB. Thus, it's satisfactory and reflects the financial strength and soundness. ADBL has the highest percent of Average CAR of 19.09% whereas NBL has the lowest one of 12.05% of CAR. Similarly, from CCR analysis we found that all the four CBs have CCR above the NRB's regulation i.e. 6 %.
ii. From NPL ratio analysis we found that NPL ratio of all the four CBs is fluctuating trend in five year study period but in average, it is at satisfactory level. The NABIL bank has minimum average NPL with 1.01% and the ADBL has highest average NPL with 4.22% over the study period. Thus, it's satisfactory and reflects the financial strength and soundness
iii. From analysis of management efficiency ratio (loan to deposit ratio), we found that in an average the ADBL has highest performance in mobilizing its deposit then other four commercial banks.
iv. From EPS analysis we found that, the study period of five year, EPS of NBL is less than other bank in FY 2071/72. This figure depicts the earning power of equity share is strong of all four banks but among these four banks, NABIL has

strong earning power of equity share in average over the study period.

v. From analysis of P/E ratio we found that in average P/E ratio, NABILL has the highest P/E ratio of 26.79% times whereas NBL, ADBL & NIBL has 16.04%, 10.37% & 24.32% time respectively. The P/E ratio of NABIL is more constant than that of four commercial banks.

vi. From Analysis of ROA we found that average ROA of ADBL is higher (2.61%) than that of other sample bank i.e. NBL, NABIL and NIBL which has average ROA of 2.01%, 2.36% & 1.98% respectively.

vii. From analysis of CRR we found that all four CBs have its CRR above the NRB's standard. i.e. 6% as prescribed by NRB Directives 2076.

viii. The earning per share (EPS) and the Capital Adequacy Ratio (CAR) have low degree of positive correlation on each sample banks over the study period.

ix. There is very low degree of positive correlation between the EPS and non-performing loan ratio (NPL) of each bank (Generally, there is negative relationship between EPS and NPLR). That means the increase in NPL leads to increase in EPS of these banks and vice-versa.

x. The earnings per share (EPS) is positively correlated with Return on Assets (ROA) of all sample bank with r value of 0.739. It indicates that increase in ROA of banks leads to increase in EPS of sample banks and vice -versa.

xi. The earnings per share (EPS) and the Management Efficiency Ratio (MER) have positive correlation on each sample banks. There is low degree of positive correlation between EPS and MER of all sample bank i.e. 0.137. It means, when EPS increases in one percent then the CAR also increase to 0.137 percent and vice -versa.

xii. The earnings per share (EPS) is positively correlated with Cash Reserve Ratio (CRR) of all sample bank with r value of 0.255. It indicates that increase in CRR of banks leads to increase in EPS of sample banks and vice -versa.

xiii. The regression of Camel parameter and its impact on earning shows that Non-performing loan ratio (NPLR) and ROA have positive coefficient. In the same way, there is negative (-1.433) regression coefficient between EPS and CAR which means 1 unit increase in CAR leads EPS to decrease by 1.433units.The coefficient of determination (r^2) is 0.6238 it means these three variables non-performing loan ratio (NPLR), return on assets (ROA) and capital adequacy ratio

(CAR) explains about two third of the variation in the dependent variable i.e. earnings per share (EPS) and the rest 37.62 % are unexplained on determining the earnings of commercial banks.

xiv. The regression of CAMEL parameter and its impact on earning shows that beta coefficients are positive for Non-performing loan Ratio (NPL), Return on Assets (ROA) and Cash Reserve Ratio (CRR). However, beta coefficient is negative for capital adequacy ratio and management efficiency ratio. In this study, there is positive relationship between the, Return on Assets and Earning Per share, Non-performing loan and Earning per share and Cash Reserve Ratio and Earning Per Share. Hence, the result shows that higher the NPL, ROA & CRR, larger would be earnings and vice-versa, whereas the beta coefficient of ROA, NPL & CRR is also significant at 5% level of significance.

xv. Similarly, in above table, the coefficient of determination of the equation is 58.10%. That means the variables CAR, NPL, ROA and CRR is responsible on EPS only by 58.10% and the rest 41.90% are covered by other factors on determining the earnings of commercial banks.

xvi. The test of P-value aid to include that the relationship between CAR, NPL, ROA and CRR of commercial bank is significant. Since calculated P-value is 0.020, which is smaller than P-value of 0.05 at 5% level of significance.

