

# **Chapter - One**

## **INTRODUCTION**

### **1.1 General Background of the Study**

This is the age of globalization. The present market and economy has been more competitive, challenging and complicated due to globalization. Every sort of change occurring in one sector of the world influences the other areas. the development and diversification of business ensures sound economic upliftment of the country. The industry and commerce are the backbone of business which indicates the economic condition of the country.

Industry involves production of goods and services through the utilization of various recourses like men, material, money, machines by completing some specific processes. Before 1936, there were not any modern industries in Nepal. The establishment of Biratnagar Jute Mill in 1936 led the foundation of the modern industry in the Nepal. Despite of long duration of industrialization, Industrial status is still very poor. Because of poor industrial status, Nepalese economic status is very poorer in other countries. Lack of infrastructure, narrow domestic market, Shortage of skilled manpower, unstable government policy and political instability are the main reasons of low level of industrialization.

Commerce is concerned with the buying and selling of goods and services to the market. It plays the role of bridge between manufactures and costumers and customers. It is becoming complicated and advanced day by day. Nowadays, customers, suppliers, competitors, technology, market etc are in increasing position. the business of today is not limited to a particular area or sector of the country. Because of globalization, the world is becoming as a small village. Any change, invention and technology of one country influences all over the world.

Since, the industry and commerce are the pillars of business and financial institution are the back bone of industry and commerce, the success of any business depends upon the efficient and effective management of the banking activities. Banking is a trading of money with mind and

technology. Commercial banks are playing vital role for the upliftment of the economy through improved industrial and commercial activities.

The primary objective of any commercial banks is to move scarce loanable funds from those who have surplus and to those who make investment in new equipment and facilities. For this purpose, commercial banks collect deposit from savers group by promising a certain percentage of interest. Out of the collected funds, they provide loan to customers. The difference between interest of borrowing is interest spread. It is the major sources of income of all the commercial banks. While giving credit, bank use its deposits and capital. But fulfilling immediate cash needs, bank balance or T-Bill. The funds are called liquid funds. Liquid funds plays vital role to any bank. So NRB has formulated different rules and regulation about the liquidity position and its management criterion.

One of the most important tasks in the effective management of any financial institution like bank lies in maintaining and adequate liquidity. Liquidity can be regarded as the capacity of meeting short-term obligation. Liquidity is the availability of cash at the time needed at a reasonable cost. The capacity of banks to exchange cash for deposit is the liquidity. It is the assets of bank in the form of cash and near about cash. Near about cash means the assets, which can be converted into cash immediately without losing the value of them. The bank liquidity is the capacity of bank to meet liabilities.

Liquidity is the part of total assets, which can be paid immediately to meet the current obligation. Commercial banks need high degree of liquidity in its assets. The liquidity of assets refers to the ease and certainty with which it can be turned into cash. Bank must hold sufficient liquidity in the form of cash and liquid assets, such as government securities, CRR in central banks.

The basic sources of bank liquidity are capital and various form of deposit. However, banks can borrow cash from NRB for short period. Deposits are liabilities for the bank. People deposit their saving in the bank because they trust on bank that their money will safe in the bank and they get their money at the time of need on their immediate demand. In other words source of bank fund is people's trust. Bank cannot hold all money without investing them on various sectors. Bank pay cost of capital and liabilities. Without investment bank cannot earn profit and cannot pay interest on deposit. So bank invests those funds in various sectors. Investment can be made for

both longer and shorter period. Generally investment for longer period provides higher rate of interest because long term investment are more risky than short term investment. So such investment is made on policy backed by vision of their bank. The portfolio risk of any bank consists of credit risk, interest rate risk and liquidity risk. Credit risk to the uncertainty is associated with loan repayment, interest rate risk arise due to the variability of the market interest rate. Another but important thing is liquidity risk.

Liquidity is the availability of cash in the amount and at the time needed at reasonable cost.

Bank needs liquidity for two reasons:

- To meet deposit withdrawal
- To fulfill customer's loan demand

Therefore, maintaining adequate liquidity is one of the most important tasks to be performed by any financial institution like bank. A bank is considered to be liquid if it either has right amount of immediately spendable funds on hand when they are required or quickly raise funds by borrowing or by selling assets.

A liquid assets process three essential characteristics: price stability, ready marketability and reversibility. An assets must be considered liquid if its price tends to be reasonably stable over time, if it has an active resale market, and if it is reversible so that investors can recover their original investment without loss.(Rose; 2003:25)

Lack of liquidity indicates great financial problem caused by lack of people's trust. In such a situation, depositors go on demand of cash rapidly. Furthermore, banks loses its deposit, rather such immediate demand forces the bank to sell its safer liquid assets to meet short- term obligation which ultimately leads the bank towards insolvency.

Similarly, higher the amount of liquidity, higher will be the opportunity cost of banks which leads to decrease in profit due to investment in non-earning assets more than requirement. Thus bank should maintain the appropriate level of liquidity.

## **1.2 Growth of Commercial Banks in Nepal**

Commercial banks means a bank which operates currency exchanges transactions, accept deposits, provides loan, performs dealing relating to commerce except the banks which have been specified for the cooperative, agriculture, industry or other similar specific objectives.

Nepal Bank Limited is the first commercial bank established in 1994 under the Nepal bank Act 1993. Under Banijya Bank Act, 2021 the government established” Rastriya Banijya Bank” with investment capital employed by government resources. Again the government established the third bank” Agriculture development bank” which is fully owned by government for the purpose of developing agriculture.

When Nepal Government permitted the establishment of foreign joint Venture Bank in early 1980s, Nepal bank Limited(Now Nabil bank limited) was established in 2041 B.S. as the first joint venture bank. Similarly, other joint venture banks like Nepal Indosuez Bank Limited(At present, Nepal Investment Bank Ltd.) were opened. After restoration of democracy, elected government adopted the liberalization and market oriented policy. As a result, number of joint venture banks and commercial banks like Himalayan Bank Ltd, Nepal bank of Cylon (At present, Nepal credit and commercial Bank Ltd.) increased dramatically.

At present there are licensed commercial banks in Nepal. These commercial banks have given a new horizon to the financial sector of Nepal regarding healthy competition, foreign capital investment and technology transfer as well as skill development through research.

## **1.3 Introduction of Sample banks**

- **Everest Bank Limited (EBL)**

Everest bank limited started in 1994 with a view and objective of extending professionalized and efficient and efficient banking services to various segment of the society. EBL joined hands with Punjab national bank(PBN) India as its joint venture partner in 1997. PBN is the latest nationalized bank in India having 110 years of banking with more than 4500 office all over India. In this bank 50% share holding by nepali promoters and 30 % by general by general public and 20 % by Punjab national bank.

The bank is providing customer-friendly services through its Branch Network. All the branches of the bank are connected through Anywhere Branch banking System(ABBS), which enables customers for operational transactions from any branches.

With an aim to help Nepalese citizens working abroad, the bank has entered into arrangements with banks and finance companies in different countries , which enable quick remittance of funds by the Nepalese citizens in countries like UAE, Kuwait, Bahrain, Qatar, Saudi Arabia, Malaysia, Singapore and UK.

Bank has set up its representative offices at New Delhi (India) to support Nepalese citizen remitting money and advising banking related services.

- **Nabil Bank Limited (NABIL)**

Nabil Bank Limited, the first foreign joint venture bank of Nepal, started operations in July 1984. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, nabil provides a full range of commercial banking services through its 47 points of representation across the kingdom and over 170 reputed correspondent banks across the globe.

Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer measured as a focal objective while doing business.

Operation of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. bank is fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world- renowned software Infosys Technologies System, Bangalore, India, Internet banking system and telebanking system.

## **1.4 Focus of the Study**

Liquidity management refers to as using money to get long-term benefit. Investment in its broad sense means the sacrifice of certain percent value for(possible uncertain)future value. In pure financial sense, the subsequent use of the term investment will be in the prevalent financial

sense, of the placing of money in the hands of other for their use, in return for a proper instrument entitling holder's to fixed income payment or the participation in expected profits

The present economic position of Nepal is encouraging the savers to deposit their money in banks rather than investing in stocks, assets and new business etc, which in turn is hampering the bank's portfolio because deposits are higher and limited safe investment areas are decreasing day by day.

In spite of low interest rate, the depositors are felling secured towards commercial banks but the highest surplus deposits are almost idle in the bank due to continuous fall in Nepalese economy because of conflict situation, changed taxation policy, and adversely affected tourism industry and agriculture industry.

The study focuses on the mobilization of deposits and reinvestment aspects of three banks viz. Everest bank Ltd & Nabil bank Ltd. The study is mainly focused on the optimum portfolio between deposits and investment. It revolves around the concept of managing the surplus financial assets in which a way, which leads to the wealth maximization and provides a significant future source of income. It focuses on analyzing the causes of investment problems, their management and remedies, and developing the new investment areas and sectors, which can again boost the Nepalese economy.

## **1.5 Statement of the problem**

Commercial banks are the profit-oriented financial services institution. They provide credit to those who need the funds ensuring their productive use by mobilizing otherwise rigid and scattered saving of public. But it has to determine "how commercial banks maintain the appropriate level of liquidity?" to maintain short-term obligation such as to meet deposit withdrawal and to fulfill customer's loan demand. Furthermore, it is important to determine the factors affecting the liquidity and its management. The need of liquidity management for economic development of a country is no more to question. But we are facing an acute problem of resource mobilization.

Liquidity and profitability management is an important function of any business because it is the determinant of whether the entity will be in operation in the foreseeable future. Liquidity

management is even more crucial as the lifeline of banking itself is money. For a bank, liquidity means having sufficient funds to meet regulatory, contractual and relationship obligation when required and at a reasonable cost to the bank.

Sufficient liquidity is a signal to the wider market as a whole that the bank is prudent, profitable and well managed. This helps to reduce the risk premium that a bank has to pay on its borrowed funds. However, more than enough liquidity is also harmful and thus invites profitability risk. Thus, proper liquidity and profitability management ensures that all of a bank's lending commitments are met. Assessing a bank's liquidity position can be challenging. An adequate position for one bank may not be sufficient for another. Moreover, a position considered adequate for a bank in one time period may not be so in another. In this context, this study will try to discuss on the following issues regarding the liquidity management of commercial banks:

- How the commercial banks are managing their liquidity?
- What are the main causes of increasing or decreasing liquidity in commercial banking sector?
- Is the liquidity position of commercial bank related to security problem?
- Are they maintaining sufficient liquidity?
- Is there any necessity to reform in regulation?
- Does insecure investment outlet result increase in liquidities
- How to make optimal management of liquidity in commercial banks?
- What is the relationship between investment, loan and advances and total deposits?
- What is the deposit position of the sampled banks?
- What is the invest position of the sampled bank?
- What is the gap between deposits and investment of the sampled banks?

## **1.6 Objective of the Study**

Holding liquid assets and utilizing them in proper investment sector is one of the crucial decisions of commercial banks. In this context, the main objective of this study of this study is to have true insight into the liquidity management of Everest Bank Ltd and Nabil bank Ltd. this aims to examine its efficiency and effectiveness in disbursing and recovery of loans as well following the directives of NRB Acts and its own policies.

- To see the liquidity Position of sampled banks.
- To see the deposit and investment position of the banks.
- To see the relationship between deposit, investment, loans and advances and net profit.
- To find out the trend of deposit, investment, loans and advances and net profit.
- To provide suggestion for the improvement based on findings.

## **1.7 Significance of the Study**

The proper mobilization and utilization of domestic resources become indispensable for any developing country aspiring for a sustainable economic prosperity of the nation. The success and prosperity of the banks relies heavily upon the successful formulation and effective implementation of investment policy.

The significances of the study are pointed out as below:

- The study helps to know how well the banks (Everest Bank and Nabil bank) are utilizing their deposits.
- The study is important to policy makers and academic professionals to formulate policies and plans based on the performance of these banks
- The study these banks to compare each other's performance and plan accordingly for future.
- The study helps these banks to make sound programs and policies based on the recommendation suggested.
- The study guides to investors, customers (depositors, Loan takers as well as other types of clients), competitors, personnel of the banks, stockbrokers, dealers, market makers, etc to take various decisions regarding deposits and borrowings.

## **1.8 Limitation of the Study**

This study is conducted for the partial fulfillment of master's of business studies, so it possesses some limitation of its own kind. The limitation of the study is as follows:

- The study is based only on secondary data so it may contain reporting errors.



- There are in total, 32 commercial banks in the financial market but this researcher takes only three from them. The sampled banks are Everest bank Ltd and Nabil bank Ltd.
- The study covers the past and present state of the commercial banks in Nepal and will not make any projection in future.
- The study is made within limited timeframe, Limited data, and with lack of research experiments.
- The study covers the data of only five fiscal years and the conclusion drawn confines only the above period.
- This research used only the selective tools for analysis and interpretation of data.

## **1.9 Chapter Plan**

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

### **Chapter- One: Introduction**

This chapter describes the basic concept and background of the study. It has served orientation for readers to know about the basic information of the research area, focus of the study, problems of the study, objectives of the study and need or significance of the study and limitation of the study. It is oriented for reporting giving them the perspective they need to understand the detailed information about coming chapter.

### **Chapter-Two: Review of literature**

The second chapter of the study assures readers that they they are familiar with important research that has been carried out in similar areas. It also establishes that the study as a link in a chain of research that is developing and emerging knowledge about concerned field.

### **Chapter-Three: Research Methodology**

Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view. It describes about the various source of data related with study and various tools and techniques employed for presenting the data.

### **Chapter-Four: Presentation and Analysis of data**

This chapter analyzes the data related with study and presents the finding of the study and also comments briefly on them.

### **Chapter-Five: Summary, Conclusion and Recommendation**

On the basis of the results from data analysis, the researcher concluded about the performance of the concerned organization for better improvement.

Bibliography, appendix and other supporting documents have also been incorporated at the end of the study

The list of bibliography and appendixes are given at the last for references.

## Chapter-Two

### REVIEW OF LITERATURE

#### 2.1 Conceptual Framework

##### 2.1.1 Liquidity Management

“Managing liquidity involves estimating liquidity needs and providing for them in the most cost-effective way possible. Bank can obtain liquidity from both sides of the balance sheet as well as from off-balance-sheet activities. A manager who attempts to control liquidity solely by adjustment on the asset side is sometimes ignoring less costly sources of liquidity. Conversely, focusing solely on the liability side or depending too heavily on purchased wholesale fund can leave the bank vulnerable to market conditions and influences beyond its control. Effective liquidity managers consider the array of available sources when establishing and implementing their liquidity plan.”(*Khubchandani; 2002:61*)

Bank management should understand the characteristics of their funds providers, the funding instruments they use, and any market or regulatory constraints on funding. In order to accomplish this, management must understand the volume, mix, pricing, cash flows, and risks of their bank’s assets and liabilities, as well as other available sources of funds and potential uses for excess cash flow. They must also be alert to the risks arising from funding concentration. (*Dahal &Dahal; 2002:39*)

Liquidity means having sufficient funds to meet regulatory, contractual and relationship obligations when required and at a reasonable cost to the banks are unique because there will not be large volume of deposit payable on demand in other types of business. If banks fail to repay the deposit on demand, the bank loses the trust of the public. So liquidity is the lifeline of the bank. In this regard, the term liquidity management is used to describe any types off assets or cash that is readily convertible into money within short span of time to fulfill the short term obligation of any types of organization

“Liquidity refers to bank’s capacity to pay off the liabilities in all those currencies. Maintaining excess liquidity in one currency is not effective liquidity management for

other currencies because the liabilities in the demanded currency cannot be met.” (*Dahal and dahal;2002:95*)

“Liquidity is the availability of cash in the amount and at the time needed at a reasonable cost.” (*Rose;2003:345*)

“Liquidity management is the part of the risk management framework of the financial services industry, which concerns all financial institution whether they are commercial banks or developmental banks or financial companies or other institutions.” (*Shrestah; 2061:16*)

One of the most important tasks faced by the management of any bank is ensuring adequate liquidity. A bank is considered to be liquid if it has ready access to immediately spendable funds at a reasonable cost at precisely the time those funds are needed. This suggests that a liquid bank has either the right amount of immediately spendable funds on hand when they are required or can quickly raise liquid funds by borrowing or selling its assets.

Liquidity management is a tough task to be discharged by the management of every business entity. Managing liquidity for a bank involves having enough cash on hand and being able borrow cash at a reasonable cost in order to meet cash needs exactly when they arise.

To meet the foreign demands or liquidity, banks can use new customer’s deposits. Another important element in the supply of the bank liquidity comes from customers repaying the loan, which provides fresh funds for meeting new liquidity needs, as do sales of bank assets, especially marketable securities from the bank’s investment portfolio. These various sources of liquidity demand and supply come together to determine each bank’s net liability position’s at any movement in time

The significant exposure of banks to liquidity pressures arises from several sources. First, bank borrows large amount of short-term deposit and reserve from individual and business m and from other lending institutions and then turn around and make long term credit available to their borrowing customers. Thus, most banks faced some imbalance

between the maturity dates on their assets and maturity dates attached to their liabilities. Rarely, will incoming cash flows from assets exactly balance the cash flowing out to cover liabilities.

A problem related to maturity to maturity mismatch situation is that banks hold unusually high proportion of liabilities subject to immediate payment, such as demand deposit, money market borrowing. Thus, banks must always stand ready to meet immediate cash demands that can be substantial at times, especially near the end of a week, at the first of each month, and during certain seasons of the year.

Another source of the bank liquidity problem is the bank's sensitivity to change in interest rates. When interest rates rise, some depositors will withdraw their funds in search of higher return elsewhere. Many loan customers may postpone new loan request or speed up their drawing on those credit lines that carry interest rates.

“Thus, changing rates affect both customers demand for deposit and customer demand for loans, each of which has potent impact on a bank's liquidity position. Moreover, movement in interest rates affects the market values of assets the bank may need to sell in order to raise additional liquid funds; they directly affect the cost of borrowing in the money market.” (*Rose; 2003: 350*)

“Liquidity risk involves the inability to fund increases in assets, manage unplanned changes in funding sources and to meet obligations when required, without incurring additional costs or inducing a cash flow crisis. Primarily, an effective and strong liquidity risk management policy and framework will ensure that a bank has sufficient liquid assets to meet liabilities that fall due short term and to meet any unexpected demands for funds by its depositors or creditors. The effectiveness of a bank's liquidity risk management will determine the extents to which the institution may be subject to cash flow crisis and additional costs.” (*Reserve Bank of Fiji- Banking Supervision Policy Statement No: 9A- 2001*)

## 2.1.2 Types of Liquidity

Mainly the liquidity of the firm are categorized under two heading. They are:

### 1. Assets Liquidity

“Banks typically hold some liquid assets to supplement liquidity from deposits and other liabilities . These assets to supplement liquidity from deposits and other liabilities. These assets can be quickly and easily converted cash at a reasonable cost, or are timed to mature when the managers anticipate a need for additional liquidity. Liquid assets include those that can be pledged or used in a repurchase agreement. Although management expects to earn some interest income on their liquid assets , their main purpose is to provide liquidity.” (*Reed, Cotter, Gills & Smith; 1976:35*)

#### A) Money Market Assets

“Money market assets (MMAs) are usually the most liquid of a bank’s assets. MMAs include:

- Fed funds sold with an overnight maturity or term maturity within 30 days.
- Short-term deposits placed.
- CDs purchased, provided they are negotiable in the secondary market.
- Negotiable banker’s acceptances purchased from banks with good credit standing. A banker’s acceptance is a time draft drawn on and accepted by a bank. It is often used to facilitate trade transactions, is usually collateralized by merchandise, and is guaranteed by a bank.” (*Reed, Cotter, Gills & Smith; 1976: 39*)

“Large banks generally hold a range of MMA instruments and may diversify their short term assets to improve yield or maintain market presence. Because large banks have access to wholesale funding sources, they often do not rely on MMAs for liquidity to the same extent as community banks, MMAs are primarily Fed funds sold to their correspondents.” (*Grywinski; 1991: 27*)

## **B) The Investment Portfolio**

A bank's investment portfolio can provide liquidity in three ways:

- The maturity of a security
- The sale of securities for cash
- The use of “free” securities as collateral in a repurchase agreement or other borrowing.

For an investment security to be saleable, it must not be encumbered, i.e. the security cannot be sold under repurchase agreement or pledged or used as collateral, and it must be marketable. A “free” security is an instrument that can be used as collateral in a transaction. A security that is severely depreciated, a small face amount, already pledged or encumbered, or poor credit quality is not a good candidate for collateral and should be considered “free”.

Because of these judgmental factors, the amount of free securities owned by a bank cannot easily be determined from the general ledger, and levels are generally estimated. Periodically, management should analyze in detail the investment portfolio to validate the bank's estimates of free securities.” (*Reed, Cotter, Gills & Smith; 1976:40* )

For accounting purposes, investment portfolios are separated into two categories, available-for-sale(AFS) and held to maturity (HTM). These designation may affect how a bank uses its securities for liquidity purposes.

