## CHAPTER - I

## INTRODUCTION

### 1.1 Background of the Study

Financial institution can be considered as the catalyst to the economic growth of a country. The development process of a country involves the mobilization and developed of resources. Development of trade, commerce and industry are the prime requisite for the attainment of the economic political and social goals. To fulfill the purpose of planning, financial functions more often dominate the other functions. "There is always lack of finance in underdeveloped economy because natural resources are either underutilized or unutilized in productive sectors or even other purposes i.e. social welfare and so on. Likewise, underdeveloped countries are not deficient in land, water, mineral, forest or power resources, though they may be untapped; constituting for the rapid development of the economic, there should be proper mobilization of resources. Due to various difficulties or even ignorance of the people, such resources have not been properly utilized. Hoarding could be one of the reasons for this. So, banks and other financial institutions play a vital role to encourage thrift and discourage hoardings by mobilizing the resources and removing the habit of hoarding. They pursue rapid economics growth, developing the banking habit among the people, collecting the small-scattered resources in one bulk and utilizing them in further productive purposes and rending other valuable services to the country. Thus, this gives the individuals an opportunity to borrow funds against future income, which may improve the economic well being of the borrower.

Financial institution in the economy plays a crucial role in the process of economic growth of the country. Financial institution refers to a business concern that is mainly confined to finance for the development of the trade, commerce and industry. Trade, commerce and industry are the prime factors of the economic development. Bank is a financial institution, which primarily deals in borrowing and lending. Banking is a vital part of national economy and a vehicle for the mobilization of economy's financial resources and extension of loan to the business and service enterprises.

Nepal is one of the least developed countries in the world. It is basically an agricultural, mountainous and landlocked nation surrounding by two large, fast developing nations, China and India. About $80 \%$ of the total population is engaged on subsistence farming. Despite its large share in labor market, it paradoxically, contributes $40 \%$ to the total GDP. As most of the labor forces are underemployed it is necessary to channel the huge labor force into industrial sector. The economic development of Nepal is still in initial stage. For the economic growth and development, government has initiated various economic policies such as industrial policy, foreign investment policy privatization policy and trade \& transit policy.

Nepal has adopted mixed and liberal economic policy with an implicit objective to assist the state and the private sector. Especially after restoration of the democracy, the concept of the liberalization policies has been incorporated as directive principal and state policies. This liberalization has helped in establishing many companies, banks, finance companies and manufacturing industries. Thus these establishments help the country for its development.

The growth of banking is not so long. Compared to other developing or developed countries, the institutional development in banking system of Nepal is far behind. Even though the specific date of the beginning of money and banking deal in Nepal is not obvious, it is speculated that during the reign of the King Mandev the coin "Manank" and "Gunank" during the reign of the king Gunakamadev were in use. After the unification of Nepal, Prithvi Narayan Shaha had minted coin 'Mohar' in his name. An institution called "Taksar" was established in 1989 (B.S) and it started to issue the coin scientifically. During the reign of Ranodip Singh an office named "Tejarath" was established in Kathmandu in 1993(B.S.) It used to provide loans to government officials and people against deposit of gold and silver. It had also extended its branches outside Kathmandu valley for providing loan. But this office had no right to accept deposit of public and it had no characteristics of modern banks. (Bhandari, 2004:6)

After the establishment of Nepal Bank Limited on 30th Kartik, 1994 (B.S.), modern banking system started in Nepal. Under the Nepal Rastra Bank Act 2012, Nepal Rastra Bank was established in 2013, Baishakh 14th in Nepal. Rastriya Banijya Bank was established in Government sector in 2022 and Agricultural Development Bank in 2024, 7th Magh. Nepal Arab Bank limited is the 1st joint venture bank established in 2041 under the Commercial Bank Act 2031 and Companies Act 2021. (Shrestha, 2004:2)

The loan policy cannot be sound unless it is based on a clear knowledge of the cost of loan. The cost is determined by the quantity of loan sales, the average collection period and the opportunity cost of capital. Whilst a marginal costing approach should be used which takes only incremental cost into account, the full opportunity cost has to be considered. The overall cost of loan will also be affected by the expected rate of inflation. Foreign accurate assessment of the cost of capital, a discounting approach should be used. A loan package can be differentiated in various ways; by duration, by interest charge, and by the interaction with the rest of the pricing mix.

Loan is regarded as the most income generating asset especially in commercial banks. Loan is regarded as the heart of the commercial banks in the sense that; it occupies large volume of transactions; it covers the main part of investment; most of the investment activities are based on loan; it is the main factor for crating profitability; it is the main source of creating profitability; it determines the profitability. It affects the overall economy of the country. In today's context, it also affects on national economy to some extent. If the bank provides loan to retailer, it will encourage the customer status. Similarly, if loan facility provided to trade \& industry, the government will get tax from them and help to stimulate national economy. It is the security against depositors. It is proved from very beginning that loan is the shareholder's wealth maximization derivative. However, other factors can also affect profitability and wealth maximization but the most effective factor is regarded as loan. It is the most challenging job because it is backbone in commercial banks. Thus, effective management of loan should seriously be considered.

Management is the system, which helps to complete the every job effectively. Loan management is also the system, which helps to manage loan effectively. In other words, loan management refers management of loan exposures arising form loans, corporate bonds and
loan derivatives. Loan exposures are the main source of investment in commercial banks and return on such investment is supposed to be main source of income.

Loan management strongly recommends analyzing and managing the loan risks. Loan risk is defined as the possibility that a borrower will fail to meet its obligations in accordance with the agreed terms and conditions loan risk is not restricted to lending activities only but includes off balance sheet and inter - bank explores. The goal of the loan risk management is to maximize a bank's risk adjusted rate of return by maintaining the loan risk exposure within acceptable parameters. For most banks, loan are the largest and most obvious sources of loan risk, however, other sources of loan risk exist through out the activities of a bank, including in the banking book, and in the trading book, and both increasingly facing loan risk in various financial instruments other than land, including acceptances, inter bank transactions and guarantees and the settlement of transactions.

The loan policy of a firm provides the framework to determine whether or not to extend loan and how much loan to extend. The loan policy decision of a bank has two broad dimensions; loan standards and loan analysis. A firm has to establish and use standards in making loan decision, develop appropriate sources of loan information and methods of loan analysis.

### 1.2 Statement of the Problem

The studies reveal the increasing trend of loan flows in the economy. But increase in loan doesn't solely determine the progress of commercial banks until and unless if there is no any safety measure and policies adopted by the bank to control the loan and its recovery process. The increasing trend of lending/loan is meaningless for the commercial banks and may become threat rather than opportunities. In recent years, the liquidity position of banking sectors is very tight. This liquidity crunch has starved the productive sector of the economy and has also increased the service cost of bank loan.

Increasing number of CBs and branches in our small country has also posed a serious problem of unhealthy competition. Many banks and FIs are trying to sell their product to the limited customers. This has not only affected the stable growth of the banks but also weakened the confidence of general public in the banking service. The unstable political situation has badly affected the loan recovery process of the FIs. The government has not been able to formulate and implement policies and guidelines for new and innovative products. Due to weak presence of the government, the loan recovery process is not being effective.

Thus the study aims to answering following problems and has tried to analyze, how the banks are performing in loan sector and how they stand in comparison to one another:

- What has been the pattern of loan disbursement of NIBL and NCC?
- How does NIBL and NCC disburse loan?
- What is the ratio of repayment to loan disbursement and repayment to outstanding loan?
- Whether the level of non-performing loans of NIBL and NCC is under the international standard?
- Whether NIBL and NCC are following NRB's directives in order to maintain the loan loss provision for various types of loans?
- Is there any significant relationship between the deposit collection and loan and advances of NIBL and NCC?
- Is there any relationship between loan position and profitability situation?
- What is the loan efficiency of the Nepalese commercial banks?
- How does the commercial bank manage better its loan position?


### 1.3 Objectives of the Study

The main objective of the study is to evaluate the loan risk management of commercial bank in Nepal. In order to achieve the basic objective, the following other objectives are

- To know the pattern of loan disbursement of NIBL and NCC.
- To find the ratio of repayment to loan disbursement and repayment to outstanding loan.
- To know the level of non-performing loans of NIBL and NCC .
- To know the relationship between the deposit collection and loan and advances of NIBL and NCC.
- To find the relationship between loan position and profitability situation of NIBL and NCC,
- To determine the impact of deposit in liquidity and its effect on lending practices of Nepal Investment Bank Ltd and Nepal Credit and Commerce Bank Ltd.
- To evaluate the loan management of Nepal Investment Bank Ltd and Nepal Credit and Commerce Bank Ltd.
- To provide recommendations on the basis of major findings of the study.


### 1.4 Significance of the Study

Research made especially on loan management of financial institutions couldn't be found. This study too is made under the guidelines of the previous researches made on commercial banks, which too are very few in numbers. Commercial banks are emerging as vital part of our economy and moreover, loan is one of the most essential and main function of finance company. Thus, this study on Nepal Investment Bank Ltd and Nepal Credit and Commerce

Bank Ltd are going to play a significant role for all other researchers who wish to study on Commercial bank. More than that, this can provide adequate information about studied Nepal Investment Bank Ltd and Nepal Credit and Commerce Bank Ltd and overall trend of commercial bank to the shareholders, investors, professionals and also to the students and teachers of commerce.

The presentation of this study will also help to clear out the misconceptions people have about commercial bank regarding their trustworthiness. Besides, this comparative study of loan practices of commercial bank is probably the first attempt of its kind so it is going to be of an important value for the people interested in this field.

More than all, myself being a commerce student and interested in career in commercial bank, this study will prove to be very important in my individual level, for my career in the up growing and challenging field of commercial bank.

### 1.5 Limitations of the Study

There were numerable limitations for the study. Some of the very important limitations of the study are as follows;

- The data used are all secondary. The annual reports published by the respective companies are the major data used for the analysis in the study. Besides those, reports published by NRB, articles, journals, and news published are used as the source of data. Thus, any mispresentations, mistakes and omissions will affect the outcome of the study.
- Since the study was made for 5 years i.e. from $2007 / 08$ to $2011 / 12$ only and the performances of others years ignored, this might not give the accurate picture.
- Statistical tools are used for analysis. Hence, the drawbacks and weakness of those tools may affect the outcome of the study. Such as co-efficient of correlation, Trend analysis etc.


### 1.6 Organizational Structure of the Study

The present study is organized in such a way that the stated objectives can easily be fulfilled. The structure of the study will try to analyze the study in a systematic way. The study report has presented the systematic presentation and finding of the study. The study report is designed in five chapters, which are as follows:

## Chapter- I: Introduction

This chapter deals with the basic concept and background of the study. This chapter consist the statement of the problem, objectives of the study, significance of the study and limitation of the study.

## Chapter- II: Review of Literature

Second chapter deals with review of Literature. It includes conceptual reviews, review of pervious thesis, review of journals and articles that are published in different news papers.

## Chapter- III: Research Methodology

Third chapter contains research methodology, which includes general introduction, research design, population \& sample, sources of data, data processing procedures and statistical tools \& techniques for analysis.

## Chapter - IV: Presentation and Analysis of Data

This chapter is the heart of the study. It deals with the presentation and analysis of relevant data and information through research methodology.

## Chapter - V: Summary, Major Findings, Conclusion and Recommendations

Lastly, this chapter summarizes the whole study and states main findings, issues, gaps and offers recommendation for the improvement in future to the related sector and the conclusion of the study.

Appendix and bibliography will be presented in the last part of the thesis to get the clear picture of the study.

## CHAPTER- II

## REVIEW OF LITERATURE

"Review of literature means reviewing research studies of other relevant preposition in the related area of the study so that all part studies, their conclusions and deficiencies may be know and further research can be concluded."(Pantta \& Wolf, 1999:234). This chapter deals with the literature, relevant to this study, this part of thesis will essential to know about the finding of other research which are appropriate to the study. The first part will consist conceptual framework and the remaining parts will consist the review of reports, articles, journals and dissertation.

### 2.1 Conceptual Review

### 2.1.1 Loan Management

Loan management strongly recommends analyzing and managing the loan risks. Loan risk is defined as the possibility that a borrower will fail to meet its obligations in accordance with the agreed terms and conditions loan risk is not restricted to lending activities only but includes off balance sheet and inter - bank explores. The goal of the loan risk management is to maximize a bank's risk adjusted rate of return by maintaining the loan risk exposure within acceptable parameters. For most banks, loan are the largest and most obvious sources of loan risk, however, other sources of loan risk exist through out the activities of a bank, including in the banking book, and in the trading book, and both increasingly facing loan risk in various financial instruments other than land, including acceptances, inter bank transactions and guarantees and the settlement of transactions.

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"Banking is the business of collecting and safeguarding money as deposits and lending of same. The banker's business is then to taken the debt of other people to offer his own in exchange and there by to create money. He may be a dealer in debts, but in distress is only the observer of wealth and it would be equally permissible to describe the banker as a liquefies of wealth."( Benerjee, 2004: 81)

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shareholder's wealth maximization derivative. However, other factors can also affect profitability and wealth maximization but the most effective factor is regarded as loan. It is the most challenging job because it is backbone in commercial banks. Thus, effective management of loan should seriously be considered.

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A frequently neglected but increasingly of the total marketing package is the role of the provision of loan. Loan policy is sometimes, omitted entirely from an analysis of marketing mix by academics. This is despite empirical findings that although the loan package is unlikely to be the primary factor in determining overall patronage success. It may serve to clinch a contract when suppliers' offerings are otherwise equally attractive.

The study seeks first and like some other to examine the relative importance of loan policy in marketing decisions and, seconds, to assess the case for differentiating loan packages. It is also presented the result of an empirical survey into the loan policies pursued. In concept, the empirical study is similar to earlier studies.

The loan policy cannot be sound unless it is based on a clear knowledge of the cost of loan. The cost is determined by the quantity of loan sales, the average collection period and the opportunity cost of capital. Whilst a marginal costing approach should be used which takes only incremental cost into account, the full opportunity cost has to be considered. The overall cost of loan will also be affected by the expected rate of inflation. Foreign accurate assessment of the cost of capital, a discounting approach should be used. A loan package can be differentiated in various ways; by duration, by interest charge, and by the interaction with the rest of the pricing mix.

A commercial Bank is business organization that receives and holds deposits of fund from others makes loans or extends loans and transfers funds by written order of deposits.

Commercial Bank is a corporation, which accepts demand deposits subject to check and makes shorts-term loans to business enterprises, regardless of the scope of its other services.

A commercial banker is a dealer in money and substitute for money such as cheques or bill of exchange. He also provides a variety of financial services.

Commercial bank Act 2031 B.S. of Nepal has defined that "A commercial bank is one which exchanges money, deposits money, accepts deposits, grants loans and performs commercial banking functions and which is not a bank mean for cooperative, agriculture, industries for such specific purpose."

Bank and Financial Institutions Ordinance, 2060 has accumulated five banking acts including Commercial Bank Act 2031, which defines the bank with respect to their transactions. This Act is trying to categorize the banking institutions in two ways based on
their transactions. According to this Act, "Bank is the institution which performs its transaction under the provisions mentioned on section 47 of this Act."

This Act has laid emphasis on the functions of commercial bank while defining it. Commercial banks provide short-term debts necessary for trade and commerce. They take deposits from the public and grant loans in different forms. They purchase and discount bills for exchange, promissory notes and exchange foreign currency. They discharge various functions on the behalf of their customers provided that they are paid for their services.

Financial activities are necessary for the economic development of the country and commercial banking in this context is the heart of financial system. Optimal investment decision plays a vital role in each and every organization. But especially for the commercial bank and other financial institutions the sound knowledge of investment is the must because this subject is relevant for all surrounding that mobilize funds in different sectors in view of return.

As it is concerned to the commercial banks and other financial institution, they must mobilize (i.e., investment in different sectors) their collections (deposits) and other funds towards the profitable, secured and marketable sectors so that they will be in profit. For this purpose these banks and financial institutions should gather the sufficient information about the firm (client) to which supposed to be invested, these information include as financial background, nature of business as well as its ability to pay the loan back. These all information should be gathered from the viewpoint of security.

The income and profit of the bank depend upon the lending procedure applied by the bank. And, lending policy and investment in different securities also affect the income and profit. In the investment procedures and policies is always taken in mind that "the greater the loan created by the bank, the higher will be the profitability". A sound lending and investment policy is not only prerequisite for bank's profitability but also crucially significant for the promotion of commercial savings of a developing country like Nepal.

The sound policies help commercial banks maximize quality and quantity of investment and there by, achieve the own objective of profit maximization and social welfare. Formulation of sound investment policies and coordinated and planned efforts pushes forward the forces of economic growth.

Commercial banks as financial institutions perform a number of internal functions. Among them, providing loan is considered as most important one. "Commercial banks bring into being the most important ingredient of the money supply, demand deposit through the creation of loan in the form of loan and investment."

### 2.1.2 Objectives of Sound Loan Policy

Considering the importance of lending to the individual bank and also to the society, it serves it is imperative that the bank meticulously plus its loan operations. Second loan policy whose objectives are as follows is a foundation in this direction; (Dhahal \& Dhaha,2002:115).

## 1. To have performing assets

Performing assets are those loans that repay principal and interest to bank from the cash flow it generates. Loans are risky assets though a bank invests most of it resources in granting loan and advances. If an individual bank has around $10 \%$ non performing assets/loans (NPAS), it sounds the death knell of that bank ceteris paribus (all other thing remain constant).The objectives of sound loan policy is to maintain good financial health of the bank which results in safety of depositors' money and increase in the returns to the shareholders. Since the loan is a risk asset there is inherent risk in every loan. However, the bank should not take risk above a certain degree irrespective of returns prospect.

## 2. To contribute to economic development

Sound loan policy is required to ensure that loans are given to the productive sector which contributes to the society in a number of ways cited above.

## 3. To give guidance to lending officials

A borrower should be assured that there will be no discrimination whether he deals with an officer or another and one branch or another. A sound loan policy is impetrative to achieve a uniform standard procedure throughout the organization. In the absence of a sound loan policy it is likely that individual loan officers make judgment inconsistent from each other and also inconsistent with the organizational goal.

## 4. To establish standard for control

Every policy requires periodic follow up to ensure its proper implementation. A sound policy helps to determine the variance between actual performance and practices and to take corrective actions. A sound policy is always flexible and works a guideline rather than as a straitjacket. However, if the deviation between the practice and policy is observed, proper education to lending offices or amendment of the policy becomes inevitable.

These objectives can be summarized as the sound policies help commercial banks to maximize quality and quantity of investment and thereby achieve the own objectives of profit maximization. Formulation of sound policies and coordinates planned efforts pushes forward the forces of economic growth. Sound policy is also important to find the deviation between the practice and policy and establish a standard for control.

## Essentials Features of Loan

According to ML Jhingan the following are the essential features of loan:

## 1. Trust and confidence

Trust is the fundamental element of loan. The lender will lend his money or goods on the trust and confidence that the borrower or buyer will pay back the money or price in time.

## 2. Time element

All loan transactions involve time element .Money is borrowed or goods are bought with a promise to repay the money or pay the price on some future date.

## 3. Transfer of goods and service

Loan involves transfer of goods and services by the seller to the buyer, where buyer promise to pay back on some future date.