4.9 Discussion

The study was conducted with objective to analyze the comparative financial performance and to assess financial strength and weakness of commercial banks of Nepal on the basis of CAMEL and to examine the relationship between CAMEL parameters. The study was based on five years data of selected four commercial Banks of Nepal within the jurisdictions of CAMEL Frameworks and its component. The selected four commercial Banks were NBL, ADBL, NABIL and NIBL and the study covers only the Fiscal years 2071-76.There were multiple academic research has been carried out by the different researcher but the previous studies was mainly emphasis on liquidity, Profitability and leverage of the commercial banks but there was a space or gap to study and examine on others parameters, the study is focused on Capital adequacy, liquidity, NRB balance, cash in vault etc.

The research was based on Descriptive and quantitative analysis where Convenience sample size and secondary source of date via internet has considered as the source of data. Various Financial and Statistical are used as an analytical tool of my research which helps to make this study more synchronized and distinct. Jha and Hui 2012 ‘‘A comparisons of Financial performance of commercial banks", Mamun, A (2013) ‘‘Performance evaluation of prime bank limited in terms of Capital Adequacy”, Gautam 2017 ‘‘conducted thesis on financial performance analysis of Nepal SBI Bank Ltd in the CAMEL framework ’’ and others academic research support to this studies which has been incorporated in this study.

These studies can be concluded as; The Overall performance of sample banks is well satisfactory in terms of the CAMEL components. ROA and CRR ratio of ADBL was better than NBL, NABIL and NIBL i.e. P/E ratio of NBL was better than ADBL, NABIL and NIBL. But we can draw the conclusion based on major findings the ADBL was better commercial bank than NBL, NABIL, and NIBL. The regression of CAMEL parameter and its impact on earning shows the beta coefficient, was positive for non- performing loan ratio NPL, ROA, CRR. However, beta coefficient is negative for CAR and MER. In this study there was positive relationship between the return on assets and earnings per share, non-performing loan and earning performance per share; cash reserve ratio and earnings per share. Hence, the result shows that higher the NPL, ROA and CRR would be the higher earnings and vice- versa.

In this regards we can conclude that the CAMEL rating approach is considered as an important tools for identifying the financial strength and weakness of a bank .This study helps to point out possible weaknesses suggest necessary corrective measures to overcome weakness and thus improve the overall performance of the bank. It is focused that on an average the CAR of all banks is much higher than the benchmark of 11% as mandated by NRB.

This study helps to different stakeholders like decision making personnel of Banks and Financial Institutions, Academic and non-Academic Researchers, Investors, Students and to all concerns those who are interested on financial sectors.

The previous research major findings are similar with this study so it can be conclude that this study supports previous research Gawde, Panda, & Ingale (2018) study of

camel rating system in banking supervision also support the statement that CAMEL rules are the true measurement of financial performance of any financial institutions and Gautam 2013 the bank has experienced negative EPS and P/E Ratio which have also heavily fluctuated during the study period, the same has been prevailed also in this study. Jha and Hui 2012 a comparison of financial performance of commercial banks states that the public sector banks are significantly less efficient that the counterpart which is not justified and supported this studies. And this study has some intuitive grounds comprising the sampling period, Sample Banks and Analytical tools which makes this study distinct with the previous research.

CHAPTER 5

SUMMARY AND CONCLUSIONS

5.1. Summary

The financial sector has evolved as the biggest sector in the economy. After the economic reforms initiated by the government, this sector has been going through the major changes. Increased competition due to mushrooming of financial institutions across the country has impacted the banking sector negatively, so the financial performance of the banks has to be evaluated properly to know the strength and weaknesses of the banks. Although the various studies have been carried out regarding financial performance of banks, very few studies have employed the CAMEL framework of analysis. This study aims to analyze the financial performance of Nepal Bank Limited, Agricultural development bank limited, NABIL bank limited and Nepal investment bank limited in the framework of CAMEL.