## **C) Cash Operating Accounts**

“Operating accounts such as vault cash, cash items in process of collection, correspondent accounts, and the Federal reserve accounts usually are not liquid assets in an ongoing institution. These accounts are needed to accommodate daily business transaction; ih these funds are used , they must be replenished before further business activities are conducted. Most well-managed banks maintain the minimum balance needed to accommodate transactions in the accounts, since the balances do not generally earn interest.” (*Reed, Cotter, Gills & Smith; 1976:41*)

## **D) Reverse Repurchase Transactions**

“In a securities purchased under resale agreement, also known as a ‘reverse repurchase agreement,’ a bank lends money to a counterparty by purchasing a security and agreeing to resale the security to the counterparty at a future date. This is an exchange of the most liquid asset (surplus cash) for a less liquid asset (a security). A reverse repo provides earnings to the lending bank with limited credit risk because the loan is collateralized.” (*Grywinski; 1991:30*)

## **2. Liability Liquidity**

“Large regional and money center banks, and increasingly more community banks, rely heavily on liability liquidity. Larger banks generally have ready access to money markets and usually find that borrowing is the most economical way for them to meet short-term or unanticipated loan demand or deposit withdrawals. While community banks generally do not have the same broad access to money markets, their reliance on liability liquidity is increasing as the availability of core deposits continues to decline.

“ By managing liabilities instead of assets, banks can tailor liabilities to fit their cash flow needs instead of apportioning asset types of and amounts to a given liability base.” ( *Bedi and Mardikar; 1993: 65*)

## **A) Retail Funding**

“ Retail funding is supplied by the deposits a bank receives from the general public, primarily consumers and small businesses. These deposits are most bank’s primary funding source and for many banks continue to be a relatively stable source of funds. Retail funds providers usually maintain balances of \$100,000 or less, to be fully insured by the Fdic. Retail accounts include:

- Transaction accounts such as demand deposit accounts (DDAs), negotiable order of withdrawal accounts (NOWs), or money market demand accounts (MMDAs); and
- Saving accounts and time certificates of deposit (CDs).” (*Bedi and mardikar; 1993:66*)



## **B) Wholesale Funding**

“Many banks are increasing their use of wholesale funding, replacing lost retail deposits with funds provided by professional money managers. Wholesale funds providers are typically large commercial and industrial corporations, other financial institutions, governmental units, or wealthy individuals. Wholesale funds transactions are typically not insured or are in amounts that exceed the FDIC insurance limit. As a result, these funds are generally very sensitive to credit risk and interest rates, and pose greater liquidity risk to a bank.” *(Singh; 2005:15)*

## **C) Other Debt Securities**

“Many large banks also use other debt securities to provide longer - term sources of funds. Under the provisions of the Gramm-Leach\_Biley Act (GLBA), if a bank is one of the 100 largest insured banks and owns a financial subsidiary, it must have outstanding “eligible debt” that is rated in one of the three highest investment grade rating categories by a nationally recognized statistical rating organization.” *(Singh; 2005:15)*

## **3. Importance of Liquidity Management**

“Liquidity risk is a greater concern and management challenge for banks today than in the past. Increased competition for consumer deposits, a wider array of wholesale and capital market funding products, and technological advancements have resulted in structural changes in how banks are funded and how they manage their risk.” *(Natarajan; 2001:87)*

In particular, two recent trends in funding make it more important for banks to actively manage their liquidity risk:

- The increased use of credit- sensitive wholesale funds providers and
- The growth of off-balance-sheet activity. *(Mishra;2003:31)*

“Traditionally, banks have relied upon retail transaction and savings accounts as a primary funding source. These deposits generally represent a stable and low-cost source of funds. However, for the past several years, core deposits as a percentage of assets

have steadily declined. More recently, the absolute growth of core deposits has been flat and may well decline in the future as retail consumers continue to evaluate the variety of competing savings vehicles and their relative returns. The growth in, and consumers' acceptance of, Internet banking and other electronic technologies may accelerate this trend by making it easier for consumers to compare rates and to transfer funds between competing institutions easily and rapidly." (*Mishra; 2003:32*)

"Banks are successfully adjusting to this secular shift by using market sources, to meet loan demand and investment needs. By using market sources, banks are able to diversify their funding bases among funds providers and across maturities. Unlike core deposits, whose maturities are generally determined by the preferences of depositors, funds in the professional markets can be accessed at a variety of tenors. The many choices among market funding alternative have provided banks with greater flexibility in managing their cash flows and liquidity needs.

Increased reliance on market funding sources, however, has left banks more exposed to the price and credit sensitivities of major funds providers. As a general rule, institutional funds providers are more credit sensitive and will be less willing than retail customers to provide funds to a bank facing real or perceived financial difficulties. A bank's ability to access the capital markets may also be adversely affected by events not directly to them." (*Natarajan; 2001:89*)

"Along with the shift from relatively credit-neutral to credit-sensitive funds providers, banks have turned increasingly to asset securitization and other off-balance-sheet strategies to meet their funding requirements. As these off-balance-sheet activities have grown, they have become increasingly important in the management and analysis of liquidity risk, depending on the specific transaction and the level of interest rates at the time." (*Ivany; 1993:132*)

### **2.1.3 Liquidity Risk**

"Liquidity risk is the risk to a bank's earnings and capital arising from its inability to timely meet obligations when they come due without incurring unacceptable losses. Bank management must ensure that sufficient funds are available at a reasonable cost to meet potential demands from both funds providers and borrowers. Although liquidity risk

dynamics vary according to a bank's funding market, balance sheet, and inter corporate structure, the most common signs of possible liquidity problems include rising funding costs, requests for collateral, a rating downgrade, decrease in credit lines, or reductions in the availability of long-term funding.

The sophistication of a bank's liquidity management process will depend on its business activities and overall of risk. However, the principles of liquidity management are straightforward: a well-managed bank, regardless of size and complexity, must be able to identify, measure, monitor, and control liquidity risk in a timely and comprehensive manner." (*Khan and Jain; 1997:97*)

#### **2.1.4 Early Warning Indicators of Liquidity Risk**

"Management should monitor various internal as well as market indicators of potential liquidity problems at the bank. These indicators of potential liquidity problems at the bank. These indicators, while not necessarily requiring drastic corrective action, may prompt management and the board to do additional monitoring or analysis." (*Varshney & Swaroop; 1994:27*)

"An incipient liquidity problem may first show up in the bank's financial monitoring system as a downward trend with potential long-term consequences for earnings or capital. Examples of such internal indicators are:

- A negative trend or significantly increased risk in any area or product line.
  - Concentrations in either assets or liabilities.
  - A decline in indicators of asset quality.
  - A decline in earnings performance or projections.
  - Rapid asset growth funded by volatile wholesale liabilities or brokered deposits."
- (*Varshney & swaroop;(1994:28)*)

"Professional analyst and other market participants may express concerns about the bank's credit capacity. Examples of these third-party evaluation include:

- Bank is named in market rumors as a “troubled” bank.
- Downgrades of credit rating agencies.
- Customers are contacting relationship managers, fixed income sales representatives, and branch employees requesting information.

Bearish secondary market activity in the bank’s securities may signal declining value. Examples of these market events include:

- Drop in stock price.
- Wider secondary spreads on the bank’s senior and subordinated debt, and increasing trading of the bank’s debt.
- Broker/dealers are reluctant to show the bank’s name in the market, forcing bank management to arrange “friendly” broker. Dealer support.” (*chopra; 1989:35-38*)

“Finally, the bank’s funding market may begin to contract or demand credit support, better credit terms, or shorter duration lending, any of which may increase liquidity costs. Examples of funding deterioration are:

- Overall funding costs increase.
- Counterparties begin to request collateral for accepting credit exposure to the bank.
- Correspondent banks eliminate or decrease credit line availability, causing the bank to make larger purchases in the brokered funds market.
- Volume of turndowns in the brokered markets is unusually large, forcing bank to deal directly with fewer willing counterparties.
- Rating- sensitive providers, such as trust managers, money managers, and public entities, abandon the bank.
- Counterparties and brokers are unwilling to deal in unsecured or longer dated transaction.

- Transaction sizes are decreasing, and some counterparties are unwilling to enter into even short-dated transactions.
- Bank receives requests from depositors for early withdrawal of their funds, or the bank has to repurchase its paper in the market.” (*Chopra; 1989:40*)

“When evaluating a bank’s potential liquidity risk, the examiners will consider not only the factors considered by bank management but also a bank’s current position and trends in the following ratios:

- Loans to deposits.
- Short-term liabilities to total assets.
- On-hand liquidity.
- Dependence or reliance on wholesale funding.” (*Varshney &swaroop; 1994:31*)

### **2.1.5 Relationship of Liquidity Risks to Other Banking Risks**

“Bankers and examiners must understand and assess how a bank’s exposure to other risks may affect its liquidity. The nine categories of risk are credit, interest rate, liquidity, price, foreign currency translation, transaction, compliance, strategic, and reputation. These categories are not mutually exclusive any product or service may expose the bank to multiple risks and a real or perceived problem in any area can prevent a bank from raising funds at reasonable prices and thereby increase liquidity risk.” (*Johnson; 1940:132*)

“The Primary risks that may affect liquidity are reputation, strategic, credit, interest rate, price, and transaction. If these are not properly managed and controlled, they will eventually undermine a bank’s liquidity position.” (*Johnson; 1940: 133*)

A brief description of how these risks may affect liquidity is provided below.

#### **A) Reputation Risk**

“Reputation risk is the current and prospective impact on earnings and capital arising from negative public opinion. A bank’s reputation for meeting its obligations and operating in a safe

and sound manner is essential to attracting funds at a reasonable cost and retaining funds during troubled times.

Negative public opinion, whatever the cause, may prompt depositors, other funds providers, and investors to seek greater compensation, such as higher rates or additional credit support, for maintaining deposit balances with a bank or conducting any other business with it. If negative public opinion continues, withdrawals of funding could become debilitating.

To minimize reputation risk and its potential impact on liquidity, bank management should assess the bank's reliance on credit-sensitive funding. A bank that is exposed to significant reputation risk should seek to mitigate liquidity risk by diversifying the sources and tenors of market funding and increasing asset liquidity, as appropriate." (*Johnson; 1940:134-135*)

## **B) Strategic Risk**

"Strategic risk is the current and prospective impact on earnings or capital arising from adverse business decisions, improper implementation of decisions, or lack of responsiveness to industry changes. No strategic goal or objective should be planned without considering its impact on a bank's funding abilities. The bank must be able to raise money required to meet its obligations at an affordable cost. The ability to attract and maintain sufficient liquidity is often an issue at banks experiencing rapid asset growth. If management misjudges the impact on liquidity of entering a new business activity, the bank's strategic risk increases. Management should carefully consider whether the funding planned to support a strategic risk initiative will increase liquidity risk to an unacceptable level." (*Johnson;1940:136*)

## **C) Credit Risk**

"Credit risk is the current and prospective risk to earnings or capital arising from an obligor's failure to meet the terms of any contract with the bank or otherwise to perform as agreed. A bank that assumes more credit risk, through asset contraptions or adoption of new underwriting standards in conjunction with untested business lines, may be increasing its liquidity risk. Credit-sensitive funds providers may worry that the bank's increased credit exposure could lead to credit problems and insufficient profits. The bank's ability to meet its obligations may eventually

be compromised. Wholesale funds providers and rating agencies consider the level of past-due loans,

Non-performing loans, provisions to the allowance for loan and lease losses, and loan charge-offs as indications of trends in credit quality and potential liquidity problems. If credit risk is elevated, the bank may have to pay a premium to access funds or attract depositors. If credit risk has undermined the bank's financial viability, funding may not be available at any price. Most large bank failures have involved the combined effects of severe credit and liquidity deterioration." (*Johnson; 1940: 138*)

#### **D) Interest Rate Risk**

"Interest rate risk is the current and prospective risk to earnings or capital arising from movements in interest rates. Changes in interest rates affect income earned from assets and the cost of funding those assets. If a bank experiences a reduction in earnings from a change in market interest rates, funds providers may question the financial stability of the bank and demand a premium. They may even refuse to provide funding.

Off-balance-sheet instruments that a bank uses to manage its interest rate risk may also pose liquidity risk. The cash flows of those instruments often are very sensitive to changes in rates, and, if not properly managed, can result in unexpected funding requirements or other cash outflows during periods of volatile interest rates." (*Crosse; 1963:89*)

#### **E) Price Risk**

"Price risk (market risk) is the risk to earnings or capital arising from changes in the value of traded portfolios of financial instruments. Price risk may result in volatile earnings. This risk is most prevalent in large banks that actively trade financial instruments. Price risk is closely monitored by funds providers when assigning a bank's financial position and creditworthiness. If price risk and its perceived impact on earnings or capital is too great, funds providers may require the bank to pay increased rates for funds, may not be willing to invest in longer term maturities, or may not be willing to provide funding on any terms." (*Crosse; 1963:91*)

## **F) Transaction Risk**

“Transaction risk is the current and prospective risk to earnings and capital arising from fraud, error, and the inability to deliver products or services, maintain a competitive position and manage information. Systems that directly affect liquidity include wire transfer systems for check and securities clearing, electronic banking, and operations governing credit, debit, and smart card usage. If product lines change, management must adjust the systems to ensure that all transactions can be handled. Significant problems can develop very quickly if the systems that process transactions fail or delay execution. If customers have difficulty accessing their accounts, they may close them, which will diminish liquidity. Transaction risk should be considered in the bank’s contingency planning process.” (*Crosse; 1963:93*)

### **2.1.6 Profit and Profitability**

“In business, profits are the excess of revenue over cost. In other words, business profits are the residual income, which is equal to sale proceeds minus costs. In a simple term, profits mean the residual balance of earning expected to be available with the firm that is obtained after deducting entire expenses, costs, charges and provision from total revenue of a period of time. Profit is the resources left to the firm for future growth and expansion or reward to be distributed to the entrepreneurship in the form of dividends.” (*Richard; 1996:80*)

### **2.1.7 Need for Profit**

Profit is must for the following reasons:

#### **A) Measurement of Performance**

“Profit is only one factor to measure the management efficiency, productivity and performance. Profit is the most widely used yardstick to see what really is to be achieved and where the firm is to go in the future.” (*Saunders & Cornett;2004:61*)

#### **B) Premium To Cover Costs Of Staying In Business**

“Business environment is full of risks and uncertainties. To grasp the globally changing technologies, to stay in the market uncertainties, to replace and acquire assets and enhancing business scope etc. require a profit margin.” (*Saunders & Cornett; 2004:61*)



### **C) Ensuring Supply Of future Capital**

“Profit is necessary to plough back in the investment like innovations, Business expansion and self-financing. It also attracts investors for further investment.” (*Mishkin; 1998:26*)

### **D) Return to the Investors**

“Shareholders provide equity capital to the business because they expect the entity will provide return to their funds at least equal or above market rate of return. To maintain the shareholders expectation, is the most important that a firm should earn sufficient profit so that it can distribute dividends.” (*Mishkin; 1998:26*)

## **2.1.8 Concept of Bank**

Generally, an institution established by law which deals with money and credit is called bank. It is obvious that in a common sense, an institution involved in monetary transactions is called bank.

A bank is a financial institution, which plays a significant role in the country. It facilitates the growth of trade and industry, and boost national economy. However, a bank is a resource of economic development, which maintains the self- confidence of various segments of society and extends credit to the people.

“A bank is a business organization that receives and holds deposits of funds from others, makes loans or extends credits and transfers funds by written orders of depositors.” (*The Encyclopedia America; 1984:302*)

The business of the banking is collection of funds from community and extending credit to people for useful purposes. Bank plays a vital role in making money from lenders to borrowers. Bank is a profit seeking business, not a community charity profit seeker. It is expected to pay dividend and otherwise, add to the wealth of shareholders. (*Encyclopedia; 1984:6*)

Hence, in concise, we can say that there is no single universally accepted definition of bank. In brief, it is an institution, which accepts deposits in different accounts, provides loans of different types, and creates credit.

### **2.1.9 History of Banking In Nepal**

The history of banking in Nepal is not very old. It goes at least back to the Lichchhavi era. There were 'Gosthies' to work as credit banks established under the permission of royal order and they were conducted through local legislation called 'Panchali'. Then the King Jayasthiti Malla from malla dynasty, allowed 'Tanakadhari', a class of people, to deal in depositing and lending of money and ornaments. The Banda who still worked in ornaments used to deal in lending and depositing the ornaments in that time also. Then, came the king, Ram Shah, in developing the banking system in Nepal. He found that unorganized lending was taking place in the society at very high interest rates. So, he fixed up the interest rates of lending.

Though it seemed realizing the development of banking in those early times, it could not be materialized till the end of rana regime. The first government institutionalized credit house called 'Tejrath Adda' was established during the tenure of Prime Minister, Ranoddip Singh (1993-1994 B.S). The 'Tejarath Office' used to give loans to government employees against the securities of gold, silver, etc.

Banking in true sense started with the inception of Nepal Bank Limited on 30<sup>th</sup> Kartik, 1994 B.S. as the first commercial bank of Nepal under Nepalese Banking Law and Nepal bank act 1994 B.S. formulated by the Industrial board of Nepal. After that, Nepal rastra bank was established as a central bank on 14<sup>th</sup> Baisakh, 2013 under Nepal Rastra Bank Act, 2012 B.S. The bank was empowered by the Act to have direct control over banking institution of the country to manage the circulation of national currency along with foreign exchange rate. Then came Rastriya Banijya bank established on 10<sup>th</sup> Magh, 2022 B.S. established under Rastriya Banijya Bank Act, 2021 B.S. Nepal Arab Bank Limited was established on 26<sup>th</sup> Ashad, 2041 B.S. as a first joint venture bank in Nepal opened under Banijya Bank Act, 2031 B.S. Having observed the success of Nepal Arab Bank Limited ( currently named as Nabil Bank Limited) and of liberal economic policy adopted by the government, various other commercial banks including joint venture banks and privately ownership banks established in Nepal.

### **2.1.10 Concept of Commercial Bank**

Commercial banks are that financial institution which deal in accepting deposits of people and institutions and giving loans against securities. They provide working capital needs of trade, industry, and even to agricultural sector. Commercial banks also provide technical and administrative assistance to trade, industries, and business enterprises. Commercial bank is a corporation, which accepts demand deposits, subject to check and makes short-term loan to business enterprises, regardless of the scope of its other services.

“A commercial banker is a dealer in money and substitutes for money, such as cheque or bill of exchange. It also provides a variety of financial services.”(*The New Encyclopedia; 1985:605*)

“The American institute of banking has laid down for functions of the commercial banks i.e. receiving and handling deposits, handling payments for its clients, granting loan and investment and creating money by extension of credit.” (*American Institute of Banking; 1985:609*)

“Principally, commercial banks accept deposits and provide loans, primarily to business firms, thereby facilitating the transfer of funds on the economy.” (*Bhandari; 2003:65*)

“In The Nepalese context, a commercial bank is one, which exchanges money, deposits money, accepts, grant loans, and performs commercial banking functions.” (*Commercial bank Act, 2063*)

“Commercial Banks are those banks which pull together the savings of the community and arrange for their productive use. They supply the financial needs of modern business by various means. They accept deposits from the public on the condition that they are repayable on demand on short notice. Commercial banks are restricted to invest their funds in corporate securities. Their business is confined to financing the short-term needs of trade and industry such as working capital financing. They cannot finance in fixed assets. They grant loan in the form of cash, credits and overdrafts. Apart from financing, they

also render services like collection of bills and cheques, safe keeping of valuables, financial advising, etc, to their customers.” (Vaidya; 2001:38)

### **2.1.11 Functions of Commercial Bank**

Commercial banks are the most important types of financial institution for the nation in terms of aggregate assets. Traditional functions of commercial banks are only concerned with accepting deposits and providing loans. But modern commercial banks work for overall development of trade’ commerce’ services, and agriculture also. The business of banking is very broad in modern business age. The number and variety of services provided by bank will probably expand. Recent innovation in banking include the introduction of credit cards, accounting services for business firm, factoring, leasing, participating in the Euro-Dollar market, and lock-box banking. The main functions of commercial banks are as follows:

**A) Accepting Deposits:-** It is fair deduction that no person or body, corporate or otherwise, can be banker who does not take deposits, issue and pay cheques and collect cheques from his customers. Here, all functions are related with the acceptance of deposits. Therefore, accepting deposits by bank is the oldest function of bank

A bank accepts in three forms viz saving, current and fixed. Saving deposit is one of the deposits collected from small depositors and low-income depositors. The bank usually pay small interest to depositors for their deposits. Current account is also known as demand deposits. Under this, any amount may be deposited. There are no restrictions regarding number and amount of withdrawals as contrary to saving account. The banks do not pay any interest on such account but charge small amount on the customers having current account. A fixed or time deposit is one where customers are requested to keep a fixed amount in the bank for specific period, generally by those who don’t need money for stipulated time. The bank pays a higher interest on such deposits.

**B) Advancing Loans:-** The second major function of a commercial bank is to provide loans and advances from the money, which it receives by way of deposits for the development of industry, trade, commerce, services, and agriculture. The main

purpose of commercial bank is to boost up the development pace of communities and the economy as a whole.

**C) Agency Services:-** The bank also performs number of services on behalf of the customers. The following are the agency functions provided by the bank;

- Dealing with the transaction of foreign exchange business
- Serving as an agent of correspondent on behalf of the customers
- Issuing letter of credit, circulate note, traveler's cheques, etc
- Purchasing and selling different kinds of securities and remitting funds
- Keeping valuable article in safe custody
- Providing financial advice to various persons and bodies whenever required

**D) Creating Money:-** The major function of the bank that separates it from other financial institution is the ability to create money and to destroy money, which is accomplished by lending and investing activities. The power of the commercial banking is of great economic significant as it results in the elastic credit system that is necessary for the economic progress at a relatively steady growth rate. (*American Institute Of Banking; 1985: 149*)

### **2.1.12 Concept of Joint Venture Bank**

Joint venture banks are the mode of trading to achieve mutual exchange of goods and services for sharing comparative advantages by performing joint investment scheme between Nepalese investors, financial, non-financial institute as well as private investors and their parent banks each supplying 50% total investment. The parent banks, which have been experiencing highly mechanized and efficient modern banking management skill and an international of banking institutions, Joint venture banks in Nepal as full-fledged commercial bank under the economy Act, 2021 B.S. and operated under the Banijaya bank Act, 2032 B.S.

