CHAPTER- I

Introduction

1.1 Introduction of the bank

Economic development is the main part of development. The primary goal of any nation including Nepal is need of rapid economic development to promote the welfare of the people and the nation as well. It requires the productivity activities, which in turn is the result of investment venture in productivity enterprise. The establishment of these enterprises needs a huge amount of fund. Existing enterprises and companies within the economy can be viewed as productivity enterprises, which need long term and short-term investment for their operation, growth and existence.

The systematic network of a well-organized financial system of the country has great bearing. It collects scattered financial resources from the masses and invests them among those engaged in commercial and economic activities of the country. In this way, the financial sector provides savers highly liquid divisible antes at a lower risk while the investors received a large pool of resources.

The commercial banking industry, central part of the financial sector, occupies an important place in the frame work of every economy because it provides capital for the development of industry, trade, business and other resources deficits sector by investing the saving collection as the deposit. In this way it contributes to the economic growth of the nation. It is undoubtedly true that CBs perform a number of internal functions. Among them, providing credit is considered as most important one. Credit is the most important functions of commercial banks. This in turn affects overall development of the country. Thus it is clear that commercial banks play the vital role in the Nepalese financial sectors. Their establishment as a matter of fact has been a turning point in the history of Nepalese modern financial system.

1.2 Growth of Commercial Banks

Central bank of Nepal is Nepal Rastra Bank. It formulates policy to control and promote the function carried by the banks. NRB has made mandatory for commercial banks to deposit 5% of total deposit in central bank 5. If the commercial bank doesn't maintain this ratio, the central banks take penalty 6.5% for the first time, 6.5×2 for the second time and 6.5 ×3 for third time and thereafter till maintain the ratio. (Nepal Rastra bank act 2013)

At present, NRB has introduction some fundamental changes in its interest rate policy. It has allowed the commercial banks to fix the interest on deposits as well as credit on the basis of cost and availability of financial resources. This policy framework has introduced and element of competitiveness in the financial sectors.

The commercial banks are contributing in the economic development. It is resources for economic development; it maintains economic confidence of various segments and extra credit to people.

Nepal Bank is first commercial bank established in 1994 under the Nepal Bank Act 1993. Under Banijya Bank Act 2021 BS the government launched "Rastriya Banijya Bank." It full investment capital employed by government resources. Again the government established the third bank "Agriculture Development Bank" this bank is fully owned by government for the purpose of developing agriculture.

In the present context, the role and importance of the commercial banks loomed larger. In this connection, Nepalese economy has witness several changes in the financial system in the last few year so for example financial liberalization .When the government permitted the establishment of foreign Joint Venture Bank in early 1980s. Nepal Arab Bank Limited (Now Nabil bank Ltd) was established in 2041 B.S. as the first joint venture bank then other joint venture banks open rapidly like Nepal Indosuez Bank Limited (Now Nepal Investment Bank Ltd), in 2042 B.S, Nepal Grind lays Bank Limited (This bank is known as Standard Chartered Bank Nepal).After restoration of democracy elected government adopted the liberalization and maker oriented policy. As a results a number of joint Venture Bank and commercial banks increase dramatically like Himalayan Bank Ltd., Nepal State Bank of India Ltd., Nepal Bangladesh Bank Ltd., Bank of Katmandu Ltd., Everest Bank Ltd., Nepal Bank of Cylon Ltd (Now Nepal Credit and commercial Bank Ltd) etc.

1.3 List of Licensed Commercial Banks:

Table-1.1

S.N	Commercial Banks	Established Date (B.S.)	Head office
1	Nepal Bank Limited.	1994/07/30	Katmandu
2	Rastriya Banijya Bank Limited.	2022/10/10	Katmandu
3	Nabil Bank Limited.	2041/03/29	Katmandu
4	Nepal Investment Bank Limited. .	2042/11/16	Katmandu
5	Standard Chartered Bank Nepal Limited.	2043/10/16	Katmandu
6	Himalayan Bank Limited.	2049/10/05	Katmandu
7	Nepal SBI Bank Limited.	2050/03/23	Katmandu
8	Nepal Bangladesh Bank Limited.	2050/02/23	Katmandu
9	Everest Bank Limited.	2051/07/01	Katmandu
10	Bank of Katmandu Limited. .	2051/11/28	Katmandu
11	Nepal Credit and Commercial Bank Limited.	2053/06/28	Siddarthnagar
12	Lumbini Bank Limited.	2055/04/01	Narayanghath
13	NIC Asia	2055/04/05	Biratnagar
14	Machhapuchhre Bank Limited.	2057/06	Pokhara
15	Kumari Bank Limited.	2056/08/24	Katmandu
16	Laxmi Bank Limited.	2058/06/11	Katmandu
17	Siddartha Bank Limited. .	2058/06/12	Katmandu
18	Agriculture development bank	2058	Katmandu
19	Global Bank Limited.	2062/5/8	Katmandu
20	Citizen Bank International	2063/5/9	Katmandu
21	Sunrise commercial bank limited	2064	Katmandu
22	Prime bank limited	2064	Katmandu
23	Development credit bank limited	2065	Kathmandu
24	NMB Bank	2065	Kathmandu
25	Kist Bank	2066	Kathmandu
26	Janata bank Nepal Limited	2067	Kathmandu

27	Mega Bank Nepal Limited	2067	Kathmandu
28	Commerz and Trust Bank Nepal Ltd.	2067	Kathmandu
29	Civil Bank Ltd.	2067	Kathmandu
30	Century Commercial Bank Limited	2067/10/09	Kathmandu
31	Sanima Bank Limited	2068	Kathmandu

Source: http://brf.nrb.org.np

1.4 Introductions of Sample Originations.

a) Everest Bank Limited (EBL)

Everest bank limited started in 1994 with a view and objective of extending professionalized 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 public and 20% by Punjab national bank.

b) Nepal Arab Bank Limited (NABIL)

NABIL bank limited (NABIL) commenced operation on 12 July 1984 as first joint venture bank in Nepal. Dubai Bank Limited, Dubai (later acquired by Emirates Bank International Limited, Dubai) was the first joint venture partner of NABIL. Currently, Ireland is the foreign partner.

NABIL Bank Ltd. had official name Arab Bank Ltd. till 31 December 2001. NABIL is the pioneer in introducing many innovative produces and marketable concept in banking sector in Nepal. Success of NABIL is a milestone in the banking history of Nepal and it paved the way for the banking establishment of many commercial banks and financial institutions.

NABIL provides a full commercial banking service through its outlets spread across the nation and reputed correspondent banks across the globe. Moreover NABIL has a good mane in the market of its highly personalized services to the customers.

The share subscription of NABIL is divided in 5 parts. NB international Ltd. has taken 50%, NIDC 10%, Nepalese general public has taken 30% and remaining of share is taken by NEPSE. The bank was warded as the title of "The bank of the year".

c) Standard Chartered Bank Limited (SCBL)

Standard chartered bank Nepal limited has been in operation in Nepal since 1987 when it was initially registered a joint-venture operation. Today the bank is an integral part of Standard chartered group who has 75% ownership in the company with 25% shares owned by the Nepalese public. The bank enjoy the status of the largest international bank currently operation in Nepal.

Standard chartered bank limited is located over 100 nationalities in over 50 countries in the Asia pacific, south Asia, the Middle East, Africa, United Kingdom and Americas this diversity lies at the heart of the bank's value and supports the bank's growth as the world increasingly becomes one market.

d) Himalayan Bank Limited (HBL)

Himalayan bank limited is one of the joint venture commercial bank of Nepal, started operation in June 1992. HBL was incorporated with the objective of extending international standard modern banking service to various sectors of the society. Pursuing its objective, HBL provides a full range of commercial banking services. The bank as far as possible, offers modern technological facilities to its clients based on the unique need and requirement, to extent more efficient services to its customers. Himalayan bank has been adopting innovative and latest banking technology. This is not only helped the bank to constantly improve its services level but has also kept is prepared for future adoption of new technology. HBL has listed on Nepal stock exchange in July 5, 1993. The share participation of the bank is 15% general public and 20% Habib bank. Pakistan. In this way only 20% is foreign ownership in this bank.

1.5 Background of the Study

Banking is a trading of money with mind and technology. The basic mission of objective of any commercial banks is to move scare loan able funds from those who have surplus to those who borrow to buy goods and services and 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 lending and borrowing is interest spread. It is the major sources of income of all the commercial banks. While giving credit, bank use all deposit and capital, but fulfilling immediate cash need, bank should have to maintain some portion of deposit in terms of cash, bank balance or T-Bill But the bank is not provided, investments of all the deposit money. The funds are called liquid funds. Liquid funds are the important part of bank. So NRB has formulated difference rules and regulation about the liquidity position and its management criterion.

According to the P.S Rose, “A liquid assets process three essential characteristics: price stability, ready marketability and reversibility. An asset 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 investments without loss.”

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 form of cash and near about cash. Near about cash means the asset, which can be converted into cash immediately without losing the value of them. The bank is capacity to meet immediate liabilities is the liquidity of banks. 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 . Banks must holds sufficiently liquidity in the form of cash and liquid assets, such as government securities, CRR in central banks. So those banks never fail to meet daily cash demand. Ensuring adequate liquidity is one of the most important tasks faced by the management. A banks is

consider to be liquid if it is has ready funds at a reasonable cost at the time these funds are needed. This suggests that a liquid bank has the right amount of immediately spend able funds. On other hands, they can quickly raise funds by selling assets or by borrowing. The liquidity position of banks is very important to maintain the public faith upon banks. People deposit their precious assets and funds into the bank with the faith that banks repay it with guarantee as agreed terms and condition. So the bank must refund the public deposit on demand or on expiry of predetermined time period. When a bank fails to repay deposit money on demand, it leads to the loss of public faith upon banks. The accountholders rush into bank to withdraw their deposit money.

Lack of adequate liquidity is often one of the first sings that a bank is in serious financial trouble. The trouble bank usually begins to loss the deposit. This erodes its supply of cash and forces the bank to deposit more liquid assets. In this situation, other bank became increasingly reluctant to lend the trouble bank any funds without additional security or a higher rate of return. This will reduce the earning of the problem of bank and creates disturb on bank. Such situation leads bank insolvency.

Huge amount of liquidity, opportunity cost of bank will increases. This condition leads to decrease in profit because it is the investment in non earning assets more than requirement. So bank should maintain the appropriate level of liquidity.

1.6 Statement of the Problem

The objective of commercial bank is wealth maximization and the achievement of organization objective contributes to the national economy. It is important to determine the factors affecting the liquidity and its management. This study will try to find out the liquidity of commercial banks.

- How the commercial banks are managing the liquidity in existing practice?
- What are the main causes of increasing or decreasing liquidity in commercial banking sector?
- Do the liquidity position related to security problem?
- Does insecure investment outlet result increase in liquidity?

- Is there any necessity to reform in regulation?
- How to make optimal management of liquidity in commercial banks?

1.7 Objectives of the Study

Holding liquid assets and utilizing in proper investment is one of the major decisions of commercial banks. The main objectives of this study is to examine and liquidity position and its management in Nepalese commercial banks. To fulfill this main objective following specific objective has been formulated.

- To examine liquidity position of commercial banks.
- To analyze the Credit deposit ratio and its impact on liquidity.
- To examine the different ratio regarding the liquidity.
- To make suggestion and recommendation for the improvement of liquidity position of banks.

1.8 Significance of the Study

Management of the liquidity is very important part of day to day operation of the business firm. It is the important topic of financial management and much research work has not been in this topic. This study will depict the picture of liquidity management of commercial banks.

This study through recommendation based on the analysis of data and information will be useful for regulatory authorities, policy makers, and financial manager of corporate bodies. By this study, customer of the bank can be benefited and shareholders can know weather bank is able to utilize fund appropriate or not.

1.9 Limitation of the Study

Each research study has its own limitation. So, these Searches have following limitations:

- All the data are based mainly on secondary data. Mostly published financial documents like balance sheet, profit and loss account and other related journals, magazines and book are used. For this study, the reliability of this report accuracy of secondary data.
- Simple statistical techniques followed by financial models have been used in the analysis.
- Due to the less small size it may not fully represent Nepal as a whole.
- The study lacks in time and other resources as well.

1.10 Organization of the study

The study is divided into five different chapters. Each chapter will give some expect of liquidity management in Nepal. First of all entire work on liquidity management would be divided into the following chapters:

Chapter-1 simply includes the background, statement of the problem, significant of the study, objectives of the study, limitation of the study and organization of the study.

Chapter-2 is related with review of literature. This is another way to describe the purpose of study and is tries to find out the answer that how other researcher did their in the same or related topic.

Chapter-3 is research methodology which includes research design, population and sample, data collection procedure, tools for analysis and method of analysis and presentation.

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Chapter-4 is the study of data presentation and analysis. This is the major part of the. Obtained data are presented in the tabular bar and other forms and is analyzed by u sing various statistical tools.

Chapter-5 state the overall summary, conclusion and the recommendation drawn from the whole.

CHAPTER- II

Review of literature

Concept of review of literature

The term review of literature is very important for researcher or investigator in the area of concern problem. It distributes the knowledge and information for the researcher to discover the uncover things by other researcher. So, review of literature means reviewing the research studies or other relevant propositions in the related areas of the study. So that, their conclusion and deficiencies may be known and further research can be conducted. It is an integral and mandatory process in research works.

The main reason for a full review of research in the past is to know the outcomes of those investigators in areas where similar concept and methodologies had been used successfully. Further an extensive or even exhaustive process of such review may offer vital links with the various trends and phases in the researches in one's area of specialization, familiarizing with characteristic percepts, concept and interpretation with special terminology with the rationale for understanding one's proposed investigation.

This chapter shows the background of the work and a review of recent and reticent literature. In this regard, basic academic course books specially related to topic, some of the major research works, major articles published in journals and the related thesis are reviewed.

There are significant importances of review of literature in any types of research works, some of which are:

The chapter has been arranged as follows:

- Conceptual Review
- Article Review.
- Research Gap.

2.1 Conceptual Review

2.1.1 Concept of Bank

Generally, an institution established by law, which deals with money & 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 & industry, & 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 & holds deposits of funds from others, makes loans or extends credits & transfers funds by written orders of depositors (The Encyclopedia America, 1984: 302)

The business of the banking is collection of funds from community & 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 & 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.

2.1.2 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 & they were conducted through local legislation called ‘Panchali’. Then the King Jayasthiti Malla from Malla dynasty, allowed ‘Tankadhari’, a class of people, to deal in depositing & lending of money & ornaments. The Banda who still worked in ornaments used to deal in lending & depositing the ornaments in that time also.

Then,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 'Tejarath Adda' was established during the tenure of Prime Minister, Ranoddip Singh (1993-1994B.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 30th Kartik, 1994 B.S. as the first commercial bank of Nepal under Nepalese Banking Law & 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 14th 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 10th Magh, 2022 B.S. established under Rastriya Banijya Bank Act, 2021 B.S

Nepal Arab Bank Limited was established on 26th Ashar, 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) & of liberal economic policy adopted by the government, various other commercial banks including joint venture banks & privately ownership banks established in Nepal.