## 4. Willingness and Ability

Loan depends on a person's willingness and ability to pay the borrowed money. In fact, loan of a person's depends on his character, capacity and capital. It is these three ' $\mathrm{C}_{\mathrm{s}}$ ' on which a man's loan depends. A person who is honest and fair in his dealings possesses the capacity of making his business a success. Such a person can get loan easily.

## 5. Purpose of loan

Banks and financial institutions give large amount of loan for productive purposes rather than for consumption purposes.

## 6. Security

Security in the form of property, gold, silver, bonds or shares is an important element for raising loan.

### 2.1.4 Defects of loan

Loan creation or loan function is the demand of economy. It helps in the economic prosperity as it is economical, it increases productivity of capital, it encourages investment in the economy, and it helps in the expansion of internal and external trade of a country. Thus it is important for the overall economic development of country. But sometimes excess supply of loan may be harmful. "According to ML Jhingan, loan is a dangerous tool if it is not properly controlled and managed. The following are some of the defects of loan": (Jhingan, 1997:155).

## 1. Too much and too little loan is harmful

Too much and too little loan is harmful for the economy. Excessive disbursement loan may create inflation, which causes direct and immediate damage to loaners and customers and also to the nation. On the other hand, small amount of loan also leads to deflation, which brings down the level of output, employment and income.

## 2. Growth of monopolies

Too much disbursement leads to the concentration of capital and wealth in the hands of few capitalists, which leads to growth of monopolies which exploit both consumers and workers.

## 3. Wastage of resources

When banks create excessive loan, it may be used for productive and unproductive purposes. If too much of loan is used for production, it leads to over capitalization and over production and consequently to wastage of resources. Similarly if loan is given liberally for unproductive purposes it also leads to wastage of resources.

## 4. Cyclical fluctuations

When there is an excess supply of loan, it leads to a boom. When it contracts, there is a slump. In a boom output, employment and income is increased which leads to over production. On the contrary, they decline during a depression thereby leading to under consumption. Such cyclical fluctuation brings about untold miseries to the people.

## 5. Extravagance

Easy availability of loan leads to extravagance on the part of people. People indulge in conspicuous consumption. They buy those goods which they do not need even. With borrowed money; they spend recklessly on luxury articles. The some is the case with businessmen and even governments who invert in unproductive enterprises and scheme.

## 6. Speculation and uncertainty

Over issue of loan encourages speculation which leads to abnormal rise in prices? The rise in prices, in turn, brings an element of uncertainty into trade and business. Uncertainty hides economic progress.

## 7. Black money

Excessive supply of loan encourages people to a mass money and wealth. For this they tend to adopt underhand means and exploit others. To become rich, they evade taxes, conceal income and wealth and thus hoard black money

## 8. Political instability

Over issue of loan leading to hyper inflation leads to political instability and even the downfall of government.

### 2.1.5 Investment Policy-Concept

The income and profit of the bank depends upon its investment policy, lending policy and investment of its fund in different securities. In the investment procedures and policies it is always taken in mind that "the greater the loan created by the bank, the higher will be the profitability. A sound lending and investment policy is not only the prerequisite for bank's profitability, but also crucially significant for the promotion of commercial savings of a financially backward country like Nepal.

The banks are such type of institutions, which deals in money and substitute for money. They also deal with loan and loan instruments. To collects fund and mobilize them in a good investment is not a joke for such an institutions. An investment of fund may be the question
of life and death of the bank. Thus the banker must think seriously before making an investment decision. The investment policy of a bank consists of earning high returns on its un- loaned resources. But it has to keep in view the safety and liquidity of resources so as to meet the objectives of profitability conflicts with those of safety and liquidity the wise investment policy its strike a judicious balance among them. Therefore a bank should lay down its investment policy in such a manner so as to ensure the safety and liquidity of its funds and at the same time maximum its profit.

Chery and Moses said, "The investment objective is to increase systematically the individual wealth, defined as asset minus liabilities. The higher the level of designed wealth the higher it will be received. An investor seeking higher return must be willing to face higher level of risk." (Chery \& Mosses, 1988:465).

Loan and investment command number 1 and number 2 positions and investment at times serves as substitute of loan. That is why when loan demands weakens; a bank increases securities in investment portfolio. Similarly banks start shedding securities from investment portfolio when loan demand increases to entertain loan request. This warrants careful management of investment portfolio so that net interest income/spread (excess of interest income over interest expenses) can be maximized."(Dhahal \& Dhahal, 2002:88).

Every bank manager should have awareness about the major risks associated with the securities. Because price of securities are affected by the some kind of risk like loan risk, interest rate risk and liquidity risk. These are the sources of investment risk. "The policy should specify what rated securities it wants to held in the portfolio. If unrated, whether it buys or not. Since risk is overpriced during recession and under priced during boom, banks prefer buying medium grade and high grade securities during recession and boom respectively. Normally banks buy investment rated securities only."(Dhahal \& Dhahal,2002:92)

### 2.1.6 Lending and Consideration for Sound Lending and Investment

The major source of income and profit generation to each and every banks and financial institution is its loan investment in different sectors .If loan are not distributed properly and cautiously then it may be the main cause of the failure of the company. As prescribed by Hrishikes Bhattacharya in his book "Banking strategy, loan appraisal and lending decisions, a Risk-Return Framework," the important consideration which the finance company should review and analyze in briefly illustrated below.

## 1. Principle of Sound Lending

## a. Safety

Every finance company must invest in those opportunities which is safe against losses are less risky. Collateral should be accepted which is not so depreciable and whose value hold constancy.

## b. Security

Finance company should accept that kind of security which is commercial, durable, and marketable has high market price. In those cases, "MAST" should be applied for the investment.

Where,
$\mathrm{M}=$ Marketability
A = Ascertain ability
$\mathrm{S}=$ Stability
T = Transferability

## c. Profitability

A financial institution can maximize its volume of wealth through maximization of return on their investment and lending .So, they must invest their fund where they gain Maximum profit. The profit of these companies mainly depends on the interest rate, volume of loan, its time period and nature of investment in different securities.

## d. Liquidity

People deposit money at these companies with confidence that they will be repaid their money when they need it. To maintain such confidence of the depositors, the company must keep this point in mind while investing its excess fund in different securities or at time of lending in different securities or at time of lending so that it can meet or short-term obligation when they become due for payment.

## e. Purpose of Loan

Why does a customer need a loan? This is very important question for any banker. If borrowing misuses the loan granted by these companies they can never repay and company will passes heavy bad debts. Detailed information about the scheme of the project or activities should be examined before lending.

## f. Diversification

"A financial institution should not lay all its eggs on the same basket." In order to minimize risk, diversification on its investment on different sectors should be adopted which helps to sustain loss according to the law of average because if securities of a company deprived, there may be appreciation in the securities of other companies, so the loss can be recovered.

## g. Legality

Illegal securities will bring out many problems for the investor. The financial companies must follow the rules and regulations as different directions issued by Nepal Rastra Bank and other concerning bodies while mobilizing is funds.

## h. Tangibility

Though it may be considered that tangible property doesn't yield and income apart from direct satisfaction of possession of property. Many times, intangible securities have lost their value. So, finance company should prefer tangible security to intangible one.

## i. National Interest

Even if an advance satisfies all the aforesaid principals, it may still not be suitable. The lending program may run counter to national interest. Central Bank may have issued directives prohibiting finance companies to allow particular types of advances. (Bhattacharya, 1998:156).

## 2. Major information for analyzing the potential of borrower for lending

a. Payment record and loan information from concern field
b. Income level and its source
c. Residence (local or migrates)
d. Marital status (single ,married, widowed or divorced)
e. Age factor
f. References
g. Reserves, assets and collateral

## 3. Basic of granting loan and analysis of loan risk

World is surrounded by certain risk associated with the related field of task. The risk is vital factor which can be seen in the field of lending and investing money by finance companies. It is true that "There is no return without risk." But by using certain criteria's they can minimize some portion of risk associated with it. With respect to this ,finance institution approach the loan request by analyzing five ' $\mathrm{C}_{\mathrm{s}}$ ' of loan risk as illustrated by Hrishikes Bhattacharya
a. Character of the applicant
b. Capacity of qualification and work experience
c. Capital of the proposed plan
d. Collateral for security and its safeness
e. Conditions of loan environment and loan information

Additionally some external factor also directly and indirectly affect on loan granting decision. They can be political crisis, national and international economic condition, policy and practice, cultural practice etc. (Bhattacharya, 1998:124).

## 4. Basic requirement in a borrower / lending documentation

Finance companies cannot lend money to just anyone blindfold. It should be confident regarding the trustworthiness and intentions of the probable borrower beforehand. The borrower, on the other hand, should provide finance companies with all portioning documents that the company seeks to build confidence on borrower. There are some requirements that should be fulfilled by the client to stand him as a probable borrower. The basic requirement that the borrower should submit with loan proposal are as follows:

## A. If applicant is an individual

i. Applicant should be Nepali citizen. Citizenship certificate should be submitted.
ii. Should have good knowledge about work they intend to commerce.
iii. Normally the applicant should not have taken loan from any other institutions previously.
iv. Applicant should present the job planning scheme with perfect business plan.
v. Personal information is also required.
vi. Business and income tax registration certificate with renewal.
vii. Quotation and personal guarantee with reference of well recognized personal.
viii. Certificate of ownership.
ix. Driving license if required.
x. Description of securities with full proof evidence.
xi. Other documentation as per company rules whichever required

## B. If the applicant is partnership firm

i. The firm should be registered in related department.
ii. The firm should be registered in related department.
iii. The person dealing with the borrowing of the firm should be specified in the partnership contract.
iv. Income Tax Registration certificate with renewal.
v. And other required and possible items from point A.

## C. If the applicant is private limited company or public limited company

i. Company should be registered in company register office.
ii. Working place, project place should be specified and all the assets should be in the name of company.
iii. Audited Balance sheet, profit and loss account, and other required financial documents at least of one year should be presented.
iv. If the work place or project place is leased the lease contract should be presented.
v. The authorized person should apply for the loan.
vi. Loan amount applied must be within the limit of memorandum of the company or must be decided by the board.
vii. Decision of the promoters.
viii. Personal information of the main person is required.
ix. Written personal guarantee of the proprietors is required.
x. Citizenship of promoters and proprietors is required.
xi. And other required and possible documents from A and B should be presented.

## 5. Basic feature of collateral

Collateral is the most important item for granting loan. Loan should be granteds by analyzing details related to collateral. Generally in Nepalese practice land and building; gold silver and some classified document are accepted as safe and reliable collateral ,but there are some features which must be analyzed by finance companies, they are;
a) Market availability
b) Price stability
c) Durability
d) Storing facility
e) Transportation
f) Profitability
6. Guidelines of Assessing Risk

Risk is dependent upon the quality found in each ' c ' and the combination of these five ' $\mathrm{C}_{\mathrm{s}}$ '. Assuming the same conditions prevail, the following guideline is generally suggested. (Bhattacharya, 1998:135).

Table No. 2.1
Guidelines of Assessing Risk

| Applicant characteristics | Loan risk |
| :--- | :--- |
| Character +capacity | Very low |
| Character + capacity without capital | Low to moderate |
| Character + capacity but insufficient capital | Low to moderate |
| Capacity + capital but impaired character | Moderate |
| Capacity + capital without character | High |
| Character + capital without capacity | Very high |
| Character + no capital + No capacity | Very high |
| Capital + No character + No capacity | Fraudulent |
| Capital + No character + No capital |  |

Source: Book by Hrishikes Bhattacharya, 1998

### 2.1.7 Lending procedures

According to Bhuwan Dahal and Sarita Dahal, lending procedures include loan approval and disbursement process: ${ }^{-}$(Dhahal \& Dhahal,2002:134).

## 1. Loan approval process

Loan is approved by approving authority only after being convinced that the loan will be repaid together with interest. There are many processes involved to approve the loan which has been appended below:

## a. Application

A borrower is normally required to submit an application to the bank along with required documents: project proposal, historical financial statements and documents pertaining to company's legal existence.

## b. Conducting the interview

Though the documents submitted gives various information about the borrowers and is of great importance. An interview with the borrower about his business, his background etc is taken to have more information about him. Normally, such interview takes place at the bank premise.

## c. The loan analysis

There is a practice of analyzing $5 \mathrm{c}_{\mathrm{s}}$ of loan by the financial institutions.
i. Character
ii. Capacity
iii. Condition
iv. Collateral
v. Capital

## d. Forecast and risk rating system

Based on the findings of historical analysis, and in light of present and foreseeable future environment, the analyst has to forecast impending major risks. The analyst should also highlight to what extent inherent risks will be mitigated and how unmitigated risks can be covered.

## e. Return

The amount of loan has got inherent cost as it is obtained from either shareholder or depositor or loaner. The analysis should be made to calculate total return and compare whether it meets banks standard.

## f. Liquidation

The analyst should ascertain bank's ability to recover loan in case of liquidation of the borrower. If liquidation analysis reveals insufficient security, additional security may be asked for.

## g. Loan worthiness and debt structure

If analyst finds the borrower loan worthiness and decides to extend loan, he should structure the debt facility to be extended.
2. Loan disbursement process in various lines of loan approved by the bank have been presented below:

## a. Overdraft:

Borrower can draw a cheque in current a/c up to the approved limit at any time as per the need.

## b. Demand loan:

Loan is disbursed as when demanded by the borrower by debiting demand loan a/c and by normally loaning current $\mathrm{a} / \mathrm{c}$.

## c. Short term loan:

Full limit is disbursed as per schedule normally fixed in advance by debiting long term loan $\mathrm{a} / \mathrm{c}$.

## d. Documentary negotiation:

Upon submission of the compliant documents, documents are negotiated and fund is loaned to the borrower's a/c less margin, if any.
e. Bills purchase:

Banks purchase the bills drawn on other branches/banks and loan the proceeds to the borrower's a/c less commission and margin, if any.

## f. Letter of loan:

A letter of loan is established on behalf of the customer in favor of the exporter/seller for the import of goods and service unto the approved limit since this is a contingent liability for the back, bank loan customer's account. Normally, a certain percent fund is taken from the customers and the customer's margin a/c is loaned.

## g. Guarantee:

Guarantee is issued on the behalf of customer in favor of the other party uptown the approved limit. Since this is also a contingent liability, banks loan customers guarantee a/c normally a certain percent amount is taken from the customer and the customer's margin $a / c$ is loaned.

### 2.1.8 Review of Rules, Regulation and Directives of NRB Regarding Loan Management of Commercial Banks

Various rules, regulation, acts and directives are reviewed while preparing the concept of this study. Different types of directives, which are issued for the commercial banks to manage loan in a proper way, obviously, these directives and actions towards the commercial banks by NRB are playing the great role for the comparative analysis of loan management of the commercial banks.

NRB is the leader of the money market. It is the chief of all the banks operating in the country. It supervises, regulates and controls the functions of commercial banks and other financial institutions. Various directives must have direct or indirect impact while making
decisions to discuss those rules and regulations which are formulated by NRB in terms of investment and loan to priority sector, deprived sector, other institutions, single borrower limit, CRR, loan loss provision, capital adequacy ratio, interest spread, productive sector investment etc. A commercial bank is directly related to the fact that how much fund must be collected as paid up capital while being established at a certain place of the nation, how much fund to expand the branch and counters, how much flexible and helpful the NRB rules are important. But we discuss only those, which are related to investment function of commercial banks. The main provision established by NRB in the form of prudential norms in above relevant are briefly discussed here:

### 2.1.8.1 "Regulation to Maintain Minimum Capital Fund by the Commercial Bank as per NRB Directive"

Capital adequacy ratio is the relationship between capital funds to total risk weighted assets of the bank. The higher the CAR, the less levered the bank and safer from depositor's point of view because the proportion of shareholders' stake to the risk weighted assets is also high.

Risk weight is assigned to various assets and off balance sheet items of the bank to arrive at the risk weighted assets. Banks in Nepal are required to have minimum 6\% core capital and $12 \%$ total capital fund of total risk weighted assets.

Table No.:2.2
Fund Required on the basis of WRA(\%)

| Core capital | Capital fund |
| :--- | :--- |
| 6 | 12 |

Source: NRB directives 2009/10

## Classification of Capital:

To calculate the capital fund, commercial banks should classify the capital in two parts;
a) Core capital
b) Supplementary capital

And,
Capital fund $=$ core capital + supplementary capital
Provision for pass loan made up to $1.25 \%$ of total risk weighted assets is treated as supplementary capital.

$$
\text { Capital fund ratio }=\frac{\text { core capital }+ \text { supplementary capital }}{\text { Sum of weighted risk assets }} \times 100
$$

Where, sum of weighted risk assets= Total WRA appeared in balance sheet+ Total WRA appeared outside the balance sheet

### 2.2.2 "L oan C lassification and L oan L oss Provisioning"

A bank is required to classify their loan on the basis of overdue aging schedule and provide on a quarterly basis as follows:

## a. Pass loan

All loan and advances whose principal amount is past due for period up to three months should be included in this category. These loans are classified as performing loans.

## b. Substandard

All loans and advances that are past due for a period up to six months should be included in this category. Sub standard loan is classified as non performing loan.
c. Doubtful

All loan and advances that are due for a period of six months to one year should be included in this category. Doubtful loan is also from the category of non performing loan.

## d. Loss

All loan and advances which are due for a period of more than one year should be included in this category.

## Provision for loss loan:

Loan should be classified as loss in the following cases,
a. No security or security not as per contract.
b. Borrower as been declared as bankrupt.
c. In the case of borrower not found.
d. Purchased or discounted bill are not repayable within 90 days from due date.
e. Loans amount has not been used for taken purpose.
f. Loan provided for blacklisted borrowers.

### 2.2.3 Loan Loss Provision

The loan loss provision on the basis of outstanding loans and advances and bills purchased classified as per directives, which is as follows:

Table No.:2.3

## Classification of Loans

| Classification of loans | Loan loss provision |
| :--- | :--- |
| Pass | $1 \%$ |
| Substandard | $25 \%$ |
| Doubtful | $50 \%$ |
| Loss | $100 \%$ |

Source: NRB Directives 2011/12

- Bank can reschedule and restructuring loan if nonperforming loan receiver submit the external/internal reasons. If loan is restructured and rescheduled, provision requirement for such loan is minimum $12.5 \%$.
- If priority and deprived sector loan is restructured and rescheduled, such loan will have to be provisioned at $25 \%$ of the provision percentage to loan loss.
- Provision requirement in case of loan given against personal guarantee only is additional $20 \%$ for pass, substandard and doubtful loans.
- Loss provision for performing loan is called general loan loss provision and loss provision for non performing loan is called specific loan loss provision.