“Nepal Government’s deliberate policy of allowing foreign Joint Venture Banks to operate in Nepal is basically targeted to encourage local traditionally run commercial banks enhancing their banking capacity through competition, efficiency, modernization, and mechanization via computerization and prompt customer service.” *Vaidhaya; 1999: 44-45*)

### **2.1.13 Needs for liquidity Mobilization**

The following are the reasons for why liquidity mobilization is needed in a developing country like Nepal. Workshop report “Liquidity mobilization why and how” states the following points as the needs for liquidity mobilization:

- Capital n is needed for the development of any sector of the country. The objective of liquidity mobilization is to collect the scattered capital in different forms within the country.
- It is much more important to canalize the collected liquidity in the priority sectors of a country. In our developing country, we have to promote our business and other sectors by investing the accumulated capital towards productive sectors
- The need for liquidity mobilization is felt to control unnecessary expenditure. If there is no saving, the extra money that the people have, can be forwarded by buying unnecessary and luxury goods. So, the government also should help to collect more liquidity, steeping legal procedures to control unnecessary expenditures.
- Commercial banks are playing a vital role for national development. Liquidity mobilization is necessary to increase their activities. Commercial banks are granting loan not only in productive sectors, but also in other sectors like food grains, gold and silver etc. however these loans are traditional in nature and are not helpful to increase productivity, but it helps, to some extent, to mobilize bank’s liquidities.

- To increase saving is to mobilize liquidity. It is because if the production of agriculture and industrial products increases, it gives additional income, which helps to save more, and ultimately, it plays a good role in liquidity mobilization.

*(NRB, Banker's Prakashan, Group A; 1984: 10)*

Low national income, low per capita income, lack of technical know-how, vicious cycle of poverty, lack of irrigation and fertilizers, pressure of population increase, geographical conditions, etc are the main problems to bring economic development in a under development country like Nepal. Liquidity mobilization helps in capital formation and thereby plays a vital role in economic development of a country.

#### **2.1.14 Liquidity Maintenance (CRR) of Commercial Banks and NRB Provision**

Liquidity is the term used to refer to the capacity of the bank to pay cash in exchange of the deposits. A large part of the bank deposits is withdrawn able on demand and hence the bank must maintain a sufficient degree of liquidity in its assets. Such assets may be cash or other readily realizable assets. The foundation of the entire banking system rests on the confidence that the bank is able to create in the minds of the people. If the confidence is lost and all the depositors decide to withdraw all their deposits from the bank on the same day, even the best institution cannot survive. The investors feel confident about a bank, only if it is able to produce cash on demand. The bank must, therefore, maintain sufficient cash reserves in its vault to honor every cheque that is presented across the counter

Holding too much cash in vault is also not a good sign for the bank. Cash is an idle asset and hence holding of large balances in cash will affect the profits of the bank. The cash reserves should not also be very meager. In that case, the bank would be inviting dangers as it may not be able to produce cash on demand. A prudent banker always keeps an extra amount of cash for the sake of safety. Thus liquidity management is a very tough and crucial job and NRB has formulated certain guidelines regarding the maintenance and management of liquidity to commercial banks in Nepal. According to the new directive effective from Mid-July 2004, the banks are required to maintain cash balance with NRB of at least 6% of its total deposit liability. The previous provision for

maintaining minimum balance with NRB was 7 % of savings and current deposit liability and 4.5 % of fixed deposit liability. The bank also had to maintain 2 % of its total deposit liability on its own vault for daily operation but this provision has already been withdrawn from its new circular effective from July 2004. A new CRR provision of 5.5 % has been applied and practiced since end of Fiscal Year 2004/05 by NRB and now the commercial banks are required to maintain its CRR under this new provision

### **2.1.15 Mobilization of Liquidity**

“When we discuss about the liquidity mobilization, we are concerned with increasing income of the low income group of people and to make them able to save more and to invest again the collected amount in the development activities.” (*NRB, Bankers Prakashan; 1984: 10*)

“The main objective of the liquidity mobilization is to convert the idle saving into active saving.” (*Nepal Bank Patrika; 2037:7*)

In developing countries, there is always the shortage of capital for the development activities. There is the need of development in all the sectors. It is not possible to handle and develop all the sectors by the government alone at a time. Private people also can't undertake large business because the per capita income of the people is very low and their propensity to consume is very high. Due to the low income, their saving is not sufficient for carrying out developmental works.

To achieve the higher rate of growth and per capita income, economic development should be accelerated. Economic development may be defined in a very broad sense as a process of rising income per head through the accumulation of capital.

“Capital formation is possible through collecting scattered unproductive and small savings from the people. This collected fund can be utilized in productive sectors to increase employment and national productivity. Liquidity mobilization is the most important source of the capital formation.” (*RBB, Upahar; 2055: 14*)

“Banking transaction refers to the acceptance of deposit from the people for granting loan and advances, and returning the accepted deposit at demand or after the expiry of the



certain period according to the banking rules and regulations. This definition clearly states that liquidity mobilization is the starting point of banking transactions. Banking activities can be increased as well as the accumulated liquidity can be mobilized effectively.” ( *NRB, Nepal Bank Patrika, 2037: 7*)

“ A commercial bank changes the scattered unproductive small savings into loanable active savings. The bank not only collects saving, but also provides incentives to the savers and helps them to be able to save more.” ( *RBB, Uphahar; 2055: 15*)

“Commercial banks are set up with a view to mobilize national resources. The first condition of national economic development is to be able to collect more and more deposits. In this context, the yearly increasing rate of commercial banks deposit clearly shows the satisfactory progress of liquidity mobilization.” ( *RBB, Uphahar; 2055: 20*)

## **2.1.16 Factors Affecting the Needs of Bank Liquidity**

### **A) External Environmental Factors:**

- **Prevailing interest rate:** If prevailing interest rate is high, the cash demand through cheque as well as loan demand will also be decreased. Hence an increase in bank interest rate leads to decrease the need of bank liquidity.
- **Saving and investment situation:** If the income of public is in increasing trends and public expenditure is not increasing trends and public saving. In this situation, less degree of liquidity is enough in banks.
- **Public investment habit:** The investment habit of general public plays an important role in the needs of bank liquidity. If people prefer to invest in business, bank should maintain more liquidity. Contrary to this, if they do not like to bear risk, they deposit saving in banks. In this situation, less liquidity will be adequate in banks.
- **Trends of national economy:** The economy of the country greatly affects the liquidity needs of banks. If the economy is in the position of growth and boom, bank can maintain comparatively less liquidity. But banks should maintain more liquidity in the declining and slack economy.

## **B) Internal Environmental Factors:**

- **Lending policy of the bank:** When bank follows the policy of providing advance loan more in long-term basis, it needs more liquidity. Contrary to this if bank invests its funds more in short term loan and marketable securities comparatively, less liquidity will be adequate for such bank.
- **Managerial capacity:** The managerial talent and attitude of executive also affect the need of bank liquidity. If the managers are very talented, experienced and ready to bear higher risk and committed to earn more profit, then less liquidity is maintained and vice versa.
- **Nature of fund:** Generally, banks holding more current deposit should maintain more liquidity, because current deposit should be refunded on demand. Contrary to this, banks should not maintain much liquidity if there is holding of fixed deposits because fixed deposits are not withdrawn before due date. Thus, such deposits can be invested in production sectors.

### **2.1.17 Why Banks Face Liquidity Problem?**

The significant expose of banks to liquidity pressures arises from several sources.

First, banks borrow large amount of short-term deposit and reserve from individuals, business and from other lending institution and then turn around and make long term credit available to their borrowing customers. In this situation, most banks faces

A problem related to the maturity mismatch is that banks hold an unusually high proportion of liabilities subject to immediate payment, such as demand deposit, NOW account, and money market borrowing. In this situation, banks must always stand ready to meet immediate cash demand that can be substantial at times, especially near to the end of a week, at the first of certain seasons of the year.

Another source of liquidity problem is the bank's sensitivity to change in interest rates. When interest rates rise, some depositors withdraw their funds in search of higher elsewhere. Many loan customers may postpone new loan request or speed up their drawing on those credit lines that carry lower interest rates. In this situation, changing

interest rates affect both customers demand for deposit and customer demands for loans, each of which poses a potent impact on a bank's liquidity position. Moreover, movement in interest rates affects the market values of assets the bank may need to sell in order to raise additional liquid fund, and they directly affect the cost of borrowing in the money market. Beyond these factors, a bank must give high priority to meet the demands for liquidity. If banks fail to maintain such position then it may lose public confidence in the institution. We can imagine the reaction of bank customers if the teller windows and teller machine had to be closed one morning because the bank temporarily out of cash and could not cash cheques or meet deposit withdrawals (As happened to a bank in Montena several years ago, prompting a federal investigation)

One of the most important tasks of a bank's liquidity manager is to keep close contact with the bank's largest depositors and holders and holders of large unused credit lines to determine and when withdrawals of funds will be made and to make sure adequate funds are available.

## **2.2 Review of Previous Studies**

### **2.2.1 Review of Related Journals and Articles**

**Matz,L. (2001) “*Liquidity Risk management and Self Paced AL Management.*”**

Undoubtedly suggest that the quantity of liquidity you have or can get must be related to the quantity of liquidity that you think you may need. The quantity of liquidity that you need is mainly, the sum of current liabilities you may lose plus new assets you have to fund liquidity Risk, the amount of liquidity you might need, is highly scenario specific. Liquidity cannot be intelligently measured without using scenario analysis. Sources available in some scenario are less or unavailable in others. He emphasized that the essences of liquidity risk in cash flows. Therefore, fundamentally, liquidity gap analysis is simply an evaluation of the two requirements. “Enough money” and” When we need it”. Liquidity risk management tactics are more vital than managing the time profiles of maturing liabilities. He conducted four essential liquidity management tools: a) Always keep some asset liquidity reserve, b) Extend liabilities terms to reduce liquidity risk, c) be prepared to enhance liquidity quickly at the first sign of increased potential need, d) Image cash flows

profile. He further recommended that banks should analyze the likely impact of different stress scenarios on their liquidity position and set their limit accordingly. Limits should be appropriate to the size, complexity and financial condition of the bank. Management should define the specific procedures and approvals necessary for expectation to policies and limits. The liquidity strategy should set out the general approach the bank will have to liquidity, including various quantitative and qualitative target. This strategy should address the bank's goal of protecting financial strength and the ability to withstand stressful event in the marketplace. Optimal management of liquidity requires a delicate balance between liquidity risk and income. No bank can hold enough liquidity to survive anything close to a "worst case" Liquidity crisis. The penalty for too little liquidity may be the failure of the bank but too much liquidity carries a penalty as well. So, liquidity risk is highly idiosyncratic, arbitrary and inconsistent.

**Shrestha, S.R (2061 B.S.)** in his articles, *"The Efficient of Liquidity Monitoring and Forecasting Framework the Nepal Rastra Bank in the Context of Liquidity Management in the Nepalese Banking and Financial System"* has conducted liquidity management is the part of risk management framework of financial services industry. He found taking high liquidity risk as well as high credit risk are two main factors that cause banks to fail. Although high liquidity risk alone is not likely to cause bank to failure, a liquidity crisis usually signals a need for change. He concluded proper liquidity management ensures that bank and financial institutions' financial commitments and obligation are met. Maintaining adequate liquidity also help in avoiding forced sale of assets. The need for bank liquidity steams from seasonal, cyclical trend and short term irregular movements is deposit and loans. The different sources available to meet these liquidity needs were identify and grouped into assets and liability liquidity sources. The treasury manager must consider the purpose of the liquidity need, the length of time for which funds are needed, the access to liability markets, the cost and the characteristics of various liquidity sources and interest rate forecasts.

**Bank for International Settlement (June 2008);** *" Principles for Sound Liquidity Risk management and supervision (Draft for consultation)"* Basel, Switzerland: Basel Committee on banking Supervision has concluded that a bank is responsible for the

sound management of liquidity risk. A bank should establish a robust liquidity risk management framework that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources. Supervisors should assess the adequacy of both a bank's liquidity risk management framework and its liquidity position and should take prompt action if a bank is deficient in either area in order to protect depositors and to limit potential damage to the financial system. Similarly, a bank should clearly articulate a liquidity risk tolerance that is appropriate for the business strategy of the organization and its role in the financial system. Senior management should develop a strategy, policies and practices to manage liquidity risk in accordance with the risk tolerance and to ensure that the bank maintains sufficient liquidity. Senior management should continuously review information on the bank's liquidity developments and report to the board of directors on a regular basis. A bank's board of directors should review and approve the strategy; policies and practices related to the management of liquidity at least annually and ensures that senior management manages liquidity risk effectively.

This committee, in governance aspect of liquidity risk management, has also concluded that a bank should incorporate liquidity costs, benefits and risks in the product pricing, performance measurement and new product approval process for all significant business activities ( both on and off-balance sheet), thereby aligning the risk-taking incentives of individual business lines with the liquidity risk exposures their activities create for the bank as a whole.

Again, This committee further reveals that for the measurement and management of liquidity risk, bank should have a sound process for identifying, measuring, monitoring and controlling liquidity risk. This process should include a robust framework for comprehensively projecting cash flows arising from assets, liabilities and off-balance sheet items over an appropriate set of time horizons. Similarly, bank should actively manage liquidity risk exposure and funding needs within and across legal entities, business lines and currencies, taking into account legal, regulatory and operational limitations to the transferability of liquidity. Again the bank should establish a funding strategy that

provides effective diversification in the sources and the tenor of funding. It should maintain an ongoing presence in its chosen funding markets and strong relationships with funds providers to promote effective diversification of funding sources. A bank should regularly gauge its capacity to raise funds quickly from each sources. It should identify the main factors that affect its ability to raise funds and monitor those factors closely to ensure that estimates of fund raising capacity remain valid.

Apart from this a bank should actively manage its intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions and thus contribute to the smooth functioning of payment and settlement systems. Again, bank should actively manage its collateral positions, differentiating between encumbered and unencumbered assets. A bank should monitor the legal entity and physical location where collateral is held and how it may be mobilized in a timely manner.

Similarly, a bank should have a Formal Contingency Funding Plan (CFP) that clearly sets out the strategies for addressing liquidity shortfalls in emergency situations. A CEP should outline policies to manage a range of stress environment, establish clear lines of responsibility, include clear invocation and escalation procedures and be regularly tested and updated to ensure that it is operationally robust.

Beside these, a bank should maintain a cushion of unencumbered, high quality liquid assets to be held as insurance against a range of liquidity stress scenarios, including those that involves the loss of impairment of unsecured and typically available secured funding sources. There should be no legal, regulatory or operational impediment in using these assets to obtain funding.

The committee on the aspect of public disclosure again reveals that a bank should publicly disclose information on a regular basis that enables market participants to make an informed judgment about the soundness of its liquidity risk management framework and liquidity position.

Furthermore, the committee has set out the role of supervisors as they should regularly perform a comprehensive assessment of a bank's overall liquidity risk management

framework and position to determine whether they deliver an adequate level of resilience to liquidity stress given the bank's role in the financial system. Again, supervisors should supplement their regular assessments of a bank's liquidity risk management framework and liquidity positions by monitoring a combination of internal reports, prudential reports and market information.

Similarly, Supervisors should intervene to require effective and timely remedial action by a bank to address deficiencies in its liquidity risk management processes or liquidity position. Beside these, supervisors should communicate with other relevant supervisors and public authorities, such as central banks, both within and across national borders, to facilitate effective cooperation regarding the supervision and oversight of liquidity risk management. Communication should occur regularly during normal times, with the nature and frequency of the information sharing increasing as appropriate during times of stress.

**Walt (2008), in his article, “*Sound practices for Managing Liquidity in banking Organization*”** attributed Liquidity, or the ability to fund increases in asset and meet obligations as they come due, is crucial to the ongoing viability of any banking organization. Sound liquidity management can reduce the probability of serious problems. Indeed, the importance of liquidity transcends the individual bank, since a liquidity shortfall at a single institution can have system-wide repercussions. For this reason, the analysis of liquidity requires bank management not only to measure the liquidity position of the bank on an ongoing basis but also to examine how funding requirements are likely to evolve under various scenarios, including adverse conditions.

**Reserve bank of Fiji- banking Supervision Policy Statement No: 9A (2010) “*LIQUIDITY RISK MANAGEMENT REQUIREMENTS FOR BANK.*”** has set out the various policies regarding liquidity risk management. This policy statement has suggested about “*Sound Practices for Managing Liquidity in banking Organizations*”. This policy statement, on the issue of liquidity risk management of banks, states that the liquidity risk management policy must reflect the daily strategy and longer-term liquidity plans, and must have (a) The measurement of liquidity position (b) Monitoring liquidity and (c) contingency planning as its major components

This policy statement states that banks should calculate (a) Loan to Deposit ratio (b) Loan to Adjusted Deposit Ratio (c) Liquid Assets to Total Deposits Ratio and (d) Liquid Assets to Total Assets Ratio , as the indicators that a bank should utilize at a minimum for the measurement of liquidity position.

Similarly, bank should conduct maturity Mismatch Analysis for measuring liquidity position. For this purpose, each bank shall use maturity mismatch ladders to compare cash inflows and outflows daily and over a series of time-bands which maturity mismatch ladder shows the net future cash flows of the institution's operations in various time-bands. A bank's net funding requirements are determined by analyzing its present and future cash flows at selected maturity dates, based on assumptions of the behavior of assets, liabilities and off-balance sheet items. Calculations will include the cumulative net excess or shortfall over the time frame of the liquidity assessment.

The policy statement again reveals that Cash Flow Projections should be made for measuring liquidity positions. For this purpose, banks should prepare cash flow projections on a regular basis for measuring and managing their net refinancing risk. Projection should cover cash flows for assets and liabilities and also consider cash flows from planned future activities. Cash flow projections should be calculated on a monthly basis and will be assessed in the course of on-site examinations. Similarly, each bank is to prepare on a monthly basis, a statement of assets and liabilities, with items classed according to its liquidity level. This can be used by the bank as a useful management tool for monitoring operations.

The policy statement further reveals that each bank is required to establish an Asset Liability Committee (ALCO) which shall be responsible for the management of the overall liquidity of the institution. Similarly, the ALCO must facilitate, coordinate, communicate and control balance sheet planning with regards to risks inherent in managing liquidity and convergences in interest rates. Beside these, all banks are required to maintain written report of the deliberations, decisions and roles of the ALCO with regards to liquidity risk management.



The policy statement further reveals that each bank is required to formulate a realistic and clear contingency plan for fast and decisive action. A contingency plan must outline the scenarios within which such plans may be activated.

### **2.2.2 Review of Thesis**

**Pyakurel** , (2003 ) Conducted his thesis entitled “ *A Comparative Study of Financial Performance of Standard Chartered Bank Nepal Limited, NABIL Bank Limited and Himalayan Bank Limited.*” His objective was

- To evaluate the financial position of the sample bank
- To analyze SWOT of commercial bank.

His major finding are;

- The normal standard, which means the three bank showed unsatisfactory liquidity position.
- Comparatively Standard Chartered Bank Nepal Limited was better than other banks.
- The researcher has found that Himalayan bank Limited has exceeded in using debts with respect to total assets and shareholders’ equity. He found that net profit to net worth ratio of Himalayan Bank Limited was slightly higher than Standard Chartered Bank Nepal Limited and NABIL Bank Limited.

**Shrestha** ( 2005 ) In his thesis “*Financial Performance analysis of Nepal Bangladesh Bank Limited*”, various financial research and statistical tools have been used to achieve the objective of the study. The analysis of data will be done according to the pattern of data available. Likewise, some financial tools such as ratio analysis and trend analysis and trend analysis have also been used for financial analysis.

The specific objectives of his research are:

- To analyze the functions, objectives procedure and activities of the NB bank.
- To analyze the lending practices and resources utilization of NB bank

- To determine the impact of growth in deposit on liquidity and lending practices.
- To examine the lending efficiency and its contribution to profit.

The research findings of the study are summarized as:

- NB bank has utilized most funds in the form of credit and advances.
- More than 75% of total deposits of the bank have been forwarded to customers as a credit and advances.
- The major part of utilizing, deposits and income generating sectors. If the bank has high deposits, bank can provide money to its customers as credit advances.
- Therefore, there is highly positive correlation between total deposits and credit and advances of NB bank.
- Bank is providing different schemes to attract good customers. After attracting deposits from the customers, bank has issued the deposits from the customers, Bank has issued the deposits to the needed area to make profit for the bank.

**Poudel ,R.** (2006) has conducted a research on “*Liquidity Management of Commercial Banks in Nepal*” of BOK, NIC, NABIL, EBL and NABIL. This study has set out the following objectives:

- To Examine the liquidity management in Nepalese commercial banks.
- To analyze the problem of liquidity management in Nepalese commercial banks.
- To identify factors affecting the liquidity position and its management in Nepalese commercial banks.
- To examine the effectiveness of liquidity management in Nepalese commercial banks.
- To provide suggestion and recommendation about liquidity management in commercial banks.