2.1.3 Concept of Commercial Banks.

Commercial banks are that financial institutions which deal in accepting deposits of people & institutions & giving loans against securities. They provide working capital needs of trade, industry, & even to agricultural sector. Commercial banks also provide technical & administrative assistance to trade, industries, & business enterprises. Commercial bank is a corporation, which accepts demand deposits, subject to check &

makes short-term loan to business enterprises, regardless of the scope of its other services.

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

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

Principally, commercial banks accept deposits & 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 deposits, grants loans, & performs commercial banking functions (Commercial Bank Act, 2063).

Commercial banks are those banks, which pool together the savings of the community & 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 of 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 & industry such as working capital financing. They cannot finance in fixed assets. They grant loans in the form of cash, credits & overdrafts. Apart from financing, they also render services like collection of bills & cheques, safe keeping of valuables, financial advising, etc. to their customers (Vaidya, 2001:38).

In Nepal, there are 23 commercial banks in Nepal till (2064/65)

2.1.4 Concept of Liquidity

Liquidity management is having cash when needed, Liquidity means having sufficient funds to met regulatory, contractual and relationship obligations when required and at a

reasonable cost to the bank. Liquidity needs of commercial banks are unique because in no other types of business there will be such a large proportions of deposit payable on demand. In other organization too, liquidity is required for various purpose. Inadequate liquidity does damage the credit standing of those organizations but 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 money and assets that is ready convertible into money within short span of time.

"Liquidity refers to bank's capacity to pay off the liabilities in all those currencies. Maintain excess liquidity in one currency while is for other currencies is not effective liquidity management because the liabilities in the demand 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; S.345)

"Liquidity management is the part of the risk management framework of the financial services industry, which concern all financial institution weather they are commercial banks or development banks of finance companies or other institutions"(Shrestha: 2061 B.S. 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 spend able funds at a reasonable cost at precisely the time those funds are needed. This suggest that a liquid bank either has the right amount of immediately spend able funds on hand when they are required or can quickly raise liquid funds by borrowing or selling assets.

Liquid bank either has the right amount of immediately spend on hand they are required of can quickly raise liquid funds borrowing or by selling Liquidity management is a tough task to be discharge 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. A bank's need for liquidity- immediately spends able funds – can be viewed with in a demand- supply framework. The most pressing demand for spend able funds from two sources: customer withdrawing money from their deposit and credit request from customers the bank wishes to keep either in the form of new request, renewals of expiration loan agreements, or drawing upon existing credit lines.

To meet the foregoing demands or liquidity, banks can drew upon several potential sources normally is receipt of new customers deposit, both from newly new deposit placed in existing accounts. 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 liquidity positions at any movement in time.

The significant exposure of banks to liquidity pressures arises from several sources. First, banks borrows large amount of short-term deposit and reserve from individual and business 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 mismatch situation is that bank 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 loans customers may postpone new loan request or speed up their drawing on those credit lines that carry lower interest rates.

Thus, changing rates affect both customers demand for deposit and customers 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 liquids funds; they directly affect the cost of borrowing in the money market. (Rose; 2002:350)

2.1.5 Demand and supply of bank liquidity

A bank net liquidity position = Supply of liquidity Flowing into bank - Demand on the banks for liquidity

Table 2.1 Net liquidity position calculation table (Rose, 2002:347)

Supplies of liquidity flowing into the bank	
Income deposit (inflows)	
- The sales of non deposit services.	**……**
- Revenues from the sales of non deposit services.	**……**
- Customers loan payment	**……**
- Sales of bank assets.	
- Borrowing from money market.	**……**
A. Demand on the bank liquidity.	
Deposit withdrawals (outflows).	
- Volume of acceptable loan request.	**……**
- Repayment of bank borrowing.	**……**
- Other operating expenses.	**……**
- Dividend payments to bank stockholders.	**……**
C. A bank's net liquidity positions (A-B)	**……**

When the bank's total demand for liquidity exceeds its total supply of liquidity (i.e. L_t <0), management must prepare for liquidity deficit, deciding when where to raise

additional liquid funds. On other hand, If at any point in time total supply of liquidity to the bank exceeds all of its liquidity demand (i.e. $L_t > 0$), management must prepare for liquidity surplus, deciding when and where to profitability invest surplus liquid funds until they are needed to cover future liquidity demands

2.1.6 Strategies for Liquidity Management

a. Assets Liquidity Management Strategies.

The oldest approach to meeting bank liquidity is known as assets liquidity management. In purest form, this strategies calls for storing liquidity in the forms holding assets, predominantly in cash and marketable securities. When liquidity is needed, selected assets are sold for cash until entire bank's demand for cash are met.

This Strategy is used mainly by smaller banks that find it a less risky approach to liquidity management than relying on the borrowing. But assets conversion is not cost - less approach to liquidity management. First, selling assets means the bank losses the future earning those assets would have generated had not been sold off.

Thus, there is an opportunity cost to storing liquidity in assets when those assets must be sold. Most assets sales also involve transaction cost paid to security broker. Moreover, the assets in question may need to be sold in a market experiencing decline prices, subjecting the bank to the risk substantial capital losses. Management must take care that those assets with the least profit potential are sold first in order to minimize the opportunity cost of future earning foregone. Selling assets to raise liquidity also tends to weaken the appearance of the bank's balance sheet, because the assets sold are often low- risk government securities that gives the impression the bank is financially strong. Finally, liquid assets generally carry the lowest rates of return.

b. Borrowed Liquidity Management Strategy

This borrowed liquidity strategy often called purchased of liquidity management. Borrowing liquid funds has a number of advantages. A bank can choose to borrow only when it actually need funds, unlike storing liquidity in assets where a storehouse of at least some liquid assets must be held at all times, lowering the bank's potential

return because liquid assets usually have such low yields. Then, too, using borrowed funds permits a bank to leave the volume and composition of its assets portfolio unchanged if it is satisfied with the assets it is satisfied with the assets it currently holds. In contrast, selling assets to provided liquidity shrinks the size of a bank as its total assets holding decline.

Borrowing liquidity is the most risky approach to solving bank liquidity problems but also has the highest expected return because of the volatility of money interest rates and rapidly with which the availability of credit can change. The bank's borrowing cost is always uncertain, which adds greater uncertainty to the bank's net earning. These principle sources of borrowed liquidity for a bank include large negotiable CDs, federal funds borrowing, and repurchase agreements

c. Balance (Assets and Liability) Liquidity Management Strategy

Due to risks inherent in relying on borrowed liquidity and the cost of storing liquidity in assets, most banks compromise in choosing their liquidity management strategy and use both assets management and liability management. Under a balanced liquidity management strategy some of the expected demands for liquidity are stored in assets (principally holding of marketable securities and deposit at their banks): while other anticipated liquidity needs are backstopped by advance arrangement for lines of credit from correspondent banks or other suppliers of funds (Rose; 2002:350)

2.1.7 Factors affecting the needs of bank liquidity

A) **External environment factors***:*

a. *Prevailing interest rate*: prevailing interest rate is high, the cash demand through cheque as well as loan demand will also decreased. Hence, an increase in bank interest rate leads to decrease the need of bank liquidity.

b. *Saving and investment situation*: If the income of public is in increasing trends and public expenditure is not increasing like income, this leads to public saving. In this situation, less degree of liquidity is enough in banks.

c. *Public investment habit*. The investment habit of general public pays an important role in the needs of bank liquidity. If people prefer to invest in business, bank should maintain more liquidity. In contract, they do not like to bear risk, they deposit saving in banks. In this situation, less liquidity will be adequate in banks.

d. *Trends of national economy*: the economy: The economy of the country affects greatly the liquidity needs of banks. If the economy is in the growth and boom position, bank can maintain comparatively less liquidity. But banks should maintain more liquidity in the declining and slack economy.

B) Internal environment factors:

a. *Lending policy of the bank*: when bank follows the policy to advance loan more on long-term, it needs more in liquidity. In contrast if bank invests its funds more in short term loan and marketable securities cooperatively, less liquidity will be adequate for such bank.

b. *Managerial capacity*: The managerial talent and attitude of executive also affect the need of bank liquidity. If 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.

c. *Nature of fund*: Generally, banks holding more current deposit should maintain more liquidity, because current deposit should be refunded on demand. Adversely, banks more fixed deposit should not maintain much liquidity an others do because fixed deposit are not withdrawn before due date. Thus, such deposit can be invested in production sectors.

2.1.8 Why Banks Face Liquidity Problem?

It should be clear from the foregoing discussion that banks face major liquidity problems. 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 and business and from other lending institution and then turn around and make long term credit available to their borrowing customers. Thus, most banks faces imbalances between the maturity dates on their assets and the 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 the maturity mismatch situation is that banks hold an unusually high proportion of liabilities subject to immediate payment, such as demand deposit, now account, and money market borrowing. Thus, banks must always stand ready to meet immediate cash demand that can be substantial at times , especially near the end of a week, at the first each during 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 will 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. Thus, changing interest rates affect both customers demand for deposit and customers demand for loans, each of which a potent impact on a bank's liquidity position. Moreover, movement in interest rates affect the market values of assets the bank may need to sell in order to rise 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 meeting demands for liquidity. To fail in the area may severely damage 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 contract with the bank's largest depositors and holders of large unused credit lines to determine is and when withdrawals of funds will be made and to make sure adequate funds are available.

2.2 Review of Related Thesis and Article.

2.2.1 Review of related thesis

Mr. Ramesh Poudel (2006) had done research entitled "*Liquidity management of commercial banks in Nepal*" of BOK, NIC, HBL, EBL and NABIL. This study has made with the following objectives:

- To examine the liquidity management policy 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 provided suggestion and recommendation about liquidity management in commercial banks.

His major findings 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, HBL 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. Where as most of the deposit of NIC, HBL and EBL are remained as liquid fund.
- NIC and EBL have maintained adequate balance with NRB but BOK, HBL and NABIL have not maintained sufficient reserve in bank for liquidity position.

- BOK has strong liquidity position; NIC has negative and poor liquidity position. HBL is facing liquidity management problem and NABIL has normal liquidity position.

Rema Dhungana (2006) had done research on "*Liquidity position of commercial banks in Nepal*" of BOK, SCBL, SBI HBL, EBL, NI and NABIL. This study has set out the following objectives:

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

Her major findings are as follows.

- Balance of NRB to total deposit ratio of SBI bank is greater than others banks.
- There is positive correlation between change in deposit and change in total liquid und of BOK, HBL, 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 HBL,SBI,SCBL and NABIL

Mr. Sandesh Singh Parajuli (2007) had done research on "*Assets and liquidity management*" of SCBL, HBL and NABIL. This study has set out the following objectives:

- To determine how efficiently assets has been utilized by the banks.
- To measure how performing and non- performing loans of the banks.
- To analyze the liquidity position of banks.
- To find out problem and difficulties faced by the banks.
- To give suggestion to the banks on the basis of the study.

His major findings are as follows.

- Correlation coefficient between total deposit and cash and bank balance is positive of NABIL and SCB banks but negative of HBL.

- Correlation coefficient between current deposit and cash and bank balance is positive of all the banks.
- SCB has good liquidity position than HBL and NABIL.

Mrs. Dipti Koirala (2007) had done research on "Liquidity management of commercial banks in Nepal" of SCBL, HBL, NIBL and NABIL. This study has set out the following objectives:

- To assess the liquidity position of selected commercial banks.
- To analyze the problem of liquidity management in selected commercial banks
- To identify the factors affecting liquidity position and its management.
- To examine the effectiveness of liquidity management.
- To evaluate the liquidity turnover, profitability and risk position of selected commercial banks.
- To provide suggestion and recommendation on the basic of major finding.

Her major findings are as follows:

- Liquidity funds to total deposit ratio of HBL is highest than others.
- Balance with NRB to total deposit ratio of NABIL bank's is highest than others.
- NABIL is maintaining high current ratio than others.
- NABIL and SCBL are more successful in maintain liquid assets but the liquid position of NABIL and HBL is not good.

2.2.2 Review of Article

2.2.2.1 Shiba Raj Shrestha (2061) 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 crises 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.

2.2.2.2 Leonard Matz (2001)" *Liquidity risk management and self paced A\L management*" undoubtedly suggest that the quantity o 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 o 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: always keep some asset liquidity reserve, extend liabilities terms to reduce liquidity risk, be prepared to enhance liquidity quickly at the first sign o increased potential need and image cash flows profiles.

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 exceptions 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 crises. 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.

2.3 Research Gap

By the revision of above mentioned studies, it is found that different studies have different area of coverage. But no one has considered credit -deposit ratio. The major concentration of this present thesis is to make clear picture credit deposit ratio by using the different statistical and financial tools like Ratio analysis, correlation test etc of the sample companies. The main objectives are mentioned in chapter-I. And primary and secondary both types of updated data are used as per required. This study is different than the others related studies according to sampling procedure and size, methodology and mainly objectives.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the research methodology, which are used in the period of research. The basic objective of the chapter is to provide details of various methodologies followed the study. Thus, research methodology is a way to systematic process of the study so that we can solve the research problem. The study will seek the conclusion to the point that what position and recommend the useful as well as meaningful points so that all concerned can be achieve. Research methodology is only one way to reach the objective of the study.

The prime concern of this study is the liquidity position of the commercial bank for analyzing the liquidity risk. Commercial banks liquidity risk is measured by its ability to discharge demand of deposit and loan able fund. The overall approach to the research is presented in this chapter. This chapter also explains the research methodology adopted and implied for the resources used in achieving the permitted objective as stated in the earlier chapter. Research methodology contains of the research design, sources of data, population and sample and method of data analysis.

3.2 Research Design

“A research design is the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.”(Kothari, 2000:39)

Research design contains a clear statement of the research problem, procedures and techniques to be used for gathering the information. Research design is needed to facilities the smooth sailing of the various research operation, there by making research

as sufficient as possible yielding maximal information with minimum expenditure of effort, time and money. In other words, research design stands for advance planning of the methods to be adopted for collection the relevant data and the techniques to use in their analysis, keeping in the view of the objective of research. The main objective of the study is to evaluate the liquidity management of selected commercial banks. For this, study is focused on *analytical and descriptive* manner. Data of five *six* fiscal year are collected from various sources are analyzed and tabulated. Different financial and statistical tools are presented to examine the liquidity management of selected commercial banks."Descriptive researches studied involve the systematic collection and presentation of data to give a clear picture of a particulars situation." (Wolf and pant, 2005:98)

3.3 Variable

A variable is a symbol to numbers or values are assigned. (Ker linger, 2002:300) So the variables can take on values. This research intends to identify the factor that affect the liquidity risk of commercial banks. Thus, liquidity is known as dependent variable which is affected by many variables, such variables in this study. The entire factors that affect the liquidity management of commercial banks, is called independent variable.

3.4 Population and Sample

"The term **'**population**'** or 'universe' for 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 31 commercial banks in Nepal at the end of January 2011.