### 2.2.4 "Directives Relating to Single Borrower Loan Limit"

With the objectives of lowering the risk of over concentration of bank loans to a few big borrowers and also to increase the access of small and middle size borrowers to the bank loans. NRB has directed commercial bank to set an upper limit for single borrower limit. According to the directive, commercial banks may extend loan to single borrower or group of related borrowers in such a way that the amount if fund based loan 9 overdraft, trust receipt, term loan etc) and advances up to $25 \%$ of care capital and non fund off the balance sheet facilities like letters of loan, guarantees, acceptances, commitments is up to $50 \%$ of its core capital fund ,but in case of advances and facilities to be used for the purpose of importing specified merchandize by the following public corporations, the exemption in the limit of loans and facilities is not applicable:

Table No.:2.4
Public Corporation and their Specified Merchandize

| Name of corporation | Merchandize |
| :--- | :--- |
| Nepal oil corporation | Petrol, Diesel, Kerosene and LPG gas |
| Agriculture Input corporation | Fertilizers, seeds |
| Nepal food corporation | Cereals |

Source: NRB Directives 2009/10

### 2.2.5 Directives Regarding Interest Rate Spread

The interest rate spread is the difference between the interest taken from loan and advance or investment and the interest given to the depositor. As NRB direction lending rate and deposit rate should not exceed $5 \%$. Such rates are calculated as under:

WALR= Interest income for a month/Total interest-earned asset
WADR= Interest expense for a month/Total deposit outstanding
Interest spread= WALR-WADR
Where;
WALR $=$ Weighted average lending rate
WADR=Weighted average deposit rate

### 2.2.6 Requirements to Extend Loans and Advances to Productive and Priority Sector (Including Deprived Sector)

Commercial banks are required to extend loans and advances in the productive, priority and deprived sector as follows:
of total advances,

- $40 \%$ to productive sector, including
- $12 \%$ to priority sector, including
- $0.25-3 \%$ to deprived sector


## Productive sector loan

Productive sector loan includes advances to priority sector and other productive sector. Priority sector in turn includes deprives sector.

## Priority sector loan

Priority sector is defined to include micro and small enterprises which help to increase production, employment and income as prioritized under the national development plans with an objective to uplift the living standard of low income people are progressively reducing the prevalent unemployment, poverty, economic inequality and backwardness. Micro and small enterprises are classified as agriculture enterprises, cottage and small industries and services. In addition, other businesses specified by NRB from time to time are also included under micro and small enterprises. All loan extended to priority sector up to the limit specified by NRB are termed as priority sector loan. .Commercial banks extend loan under priority sector programs specified by NRB time to time.

## Deprived sector loan

Deprived sector includes low income and particularly socially backward women, tribes, lower caste, blind, hearing impaired and physically handicapped persons and squatter family. all loan extended for the enticements of the economic and social status of deprived sector unto the limit specified by NRB is termed as "Deprived Sector Loan."

Examination of the fulfillment of priority or deprived sector lending shall be made at the end of each quarter (i.e. mid act, mid Jan, mid April and mid July ) on the basis of total outstanding loan and advances(except investments) as of immediately preceding six months. On the failure of fulfilling such lending, penalty in shortfall amount at the maximum prevailing lending rate of the bank during the examination period shall be imposed under sub section 2 of section 32 of NRB act, 2012. If the priority sector lending is fulfilled, bit the deprived sector is not, the penalty is imposed on shortfall amount and if both sector lending is not fulfilled, then the penalty is imposed on greater shortfall amount for one sector only.

### 2.2 Review of Previous Studies

### 2.2.1 Review from Reports and Articles

In an article, "Challenges of non-performing loan management in Nepal", by Uma Karki (2002) has mentioned the causes of increasing trend of non-performing loan. She identifies the major causes such as poor loan analysis, guarantee oriented loan system, depreciation of valued assets, misuse of loan, lack of regular supervision of loan.

Default risk is one kind of investment risk of non payment of loan at the fixed future date. In Nepalese context, when interest rate is increased it causes the decreases in economic activities as well as capacity of borrower. Sometimes debtors knowingly do not pay back the loan, and invest the loan in unproductive sector. Such kind of activities occurs continuously, if there is lack of sound loan policy, improper loan analysis, lack of information about loan holders and lack of regular supervision. So banks should formulate and implement sound
loan policy. Loan approval and disbursement process should be conducted in better way. Proper loan analysis and regular supervision can control the loan risk.

Another article entitled "lending operation of commercial banks of Nepal and its impact on GDP." Dr. Sunity Shrestha (2052) has found all the dependent variables (i.e. agriculture, industrial, commercial, general and social sectors) except service sector; she found correlation between GDP and lending of commercial banks in various sector of economy except through service sector investment.
"The bank gives loan to various sectors. This is necessary for long term survival of the bank. Even if any sector is doing very well, the bank does not put its total money in that sector. If the bank concentrates its lending only in one sector, failure of the sector may cause bankruptcy of the bank." (Dhahal \& Dhahal,2002:116).

Loan mix is components of established loan policy. It is a kind of strategy in loan management for banks to be success. In context of Nepal, here are different sectors in economy such as priority sector, deprived sector, productive sector, government sector etc. So, there should be diversification in investment of every commercial bank. Making investment or lending to various sectors is necessary for the long term survival of banks.

Shekhar Bahadur Pradhan in his article (2053) "Deposits mobilization its problem and prospects" has expressed that" deposit is the life blood of any financial institution i.e. commercial banks, financial companies and co-operative or non government organization." In consideration of ten commercial banks, nearly three dozens of finance companies, the latest figure produce a strong feeling that a serious review must be made on problems and prospects of deposit sector .Beside few joint venture banks, other organizations rely heavily on the business deposits receiving and loan disbursement.

In the light of this, Pradhan has pointed out following problems of deposits mobilization in Nepalese perspective.

1. Due to lack of education, most of Nepalese people do not go for saving in institutional manner, however they are very much se saving as from cash and ornament. Their reluctance to deal with institutions system are governed by their lower level of understanding about financial organization, process requirement, office hour withdrawals system, availability of depositing facilities and so on.
2. Due to the lesser office hour of banking system people prefer for holding the cash in the personal possession.
3. Unavailability of the institutional services in the rural area.
4. No more mobilization and improvement of the employment of deposits in the loan sectors.

Pradhan has not only pointed out the problems but also suggested for the prosperity of deposit mobilization. They are given as:

1. By adding service hours system will definitely be sand appropriate step.
2. If deposit mobilizations materialize by providing sufficient institutions service in rural area, the generated fund can be used somewhere else by the bank which can be taken as major achievement. NRB could be endorsing this deposit collection by continuing to subsidize overhead cost for little longer period .A full scale of field office system could be taken back and made manpower strength deputed to cut down overhead cost.
3. NRB also organize training program to develop skilled manpower.
4. By spreading co-operative to the rural areas, mini banking services are to be launched.
5. Last Pradhan mentioned, deposit mobilization carried out effectively is in the interest of depositors, society, financial sector and the nation. Lower level of deposit rising allows squeezed level of loan delivery leaving more room to informal sectors. That is why higher priority to deposit mobilization has all the relevance..

In an article, "Why does Ioan become defaulter" ? by Mahesh Bhattarai (1998) is trying to indicate the problems of bank bad debt and non performing assets. According to him, "If a bank cannot recover its loan lending, banks cash flow will be badly affected". Similarly it can affect the close relationship between depositors.
"Why does loan become defaulter"? This study finds out the causes that makes loan default. "When the due date is over the loans become default. But why do the due dates be over?

Generally increase in interest rates; decreases in economic activities cause decrease in the capacity of debtor and sometimes the debtor knowingly do not pay back the loan. Other than these reasons in the context of Nepal lack of loan policy, lack of information about the loan holder (three c's: capacity, character, and capital), unhealthy competition and small market area, causes loan defaults. Default loan increases the resources mobilization cost and reduces the profit earning capacity of a bank. Therefore increases in default loans are the indicator of problematic situations to the bank. (Neupane, 2000:142).

### 2.2.2 Review of Previous Thesis

Giri (2006) in this study, "An Analysis of Financial Performance of Finance Companies in Context of Nepal" had made the major findings as below:

1. Uses of funds towards hire purchase loan are gradually decreasing. The highest amount used towards the hire purchase financing is by National Finance Company with amount of Rs. 1027.6 lakhs and lowest is amount Rs. 5.2 lakhs by Merchant Finance Company.
2. The use of fund towards housing is gradually decreasing with different rates $28 \%$, $27.34 \%, 27 \%$ and $26.95 \%$ for the period of mid March 1996, July 1996, February 1997 and March 1997. The highest amount was used towards housig loans by National Finance Company with amount of Rs. 808.9 lakhs whereas the lowest amount is used by Nepal Finance and Saving Company with amount of Rs. 3 lakhs.
3. The use of funds towards the term loan is gradually increasing which can be shown in different period of figure. The term loan is increasing wit different rate as $34 \%, 39 \%$, $42 \%$ and $40.78 \%$ for the different four periods of mid March 1996, July 1996, February 1997 and March 1997. The highest amount used towards term loan was by National Finance Company with amount of Rs. 1345.4 lakhs while the lowest uses of fund was of HISEF.
4. The fund used by fiancé companies is gradually increasing towards leasing with the increasing rate. The different period of figure is $3.45 \%$. $2.94 \%, 5.3 \%$ and $5.5 \%$ for the period of mid March 1996, July 1996, February 1997 and March 1997.
5. There are special items for mobilization of funds on different areas under the headings "others". These figures are also increasing with increasing rate with figures $1.55 \%$, $1.72 \% .3 .7 \%$ and $4.45 \%$ on the different period of study as stated above.
6. There are increasing uses of funds towards government securities. Specific figures towards the securities for different four periods with amount of Rs. 8014 lakhs, Rs. 975.5 lakhs, Rs. 1856.5 lakhs and Rs. 2144 lakhs for the respective periods. UNION has used the highest amount of their fund worth Rs. 382 lakhs whereas the lowest use of fund worth Rs. 7 lakhs by Samjhana Finance Company.

Sapkota, (2007) in his study, "Loan Disbursement and Repayment of NIDC", give much more emphasis on the loan repayment situation of NIDC. His main findings and recommendations are:

1. To improve the unfavorable situation of repayment in agro based, hotel and tourism based industries, attempt should be made first in these industries since that are the major problem area of non and delayed repayment.
2. Detail studies have to be made about technical, commercial and economic feasibility of the industry prior to finance.
3. Efforts should be made in minimizing and avoiding the loan sanction and loan disbursement on the political pressure and pressure of some preferred groups so as to ensure the breading of a truly genuine and sound project.
4. Necessary steps should be taken to get the timely financial and accounting records from the clients to satisfy with good financial position of the industry.
5. A proportionate fine to be charged on delayed repayment would initiate clients to repay the loan quickly rather than in the case of fixed rate.
6. The assessment and evaluation of project implementation and follow up division of NIDC also need to be made to activate it in making timely and proper follow up activities.
7. NIDC should act as a true development bank not simply lending institution.

Shakya, (2008) Conducted a study "Lending Practices and Procurers of Nepal Bangladesh Bank Limited" has outlined his major findings as follows.

Not concentrating only in big cities and large groups he has suggested NB Bank to expand branches in rural areas. Banks should invest in productive sector, develop the concept of micro financing and group financing Make should maintain the balance in its loan portfolio and current requirement of the customers. Banks should give preferences to the short term lending. Banks should provide the consortium loan for those for those projects under government guarantee and security thereby uplifting the economic condition of the country.

Joshi, (2009), entitled with "A Study on Loan Practices of Joint Venture Commercial Banks with reference to Nepal SBI Bank Ltd. and Nepal Bangladesh Bank Ltd."

The basic objectives of this thesis are:

- To determine impact of deposit in liquidity and its effect on lending practices.
- To know the volume of contribution made by both bank in lending.
- To examine lending efficiency and its contribution in profit.
- To analyze trend of deposit utilization towards loan and advances and net profit and their projection for next five years.

The major findings of this study are:

1. In terms of liquidity ratio, current ratio of NSBL is higher than that of NBBL. The ratio of liquid fund to current liability of NSBL is higher than NBBL. This shows that NBBL has less consistency than NSBL. The ratio of cash and bank balance to deposit of NSBL is higher than that of NBBL. Cash and bank balance to interestsensitive deposit measures the liquidity risk arising from fluctuation of interest rate in the market. The ratio of cash and bank balance to interest sensitive deposit of NSBL is higher than NSBL. NSBL has poor position due to high volume of interest sensitive liability in deposit mix.
2. The ratio of loans and advances to total assets of NBBL is higher than NSBL. Likewise mean ratio of loans and advances to total deposit of NBBL is higher than NSBL. The mean ratio of investment to loans and advances and investment of NSBL is higher than that of NBBL. Likewise the ratio of total investment to total deposit of NSBL is higher than that of NBBL.
3. The ratio of loan to government enterprises to total loan of NBBL is higher than that of NSBL. The mean ratio of loan tot bills paid and discount to total loan ratio o NBBL is higher than that of NSBL. NSBL has contributed $95.91 \%$ in private sector loan, $2.51 \%$ in government sector loan and $1.56 \%$ in bills paid and discounts. Likewise NBBL has contributed $90.83 \%$ in private sector loan, $4.29 \%$ in government sector loan and $4.84 \%$ in bills paid and discounts.
4. Among the various measurement of profitability ratio return on equity (ROE) and earnings per share (EPS) reflects the relative measure of profitability. The performance of NBBL is better than NSBL. Return 0on equity and earnings per share of NBBL are higher than that of NSBL in all years.
5. Co-efficient of correlation between deposit and loans \& advances of both banks have positive value. Also co-efficient of correlation between total income and loans \& advances of both bank have positive relation. Coefficient of correlation between net profit and loans \& advances of NSBL is negative as other variables like increase in interest suspense and loan loss provision affects net profit. Coefficient of correlation between net profit and loans \& advances of NBBL is positive.
6. Trend analysis of total deposit of NSBL and NBBL are found in increasing trend. The increment ratio on deposit of NSBL is lower in comparison to NBBL.

Shrestha, (2010) has conducted a study on "Lending Policy of Commercial Banks in Nepal" having following objectives:

- To analyze the role of commercial banks in its historical perspective
- To show the relationship between deposits and loan and advances
- To identify major weakness of lending policy of the commercial banks

The research was conducted mainly on the basis of secondary data. Findings of this research are summarized below:

- Effectiveness of lending policy is directly based upon a sound banking system. But due to geographical variation, transportation and other regional disparities, it is very difficult to expand branches in different rural areas. So, it can be said that commercial banks in Nepal are not playing an active role to utilize their sources collected from different sectors.
- By paying higher interest rate, the banks are increasing deposits, which in turn increase saving habits of the general people. Then the banks will be able to utilize these idle funds in productive channels. This type of business of commercial bank is really a necessary one in an agricultural country like Nepal, where public investment has limited capacity.

Thapa, (2011), entitled with "A study on the loan risk management of Nepalese Commercial Banks" aims following objective taking Nepal Investment Bank and Machhapuchre Bank.

- To examine the loan risk position of the selected commercial banks in Nepal
- To analyze the loan risk management system and practices of NCC and MBL
- To evaluate the organizational structure of NCC and MBL to manage the loan risk.

From the analyses of loan risks, following major findings have been obtained:

1. From the analysis of primary data, it is found that the majority of the respondents of both banks have favored with the bank's single sector, which is up to $10 \%$ of total loan. However, the sector wise lending analysis portrays that NCC and MBL have extended up to $19.88 \%$ and $30.12 \%$ of loan in a single sector respectively in FY 2010/11. Similarly, the exposure on the single sector of NCC and MBL exceeds $10 \%$ of total loan in 3 and 5 sectors respectively. The single sector loan to core capital shows that the ratio crossed $100 \%$ in 2 sectors of both NCC and MBL. In regard to concentration risk, NCC has more risk in manufacturing and others sector where as MBL has more risk on manufacturing and Whole seller and sectors as the single sector loan to core capital ratio in these sectors is more than $100 \%$. MBL has very high loan concentration on manufacturing sector of $199.35 \%$ of the core capital. From the personal interview of the key respondents it was found that both banks have been extending loan in those highly concentrated sectors after getting approval from the board of director. This clarifies that concentration risk is the main source of loan risk for NCC and MBL.
2. Similarly, lack of systematic and thorough loan processing is also the major source of loan risk in these banks. The problems in loan processing include lack of thorough loan assessment, absence of testing and validation of new lending techniques, subjective decision-making by senior management, lack of effective loan review process, failure to monitor borrowers or collateral values, and failure of banks to take sufficient account of business cycle effects etc. Likewise the market-sensitive and Liquiditysensitive exposures also increase the loan risk of these banks. Similarly, it is found that both banks have their own rating system of the loan client and the sectors. Both banks have ranked $1^{\text {st }}$ to the manufacturing sector where as the Agriculture sector has been ranked the last on the basis of priority. NCC has chosen others sector and real estate business in $2^{\text {nd }}$ and $3^{\text {rd }}$ position respectively, where as the MBL has just opposite preference in these sectors.
3. Likewise, NCC has ranked Character, Collateral and Capacity of borrower first, second and third criterion for granting loan where as MBL ranked Character, Capacity and Capital first, second and third priority respectively. The hypothesis test on the preference of the bank's staff also proves that there is no significant difference between observed and expected frequency of ranking.
4. Lending analysis against various collaterals: it has been found that both the banks have lent highest amount of loan against the movable/ immovable property. The average lending over 5 years period of NCC and MBL against movable/ immovable property is Rs. 2,987 million and 2,673 million respectively. Similarly, the lending against others securities (i.e. other than prescribed by NRB) is second position for both banks, whereas the lending against guarantee of local banks and finance companies is in third position. However, MBL has also granted loan without any collateral. The average amount of loan without collateral is Rs. 3 million annually, which is in the $6^{\text {th }}$ place on ranking. On the contrary, NCC has not granted any loan without backing any collateral.

### 2.3 Research Gap

The purpose of the research work is quite different from the studies made by the above persons. The author focuses this study in effectiveness on loan management of NCC \& NIBL in comprehensive manner considering the major items. The method of analysis is fully different. Financial tools and statistical tools are used in this study as ratio analysis, and correlation.

This study is a little bit different than previous studies. It may be the first research study in the field of loan management taking the comparative study of NCC \& NIBL This study has tried to indicate the effectiveness of fund collection and mobilization of concerned banks.

## CHAPTER-III

## RESEARCH METHODOLOGY

Research methodology is systematic way to solve the research problem. In other words, research methodology describes the methods and process applied in the entire aspect of the study. Research methodology refers to the various sequential steps (along with a rational of each step) to be adopted by a researcher in studying a problem with certain objectives in view (Kothari, 1994:9). Thus the overall approach to the research is presented in this chapter. This chapter consists of research design, sample size and selection process. Data collection procedure and data processing techniques and tools.

Research methodology is the main body of the study; it is the way to solve about research problem systematically. Therefore, research methodology is the research method on techniques to use through the entire study. In other words, research methodology is the process of arriving at the solution of problem through planned and systematic dealing with collection, analysis and interpretation of the fact and figures.

### 3.1 Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The research design is the conceptual structure within research is conducted. In this study first of all data are collected and presented in abutted in diagram and various financial and satirical tools will be used to analysis the data. The analysis data will be interpreted for the conclusions.

### 3.2 Population and Sample of Survey Design

The term "population" of universe for research means the universe of research study in which the research is based" (Pant, 2000:75). At present there are 32 commercial banks operating in Nepal and most of their stocks are traded actively in the stock market. All 32 commercial banks are the population of this study. Among them Nepal Investment Bank Ltd and Nepal Credit and Commerce Bank Ltd has chosen as sample for the present study on the basis of good financial performance.