Major findings of his study are as follows:

- Cash and bank balance to current deposit ratio of NIC is high and EBL, is too low. This implies that the liquidity position of NIC is strong, EBL is poor and BOK, NABIL and NABIL are in moderate.
- Liquid funds to total deposit ratio of all bank's are in decreasing trend. BOK and NABIL are reducing their fund rapidly. Whereas most of the deposit of NIC, NABIL and EBL are remained as liquid fund.
- NIC and EBL have maintained adequate balance with NRB but BOK, NABIL and NABIL have not maintained sufficient reserve in bank for liquidity position.
- BOK has strong liquidity position; NIC has negative and poor liquidity position. NABIL is facing liquidity management problem and NABIL has normal liquidity position.

**Dhungana, R.** (2006) has conducted a research on "*Liquidity Position of Commercial Banks in Nepal*" of BOK, SCBL, SBI, NABIL, EBL, NIB and NABIL. This study has set out the following objectives:

- To examine the relationship between liquidity and profitability.
- To examine liquidity position of commercial banks.
- To examine the relationship between liquidity and interest rates.
- To suggest improvement for liquidity position of banks in future.

Major findings of her study are as follows:

- Balance of NRB to total deposit ratio of SBI bank is greater than other banks.
- There is positive correlation between change in deposit and change in total liquidity of BOK, NABIL, SBI, SCBL, NIB, EBL but NABIL has negative correlation coefficient.

- There is a positive correlation between total liquid funds and net profit of BOK, NIB and EBL but negative of NABIL, SBI, SCBL and NABIL.

**Malla**, (2007) has conducted thesis entitled, “*Financial Performance of Commercial Bank with Special Reference to Himalayan & NABIL Bank Ltd.*” The main objective of the study is to analyze the liquidity position & the profitability of these two banks are as follows.

- To analyzed the liquidity management of sample banks
- To analyze the deposit and investment position of the banks.
- To find out the relationship between deposit, investment, loans and advances and net profit.
- To find out the trend analysis of deposit, investment, loans and advances and net profit.

Major findings of this study are as follows:

- The high liquidity ratios are maintained by this banks.
- The measurement of assets management has revealed that the total liability to total assets of NABIL has the highest ratio than of NABIL.
- Considering EPS, performance of NABIL is better than NABIL but comparing net profit and shareholders’ equity, the performance of NABIL is better.
- The overall liquidity ratio of NABIL is better, it has low degree of surviving capacity in the adverse liquidity position caused by interest sensitive deposit.

**Dhungana**, (2008) has conducted thesis entitled, “*Investment & Liquidity Management of Insurance Companies.*” The main objective of the research is as follows;

- To analyze the investment pattern
- To analyze Liquidity management of the Insurance companies
- Trend of profit of the insurance companies.

He has found that:

- Most of the insurance companies are found investing in government securities & debenture, share of other companies' securities, bank & finance companies.
- They are not investing in real estate and mutual fund.
- All insurance companies seem to be risk avoiding while making their investment.

### **2.3 Research Gap**

The review of above relevant literature has contributed to enhance the fundamental understanding and knowledge, which is required to make this study meaningful and purposeful. Since Liquidity Risk Management is crucial and current issue in Nepalese banking sector, it seems that there are limited articles, journals & research conducted about Liquidity management of Commercial Banks in Nepal. By observing the objectives and findings of Above mentioned studies, it is found that different studies have different area of coverage. But no one has considered credit-deposit ratio, maturity mismatch analysis etc. available research reports are outdated, focused to some part of the country and not conducted rigorously.

Despite the fact that Liquidity Risk Management is current and urgent issue among Nepalese community, the NRB and commercial banks have failed to main-streamline it. No rigorous study has been made at the very moment. Therefore, at this moment, a rigorous study has become urgent for Liquidity Management of Commercial Banks in Nepal

## **Chapter - Three**

### **RESEARCH METHODOLOGY**

The topic of the study has been selected as “Comparative study on liquidity management of Everest Bank Limited and NABIL Bank Limited”. In order to reach and accomplish the objectives of the study, different activities will be carried out. For this purpose, the chapter aims to present and reflect the methods and techniques that are carried out and followed during the study period. The research methodology that is adopted for the present study is mentioned in this chapter which deals with research design, sources of data, data collection, processing and tabulating procedure and methodology.

The prime concern of this study is the liquidity position of the commercial bank for analyzing the liquidity risk. The liquidity position of the commercial banks is measured by its ability to discharge the demand of deposit and loanable fund. The overall approach to the research is presented in this chapter.

This chapter mainly deals with research methodology used to ascertain the study objectives. Under this, research design, nature and sources of data, population and sample and method of data analysis technique have been described.

#### **3.1 Research Design**

A research design is the arrangement of conditions for collection and analysis of data that aim to combine relevance to the research purpose with economy in procedure. Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to objective of this study. To achieve the objective of this study, descriptive and analytical research design has been used.

It is the process which gives us an appropriate way to reach research goal. It includes definite procedures and techniques which guide in sufficient way for analyzing and evaluating the study. This study is carried out by using both quantitative and qualitative analysis methods. Mostly, secondary data has been used for analysis, but the discussion

and personal interview with the concerned employees of the selected bank is also used for qualitative analysis. Hence, research design of this study is based on descriptive and analytical method.

### **3.2 Sources of Data**

There are two sources of data collection. The research is based on secondary source of data. All the adequate data are collected from secondary sources. This refers to data that are already used and gathered by others. Secondary data are mostly used for this research purpose. So the major sources of secondary data are as follows:

- Annual Report of concern Bank.
- Internet and E-mails.
- NRB Directives.
- Economy survey of Government of Nepal and Ministry of finance.
- Newspaper, Journals, Articles and various Magazines.
- Dissertation of Central Library of T. U. and Library of Shanker Dev Campus

### **3.3 Population and Sample**

“The term ‘population’ or ‘universe’ means all the members of any well defined class of events of objective.” (*Pant; 2002:75*) The population refers to the organization of the same nature and its services and product in general. So, the total numbers of commercial banks in Nepal are population. There are 32 commercial banks in Nepal.

“ A sample portion chosen from the population for studying its properties is called sample and the number of units in the sample is known as sample size. The method of selecting for study a small portion of the population to draw conclusion about the characteristics of the population( universe) is known as sampling.” (*Chaudhary, 2058: 171*)

The objective of the research is to explore and describe the liquidity management of commercial bank in Nepal from the research point of view. However, with regard to the availability of the financial information, two samples were identified purposively from the banking sector.

The study of whole universe is not possible due to lack of time, money and capacity. Thus, among 31 commercial banks, two commercial banks have been chosen as sample. Simple random sampling methods have been selected for the study. They are:

- Everest Bank Limited
- NABIL Bank Limited

### **3.4 Data Collection Techniques**

Different tools and techniques were adopted while collecting the data for this study. Collected secondary information are analyzed during the course of the deskwork. However, during the desk study, an informational gap was found. This gap was fulfilled by the discussion with the thesis advisor and finance experts of the security board and the NEPSE.

### **3.5 Data Analysis Tools**

Presentation and analysis of data is one of the important part of the research work. The collected raw data will be presented in systematic manner in tabular form and then will be analyzed by applying different financial and statistical tools to achieve objectives. Besides these some graph charts and tables will be presented to analyze and interpret the findings of the study. The tools applied are:



### 3.5.1 Financial Tools

**i) Liquidity Ratios:** This ratio measures the liquidity position of a firm. It measures the firm's ability to meet its short-term obligations. As a Financial Analytical tools, following liquidity ratios will be used.

**a) Current Ratio:** This ratio shows the bank's short-term solvency. It shows the ratio of current assets over the current liabilities. This ratio can be computed by dividing the Total Current Assets by Current Liabilities, which can be presents as:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current liabilities}}$$

Higher ratio indicates the strong short – term solvency position and vice versa.

**b) Cash and Bank to Total Deposit ratio:** Cash and bank balances are the most liquid current assets. This ratio measures the percentage of most liquid fund with the bank to make immediate payment to the depositor. This ratio can be computed by dividing Cash and Bank Balance by Total Deposit can be presented as:

$$\text{Cash and Bank to Total Deposit Ratio} = \frac{\text{Cash \& Bank Balance}}{\text{Total Deposits}}$$

Cash and bank balance includes cash in hand, cheques and other cash items, balance with domestic and foreign banks. The total deposit includes deposit made by customers though different accounts like current ( demand deposit ), saving, fixed deposit, call deposit and other deposit accounts.

**c) Cash and Bank Balance to Current Assets Ratio:** This ratio measures the proportion of most liquid assets viz. cash and bank balance among the total current assets of the bank. Higher ratio shows the bank's ability to meet its demand for cash. The ratio is computed by dividing Cash and Bank Balance by Current Assets, presented as under,

$$\text{Cash and Bank Balance to Current Assets Ratio} = \frac{\text{Cash \& Bank Balance}}{\text{Current Assets}}$$

**d) Investment on Government Securities to Total Current Asset Ratio:** This ratio is calculated to find out the percentage of current assets invested on government securities viz. treasury bills and development bonds. The ratio is stated as under,

Investment on Government Securities to Total Current Asset Ratio =

$$\frac{\text{Investment on Government Securities}}{\text{Current Assets}}$$

**ii) Assets Management Ratios:** Asset management ratio measures the proportion of various assets and liabilities in balance sheet. The proper management of assets and liability ensures its effective utilization. The banking business converts the liability into assets by way of its lending and investing functions. The following are the various ratios relating to determine the efficiency of the subjected bank in managing its assets and in portfolio management.

**a) Loan and Advances to Total Deposit Ratio:** This ratio is called credit-deposit ratio (C D ratio). It is calculated to find out how successfully the bank is able to utilize its total deposits on loan and advances for profit generating purpose. Greater ratio implies better utilization of total deposits. This ratio can be obtained by dividing loan advances by total deposit as under,

$$\text{Loan and Advances to Total Deposit Ratio} = \frac{\text{Loan \& Advances}}{\text{Total Deposit}}$$

**b) Total Investment to Total Deposit Ratio:** Investment is one of the major factors of credit creation to earn income. This implies the utilization of firm's deposit on investment on government Securities, shares and debenture of other companies and banks. This ratio can be calculated by total investment divided by total deposit as:

$$\text{Total Investment to Total Deposit Ratio} = \frac{\text{Total Investment}}{\text{Total Deposits}}$$

**c) Loan and Advances to Working Fund Ratio:** Loan and advances is the major component in the total working fund ( total Assets ), which indicates the ability of bank to utilize its deposits in the form of loan and advances to earn high return. The ratio is computed by dividing loan and advances by total working fund, which is stated as under

$$\text{Loan and Advances to Working Fund Ratio} = \frac{\text{Loans and Advances}}{\text{Total Working Fund}}$$

**d) Investment on Government Securities to Total Asset Ratio:** This ratio shows that bank's investment on government securities in comparison to the total working fund. This ratio can be computed by dividing investment on government securities by total working fund, which can be presented as,

Investment on Government Securities to Total Working Fund =

$$\frac{\text{Investment on Government Securities}}{\text{Total Working Fund}}$$

**iv) Profitability Ratios:** Profitability ratios are used to indicate and measure the overall efficiency of a firm in terms of profit and financial performance. For better performance, profitability ratios of firm should be higher. Under this, the following profitability ratio will be computed.

**a) Return on Loan and Advances Ratio:** This ratio indicates how efficiently the bank utilizes its resources in the form loans and advances. This also measures the earning capacity of its loans and advances. This ratio is computed by dividing Net Profit ( Loss ) by Loans and Advances which can be expressed as:

$$\text{Return on Loan and Advances Ratio} = \frac{\text{Net Profit (Loss)}}{\text{Loan and Advances}}$$

**b) Return on Total Asset Ratio (ROA):** This ratio measures the overall profitability of all working fund i.e. total assets. It is also known as Return on Assets (ROA). This ratio is calculated by dividing net profit (loss) by total working funds. This can be presented as,

$$\text{Return on Total Working Fund Ratio (ROA)} = \frac{\text{Net Profit (Loss)}}{\text{Total Working Fund}}$$

The numerator indicates the portion of income left to the internal equities after deduction of all costs, charges and expenses. The bank has used funds of the shareholders. This ratio can be computed by dividing net profit by Total Equity capital (Net Worth). This can be calculated as,

$$\text{Return on Equity (ROE)} = \frac{\text{Net Profit (Loss)}}{\text{Total Equity capital}}$$

**c) Interest Income to Total Income Ratio:** This ratio measures the volume of Interest Income in Total Income of the bank. The high ratio indicates the high contribution made by the Lending and Investing and Vice Vera. This ratio can be computed by dividing Interest Income by Total Income presented as under,

$$\text{Interest income to Total Income ratio} = \frac{\text{Interest Income}}{\text{Total Income}}$$

**d) Total Interest Paid to Total Working Fund ratio:** This ratio depicts the percentage of Interest Paid on Liabilities with respect to Total working Fund, which can be presented as,

$$\text{Total Interest paid to Total Working Fund Ratio} = \frac{\text{Total Interest Paid}}{\text{Total Working Fund}}$$

**V) Risk Ratio:** Risk and uncertainty is a part of business loss. All the business activities are influenced by risk, so business organization cannot achieve a good return as per their desires. The profitability of risk makes banks investment a challenging task. Bank has to take risk to get return on its investment. The risk taken is compensated by the increase in profit. So the banks options for high profit have to accept the risk and manage it efficiently. A bank has to have ideas of the level of risk of risk that one has to bear while investing its funds. Through following ratios, effort has been made to measure the level of risk inherent in the EBL and NABIL.

**a) Credit Risk Ratio:** Credit Risk Ratio measures the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. By definition, Credit Risk ratio is expressed as the percentage of Non- Performing Loan to Total Loan and Advances.

Bank utilizes its collected fund by providing credit to different sections. There is risk of default or non- repayment of loan. While making investment, bank examines the credit risk involved in the project. The Credit Risk Ratio shows the proportion of non- performing assets in total Loan and Advances of the bank and vice- versa.

**b) Liquidity Risk Ratio:** The Liquidity Risk of the bank defines its Liquidity needs 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 sash balance but this reduces profitability increase and also the risk. Thus, higher liquidity ratio indicates less profitable return and vice-versa. This ratio is calculated as below:

$$\text{Liquidity Risk Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit}}$$

**vi) Other Ratios:**

**a) Earning per Share (EPS):** EPS refers to net profit divided by total numbers of share outstanding. EPS measures the efficiency of a firm in relative terms. It is a widely used ratio, which measures the profit available to the ordinary shareholder on per share basis. The amount of EPS measures the efficiency of a firm in relative terms. This ratio is calculated as,

$$\text{Earning Per Share (EPS)} = \frac{\text{Net Profit (Loss)}}{\text{Total No of Shares}}$$

**b) Market Price per Share:** Market price per share is the price at which shares are traded in the stock market. The secondary markets provide liquidity for securities purchased in primary market. Generally MPS is determined through supply and demand factors.

**c) Price Earning ratio:** The ratio is closely related to the Earning per Share. It is calculated by dividing the Market Value per Share by EPS. Price Earning Ratio indicates investor's judgments or expectation about the firm's performance. This ratio widely used by the security analysis to value the firm's performance. This ratio widely used by the security analysis to value the firm's performance as accepted by investors. Price Earning Ratio reflects investor expectations about the growth in the firm's earning. Higher ratio indicates the more value of the stock that is being ascribed to future earning as opposed to present earning.

Here, Total Equity Capital includes Shareholders' Reserve including Profit and Loss Account, General Loan Loss Provision and Share Capital i.e. ordinary Share Preference Share Capital.

### 3.5.2 Statistical Tools

Statistical methods are the mathematical techniques used to facilitate the analysis and interpretation of numerical data secured from groups of individuals or groups of observation from a single individual. The figures provide details description and tabulates as well as analyze data without subjectivity, but only objectivity. The result can be presented in brief and complicated problems can be studied in very simple way. It becomes possible to convert abstract problems into figures and complex data in the forms of table.

Some important statistical tools will be used to achieve the objective of this study. In this study statistical tool such as Arithmetic mean, standard deviation, coefficient of variation, coefficient of correlation and trend analysis will be used.

i) **Arithmetic Mean:** In mathematics and statistics, the arithmetic mean, often referred to as simply the mean or average when the context is clear, is a method to derive the central tendency of a sample space. The term “Arithmetic Mean” is preferred in mathematics and statistics because it helps distinguish it from other averages such as the geometric and harmonic mean

In addition to mathematics and statistics, the arithmetic mean is frequently in fields such as economics, sociology, and history, though it is used in almost every academic field to some extent. For example, per capita GDP gives an approximation of the arithmetic average income of a nation’s population. The most popular and widely used measures of representation from the entire data by one value are what most laymen call an ‘average’ and what the statistician call the arithmetic mean. Its value is obtained by adding together all the times and by dividing this total by the number of items.

The formula to calculated mean is given by,

$$\text{Mean, } \bar{X} = \frac{\sum X}{N}$$

Where, X = Mean of the values

$\sum X$  = Summation of the values

N = No of observation

**ii) Standard Deviation ( S. D. ):** Standard deviation is a widely used measurement of variability or diversity used in statistics and probability theory. It shows how much variation or ‘Dispersion’ there is from the ‘Average’. A low standard deviation indicates that the data points tend to be very close to the mean, where as high standard deviation indicates that the data are spread out over a large range of values.

Technically, the standard deviation of a statistical population, data set, or probability distribution is the square root of its variance. A useful property of standard deviation is that unlike variance, it is expressed in the same units as the data.

The standard deviation is absolute measures of dispersion. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of series and vice – versa.

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

Where,

$\sigma$	=	Standard deviation
$\sum(X - \bar{x})^2$	=	Sum of squares of the deviations measured from arithmetic average.
N	=	Number of items

**iii) Coefficient of Variation:** The calculated standard deviation gives an absolute measure of dispersion. Hence where the mean value of the variable is not equal, it is not equal, it is not appropriate to compare two pairs of variables based on standard deviation only. The coefficient of variation ( C.V. ) is given by the following formula in the percentage basis:



$$\text{Coefficient of Variation } C.V. = \frac{\sigma}{X} \times 100$$

**iv) Measures of Correlation:** We examine the relation between the various variables. The correlation between the different variables of a bank is compared to measure the performance of these banks. Correlation refers to the degree of relationship between variables. If between two variables, increase or decrease in one causes increase or decrease in another, then such variables are correlated variables. The reliability of the value of coefficient of correlation is measured by probable error. The correlation coefficient describes the degree of relationship between two variables. It interprets whether variables are correlated positively by which it is helpful to make appropriate investment policy for profit maximization. The Karl Pearson coefficient of correlation (r) is given by following formula

$$r = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}}$$

Where,

$$r = \text{Correlation coefficient}$$

$$\sum x_1 = X_1 - \bar{X}_1$$

$$\sum x_2 = X_2 - \bar{X}_2$$

The Karl Pearson coefficient of correlation always falls between - 1 to +1. The value of correlation in minus signifies the negative correlation and in plus signifies the positive correlation. As the value of correlation reaches to the value of Zero, it is said that there is no significant relationship between the variables.

**v) Trend Analysis:** Among the various methods of determining trend of time series, The most popular and mathematical method is the least square method. Using this least square method, it has been estimated the future trend values of

different variables. For the estimation of linear trends line following formula can be used:

$$Y = a + bx$$

Where, Y = Dependent variable

X = Independent variable

A = Y - intercept

B = Slope of the trend line

## Chapter - Four

### PRESENTATION AND ANALYSIS OF DATA

Introduction review of literature and research methodology is presented in the previous chapters that provide the basic inputs to analyze and interpret the data. Presentation and analysis of data is the main body of the study. In this chapter collected data are analyzed and interpreted as per the stated methodology in the previous chapter. The main sources of data are secondary data. In this chapter, researcher has analyzed and diagnosed liquidity management of Everest Bank Limited and NABIL Bank Limited. All the liquidity management is analyze by calculating following ratio.

#### 4.1 Financial Analysis

In this part various financials ratios related are presented to evaluate and analyze the performance of commercial Banks i.e. EBL and NABIL Bank. Some important financial ratios are only calculated in the point of view of fund mobilization. The ratios are designed and calculated to highlight the relationship between financial items and figures. It is a kind of mathematical relationship and procedure dividing one item by another.