"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,

A.K.2058:171).since study of whole universe is not possible due to lack of time and money and capacity. Thus, among 31 commercial banks five commercial banks have been chosen as sample. Simple random sampling methods have been used for the selection. Thus probability of being selected is equal for all units. They are:

- Himalayan bank limited
- Nabil bank limited
- Standard chartered bank limited
- Everest bank limited

3.5 Sources and Nature of Data

The study is based on secondary data as well as primary data were used as per requirement. The natures of primary and secondary data were different. So the natures of two types of data were different. Secondary data are used to analyze the historical trend in liquidity management and primary data are used to find the factor affecting the liquidity management of commercial banks. The relation with liquidity to others variables is analyzed by using primary data

Primary data were drawn by filling a questionnaire from the respondents. The responds of the primary data are senior level of officers and professional of banking sectors. The secondary data were collected from annual report of commercial banks, different web site, journals, bulletin, publication of different authorities etc.

3.6 Data Collection Techniques

The researcher contains of both primary as well as secondary data. Secondary data were collected of various commercial banks (especially annual report) and various publication of NRB. Some of data has been collected from of Nepal stock exchange, different web site, journals, unpublished thesis, news paper, different books, magazine, different authors etc. Only required and related data has been used. Data has been classified and processed before use. So, the data collection procedures also difference.

Primary data were drawn by filling a questionnaire from the respondents. The responds of the primary data are senior level of officers and professional of banking sectors.

3.7 Data Analysis Tools

After the collection of research data, an analysis of the data and interpretation of the result are necessary. Analysis of data comes prior to interpretation. The facts and figure collected are being processed with a view to reducing them to manageable properties. Only by such a careful and systematic processing, the data collected will lend itself of statistical treatment and meaningful interpretation lending to formulation of theory of finding. Thus, the data processing comprises of editing, coding, categorization and tabulation is intermediary stage between the collection, analysis and interpretation of data.

This study applies simple as well as complex method. Results are presented in tabular form, figure, graph, chart, and diagram which are very clear, interpreted individually. Financial statement like balance sheet, cash flows, profit and loss etc has been calculated for to achieve objective of study. Different tools o financial tools and statistical are used to make the result more effective, convenience, realizable, authentic and complete. To come on certain focus point of conclusion data were be analyzed. Most effective financial analysis is data analysis.

3.7.1 Financial Tools

Financial analysis is the process of identifying the financial strength and weakness of firm by properly establishing relationship between the items of balance sheet, which represented a snapshot of the firm's financial position at a movement in time and next, income statement that depicts a summary of the firm's profitable overtime. (Horne and wachowicz: 2003:120)

In financial analysis ratio is used as a benchmark for evaluation for financial position and performance of a firm. Financial analysis is a technique of answering various questions regarding the performance of a firm in the past, present and the future.

3.7.1.1 Ratio analysis

The ratios are designed to show relationship between financial accounts. By comparing each firm's debit to its assets and by comparing the interest it must pay to the income it has available for payment for interest. Such comparisons are made by ratio analysis. Ratio analysis is useful both as way to anticipate future condition and more important, as a starting points for planning actions that will influence the future course of events.

The ratio is generally calculated from past financial statement. Ratio analysis is the process of identifying the financial strength and weakness. It truly helps to exploit maximum benefits and repair the weakness to meet challenge. Ratio analysis has limitation, but used with care and judgment, it can be most helpful. Ratio is a parameter to improve the future performance. Ratio is generally express in percentage, proportion and charts

To find out the liquidity position of sample selected commercial banks following ratio have been used.

3.7.1.1.1 Credit Deposit Ratio:

It indicates how much money to give a loan by the bank of total deposit amount. Higher ratio indicates liquidity risk and lower ratio indicates strong liquidity.

Total loan means lending money to customers for certain period of time. At mentioned interest rate which generates interest income to banks. Hence, this ratio explains that ability of banks to mobilize its deposited funds for generating interest income. Higher ratio results higher utilization of deposited fund and vice versa. Here, it should be noted that higher rate always does not reflects better condition of banks there might be chances of shortage of liquidity. The following table exhibits the ratio of total loan to total deposit ratio of Banks throughout study period.

$$\text{Credit deposit ratio} = \frac{\text{Total Loan}}{\text{Total Deposit}} \times 100$$

3.7.1.1.2 Cash and Bank Balance to Current Deposit Ratio

This ratio is designed measure the bank's ability to meet the immediate obligation. This ratio is obtained by dividing cash and bank balance by current deposit.

$$\text{Cash and Bank balance} = \frac{\text{Cash and Bank balance}}{\text{Current Deposit Ratio}} \times 100$$

3.7.1.1.3 Total Liquid funds to Total Deposit Ratio

This ratio is designed to see what proportion of the total deposit accepted by commercial banks is kept as liquid funds. Total liquid funds hold all assets which can be liquid weather needed. It includes cash, bank balance, government securities etc.

$$\text{Liquid funds to total deposit ratio} = \frac{\text{Cash} + \text{Bank Balance} + \text{Goverment Securities}}{\text{Total Depoist}} \times 100$$

3.7.1.1.4 Total Investment to total deposit ratio:

It shows the portion of total investment in total deposit. This ratio measures the mobilization of percentage amount of total deposit on investment. Higher ratio indicates the better liquidity position where as lower ratio indicates liquidity risks which may arise in future.

$$\text{Total Investment to Total Deposit Ratio} = \frac{\text{Total Investment}}{\text{Total Deposit}} \times 100$$

3.7.1.1.5 Balance with NRB to Total Deposit Ratio

This ratio indicates the proportion of balance with NRB on total deposit ratio. It is used to measure the liquidity position of commercial banks and capacity to pay depositors

amount promptly. NRB is the regulatory body of all the commercial banks. In order to enable the smooth functioning of the commercial banks, NRB has compelled them to hold a certain percentage of their total deposit as a reserve. This is particularly done on order to maintain the strength of commercial banks regarding the liquidity position .This ratio can be calculated by using the following formula.

Balance with NRB to Total Deposit=$\frac{Balance\ with\ NRB}{Total\ Deposit} * 100$

3.7.1.1.6 Short Term Investment to Total Deposit Ratio

This ratio shows the proportion of short term investment in the total deposit. This ratio is useful in analyzing the liquidity position of commercial banks. Higher ratio indicates the strong liquidity position and lower ratio means the bank may be liquidity crises in future. This ratio is computed by dividing the shore term investment by total deposit. Short term investment included cash & bank balance, money at a call

Short Term Investment to Total Deposit Ratio:

$$= \frac{Short\ Term\ Investment}{Total\ Deposit} *100$$

3.7.1.1.7 Cash in vault to total deposit ratio:

It is design to manage the liquidity position of the bank .Bank can meet any requirement of liquidity immediately into cash. This ratio shows the capacity of bank to meet demand of deposit immediately. NRB has determined that the ratio of cash in vault to total deposit is 3% average. Higher ratio shows the stronger liquidity. It is calculated by the following formula

Cash Vault to Total Deposit Ratio =$\frac{cash\ in\ vault}{Total\ deposit} * 100$

3.7.2 Statistical Tools

Statistical method are the mathematical techniques used to facilities analysis and interpretation of numerical data secured from groups of individuals of groups of observation from a single individual. The figures provide details description and tabulate 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.

The various statistical tools used in this study to analyze the collected data are as follows.

3.7.2.1 Arithmetic mean

The most popular and widely used measures of representation the entire data by one value is what most laymen call an ‘average’ and what the statisticians the 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,

Mean,

$$\bar{x} = \frac{\sum x}{n}$$

Where,

$\bar{x}$ = Arithmetic Mean

$\sum x$=sum of all values of the variable x.

n = number of the observation

3.7.2.2 Standard Deviation (S.D.):

The standard deviation is absolute measures of dispersion. The greater standard deviation will be magnitude of the deviation of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogenelly of serious and vice versa.

S.D. $(\sigma) = \sqrt{\frac{1}{n}\sum(x-\bar{x})}$

Where, σ= standard deviation

n= number of items

3.7.2.3 Trend Analysis

Trend analysis implies straight line irrespective of the seasonal and cyclical swing and function trend analysis is used to measure the line of best fit or straight line is obtained or not. Trend analysis is also used to compare the overall performance of difference selected study period. The term best fit is interpreted in accordance with the principle of least square which consists in minimizing the sum of the square of the deviation between the given observed value of the variables and their corresponding estimates values as given by the line of best fit. Absolute amount per unit of time can change by increasing decreasing the trend value.

Trend analysis is also denoted by least squares linear trend analysis. Trend analysis describes the average relationship between two serious where the one serious related to time and other serious to the value of available. Trend analysis gives the best possible mean values of depended variable for a given value of in depended variable. Under this topic, trend of total deposit, loan, total investment etc will study.

Under this topic, trend of different ratios are forecasted for next three year. The projections are based on the following assumption.

- The main assumption is that other thing will remain unchanged.

- The banks will remain present position.
- The economy will be remaining present position.
- NRB will not change its guidelines to commercial banks.
- The forecast will, be true only when limitation of least square is carried out.

Least square method

This is one commonly used method to describe the trend. This is the mathematical method.

The straight line trend between the dependent variable 'y' and independent variable

'x' (i.e. time) is representing by equation $y_c = a+bx$

Yc =Estimated value of 'y' for any given of independent

a= y- intercept of value o 'y' when x=0 (i.e. $a=\frac{\sum Y}{n}$)

b= slope of the trend line or amount of change in 'y' per unit in x (i.e. $b=\frac{\sum XY}{\sum X2}$)

Chapter-IV
Data Presentation and Analysis

4.1 Introduction

This chapter is concerned with financial analysis and statistical analysis that is concerned about comparative analysis and interpretation of available data. Various financial and statistical tools have been used in this part. The main purpose of this chapter is to study, evaluate and analyze those major financial performances, which are mainly related to the liquidity management of commercial banks. The various data in respect of different heading are analyzed one by one.

4.2. Financial Ratio Analysis

Ratio analysis is the process of identifying the financial strength and weakness. It truly helps to exploit maximum benefit and repairs the weakness to meet challenges. Ratio is a parameter to improve the future performance. Ratio is generally express in percentage, proportion and charts. Ratio analysis is useful both as a way to anticipate future condition and improvement, as a starting point for planning action that will influence the future course of events.

4.2.1 Credit Deposit Ratio

It indicates that how much money to give loan by the bank out of total deposit amount. Higher ratio indicates liquidity risk and lower ratio indicates strong liquidity.

$$\text{Credit deposit ratio} = \frac{\text{Total Loan}}{\text{Total Deposit}} \times 100$$

Credit deposit ratio of NABIL, HBL, SCBL, and EBL from the year ended 2008 to 2012 are presented in the table below:

Table 4.1: Comparative analysis of credit deposit ratio

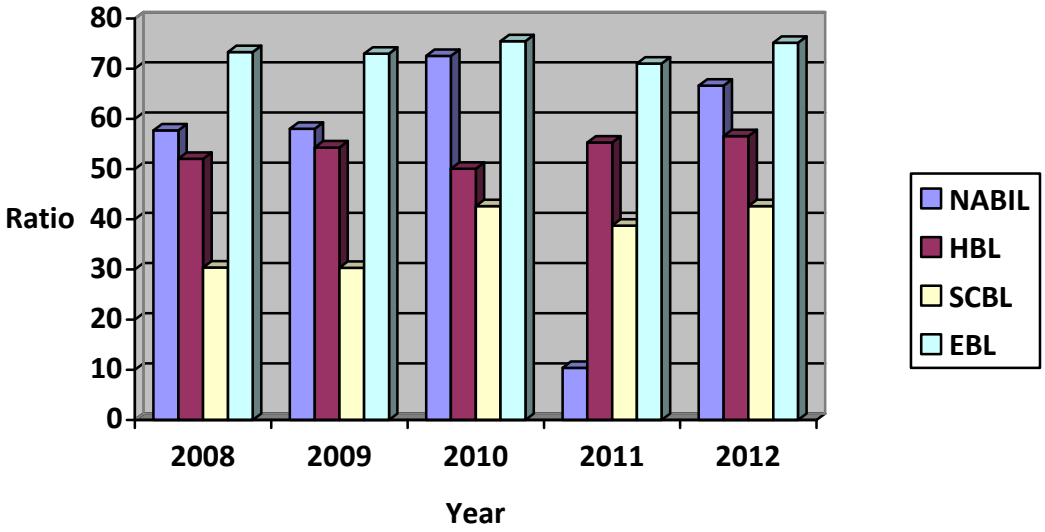
Ratio in %

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	57.68	52.07	30.37	73.32
2009	58.01	54.3	30.29	72.97
2010	72.57	50.07	42.12	75.45
2011	10.37	55.27	38.75	71.01
2012	66.6	56.57	42.61	75.13
Mean	53.05	53.66	36.83	73.58
SD	22.06	2.32	5.47	1.61

Source: Appendix 1

Table 4.1, shows the credit deposit ratio of all four banks under study. Among these four banks EBL has the highest credit deposit ratio because its average is high than other banks i.e. 73.58. From 2008 to 2012 EBL has the higher ratio than other which we can see on above table. But it fluctuation trend is low than other. Then HBL came on second position maintain the highest ratio than NABIL and SCBL because its mean is higher. Then, NABIL has also maintain the high ratio than SCBL because its average is high than SCBL but its fluctuation trend is very high than other three banks. Likewise SCBL has the lowest ratio than other

Figure: 4.1: Comparative analysis of credit deposit ratio



Source: Table 4.1

4.2.2 Cash & Bank Balance to Current Deposit Ratio

This ratio is designed measure the bank's ability to meet the immediate obligation. This ratio is obtained by dividing cash and bank balance by current deposit. Since cash & bank balance is most liquid assets, it indicates institutions ability to cover their deposit. Higher ratio explains higher strength in ability to covers depositors demand and vice versa. However maintaining high ratio might be too costly for the finance company as well.

$$\text{Cash and Bank balance} = \frac{\text{Cash and Bank balance}}{\text{Current Deposit Ratio}} \times 100$$

Cash and bank balance ratio of NABIL, HBL, SCBL, and EBL from the year ended 2008 to 2012 are presented in the table below:

Table 4.2: Comparative analysis Cash & Bank Balance to Current Deposit Ratio

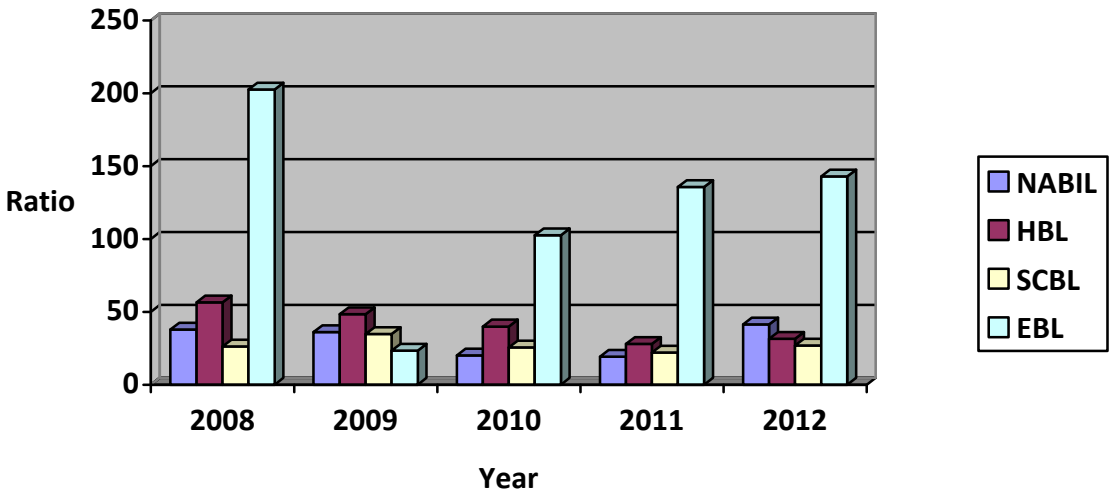
Ratio in %

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	37.73	56.49	26.22	202.62
2009	36.09	48.27	34.78	23.37
2010	19.98	39.92	25.51	102.44
2011	19.11	27.86	21.98	135.54
2012	41.23	31.44	26.97	142.85
Mean	30.82	40.79	27.09	121.36
SD	9.36	10.56	4.20	53.58

Source: Appendix II

Table 4.2, shows cash and bank balance to current deposit ratio of all four banks under study. From the above table it is revealed that cash and bank to current deposit ratio of EBL is the highest than other on average i.e. 121.36%. It has maintained the high ratio in all year except in year 2009 and also it has highest fluctuation trend than other because it's S.D. is high. Then, HBL has the higher ratio than NABIL and SCBL on average. In the year 2008, HBL ratio is 56.49%, where as in the year 2012, ratio is 31.44%. The cash and bank balance HBL fluctuated between 56.49% to 31.44%. Likewise NABIL maintain the ratio is 30.82% average which is more than SCBL but less than other. Similarly SCBL maintain the low ratio among these bank and also it's fluctuates trend is low than other.