The basis objectives of the study is to analyze the financial performance of Nepalese commercial Banks on the basis of CAMEL in the context of Nepal. The main objective of this study are; (1) to analyze the financial performances of Commercial banks of Nepal on the basis of CAMEL, (2) to asses financial strength and weakness of the Commercial Banks of Nepal on the basis of CAMEL study, (3) to examine the relationship between CAMEL parameters?

In this study, researchers examine with some sample of Commercial banks to analyses the financial performances of Commercial banks of Nepal on the basis of CAMEL. For this, the researchers has take some of the sample Commercial bank they are Nepal Bank Ltd. (NBL) Agriculture Development Bank Ltd.(ADBL), Nabil Bank Ltd.(NABIL), and Nepal Investment Bank Ltd.(NIBL). According to achieve the objective of the study descriptive research design has been employed. To fulfill the objective of the study, secondary data are used. For this, at first, required information and data (the annual reports and the financial statements published by the related banks) are collected for the F/Y 2071/72 to F/Y 2075/76, for the study. After that, data are analyzed by using appropriate financial and descriptive and analytical tools. In analysis part, interpretation and comments are also made wherever necessary.

The introduction parts about performance analysis on the basis of CAMEL of this study has been stated in first chapter and literature review is mentioned in second chapter. Research methodology is mentioned in third chapter. All available useful secondary data are present and analyze in fourth chapter. At last fifth chapter, summary, conclusion and recommendation is mentioned.

5.2. Conclusions

CAMEL rating approach is considered as an important tool for identifying the financial strengths and weaknesses of a bank. This analysis helps to point out possible weaknesses and suggest necessary corrective measures to overcome weaknesses and thus improve the overall performance of a bank. This study has been conducted to examine the performance of commercial banks in Nepal during the period (2071/72-2075/76) with respect to CAMEL ratios. It is found that on an average the Capital Adequacy ratio of all banks is much higher than the benchmark of 11% as mandated by Nepal Rastra Bank. ADBL has the highest percent of Average CAR of 19.09% whereas NBL has the lowest one of 12.05% of CAR. Similarly, as per the NPL ratio analysis we found that NPL ratio of all the four CBs is fluctuating trend in five year study period but in average, it is at satisfactory level. The management efficiency ratio (loan to deposit ratio), we found that in an average the ADBL has highest performance in mobilizing its deposit then other four commercial banks. Estimating the profitability ratios i.e. ROA, P/E ratio & EPS it can be observed in five year period, it's found that the profitability is outstanding on an average. The regression of CAMEL parameter and its impact on earning shows that beta coefficients are positive for Non-performing loan Ratio (NPL), Return on Assets (ROA) and Cash Reserve Ration (CRR). However, beta coefficient is negative for capital adequacy ratio and management efficiency ratio. In this study, there is positive relationship between the, Return on Assets and Earning Per share, Non-performing loan and Earning per share and Cash Reserve Ratio and Earning per share. Hence, the result shows that higher the NPL, ROA & CRR, larger would be earnings and vice-versa, whereas the beta coefficient of ROA, NPL & CRR is also significant at 5% level of significance. However, the findings from the study can be helpful for the management of these selected banks to improve their financial performance and formulate policies that will improve their overall performance. Although, the scope of this study is limited to four selected commercial banks only but this study is equally beneficial to all the banks in

Nepal since it has identified some specific areas for banks to work on.