**Table No 4.1**

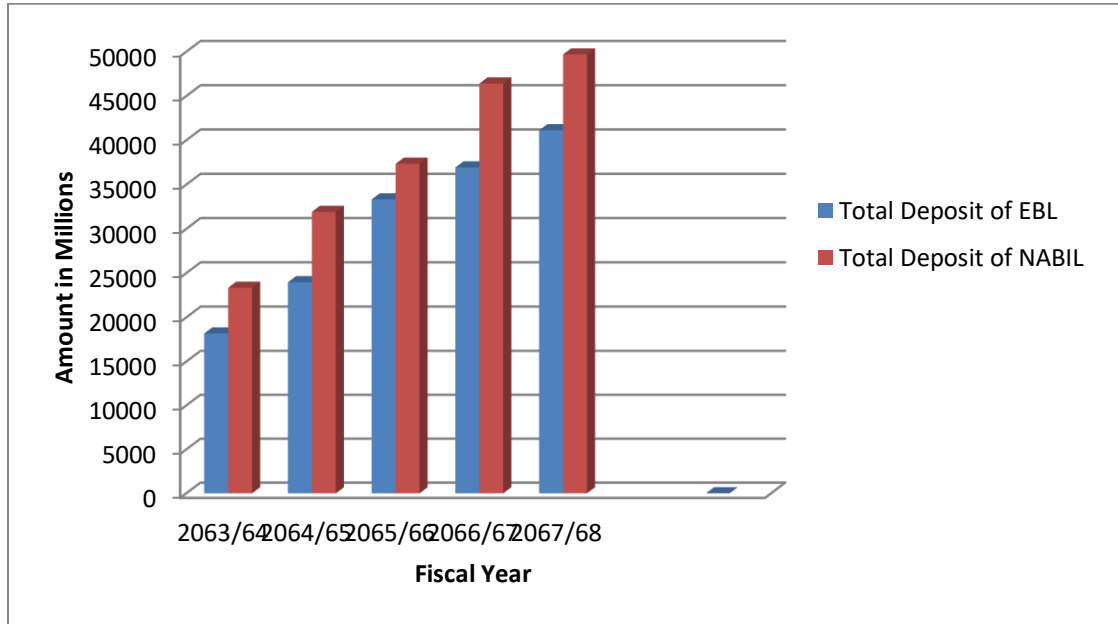
**Total Deposit and Cash & Bank Balance of Sample Banks (in millions)**

<b>Bank</b>	<b>Everest Bank Limited</b>		<b>NABIL Bank</b>	
<b>Details</b>	Total Deposit	Cash and Bank	Total deposit	Cash and Bank
<b>Years</b>		Balance		Balance
2063/64	18186.25	2391.42	23342.3	2704.06
2064/65	23976.30	2667.97	31915	5114.26
2065/66	33322.95	6164.38	37348	6743.95
2066/67	36932.31	7818.82	46411	6359.86
2067/68	41127.9	6122.8	49696	7445.92
Average	30709.14	5033.078	37742.46	5673.61

Source: Annual Report 2063/64 – 2067/68

**Figure No 4.1**

**Total Deposit of EBL & NABIL Bank (in millions)**

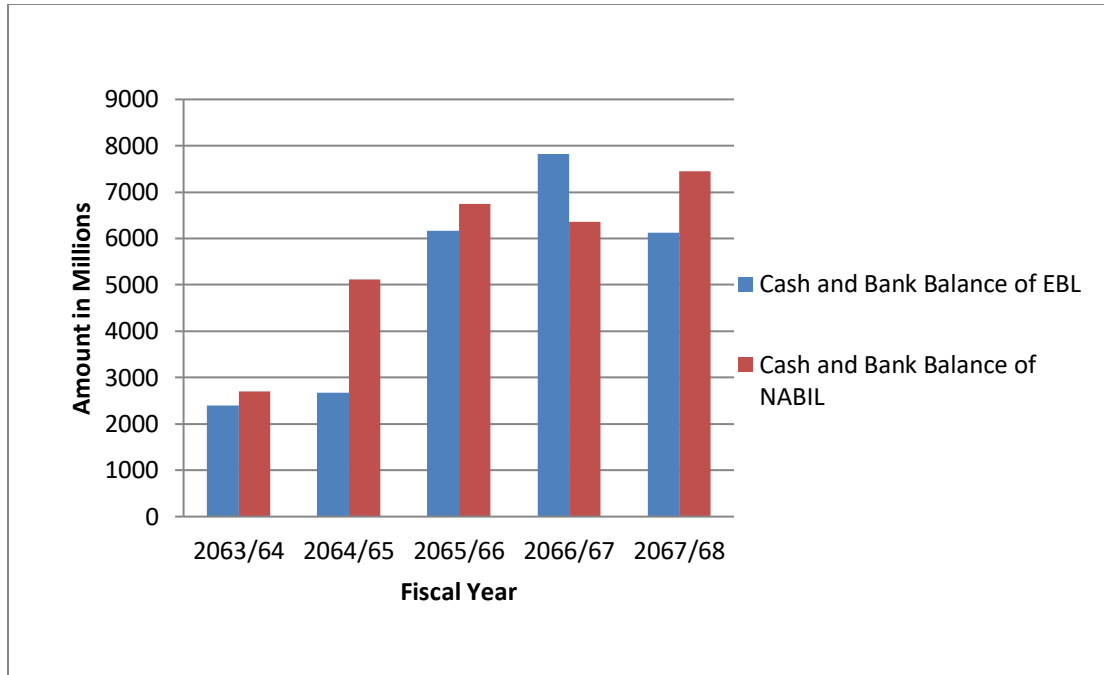


Above table and figure show the deposit collection and liquidity of EBL and NABIL. The EBL and NABIL both have increasing trend of total deposit over the study period. The average total deposit of EBL is 30709.14 and 37742.46 of NABIL. The lowest amount of EBL Rs 18186.25 million in 2063/64 and highest amount is Rs. 41127.9 million in 2067/68. Similarly, the NABIL have lowest amount Rs 23342.3 million in 2063/64 and highest amount Rs 49696 millions in 2067/68. In comparison the NABIL seems higher in deposit collection than the EBL.

Similarly, liquidity of position of NABIL is little higher than EBL. The average amount of cash balance of NABIL is Rs 5673.61 million and Rs 5033.07 million of EBL. The highest amount of liquidity is Rs 7445.92 million in 2067/68 and lowest amount Rs 2704.06 million in 2063/64 of NABIL. Cash and bank balance of EBL continuously increasing trend. In the same way the NABIL also increasing trend of cash balance the study period. The lowest amount of cash and balance Rs .2391.42 in 2063/64 and highest amount is Rs 7818.12 in 2066/67 of EBL. The total average cash and bank balance of NABIL is higher than the EBL.

**Figure No 4.2**

**Cash & Bank Balance of EBL & NABIL Bank**



## **4.2 Ratio Analysis**

Ratio analysis shows the mathematical relationship between two accounting figures. It helps to analyze the financial strengths and weaknesses of the banks. It is also inevitable for the quantitative judgment with which the liquidity management of banks can be presented properly.

### **4.2.1 Liquidity Ratio**

Commercial bank must maintain its satisfactory liquidity posting to satisfy the credit needs of community, to meet demands for deposit-withdrawals, pay maturity obligation in time and convert non-cash assets into cash to satisfy immediate needs without loss to bank and consequent impact on long-run profit. Liquidity ratio is mainly used to analyze the short-term strength of commercial banks.

### A) Analysis of Current Ratio

This ratio measures the liquidity position of the commercial banks. It indicates the ability of Banks to meet the current liquidity.

**Table No. 4.2**

#### **Current assets to current liability (in times)**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	1.39	1.35	1.25	1.41	1.01	1.28	0.16	0.13
NABIL	7.82	7.86	7.88	8.22	8.05	7.96	0.17	0.22

Source: Annual Report & Appendix 1

Above Table shows the current ratio of selected commercial banks during the study period. The current ratio of EBL and NABIL Bank is fluctuating trend. In general, it can be said that both the banks have sound ability to meet their short- term obligations. In the case of EBL the C.R. has high in 2066/67 i.e 1.41 and NABIL has high in 2066/67 i.e. 8.22. In an average, liquidity position of NABIL is greater than EBL i.e.  $7.96 > 1.41$ , due to high mean ratio. So, NABIL is better than EBL. Likewise, S. D. and C.V. of EBL is less than NABIL i.e.  $0.16 < 0.17$  and  $0.13 < 0.22$ . It can be said that C.R. of NABIL is more consistent than EBL.

Lastly, from the above analysis it is known that EBL have not better liquidity position because the standard ratio is 1:1. It just met the standard ratio. Generally, banks require more liquid assets with compare to current liabilities in order to provide better bank service but only NABIL is in better liquidity position than liquidity position of EBL.

### B) Cash and Bank Balance to Total Deposit Ratio

Cash and Bank Balance to Total Deposit Ratio indicates the bank ability to meet their daily requirement of depositors. Higher ratio shows the greater ability of the firms to meet customer demands on their deposits. Following table shows cash and bank balance to total deposit of EBL and NABIL during the study period.

**Table No. 4.3**

**Cash and Bank Balance to Total Deposit Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.13	0.11	0.18	0.21	0.15	0.16	0.04	0.25
NABIL	0.12	0.16	0.18	0.14	0.15	0.15	0.02	0.14

Source: Annual Report & Appendix 2

Above Table reveals that the Cash and Bank Balance to Total Deposit Ratio of EBL and NABIL fluctuating trend. The highest ratio of EBL is a 0.21 time in FY 2066/67 and lowest is 0.11 times in FY 2064/65. Similarly, the highest ratio of NABIL is 0.18 times in FY 2065/66 and lowers in 0.12 in 2063/64.

The mean ratio of EBL and NABIL are 0.16 times and 0.15 times respectively. EBL has higher ratio than the NABIL, which shows its greater ability to pay depositors money as they want. Similarly, the coefficient of variation of EBL is 0.04 times and NABIL is 0.02 times. S.D. of NABIL is lower than the EBL

The above analysis has to conclude that the cash and bank balance position of EBL with respect to NABIL is better in order to serve its customer's deposits. It implies the better liquidity position of EBL from the viewpoint of depositor demand but NABIL also near about EBL. In contrast a high ratio of cash and bank balance may be undesirable which indicates the bank's inability to invest its funds income generating areas. Thus EBL should invest in more productive sectors like short-term marketable securities insuring enough liquidity which will help the bank to improve its profitability.

**C) Cash and Bank Balance to Current Assets Ratio**

Cash and Bank Balance are the most liquid or quick assets. Cash and bank balance to current assets ratio represents the liquidity capacity of the firms as per cash and bank balance. Higher the ratios, better the ability of the firms to meet the daily cash

requirement of their customers. But high ratio is not so preferred to the firms because firms have to manage the cash and bank balance to current asset ratio in such manner that firm may not be paid interest on deposits and may not have liquidity crisis.

Following the states the cash and bank balance to current assets EBL and NABIL during the study period.

**Table No. 4.4**  
**Cash and Bank Balance to Total Current Asset Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
<b>EBL</b>	0.12	0.11	0.18	0.20	0.14	0.15	0.04	0.26
<b>NABIL</b>	0.01	0.01	0.02	0.01	0.01	0.04	0.002	0.05

Source: Annual Report & Appendix 3

Above table reveals that cash and bank balance to current assets ratio of EBL is fluctuating and increasing trend except last year. But ratio of NABIL is same except fiscal year 2065/66. The mean ratio of EBL and NABIL is 0.15 times and 0.04 times respectively. The higher mean ratio shows EBL's liquidity position is better than that of NABIL. Moreover, the .S.D and C.V. of EBL also higher than NABIL i.e.  $0.04 > 0.002$  and  $0.26 > 0.05$ . The higher C.V. of EBL indicates that it has more inconsistency in the ratios in comparison to NABIL.

Regarding the above analysis, it can be concluded that EBL has a little bit better ability to meet daily cash requirements of their customers but there is not any fix policy to maintain the standard ratio of cash balance over the period.

#### **D) Investment on Government Securities to Current Assets Ratio**

This ratio examines that portion of a commercial bank's current assets, which is invested on different government securities. More or less, each commercial bank is interested to invest their collected funds on different securities issued by government in different times to utilize their excess funds and for other purpose. Although those securities can be sold



easily in the financial market or they can be converted into cash, they are liquid assets like cash and bank balance. It shows the portion of current assets to banks that are invested on various securities. Government securities are the more secured investment alternatives. These securities are also called risk less investment but less return is generated than others risky assets.

**Table No. 4.5**

**Investment on Government Securities to Current Assets Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.18	0.13	0.10	0.07	0.11	0.12	0.041	0.35
NABIL	0.35	0.29	0.27	0.27	0.24	0.28	0.040	0.15

Source: Annual Report & Appendix 4

Above table shows investment on government securities to current assets ratio of EBL and NABIL. Both Banks has fluctuating type ratios. The table shows the highest ratio of EBL is 0.18 times in FY 2063/64 and lowest is 0.07 times in FY 2066/67. In the same way, the highest ratio of NABIL is 0.35 times in FY 2063/64 and lowest is 0.24 times in FY 2067/68.

The mean ratio of EBL is 0.12 i.e. 12 percent which is lower than the mean ratio of NABIL 0.28 i.e. 28 percent. It means NABIL has invested more money in risk free assets than that of EBL. In another words EBL has emphases on more loan and advances and other short term investment than investment in govt. securities. For minimization of investment risk, EBL should divert its investment in govt. securities. Similarly, S.D. is 0.041 and 0.040 and C.V is 0.35 and 0.15 of EBL and NABIL.

The higher C.V. of EBL shows the more inconsistency in the ratios with compare to NABIL

#### 4.2.2 Assets Management Ratio

A commercial bank must be able to manage its assets very well to earn high profit, so to satisfy its customers and for own existence. Assets management ratio measures how efficiently the bank manages the resources at its commands. Through following ratios, assets management ability of banks has been measured.

##### A) Loan and Advance to Total Deposit Ratio

This ratio actually measures the extent to which the banks are successful to mobilize the total deposit on loan and advances for the purpose of profit generation. A higher ratio of loan and advances indicates better mobilization of collection deposit and vice-versa. But it should be noted that too high ratio might not be better from its liquidity point of view. Following Table shows the loan and advances to total deposit ratio of related banks.

**Table No. 4.6**

##### **Loan and Advance to Total Deposit Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.75	0.76	0.0.72	0.75	0.76	0.75	0.02	0.027
NABIL	6.66	6.69	7.39	6.95	7.65	7.07	0.44	0.062

Source: Annual Report & Appendix 5

Above table shows that the loan and advances to total deposit ratio of EBL is in fluctuating trends and NABIL is increasing trends except 2066/67. The ratio of EBL has more fluctuating. NABIL has higher ratio than that of EBL in each year and mean too. It indicates the better mobilization of deposit by NABIL. The mean of NABIL and EBL are 7.07% and 0.75% respectively. So NABIL has higher ratio than that of . It reveals that the

deposit of NABIL is quickly converted in to loan and advances to earn income. 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 the NABIL has met the NRB requirement or it has utilized its deposit to provide loan. But EBL has not met the NRB requirement or it has not utilized its deposit to provide loan properly. The mean, S.D. and C.V of NABIL is 7.07, 0.44 and 0.062 similarly, EBL has 0.75, 0.02 and 0.027. By the analysis, EBL has little used the deposit in profit generating sector than that of NABIL.

**B) Total Investment to Total Deposit Ratio**

Commercial banks and financial companies invest their collected funds in various government securities and other financial or non-financial companies. This ratio measures how successfully and efficiently the banks are mobilizing their funds on investment in various securities. This ratio of EBL and NABIL are calculated and presentation below.

**Table No. 4.7**

**Total Investment to Total Deposit Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.20	0.14	0.10	0.07	0.12	0.12	0.05	0.42
NABIL	3.83	3.11	2.90	2.95	2.63	3.09	0.45	0.15

Source: Annual Report & Appendix 6

Above table shows that total investment to total deposit ratio of EBL and NABIL. Both banks have fluctuating trend total investment to total deposit ratio. Higher ratio of EBL is 0.20 percent in FY 2063/64 and lowest ratio is 0.07 percent in FY2066/67 and 2063/64 in the same way the highest ratio of NABIL 3.83% percent in FY 2063/64 and lowest ratio is 2.63% percent in FY 2067/68. Investment volume of EBL is lower than that of NABIL

because more funds of EBL were used in profitable loans to achieve optimum mix of interest earning assets.

The mean of the ratio of EBL and NABIL are 0.12% and 3.09% respectively so NABIL has higher ratio. It signifies NABIL has successfully allocated its deposit in investment portfolio. The C.V. of EBL is higher than NABIL i.e.  $0.41 > 0.15$ . So EBL seems to be more inconsistency.

### C) Loan and Advances to Total Assets Ratio

A commercial bank's working fund plays very active role in profit generation through fund mobilization. This ratio reflects the extent to which the banks are successful in mobilizing their total assets on loan and advances for the purpose of income generation. A high ratio indicates better mobilization of funds as loan and advance and vice-versa. The following table shows loan and advances to total assets of EBL and NABIL as follows.

**Table No. 4.8**

#### **Loan and Advances to Total Assets Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.064	0.068	0.065	0.067	0.067	0.066	0.002	0.030
NABIL	0.570	0.575	0.629	0.620	0.655	0.610	0.036	0.059

Source: Annual Report & Appendix 7

Above table shows the loan and advances to total assets ratio of EBL and NABIL during the study period. Loan and advances to total assets of EBL and NABIL are in fluctuating trend. While observing their ratios; NABIL is better mobilizing of fund as loan and advances and it seems quite successful in generating higher ratio in each year. The mean of EBL and NABIL are 0.066% and 0.610% respectively. So NABIL has higher ratio than that of EBL. It reveals that in total assets, NABIL has high proportion of loan and

advances. NABIL has utilized its total assets more efficiently in the form of loan and advances. The higher C.V. of EBL states that it has less uniformity in these ratios throughout the study period than that of NABIL. S.D. and C.V. of NABIL has high than the EBL.

**D) Investment on Government Securities to Total Assets ratio**

It is not possible to apply all collection, deposit and other resources in to loan and advances for the banks. Therefore, they arrange their total assets in various sectors. Among all possible sectors, investment on government securities is one, which is very less risky. Invest on government securities to total assets ratio measures how successfully selected banks have applied their total assets on various forms of government securities in profit maximization and risk minimization point of view. The higher ratio represents the better position of fund mobilization into investment on government securities and vice-versa.

**Table No. 4.9**

**Investment on Government Securities to Total Assets ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.017	0.012	0.009	0.007	0.010	0.011	0.004	0.36
NABIL	0.328	0.268	0.247	0.263	0.225	0.266	0.038	0.14

Source: Annual Report & Appendix 8

Above table shows that the investment on government treasury bills to Total assets of EBL is in fluctuating trend and NABIL is also fluctuating trend. The highest ratio of EBL and NABIL are 0.017% in 2063/64 and 0.328% in 2063/64. The lowest ratio of EBL and NABIL are 0.007% and 0.225% in 2066/67 and 2067/68 respectively.

From the table we notice that mean ratio of EBL and NABIL are 0.011% and 0.266% respectively. The mean of NABIL has higher than EBL. It means NABIL has invested

more money in risk free assets than that of EBL. In another words EBL has emphases on more loan and advances and other short-term investment than investment in govt. securities. For minimization of investment risk, EBL should divert its investment in govt. securities. There is more variability in the ratio of EBL as compare to NABIL. It shows there is more inconsistent in the ratio of EBL during the study period, which is indicated by higher C.V. of EBL. But there is inconsistent in its investment.

### 4.2.3 Profitability Ratio

The major performance indicator of any firm is profit. The objective of investment policy is to make good return. Any organization has to desire of earning high profited which helps to survive the firm and indicates the efficient operation of the firm. Profit is the essential part of business activities to meet internal obligation, overcome the future contingencies, make a good investment policy, expand the banking transaction etc. Profitability ratios are the best indicators of overall efficiently. Here, those ratios are presented and analyzed which are related with profit as well as fund mobilization. Through the following ratios, effort has been made to measure the profit earning capacity of EBL and NABIL.

#### A) Return on Loan and advances

Every financial institution tries to mobilize their deposits on loan and advances properly. So this ratio helps to measure the earning capacity selected banks. Returns on loan and advances ratio of selected banks are presented as follows

**Table No. 4.10**  
**Return on Loan and advances**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.217	0.246	0.267	0.302	0.300	0.266	0.036	0.13
NABIL	0.043	0.035	0.037	0.035	0.035	0.037	0.004	0.10

Source: Annual Report & Appendix 9

Above table shows that return on loan and advances ratio of EBL is in increasing trend and NABIL is in fluctuating trend. The highest ratio of EBL is 30% in the year 2066/67 and 2067/68 and lowest ratio 21% in year 2063/64. The mean ratio is 26.6%. Whereas highest ratio of NABIL is 4.3% in year 2063/2064 and lowest ratio is 3.5% in above three years. The mean ratio is 3.7% of NABIL. This both banks show the normal earning capacity in loan and advances and same earning capacity in form of loan and advances.

From the table we notice that EBL has higher Ratios in preceding two years. It can be concluded that EBL have utilized the loan and advance for the profit generation in same earning capacity. However both banks seem to have poor performance in order to have returns from loan and advances because of heavy less than five percents of return on loan and advances as five percent is benchmarking ratio in this case.

**B) Return on Total Assets**

This ratio measures the overall profitability of all working fund i.e. Total assets. A firm has to earn satisfactory return on working funds for its survival. The following table shows return on total assets ratio of selected banks.

**Table No. 4.11**

**Return on Total Assets Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.014	0.017	0.017	0.020	0.020	0.018	0.003	0.16
NABIL	0.025	0.020	0.024	0.022	0.23	0.023	0.002	0.0

Source: Annual Report & Appendix 10

Above table shows the Return on Total Assets of EBL and NABIL. This table states the net profit to total assets of selected banks during the study period. EBL has almost same value of return on asset beside 2064/65 and 2065/66, 2066/67 and 2067/68. But EBL has constantly increasing trend of return on its total assets however, NABIL seems successful in managing and utilizing the available assets in order to generate revenue since its ROA ratio is 61 % of total assets in an average which is higher than that of EBL. Where as S.D. and C.V .of NABIL has relatively higher than the EBL so it indicate less uniformity in the ratios.