Figure: 4.2: Comparative analysis Cash and Bank Balance to Current Deposit Ratio



Source: Table 4.2

4.2.3 Total Liquid funds to Total Deposit Ratio

This ratio is designed to see what proportion of the total deposit accepted by commercial banks is kept as liquid funds. Total liquid funds hold all assets which can be liquid weather needed. It includes cash, bank balance, government securities etc. This ratio compares same as prior ratios. But it holds not only cash and bank Balance, not only investment in government securities, it carries total liquid fund that can be easily available to convert whenever necessary to meet companies obligations. That means total liquid fund includes cash, bank balance and investment in government securities. Higher the ratio means higher level of liquidity and vice versa. As we know only having too much liquidity does not means failure of mobilizing funds, hence this ratio only reflects liquidity part of banks

$$\text{Liquid funds to total deposit ratio} = \frac{\text{Cash} + \text{Bank Balance} + \text{Goverment Securities}}{\text{Total Depoist}} \times 100$$

Liquid funds to total deposit ratio of NABIL, HBL, SCBL, and EBL from the year ended 2008 to 2012 are presented in the table below:

Table 4.3: Comparative analysis Liquid Funds to Total Deposit Ratios

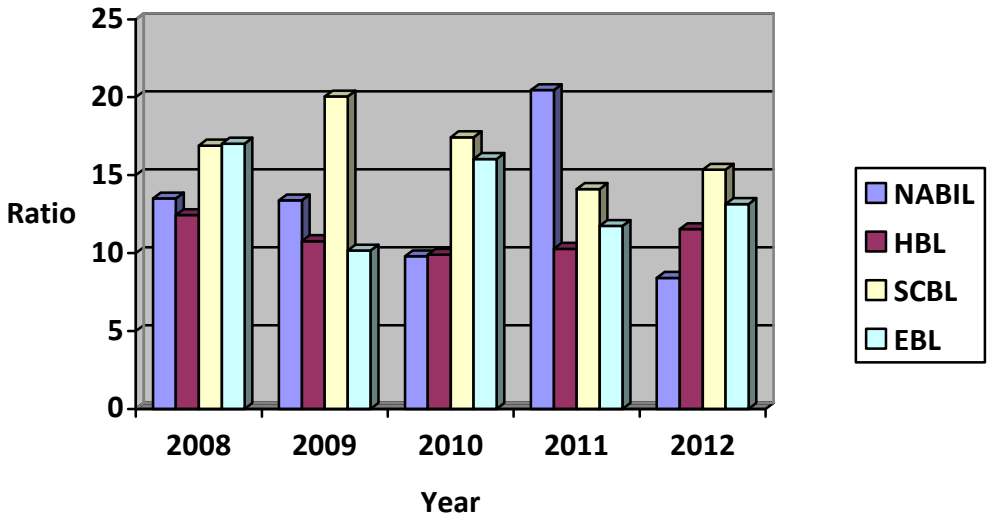
Ratio%

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	13.5	12.44	16.9	17.02
2009	13.38	10.77	20.04	10.16
2010	9.79	9.9	17.43	16.04
2011	20.45	10.28	14.11	11.74
2012	8.41	11.54	15.35	13.15
Mean	13.11	10.99	16.77	13.62
SD	4.18	0.91	2.01	2.57

Source: Appendix III

Table 4.3, shows the total liquid funds to total deposit ratio of four commercial banks. Under the study of four banks, SCBL has the higher ratio on average than other banks because its average is higher than other banks i.e. 16.77%. But its fluctuation trend is medium than other banks. Then, EBL maintain the higher ratio than other two banks. In the year 2008, its ratio is 17.02% which is higher than other banks. But it S.D. is higher than other two banks. Likewise, NABIL also maintain the higher ratio than HBL i.e.13.11 but its S.D is highest than other banks that means it fluctuates more than other bank. Similarly, HBL maintain the low ratio than other three banks as well as S.D. in the year2010, its ratio is 12.44 and in the year 2012 its ratio is 11.54%. Beside this, with the help of the following figure it can be observe more clearly.

Figure 4.3: **Comparative analysis Liquid Funds to Total Deposit Ratios**



4'Source: Table 4.3

4.2.4 Total Investment to Total Deposit Ratio:

It shows the portion of total deposit in total investment. This ratio measures the mobilization of percentage amount of total deposit on investment. Higher ratio indicates the better liquidity position where as lower ratio indicates liquidity risks which may arise in future.

$$\text{Total Investment to Total Deposit Ratio} = \frac{\text{Total Investment}}{\text{Total Deposit}} \times 100$$

Banks mobilize available resource in various sectors out of investment is one. Investment means mobilization of resources in securities issued by Government, banks investment made on fixed deposit to earn higher interest. This tool aims to analyze which banks is being able to mobilize its total deposit in investment. Mobilization of funds in investment depends upon their portfolio management. But for comparison with each other government rules and regulations is to be considered as general. So, in this ratio, higher ratio indicates success in mobilization of funds in

investment and vice versa.

Total Investment to total deposit ratio of NABIL, HBL, SCBL, and EBL from the year ended 2008 to 2012 are presented in the table below

Table 4.4 Comparative analysis Total investment to Total Deposit Ratio

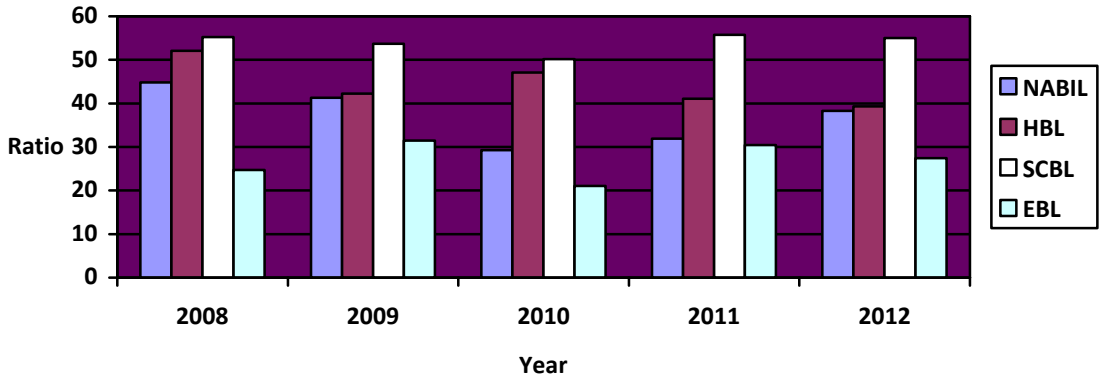
Ratio%

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	44.85	52.07	55.52	24.7
2009	41.43	42.22	53.68	31.44
2010	29.25	47.12	50.18	21.08
2011	31.93	41.1	55.71	30.08
2012	38.32	39.35	54.99	27.1
Mean	37.16	44.37	54.02	26.88
SD	5.81	4.63	2.04	3.73

Source: Appendix IV

From the table 4.4 it is observe that the ratio of total investment to total deposit ratio. In the table, it is seen the highest ratio of SCBL on average i.e.54.02%. But its S.D. is minimum than other banks. Likewise, HBL has the higher ratio than other two banks i.e. 44.37%. In the Year 2008, it has 52.07% and in the year 2012, it has 39.3%. Similarly NABIL maintain the higher ratio than EBL i.e. 37.16% >26.88%. But its S.D. is highest than other banks so it fluctuates more than other banks. Likewise, EBL maintain the low ratio than other banks on average i.e. 26.88%.By comparing the four sample banks, SCBL is highly consistence to average ratio. It has investment huge amount out of total deposit ratio it shows that it liquidity position is week than other banks but it earn more profit due to huge investment. Similarly, SCBL ratio indicates that it has weak position than other two banks as well as it can also more interest by investment. Likewise NABIL and HBL maintain high ratio respectively as well as it has also strong position than other banks and NABIL and HBL has strong capacity to meet the immediate obligation.

Figure 4.4: Comparative analysis Total investment to Total Deposit Ratio



Source: Table 4.4

4.2.5 Balance with NRB to Total Deposit Ratio:

This ratio indicates the proportion of balance with NRB on total deposit ratio. It is used to measure the liquidity position of commercial banks and capacity to pay depositors amount promptly. NRB is the regulatory body of all the commercial banks. In order to enable the smooth functioning of the commercial banks, NRB has compelled them to hold a certain percentage of their total deposit as a reserve. This is particularly done on order to maintain the strength of commercial banks regarding the liquidity position. This ratio can be calculated by using the following formula.

$$\text{Balance with NRB to Total Deposit} = \frac{\text{Balance with NRB}}{\text{Total Deposit}} * 100\,\%$$

Table 4.5: Comparative analysis Balance with NRB to Total Deposit Ratio

Ratio%

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	6.64	6.74	6.08	11.65
2009	4.3	7.39	7.25	5.48
2010	2.67	6.46	3.58	7.23
2011	1.65	4.14	3.25	8.26
2012	4.77	4.23	6.55	6.48
Mean	4.01	5.79	5.34	7.82
SD	1.73	1.35	1.62	2.12

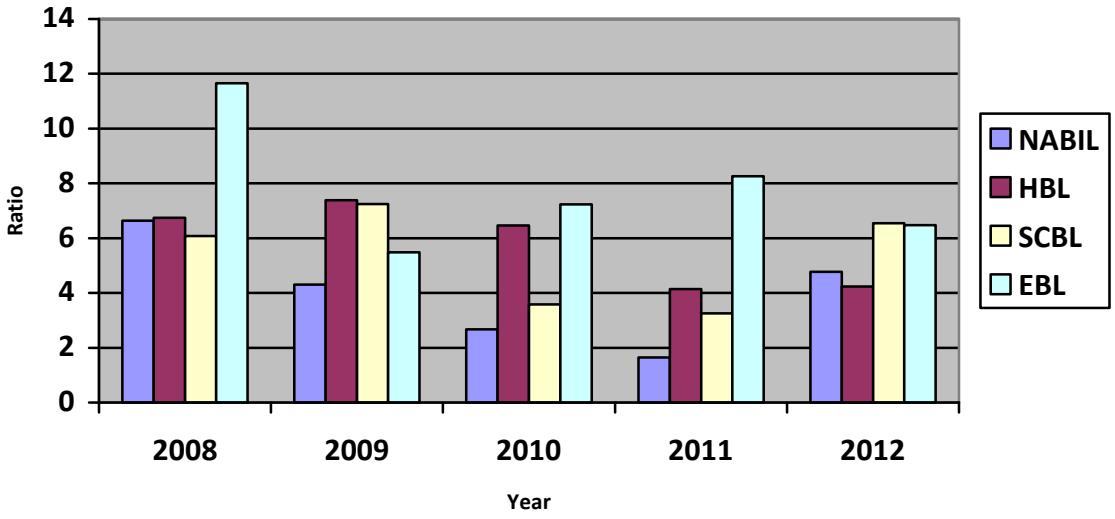
Source: Appendix V

Table 4.5 shows the balance with NRB with Total deposit ratio. The average ratio of NABIL is 4.01%. The highest ratio of NABIL is 6.645% in the year 2008 then it is in decreasing trend till in the year 2012 and its lowest ratio is 1.65% then it increase in the year 2011 .The ratio of HBL is more than NABIL and SCBL on average. The highest ratio of HBL is 7.39% in the year 2009 and lowest ratio is 4.14% in the year 2011. The average ratio of HBL is 5.79% which implies that out of total deposit HBL maintain 5.79% fund in the NRB as reserve which can be used when require. The ratio is higher than NABIL and SCBL, which depicts the strong capacity of liquidity reserve of HBL. HBL is highly consistent to average ratio during this period. The average ratio of SCBL is 5.34% which is greater than NABIL. It implies that SCBL has strong liquidity capacity than NABIL. Then, EBL has the highest ratio than other sample banks. The average ratio of EBL is 7.82%. It indicates that the liquidity capacity of EBL is highest than other.

As NRB has determined the ratio of balanced with NRB to total deposit is 7%. It is the measurement tool of each bank's ratio. During the study, the EBL is only maintaining this ratio as well as HBL and SCBL are the nearing the standard line 7% but NABIL is too less than 7% i.e. 4.01%. It shows that liquidity position if HBL and SCBL are satisfactory but

poor of NABIL. With the help of following figure it can be seen more clearly.

Figure 4.5 Comparative analysis Balance with NRB to Total Deposit Ratio



Source: Table 4.5

4.2.6 Short Term Investment to Total Deposit Ratio

This ratio shows the proportion of short term investment in the total deposit. This ratio is useful in analyzing the liquidity position of commercial banks. Higher ratio indicates the strong liquidity position and lower ratio means the bank may be liquidity crises in future. This ratio is computed by dividing the shore term investment by total deposit. Short term investment included cash & bank balance, money at a call.