5.3. Implication

The study found that means the variables CAR, NPL, ROA and CRR is responsible on EPS only by 58.10% and the rest 41.90% are covered by other factors on determining the earnings of commercial banks. This implies that there are other factors that affect earning prices this study did not consider. The study therefore recommends that other studies be done to identify other factors which may explain the remaining 41.90 %. The study also recommends further studies in the Nepalese economy outside of the commercial banks, that is, for production sectors, hydro sector, insurance sectors etc. is to establish whether the same conclusions will be arrived at. This will further establish the theories underlying the study or even come up with new theories that will fill the knowledge gaps. The study also recommends that each and every firm should provide the information regarding its activities and performance, so that investors can analyze the situation and invest their money in the best firms.

i. This study helps to bank's CEO in financial organizations to be in a position to formulate policies on CAMEL rating.
ii. It also helps scholars in various institutions of higher learning willing to carry out research on this field. It helps them in reviewing literature thereby adding to the existing body of knowledge in the area of the relationship between CAMEL parameters.
iii. This research also helps average and potential investors in making informed decisions on their investments on stocks of various companies.
iv. The study can be useful for stakeholder, financial institutions, banks, students, journal publics etc.
v. The research is also important to different policy makers including the government and capital markets authority while formulating better regulations in the area of CAMEL rating.

References

Adhikari, D.R. (1993).*Evaluating the financial performance of Nepal bank Ltd*. An unpublished masters degree thesis submitted to faculty of management, Tribhuvan University.

Ahsan, M.K. (2016). Measuring financial performance based on CAMEL: A study on selected Islamic banks in Bangladesh. *Asian Business Consortium, 6*(1), 47-56.

Aspal, P. & Dhawan, S. (2016). Camels rating model for evaluating financial performance of banking sector: A theoretical perspective. *International* Journal of System Modelling and Simulation, *1*(30), 10-15.

Bank Supervision Department (2018).*Bank supervision report, 2017*. Kathmandu: Nepal Rastra Bank.

Edward, S. (2010). *Liquidity of business*. London: Zenith Publishing House.

Erich, R. (1997). *The management of bank funds.* New York: McGraw Hill.

Gautam, P. (2013). *A study on financial performance of Nepal bank limited*. An unpublished master's degree thesis, faculty of management Tribhuvan University.

Gautam, P. (2017)**.** *A study on financial performance of Nepal SBI bank limited.* An unpublished master's degree thesis, faculty of management Tribhuvan University.

Gawde, S.U., Panda, A.C. & Ingale, D. (2018). Study of camel rating system in banking supervision- a case study of Nepal Bangladesh Bank Ltd. *American journal of economics and business management,2* (1),74-94,

Hazzi, O., & Kilani, M. (2013).The financial performance analysis of Islamic and traditional banks: Evidence from Malaysia. European .*Journal of Economics, Finance and Administrative Sciences*, *57*, 1450-2275.

Ibrahim, M. (2014).A comparative performance of two banks in United Arab Emirates .*Research Journal of Finance and Accounting*. *7*, 19-26.

Jha, S. & Hui, X. (2012).A comparisons of financial performance of commercial banks: A case study of Nepal. *African Journal of Business Management, 6*(25), 7601-7611.

Kattel, I.K. (2016). Evaluating the financial solvency of selected commercial banks of Nepal: An application of bankometer. *Journal of Advance Academic Research, 3*(1), 75-87.

Kavitha, P. (2014).Determinates of capital structure: Empirical evidence from India: *International Journal of Multidisciplinary Research and Development, 2*(14), 52-64.

Kulkarni, P.V. (1986). *Financial management*. New Delhi: Vikash Publishing House.

Luintel, N. K. (2003). *A study on financial performance of Nepal Bank Limited*. An unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, T.U.

Mamun, A. (2013). Performance evaluation of Prime bank limited in terms of capital adequacy. *Journal of Business Management, 2*(3), 23-29.

Mayakkannan, R. & Jayasankar, C. (2020).A study on performance evaluation of selected public and private sector banks through camel model in India .*Purakala (UGC Care Journal). 1*(31), 202-207.

Melaku, A. &Melaku, A. (2017).Financial performance analysis of private commercial banks of Ethiopia: CAMEL Ratings. *International Journal of Scientific and Research Publications, 11* (7), 45-52.

Merchant, I. (2012). Empiral study of Islamic banks versus conventional banks of GCC. *Global Journal of Management and Business Research, 12*(20), 33-39.

Metcalf, C.J. (1976). *Encyclopedia of banking and finance.* Singapore: Irwin Publication.