**C) Total interest Earned to Total Operating Income Ratio**

Total interest earned to total operating income ratio reveals that portion of interest income on total operating income of the firms. The major sources of income for the bank are interest income so the banks should mobilize their funds in more interest generating sectors considering the risk and return. This ratio measures how successfully the selected banks have been mobilizing their fund uninterested generating assets during last from FY 2063/64 to 2067/68 are presented to analyze in the following table. The major sources of income for the bank are interest income. So the banks should mobilize their funds in more interest generating sectors considering the risk and return.

**Table No. 4.12**

**Total interest Earned to Total Operating Income Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	1.36	1.28	1.42	1.61	1.97	1.53	0.28	0.19
NABIL	1.07	1.18	1.26	1.45	1.72	1.34	0.25	0.19

Source: Annual Report & Appendix 11



Above table shows Interest Earned to Operating Income Ratio of EBL and NABIL. Both banks has increasing ratio of study period except EBL 2064/65. EBL has greater share of total interest earn in its total operating income in each year and mean too. The mean ratio of NABIL and EBL are 1.34 times and 1.53 times respectively. EBL has higher ratio, it indicates the high contribution in operating income made by lending and investing activities (core banking activity). NABIL has lower ratio, it indicates that high contribution in operating income do not made by lending and investing activities (core banking activity). High contribution in operating income made by lending and investing activities (core banking activity) is not good for long run but in short run it is not so bad. Thus, from short term view, EBL is in good condition but from long term view, NABIL is in good condition. In overall and has managed sound interest earned to operating income ratio.

The S.D. and C.V of EBL is 0.28, 0.19 and similarly NABIL have 0.25 and 0.19 times.

**D) Total Interest Paid to Total Assets Ratio**

Total interest paid to total assets ratio help to show and measure the percentage of interest paid by the firm in comparison with total assets. If interest paid to total assets ratio is higher, there will be higher interest expenditure on total assets. The following table shows that total interest paid to total assets of EBL and NABIL.

**Table No. 4.13**

**Total Interest Paid to Total Assets Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.024	0.023	0.027	0.038	0.055	0.034	0.013	0.39
NABIL	0.020	0.020	0.026	0.038	0.051	0.031	0.013	0.42

Source: Annual Report & Appendix 12

Due to the little bit higher ratio in each year of EBL, it seems less conscious about borrowing cheaper fund. EBL shows the increasing trend except 2064/65 of the interest paid to total asset ratio, its average ratio is 3.4% whereas NABIL also shows increasing trend and it has maintained average ratio 3.1%. The mean ratio of EBL is more than that of NABIL. In comparison, EBL seems ineffective in getting cheaper fund from the mean point of view. However, EBL has been conscious in each year for getting cheaper fund as it has decreased ratio in each year whereas NABILL has been less conscious in each year as its ratio is in increasing trend in each year.

The S.D. IS equal of both bank and C. V. of NABIL is greater than the EBL it indicate high risk and insignificant of NABILL rather than EBL.

#### **4.2.4 Activity Risk Ratio**

Risk and uncertainty is a part of business loss. All the business activities are influenced by risk, so business organization cannot achieve a good return as per their desires. The profitability of risk makes banks investment a challenging task. Bank has to take risk to get return on its investment. The risk taken is compensated by the increase in profit. So the banks options for high profit have to accept the risk and manage it efficiently. A bank has to have idea of the level of risk of risk that one has to bear while investing its funds. Through following ratios, effort has been made to measure the level of risk inherent in the EBL and NABIL

##### **A) 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:

**Table No. 4.14**

**Liquidity Risk Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	0.13	0.11	0.18	0.21	0.15	0.16	0.04	0.25
NABIL	0.12	0.16	0.18	0.14	0.15	0.15	0.02	0.14

Source: Annual Report & Appendix 13

Above table shows liquidity risk ratio of the EBL and NABIL. Ratio of EBL is in fluctuating trend, whereas ratio of NABIL is also fluctuating trend in. The higher ratio of EBL and NABIL are 21% and 18%% respectively in 2066/67 and 2065/66 year whereas lower ratio of EBL and NABIL are 11% and 12% in 2064/65 and 2063/64 respectively. The average mean ratio of EBL is greater than that of NABIL (i.e.16%>15%). It signifies that EBL has sound liquid fund to make immediate payment to the depositors.

**4.2.5 Other Ratios**

**A) Earning Per Share**

EPS measure the efficiency of a firm in relative terms. It is a widely used ratio, which measures the profit available to the ordinary shareholders on per share basis. Earning per share calculation made over years indicates whether the bank’s earning power on per share basis has changed over that period or not but it doesn’t reflect how much is paid as dividend and how much is retained in the business. Following table shows the EPS of related banks during the study period.

**Table No. 4.15**

**Earning Per Share**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	21.62	24.17	24.92	16.49	14.27	20.29	4.72	0.24
NABIL	137.08	115.86	113.44	83.81	70.67	104.17	26.66	0.26

Source: Annual Report 2063/64 – 2067/68

Above table shows that earning price per share of EBL and NABIL. EBL has increasing trend of EPS and NABIL has also decreasing trend of EPS. While observing their ratios in overall; EBL is better mobilizing its resources to get more earning per share (EPS) and it seems quite successful by generating higher EPS in each year and in average too. It is quite satisfying to state that EBL has been able to maximize shareholder wealth from the view point of EPS. The S.D of EBL is higher than NABIL. C.V. of NABIL is lower.

**B) Dividend per Share**

Shareholders want to receive dividend from their investment. They may have interest to know about the firm's activities, earning, and dividend so; each firm must announce the total dividend and dividend per Share which shows the position of the firm.

A firm wants to distribute dividend to its shareholder if a firm suppose the insufficient investment opportunities and sector. Sometimes, it does not distribute dividend and sometime issues bonus shares. On the other hand, shareholders want to receive dividend from their investment. They may have interest to know about the firm's activities, earning, divisible profit or proposed dividend or declared dividend. So, each firm must announce the total dividend and dividend per share which show the position of the firm.

**Table No. 4.16**

**Dividend per Share**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	10	20	30	30	50	28	14.83	0.53
NABIL	100	60	35	30	30	51	30.08	0.59

Source: Annual Report 2063/64 – 2067/68

The above statistics shows the dividend per share of NABIL and EBL. NABIL seem to high than of EBL studied period. Average dividend per share of NABIL is higher than that of EBL (i.e 51 >28), the S.D. of NABIL is also because it is double higher so it indicate high volatile in dividend and high C.V. indicate more inconsistency in dividends during the study period. It can be concluded NABIL has adopted the policy of paying high amount in the form of cash dividends and it is trying to capitalized its earnings by keeping it in the form of retained earnings.

**C) Price Earning Ratio**

This ratio is closely related to the earning per share. It is calculated by dividing the market value per share by EPS. Price earning ratio indicates investor's judgments or expectation about the firm's performance. This ratio widely used by the security analysis to value the firm's performance. This ratio widely used by the security analysis to value the firm's performance as accepted by investors. Price earning ratio reflects investor expectations about the growth in the firm's earning. Higher ratio indicates the more value of the stock that is being ascribed to future earning as opposed to present earning.

**Table No. 4.17**

**Price Earning Ratio**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	30.99	34.11	24.55	16.27	13.15	23.81	9.06	0.39
NABIL	36.84	45.53	43.19	30.33	19	34.98	10.71	0.31

Source: Annual Report 2063/64 – 2067/68

Above table shows that price earning ratio earning of EBL and NABIL are in increasing trend. From the mean point of view, mean ratio of the EBL and NABIL are 23.60 and 23.03 times respectively. It indicates that for getting Rs 1 as earning, one should invest Rs 23.60 of EBL and Rs 23.03 of NABIL. EBL has aggressively increasing in price earning ratio. Looking the mean ratio we conclude that in short run, investor of EBL are getting better profitability because they are selling their shares in high price although EPS of EBL is lower in comparison than that of NABIL. But from the long term view and sustainable fair price, investor of NABIL will get better profitability and they will be in safe side a little bit in comparison with EBL. The S.D and C.V of EBL is high than the NABIL it indicate its risk to invest in EBL rather than the NABIL.

**D) Market Price per Share**

Market price per share is the price at which shares are traded in the stock market. The secondary markets provide liquidity for securities purchased in primary market. Generally MPS is determined through supply and demand factors.

**Table No. 4.18**

**Market Price per Share**

Name of Banks	Fiscal Year							
	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D	C.V
EBL	2430	3132	2455	1630	1094	2148.2	793.93	0.37
NABIL	5050	5275	4899	2384	1252	3772	1832.99	0.49

Source: Annual Report 2063/64 – 2067/68

Above table shows that price earning ratio earning of EBL and NABIL are in increasing trend. From the mean point of view, mean ratio of the EBL and NABIL are 23.60 and 23.03 times respectively. It indicates that for getting Rs 1 as earning, one should invest Rs 23.60 of EBL and Rs 23.03 of NABIL. EBL has aggressively increasing in price earning ratio. Looking the mean ratio we conclude that in short run, investor of EBL are getting better profitability because they are selling their shares in high price although EPS of EBL is lower in comparison than that of NABIL. But from the long term view and sustainable fair price, investor of NABIL will get better profitability and they will be in safe side a little bit in comparison with EBL. The S.D and C.V of EBL is high than the NABIL it indicate its risk to invest in EBL rather than the NABIL.

### **4.3 Statistical Analysis**

For the third objective of the study stoical tools is analyzed. Statistical tool is one of the important tools to analyze the data. There are various tools for the analysis of tabulated data such as, mean, standard deviation, regression analysis, co-relation analysis, trend analysis, various types of tests etc. There is convenient statistical tools are used in this thesis study.

### 4.3.1 Coefficient of Correlation Analysis

Co-efficient of co-relation shows the relationship between two or more than two variables. It measures that the two variables are positively or negatively co-related. For this purpose, Karl Pearson's co-efficient of correlation has been taken and applied to find out and analyze the relationship between deposit and loan and advances, deposit and total investment, total assets and net profit, total investment and net profit and also analyze the correlation of total deposit, total investment, loan and advances and net profit EBL and NABIL using Karl Persons coefficient of correlation, value of coefficient of are also calculated and value of them are analyzed.

Deposit have played vary important role in performance of a commercial banks and similarly loan and advances are very important to mobilize the collected deposits. Co-efficient of correlation between deposit and loan and advances measures the degree of relationship between these two variables. In this analysis, deposit is independent variable (X) and loan and advances are dependent variable (Y). The main objectives of computing 'r' between these two variables is to justify whether deposit are significantly used as loan and advances in proper way or not.

The coefficient of correlation between deposit and investment measures the degree of relationship between these two variables or deposit is significantly utilized or not. In correlation analysis, deposit is independent variable (X) and total investment is dependent variable (Y).

Co-efficient of correlation between total assets and net profit is used to measure the degree of relationship between two variable i.e. Loan and advance and net profit of EBL and HBL during the study period. Where Loan and advance is independent variable (X) and net profit is dependent variable (Y).

Coefficient of correlation between total investment and net profit measures the degree of their relationship. In the, correlation analysis, investment is independent variable and net profit is dependent variable.



**Table: 4.19**

**Coefficient of Correlation Analysis**

Components	EBL		NABIL	
	correlation	determination	correlation	determination
Total Deposit and Loan & Advance	0.9967	0.993	0.9894	0.979
Total Deposit and Total Investment	0.2949	0.087	0.9644	0.930
Loan & Advance and Net Profit	0.9968	0.994	0.9885	0.977
Total Investment and Net Profit	0.2958	0.087	0.9055	0.820

Source: Annual Report & Appendix 14, 15, 16, 17, 18 & 19

From the above table, it is found that coefficient of correlation between deposits and loan and advances of EBL and NABIL is 0.9967 and 0.9894. It is shows that both have the positive relationship between these two variables. It refers that deposit and loan and advances of EBL move together very closely but not proportionately. Moreover, the coefficient of determination of EBL is 0.993. It means 99.30 percent of variation in loan and advances has been explained by deposit. Similarly, value of coefficient of determination of NABIL is 0.979. It refers that 97.90 percent variance in loan and advances are affected by total deposit.

Again, the researcher found that the coefficient of correlation between total deposit and total investment of EBL is 0.2949. In addition, coefficient of determination of EBL is 0.087. It means only 8.70 percent of total investment is explained by total deposit. Similarly, there is high degree correlation positive coefficient between total deposit and total investment of NABIL, which is indicator by correlation coefficient of 0.9644. The value of coefficient of determination is found 0.930 this refers that 98 percent of the variation in total investment is explained by total deposit.

Above Table shows correlation coefficient between, Loan and advance and net profit is 0.991 of EBL. It refers that there is positive correlation between these two variables.

Here, 99.4 percent of net profit is contribute by Loan and advance as its coefficient of determination of 0.994 shows. NABIL also high degree positive correlation i.e. 0.9885 between Loan and advance and net profit. The coefficient of determination is 0.977 i.e 97.7 percent.

Correlation coefficient between total investment and net profit of EBL is 0.2958 which implies there is positive correlation between total investment and net profit. In addition, coefficient of determination of EBL is 0.087. It means only 8.7 percent is contribute by total investment. On the other hand NABIL has high positive correlation between total investment and net profit i.e. 0.9055. The coefficient of determination of NABIL is 0.820 It means 82 percent of Profit is contribute by total investment.

Coefficient of correlation of total deposit, Investment, Loan & Advance and Net Profit between EBL and NABIL shows as follows.

#### **4.3.2 Time Series Analysis (Trend Analysis)**

Trend analysis plays an important role in the analysis and interpretation of financial statement. Trend in general terms, signifies a tendency. It helps in forecasting and planning future operation. Trend analysis is a statistical tool, which shows the previous trend of the financial performance and forecasts the future financial results of the firms. This is calculated by the least square method. Which are as follows.

$$Y = a + bx$$

Where,

Y= dependent variable, a=Y-intercept, b=slope of trend line or annual growth rate,

X = deviation from some convenient time periods.

Let trend line be,  $Y = a + b x \dots\dots\dots (I)$

Where  $x = X - \text{Middle year}$                       Where as

### A) Trend Analysis of Total Deposit

Deposits are the important part in banking sector hence its trend for next five years will be forecasted for future analysis. Here the effort has been made to calculate the trend values of Total deposit of EBL and NABIL for further five year.

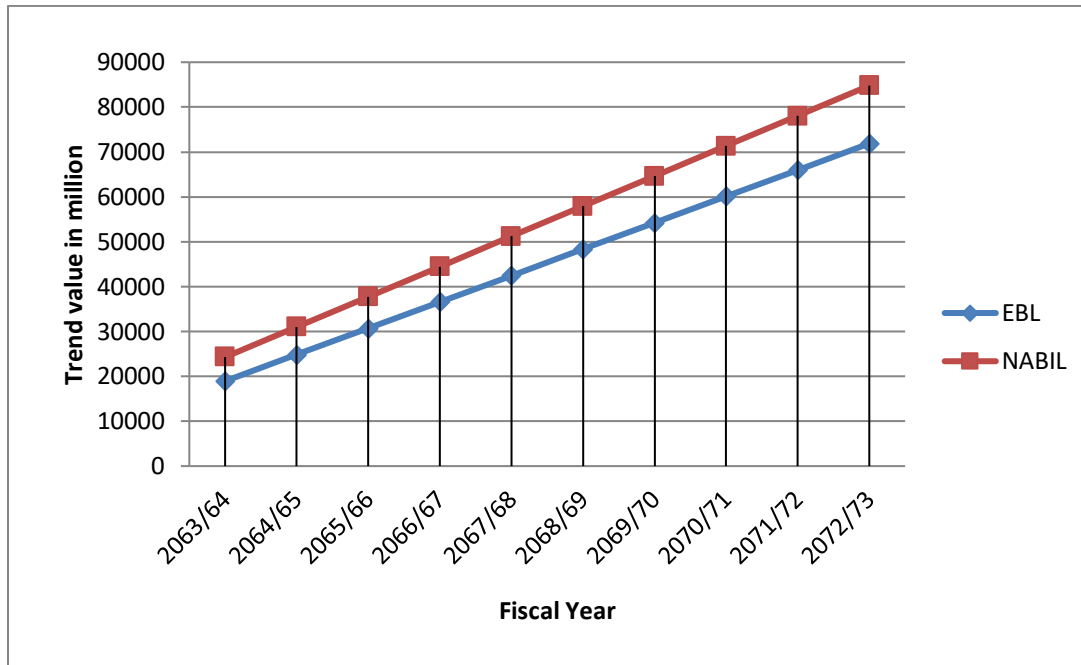
**Table: 4.20**

<b>Trend Analysis of Total Deposit of EBL and NABIL</b>		
<b>Year (x)</b>	<b>EBL</b>	<b>NABIL</b>
2063/64	18941.28	24301.78
2064/65	24825.21	31022.12
2065/66	30709.14	37742.46
2066/67	36593.07	44462.8
2067/68	42477	51183.14
2068/69	48360.94	57903.48
2069/70	54244.87	64623.82
2070/71	60128.8	71344.16
2071/72	66012.73	78064.5
2072/73	71896.66	84784.84

Source: Annual Report & Appendix 20 & 21

**Figure 4.3**

**Trend Analysis of Total Deposit of EBL and NABIL**



Above Table and figure shows that total deposit of EBL and NABIL. Both Banks is in increasing trend. The rate of increment of total deposit for NABIL seems to be higher than that of EBL. The trend analysis has projected deposit amount in fiscal year FY 2063/64 to FY 2072/73. From the above trend analysis it is clear that NABIL has higher position in collecting deposit than EBL

**B) Trend Analysis of Loan and advances**

Here, the trend values of loan and advances Between EBL and NABIL have been calculated for further Five years. The following Table shows the actual and trend values of EBL and NABIL.

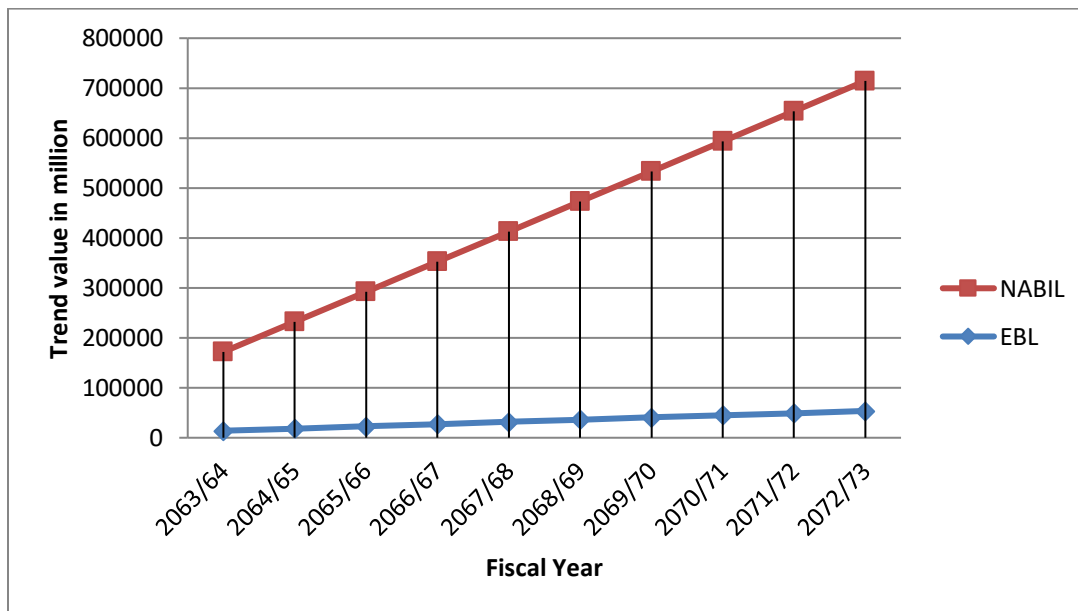
**Table: 4.21**

<b>Trend line of Total Loan and Advance of EBL and NABIL</b>		
Year (x)	EBL	NABIL
2063/64	14099.48	157846.6
2064/65	18499.93	213727
2065/66	22900.38	269607.5
2066/67	27300.83	325487.9
2067/68	31701.28	381368.4
2068/69	36101.73	437248.8
2069/70	40502.18	493129.3
2070/71	44902.63	549009.7
2071/72	49303.08	604890.2
2072/73	53703.53	660770.6

Source: Annual Report & Appendix 20 & 21

**Figure 4.4**

**Trend line of Total Loan and Advance of EBL and NABIL**



Above Table depicts that loan and advances of EBL and NABIL. Both Banks has in increasing trend. The increasing trend of NABIL is higher and aggressive than EBL. The actual value of loan and advances for NABIL is more higher than relation to EBL. The trend projected for father five year FY 2063/64 to FY 2072/73 From the above analysis, it is clear that both EBL and NABIL is mobilizing its collected deposits and other funds in the form of loan and advances.

**C) Trend Analysis of Total Investment**

Under this topic, an attempt has been made to analyze trend analysis total investment of EBL and NABIL for further five years.