### 3.3 Nature and Sources of Data

The data used in this study are secondary in nature. Published annual reports of the concerned banks are taken as basic source of data. The data relating to financial performance are directly obtained from the concerned banks. Similarly, related books, magazines, journals, articles, reports, bulletins, data from Nepal Stock Exchange and Nepal Rastra Bank, Central Bureau of statistics, related website from internet etc. as well as other supplementary data and various economic surveys are also used. Previous related studies to the subject are also counted as source of information.

Likewise, financial statements of five years (beginning 2007/08 to 2011/12) are selected as samples for the purpose of it.

### 3.4 Data Collection and Processing Techniques

The annual reports of respective finance companies were collected from their respective offices and also by post on request. NRB reports were collected from Research department of NRB. The numerical data collected from different sources were used in whole numbers for the convenience of the study. The internet also proved to be a very good source of data. Various sites were used for the collection of data. The sites used are listed in the bibliography.

### 3.5 Tools and Techniques Employed

As mentioned earlier, this study is confined to the single analysis of loan risk management of the finance company. To reach the objectives, the collected data are computed and analyzed using financial and statistical tools.

### 3.5.1 Financial Tools

The measuring instrument, which can be used in financial analysis, is known as financial tools. It helps to calculate the relationship between two financial variables on ratio and percentage basis.

### 3.5.1.1 Ratio Analysis

Ratio analysis is a technique of analysis and interpretation of financial statement. To evaluate the performances of an organization by creating the ratios from the figure of different accounts consisting in balance sheet and income statement is known as ratio analysis. Five types of ratios have been analyzed in this study, which are related to fund mobilization of the banks. They are presented below:

## a) Liquidity Ratio

Liquidity ratio measures the ability of the firm to meet its current obligations. A commercial bank must maintain its satisfactory liquidity position to meet the loan need of the community. Liquidity provides honor strength health and prosperity to an organization. It is extremely essential for an organization to meet its obligations as they become due. A firm should ensure that it has not lack of liquidity and also that it is not too much highly liquid.
i) Cash and Bank Balance to Total Deposits Ratio: - Cash and bank balance is said to be first line defense of every bank. The ratio between the cash and bank balance and total deposit measures the ability of a bank to meet the unanticipated call on all types of deposit. Higher the ratio greater will be the ability to meet the sudden demand of deposit. But every ratio is not desirable since bank has to pay interest on deposit. This also maximizes the cost of fund to the bank.

Cash and Bank Balance to Total Deposits Ratio $=\frac{\text { Cashand Bank Balance }}{\text { Total Deposits }}$
Where,
Cash and bank balance is composed up of cash on hand including foreign cheques and other cash item; balance with domestic banks and aboard. Deposits include current, saving, fixed money at short call notice and other types of deposits.
ii) Cash and Bank Balance to Current Assets Ratio: - This ratio shows the bank's liquidity capacity on the basis of cash and bank balance that is the most liquid assets. High the ratio indicates the bank's ability to meet the daily cash requirements of their customer deposits and vice versa. But the high ratio is not preferred as the bank has to pay more interest on deposit and will increase the cost of fund. Low ratio is also very dangerous, as the bank may not be able to make the payment against the cheques presented by the customers. We have,

Cash and Bank Balance to Current Assets Ratio $=\frac{\text { Cashand Bank Balance }}{\text { Current Assets }}$
iii) Investment on Government Securities to Current Assets Ratio: - This ratio is used to find out the percentage of current assets invested on government securities, treasury bills and development bonds. We can find out as:

$$
\text { Inv.on Gvt. } \sec \text { urities to Current Asset Ratio }=\frac{\text { Investmenton Govt.Securities }}{\text { Current Assets }}
$$

Where,
Investment on Government Securities involves treasury bills and development bonds etc.

## b) Assets Management Ratio:

"A set of ratio which measure how efficiently a firm is managing its assets and whether or not the level of those assets is properly related to the level of operation. In this study this ratio is used to indicate how effectively the selected banks have arranged and invest their limited resources. The assets management ratios measure how effectively the firm is managing its assets. These ratios are designed to answer this question; does the total amount of each type of assets as reported on the balance sheet seem reasonable or not? If a firm has excessive investments in assets, then its capital cost will be unduly high and its stock price will be suffer" (Brigham, 1989:132).
i) Loan and Advances to Total Deposits Ratio: - This ratio is calculated to find out how successfully the selected banks are utilizing their collections or deposits on loan and advances for the purpose of earning profit. We have,

Loan and Advances to Total Deposits Ratio $=\frac{\text { Loan and Advances }}{\text { Total Deposits }}$
ii) Total Investment to Total Deposits Ratio: - Investment is one of the major sources of earning profit. It shows how properly firm's deposit has been invested on government securities and shares and debentures of other companies.

Total Investment to Total Deposits Ratio $=\frac{\text { Total Investment }}{\text { Total Deposits }}$
iii) Loan and Advances to Total Working Fund Ratio: - This ratio shows the ability of selected banks in terms of earning high profit from loan and advances. Loan and advances to working fund ratio can be calculated by dividing loan and advances amount by total working fund.

Loan and Advances to Total Working Fund Ratio $=\frac{\text { Loan and Advance }}{\text { Total Working Fund }}$
iv) Investment on Government Securities to Total Working Fund Ratio: - Investment on government securities to working fund ratio shows how much part of total investment is there on government securities in percentage, it is calculated for this purpose by following formula:

Investment on Govt. Securities to TWF Ratio $=\frac{\text { Investmenton Govt.Securities }}{\text { TotalWorking Fund }}$
v) Investment on Shares and Debentures to Total working Fund Ratio: Investment on shares and debentures to total working fund ratio shows the investment of banks on the shares and debentures of other companies in terms of total working fund. This ratio can be obtained dividing on shares and debentures by total working fund. It is calculated as:

Investment on Shares and debn. to TWF Ratio $=\frac{\text { Investmenton Shareand Debenture }}{\text { Total Working Fund }}$
c. Profitability Ratio: - This ratio is related to profit of the banks is essential for the survival of the bank, so it is regarded as the engine that drives the banks and indicates economics progress. It calculated to measure the overall efficiency of the banks.
i) Return on Loan and Advances Ratio: - Return on loan and advances ratio shows how efficiently the banks have utilized their resources to earn good return from provided loan and advances. This ratio is computed as,

Return on Loan and Advances Ratio $=\frac{\text { Net } \operatorname{Pr} \text { ofit } / \text { Loss }}{\text { Loan and Advances }}$
ii) Return on Total Working Fund Ratio: - Return on total working fund ratio measures the profit earning capacity by utilizing available resources i.e. total assets. Return will be higher if the bank's working fund is well managed and efficiently utilized. Maximizing taxes, this in the legal options available will also improve the return. We have,

Return on Total Working Fund Ratio $=\frac{\text { Net } \operatorname{Pr} \text { ofit }}{\text { Total Working Fund }}$
iii) Total Interest Earned to Total Working Fund Ratio: - This ratio reflects the extent to which the banks are successful in mobilizing these total assets to acquire income as interest. This ratio actually reveals the earning capacity of commercial banks by mobilizing its working fund. Higher the ratio higher will be the income as interest. We have,

Total Interest Earned to TWF Ratio $=\frac{\text { Total Interest Earned }}{\text { Total Working Fund }}$
iv) Total Interest paid to Total working Fund Ratio: - This ratio measures the percentage of total interest expenses on total working fund and vice-versa. This ratio is calculated as,

Total Interest paid to Total Working Fund Ratio $=\frac{\text { Total Interest Paid }}{\text { Total Working Fund }}$
d) Risk Ratios: - Commonly, risk means chance or possibility of loss, uncertainty which lies in the business transaction of investment management. When a firm wants to bear risk and uncertainty, profitability and effectiveness of the firm is increased. This ratio checks the degree of risk involved in the various financial operations. For this study following risk ratios are used to analyze and interprets the financial data and investment policy.
i) Liquidity Risk Ratio: - The liquidity risk of the bank defines its liquidity need for deposit. The cash and bank balance are the most liquid assets and they are considered as banks liquidity sources and deposit as the liquidity needs. The ratio of cash and bank balance to total deposit is an indicator of bank's liquidity of need. This ratio is low if funds are kept idle as cash balance but this reduces profitability, when the banks makes loan, its profitability increase and also the risk. Thus, higher liquidity ratio indicates less profitable return and vice-versa. This ratio is calculated as below:

Liquidity Risk Ratio $=\frac{\text { Cash and Bank Balance }}{\text { Total Deposit }}$
ii) Loan Risk Ratio: - Bank utilizes its collected funds in providing loan to different sectors. There is risk of default or non-repayment of loan. While making investment, bank examines the loan risk involved in the project. Generally loan risk ratio shows proportion of non-performing assets in the total investment plus loan and advances of a bank it is computed as:

Loan Risk Ratio $=\frac{\text { Total Investment }+ \text { Loan and Advances }}{\text { Total Assets }}$
e. Growth Ratio: - The growth ratio represents how well the commercial banks are maintaining their economics and financial position. Higher the ratio batter performance of the bank and vice-versa. Under this topic four types of growth ratio are studied, that are directly related to the fund mobilization of commercial banks. The following ratios are calculated by using the formula of growth rate:
i. Growth ratio of total deposits
ii. Growth ratio of total investment
iii. Growth ratio of loans and advances
iv. Growth ratio of net profit

### 3.5.2 Statistical Tools

Under this heading some statistical tool such as coefficient of correlation analysis between different variables, trend analysis of deposit, loan and advances, net profit and EPS are used to achieve the objective of the study.

## a) K arl Pearson's C oefficient of C orrelation(r)

Correlation analysis is a statistical tool use to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the degree of relationship between two sets of figures. In this study simple coefficient of correlation is used to determine the relationship of different variables. The data related to different periods are tabulated and their relationship with each other is drawn out. The value of correlation can range from -1 to +1 . This tool is used for measuring the intensity or magnitude of linear relationship between two series. It measures correlation coefficient between two variables X and Y is usually denoted by " r " and can be obtained as:
$r=\frac{\mathrm{H} \sum X Y-\sum X \sum Y}{\sqrt{\sum X^{2}-\left(\sum X\right)^{2}} \sqrt{\sum Y^{2}-\left(\sum Y\right)^{2}}}$
Where,
$\mathrm{n}=$ number of observation in series X and Y
$\Sigma \mathrm{X}=$ sum of observation in series X
$\sum \mathrm{Y}=$ sum of observation is series Y
$\Sigma \mathrm{X}^{2}=$ sum of square observation in series X
$\Sigma Y^{2}=$ sum of observation in series $Y$
$\Sigma \mathrm{XY}=$ sum of the product of observations in series X and Y

$$
\text { Value of ' } r \text { ' lies between }-1 \text { to }+1
$$

$\mathrm{r}=+1$, implies that there is a perfect positive correlation between the variables.
$\mathrm{r}=-1$, implies that there is a perfect negative correlation between the variables.
$\mathrm{r}=\mathrm{o}$, means that the variables are uncorrelated.

## b) Probable Error of Correlation Coefficient (PE)

Probable error of correlation coefficient tests the reliability of an observed value of correlation coefficient. It shows the extent to which correlation coefficient is dependable as it depends upon the condition of random sampling.

Probable error of correlation coefficient is denoted by PE and obtained as:
$\mathrm{PE}=0.6745 \times \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{n}}}$
The probable error is used to test whether the calculated value of sample correlation coefficient is significant or not.

A few rules for the interpretation of the significance of correlation coefficient are as follows:
i. If $r<P E$, then the value of $r$ is not significant i.e. insignificant.
ii. If $r>6$ PE, then $r$ is definitely significant.
iii. In other situations, nothing can be calculated with certainty.

## c. Coefficient of Determination $\left(\mathbf{R}^{2}\right)$ :

The coefficient of determination is a measure of the degree of linear association or correlation between two variables one of which happens to be independent and other being dependent variable. In other words coefficient of determination measures the percentage total variable independent variables explained by independent variables. Zero to one is the ranging measurement of this coefficient of multiple determinations. If $\mathrm{R}^{2}$ is equal to 0.75 , which indicates that total variation in the dependent variable. If the regression line is a perfect estimator $R^{2}$ will be equal to +1 , when there is no correlation the value of $R^{2}$ is zero.

## d. Least Square Linear Trend

Trend analysis is a very useful and commonly applied tool to forecast the future event in quantitative term on the basis of the tendencies in the dependent variable in the past period. Straight line trend implies that irrespective of the seasonal, cyclic and irregular fluctuation the trend value increases or decreases by absolute amount per unit of time. The linear trend values form a series in arithmetic progression.

Mathematically
$Y=a+b x$
Where, $\mathrm{Y}=$ value of dependent variable
$\mathrm{a}=\mathrm{y}$ intercept
$\mathrm{b}=$ slope of trend line
$x=$ value of independent variable i.e. time
Normal equation fitting above are
$\sum \mathrm{Y}=\mathrm{Na}+\mathrm{b} \sum \mathrm{X}$
$\Sigma \mathrm{XY}=\mathrm{a} \Sigma \mathrm{X}+\mathrm{b} \Sigma \mathrm{X}^{2}$
Since $\sum \mathrm{X}=0$
$a=\sum \mathrm{Y} / \mathrm{N}$
$\mathrm{b}=\sum \mathrm{XY} / \sum \mathrm{X}^{2}$

## CHAPTER - IV

## DATA PRESENTATION AND ANALYSIS

Data presentation \& analysis is the one of the important part of the research work. The basic objective of this chapter is to analyze and elucidate the collected data following the conversion of unprocessed data to an understandable presentation. Thus, this chapter presents the analysis and interpretation of the data related to NIBL and NCC.

### 4.1 Financial Analysis

### 4.1.1 Ratio Analysis

Ratio is the relationship between two figures. They provide two important facts about the management: the return on investment and the soundness of the company's financial position. A single ratio will not depict a true picture of the unit. Hence a combination of ratios must be analyzed to drive a true picture. Ratio analysis has been already discussed in previous chapter. Here, different ratios of NIBL and NCC will be calculated, analyzed and interpreted.

### 4.1.1.1 Liquidity Ratio:

Liquidity refers to the ability of a firm to meet its short- term or current obligations. So liquidity ratios are used to measure the ability of a firm to meet its short-term obligations. Inadequate liquidity can lead to unexpected cash short falls that must be covered at excessive costs reducing profitability. In the worst case, inadequate liquidity can lead to the liquidity insolvency of the institution. To find -out the ability of the bank to meet their short-term obligations, which are likely to mature in the short period, the following ratios are developed under the liquidity ratios to identify the liquidity position.

## (a) Cash and Bank Balance to Total Deposits Ratio

This ratio measures the bank's ability of withdrawal of fund immediately by their depositors. A higher ratio represents a greater ability to cover their deposits and vice-versa. The large ratio shows the idle cash and bank balance in banks while small ratio shows the utilization of deposit from banking perspective.

Table: 4.1
Cash and Bank Balance to Total Deposits Ratio

| Year | Ratio (\%) |  |  |
| :--- | :--- | :--- | :---: |
|  | NIBL |  |  |
| 2007/08 | 6.81 | NCC |  |
| $2008 / 09$ | 13.04 | 5.51 |  |
| $2009 / 10$ | 13.71 | 3.97 |  |
| $2010 / 11$ | 15.87 | 4.39 |  |
| $2011 / 12$ | 17.31 | 6.20 |  |
| Mean | 13.35 | 5.07 |  |
| (Source: Appendix-1) |  |  |  |

Figure: 4.1


From the analysis of Table No 4.10, cash and bank balance to total deposits ratio of the NIBL is in increasing trend whereas ratio of NCC is in decreasing trend in 2009/10 and in other year these are in increasing trend. The higher ratio of NIBL and NCC are $17.31 \%$ and $6.20 \%$ respectively in the same year i.e. 2011/12. The average ratio of NIBL is greater than that of NCC (i.e. $13.35 \%>5.07 \%$ ). It signifies that NIBL has sound liquid fund to make immediate payment to the depositors but NIBL has excess liquidity rather than that of NCC because of poor investment opportunities.
(b) Cash and Bank Balance to Current Assets Ratio

This ratio reflects the proportion of cash and bank balance out of total current assets.
Table: 4.2
Cash and Bank Balance to Current Assets Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 42.01 | 52.56 |
| $2008 / 09$ | 59.18 | 42.80 |
| $2009 / 10$ | 84.14 | 28.74 |


| $2010 / 11$ | 92.44 | 57.48 |
| :--- | :--- | :--- |
| $2011 / 12$ | 82.17 | 94.09 |
| Mean | 71.99 | 55.14 |

(Source: Appendix -2)

Figure No. 4.2


Above table and figure No 4.2, shows that the cash and bank balance to current assets ratio of NIBL is in increasing trend except in 2011/12 and ratio of NCC is in fluctuating trend. The highest ratio of NIBL is $92.44 \%$ in year 2010/11 and lowest ratio $42.01 \%$ in year 2007/08. The mean ratio is $71.99 \%$. Similarly, the highest ratio of NCC is $94.09 \%$ in $2011 / 12$ and lowest ratio is $28.74 \%$ in $2009 / 10$. The mean ratio of NCC is $55.14 \%$. While observing the data, we notice that NIBL has higher mean ratio, it means NIBL has slightly sound liquid assets than that of NCC.

## (c) Investment on Government Securities to Current Assets Ratio

Government Securities can be easily sold in the market or they can be converted into cash. The main purpose of this ratio is to examine that portion of commercial banks current assets that has been invested into different government securities. This ratio is calculated by dividing investment on government securities by current assets

Table: 4.3

## Investment on Government Securities to Current Assets Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 4.50 | 61.98 |
| $2008 / 09$ | 3.23 | 42.26 |
| $2009 / 10$ | 0 | 33.50 |
| $2010 / 11$ | 0 | 22.37 |
| $2011 / 12$ | 0 | 23.38 |
| Mean | 1.55 | 36.70 |

(Source: Appendix-3)
Figure: 4.3


Table and figure No 4.3 shows that the investment on government treasury bills to current assets of NIBL is in decreasing trend in $2^{\text {nd }}$ year and in all subsequent year these are zero
whereas these ratio are in decreasing trend in all year except 2011/12 of NCC. The highest ratio of NIBL is $4.5 \%$ and NCC is $61.98 \%$ in 2007/08. And the lowest ratio of NIBL and NCC are $0 \%$ and $22.37 \%$ in 2010/11 respectively.

From the table we notice that mean ratio of NIBL and NCC are $1.55 \%$ and $36.70 \%$ respectively. NCC has higher ratio in every year and mean also. It means NCC has invested more money in risk free assets than that of NIBL. In another word, NIBL has emphases on more loans and advances and other short term investment than investment in government securities.

### 4.1.1.2 Profitability Ratios

## (a) Return on Loan and Advances Ratio

Return on loan and advances ratio measures the earning capacity of a commercial bank on its deposit mobilized on loan and advances higher the ratio greater will be the return and vice versa.

Table: 4.4
Return on Loan and Advances Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 2.73 | 1.93 |
| $2008 / 09$ | 0.35 | 1.26 |
| $2009 / 10$ | 2.38 | 2.15 |
| $2010 / 11$ | 3.78 | 1.28 |
| $2011 / 12$ | 2.56 | 2.92 |
| Mean | 2.36 | 1.91 |

(Source: Appendix-9)

## Figure: 4.4



Above table and figure No 4.4 shows that return on loan and advances ratio of NIBL and NCC are in fluctuating trend. The highest ratio of NIBL is $3.78 \%$ in the year 2010/11 and lowest ratio $0.35 \%$ in year 2008/09. The mean ratio is $2.36 \%$. This shows the normal earning capacity of NIBL in loan and advances. Whereas highest ratio of NCC is $2.92 \%$ in year 2011/12 and lowest ratio is $1.26 \%$ in 2008/09. The mean ratio is $1.91 \%$ of NCC.