Short Term Investment to Total Deposit Ratio: $= \frac{Short\ Term\ Investment}{Total\ Deposit} * 100$

Table 4.6: **Comparative analysis Short Term Investment to Total Deposit Ratio**

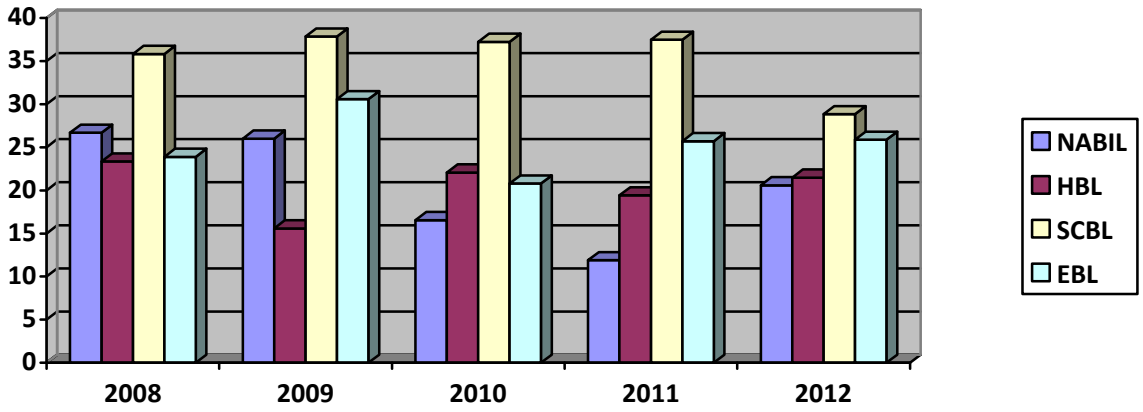
Ratio %

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	26.69	23.36	35.84	23.89
2009	26.01	15.59	37.86	30.59
2010	16.55	22.08	37.25	20.8
2011	11.9	19.42	37.49	25.71
2012	20.6	21.48	28.84	25.87
Mean	20.35	20.39	35.46	25.37
SD	5.62	2.71	3.38	3.18

Source: Appendix VI

From the above table, we saw the short term investment to total deposit ratio of NABIL is 20.35%, the highest ratio and lowest ratio of NABIL in the year 2008 and 2011 is 26.69% and 11.9% respectively. NABIL has the lowest ratio i.e.20.35% on average as well as its S.D. HBL ratio is 20.39% on average which is higher than NABIL. Likewise, SCBL has the highest ratio i.e. 35.46% on average. This implies that SCBL has utilized 35.46% of total deposit in short term investment and enjoy two benefits as liquidity and portability. Similarly EBL has short term investment to total deposit ratio is 25.37% on average, which is higher than NABIL and HBL. So while comparing the ratio of four sample banks it can be concluded that the liquidity position SCBL is strong, EBL has moderate and NABIL and HBL has poor position. It can be seen more clearly from the following chart.

Figure 4.6: Comparative analysis Short Term Investment to Total Deposit Ratio



Source: Table 4.6

4 .2.7 Cash in Vault to Total Depoist Ratio

Cash in vault denotes the cash in hand of bank. Bank can meet any requiremant of liquidity immediately withy cash. This ratio shows the capacity of bank to meen the demand immediately. NRB has determine that ratio of cash in vault ot total deposit ratio 3% an average. Higher ratio indicates the strong liquidity capacity and vice versa. This ratio is calculate by the following formula.

$$\text{Cash in Vault to Total Deposit Ratio} = \frac{Cash\ in\ vault}{Total\ Deposit} * 100$$

Table 4.7: Comparative analysis Cash in Vault to Total Depoist Ratio

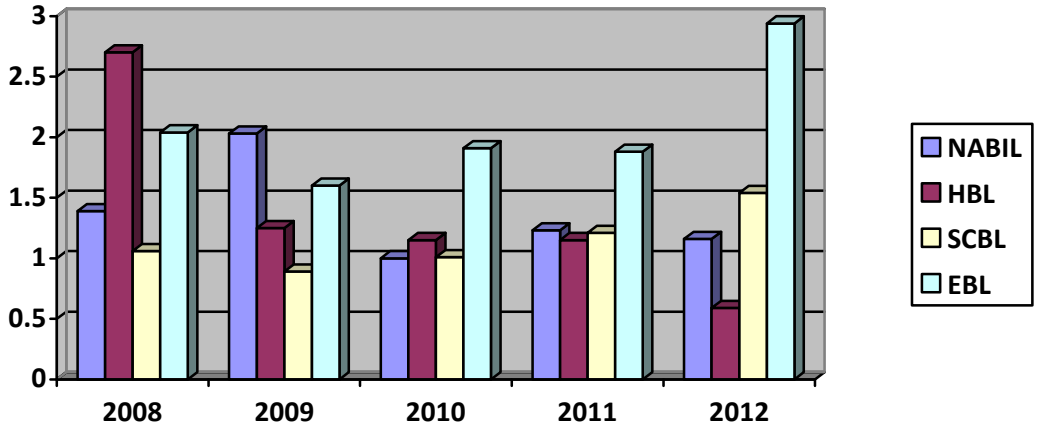
Ratio%

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	1.39	2.7	1.06	2.04
2009	2.03	1.25	0.89	1.6
2010	1	1.15	1.01	1.91
2011	1.23	1.15	1.21	1.88
2012	1.16	0.59	1.54	2.94
Mean	1.36	1.37	1.14	2.07
SD	0.36	0.71	0.22	0.46

Source: Appendix VII

Table 4.7, it is revealed that EBL has the highest ratio i.e. 2.07% on average among other sample banks. As compared to each sample banks EBL, have maintain above 2% range but NABIL, HBL and SCBL have below 2%. SCBL has maintained the lowest ratio than other banks on average i.e.1.14%. But its fluctuation trend also minimum than other banks because its S.D. is low i.e.0.22. Likewise NABIL and HBL maintain the around same ratio i.e. 1.36% and 1.37% respectively. From this study, we can say that all the four sample banks have not maintained the standard ratio. That means all the banks has not kept the enough money as cash in bank. It also shows that sample banks may face the liquidity crises if future. Among these banks, EBL has satisfactory level of ratio but other banks have poor liquidity position.

Figure 4.7: Comparative analysis Cash in Vault to Total Depoist Ratio



Source: Table 4.7

4.3 Square Linear Trend Analysis

Trend analysis is very useful in terms of both commercial banks and to the Shareholders. Through analysis bank can estimate the future investments, Opportunities, rate of return, deposit liabilities etc. Whether to stick in the present Growth rate or to increase or decrease. In terms of shareholders, trend analysis helps to whether to invest on the bank or to leave as per the satisfaction of the growth rate. For Depositors it provides degree of safety in the form of financial credit worthiness of the bank in the bank in the future and the borrowers, it assures about the financial capability of the banks to furnish their loans and advance in the future provided that the present tend continues. The strength line tend line of a serious of data is represented by the following formula.

$Y_c = a + bx$

Here, Y is used to designed the trend values to distinguish them from the actual Y values, a is the Y intercept or the computed trend figure of the Y variable when X=o, b represents the slope of the trend line of the amount of change in Y variable that is associate with a change of one unit in X variable in time series analysis represents times.

4.3.1 Trend analysis of Credit Deposit Ratio

Here the credit deposit ratio of four sample banks under five years and the trend value of credit deposit ratio next three years presented in table below.
The following table describes the trend values of credit deposit ratio for eight years

Table 4.8: Comparative trend analysis of credit deposit ratio

Ratio%

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	59	51.55	30.24	73.24
2009	56.03	52.58	33.53	73.41
2010	53.06	53.6	36.83	73.58
2011	50.09	54.63	40.12	73.74
2012	47.12	55.65	43.42	73.91
2013	44.15	56.67	46.71	74.07
2014	41.18	57.7	50	74.24
2015	38.21	58.72	53.3	74.41
Mean	53.05	53.6	36.83	73.58
Rate of change	-2.97	1	3.29	0.17
Trend equation(y)	53.05-2.97x	53.6+1x	36.83+3.29x	7.58+0.17x

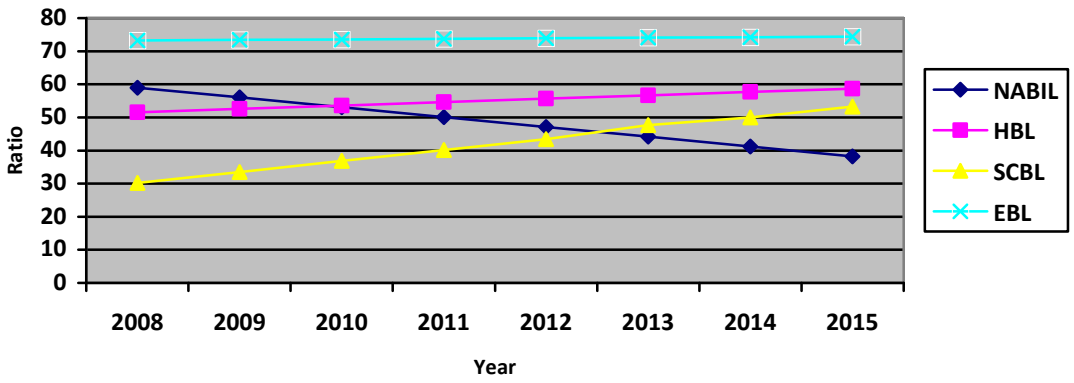
Source: Appendix VIII

Table 4.8, shows the trend analysis of credit deposit ratio of four sample commercial banks. From the table, we show that trend line of all sample banks going randomly. In the year 2013, the ratio NABIL has 44.15% and its trend line is going up next year but then after it falls down. Likewise, the trend line of HBL is increasing trend. The ratio of credit deposit ratio of SCBL is increasing up to next year then it decrease rapidly. Similarly, the trend line of EBL has the same trend of SCBL. If other thing remaining

same, the ratio of credit deposit ratio of NABIL, HBL, SCBL and EBL will be 38.21%,58.72%,53.3% and 74.41% respectively in the year 2015.

The following chart describes the trend value of credit deposit ratio of sample banks for eight years.

Figure 4.8 Comparative trend analysis of credit deposit ratio



Source: Table 4.8

2.3.2 Trend analysis of cash and bank balance to current deposit

Under this topic, to analyze the trend of cash and bank balance to current deposit ratio of four sample commercial banks with comparatively under five years study period and projected the trend next three years

The following table describes the trend value of credit deposit ratio of sample banks for eight years.

Table: 4.9: Comparative Trend analysis of cash and bank balance to current deposit Ratio%

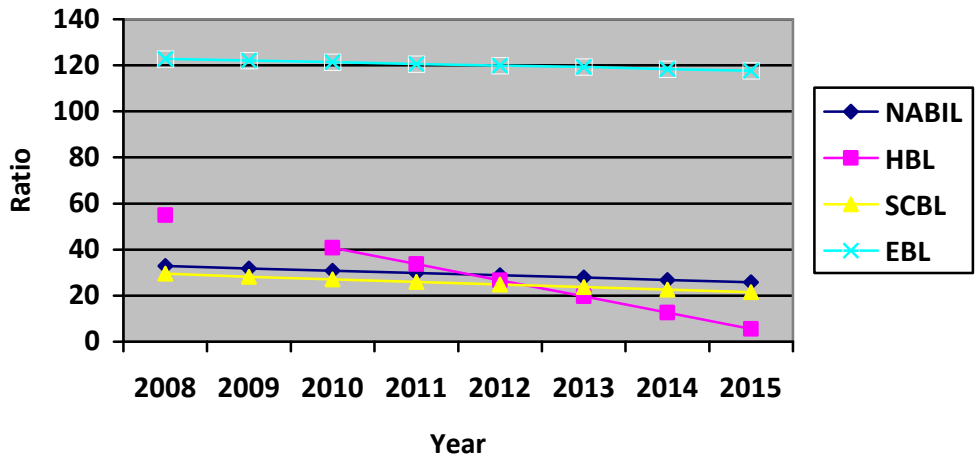
Year	Banks			
	NABIL	HBL	SCBL	EBL
2008	32.82	54.9	29.53	122.84
2009	31.83	47.85	28.22	122.1
2010	30.83	40.8	27.09	121.36
2011	29.83	33.75	25.96	120.62
2012	28.83	26.69	24.83	119.87
2013	27.83	19.64	23.7	119.13
2014	26.84	12.59	22.57	118.39
2015	25.84	5.54	21.44	117.64
Mean	30.82	40.79	27.09	121.36
Rate of change	-1	-7.05	-1.13	-0.74
Trend equation(y)	30.82-1x	40.79-7.05x	27.09-1.13x	121.36- 0.74x

Source: Appendix VIII

Above the table shows trend analysis of the cash and bank balance to current deposit ratio of sample banks. In the table, it is revealed that trend analysis of all commercial banks has decreasing trend. Comparatively, the fluctuation trend of HBL is highest and its trend line is sloping down rapidly. The trend line of SCBL also rapidly down. The cash and bank balance to current deposit ratio of EBL in the year 2012 is 119.13% then its ratio is decrease. If other thing remaining same, the ratio of cash and bank balance to current deposit ratio of NABIL, HBL, SCBL and EBL will be 25.84%, 5.54%,21.44% and 117.64 in the year 2015 respectively.

The following chart describes the trend value of cash and bank balance to current deposit ratio of sample banks for eight years.

Figure: 4.9: Comparative Trend analysis of cash and bank balance to current deposit



Source: Table 4.9

4.3.3 Trend analysis of Liquid Funds to Total Deposit Ratios

Under this topic, to analyze the trend of Liquid Funds to Total Deposit Ratios of four sample commercial banks with comparatively under five years study period and projected the trend next three years.

The following table describes the trend value of credit deposit ratio of sample banks for eight years.

Table: 4.10: Comparative Trend analysis of Liquid Funds to Total Deposit Ratios

Ratio%

Year	Banks			
	NABIL	HBL	SCBL	EBL
2008	13.73	11.44	18.57	14.85
2009	13.42	11.22	17.67	14.24
2010	13.11	10.99	16.77	13.62
2011	12.8	10.76	15.86	13.01
2012	12.48	10.53	14.96	12.39
2013	12.17	10.3	14.06	11.77
2014	11.86	10.07	13.15	11.16
2015	11.55	9.84	12.25	10.54
Mean	13.11	10.99	16.77	13.62
Rate of change	-0.31	-0.23	-0.9	-0.62
Trend equation(y)	13.11-0.31x	10.99-0.23	16.77-0.90x	13.62-0.62x

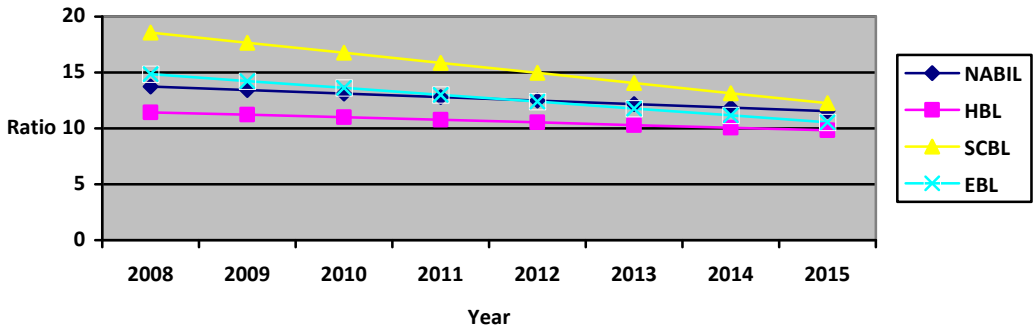
Source: Appendix VIII

From the above comparative table, it has been found that liquid funds to total deposit ratio of four sample banks are in decreasing trend. The trend of HBL is less decreasing and the trend of SCBL is high decreasing trend.

If other thing remaining same, the liquid funds to total deposit ratio of NABIL, HBL, SCBL and EBL will be 11.55%, 9.84%, 12.55% and 10.54% respectively in the year 2015.

The trend value of total liquid funds to total deposit ratio of sample banks are presented in below chart.