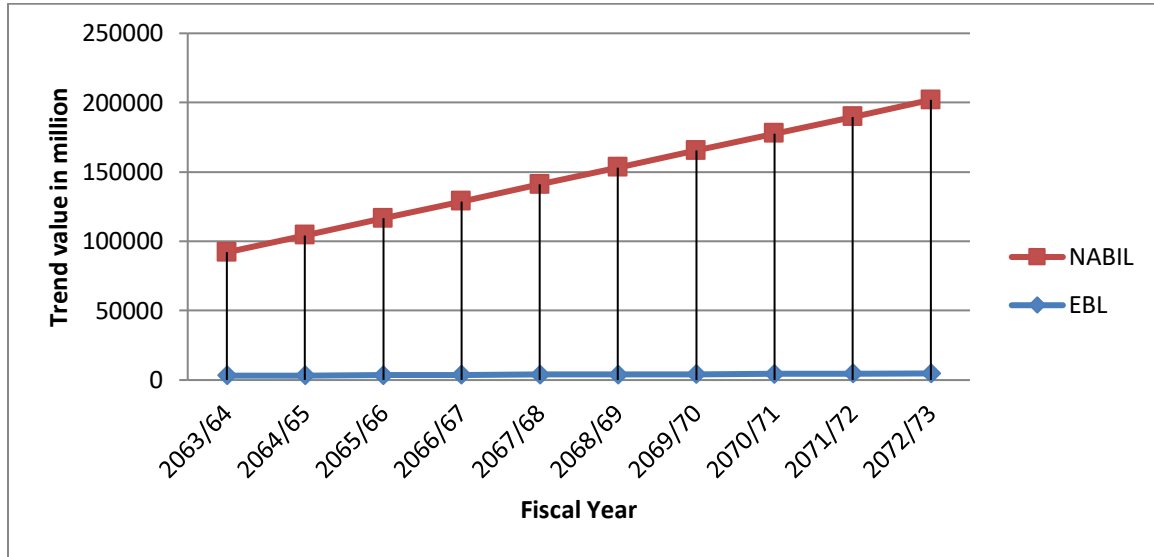
**Table: 4.22**

<b>Trend Analysis of Total Investment of EBL and NABIL</b>		
Year (x)	EBL	NABIL
2063/64	3189.1	88921.34
2064/65	3366.022	100956.3
2065/66	3542.944	112991.3
2066/67	3719.866	125026.3
2067/68	3896.788	137061.3
2068/69	4073.71	149096.3
2069/70	4250.632	161131.3
2070/71	4427.554	173166.3
2071/72	4604.476	185201.3
2072/73	4781.398	197236.2

Source: Annual Report & Appendix 20 & 21

**Figure 4.5**

**Trend Analysis of Total Investment of EBL and NABIL**



Above Table shows the Trend of Total Investment between EBL and NABIL. Both Bank EBL and NABIL have increasing trend in making investment but there is very high amount of investment in NABIL than EBL. The trend of total investment projected to FY 2063/64 to 2072/73. The figure indicates NABIL has highly mobilized the total investment rather than EBL.

**D) Trend Analysis of Net Profit**

Here, the trend values of net profit of EBL and NABIL have been calculated for five years FY 2063/64 to FY 2068/69 and forecasting of the same for next five year till FY 2063/64 and FY 2072/73.

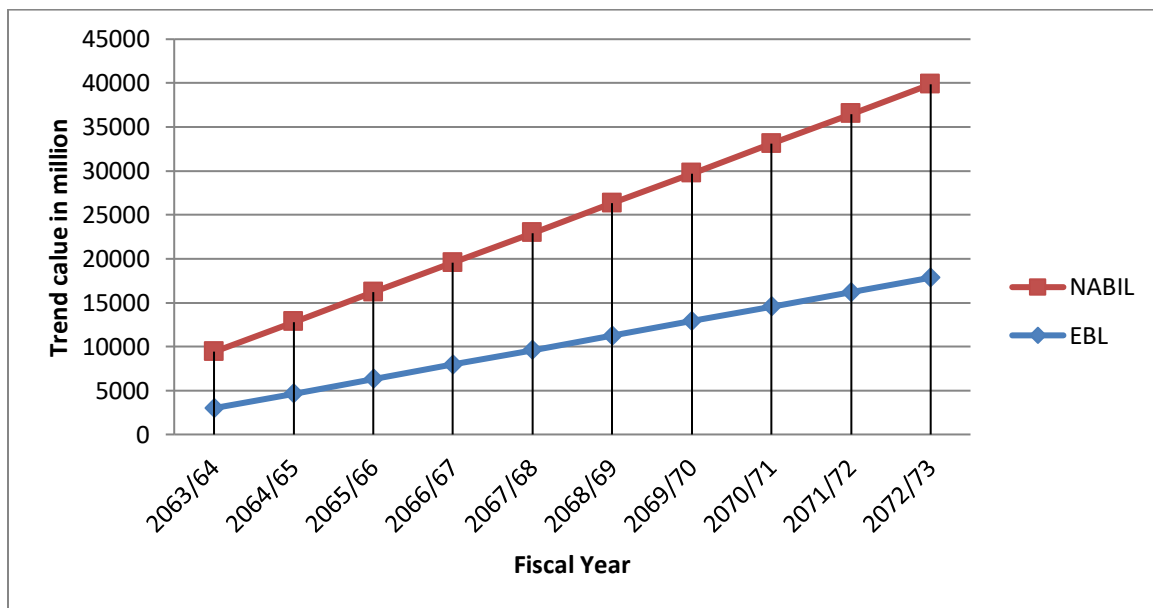
**Table: 4.23**

<b>Trend Analysis of Net Profit of EBL and NABIL</b>		
Year (x)	EBL	NABIL
2063/64	2998.184	6403.374
2064/65	4648.519	8137.868
2065/66	6298.854	9872.362
2066/67	7949.189	11606.86
2067/68	9599.524	13341.35
2068/69	11249.86	15075.84
2069/70	12900.19	16810.34
2070/71	14550.53	18544.83
2071/72	16200.86	20279.33
2072/73	17851.2	22013.82

Source: Annual Report & Appendix 20 & 21

**Figure 4.6**

**Trend Analysis of Net Profit of EBL and NABIL**





The above Table reveals the trend of Net profit of EBL and NABIL. Net profit both bank EBL and NABIL forecasted in increasing trend. The trend of increasing value of net profit of NABIL is higher than EBL. The trend of Net profit projected to FY 2062/63 to FY 2072/73.

#### **4.4 Major Findings of the Study**

From the above research study, following findings are drawn on the liquidity position of the selected commercial banks.

- The total deposit of EBL and NABIL is increasing trend over the study period. The average total deposit of EBL is 30709.14 and 37742.46 of NABIL. In comparison the NABIL seems higher in deposit collection than the EBL Bank.
- The liquidity of position of NABIL is little higher than EBL. The average amount of cash balance of EBL is Rs 5033.078 million and Rs 5673.61 million of NABIL. liquidity of both bank is continuously increasing trend except 2066/67 of NABIL & 2067/68 of EBL.
- Generally banks have to maintain more liquid assets but the current ratios of EBL are below the standard of 2.1 and the ratio of NABIL are greater than standard. The mean current ratio of EBL is 1.28 and NABIL is 7.96 the current ratio of NABIL is higher than EBL. So, NABIL is meeting short-term obligation than EBL.
- Cash and bank balance to total deposit ratio of EBL has higher than HBL i.e. 0.16 % > 0.15 % which indicates that the bank has higher liquidity of EBL as compare to NABIL. A high ratio of cash and bank balance may be undesirable which indicates inability to invest in more productive sectors like short-term marketable securities insuring enough liquidity which will help the bank to improve its profitability. But liquidity position is good.
- Cash and bank balance to current assets ratio of EBL is higher than NABIL i.e. 0.15%. > 0.04%. The higher mean ratio shows EBL's liquidity position is better than that of NABIL.

- Investment on government securities to current assets of NABIL is higher than EBL i.e.  $0.24\% > 0.12\%$ . It shows NABIL has invested more fund in government securities. EBL has invested little portion of their funds in purchasing of government securities.
- The loan and advances to total deposit ratio of EBL is lower than NABIL  $0.75\% < 7.07\%$ . It indicates the better mobilization of deposit by NABIL. So, NABIL is more efficiently utilizing the outsiders' funds in extending credit for profit generating sectors.
- The total investment to total deposit of NABIL is higher than EBL i.e.  $3.09\% > 0.12\%$ . It shows the NABIL is mobilizing its funds on investment in various securities efficiently. It can be said that NABIL is more successful in utilizing its total deposit by investing in marketable securities.
- The loan and advances to total assets ratio of NABIL is greater than EBL i.e.  $0.610 > 0.066\%$ . It refers NABIL has utilized its total assets more efficiently in the form of loan and advances with more risk because it has greater variability in the ratio.
- Investment on government securities to total assets ratio of EBL is lower than NABIL i.e.  $0.011\% < 0.266\%$ . This indicates that NABIL has invested little more portions of total assets on government securities. The higher ratio of NABIL shows that better fund mobilization.
- Return on loan and advances ratio of EBL is higher than that of NABIL i.e.  $0.266\% > 0.037\%$ . It refers that EBL seems to be success to earn high profit on loan and advances. But the return is not consistent. Since both banks have small mean returns on its loan and advances. Both banks seem to have poor performance in order to have returns from loan and advances.
- Return on total assets ratio of NABIL is slightly higher than EBL i.e.  $0.023\% > 0.018\%$ . But it has greater variability in the ratio. NABIL seems successful in managing and utilizing the available assets.
- Total interest earned to total operating income ratio of NABIL is lower than EBL i.e.  $1.34\% > 1.53\%$ . It means the greater portion of total operating income is

occupied by total interest for EBL. It reveals EBL has successful mobilizing their fund in interest generating assets.

- Total interest paid to total assets ratio of EBL is little higher than NABIL i.e.  $0.034\% > 0.031\%$ . It shows EBL has high interest expenditure to total assets. It supports EBL to increase to interest paid to operating income.
- The liquidity risk of the bank defines its liquidity need for deposit. The average mean ratio of EBL is slightly greater than that of NABIL (i.e.  $0.16\% > 0.15\%$ ). It signifies that EBL has sound liquid fund to make immediate payment to the depositors.
- Average earning per share of NABIL is greater than that of EBL i.e.  $\text{Rs. } 104.17 > \text{Rs. } 20.49$ . NABIL has more inconsistency in earning per share as its higher coefficient of variation shows. It shows the higher earning capacity of NABIL in comparison to EBL.
- The dividend per share of NABIL seem to be high than of EBL. Average dividend per share of EBL is higher than that of HBL (i.e.  $51 > 28$ ).
- The mean price-earning ratio of NABIL is little higher than that of HBL i.e.  $34.98$  is greater than  $23.81$ . It indicates that for getting Rs 1 as earning, one should invest Rs 23.81 in EBL and Rs 34.98 in NABIL. Looking the mean ratio we conclude that in short run, investor of NABIL are getting better profitability because they are selling their shares in high price although EPS of EBL is lower in comparison than that of NABIL.
- Both EBL and NABIL have high positive co-relation between total deposit and loan and advances because EBL and NABIL have  $0.9967$  and  $0.9894$  of co-relation coefficient between deposit and loan and advances. These relationships are significant. This can be regarded as good indication in financial performance for the banks. The correlation coefficient of both bank is significant
- There is positive correlation between total deposit and total investment of EBL and NABIL. Where as NABIL has high degree of positive co-relation i.e.  $0.9885$  than EBL i.e.  $0.2949$ . This indicates that NABIL is successful to mobilize its deposit in order to make good investment in comparison to EBL.

- There is positive correlation between Loan and advance and net profit. Correlation between Loan and advance and net profit of EBL is 0.996 and NABIL is 0.9055. The relationship between Loan and advance and net profit of both banks has significant. In calculation, EBL has more significant relationship between Loan and advance and net profit than that of NABIL.
- The degree of relationship between total investment and net profit of NABIL is higher than EBL i.e. correlation coefficient between total investment and net profit of EBL and NABIL is 0.2958 and 0.9055 respectively.
- EBL and NABIL have increasing trend in collecting deposit the rate of increment of total deposit for NABIL seems to be higher than that of EBL. Here both bank's has aggressively increasing trends.

## **Chapter – Five**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary**

In this 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.

This research is concerned about the comparative study on liquidity management of Everest bank limited and NABIL Bank limited. The term liquidity refers to the funds like deposit, borrowing, debt and equity whatever bank has retain for investment or use. Which all activity perform for gain better profit and income. In conclusion, Liquidity is the ability of bank to meet its obligations on time, especially in relation to repayment of inter-bank borrowings and customer deposits. Liquidity management is a very crucial job of commercial bank and the bank should maintain adequate amount of cash in its vault and NRB for its daily operation and administrative purpose. As per the arrangement of NRB effective from fiscal year 2004/05, the commercial banks are required to maintain cash reserve of 5% with NRB of its total deposit liability with NRB. The previous provision of cash in vault maintenance has been withdrawn now.

The researcher has identified that research problem and set objectives to solve research problems about capital structure of selected commercial banks as described in introduction chapter. To make this study more effective, related literatures have been reviewed. The review of literature provides the foundation of knowledge in order to under take this research more precisely. This section also includes concept of banking, commercial banks, joint venture banks, deposit, asset and investment policy. 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. This chapter includes the research design, population and sample data collection

procedure, data period covered and methods of analysis. This study is mainly conducted on the basis of secondary data collected from annual reports, official report, economic journal, financial statement etc. and authorize web site of concern bank and Nepal stock exchange. The five years financial statement has been examined for the purpose of the study.

The presentation and analysis of data has been made comparative analytical and their interpretation has done in chapter four by applying the wide varieties of methodology as, stated in chapter three. It includes the various financial and statistical tools. In case of financial tools ratio analysis is done which consists liquidity ratio, assets management ratio, profitability ratio, risk ratio and other ratios. Other ratio includes EPS, DPS and P.E. ratio. Various statistical tools such as arithmetic mean, standard deviation, coefficient of correlation, trend analysis have been applied to fulfill the objective of this study. The major findings of the study are also included in the final section of the presentation and analysis chapter.

In the aspect of liquidity position, cash and bank balance reserve ratio shows the more liquidity position. Cash and bank balance to total deposit has fluctuating trend in 5 years study period. These all ratio shows that the bank is not maintain the good liquidity position of the bank

## **5.2 Conclusions**

Thus this research is conducted with the major objective of highlighting liquidity management of two commercial banks. The observation and conclusion is derived by analyzing liquidity, asset management position, profitability, risk and other ratio as we as relevant financial and statistical ratios of commercial banks other. This has helped to reach conclusion and provide workable solution for the liquidity management and profitability of selected banks.

It can be concluded from the observance and analysis of above data the commercial bank should move as per the direction given by the central bank. Bank should have optimum policy to collect the deposit in various accounts. Deposit is the major organ of commercial banks to live in the industry. Higher the deposit higher will be the chance of

the mobilization of working fund and profit there too. Bank should invest in different sector very carefully, while advancing loan because loan is the blood of commercial banks for survival. If commercial banks do not apply sound investment policy it will be in great trouble in future to collect it in time. Hence the possibility of bankruptcy there too. Bank should invest their, fund in various portfolios after the deep study of the project to be safe from being bankruptcy. If banks concentrate the investment in few organizations, there is high chance of default risk. Diversifications are indeed need to all the business houses but it has seen immense importance to commercial banks. Diversification of investment is very much important to commercial bank than other business houses because banks use the money to other people for the benefit of its own. And lastly is can be said that banks are important for the nation. It helps in the capital formation to the nations, which is the most important element for the economic growth of the country.

Capital helps to solve the various problems arising in the country. And fixed deposit controls the measure economic activity of the nation. Therefore, it is very important for the policymakers to adopt appropriate policy with calculated interest rate so that large capital can be mustered at very low capital cost encouraging the industrial and commercial activity eventually leading to better economic growth, socio-economic development, employment opportunity, etc. In overall it can be concluded that the role of NRB in Deposit Mobilization of commercial banks has positive impact and Nabil bank also helps in this process for countries growth.

### **5.3 Recommendations**

Based on the analysis and finding of the study, the following recommendations can be made as suggestions to make the liquidity management of EBL and NABIL effective and efficient. This would help to draw some outline and make reforms in the respective banks. Which are as follows;

- In order to serve the customer smoothly and swiftly, the bank should avoid manual techniques and adopt office automation.

- Nowadays, in the competitive banking industry, the Bank should attract more depositors by providing improved and new services and facilities.
- Interest rate structure should be carried out and an appropriate interest rate policy should be formulated so as to attract more savings of the general public.
- Ethics of staff impresses the customers and create interest to improve the performance of the company. Hence, full co-operation from staff must be obtained. Customers' satisfactions are affected by the services provided by the Bank, which will effect the collection of deposits. The bank should also provide the training programmed to the employees for the professional development.
- Since the national economy is approaching towards recession period, all the financial institutions should work towards improving the economic development of the country. The financial institutes should encourage internal business, industries and export rather than imports, so as to reduce the outflow of currencies.
- The Bank should find out new areas/sectors for investing collected deposits from which it can generate maximum profit. In context of present scenario of the country, health and education can be considered as the best sector for investment, which are more secure and can generate a reasonable profit.
- The fee based activities of bank are found very to be very popular and also has become important in banking sector. These are commission discount and fees, so the bank has increase the off balance sheet transaction to increase the Profit.
- Nepal is full of poor people where there is less saving. Considering it Nabil should target their business segment in the middle family . For this they have to keep the affordable minimum balance to open the account, which will help to expand customer and deposit amount.



- For the upgrading in the financial health of the banks, the ratio of bad loan has to be minimized substantially other wise it has to keep huge amount in loan loss provision.
- The bank has to create the conducive environment for the revival of sick investment and has to analyze the necessity of Mobilizing additional resource to revive the overall banking sector.
- The liberal policy of NRB to establish new financial institution and bank, branch is challenging to the profit the banks which also promoting unhealthy competition. So Nabil is suggested to make a fair competition in the market and should adopt the policy to live and let to live others which make them to compel to think the optimum policy in turn.

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## APPENDICES

### Appendix: 1

#### Computation of Current Ratio of EBL & NABIL

Year	EBL		NABIL		Current Ratio of EBL (CR = CA/CL)	Current Ratio of NABIL (CR = CA/CL)
	Current Assets(CA)	Current Liabilities(CL)	Current Assets(CA)	Current Liabilities(CL)		
063/64	19892.71	14304.41	258370.9	33057.13	1.39	7.82
064/65	24967.25	18481.92	343750	43720.1	1.35	7.86
065/66	33912.63	27051.25	405082.7	51423.94	1.25	7.88
066/67	38656.64	27478.74	507180	61709.8	1.41	8.22
067/68	42777.47	42340.67	555143.9	68978.06	1.01	8.05

### Appendix: 2

#### Computation of Cash & bank balance to Total deposit Ratio of EBL & NABIL

Year	EBL		NABIL		Cash & bank balance to Total deposit Ratio of EBL =CBL/TD	Cash & bank balance to Total deposit Ratio of NABIL=CBL/TD
	Total deposit	Cash and bank balance	Total deposit	Cash and bank balance		
063/64	18186.25	2391.42	23342.3	2704.06	0.13	0.12
064/65	23976.3	2667.97	31915	5114.26	0.11	0.16
065/66	33322.95	6164.38	37348	6743.95	0.18	0.18
066/67	36932.31	7818.82	46411	6359.86	0.21	0.14
067/68	41127.9	6122.8	49696	7445.92	0.15	0.15

**Appendix: 3**

**Computation of Cash & bank balance to Current Assets Ratio of EBL & NABIL**

Year	EBL		NABIL		Cash & bank balance to Current Assets Ratio of EBL =CBL/CA	Cash & bank balance to Current Assets Ratio of NABIL =CBL/CA
	Current Assets(CA)	Cash and bank balance	Current Assets(CA)	Cash and bank balance		
063/64	19892.71	2391.42	258370.9	2704.06	0.12	0.01
064/65	24967.25	2667.97	343750	5114.26	0.11	0.01
065/66	33912.63	6164.38	405082.7	6743.95	0.18	0.02
066/67	38656.64	7818.82	507180	6359.86	0.20	0.01
067/68	42777.47	6122.8	555143.9	7445.92	0.14	0.01

**Appendix: 4**

**Computation of Investment on Government Securites to Current Assets Ratio of EBL & NABIL**

Year	EBL		NABIL		Investment on Government Securites to current Assets Ratio of EBL = IGS/CA	Investment on Government Securites to current Assets Ratio of NABIL = IGS/CA
	Current Assets(CA)	Investment on Government Securites	Current Assets(CA)	Investment on Government Securites		
063/64	19892.71	3614.54	258370.9	89453.2	0.18	0.35
064/65	24967.25	3237.98	343750	99397.71	0.13	0.29
065/66	33912.63	3371.42	405082.7	108263.7	0.10	0.27
066/67	38656.64	2745.28	507180	137030	0.07	0.27
067/68	42777.47	4745.5	555143.9	130812	0.11	0.24

**Appendix: 5**

**Computation of Loan & Advance to Total deposit Ratio of EBL & NABIL**

Year	EBL		NABIL		Loan & Advance to Total deposit Ratio of EBL = L&A/TD	Loan & Advance to Total deposit Ratio of NABIL = L&A/TD
	Loan & Advance	Total deposit	Loan & Advance	Total deposit		
063/64	13664.08	18186.25	155457.8	23342.3	0.75	6.66
064/65	18339.08	23976.3	213650.5	31915	0.76	6.69
065/66	23884.67	33322.95	275899.3	37348	0.72	7.39
066/67	27556.36	36932.31	322688.7	46411	0.75	6.95
067/68	31057.69	41127.9	380341	49696	0.76	7.65