From the table we notice that NIBL has higher mean ratio. So it seems successful by generating higher ratio. It can be concluded that NIBL has better utilized the loan and advance for the profit generation in comparison with NCC.

## (b) Return on Total Working Fund Ratio

Return on total working fund ratio measures the earning capacity of a commercial bank on its deposit mobilized on total working fund, higher the ratio greater will be the return and vice versa.

Table: 4.5
Return on Total Working Fund Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 2.08 | 1.32 |
| $2008 / 09$ | 0.24 | 0.90 |
| $2009 / 10$ | 1.74 | 1.69 |
| $2010 / 11$ | 2.32 | 1.03 |
| $2011 / 12$ | 1.69 | 2.36 |
| Mean | 1.61 | 1.46 |

(Source: Appendix-10)
Figure: 4.5


From the table No 4.5, we notice that ROA of both companies are in fluctuating trend however NIBL seems successful in managing and utilizing the available assets in order to generate revenue since its ROA ratio is higher than that of NCC(i.e. $1.61 \%>1.46 \%$ ) of total assets in an average.

## (c) Total Interest Earned to Total Working Fund Ratio

This ratio actually reveals the earning capacity of commercial banks by mobilizing its working fund. Higher the ratio higher will be the income as interest.

Table: 4.6
Total Interest Earned to Total Working Fund Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 12.38 | 11.98 |
| $2008 / 09$ | 11.14 | 10.04 |
| $2009 / 10$ | 13.00 | 9.66 |
| $2010 / 11$ | 11.04 | 10.41 |
| $2011 / 12$ | 12.15 | 10.24 |
| Mean | 11.94 | 10.46 |

(Source: Appendix -11)

Figure:4.6


Above table and figure No 4.6 shows that both banks have fluctuating trend of ratio. However, NIBL seems more conscious about managing its assets in order to earn more interest ratio because it has higher ratio in each year and average ratio is also higher. NIBL has $11.94 \%$ average ratio whereas NCC shows $10.46 \%$ average ratio. The mean ratio of NIBL is more than that of NCC. In comparison, NIBL seems effective in earning interest to some extent although it has lower earning of interest income but it must break the decreasing trend in coming year.

## (d) Total Interest paid to Total Working Fund Ratio

This ratio actually reveals the paying capacity of commercial banks by mobilizing its working fund. Higher the ratio higher will be the paying capacity of interest.

Table: 4.7
Total Interest Paid to Total Working Fund Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 7.10 | 7.32 |
| $2008 / 09$ | 6.49 | 6.21 |


| $2009 / 10$ | 6.73 | 5.74 |
| :--- | :--- | :--- |
| $2010 / 11$ | 6.03 | 5.60 |
| $2011 / 12$ | 6.81 | 5.85 |
| Mean | 6.63 | 6.14 |

(Source: Appendix -12)

## Figure: 4.7



Above table and figure No 4.7 shows that NIBL has fluctuating trend of ratio whereas NCC has decreasing trend of ratio except in 2011/12. Due to the higher ratio in each year and average too of NIBL, it seems less conscious about borrowing cheaper fund

### 4.1.1.3 Assets Management Ratio

Assets management ratio measures the efficiency of the bank and finance company to manage its assets in profitable and satisfactory manner. A commercial bank must manage its assets properly to earn high profit. Under this chapter following ratio are studied:

## (a) Loan and Advances to Total Deposits Ratio

The ratio measures the extent to which the banks are successful to mobilize their total deposits on loan and advances.

Table: 4.8
Loan and Advances to Total Deposits Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 103.47 | 82.65 |
| $2008 / 09$ | 96.32 | 88.29 |
| $2009 / 10$ | 91.30 | 93.76 |
| $2010 / 11$ | 75.22 | 92.28 |
| $2011 / 12$ | 81.41 | 93.87 |
| Mean | 89.54 | 90.17 |
| (Source: Appendix-4) |  |  |

Figure No: 4.8


A high ratio of loan and advances indicates better mobilization of collected deposits and vice versa. But it should be noted that too high ratio might not be better from liquidity point of view. The Table No 4.4 table shows that these two finance company have mobilized their collected deposits in variable trend. In average NIBL has mobilized $89.54 \%$ of its collected deposit in loan and advances that is slightly less than that of NCC. According to NRB directives above $70 \%$ to $90 \%$ of loan and advances to total deposit ratio is able to better mobilization of collected deposit. So all of the year both NIBL and NCC has met the NRB requirement or it has properly utilized its deposit to provide loan.

## (b) Total Investment to Total Deposits Ratio

This ratio measures the extent to which the banks are able to mobilize their deposit on investment in various securities. A high ratio indicates the success in mobilizing deposit in securities and vice versa.

Table: 4.9
Total Investment to Total Deposits Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 8.42 | 19.25 |
| $2008 / 09$ | 8.63 | 17.69 |
| $2009 / 10$ | 12.57 | 14.03 |
| $2010 / 11$ | 25.59 | 8.80 |
| $2011 / 12$ | 19.03 | 13.96 |
| Mean | 14.85 |  |

(Source:- Appendix -5)

Figure: 4.9


From the table \& figure No 4.9, it is observed that the investment to total deposit ratio of NIBL are increased except in 2011/12 whereas of NCC is in decreasing trend. The mean of the ratio of NIBL and NCC are $14.85 \%$ and $13.55 \%$ respectively so NIBL has higher ratio. It signifies NIBL has successfully allocated its deposit in investment portfolio in comparison with NCC.

## (c) Loan and Advances to Total Working Fund Ratio

This ratio reflects the extent to which the commercial banks are success in mobilizing their assets on loan and advances for the purpose of income generation. A high ratio indicates better mobilization of fund on loan and advances and vice versa.

Table: $\mathbf{4 . 1 0}$
Loan and Advances to Total Working Fund Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 76.17 | 68.03 |
| $2008 / 09$ | 68.45 | 71.86 |
| $2009 / 10$ | 73.24 | 78.45 |
| $2010 / 11$ | 61.36 | 80.45 |
| $2011 / 12$ | 66.00 | 80.90 |
| Mean | 69.04 | 75.94 |
| (Source: Appendix-6) |  |  |

Figure: 4.10


Above table and figure 4.10 shows that loan and advances to total assets ratio of NIBL is in fluctuating trend whereas ratio of NCC is in increasing trend. While observing their ratios; NCC is better mobilizing of fund as loan and advances and it seems quite successful in generating higher ratio in each year.

The mean of NIBL and NCC are $69.04 \%$ and $75.94 \%$ respectively. So NCC has higher ratio than that of NIBL. It reveals that in total assets, NCC has high proportion of loan and advances.

## (d) Investment on Government Securities to Total Working Fund Ratio

The main purpose of this ratio is to examine that portion of banks and finance total working fund that has been invested into different government securities. This ratio is calculated by dividing investment on government securities by total working fund.

Table: 4.11
Investment on Govt. Securities to Total Working Fund Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 0.54 | 5.11 |
| $2008 / 09$ | 0.51 | 4.43 |
| $2009 / 10$ | 0 | 3.87 |
| $2010 / 11$ | 0 | 1.49 |
| $2011 / 12$ | 0 | 1.33 |
| Mean | 0.21 | 3.25 |

(Source: Appendix -7)

Figure: 4.11


Table and figure No 4.11 shows that the investment on government treasury bills to total working fund of NIBL is in decreasing trend in $2^{\text {nd }}$ year and in all subsequent year these are zero whereas these ratio are in decreasing trend in all year except of NCC. The highest ratio of NIBL is $0.54 \%$ and NCC is $5.11 \%$ in 2007/08. And the lowest ratio of NIBL and NCC are $0 \%$ and $1.33 \%$ in 2011/12 respectively.

From the table we notice that mean ratio of NIBL and NCC are $0.21 \%$ and $3.25 \%$ respectively. NCC has higher ratio in every year and mean too. It means NCC has invested more money in risk free assets out of its total assets than that of NIBL. In another word NIBL has emphases on more loans and advances and other short term investment than investment in govt. securities.

## (e) Investment on Shares and Debentures to Total Working Fund Ratio

The main purpose of this ratio is to examine that portion of commercial banks and finance's total working fund that has been invested into investment on share and debentures. This ratio is calculated by dividing investment on share and debenture by total working fund.

Table: 4.12
Investment on Shares and Debentures to Total Working Fund Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| $2007 / 08$ | 1.52 | 0.64 |
| $2008 / 09$ | 1.43 | 0.36 |
| $2009 / 10$ | 0.56 | 0.14 |
| $2010 / 11$ | 0.41 | 0.13 |
| $2011 / 12$ | 0.40 | 0.40 |
| Mean | 0.86 | 0.33 |

(Source: Appendix -8)
Figure: 4.12


Table and figure No 4.12 shows that the investment on share and debenture to total working fund of NIBL is in decreasing trend whereas these ratios of NCC are in decreasing trend in
all year except in $2011 / 12$. The highest ratio of NIBL is $1.52 \%$ and NCC is $0.64 \%$ in $2007 / 08$. And the lowest ratio of NIBL is $0.40 \%$ in $2011 / 12$ and of NCC is $0.13 \%$ in 2010/11.

From the table we notice that mean ratio of NIBL and NCC are $0.86 \%$ and $0.33 \%$ respectively. NIBL has higher ratio in every year and mean also, it means NIBL has invested more money in risky assets out of its total assets than that of NCC. In another word, NCC has emphases on more govt. securities rather than investment on share and debenture.

### 4.1.1.4 Measurement of Risk

For this study, following risk ratios are used to analyze and interpret the financial data and investment policy.

## (a) Loan Risk Ratio

In general, loan risk ratio shows the proportion of non-performing assets in the total investment plus loan and advances of a bank.

Table: 4.13
Loan Risk Ratio

| Year | Ratio (\%) |  |
| :--- | :--- | :--- |
|  | NIBL | NCC |
| 2007/08 | 82.37 | 83.87 |
| $2008 / 09$ | 74.58 | 86.26 |
| $2009 / 10$ | 83.32 | 80.19 |
| $2010 / 11$ | 82.24 | 87.12 |
| $2011 / 12$ | 81.43 | 87.24 |
| Mean | 80.79 | 8 |

(Source: Appendix-13)

Figure: 4.13


Above table No.4.13 shows that NIBL and NCC have the loan risk ratio in fluctuating trend. NIBL has highest and lowest ratio of $83.32 \%$ and $74.58 \%$ in the year 2009/10 and 2008/09 respectively. And NCC has the highest and lowest ratio of $90.19 \%$ and $83.85 \%$ in the year 2009/10 and 2007/08 respectively. The mean ratio of NIBL is lower than that of NCC (i.e. $80.79 \%<87.24 \%$ ).

### 4.1.1.5 Growth Ratio

Growth ratio denotes that how well the banks are preserving their economic or financial position. To calculate, check and analyze the expansion and growth of the selected bank the following ratios are calculated:

## (a) Growth Ratio of Total Deposits

To measure such growth percentage and analysis the following formula are used:

$$
\text { Growth Percentage }=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100
$$

Table: 4.14
Growth Ratio of Total Deposits (in \%)

| Banks | Year and Growth Ratio |  |  |  | Average Growth <br> Rate(\%) |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $\mathbf{2 0 0 7 / 0 8}$ | $\mathbf{2 0 0 8 / 0 9}$ | $\mathbf{2 0 0 9 / 1 0}$ | $\mathbf{2 0 1 0 / 1 1}$ | $\mathbf{2 0 1 1 / 1 2}$ |  |
| NIBL | 2.15 | 2.59 | 0.95 | 22.83 | 3.84 | $\mathbf{6 . 4 7}$ |
| NCC | 1.08 | 9.97 | 17.49 | 23.13 | 10.90 | $\mathbf{1 2 . 5 1}$ |

(Source: Appendix-14)
Figure:4.14


Above table No 4.14 shows that NIBL has fluctuating trend and NCC has increasing trend of total deposits except in 2011/12. The growth ratio of NIBL and NCC are $6.47 \%$ and $12.51 \%$ respectively. The growth ratio of NCC seems to be higher than that of NIBL.

## (b) Growth Ratio of Loan and Advances

To measure such growth percentage and analysis the following formula are used:
Growth Percentage $=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100$

Table: 4.15
Growth Ratio of Loan and Advances (in \%)

| Banks | Year and Growth Ratio |  |  |  | Average Growth <br> Rate (\%) |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $\mathbf{2 0 0 7 / 0 8}$ | $\mathbf{2 0 0 8 / 0 9}$ | $\mathbf{2 0 0 9 / 1 0}$ | $\mathbf{2 0 1 0 / 1 1}$ | $\mathbf{2 0 1 1 / 1 2}$ |  |
| NIBL | 4.82 | -4.51 | -4.30 | 1.20 | 12.38 | $\mathbf{1 . 9 2}$ |
| NCC | 6.02 | 17.47 | 24.77 | 21.20 | 12.81 | $\mathbf{1 4 . 0 4}$ |

(Source: Appendix-15)
Figure: 4.15


The above analysis shows that NCC has higher growth rate than that of NIBL (i.e. 14.04\% $>1.92 \%$ ). NIBL has decreasing trend and NCC has increasing trend in first three years and in decreasing trend in last two years growth rate of loans and advances.

## (c) Growth Ratio of Total Investment

To measure such growth percentage and analysis the following formula are used:
Growth Percentage $=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100$

Table: 4.16
Growth Ratio of Total Investment

| Banks | Year and Growth Ratio |  |  |  | Average Growth <br> Rate(\%) |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $\mathbf{2 0 0 7 / 0 8}$ | $\mathbf{2 0 0 8 / 0 9}$ | $\mathbf{2 0 0 9 / 1 0}$ | $\mathbf{2 0 1 0 / 1 1}$ | $\mathbf{2 0 1 1 / 1 2}$ |  |
| NIBL | -25.82 | 5.15 | 47.10 | 149.97 | -22.76 | $\mathbf{3 0 . 7 3}$ |
| NCC | 21.37745 | 1.087853 | -6.82788 | -22.8039 | 0.36046 | $\mathbf{- 1 . 3 6}$ |

(Source: Appendix -16)
Figure: 4.16


The growth rate of total investment of NIBL seems to be higher than that of NCC i.e. $30.73 \%>-1.36 \%$. NIBL has negative trend in $1^{\text {st }} \&$ last period and in increasing trend in remaining years but NCC has decreasing and negative trend of growth ratio of investment.

## (d) Growth Ratio of Net Profit

To measure such growth percentage and analysis the following formula are used:
Growth Percentage $=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100$

Table: 4.17

## Growth Ratio of Net Profit

| Banks | Year and Growth Ratio |  |  |  | Average <br> Growth <br>  <br>  <br>  $\mathbf{2 0 0 7 / 0 8}$ | $\mathbf{2 0 0 8 / 0 9}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | -8.64931 | -87.7253 | 548.7365 | 60.7123 | -23.6727 | $\mathbf{9 7 . 8}$ |
| NCC | -27.4558 | -23.503 | 113.1471 | -27.9109 | 157.1611 | $\mathbf{3 8 . 2 9}$ |

(Source: Appendix-17)
Figure: 4.17


From table no 4.17 we can conclude that NIBL has growth rate of $97.8 \%$ and NCC has the growth rate of $38.288 \%$. It seems that NIBL has higher growth rate than that of NCC. Both banks followed a fluctuating trend on the growth ratio of net profit.

### 4.2 Statistical Analysis

### 4.2.1. Coefficient of Correlation

a) Correlation between Total Deposits and Total Investment

The following table describes the relationship between total deposits and total investment of NIBL and NCC of five years study period. In this case, total deposits are independent variables say $(\mathrm{X})$ and total investment is dependent variable say $(\mathrm{Y})$.

Table: 4.18
Correlation between Total Deposits and Total Investment

| Name of Bank | Base of Evaluation |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | r | $\mathbf{R}^{\mathbf{2}}$ | P.E. | $\mathbf{6 \times P . E}$. |
| NIBL | 0.929 | 0.863 | 0.0413 | 0.248 |
| NCC | -0.962 | 0.925 | 0.023 | 0.136 |

(Source: Appendix-18)
The Table No 4.18 shows that coefficient of correlation between deposits and investment of NIBL is 0.929 i.e. high degree of positive correlation between these two variables. And the value of coefficient of determination ( $\mathrm{R}^{2}$ ) is also 0.863 which means $86.3 \%$ of investment decision depend upon deposit and only $13.7 \%$ investment is depend upon other variables. Similarly probable error is 0.0413 and $6 \times \mathrm{P}$. E. is 0.248 which shows that $\mathrm{R}^{2}$ is highly greater than $6 \times$ P. E. Therefore it reveals that relationship between deposits and investment is significant i.e. correlation is certain.

Likewise, in case of NCC, coefficient of correlation between investment and deposit (r) is 0.962 that means there is a high degree of Negative correlation between two variables. The value of coefficient of determination ( $\mathrm{R}^{2}$ ) is also 0.023 which means only $2.3 \%$ of investment decision depend upon deposit and rest $97.7 \%$ investment is depend upon other variables. Similarly probable error is 0.023 and $6 \times P$. E. is 0.136 which shows that $R^{2}$ is just greater than $6 \times P$. E. Therefore it reveals that relationship between deposit and investment is significant i.e. correlation is certain.
b) Correlation between Total Deposits and Loans and Advances

The following table describes the relationship between total deposits and loan and advances of NIBL and NCC with comparatively under five-year period. In this case, total deposits are independent variable say $(\mathrm{X})$ and loan and advances is dependent variable say $(\mathrm{Y})$.

Table: 4.19
Correlation between Total Deposits and Loans and Advances

| Name of Bank | Base of Evaluation |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | $\mathbf{r}$ | $\mathbf{R}^{\mathbf{2}}$ | P.E. | $\mathbf{6 \times P . E .}$ |
| NIBL | 0.305 | 0.093 | 0.274 | 1.64 |
| NCC | 0.996 | 0.992 | 0.0024 | 0.015 |

(Source: Appendix-19)

From the Table 4.19 we can find that the coefficient of correlation between deposits and loan and advances of NIBL and NCC are 0.305 and 0.996 respectively. This shows the positive relationship between these two variables i.e. loan and advances and deposits of both banks. By considering coefficient of determination ( $\mathrm{R}^{2}$ ), the value of $\mathrm{R}^{2}$ is 0.093 incase of NIBL and 0.992 incase of NCC.

The value of $\mathrm{R}^{2}$ of NIBL is 0.093 , which means only $9.3 \%$ of loan and advances decision is determined by deposit and rest $90.7 \%$ loan and advances depend upon other variables. The value of $\mathrm{R}^{2}$ of NCC is 0.992 , which means that $99.2 \%$ of loan and advances is determined by deposit and only $0.8 \%$ loan and advances depend upon other variables.