Figure: 4.10: Comparative Trend analysis of Liquid Funds to Total Deposit Ratios



Source: Table 4.10

4.3.4 Trend analysis of Total Investment to Total Deposit Ratio

Under this topic, to analyze the trend of Total Investment to Total Deposit Ratio of four sample commercial banks with comparatively under five years study period and projected the trend next three years.

The following table describes the trend value of credit deposit ratio of sample banks for eight years.

Table: 4.11: **Comparative Trend analysis of Total Investment to Total Deposit Ratio**

Ratio %

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	41.67	49.68	53.82	26.19
2009	39.41	47.03	53.92	26.54
2010	37.16	44.37	54..02	26.88
2011	34.9	41.72	54.11	27.22
2012	32.64	39.06	54.21	27.57
2013	30.39	36.4	54.31	27.91
2014	28.13	33.75	54.4	28.26
2015	25.88	31.09	54.5	28.6
Mean	37.16	44.37	54.02	26.88
Rate of change	-2.26	-2.66	0.1	0.34
Trend equation(y)	37.16-2.26x	44.37-2.66x	54.5+0.1x	26.88+0.34x

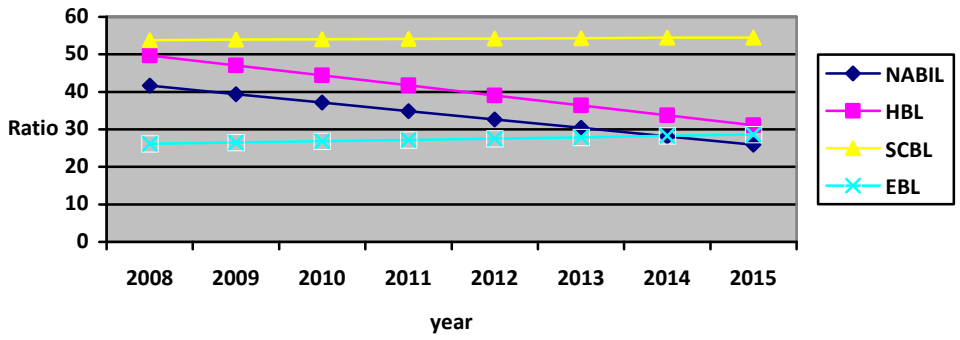
Source: Appendix VIII

From the above comparative table, it has been found that total investment to total deposit ratio of NABIL and HBL sample banks are in decreasing trend. But the liquid funds to total deposit ratio of SCBL and EBL have increasing trend.

If other thing remaining same, the total investment to total deposit ratio of NABIL, HBL, SCBL and EBL will be 25.88%, 31.09%,54.5% and 28.6 respectively in the year 2015.

The trend value of total investment to total deposit ratio of sample banks are presented in below chart.

Figure: 4.11: Comparative Trend analysis of Total Investment to Total Deposit Ratio



Source: Table 4.11

4.3.5 Trend analysis of Balance with NRB to Total Deposit Ratio

Under this topic, to analyze the trend of balance with NRB to total deposit ratio Of four sample commercial banks with comparatively under five years study period and projected the trend next three years .

The following table describes the trend value of balance with NRB to total deposit ratio of sample banks for eight years.

Table: 4.12 Comparative Trend analysis of Balance with NRB to Total Deposit Ratio

Ratio%

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	5.28	7.28	5.95	9.39
2009	4.65	6.51	5.65	8.58
2010	4.01	5.74	5.34	7.82
2011	3.37	4.97	5.04	7.06
2012	2.37	4.19	4.73	6.31
2013	2.09	3.42	4.42	5.55
2014	1.45	2.65	4.12	4.8
2015	0.81	1.87	3.81	4.04
Mean	4.01	5.79	5.34	7.82
Rate of change	-0.64	-0.77	-0.31	-0.76
Trend equation(y)	4.01-0.64x	5.79-0.77x	5.34-0.31x	7.82-0.76x

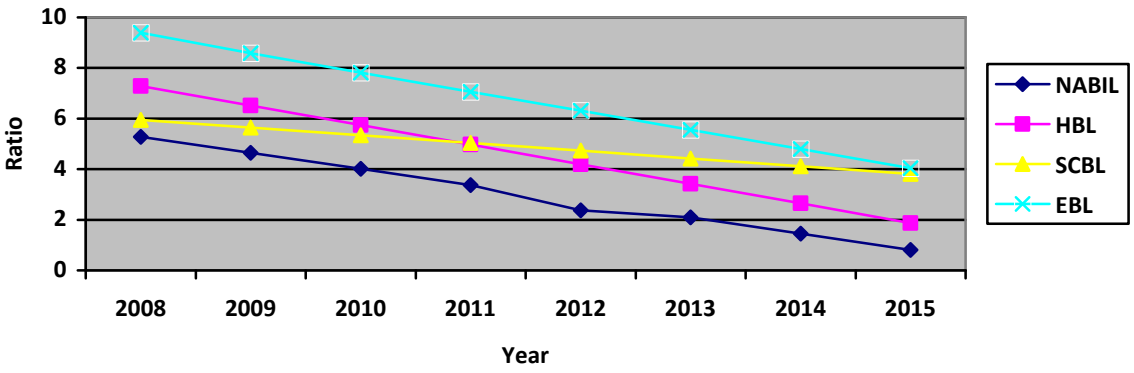
Source: Appendix VIII

From the above comparative table, it has been found that balance with NRB to total deposit ratio of all sample banks are in decreasing trend. The decreasing trend of HBL is highest than other banks. In the year 2013, the ratio of HBL is 3.42%.

If other thing remaining same, balance with NRB to total deposit ratio of NABIL, HBL, SCBL and EBL will be 0.81%, 1.87, 3.81% and 4.04 respectively in the year 2015.

The trend value of balance with NRB to total deposit ratio of sample banks are presented in below chart.

Figure: 4.12: Comparative Trend analysis of Balance with NRB to Total Deposit Ratio



Source: Table 4.12

4.3.6 Short term investment to total deposit Ratio

Under this topic, to analyze the trend of Short term investment to total deposit ratio of four sample commercial banks with comparatively under five years study period and projected the trend next three years.

The following table describes the trend value of Short term investment to total deposit ratio of sample banks for eight years.

Comparative Trend analysis of Short term investment to total deposit Ratio

Table: 4.13 **Ratio%**

Year	Banks			
	NABIL	**HBL**	**SCBL**	**EBL**
2008	25.61	20.37	38.33	25.56
2009	22.98	20.38	36.89	25.46
2010	20.35	20.39	35.46	25.37
2011	17.72	20.39	34.02	25.28
2012	15.09	20.4	32.58	25.19
2013	12.46	20.41	31.15	25.1
2014	9.83	20.41	29.71	25
2015	7.21	20.42	28.27	24.91
Mean	20.35	20.39	35.46	25.37
Rate of change	-2.63	0.01	-1.44	-0.09
Trend equation(y)	20.35-02.63x	20.39+0.01x	35.46-1.44x	25.37-0.09x

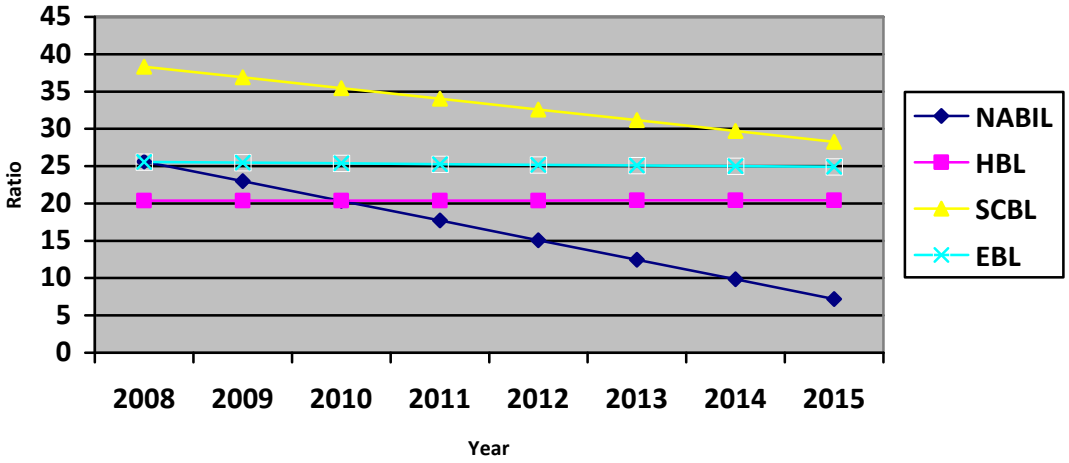
Source: Appendix VIII

From the above comparative table, it has been found that Short term investment to total deposit ratio of all sample banks except HBL are in decreasing trend. The ratio of HBL is increasing very slowly.

If other thing remaining same, Short term investment to total deposit ratio of NABIL, HBL, SCBL and EBL will be 7.21%, 20.42%, 28.27% and 24.91% respectively in the year 2015.

The trend value of Short term investment to total deposit ratio of sample banks are presented in below chart.

Figure: 4.13: Comparative Trend analysis of Short term investment to total deposit Ratio



Source: Table 4.13

4.3.7 Trend analysis of Cash in Vault to Total Deposit Ratio:

Under this topic, to analyze the cash in vault to total deposit ratio of four sample commercial banks with comparatively under five years study period and projected the trend next three years.

The following table describes the trend value of cash in vault to total deposit ratio of sample banks for eight years.

Comparative Trend analyses of Cash in Vault to Total Deposit Ratio

Table: 4.14 :

Ratio%

Year	Banks			
	NABIL	HBL	SCBL	EBL
2008	1.61	2.23	0.89	1.66
2009	1.49	1.8	1.01	1.87
2010	1.36	1.37	1.14	2.07
2011	1.24	0.94	1.27	2.28
2012	1.11	0.5	1.4	2.49
2013	0.98	0.07	1.53	2.7
2014	0.86	-0.36	1.65	2.91
2015	0.76	-0.79	1.78	3.11
Mean	1.36	1.37	1.14	2.07
Rate of change	-0.13	-0.43	0.13	0.21
Trend equation(y)	1.03-0.13x	1.37-0.43x	1.14+0.13x	2.07+0.21x

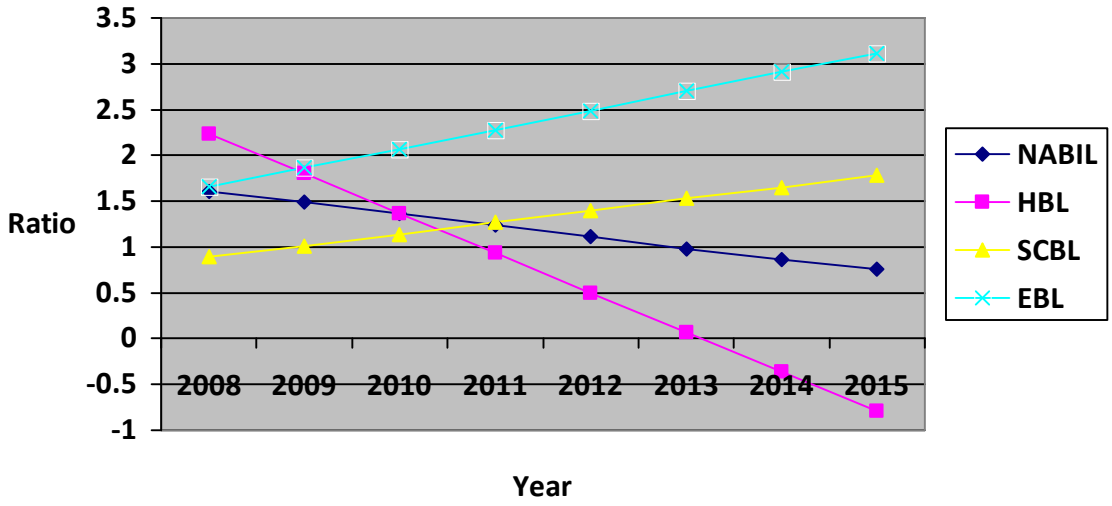
Source: Appendix VIII

From the above comparative table, it has been found that cash in vault to total deposit ratio of all sample banks except SCBL and EBL are in decreasing trend. But SCBL and EBL have increasing trend till next years but there after the ratio are also decrease.

If other thing remaining same, cash in vault to total deposit ratio of NABIL, HBL, SCBL and EBL will be 0.76%, -0.79%, 1.78% and 3.11% respectively in the year 2015.

The trend value of cash in vault to total deposit ratio of sample banks are presented in below chart.

Figure: 4.14:Comparative Trend analysis of Cash in Vault to Total Deposit Ratio



Source: Table 4.14

4.4 GAP Analysis

Gap analysis is another tool of liquidity management. It is evolved from of liquidity profile analysis. So it is a bit reliable and scientific tool of measuring liquidity position of commercial banks and NRB has made a regulation to calculate the GAP analysis. From the GAP analysis, we can find out the GAP of commercial bank. So the individual GAP analyses of sample banks are presented below.

4.4.1 GAP Analysis of NABIL

Table: 4.15

Difference Based on Maturity Period						
Year	**0-90 days**	**91-180 days**	**181-270 days**	**271-365 days**	**Above one years**	**GAP**
2008	41036	540	16418	10547	-53266	15275
2009	21304	1712	12062	24337	-59415	0
2010	1896.1	661.5	335.9	1679.2	-4572.7	0
2011	39292	2275	-1478	31877	-71966	0
2012	4107	5920	19773	47155	-76955	0

From the above table, we can see the liquidity position of NABIL banks. In the year 2008, the liquidity position of NABIL banks is strong because its net financial position is highest than other years. But another hand, it also increase the opportunity cost of banks. It indicates that the problem of maturity mismatch between assets and liabilities. But it is improved from next year. After the year 2008, total net financial assets are 0. It indicates that there isn't problem of maturity mismatch between assets and liabilities. Comparatively, the NABIL banks liquidity position are strong of up to 90 days maturity period than other. It is also shows that due to high level of liabilities in above 1 year maturity period level.

4.4.2 GAP Analysis of HBL

Table: 4.16

Difference Based on Maturity Period						
Year	**0-90 days**	**91-180 days**	**181-270 days**	**271-365 days**	**Above one years**	GAP
2008	NA					
2009	2703	3025	2073	5083	-11191	1693
2010	-98	3056	1283	6826	-8386	2681
2011	2266	5068	2776	2642	-12752	0
2012	6632.47	1847.09	-603.2	-4046.9	-3829.46	0

During this research, it is found that HBL has adopted this tool from the year 2009 only. In the year 2009 and 2010, it is seen that total there is Rs.1693 and Rs. 2681 million is excess over assets than liabilities. It implies that the bank is highly crisis in liquidity management. Because of higher assets increase the opportunity cost of bank and it reduce the profit of bank. So bank always maintain the assets and liabilities based on maturity period. In the year 2011 and 2012, the bank has maintained the liquidity position.