**Appendix: 6**

**Computation of Total Investment to Total deposit Ratio of EBL & NABIL**

Year	EBL		NABIL		Total Investment to Total deposit Ratio of EBL = TI/TD	Total Investment to Total deposit Ratio of NABIL = TI/TD
	Total Investment	Total deposit	Total Investment	Total deposit		
063/64	3614.54	18186.25	89453.2	23342.3	0.20	3.83
064/65	3237.98	23976.3	99397.71	31915	0.14	3.11
065/66	3371.42	33322.95	108263.7	37348	0.10	2.90
066/67	2745.28	36932.31	137030	46411	0.07	2.95
067/68	4745.5	41127.9	130812	49696	0.12	2.63



**Appendix: 7**

**Computation of Loan & Advance to Total Assets Ratio of EBL & NABIL**

Year	EBL		NABIL		Loan & Advance to Total Assets Ratio of EBL = L&A/TA	Total Investment to Total deposit Ratio of NABIL = L&A/TA
	Loan & Advance	Total Assets	Loan & Advance	Total Assets		
063/64	13664.08	214325.7	155457.8	272533.9	0.064	0.570
064/65	18339.08	271493.4	213650.5	371327.5	0.068	0.575
065/66	23884.67	369168.5	275899.3	438673.9	0.065	0.629
066/67	27556.36	413827.6	322688.7	520797.2	0.067	0.620
067/68	31057.69	462362.1	380341	580996.1	0.067	0.655

**Appendix: 8**

**Computation of Investment on Government Securites to Total Assets Ratio of EBL & NABIL**

Year	EBL		NABIL		Investment on Government Securites to Total Assets Ratio of EBL = IGS/TA	Total Investment to Total deposit Ratio of NABIL = IGS/TA
	Investment on Government Securites	Total Assets	Investment on Government Securites	Total Assets		
063/64	3614.54	214325.7	89453.2	272533.9	0.017	0.328
064/65	3237.98	271493.4	99397.71	371327.5	0.012	0.268
065/66	3371.42	369168.5	108263.7	438673.9	0.009	0.247
066/67	2745.28	413827.6	137030	520797.2	0.007	0.263
067/68	4745.5	462362.1	130812	580996.1	0.010	0.225

**Appendix: 9**

**Computation of Return on Loan & Advance Ratio of EBL & NABIL**

Year	EBL		NABIL		Return on Loan & Advance Ratio of EBL = NP/L&D	Return on Loan & Advance Ratio of NABIL = NP/L&D
	Net profit	Loan & Advance	Net profit	Loan & Advance		
063/64	2964.09	13664.08	6739.59	155457.8	0.217	0.043
064/65	4512.18	18339.08	7464.68	213650.5	0.246	0.035
065/66	6387.32	23884.67	10310.53	275899.3	0.267	0.037
066/67	8317.65	27556.36	11405.22	322688.7	0.302	0.035
067/68	9313.03	31057.69	13441.79	380341	0.300	0.035

**Appendix: 10**

**Computation of Return on Total Assets Ratio of EBL & NABIL**

Year	EBL		NABIL		Return on Total Assets Ratio of EBL = NP/L&D	Return on Total Assets Ratio of NABIL = NP/L&D
	Net profit	Total Assets	Net profit	Total Assets		
063/64	2964.09	214325.7	6739.59	272533.9	0.014	0.025
064/65	4512.18	271493.4	7464.68	371327.5	0.017	0.020
065/66	6387.32	369168.5	10310.53	438673.9	0.017	0.024
066/67	8317.65	413827.6	11405.22	520797.2	0.020	0.022
067/68	9313.03	462362.1	13441.79	580996.1	0.020	0.023

**Appendix: 11**

**Computation of Total Interest Earned to Total Operating Income Ratio of  
EBL & NABIL**

Year	EBL		NABIL		Total Interest Earned to Total Operating Income Ratio of EBL = TII/TOI	Total Interest Earned to Total Operating Income Ratio of NABIL = TII/TOI
	Total Interest Income	Total Operating Income	Total Interest Income	Total Operating Income		
063/64	11444.08	8413.32	15877.58	14801.57	1.36	1.07
064/65	15486.57	12098.98	19786.96	16704.27	1.28	1.18
065/66	21868.14	15449.65	27984.86	22209.83	1.42	1.26
066/67	31024.51	19279.76	40477.25	27984.86	1.61	1.45
067/68	43310.26	21929.4	52582.69	30619.8	1.97	1.72

**Appendix: 12**

**Computation of Total Interest Paid to Total Assets Ratio of  
EBL & NABIL**

Year	EBL		NABIL		Total Interest Paid to Total Assets Ratio of EBL = TIP/TA	Total Interest Paid to Total Assets Ratio of NABIL = TIP/TA
	Total Interest paid	Total Assets	Total Interest Paid	Total Assets		
063/64	5171.66	214325.7	5557.1	272533.9	0.024	0.020
064/65	6326.09	271493.4	7584.36	371327.5	0.023	0.020
065/66	10128.74	369168.5	11532.8	438673.9	0.027	0.026
066/67	15727.9	413827.6	19601.07	520797.2	0.038	0.038
067/68	25358.75	462362.1	29554.03	580996.1	0.055	0.051

**Appendix: 13**

**Computation of Liquidity Risk Ratio of EBL & NABIL**

Year	EBL		NABIL		Liquidity Risk Ratio of EBL = CBB/TD	Liquidity Risk Ratio of NABIL = CBB/TD
	Cash and bank balance	Total deposit	Cash and bank balance	Total deposit		
063/64	2391.42	18186.25	2704.06	23342.3	0.13	0.12
064/65	2667.97	23976.3	5114.26	31915	0.11	0.16
065/66	6164.38	33322.95	6743.95	37348	0.18	0.18
066/67	7818.82	36932.31	6359.86	46411	0.21	0.14
067/68	6122.8	41127.9	7445.92	49696	0.15	0.15

**Appendix - 14**

**Calculation for Mean value, Standard Deviation & Correlation between Total deposit and Loan & Advance of EBL**

Year	Total deposit (X <sub>1</sub> )	Loan & Advance (X <sub>2</sub> )	$x_1 = X_1 - \bar{X}_1$	$x_2 = X_2 - \bar{X}_2$	$x_1 \cdot x_2$	$x_1^2$	$x_2^2$
063/64	18186.25	13664.08	-12522.9	-9236.3	115665137	156822824	85309164
064/65	23976.3	18339.08	-6732.84	-4561.3	30710485	45331161	20805421
065/66	33322.95	23884.67	2613.808	984.294	2572755.5	6831992.3	968834.68
066/67	36932.31	27556.36	6223.168	4655.984	28974971	38727820	21678187
067/68	41127.9	31057.69	10418.76	8157.314	84989080	108550518	66541772
N <sub>1</sub> = 5 N <sub>2</sub> = 5	$\sum X_1$ =153545.7	$\sum X_2$ =114501.9			$\sum x_1 \cdot x_2 =$ 262912429	$\sum x_1^2 =$ 356264316	$\sum x_2^2 =$ 195303378

For Total Deposit,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{153545.7}{5} = 30709.14$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum (X_1 - \bar{x}_1)^2}{N_1}} = \sqrt{\frac{356264316}{5}} = 9437.48$$

For Loan & Advance,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{114501.9}{5} = 22900.38$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum (X_2 - \bar{x}_2)^2}{N_2}} = \sqrt{\frac{195303378}{5}} = 6987.54$$

Correlation between Total deposit and Loan & Advance of EBL,

$$\begin{aligned} (r_{12}) &= \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}} \\ &= \frac{262912429}{\sqrt{356264316 \times 114501.9}} = 0.996 \end{aligned}$$

### Appendix - 15

#### Calculation for Mean value, Standard Deviation & Correlation between Total deposit and Loan & Advance of NABIL

Year	Total deposit (X <sub>1</sub> )	Loan & Advance (X <sub>2</sub> )	x <sub>1</sub> =X <sub>1</sub> - $\bar{x}_1$	x <sub>2</sub> =X <sub>2</sub> - $\bar{x}_2$	x <sub>1</sub> · x <sub>2</sub>	x <sub>1</sub> <sup>2</sup>	x <sub>2</sub> <sup>2</sup>
063/64	23342.3	155457.8	-14400.2	-114150	1643773598	207364608	13030148531
064/65	31915	213650.5	-5827.46	-55956.9	326086748	33959290.05	3131177567
065/66	37348	275899.3	-394.46	6291.864	-2481888.67	155598.6916	39587552.59
066/67	46411	322688.7	8668.54	53081.23	460136800.2	75143585.73	2817617403
067/68	49696	380341	11953.54	110733.5	1323657369	142887118.5	12261908908
N <sub>1</sub> = 5 N <sub>2</sub> = 5	$\sum X_1$ =188712.3	$\sum X_2$ =1348037.33			$\sum x_1 \cdot x_2 =$ 3751172627	$\sum x_1^2 =$ 459510201	$\sum x_2^2 =$ 31280439962

For Total Deposit,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{188712.3}{5} = 37742.46$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum(X_1 - \bar{x}_1)^2}{N_1}} = \sqrt{\frac{459510201}{5}} = 10718.095$$

For Loan & Advance,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{1348037.33}{5} = 269607.5$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum(X_2 - \bar{x}_2)^2}{N_2}} = \sqrt{\frac{31280439962}{5}} = 88431.39$$

Correlation between Total deposit and Loan & Advance of NABIL

$$\begin{aligned} (r_{12}) &= \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}} \\ &= \frac{3751172627}{\sqrt{459510201 * 31280439962}} = 0.9894 \end{aligned}$$

### Appendix - 16

#### Calculation for Mean value, Standard Deviation & Correlation between Total deposit and Total Investment of EBL

Year	Total deposit (X <sub>1</sub> )	Total Investment (X <sub>2</sub> )	x <sub>1</sub> =X <sub>1</sub> - $\bar{x}_1$	x <sub>2</sub> =X <sub>2</sub> - $\bar{x}_2$	x <sub>1</sub> . x <sub>2</sub>	x <sub>1</sub> <sup>2</sup>	x <sub>2</sub> <sup>2</sup>
063/64	18186.25	3614.54	-12522.9	71.596	-896589	156822824	5125.987
064/65	23976.3	3237.98	-6732.84	-304.964	2053274	45331161	93003.04
065/66	33322.95	3371.42	2613.808	-171.524	-448331	6831992.3	29420.48
066/67	36932.31	2745.28	6223.168	-797.664	-4963997	38727820	636267.9
067/68	41127.9	4745.5	10418.76	1202.556	12529140	108550518	1446141
N <sub>1</sub> = 5 N <sub>2</sub> = 5	$\sum X_1$ =153545.7	$\sum X_2$ =17714.72			$\sum x_1 . x_2 =$ 8273498	$\sum x_1^2 =$ 356264316	$\sum x_2^2 =$ 2209958

For Total Deposit,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{153545.7}{5} = 30709.14$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum(X_1 - \bar{x}_1)^2}{N_1}} = \sqrt{\frac{356264316}{5}} = 8441.14$$

For Total Investment,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{17714.72}{5} = 3542.944$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum(X_2 - \bar{x}_2)^2}{N_2}} = \sqrt{\frac{2209958}{5}} = 664.82$$

Correlation between Total deposit and Total Investment of EBL,

$$\begin{aligned} (r_{12}) &= \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}} \\ &= \frac{8273498}{\sqrt{356264316 * 2209958}} = 0.2949 \end{aligned}$$

### Appendix - 17

#### Calculation of Correlation between Total deposit and Total Investment of NABIL

Year	Total deposit (X <sub>1</sub> )	Total Investment (X <sub>2</sub> )	x <sub>1</sub> =X <sub>1</sub> - x̄ <sub>1</sub>	x <sub>2</sub> =X <sub>2</sub> - x̄ <sub>2</sub>	x <sub>1</sub> · x <sub>2</sub>	x <sub>1</sub> <sup>2</sup>	x <sub>2</sub> <sup>2</sup>
063/64	23342.3	89453.2	14400.16	-23538.1	338952722.9	207364608	554043187
064/65	31915	99397.71	-5827.46	-13593.6	79216230.19	33959290	184786287
065/66	37348	108263.7	-394.46	-4727.62	1864857.774	155598.69	22350409.8
066/67	46411	137030	8668.54	24038.68	208380241.8	75143586	577858040
067/68	41127.9	130812	11953.54	17820.68	213020187.3	142887119	317576564
N <sub>1</sub> = 5 N <sub>2</sub> = 5	∑ X <sub>1</sub> =188712.3	∑ X <sub>2</sub> =564956.61			∑ x <sub>1</sub> · x <sub>2</sub> = 841434239.9	∑ x <sub>1</sub> <sup>2</sup> = 459510201	∑ x <sub>2</sub> <sup>2</sup> = 1656614489

Correlation between Total deposit and Total Investment of NABIL,

$$(r_{12}) = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}}$$

$$= \frac{841434239.9}{\sqrt{459510201 * 1656614489}} = 0.9644$$

### Appendix - 18

#### Calculation for Correlation between Loan & Advance and Net Profit EBL

Year	Loan & Advance (X <sub>1</sub> )	Total Net Profit (X <sub>2</sub> )	x <sub>1</sub> =X <sub>1</sub> - x̄ <sub>1</sub>	x <sub>2</sub> =X <sub>2</sub> -x̄ <sub>2</sub>	x <sub>1</sub> · x <sub>2</sub>	x <sub>1</sub> <sup>2</sup>	x <sub>2</sub> <sup>2</sup>
063/64	13664.08	2964.09	-9236.3	-3334.76	30800867	85309164	11120651
064/65	18339.08	4512.18	-4561.3	-1786.67	8149549	20805421	3192204
065/66	23884.67	6387.32	984.294	88.466	87076.55	968834.68	7826.233
066/67	27556.36	8317.65	4655.984	2018.796	9399482	21678187	4075537
067/68	31057.69	9313.03	8157.314	3014.176	24587580	66541772	9085257
N <sub>1</sub> = 5 N <sub>2</sub> = 5	∑ X <sub>1</sub> =114501.9	∑ X <sub>2</sub> =31494.27			∑ x <sub>1</sub> ·x <sub>2</sub> = 73024555	∑ x <sub>1</sub> <sup>2</sup> = 195303378	∑ x <sub>2</sub> <sup>2</sup> = 27481475

Correlation between Loan & Advance and Net Profit EBL

$$(r_{12}) = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}}$$

$$= \frac{73024555}{\sqrt{195303378 * 27481475}} = 0.9968$$



## Appendix - 19

### Calculation for Correlation between Total Investment and Net Profit of NABIL

Year	Total Investment (X <sub>1</sub> )	Total Net Profit (X <sub>2</sub> )	x <sub>1</sub> =X <sub>1</sub> - x̄ <sub>1</sub>	x <sub>2</sub> =X <sub>2</sub> -x̄ <sub>2</sub>	x <sub>1</sub> · x <sub>2</sub>	x <sub>1</sub> <sup>2</sup>	x <sub>2</sub> <sup>2</sup>
063/64	89453.2	6739.59	-23538.1	-3132.77	73739570	554043187	9814260.4
064/65	99397.71	7464.68	-13593.6	-2407.68	32729095	184786287	5796932.6
065/66	108263.7	10310.53	-4727.62	438.168	-2071493	22350410	191991.2
066/67	137030	11405.22	24038.68	1532.858	36847880	577858040	2349653.6
067/68	130812	13441.79	17820.68	3569.428	63609627	317576564	12740816
N <sub>1</sub> = 5 N <sub>2</sub> = 5	∑ X <sub>1</sub> =564956.6	∑ X <sub>2</sub> =49361.81			∑ x <sub>1</sub> ·x <sub>2</sub> = 204854679	∑ x <sub>1</sub> <sup>2</sup> =1656614489	∑ x <sub>2</sub> <sup>2</sup> = 30893654

Correlation between Total Investment and Net Profit of NABIL

,

$$\begin{aligned}
 (r_{12}) &= \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}} \\
 &= \frac{204854679}{\sqrt{1656614489 \cdot 30893654}} = 0.9055
 \end{aligned}$$

## Time Series Analysis (Trend Analysis)

$$Y_c = a + bx$$

Where,

Y = dependent variable

a = Y-intercept, b = slope of trend line or annual growth rate,

X = deviation from some convenient time periods.

Let trend line be

$$Y = a + b x \dots \dots \dots (I)$$

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

Here,

$$a = \frac{\sum y}{\sum n}$$

$$b = \frac{\sum x.y}{\sum x^2}$$

**Appendix - 20**

**Calculation of Trend Analysis of total deposit of EBL & NABIL**

Year	x=p-3	x <sup>2</sup>	y <sub>1</sub> (ebl)	y <sub>2</sub> (nabil)	xy <sub>1</sub>	xy <sub>2</sub>	Trend value EBL Y <sub>c</sub> = a + bx	Trend value NABIL Y <sub>c</sub> = a + bx
2063/64	-2	4	18186.25	23342.3	-36372.5	46684.6	30709.14+5883.9 3*(2)=18941.28	37742.46+6720 *(2)=24301.78
2064/65	-1	1	23976.3	31915	-23976.3	-31915	30709.14+5883.9 3*(1)=24825.21	37742.46+6720 *(1)=31022.12
2065/66	0	0	33322.95	37348	0	0	30709.14+5883.9 3*(0)=30709.14	37742.46+6720 *0=37742.46
2066/67	1	1	36932.31	46411	36932.31	46411	30709.14+5883.9 3*1=36593.07	37742.46+6720 *1=44462.8
2067/68	2	4	41127.9	49696	82255.8	99392	30709.14+5883.9 3*2=42477	37742.46+6720 *2=51183.14
Excepted year 20068/69	-	--	-	-	-	-	30709.14+5883.9 3*3=48360.935	37742.46+6720 *3=57903.48
Excepted year 20069/70	-	-	-	-	-	-	30709.14+5883.9 3*4=54244.86	37742.46+6720 *4=64623.82
Excepted year 20070/71	-	-	-	-	-	-	30709.14+5883.9 3*5=60128.79	37742.46+6720 *5=71344.16
Excepted year 20071/72	-	-	-	-	-	-	30709.14+5883.9 3*6=66012.728	37742.46+6720 *6=78064.5
Excepted year 20072/73	-	-	-	-	-	-	30709.14+5883.9 3*7=71896.659	37742.46+6720 *7=84784.84
Σ n= 5	-	Σ x <sup>2</sup> = 10	Σ y <sub>1</sub> =153545.7	Σ y <sub>2</sub> =188712.3	Σ x.y <sub>1</sub> = 58839.31	Σ x.y <sub>2</sub> = 67203.4		

For EBL

$$a = \frac{153545.7}{5} = 30709.14$$

For NABIL

$$a = \frac{188712.3}{5} = 37742.46$$

For EBL

$$b = \frac{58839.31}{10} = 5883.93$$

For NABIL

$$b = \frac{67203.4}{10} = 6720.34$$

## Appendix - 21

### Calculation of Trend Analysis of Loan & Advance of EBL & NABIL

Year	x=p-3	x <sup>2</sup>	y <sub>1</sub> (ebl)	y <sub>2</sub> (nabil)	xy <sub>1</sub>	xy <sub>2</sub>	Trend value EBL Y <sub>c</sub> = a + bx	Trend value NABIL Y <sub>c</sub> = a + bx
2063/64	-2	4	13664.08	155457.79	-27328.2	-310916	22900.37+4400.4 5*(2)=14099.48	269607.46+55880. 45*(2)=157846.6
2064/65	-1	1	18339.08	213650.54	-18339.1	-213651	22900.37+4400.4 5*(1)=18499.93	269607.46+55880. 45*(1)=213727
2065/66	0	0	23884.67	275899.33	0	0	22900.37+4400.4 5*0=22900.38	269607.46+55880. 45*0=269607.5
2066/67	1	1	27556.36	322688.7	27556.36	322688.7	22900.37+4400.4 5*1=27300.83	269607.46+55880. 45*1=325487.9
2067/68	2	4	31057.69	380340.97	62115.38	760681.9	22900.37+4400.4 5*2=31701.28	269607.46+55880. 45*2=381368.4
Excepted year 20068/69	-	--	-	-	-	-	22900.37+4400.4 5*3=36101.726	269607.46+55880. 45*3=437248.82
Excepted year 20069/70	-	-	-	-	-	-	22900.37+4400.4 5*4=40502.176	269607.46+55880. 45*4=493129.27
Excepted year 20070/71	-	-	-	-	-	-	22900.37+4400.4 5*5=44902.626	269607.46+55880. 45*5=549009.73
Excepted year 20071/72	-	-	-	-	-	-	22900.37+4400.4 5*6=49303.076	269607.46+55880. 45*6=604890.18
Excepted year 20072/73	-	-	-	-	-	-	22900.37+4400.4 5*7=53703.526	269607.46+55880. 45*7=660770.63
∑ n= 5	-	∑ x <sup>2</sup> = 10	∑ y <sub>1</sub> =114501. 9	∑ y <sub>2</sub> =1348037. 3	∑ x. y <sub>1</sub> = 44004.5	∑ x. y <sub>2</sub> = 558804.5		

For EBL

$$a = \frac{114501.9}{5} = 22900.37$$

For EBL

$$b = \frac{44004.5}{10} = 4400.45$$

For NABIL

$$a = \frac{1348037.3}{5} = 269607.46$$

For NABIL

$$b = \frac{558804.5}{10} = 55880.452$$