In view of the probable error of NIBL and NCC, the value of R $^{2}$ of NIBL is less than the 6 times of P.E. (i.e. $1.64>0.093$ ) which indicates there is significant relationship between deposits and loan and advances. Similarly value of R $^{2}$ of NCC greater then the 6 times of P.E.( i.e. $0.992>0.015$ ) insignificant relationship between deposit and loan and advances.

### 4.2.2. Trend Analysis

Here, trend analyses of various Ratios are projected for the five years. The measure of trend analysis shows the behavior of given variables in series of time. This trend analysis is carried out to see average performance of the Finance companies for next five years. Sample of trend analysis are as follows

- Loan and advance to Total Deposit
- Total Investment to Total Deposit Ratio
- $\quad$ Return on Loan and Advance Ratio


## a) Trend Analysis of Loan and advance to Total Deposit Ratio:

In this topic an effort has been made to analyze the trend of loan and advances to total deposits ratio of NIBL and NCC with comparatively of five years study period and projection of next five years. The following table describes the trend values of loan and advances to total deposits ratio of NIBL and NCC.
$\mathrm{Y}=\mathrm{a}+\mathrm{b} \mathrm{x}$
Where,
$\mathrm{Y}=$ dependent variable, $\mathrm{a}=\mathrm{Y}$ - intercept, $\mathrm{b}=$ slope of trend line or annual growth rate,
$\mathrm{X}=$ deviation from some convenient time periods.
The following graph helps to show the trend lines of total deposit for the projected five years. The equations are
$\mathrm{Yc}=89.54-6.522 \mathrm{x}$ of NIBL

$$
\mathrm{Yc}=90.177+2.643 \mathrm{x} \text { of } \mathrm{NCC}
$$

Table No 4.20
Trend Analysis of Loan and advance to Total Deposit (in \%)

| Year | NIBL | NCC |
| :--- | :--- | :--- |
| $2007 / 08$ | 102.584 | 84.884 |
| $2008 / 09$ | 96.062 | 87.527 |
| $2009 / 10$ | 89.54 | 90.17 |
| $2010 / 11$ | 83.018 | 92.813 |
| $2011 / 12$ | 76.496 | 95.456 |
| $2012 / 13$ | 69.974 | 98.099 |
| $2013 / 14$ | 63.452 | 100.742 |
| $2014 / 15$ | 56.93 | 103.385 |
| $2015 / 16$ | 50.408 | 106.028 |
| $2016 / 17$ | 43.886 | 108.671 |

(Source: Appendix -20)
Figure No 4.18
Trend Analysis of Loan and advances to Total Deposit of NIBL and NCC


Above Figure No 4.18 show that Trend of Loan and advance to Total Deposit of NIBL is decreasing. Its means total deposits are not utilize efficiently. The Trend of Loan and advance to Total Deposit of NCC are slightly increasing up warding. It mean total deposit utilizing in loan and advance so trend of NCC has smooth and regular up warding position.

## b) Total Investment to Total Deposit Ratio

The heading analyze the trend of total investment to total deposits ratio of NIBL and NCC with comparatively under five years study period and projects the trend of coming five years. The following table describes the trend values of total investment to total deposits ratio of NIBL in comparison to NCC for ten years. The following graph helps to show the trend lines of total deposit for the projected five years. The equations are
$\mathrm{Yc}=14.848+3.818 \mathrm{x}$ of NIBL
$\mathrm{Yc}=13.54-3.147 \mathrm{X}$ of NCC
Table No 4.21
Trend Analysis of Total Investment to Total Deposit Ratio (in \%)

| Year | NIBL | NCC |
| :--- | :--- | :--- |
| $2007 / 08$ | 7.212 | 19.84 |
| $2008 / 09$ | 11.03 | 16.693 |
| $2009 / 10$ | 14.848 | 13.546 |
| $2010 / 11$ | 18.666 | 10.399 |
| $2011 / 12$ | 22.484 | 7.252 |
| $2012 / 13$ | 26.302 | 4.105 |
| $2013 / 14$ | 30.12 | 0.958 |
| $2014 / 15$ | 37.938 | -2.189 |
| $2015 / 16$ | 41.574 | -5.336 |
| $2016 / 17$ |  | -8.483 |

(Source: Appendix -21)

Figure No 4.19

## Trend Analysis of Total Investment to Total Deposit Ratio (in \%)



Fi
gure No 4.19 shows that the trend of total investment to total deposit of NIBL is slightly increasing trend. Its mean total deposit utilized on total investment. The trend of total investment to total deposit ratio of NCC is decreasing trend it indicate that the income from total investment to total deposit is decreasing trends.
c) Trend Analysis of Return on loan and advance ratio:

The headings analyze the trend Return on loan and advance ratio of NIBL and NCC with comparatively under five years study period and projects the trend of coming five years. The following table describes the trend values of the trend Return on loan and advance ratio of NIBL in comparison to NCC for ten years.

The following graph helps to show the trend lines of total deposit for the projected five years. The equations are
$\mathrm{Yc}=\mathrm{Yc}=2.36+2142.8 \mathrm{x}$ of NIBL
$\mathrm{Yc}=1.908+0.2 \mathrm{X}$ of NCC

Table No 4.22
Trend Analysis of return on loan and advance ratio (in \%)

| Year | NIBL | NCC |
| :--- | :--- | :--- |
| $2007 / 08$ | 1.742 | 1.508 |
| $2008 / 09$ | 2.051 | 1.708 |
| $2009 / 10$ | 2.36 | 1.908 |
| $2010 / 11$ | 2.669 | 2.108 |
| $2011 / 12$ | 2.978 | 2.308 |
| $2012 / 13$ | 3.287 | 2.508 |
| $2013 / 14$ | 3.596 | 2.708 |
| $2014 / 15$ | 4.214 | 2.908 |
| $2015 / 16$ | 4.523 | 3.108 |
| $2016 / 17$ |  | 3.308 |

(Source: Appendix -22)
Figure No 4.20
Trend Analysis of return on loan and advance ratio (in \%)


The Table and figure No 4.20 shows that the trend of return on loan and advance ratio of NIBL is highly increasing trend. It means return from loan and advance is little higher than the NCC. The trend of return on loan and advance ratio of NCC has smooth and regular up ward increasing trend. Hence return from loan and advance of both finance companies is positive and increasing trend.

### 4.3 Major Findings of the Study

* The average study of cash and bank balance to current assets ratio of NIBL is higher than NCC. It shows that NCC has taken more risk to meet the daily requirement of its customer's deposit than NIBL.
* In average NIBL has mobilized $89.54 \%$ of its collected deposit in loan and advances that is slightly less than that of NCC. According to NRB directives above $70 \%$ to $90 \%$ of loan and advances to total deposit ratio is able to better mobilization of collected deposit. So all of the year both NIBL and NCC has met the NRB requirement or it has properly utilized its deposit to provide loan.
* The mean ratio of the total investment to total deposit NIBL and NCC are 14.85\% and $13.55 \%$ respectively so NIBL has higher ratio. It signifies NIBL has successfully allocated its deposit in investment portfolio in comparison with NCC.
* loan and advances to total assets ratio of NIBL is in fluctuating trend whereas ratio of NCC is in increasing trend While observing their ratios; NCC is better mobilizing of fund as loan and advances and it seems quite successful in generating higher ratio in each year.
* NIBL has higher mean ratio of return on loan and advances. So it seems successful by generating higher ratio. It can be concluded that NIBL has better utilized the loan and advance for the profit generation in comparison with NCC.
* The mean ratio of cash and bank balance to total deposits of NIBL is higher than NCC. It means the liquidity position of NIBL is higher than NCC. It shows the higher position regarding the meeting of demand of its customer on their deposit at any time than NCC.
* NCC has invested more portions of current assets on government securities than NIBL according to average study. It means NCC is more sensitive in investment in productive sector than NIBL. It means NCC has invested more money in risk free assets than that of NIBL. In another word NIBL has emphases on more loans and advances and other short term investment than investment in govt. securities.
* Mean ratio of investment on government securities to total working fund of NIBL and NCC are $0.21 \%$ and $3.25 \%$. Respectively. NCC has higher ratio in every year and mean too. It means NCC has invested more money in risk free assets out of its total assets than that of NIBL. In another word NIBL has emphases on more
loans and advances and other short term investment than investment in govt. securities.
* ROA of both companies are in fluctuating trend however NIBL seems successful in managing and utilizing the available assets in order to generate revenue since its ROA ratio is higher than that of NCC(i.e. $1.61 \%>1.46 \%$ )of total assets in an average.
* NIBL seems more conscious about managing its assets in order to earn more interest ratio because it has higher ratio in each year and average ratio is also higher. NIBL has $11.94 \%$ average ratio whereas NCC shows $10.46 \%$ average ratio. The mean ratio of NIBL is more than that of NCC. In comparison, NIBL seems effective in earning interest to some extent although it has lower earning of interest income but it must break the decreasing trend in coming year.
* Mean ratio of investment on share and debenture on working fund of NIBL and NCC are $0.86 \%$ and $0.33 \%$. Respectively. NIBL has higher ratio in every year and mean too. It means NIBL has invested more money in risky assets out of its total assets than that of NCC. In another word NCC has emphases on more govt securities rather than investment on share and debenture.
* NCC seems weak in increasing total investment in comparison to NIBL. The growth rate of NCC is $-1.36 \%$ but NIBL is $30.73 \%$.
* The yearly growth rate of net profit of NIBL is better in comparison to NCC. NCC has the growth rate of $38.29 \%$ and NIBL has $97.80 \%$.
* NIBL has fluctuating trend of interest paid to working fund ratio whereas NCC has decreasing trend of ratio except in 2011/12. Due to the higher ratio in each year and average too of NIBL, it seems less conscious about borrowing cheaper fund
* In case of loan risk ratio, NIBL has the lower risk than NCC.
* The growth ratio on deposit of NCC seems to be higher than that of NIBL. The growth ratio of NIBL and NCC are $6.47 \%$ and $12.51 \%$ respectively.
* The above analysis shows that NCC has higher growth rate of loan and advances than that of NIBL (i.e. $14.04 \%>1.92 \%$ ).
* NIBL has the higher degree of correlation coefficient between deposit and investment than NCC. It states that NIBL is in better position in the mobilization of deposits as investment in comparison to NCC. There is significant relationship between correlation of coefficient of deposit and investment of NIBL and but insignificant relationship between correlation of coefficient of deposit and investment of NCC.
* Correlation coefficient between deposit and loan and advances of NIBL is lower than NCC. It indicates that NCC is successfully mobilizing its deposits as loan and advances. There is significant relationship between correlation coefficient of deposits and loan and advances NIBL and NCC.
* The Trend of Loan and advance to Total Deposit of NIBL is decreasing. Its means total deposits are not utilize efficiently. The Trend of Loan and advance to Total Deposit of NCC are slightly increasing up warding. It mean total deposit utilizing in loan and advance so trend of NCC has smooth and regular up warding position.
* The trend of total investment to total deposit of NIBL is slightly increasing trend. Its mean total deposit utilized on total investment. The trend of total investment to total deposit ratio of NCC is decreasing trend it indicate that the income from total investment to total deposit is decreasing trends.
* The trend of return on loan and advance ratio of NIBL is highly increasing trend. It means return from loan and advance is little higher than the NCC. The trend of return on loan and advance ratio of NCC has smooth and regular up ward increasing trend. Hence return from loan and advance of both finance companies is positive and increasing trend.


## CHAPTER - V

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter is a complete conclusive and suggestive package which contains summary, conclusion of the findings and actionable plans i.e. suggestion for further improvement. This would be meaningful to the commercial bank in credit management. Summary gives the brief introduction to all the chapters of the study and shows the actual facts of the present situation under the topic of the study. Conclusion of the findings is based on the consequences of the analysis of the relevant data by using financial as well as statistical tools. The recommendations are presented in term of suggestion, which are prepared on the basis of findings and conclusion.

### 5.1 Summary

Banking is one of the most important economic drivers of the country. Unless the sector is well developed the economy of any country can not be uplifted. It is the sector which mobilizes money from surplus sector to deficit sector. The surplus money has to be utilized in productive sector. Banks are one of the authorized sectors to collect surplus money as deposit and mobilize the collected money as loan and advances. They also finance different scales projects, business houses, retail banking, technological innovations, small sector business, remit money, issue letter of credit etc for overall development of economy. Therefore there are different factors also which influence the functioning of the banks namely internal and external factors.

The internal factors are controllable where as the external factors are beyond the grip of control. To ensure the control of external as well as internal factors and to ensure the smooth functioning of the banks, there are different bodies in the country viz. Nepal Rastra Bank in Nepal. The government is another body to regulate. For this purpose, NRB and government have made different regulatory policies in Nepal.

Technological innovation, adoption of the technology, efficiency of the man power is the other factors which influence the functioning of the banks. Even though Nepal is not having stable government, perfect regulatory statement of NRB, secured investment environment banking sector in Nepal is growing. Despite of their capability to adopt with recently innovated technologies they are generating profits. Though the level of profit is not too high seeing the adverse environmental factors, it is satisfactory.

The study "Loan Management of Nepalese Commercial Banks" with reference to Nepal Investment Bank and Nepal Credit and Commercial Bank has been prepared to fulfill the requirement of Master's of Business Studies (MBS) program. This study is mainly based on the annual report provided by the concerned Banks. While sampling the Banks for study, commercial banks working in same field and similar nature have been taken as sample.

For this work various tools are used to study and this study is based on secondary data. For secondary data the most important tool used is financial tool where different types of ratios are used for the findings. Similarly statistical method is used to find out mean, trend analysis.

The secondary data is abstracted from the annual report of two selected commercial banks. The study covers the periods of five year from 2007/08 to 20011/12.

To conclude this study, the whole study has been divided into five chapters of the different aspects. The summary of the chapters are presented in paragraphs.

In first chapter "Introduction" provides the brief introduction of the study where I have described the background of the study, origin of the bank in Nepal, concept of commercial bank and its functions. The main objective of the study is to evaluate the loan management of Commercial Banks in Nepal. The research is based on secondary source of data. To make this study more effective, related literatures have been reviewed. The review of literature provides the foundation of knowledge in order to undertake this research more precisely. This section includes conceptual review and review of related studies. In conceptual review includes concept of loan management, objectives of sound loan policy, essential of loans, defects of loan, investment policy-concept, lending and consideration for sound lending and investment as well as lending procedures. In the review of related studies includes credit related unified NRB directives, review of books articles and journals and review of previous thesis. Research methodology has been described in third chapter, which is a way to solve the research problems with the help of various tools and techniques. This chapter includes the various financial as well as statistical tools to analyze the data in order to come to the decisions. I have mostly used the secondary data. This study covers the five years data of the bank and statistical tools are used, which included ratio analysis, mean, trend analysis. Likewise in chapter four the analysis of data, some statistical and financial tools are used. Ratio Analysis and analysis of financial position are the main financial tools used. In this study Correlation Coefficient between figures as well probable error are considered as the main statistical tools. Lastly in the fifth chapter, summary conclusion and recommendation are included. All the summary and conclusion are made according to obtained data from analysis. Recommendation has made which would be beneficial for all concerned person, management of the bank and other stakeholder.

### 5.2 Conclusion

* From the analysis of the liquidity position of NIBL and NCC, liquidity position of NIBL is higher than NCC. It shows the higher position regarding the meeting of demand of its customer on their deposit at any time than NCC but NIBL has excess liquidity rather than that of NCC because of poor investment opportunities. NCC has taken more risk to meet the daily requirement of its customer's deposit than NIBL as it has lower cash and bank balance to current ratio. NCC has made enough investment in government securities than NIBL. In another word NIBL has emphases on more loans and advances and other short term investment than investment in govt. securities.
* From the viewpoint of profitability, NIBL has higher mean ratio of return on loan and advances. So it seems successful by generating higher ratio. It can be concluded that NIBL has better utilized the loan and advance for the profit generation in comparison with NCC. NIBL seems successful in managing and utilizing the available assets in order to generate revenue since its ROA ratio is higher than that of NCC. NIBL
seems effective in earning interest to some extent although it has lower earning of interest Due to the higher ratio in each year and average too of NIBL, it seems less conscious about borrowing cheaper fund. In case of loan risk ratio, NIBL has the lower risk than NCC.
* In view of assets management side of two companies, it can be concluded that NIBL is in slightly weak position in mobilizing the collected deposits as loan and advances. However in all year both companies have met the NRB requirement in regarding utilization of deposit to provide loan. NIBL has successfully allocated its deposit in investment portfolio in comparison with NCC. NCC has invested more money in risk free assets out of its total assets than that of NIBL has invested more money in risky assets out of its total assets than that of NCC. In another word NCC has emphases on more govt. securities rather than investment on share and debenture.
* From the growth ratio of total deposits, it can be concluded that NCC has more collection capacity than NIBL. Growth rate of NCC on loan and advances is better in comparison to NIBL . Growth rate of total investment of NIBL seems good than NCC has better position than that of NCC with respect to growth rate of net profit. Correlation coefficient between deposits and total investment and deposits and loan and advances of NIBL and NCC indicates the positive relationship or there is high degree of positive correlation. In most of the cases it has been found that loan and advances and investment decision depends upon other variables. From the calculation of probable error it can be concluded that the relationship between deposits and investment and loan and advances and deposits of both companies is significant.
* By considering the trend values, Trend of Loan and advance to Total Deposit of NIBL is decreasing. Its means total deposits are not utilize efficiently. The Trend of Loan and advance to Total Deposit of NCC are slightly increasing up warding. It means total deposit utilizing as loan and advance of NCC has smooth and regular up warding position. Trend of total investment to total deposit of NIBL is slightly increasing trend. The trend of total investment to total deposit ratio of NCC is decreasing trend. Trend of return on loan and advance ratio of NIBL is highly increasing trend. It means return from loan and advance is little higher than the NCC. The trend of return on loan and advance ratio of NCC has smooth and regular up ward increasing trend. Hence return from loan and advance of both finance companies is positive and increasing trend.


### 5.3 Recommendations

* NCC is recommended to increase their investment on shares and debentures on different sectors to earn more interest and dividend income to increase its net profit. NIBL seems less conscious about borrowing cheaper fund. So it should give more priority on this matter.
* Both companies have earned more income from interest income which is not good for long term view. So both have to increase their revenue through other banking activity for long-term survival and to avoid bad debt risk.
* From the analysis, NIBL has not invested more funds in government securities in comparison to NCC. The bank has higher cash and bank balance than NCC. Therefore, it is recommended to invest in government securities instead of keeping idle and is not considered good from profitability point of view. Investment on those securities issued by government is free of risk, highly liquid and highly saleable in the marketplace.
* The ratio of cash and bank balance to total deposits and current assets of NIBL is higher than NCC. It means NCC should increase its liquidity position on the other hand NIBL has higher idle cash and bank balance. It may decrease over all profit of bank. So NIBL is recommended to activate its idle cash and bank balance in productive sector.
* Commercial banks are suggested not to be surrounded and limited within the interest and status of big clients like multinational companies, manufacturer and exporter. The commercial banks have to preserve the banking and saving habits of the low-income people of the kingdom. Because the main source of the collecting deposits of commercial banks are from public sector. It is also recommended to collect more funds as deposits through different schemes from different level of public, through assortment of deposit schemes and facilities like housing schemes, education loan, vehicle loan, and deposit for housewife etc.
* NIBL has successfully allocated its deposit in investment portfolio in comparison with NCC. So NCC should successfully allocate its deposit in invest portfolio.
* NRB has given directives to financial institution to invest their certain percentage of investment in deprive and priority sector. Both companies have earned profit from profitable and private sector. So, they are recommended to strictly follow up the directives issued by NRB and should make investment on public utilities sector like health, sanitation, education, drinking water, agriculture etc.
* The recovery of the loan is most challenging job for banks. Increasing in nonperforming assets leads to failure of commercial bank in recovery of loan. Therefore it has been recommended that NIBL and NCC should follow liberal lending policy when sanction of loan and advances have been done with adequate guarantee and should implement sound collection policy with proper identification of loan worthiness of customers, continual follow up and legal procedure if required.
* Both banks should be careful in increasing profit of the bank to maintain the confidence of shareholders, depositors and all its customers. NCC profitability position is not better than that of NIBL. So, NCC is strongly recommended to utilize risky assets and shareholders fund to gain high amount of profit.