4.4.3 GAP Analysis of SCBL

Table: 4.17

Difference Based on Maturity Period						
Year	**0-90 days**	**91-180 days**	**181-270 days**	**271-365 days**	**Above one years**	**GAP**
2008	8327	1616	2911	1652	-14506	0
2009	9329	3016	968	2416	-15729	0
2010	3928	2113	3162	2659	-11862	0
2011	-11802	2331	2744	2659	3249	-819
2012	1154	2917	3869	5135	-13075	0

From the above table, it is seen that the liquidity profile of SCBL. SCBL has maintained the liquidity position based on maturity period except one year. But also it is seen that liabilities excess over than assets above one years maturity period in all year except 2009. It implies that the bank may be face liquidity crisis in above than one year's maturity period. But less than one year maturity period, the banks maintain the liquidity position because assets excess over than liabilities. In the year 2011, Rs 819 excess over than liabilities in implies that there is mismatch between assets and liabilities. But it is improve after next year.

4.4.4 GAP Analysis of EBL

Table: 4.18

Difference Based on Maturity Period						
Year	**0-90 days**	**91-180 days**	**181-270 days**	**271-365 days**	**Above one years**	GAP
2008	30609	719	1014	8217	-28257	12302
2009	33397	1125	2473	12771	-37445	12321
2010	19476	379	5474	13144	-24777	13696
2011	26397	7842	10640	21270	-47798	18351
2012	17773	19334	11791	19728	-39096	29530

From the above table, it is seen that the liquidity profile of EBL. Assets excess over the liabilities in total in all year. It implies that EBL does not maintain the liquidity position. It also implies that there is mismatch between assets and liabilities. It was happed that due to the high level of assets, EBL sufficient liquidity fund but it increase the opportunity cost and reduce the banks profit. From the above table, it also shows that bank increase the assets and reduce the liabilities gradually in coming year in total. Another hand, liabilities excess over than assets in above than one year based on maturity period.

4.5 Analysis of Primary Data

Due to examine the liquidity position, factoring affecting the liquidity position and analyze the liquidity management practice in Nepalese commercial banks, primary information were collected from the respondents of the questionnaire. Top level banking professional and managers who have to adequate knowledge of banking industry and longtime experience were respondents. As per the nature of information required the questionnaire was developed.

There were 8 questions in total. These questions were formulated to examine liquidity position of Nepalese commercial banks, trend of liquidity and to analyze the factors affecting liquidity management.

4.5.1 Our Bank is in 'over liquidity' position

The responses of the respondents for the question are tabulated below: **Table: 4.19**

S. No.	Responses	No.	Percentage
1.	YES	4.0	67%
2.	NO	2.0	33%
	Total	**6.0**	**100%**

From the primary responses, it is found that 67% of the respondents were agreed that the bank is in 'over liquidity position' and only 33% of the respondents were disagree with statement. So, from this study we can say that Nepalese commercial banks are in over liquidity position.

4.5.2 Our Bank is Able to Maintain the Liquidity

The responses of the respondents for the question are tabulated below:

Table: 4.20

S. No.	Responses	No.	Percentage
1.	YES	3.0	50%
2.	NO	3.0	50%
	Total	**6.0**	**100%**

From the primary response, it is found that 50% of the respondents were agreed that the bank is able to maintain the liquidity position. 50% of the respondents were disagreeing with this statement. By this data, Nepalese commercial banks are average liquidity position.

4.5.3 Our Bank is facing Liquidity Crisis

The responses of the respondents for the question are tabulated below:

Table: 4.21

S. No.	Responses	No.	Percentage
1.	YES	1.0	16%
2.	NO	5.0	84%
	Total	**6.0**	**100%**

By analyzing the primary response, it was found that 16% of the respondents were agreed that the bank is facing liquidity crisis. And 84% of the responses were disagreed this statement with this statement. So the primary data shown that the bank is not facing liquidity crises.

4.5.4 The Liquidity position is in Increasing Trend

The responses of the respondents for the question are tabulated below:

Table: 4.22

S. No.	Responses	No.	Percentage
1.	YES	4.0	67%
2.	NO	2.0	33%
	Total	**6.0**	**100%**

By analyzing the primary response, it was found that 67% of the respondents were agreed that the liquidity position is in increasing trend. And 16% of the responses were disagreed this statement with this statement. So the primary data shown that the bank's liquidity position is in increasing trend.

4.5.5 There are favorable investments opportunities in Nepal

The responses of the respondents for the question are tabulated below:

Table: 4.23

S. No.	Responses	No.	Percentage
1.	YES	1.0	16%
2.	NO	5.0	84%
	Total	**6.0**	**100%**

It is found that only 16% out of the respondents were agree that there were favorable investment opportunity in Nepal. The majority respondents i.e. 84% were disagree with this statement. The data reveals that there is no favorable investment opportunity in Nepal and liquidity position is in increasing trend due to the lack of investment.

4.5.6 Worldwide Depression is the cause of under/over liquidity position in Nepal

The responses of the respondents for the question are tabulated below

Table: 4.24

S. No.	Responses	No.	Percentage
1.	YES	0	
2.	NO	6.0	100%
	Total	**6.0**	**100%**

From the primary response, it is found that all the respondents were disagreeing with this statement. 100% of respondents told that there is no effect in liquidity position in Nepal due to the worldwide depression. So, it revels that there is not effect in Nepal.

4.5.7 Political instability is the cause of over/under liquidity

The responses of the respondents for the question are tabulated below

Table: 4.25

S. No.	Responses	No.	Percentage
1.	YES	3.0	50%
2.	NO	3.0	50%
	Total	**6.0**	**100%**

From the primary response it is found that only 50% out of the respondents were agree with this statement that political instability is the cause of over/under liquidity. 50% respondents were found disagree with this statement.

4.5.8. NRB is effectively monitoring the liquidity management

The responses of the respondents for the question are tabulated below

Table: 4.26

S. No.	Responses	No.	Percentage
1.	YES	3.0	50%
2.	NO	3.0	50%
	Total	**6.0**	**100%**

From the primary response it is found that only 50% out of the respondents were agree with this statement that NRB is effectively monitoring the liquidity management. 50% respondents were found disagree with this statement.

4.6 Major Finding

As per nature of data the empirical finding of the study can be categorized in two parts and explain as follows.

4.6.1 The major finding of the study drawn from the analysis of secondary data of sample banks is below.

During the study, all the secondary data has been analyzed financial as well as statistical tools. This topic focused on their major finding from the secondary data analysis, which is derived from the analysis of liquidity management of four sample commercial banks named NABIL, HBL, SCBL and EBL with comparatively applying five years data from 2008 to 2012.

4.6.1.1 Major Finding from Ratio Analysis

- Credit deposit ratio of EBL is highest than other sample commercial banks and SCNL is low. This implies that EBL has strong liquidity position and NABIL and HBL are moderate.
- Cash and bank balance to current deposit measure the liquidity risk arising from day to day operation. Cash and bank balance of EBL is highest among all the sample commercial banks and NABIL and HBL are in average and as compare to other banks average ratio of SCBL is low that may arise liquidity crises to the bank.
- Liquid funds to total deposit ratio measure the bank strength to meet uncertain outflow of deposit. The liquid funds to total deposit ratio of SCBL is the highest than others and it has more liquid among than other. NABIL and EBL have average liquidity position and HBL has low liquidity position than others.
- Total investment to total deposit ratio of SCBL is highest than other sample banks and it implies that SCBL has good back up for liquidity. The ratio of NABIL and HBL is moderate and EBL is low than others.
- Balance with NRB to total deposit ratio of EBL is highest than others. This implies that liquidity position of EBL has strong. The liquidity position of HBL and SCBL are moderate and NABIL has low.
- Short term investment to total deposit ratio of SCBL is highest and NABIL is lowest than other sample banks. This implies that SCBL is capable to meet the necessary short term obligation by short term investment and it has efficient to manage liquidity position than others. The ratio of EBL is moderate and the ratio of NABIL and HBL are low which may arise liquidity crises in bank.
- NRB has determined the ratio of cash in vault to total deposit ratio is 3% in average. But all the banks' ratio are low than 3%. This implies that the banks have maintained as soon as possible low level of cash in vault.

4.6.1.2 Major Finding from Trend Analysis.

- The credit deposit ratio all banks except NABIL are decreasing trend. The ratio of change of SCBL is higher than other banks. It implies that all the bank except NABIL has reduce their credit deposit ratio but NABIL has increased the ratio.
- The trend of cash and bank balance of all banks is in decreasing trend. The rate of NABIL is highest than other and its trend id heading downward rapidly. But the trend of NABIL and SCBL are relatively steady during this period. The decreasing trend of SCBL is higher than NABIL and EBL. It is deficit that NABIL and HBL are more successful to maintain cash liquid position and other is in moderate liquid position.
- Liquid funds to total deposit ratio of all banks is in decreasing trend. SCBL and EBL are reducing their liquid funds rapidly. NABIL and HBL have also decreasing their liquid funds. It implies that banks are utilizing their fund in other sector by reducing their liquid funds.
- The trend value of total investment to total deposit ratio of NABIL and HBL is decreasing trend but SCBL and EBL have increasing trend. It implies that NABIL and HBL are reducing their ratio and maintain liquid position and SCBL and EBL have minor increment their ratio. It implies that they have increasing their ratio.
- Balance with NRB to total deposit ratio of all sample commercial banks are in decreasing trend. HBL and EBL are relative increasing than other banks. NABIL and SCBL have also decreasing trend. It implies that all the banks have reduced their balance with NRB.
- Short term investment to total deposit ratio of NABIL, SCBL and EBL have decreasing trend but HBL has increasing trend. It implies that NABIL, SCBL and EBL have reduced their short term investment and HBL has minor increase the ratio and maintain the liquidity position.
- The trend value to total deposit ratio of SCBL and EBL have increasing trend but rest of bank have reducing idle cash. The comparative data reveals that SCBL and EBL are in better liquidity position as compared than other banks.

4.6.1.3 Major Finding from GAP analysis

- NABIL is not able to mange maturity mismatch properly in 2009 because GAP of assets and liabilities is high. But it is improve after the year 2009.
- HBL also cannot manage maturity matching of assets and liabilities in the year 2010 and 2011. Because GAP of assts and liabilities is seen on two years. But it is improved from the year 2011.
- SCBL has the better liquidity position than other sample banks. It has managed GAP between assets and liabilities except the year 2012.
- EBL is very poor to manage maturity matching of assets and liabilities in all year and facing liquidity problem. Because it has not maintain the GAP in all year. Assets excess over than liabilities.

4.6.2. Major Finding from the primary data analysis

From the primary data regarding the liquidity management in Nepalese commercial banks, following major finding are drawn out.

- Nepalese commercial banks are in over liquidity position and nearly average banks are able manage it properly.
- Due to lack of favorable investment opportunity the liquidity position of commercial bank is in increasing trend.
- World wise depression has not change liquidity positions of commercial banks are not change.
- Due to the political instability, a nearly average bank has to face liquidity problem.
- NRB monitoring for the liquidity management is surface but not effectively.

Chapter V

Summary, Conclusion and Recommendation

This chapter is the last part of the research study. In this chapter, briefing of the whole study is made. This chapter contains summary, conclusion and recommendation of the study. To know the actual them of the study, following four chapters: introduction, literature review, research methodology and the analysis of the study is summarized, and then conclusion is drawn following analysis part and comparing the theoretical aspect and analysis. Conclusion part answers whether practically relates to the theory or not. Based on conclusion, necessary suggestions are presented in recommendation part. Recommendation is made with the hope of improving present situation of liquidity in Nepalese commercial banks.

5.1 Summary

Liquidity management is having cash when needed, Liquidity means having sufficient funds to met regulatory, contractual and relationship obligations when required and at a reasonable cost to the bank. Liquidity needs of commercial banks are unique because in no other types of business there will be such a large proportions of deposit payable on demand. In other organization too, liquidity is required for various purpose. Inadequate liquidity does damage the credit standing of those organizations but 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 money and assets that is ready convertible into money within short span of time.

Basically, the entire research work has focused in the comparatively study in liquidity management in Nepalese commercial banks. For the study, four commercial banks (i.e. NABIL, HBL, SCBL and EBL) were taken as sample and analyzed their liquidity management practice by taking five years secondary data from 2008 to 2012 as well as primary data. The objective of the study is to find out and analysis the liquidity

management practices in Nepalese commercial banks. To fulfill the main objectives following specific objective are formulated.

- To examine liquidity position of commercial banks.
- To analyze the Credit deposit ratio and its impact on liquidity.
- To examine the different ratio regarding the liquidity.
- To make suggestion and recommendation for the improvement of liquidity position of banks.

To fulfill the research objective the study is divided into five chapters.

In the first chapter, brief introduction of liquidity management, focus of the study significance of the study, research objective, brief introduction of the sample banks, limitation of the study and research scheme are included.

In the second chapter, theoretical review has been made. Different policies, rules and regulation about liquidity management are reviewed. During the study, different books, journals, previous studied, websites, reports are viewed and visited to different professional to know the liquidity management. During, the literate review, it is found that a few researches have been made on this topic.

Research design, population and sample and analysis tools are included in the third chapter. The data were collected from secondary and primary sources for the study. The secondary data were collected from annual report of commercial banks. The primary data and information are collected from questionnaire. After collecting the data from different sources it is analyzed by using financial and statistical tools and techniques.

An attempt has been made to fulfill the objective of the research work in chapter four. In this chapter, all the secondary data as well as primary data are complied, processed and tabulated as per the necessity and figure, diagrams are also used to present it clearly.

In the chapter five, the summary, conclusion and recommendation are included. The summary of the study , conclusion drawn from the study are presented and necessary suggestion are given to the concern authorities, sample banks well as Nepalese commercial banks, Nepal Rastra bank and government for the betterment of liquidity management.

These studied suffer from the different limitation: it considers four commercial banks for the sample of total commercial banks in Nepal. Time and resources are the constraint of the study. Therefore, the study may not be generated in all case and accuracy depends upon the data collected and provided by the organization and represent.

5.2 Conclusions

From the analysis of data following conclusion have been drawn out:

- From the analysis of credit deposit ratio, it is seen that liquidity position of SCBL is strong, NABIL and HBL are moderate and EBL is poor.
- From the analysis of cash and bank balance to current deposit ratio, it was found that EBL has strong capacity to meet the short term obligation, NABIL and HBL is moderate and SCBL has poor liquidity position.
- From the analysis of liquid funds to total deposit ratio, it is found that SCBL has the strong capacity to meet the short term obligation, NABIL and EBL have moderate and HBL has low strength to meet the short term obligation.
- From the analysis of total investment to total deposit ratio, it is seen that EBL has the strong liquidity position because only 26.88% amount has investment out of total deposit but SCBL has poor liquidity position due to the high investment and NABIL and HBL have moderate liquidity position.
- From the analysis of NRB to total deposit ratio, it was found that EBL has adequate reserve in NRB to meet the short term obligation of total deposit ratio but HBL and SCBL have moderate liquation position.

- From the analysis of short term investment to total deposit ratio, it is notice that SCBL has strong liquidity position and EBL have moderate liquidity position and NABIL and HBL have poor liquidity position.
- From the analysis of cash in vault to total deposit ratio, it is found that all four commercial banks have maintain the low level of cash in vault. NRB has determined that the ratio is 3% in average, but no any banks has fulfilled the standard.
- From the analysis of trend analysis, it is found that credit deposit ratio of all commercial banks except NABIL are increasing trend. It implies that all the commercial banks except NABIL have increased their loan. The cash and bank balance to current deposit ratio of all commercial banks are decreasing trend. In implies that all banks are reduction their cash and bank balance.
- From the analysis of GAP analysis, it is found that GAP of NABIL in the Year 2009 is high but it has maintained on following coming year. GAP of HBL also high in the first year, again SCBL is high in the year 2012. GAP of EBL has seen in all year.