Misra, S. K., &Aspal, P. K. (2013). A camel model analysis of state bank group. *World Journal of Social Sciences. 2* (3), 60-69.

Nowfal, M.S., & Badusha, M. (2019).Comparison of operational efficiency of listed banks from kerala - a study based on camel model. *Journal of Internet Banking and Commerce,* (24), 1-15.

Pandey, I.M. (1994). *Financial management*. New Delhi: Vikash Publishing House.

Piyu, Y. (1992). Data envelopment analysis & commercial bank performance .*A primer with Application to Missouri Banks, 74*(1), 31-45.

Poudel, R. (2002). *Financial performance analysis of EBL*. An unpublished master's degree thesis, faculty of management Tribhuvan University.

Pradhan, R.S. (2004). *Management of working capital*. New Delhi: National Books Organization.

Rostami, M. (2015).Determination of Camels model on bank's performance: *International Journal of Multidisciplinary Research and Development, 2*(10), 652-664.

Shrestha, P. (2016).*Financial performance analysis of Nepal SBI bank Ltd*. *in the CAMEL framework* .An unpublished master‘s degree thesis, faculty of management Tribhuvan University.

Vong, A., & Chan, H. (2009).Determinants of Bank Profitability in Macau. *Monitary Research Bulletin, 12*, 99-113.

Zahidur, R. & Shohidul, I. (2017).Use of Camel rating framework: A comparative performance evaluation of selected Bangladeshi private commercial banks. *International Journal of Economics and Finance, 4*(10) 65-72.

Appendix- I:

Regression model by SPSS

Descriptive Statistics

	Mean	Std. Deviation	N
EPS	41.5595	15.87914	20
CAR	14.1570	3.53740	20
NPL	2.4730	1.50002	20
ROA	2.2410	.56686	20
MER	79.7600	10.16195	20
CRR	14.7350	9.21175	20

Correlations

		EPS	CAR	NPL	ROA	MER	CRR
Pearson Correlation	EPS	1.000	.151	.012	.739	.137	.255
	CAR	.151	1.000	.411	.424	.830	.685
	NPL	.012	.411	1.000	.095	.470	.735
	ROA	.739	.424	.095	1.000	.393	.467
	MER	.137	.830	.470	.393	1.000	.724
	CRR	.255	.685	.735	.467	.724	1.000
Sig. (1-tailed)	EPS	.	.263	.481	.000	.283	.139
	CAR	.263	.	.036	.031	.000	.000
	NPL	.481	.036	.	.345	.018	.000
	ROA	.000	.031	.345	.	.043	.019
	MER	.283	.000	.018	.043	.	.000
	CRR	.139	.000	.000	.019	.000	.
N	EPS	20	20	20	20	20	20
	CAR	20	20	20	20	20	20
	NPL	20	20	20	20	20	20
	ROA	20	20	20	20	20	20
	MER	20	20	20	20	20	20
	CRR	20	20	20	20	20	20

3. Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CRR, ROA, CAR, NPL, MER[b]	.	Enter

a. Dependent Variable: EPS

b. All requested variables entered.

4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.762[a]	.581	.432	11.96933	.581	3.888	5

5. Model Summary

Model	Change Statistics	
	df2	Sig. F Change
1	14[a]	.020

a. Predictors: (Constant), CRR, ROA, CAR, NPL, MER

6. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2785.088	5	557.018	3.888	.020[b]
	Residual	2005.707	14	143.265		
	Total	4790.795	19			

a. Dependent Variable: EPS

b. Predictors: (Constant), CRR, ROA, CAR, NPL, MER

7. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.180	31.119		.295	.772
	CAR	-.655	1.445	-.146	-.453	.657
	NPL	.238	2.993	.022	.080	.938
	ROA	23.150	6.047	.826	3.829	.002
	MER	-.141	.524	-.090	-.270	.791
	CRR	.030	.656	.017	.046	.964

8. Coefficients[a]

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	-57.563	75.922
	CAR	-3.753	2.444
	NPL	-6.180	6.657
	ROA	10.182	36.119
	MER	-1.265	.982
	CRR	-1.377	1.437

a. Dependent Variable: EPS