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## Appendix - 1

## (A). Liquidity Ratio:

(1) Cash and bank balance to total deposit ratio.

Cash and Bank Balance to Total Ratio $=\frac{\text { Cash and Bank Balance }}{\text { Total Deposit }}$
(Rs. In thousand)

| Year | Cash and <br> bank <br> balance of <br> KBL | Total <br> deposit <br> of KBL | Cash and <br> bank <br> balance of <br> LBL | Total <br> deposit of <br> LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of <br> LBL <br> (in \%) |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $2007 / 08$ | 16337 | 239779 | 24216 | 459920 | 6.81 | 5.27 |
| $2008 / 09$ | 32066 | 245981 | 27856 | 505766 | 13.04 | 5.51 |
| $2009 / 10$ | 34036 | 248324 | 23598 | 594204 | 13.71 | 3.97 |
| $2010 / 11$ | 48398 | 305008 | 32120 | 731670 | 15.87 | 4.39 |
| $2011 / 12$ | 54832 | 316730 | 50296 | 811421 | 17.31 | 6.20 |
| Mean |  |  |  |  | $\mathbf{1 3 . 3 5}$ | $\mathbf{5 . 0 7}$ |

## Appendix - 2

(2) Cash and bank balance to current assets ratio

Cash and Bank Balance to Current Assets ratio $=\frac{\text { Cash and Bank Balance }}{\text { Current Assets }}$
(Rs. In thousand)

| Year | Cash and <br> bank <br> balance of <br> KBL | Current <br> assets of <br> KBL | Cash and <br> bank <br> balance of <br> LBL | Current <br> assets of <br> LBL | Ratio <br> of KBL <br> (in \%) | Ratio <br> of <br> LBL <br> (in \%) |
| :--- | :--- | :---: | :---: | :---: | :---: | :--- |
| $2007 / 08$ | 16337 | 38884 | 24216 | 46076 | 42.01 | 52.56 |
| $2008 / 09$ | 32066 | 54186 | 27856 | 65078 | 59.18 | 42.80 |
| $2009 / 10$ | 34036 | 40452 | 23598 | 82098 | 84.14 | 28.74 |


| $2010 / 11$ | 48398 | 52357 | 32120 | 55876 | 92.44 | 57.48 |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
| $2011 / 12$ | 54832 | 66734 | 50296 | 53456 | 82.17 | 94.09 |
| Mean |  |  |  |  | $\mathbf{7 1 . 9 9}$ | $\mathbf{5 5 . 1 4}$ |

## Appendix - 3

(3) Investment on Govt. securities to current assets ratio:

Investment on Govt. Securities to Current Assets $=\frac{\text { Investment on Gov.Securities }}{\text { Current Assets }}$
(Rs. In thousand)

| Year | Invest. on <br> Govt. <br> securities of <br> KBL | Current <br> assets of <br> KBL | Invest. on <br> Govt. <br> securities of <br> LBL | Current <br> assets of <br> LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 1750 | 38884 | 28556 | 46076 | 4.50 | 61.98 |
| $2008 / 09$ | 1750 | 54186 | 27500 | 65078 | 3.23 | 42.26 |
| $2009 / 10$ | 0 | 40452 | 27500 | 82098 | 0 | 33.50 |
| $2010 / 11$ | 0 | 52357 | 12500 | 55876 | 0 | 22.37 |
| $2011 / 12$ | 0 | 66734 | 12500 | 53456 | 0 | 23.38 |
| Mean |  |  |  |  | $\mathbf{1 . 5 5}$ | $\mathbf{3 6 . 7 0}$ |

## Appendix - 4

## (B). Assets Management Ratio:

(1)Loan and Advance to total deposit:

Loan and Advances to Total Deposits Ratio $=\frac{\text { Loan and Advances }}{\text { Total Deposit }}$
(Rs. In thousand)

| Year | Loan and <br> advances <br> of KBL | Total <br> deposit <br> of KBL | Loan and <br> advances of <br> LBL | Total <br> deposit <br> of LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of LBL <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 248104 | 239779 | 380104 | 459920 | 103.47 | 82.65 |


| $2008 / 09$ | 236917 | 245981 | 446521 | 505766 | 96.32 | 88.29 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2009 / 10$ | 226720 | 248324 | 557109 | 594204 | 91.30 | 93.76 |
| $2010 / 11$ | 229436 | 305008 | 675197 | 731670 | 75.22 | 92.28 |
| $2011 / 12$ | 257846 | 316730 | 761720 | 811421 | 81.41 | 93.87 |
| Mean |  |  |  |  | $\mathbf{8 9 . 5 4}$ | $\mathbf{9 0 . 1 7}$ |

## Appendix - 5

(2) Total investment to total deposit:

Total Investments to Total Deposits Ratio $=\frac{\text { Total Investment }}{\text { Total Deposit }}$
(Rs. In

| Year | Total <br> investment of <br> KBL | Total <br> deposit of <br> KBL | Total <br> investment of <br> LBL | Total <br> deposit <br> of LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 20186 | 239779 | 88523 | 459920 | 8.42 | 19.25 |
| $2008 / 09$ | 21226 | 245981 | 89486 | 505766 | 8.63 | 17.69 |
| $2009 / 10$ | 31223 | 248324 | 83376 | 594204 | 12.57 | 14.03 |
| $2010 / 11$ | 78049 | 305008 | 64363 | 731670 | 25.59 | 8.80 |
| $2011 / 12$ | 60284 | 316730 | 64595 | 811421 | 19.03 | 7.96 |
| Mean |  |  |  |  | $\mathbf{1 4 . 8 5}$ | $\mathbf{1 3 . 5 5}$ |

## Appendix - 6

(3) Loan and advance to total working fund:

Loan and Advances to TWF Ratio $=\frac{\text { Total Loan and Advances }}{\text { Total Working Fund }}$
(Rs. In thousand)

| Year | Loan and <br> advances of <br> KBL | Total working <br> fund of KBL | Loan and <br> advances of <br> LBL | Total working <br> fund of LBL | Ratio <br> of | Ratio <br> of <br> LBL |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | KBL <br> (in \%) |  |  |


| $2007 / 08$ | 248104 | 325718 | 380104 | 558747 | 76.17 | 68.03 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2008 / 09$ | 236917 | 346138 | 446521 | 621397 | 68.45 | 71.86 |
| $2009 / 10$ | 226720 | 309578 | 557109 | 710128 | 73.24 | 78.45 |
| $2010 / 11$ | 229436 | 373885 | 675197 | 839301 | 61.36 | 80.45 |
| $2011 / 12$ | 257846 | 390663 | 761720 | 941514 | 66.00 | 80.90 |
| Mean |  |  |  |  | $\mathbf{6 9 . 0 4}$ | $\mathbf{7 5 . 9 4}$ |

## Appendix - 7

(4) Investment to govt. securities to total working fund:

Investment on Govt. Securities to Total Working Fund
$=\underline{\text { Total Investment on Govt.Securities }}$
Total Working Fund
(Rs. In thousand)
$\left.\begin{array}{|l|c|c|c|c|c|c|}\hline \text { Year } & \begin{array}{c}\text { Investment to } \\ \text { govt. } \\ \text { securities of } \\ \text { KBL }\end{array} & \begin{array}{c}\text { total working } \\ \text { fund of KBL }\end{array} & \begin{array}{c}\text { Investment to } \\ \text { govt. } \\ \text { securities of } \\ \text { LBL }\end{array} & \begin{array}{c}\text { total working } \\ \text { fund of LBL }\end{array} & \begin{array}{c}\text { Ratio } \\ \text { of } \\ \text { KBL }\end{array} & \begin{array}{c}\text { Ratio } \\ \text { of } \\ \text { LBL } \\ \text { (in \%) }\end{array} \\ \hline \text { (in \%) }\end{array}\right]$

## Appendix - 8

(5) Investment on share and debenture to total working fund:

$$
\text { Invt. on Shares and Debenture to TWF Ratio }=\frac{\text { Inv.on Shares and Debentures }}{\text { Total Working Fund }}
$$

(Rs. In
thousand)

| Year | Invt. on <br> share and <br> debenture of <br> KBL | Total working <br> fund of KBL | Invt. on <br> share and <br> debenture of <br> LBL | Total working <br> fund of LBL | Ratio <br> of <br> KBL | Ratio <br> of <br> (in \%) <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 4936 | 325718 | 3590 | 558747 | 1.52 | 0.64 |
| $2008 / 09$ | 4936 | 346138 | 2208 | 621397 | 1.43 | 0.36 |
| $2009 / 10$ | 1723 | 309578 | 1025 | 710128 | 0.56 | 0.14 |
| $2010 / 11$ | 1549 | 373885 | 1067 | 839301 | 0.41 | 0.13 |
| $2011 / 12$ | 1549 | 390663 | 3787 | 941514 | 0.40 | 0.40 |
| Mean |  |  |  |  | $\mathbf{0 . 8 6}$ | $\mathbf{0 . 3 3}$ |

## Appendix - 9

## (C). Profitability Ratio:

1) Return on loan and advance:

Return on Loan and Advances Ratio $=\frac{\text { Net } \operatorname{Pr} \text { ofit } / \text { Loss }}{\text { Loan and Advances }}$
(Rs. In
thousand)

| Year | Net profit of <br> KBL | Loan and <br> advances of <br> KBL | Net profit of <br> LBL | Loan and <br> advances of <br> LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 6770 | 248104 | 7348 | 380104 | 2.73 | 1.93 |
| $2008 / 09$ | 831 | 236917 | 5621 | 446521 | 0.35 | 1.26 |
| $2009 / 10$ | 5391 | 226720 | 11981 | 557109 | 2.38 | 2.15 |
| $2010 / 11$ | 8664 | 229436 | 8637 | 675197 | 3.78 | 1.28 |
| $2011 / 12$ | 6613 | 257846 | 22211 | 761720 | 2.56 | 2.92 |
| Mean |  |  |  |  | $\mathbf{2 . 3 6}$ | $\mathbf{1 . 9 1}$ |

## Appendix - 10

(2) Return on total working fund ratio:

Return on Total Working Funds Ratio $=\frac{\text { Net } \operatorname{Pr} \text { ofit } / \text { Loss }}{\text { Total Working Fund }}$
(Rs. In thousand)

| Year | Net profit of <br> KBL | Total working <br> fund of KBL | Net profit of <br> LBL | Total working <br> fund of LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 6770 | 325718 | 7348 | 558747 | 2.08 | 1.32 |
| $2008 / 09$ | 831 | 346138 | 5621 | 621397 | 0.24 | 0.90 |
| $2009 / 10$ | 5391 | 309578 | 11981 | 710128 | 1.74 | 1.69 |
| $2010 / 11$ | 8664 | 373885 | 8637 | 839301 | 2.32 | 1.03 |
| $2011 / 12$ | 6613 | 390663 | 22211 | 941514 | 1.69 | 2.36 |
| Mean |  |  |  |  | $\mathbf{1 . 6 1}$ | $\mathbf{1 . 4 6}$ |

## Appendix - 11

3) Total interest income to total working fund ratio:

Total Interest Earned to Total Working Funds Ratio $=\frac{\text { Total Interest Earned }}{\text { Total Working Fund }}$
(Rs. In
thousand)

| Year | Interest <br> income of <br> KBL | Total working <br> fund of KBL | Interest <br> income of <br> LBL | Total working <br> fund of LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 40315 | 325718 | 66958 | 558747 | 12.38 | 11.98 |
| $2008 / 09$ | 38548 | 346138 | 62380 | 621397 | 11.14 | 10.04 |
| $2009 / 10$ | 40257 | 309578 | 68593 | 710128 | 13.00 | 9.66 |
| $2010 / 11$ | 41267 | 373885 | 87380 | 839301 | 11.04 | 10.41 |
| $2011 / 12$ | 47459 | 390663 | 96376 | 941514 | 12.15 | 10.24 |
| Mean |  |  |  |  | $\mathbf{1 1 . 9 4}$ | $\mathbf{1 0 . 4 6}$ |

## Appendix - 12

(4) Total interest paid to Total working fund ratio:

Total Interest Paid to Total Working Funds Ratio $=\frac{\text { Total Interest Paid }}{\text { Total Working Fund }}$
(Rs. In thousand)

| Year | Interest paid <br> of KBL | Total working <br> fund of KBL | Interest paid <br> of LBL | Total working <br> fund of LBL | Ratio <br> of <br> KBL <br> (in \%) | Ratio <br> of <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 23142 | 325718 | 40873 | 558747 | 7.10 | 7.32 |
| $2008 / 09$ | 22448 | 346138 | 38568 | 621397 | 6.49 | 6.21 |
| $2009 / 10$ | 20840 | 309578 | 40772 | 710128 | 6.73 | 5.74 |
| $2010 / 11$ | 22533 | 373885 | 46978 | 839301 | 6.03 | 5.60 |
| $2011 / 12$ | 26619 | 390663 | 55049 | 941514 | 6.81 | 5.85 |
| Mean |  |  |  |  | $\mathbf{6 . 6 3}$ | $\mathbf{6 . 1 4}$ |

## Appendix - 13

## Credit Risk Ratio:

Credit Risk Ratio $=\frac{\text { Total Investment }+ \text { Total loan and Advances }}{\text { Total } \text { Asets }}$
Total Assets
(Rs. In thousand)

| Year | Total <br> investment <br> of KBL | Loan <br> and <br> advance <br> of KBL | Total <br> assets <br> of KBL | Total <br> investment <br> of LBL | Loan and <br> advance <br> of LBL | Total <br> assets <br> of LBL | Ratio of <br> KBL (in <br> $\%$ ) | Ratio <br> of LBL <br> (in \%) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 20186 | 248104 | 325718 | 88523 | 380104 | 558747 | 82.37 | 83.87 |
| $2008 / 09$ | 21226 | 236917 | 346138 | 89486 | 446521 | 621397 | 74.58 | 86.26 |
| $2009 / 10$ | 31223 | 226720 | 309578 | 83376 | 557109 | 710128 | 83.32 | 90.19 |
| $2010 / 11$ | 78049 | 229436 | 373885 | 64363 | 675197 | 839301 | 82.24 | 88.12 |
| $2011 / 12$ | 60284 | 257846 | 390663 | 64595 | 761720 | 941514 | 81.43 | 87.76 |
| Mean |  |  |  |  |  |  | $\mathbf{8 0 . 7 9}$ | $\mathbf{8 7 . 2 4}$ |

## Appendix - 14

## (D). Growth Ratio

1) Growth Ratio of Total Deposit

$$
\text { Growth Ratio }=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100
$$

| Year | Total Deposit <br> of KBL | Total deposit <br> of LBL | Growth <br> Ratio of <br> KBL (in \%) | Growth <br> Ratio of LBL <br> (in \%) |
| :---: | :---: | :---: | :---: | :---: |
| $2006 / 0$ <br> 7 | 234732 | 455006 | - | - |
| $2007 / 0$ <br> 8 | 239779 | 459920 | 2.15 | 1.08 |
| $2008 / 0$ <br> 9 | 245981 | 505766 | 2.59 | 9.97 |
| $2009 / 1$ <br> 0 | 248324 | 594204 | 0.95 | 17.49 |
| $2010 / 1$ <br> 1 | 305008 | 731670 | 22.83 | 23.13 |
| $2011 / 1$ <br> 2 | 316730 | 811421 | 3.84 | 10.90 |
| Mean |  |  | $\mathbf{6 . 4 7}$ | $\mathbf{1 2 . 5 1}$ |

## Appendix - 15

2) Growth Ratio of Loan and Advances

$$
\text { Growth Ratio }=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100
$$

(Rs. In thousand)

| Year | Loan and <br> Advances <br> of KBL | Loan and <br> Advances <br> of LBL | Growth <br> Ratio of KBL <br> (in \%) | Growth Ratio <br> of LBL (in \%) |
| :---: | :---: | :---: | :---: | :---: |
| $2006 / 07$ | 236695 | 358521 | - | - |
| $2007 / 08$ | 248104 | 380104 | 4.82 | 6.02 |
| $2008 / 09$ | 236917 | 446521 | -4.51 | 17.47 |


| $2009 / 10$ | 226720 | 557109 | -4.30 | 24.77 |
| :---: | :---: | :---: | :---: | :---: |
| $2010 / 11$ | 229436 | 675197 | 1.20 | 21.20 |
| $2011 / 12$ | 257846 | 761720 | 12.38 | 12.81 |
| Mean |  |  | $\mathbf{1 . 9 2}$ | $\mathbf{1 4 . 0 4}$ |

## Appendix - 16

3) Growth Ratio of Total Investment

$$
\text { Growth Ratio }=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100
$$

(Rs. In thousand)

| Year | Total Investment of KBL | Total Investment of LBL | Growth <br> Ratio of KBL (in \%) | Growth Ratio of LBL (in \%) |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 2006 / 0 \\ 7 \end{gathered}$ | 27212 | 17487 | - | - |
| $\begin{gathered} 2007 / 0 \\ 8 \end{gathered}$ | 20186 | 21226 | -25.82 | 21.38 |
| $\begin{gathered} 2008 / 0 \\ 9 \end{gathered}$ | 31223 | 78049 | 5.15 | 1.09 |
| $\begin{gathered} 2009 / 1 \\ 0 \end{gathered}$ | 60284 | 88523 | 47.10 | -6.83 |
| $\begin{gathered} 2010 / 1 \\ 1 \end{gathered}$ | 89486 | 83376 | 149.97 | -22.80 |
| $\begin{gathered} 2011 / 1 \\ 2 \end{gathered}$ | 64363 | 64595 | -22.76 | 0.36 |
| Mean |  |  | 30.73 | -1.36 |

Appendix - 17
4) Growth Ratio of Net Profit

Growth Ratio $=\frac{\text { Ending Value }- \text { Beginning Values }}{\text { Beginning Value }} \times 100$
(Rs. In thousand)

| Year | Net Profit of | Net Profit of | Growth | Growth Ratio <br> of LBL (in \%) |
| :---: | :---: | :---: | :---: | :---: |


|  | KBL | LBL | Ratio of KBL <br> (in \%) |  |
| :---: | :---: | :---: | :---: | :---: |
| $2059 / 60$ | 7411 | 10130 | - | - |
| $2007 / 08$ | 6770 | 7348 | -8.65 | -27.46 |
| $2008 / 09$ | 831 | 5621 | -87.72 | -23.50 |
| $2009 / 10$ | 5391 | 11981 | 548.74 | 113.15 |
| $2010 / 11$ | 8664 | 8637 | 60.71 | -27.91 |
| $2011 / 12$ | 6613 | 22211 | -23.67 | 157.16 |
| Mean |  |  | $\mathbf{9 7 . 8 8}$ | $\mathbf{3 8 . 2 9}$ |

## Appendix - 18

## (E). Trend Analysis

1) Trend Analysis of Loan and Advances to Total Deposit Ratio.

Calculation of KBL

| Year | loan and advance to total deposit(Y) | $\begin{gathered} X=x- \\ 2009 / 10 \end{gathered}$ | X ${ }^{2}$ | XY |
| :---: | :---: | :---: | :---: | :---: |
| 2007/08 | 103.47 | -2 | 4 | -206.9 |
| 2008/09 | 96.32 | -1 | 1 | -96.32 |
| 2009/10 | 91.3 | 0 | 0 | 0 |
| 2010/11 | 75.22 | 1 | 1 | 75.22 |
| 2011/12 | 81.41 | 2 | 4 | 162.82 |
| $\mathrm{N}=5$ | $\sum \mathrm{Y}=447.72$ | $\Sigma \mathbf{X}=0$ | $\begin{aligned} & \sum \mathrm{X}^{2} \\ & =10 \end{aligned}$ | $\begin{aligned} & \sum \mathbf{X Y}- \\ & 65.22 \end{aligned}$ |

(Source: Annul report of KBL)

Let trend line be
$\mathrm{Y}=\mathrm{a}+\mathrm{b} \mathrm{x}$

Where $\mathrm{x}=\mathrm{X}$ - Middle year

Here,
$a=\sum y / N$
b $=\sum x y / N$
$=\frac{447.72}{5}=89.54$
$=\frac{-65.22}{10}=-6.522$

Substituting these values of $a$ and $b$ in eq (I) we get the required trend line
$\mathrm{Yc}=89.54-6.522 \mathrm{x}$

## Calculation of LBL

| Year | Loan and Advance to <br> Total Deposit(Y) | $\mathrm{X}=\mathrm{x}-$ <br> $2009 / 10$ | $\mathrm{X}^{2}$ | XY |
| :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 82.65 | -2 | 4 | -165.3 |
| $2008 / 09$ | 88.29 | -1 | 1 | -88.29 |
| $2009 / 10$ | 93.76 | 0 | 0 | 0 |
| $2010 / 11$ | 92.28 | 1 | 1 | 92.28 |
| $2011 / 12$ | 93.87 | 2 | 4 | 187.74 |
| $\mathrm{~N}=5$ | $\sum \mathbf{Y}=450.85$ | $\sum \mathbf{X}=0$ | 10 | 26.43 |

(Source: Annul report of LBL)

Let trend line be
$Y=a+b x$.

Where $\mathrm{x}=\mathrm{X}$ - Middle year

Here,
$\mathrm{a}=\sum \mathrm{y} / \mathrm{N}$
b $=\sum x y / N$
$=\frac{450.85}{5}$
$=\frac{26.43}{10}$
$=90.177$
$=2.643$

Substituting these values of a and b in $\mathrm{eq}^{\mathrm{n}}$ (I) we get the required trend line
$Y c=90.177+2.643 x$
2) Trend Analysis of Total Investment to Total Deposit Ratio.

## Appendix - 19

Calculation of KBL

| Year | total investment to total <br> $\operatorname{deposit}(\mathrm{Y})$ | $\mathrm{X}=\mathrm{x}-$ <br> $2009 / 10$ | $\mathrm{X}^{2}$ | XY |
| :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 8.42 | -2 | 4 | -16.84 |
| $2008 / 09$ | 8.63 | -1 | 1 | -8.63 |
| $2009 / 10$ | 12.57 | 0 | 0 | 0 |
| $2010 / 11$ | 25.59 | 1 | 1 | 25.59 |
| $2011 / 12$ | 19.03 | 2 | 4 | 38.06 |
| $\mathrm{~N}=5$ | 74.24 | 0 | 10 | 38.18 |

Let trend line be
$Y=a+b x$.

Where $\mathrm{x}=\mathrm{X}$ - Middle year

Here,
$\mathrm{a}=\sum \mathrm{y} / \mathrm{N}$
b = $\sum \mathrm{xy} / \mathrm{N}$
$=\frac{74.24}{5}=14.848$
$=\frac{38.18}{10}=3.818$

Substituting these values of $a$ and $b$ in eq. (I) we get the required trend line
$\mathrm{Yc}=14.848+3.818 \mathrm{x}$
$\mathrm{Yc}=2.36+0.309 \mathrm{X}$

| Year | Total Investment to <br> Total Deposit(Y) | $\mathrm{X}=\mathrm{x}-$ <br> $2009 / 10$ | $\mathrm{X}^{2}$ | XY |
| :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 19.25 | -2 | 4 | -38.5 |
| $2008 / 09$ | 17.69 | -1 | 1 | -17.69 |
| $2009 / 10$ | 14.03 | 0 | 0 | 0 |
| $2010 / 11$ | 8.8 | 1 | 1 | 8.8 |
| $2011 / 12$ | 7.96 | 2 | 4 | 15.92 |
| $\mathrm{~N}=5$ | 67.73 | 0 | 10 | -31.47 |

Let trend line be
$Y=a+b x$.
(I)

Where $\mathrm{x}=\mathrm{X}$ - Middle year

Here,
$a=\sum y / N$
$b=\sum x y / N$
$=\frac{67.73}{5}$
$=13.546$

$$
\begin{aligned}
& =\frac{-31.47}{10} \\
& =-3.147
\end{aligned}
$$

$Y c=13.54-3.147 X$

## Appendix - 20

3) Trend Analysis of Return on loan and advance Ratio.

## Calculation of KBL

| Year | Return on loan and advance <br> ratio | $\mathrm{X}=\mathrm{x}-$ <br> $2009 / 10$ | $\mathrm{X}^{2}$ | XY |
| :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 2.73 | -2 | 4 | -5.46 |
| $2008 / 09$ | 0.35 | -1 | 1 | -0.35 |
| $2009 / 10$ | 2.38 | 0 | 0 | 0 |
| $2010 / 11$ | 3.78 | 1 | 1 | 3.78 |
| $2011 / 12$ | 2.56 | 2 | 4 | 5.12 |
| $\mathrm{~N}=5$ | 11.8 | 0 | 10 | 3.09 |

(Source: Annul report of KBL)

Let trend line be
$Y=a+b x$.

Where $\mathrm{x}=\mathrm{X}$ - Middle year

Here,
$a=\sum y / N$
b $=\sum x y / N$
$=\frac{11.5}{5}$
$=\frac{3.09}{10}$
$=2.36$

$$
=0.309
$$

Substituting these values of $a$ and $b$ in eq. (I) we get the required trend line
$\mathrm{Yc}=2.36+2142.8 \mathrm{x}$

## Calculation of LBL

| Year | Return on Loan and <br> Advance Ratio | $\mathrm{X}=\mathrm{x}-$ <br> $2009 / 10$ | $\mathrm{X}^{2}$ | XY |
| :---: | :---: | :---: | :---: | :---: |


| $2007 / 08$ | 1.93 | -2 | 4 | -3.86 |
| :---: | :---: | :---: | :---: | :---: |
| $2008 / 09$ | 1.26 | -1 | 1 | -1.26 |
| $2009 / 10$ | 2.15 | 0 | 0 | 0 |
| $2010 / 11$ | 1.28 | 1 | 1 | 1.28 |
| $2011 / 12$ | 2.92 | 2 | 4 | 5.84 |
| $\mathrm{~N}=5$ | 9.54 | 0 | 10 | 2 |

Source: Annul report of LBL

Let trend line be
$Y=a+b x$

Where $\mathrm{x}=\mathrm{X}$ - Middle year

Here,
$a=\sum y / N$
b $=\sum \mathrm{xy} / \mathrm{N}$
$=\frac{9.54}{5}$
$=\frac{2}{10}$
$=1.908$
$=0.2$

Substituting these values of $a$ and $b$ in eq. (I) we get the required trend line
$Y c=1.908+0.2 \mathrm{X}$

## Appendix - 21

(i) Calculation of Correlation Coefficient Between Total Deposit and

Total Investment of KBL.

| FY | Total <br> Deposit (X) | Total <br> Investment <br> $(Y)$ | XY | $\mathrm{X}^{2}$ | $\mathrm{Y}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 239.779 | 20.186 | 4840.179 | 57493.969 | 407.475 |
| $2008 / 09$ | 245.981 | 21.226 | 5221.193 | 60506.652 | 450.543 |
| $2009 / 10$ | 248.324 | 31.223 | 7753.420 | 61664.809 | 974.876 |
| $2010 / 11$ | 305.008 | 78.049 | 23805.569 | 93029.880 | 6091.646 |
| $2011 / 12$ | 316.730 | 60.284 | 19093.751 | 100317.893 | 3634.161 |
| Total | $\mathbf{1 3 5 5 . 8 2 2}$ | $\mathbf{2 1 0 . 9 6 8}$ | $\mathbf{6 0 7 1 4 . 1 1 3}$ | $\mathbf{3 7 3 0 1 3 . 2 0 3}$ | $\mathbf{1 1 5 5 8 . 7 0 1}$ |

$\mathrm{N}=5$

$$
\sum \mathrm{X}=1355.822, \Sigma \mathrm{Y}=210.968, \Sigma \mathrm{XY}=60714.113, \Sigma \mathrm{X}^{2}=
$$

373013.203,

$$
\sum \mathrm{Y}^{2}=11558.701
$$

Where,
$\mathrm{N}=$ No. of observation of X and Y
$\sum \mathrm{X}=$ Sum of the observations in series X
$\sum Y=$ Sum of the observations in series $Y$
$\sum \mathrm{XY}=$ Sum of the square of observations in series X
$\sum X^{2}=$ Sum of the square of observations in series $Y$
$\sum \mathrm{Y}^{2}=$ Sum of the product of the observations in series X and Y
$r=\frac{N \Sigma X Y-\Sigma X \Sigma Y}{\sqrt{N \Sigma X^{2}-(\Sigma X)^{2}} \times \sqrt{N \Sigma Y^{2}-(\Sigma Y)^{2}}}$
or, $\quad r=\frac{5 \times 60714.113-1355.822 \times 210.968}{\sqrt{5 \times 373013.203-(1355.822)^{2}} \times \sqrt{5 \times 11558.701-(210.968)^{2}}}$
or,

$$
r=\frac{303570.565-286035.056}{\sqrt{1865066.015-1838253.296} \times \sqrt{57793.505-44507.497}}
$$

or, $\quad r=\frac{17535.510}{163.746 \times 115.265}$
or,
or, $\quad r=0.929$
and,

$$
\begin{array}{ll} 
& r^{2}=(0.929)^{2} \\
\text { or, } & r^{2}=0.863 \\
& \text { and, } \\
& \text { P.E. }=0.6745 \times \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}} \\
\text { or, } & \text { P.E. }=0.6745 \times \frac{1-(0.929)^{2}}{\sqrt{5}} \\
\text { or, } & \text { P.E. }=0.0413
\end{array}
$$

(ii) Calculation of Correlation Coefficient Between Total Deposit and Total Investment of LBL.

| FY | Total <br> Deposit <br> $(\mathrm{X})$ | Total <br> Investmen <br> $\mathrm{t}(\mathrm{Y})$ | XY | $\mathrm{X}^{2}$ | $\mathrm{Y}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 0$ <br> 8 | 459.920 | 88.523 | 40713.498 | 211526.406 | 7836.321 |
| $2008 / 0$ <br> 9 | 505.766 | 89.486 | 45258.976 | 255799.247 | 8007.744 |
| $2009 / 1$ <br> 0 | 594.204 | 83.376 | 49542.353 | 353078.394 | 6951.557 |
| $2010 / 1$ <br> 1 | 731.670 | 64.363 | 47092.476 | 535340.989 | 4142.596 |
| $2011 / 1$ <br> 2 | 811.421 <br> Total | $\mathbf{3 1 0 2 . . 9 8}$ <br> $\mathbf{1}$ | $\mathbf{3 9 0 . 3 4 3}$ | $\mathbf{2 3 5 0 2 1 . 0 4}$ | $\mathbf{2 0 1 4 1 4 9 . 6 1}$ |
| $\mathbf{5}$ | $\mathbf{3 1 1 1 0 . 7 1}$ |  |  |  |  |
| $\mathbf{2}$ |  |  |  |  |  |

$\mathrm{N}=5$
$\sum \mathrm{X}=3102.981, \sum \mathrm{Y}=390.343, \sum \mathrm{XY}=235021.042, \Sigma \mathrm{X}^{2}=$
2014149.615,

$$
\sum \mathrm{Y}^{2}=31110.712
$$

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

$$
\begin{aligned}
& \text { or, } r=\frac{5 \times 235021.042-3102.981 \times 390.343}{\sqrt{5 \times 2014149.615-(3102.981)^{2}} \times \sqrt{5 \times 31110.712-(390.343)^{2}}} \\
& \text { or, } r=\frac{1175105.21-1211226.912}{\sqrt{10070748.08-9628491.086} \times \sqrt{155553.56-152367.657}} \\
& \text { or, } r=\frac{-36121.702}{665.024 \times 56.444} \\
& \text { or, } \quad r=-0.962 \\
& \\
& \quad \begin{array}{l}
\text { and, } \\
\text { or, } \\
r^{2}=(-0.962)^{2} \\
r^{2}=0.925 \\
\text { and, } \\
\text { or, } \\
\text { P.E. }=0.6745 \times \frac{1-r^{2}}{\sqrt{N}} \\
\text { or, } \\
\text { P.E. }=0.6745 \times \frac{1-(-0.962)^{2}}{\sqrt{5}} \\
\text { P. }=0.03
\end{array}
\end{aligned}
$$

## Appendix - 22

(i) Calculation of Correlation Coefficient Between Total Deposit and Loan \& Advances of KBL.

| FY | Total <br> Deposit <br> (X) | Loan and <br> advances <br> of (Y) | XY | $\mathrm{X}^{2}$ | $\mathrm{Y}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 08$ | 239.779 | 248.104 | 59490.129 | 57493.969 | 61555.595 |
| $2008 / 09$ | 245.981 | 236.917 | 58277.081 | 60506.652 | 56129.665 |
| $2009 / 10$ | 248.324 | 226.720 | 56300.017 | 61664.809 | 51401.958 |
| $2010 / 11$ | 305.008 | 229.436 | 69979.815 | 93029.880 | 52640.878 |
| $2011 / 12$ | 316.730 | 257.846 | 81667.564 | 100317.893 | 66484.560 |
| Total | $\mathbf{1 3 5 5 . 8 2 2}$ | $\mathbf{1 1 9 9 . 0 2 3}$ | $\mathbf{3 2 5 7 1 4 . 6 0 6}$ | $\mathbf{3 7 3 0 1 3 . 2 0 3}$ | $\mathbf{2 8 8 2 1 2 . 5 5 9}$ |

$\mathrm{N}=5$

$$
\sum \mathrm{X}=1355.822, \sum \mathrm{Y}=1199.023, \sum \mathrm{XY}=325714.606, \Sigma \mathrm{X}^{2}=
$$

373013.203,
$\Sigma \mathrm{Y}^{2}=288212.559$

$$
\begin{aligned}
& \text { r }=\frac{\mathrm{N} \Sigma \mathrm{XY}-\Sigma \mathrm{X} \Sigma \mathrm{Y}}{\sqrt{\mathrm{~N} \Sigma \mathrm{X}^{2}-(\Sigma \mathrm{X})^{2}} \times \sqrt{\mathrm{N} \Sigma \mathrm{Y}^{2}-(\Sigma \mathrm{Y})^{2}}} \\
& \text { or, } \quad r=\frac{5 \times 325714.606-1355.822 \times 1199.023}{\sqrt{5 \times 373013.203-(1355.822)^{2}} \times \sqrt{5 \times 288212.559-(1199.023)^{2}}} \\
& \text { or, } \quad r=\frac{1628573.03-1625661.762}{\sqrt{1865066.015-1838253.296} \times \sqrt{1441062.795-1437656.155}} \\
& \text { or, } \quad r=\frac{2911.268}{163.746 \times 58.366} \\
& \text { or, } \\
& \text { or, } \quad r=0.305 \\
& \text { or, } \quad r^{2}=0.093 \\
& \quad \text { and, } \\
& \text { ord, } \\
& \text { or, } \quad \text { P.E. }=0.6745 \times \frac{1-(0.305)^{2}}{\sqrt{5}} \\
& \text { or, } \quad \text { P.E. }=0.274
\end{aligned}
$$

(ii) Calculation of Correlation Coefficient Between Total Deposit and Total Loan \& Advances of LBL.

| FY | Total <br> Deposit <br> (X) | Loan and <br> advances <br> of (Y) | XY | $\mathrm{X}^{2}$ | $\mathrm{Y}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $2007 / 0$ <br> 8 | 459.920 | 380.104 | 174817.432 | 211526.406 | 144479.051 |
| $2008 / 0$ <br> 9 | 505.766 | 446.521 | 225835.140 | 255799.247 | 199381.003 |
| $2009 / 1$ <br> 0 | 594.204 | 557.109 | 331036.396 | 353078.394 | 310370.438 |
| $2010 / 1$ <br> 1 | 731.670 | 675.197 | 494021.389 | 535340.989 | 455890.989 |
| $2011 / 1$ | 811.421 | 761.720 | 618075.604 | 658404.039 | 580217.358 |


| 2 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total | $3102 . .98$ | 2820.65 | 1843785.96 | 2014149.61 | 1690338.83 |
|  | 1 | 1 | 1 | 5 | 9 |

$\mathrm{N}=5$

$$
\Sigma \mathrm{X}=3102.981, \Sigma \mathrm{Y}=2820.651, \Sigma \mathrm{XY}=1843785.961, \Sigma \mathrm{X}^{2}=
$$

2014149.615,

$$
\sum \mathrm{Y}^{2}=1690338.839
$$

$r=\frac{N \Sigma X Y-\Sigma X \Sigma Y}{\sqrt{N \Sigma X^{2}-(\Sigma X)^{2}} \times \sqrt{N \Sigma Y^{2}-(\Sigma Y)^{2}}}$
or, $\quad r=\frac{5 \times 1843785.961-3102.981 \times 2820.651}{\sqrt{5 \times 2014149.615-(3102.981)^{2}} \times \sqrt{5 \times 1690338.839-(2820.651)^{2}}}$
or, $\quad r=\frac{9218929.805-8752426.461}{\sqrt{10070748.08-9628491.086} \times \sqrt{8451694.195-7956072.064}}$
or, $\quad r=\frac{466503.344}{665.024 \times 704.004}$
or, $\quad r=-0.996$ and,

$$
r^{2}=(0.996)^{2}
$$

or, $\quad r^{2}=0.992$ and, P.E. $=0.6745 \times \frac{1-r^{2}}{\sqrt{N}}$
or, $\quad$ P.E. $=0.6745 \mathrm{X} \underline{1-(0.996)^{2}}$ $\sqrt{ } 5$
or, $\quad$ P.E. $=0.0024$