During this study, primary data are also used. For this purpose, research question are made and asked to the respondents. From the analysis of all primary data following conclusion are drawn out.

- Nepalese commercial banks are in over liquidity position and it is increasing trend also. Due to lack of unfavorable investment in Nepal, liquidity management is being difficult and challenging. Liquidity management is influenced by external factors like: national security, political instability and income of depositor's foreign remittance and internal factors like: lending policy of bank, management capacity, strategic planning policy of banks.
- The policy and rules of liquidity management are adequate but not implemented properly.
- From the study, it is found that main problems of liquidity management are as follows:
- Increasing numbers of loan defaulters and lack of law against them.
- High flow of remittance but low investment opportunities.

- Lack of proper inspection and supervision of NRB and flexible management.
- Underdevelopment market for liquidity creating financial instrument and lack of manpower to risk analysis.

From the study, it is found that liquidity management practice is still in developing phases. Most of the commercial banks have maintained liquid funds to fulfill the statutory provision only. Since NRB has to treat to commercial banks to maintain liquidity, it is seen that commercial banks are found less sincere to liquidity management. Commercial banks have maintain liquidity measuring tools like liquidity profile analysis and GAP analysis by force, not voluntarily. From this condition it is revealed that commercial banks are not taking it easily and positively but they are felling it is a burden. It should be taken positively and implemented compulsory by commercial banks for the betterment of liquidity risk management, banks creditability and safely for depositor's amount.

Rules and regulation are the guidelines of thing to do or not to do. So, its effect can be seen after the implementation. In order to manage the liquidity effectively, the existing regulation should be effectively put in practice.

5.3 Recommendation

On the basis of analysis and finding of the study, following suggestion and recommendation are made which may be referred to overcome weakness and inefficiency to liquidity risk management and for taking corrective action for the concern authorities, professional, government, NRB and other researchers.

- **To Sample Commercial Banks.**
  - Credit deposit ratio of some banks has very high. If credit deposit ratio is high, bank may face liquidity crises in future and if credit deposit ratio is low, it increase the opportunity cost. So, banks are suggested that average credit deposit is maintain.

- As a result obtain in the study, the ratio of cash and bank balance of EBL is very high than other banks, so it is suggested that the ratio of cash and bank balance has decrease.
- NRB has determined the ratio of balance with NRB to total deposit ratio is 7%. But only EBL has maintained this ratio. Banks are suggested that the ratio with NRB to total deposit ratio raise up to 7%.
- NRB has determined the cash in vault to total deposit ratio is 3%. But all sample commercial bank's ratio is less than 3%. Banks are suggested that the ratio of cash in vault to total deposit ratio raise up to 3%.
- As result obtained in the study, trend analysis of credit deposit ratio of all sample banks except NABIL has increasing trend it implies that all banks has increase the ratio of credit deposit ratio. It is suggested that banks should not increase this ratio because it may bring liquidity crises in future.
- As results obtain in the study, all banks have not maintained the assets and liabilities between based on maturity period. Due to mismatch between assets and liabilities, it is seen that GAP is high. So, banks are suggested that GAP between assets and liabilities should be reduce by appropriate policy.

➢ To The Government

Government is the responsible body of nation. National economy is influence by policies, rules, regulation and other activities of the government. Based on the search, it is found that government also connected to liquidity risk management procedures. So, as the responsible body of the nation, following points is suggested to government.

- Liquidity management and other financial activities are affected by nation security. So, national security should be ensured by the table talk and collective bargaining process.
- Political stability should be made in the country.

- Strong law should be made and effectively implemented against loan defaulters. Most of the loan defaulters are high- class people, top level businessman and leaders. They may influence the commercial banks by force. So, strong law should be made and took into action immediately against them.

- **To The Professionals**

Bank can be an effectively and successful in management with the help of dedicated professional. Banking professional are the lifeblood of the bank. So, following points are suggested to the professional.

- Professional bankers should be more dedicated to the professional and should apply banking tools more effectively.
- Theoretical and practical knowledge should be tied up by implementation on the banking operation.
- Refreshment training should be taken for the knowledge enhancement on risk analysis and liquidity management.

- **To Others Researchers**

Research may be helpful to fulfill the gap of proper research in liquidity management in Nepalese commercial banks. It map provided the knowledge of liquidity management in Nepalese commercial banks. This research studied the existing liquidity management practice, existing liquidity position and factors affecting the liquidity management and banking tools for the study management only. For the father study and analysis, this study may be guideline for other researchers. Other researchers are suggested to study about of every factor to liquidity management.

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APPENDIX-I

Credit Deposit Ratio

(Rs. In million)

Name of banks	Particulars	Year				
		2008	**2009**	**2010**	**2011**	**2012**
NABIL	Total Loan	7755.95	8189.99	10586.17	12922.54	15545.77
	Total Deposit	13447.66	14119.03	14586.60	19347.39	23342.28
	CD Ratio%	57.68	58.01	72.57	66.79	66.60
HBL	Total Loan	8913.72	11951.86	12424.52	14642.55	16997.99
	Total Deposit	17117.40	22010.33	24814.02	26490.85	30048.41
	CD Ratio%	52.07	54.30	50.07	55.27	56.57
SCBL	Total Loan	5695.82	6410.24	8143.02	8935.41	10502.63
	Total Deposit	18755.63	21161.44	19335.02	23061.03	24647.02
	CD Ratio%	30.37	30.29	42.12	38.75	42.61
EBL	Total Loan	4908.46	5884.12	7618.67	9801.30	13664.08
	Total Deposit	6694.93	8063.90	10097.69	13802.44	18186.25
	CD Ratio%	73.32	72.97	75.45	71.01	75.13

Source: AGM paper of NABIL,HBL,SCBL and EBL from the FY- 2008 to 2012

APPENDIX-II

Cash and Bank Balance to Current Deposit Ratio

(Rs. In million)

Name of banks	Particulars	Year				
		2008	**2009**	**2010**	**2011**	**2012**
NABIL	Cash and bank balance	1144.76	970.48	559.55	556.16	1399.82
	Current Deposit ratio	3034.00	2688.96	2799.18	2910.58	3395.23
	Ratio %	37.73	36.09	19.98	19.11	41.23
HBL	Cash and bank balance	1979.19	2001.17	2014.46	1401.67	1757.34
	Current Deposit ratio	3503.14	4145.44	5045.16	5028.15	5589.58
	Ratio %	56.49	48.27	39.92	27.86	31.44
SCBL	Cash and bank balance	1512.31	2023.16	1111.11	1276.24	2021.02
	Current Deposit ratio	5768.62	5816.93	4356.33	4681.93	4794.53
	Ratio %	26.22	34.78	25.51	27.26	42.15
EBL	Cash and bank balance	1139.56	631.81	1049.98	1552.96	2391.39
	Current Deposit ratio	562.39	719.75	1025.02	1145.79	1673.98
	Ratio %	202.63	87.78	102.44	135.54	142.86

Source: AGM paper of NABIL, HBL, SCBL and EBL from the FY- 2008 to 2012

APPENDIX-III

Total Liquid Funds to Total Deposit Ratio

(Rs. In million)

Name of Banks	Particulars	Year				
		2008	**2009**	**2010**	**2011**	**2012**
NABIL	Total Liquid Funds	1814.97	1889.21	1427.80	3956.93	1963.35
	Total Deposit	13447.66	14119.03	14586.60	19347.39	23342.28
	Ratio%	13.50	13.38	9.79	20.45	8.41
HBL	Total Liquid Funds	2129.30	2370.08	2455.55	2722.63	3467.36
	Total Deposit	17117.40	22010.33	24814.02	26490.85	30048.41
	Ratio%	12.44	10.77	9.90	10.28	11.54
SCBL	Total Liquid Funds	3170.21	4241.76	3370.80	3253.51	3782.17
	Total Deposit	18755.63	21161.44	19335.02	23061.03	24647.02
	Ratio%	16.90	20.04	17.43	14.11	15.35
EBL	Total Liquid Funds	1139.56	819.24	1619.98	1619.92	2391.42
	Total Deposit	6694.93	8063.90	10097.69	13802.44	18186.25
	Ratio%	17.02	10.16	16.04	11.74	13.15

Source: AGM paper of NABIL, HBL, SCBL and EBL from the FY- 2008 to 2012

APPENDIX-IV

Total investment to total deposit Ratio

(Rs. In million)

Name of banks	Particulars	Year				
		2008	2009	2010	2011	2012
NABIL	Total Investment	6031.17	5835.94	4267.23	6178.53	8945.31
	Total Deposit	13447.66	14119.03	14586.60	19347.39	23342.28
	Ratio%	44.85	41.33	29.25	31.93	38.32
HBL	Total Investment	8913.72	9292.10	11692.34	10889.03	11822.94
	Total Deposit	17117.40	22010.33	24814.02	26490.85	30048.41
	Ratio%	52.07	42.22	47.12	41.10	39.35
SCBL	Total Investment	10357.67	11360.32	9702.55	12847.53	13553.23
	Total Deposit	18755.63	21161.44	19335.02	23061.03	24647.02
	Ratio%	55.22	53.68	50.18	55.71	54.99
EBL	Total Investment	1653.97	2535.65	2128.93	4200.51	4984.31
	Total Deposit	6694.93	8063.90	10097.69	13802.44	18186.25
	Ratio%	24.70	31.44	21.08	30.43	27.41

Source: AGM paper of NABIL, HBL, SCBL and EBL from the FY- 2008 to 2012

APPENDIX-V

Balance with NRB to Total deposit Ratio

(Rs. In million)

Name of banks	Particulars	Year				
		2008	**2009**	**2010**	**2011**	**2012**
NABIL	Balance With NRB	892.74	606.69	389.70	318.35	1113.41
	Total Deposit	13447.66	14119.03	14586.60	19347.39	23342.28
	Ratio%	6.64	4.30	2.67	1.65	4.77
HBL	Balance With NRB	1153.13	1625.98	1604.14	1096.25	1272.54
	Total Deposit	17117.40	22010.33	24814.02	26490.85	30048.41
	Ratio%	6.74	7.39	6.46	4.14	4.23
SCBL	Balance With NRB	1141.09	1534.16	692.19	749.74	1613.75
	Total Deposit	18755.63	21161.44	19335.02	23061.03	24647.02
	Ratio%	6.08	7.25	3.58	3.25	6.55
EBL	Balance With NRB	779.66	442.24	730.33	1139.51	1178.19
	Total Deposit	6694.93	8063.90	10097.69	13802.44	18186.25
	Ratio%	11.65	5.48	7.23	8.26	6.48

Source: AGM paper of NABIL, HBL, SCBL and EBL from the FY- 2008 to 2012

APPENDIX-VI

Short Term Investment to Total Deposit Ratio

(Rs. In million)

Name of banks	Particulars	Year				
		2008	**2009**	**2010**	**2011**	**2012**
NABIL	short term investment	3588.77	3672.62	2413.93	2301.46	4808.83
	Total Deposit	13447.66	14119.03	14586.60	19347.39	23342.28
	Ratio%	26.69	26.01	16.55	11.90	20.60
HBL	short term investment	3998.87	3431.72	5479.72	5144.31	6454.87
	Total Deposit	17117.40	22010.33	24814.02	26490.85	30048.41
	Ratio%	23.36	15.59	22.08	19.42	21.48
SCBL	short term investment	6722.82	7948.21	7203.06	8644.85	7107.93
	Total Deposit	18755.63	21161.44	19335.02	23061.03	24647.02
	Ratio%	35.84	37.56	37.25	37.49	28.84
EBL	short term investment	1599.35	2466.42	2100.28	3548.61	4704.63
	Total Deposit	6694.93	8063.90	10097.69	13802.44	18186.25
	Ratio%	23.89	30.59	20.80	25.71	25.87

Source: AGM paper of NABIL, HBL, SCBL and EBL from the FY 2008 to 2012

APPENDIX-VII

Cash in vault to Total Deposit Ratio

(Rs. In million)

Name of banks	Particulars	Year				
		2008	**2009**	**2010**	**2011**	**2012**
NABIL	Cash in vault	187.55	286.88	146.35	237.81	270.40
	Total Deposit	13447.66	14119.03	14586.60	19347.39	23342.28
	Ratio%	1.39	2.03	14586.60	1.23	1.16
HBL	Cash in vault	462.77	274.23	286.52	305.42	177.24
	Total Deposit	17117.40	22010.33	24814.02	26490.85	30048.41
	Ratio%	2.70	1.25	1.15	1.15	0.59
SCBL	Cash in vault	198.75	187.40	195.45	279.51	378.42
	Total Deposit	18755.63	21161.44	19335.02	23061.03	24647.02
	Ratio%	1.06	0.89	1.01	1.21	1.54
EBL	Cash in vault	136.65	128.75	192.59	259.34	534.99
	Total Deposit	6694.93	8063.90	10097.69	13802.44	18186.25
	Ratio%	2.04	1.60	1.91	1.88	2.94

Source: AGM paper of NABIL, HBL, SCBL and EBL from the FY- 2008 to 2012

APPENDIX- VIII

Sample calculation of trend analysis of credit deposit ratio of NABIL bank.

Year	Ratio (y)	X(t-2008)	X^2	XY	Trend values (yc)= a+bx
2008	57.68	-2	4	-115.36	59.01
2009	58.01	-1	1	-58.01	56.03
2010	72.57	0	0	0	53.05
2011	10.37	1	1	10.37	50.07
2012	66.6	2	4	133.2	47.09
	∑Y=265.23		∑X2=10	∑XY=-29.8	

We have,

The equation of the straight line y_c= a+bx

Where, Mean value (a) = $\frac{\sum Y}{n} = \frac{265.23}{5}$ **= 53.05**

Rate of change (b) = $\frac{\sum XY}{\sum X2}$ **= -29.8/10= -2.98**

Therefore trend equation is,

y_c= a+bx

y_c= 53.06+(-2.98)X

y_c= 53.06-2.98X

Then, projected trend value for next three years are calculated as follows.

year	x(t-2008)	Trend values (yc)= a+bx
2013	3	44.11
2014	4	41.13
2015	5	38.15

Likewise, trend analysis of other sample banks has been calculated according to the above procedure.

APPENDIX- IX

Dear sir/ madam

The research questionnaire is developed to find out the problem and factors affecting the liquidity management of commercial banks. For this research reports your valued opinion and thoughts may play a significant role. Thus, you are kindly requested to fill the questionnaire as mentioned below.

1. Our bank is in 'over liquidity' position.

a) YES b) NO

2. Our bank is able maintain the liquidity

a) YES b) NO

3. Our bank is facing liquidity crises.

a) YES b) NO

4. The liquidity position is in increasing trend.

a) YES b) NO

5. There are favorable investment opportunities in Nepal.

a) YES b) NO

6. Worldwide depression is the cause of under/over liquidity position in Nepal.

a) YES b) NO

7. Political instability is the cause of over / under liquidity.

a) YES b) NO

8. NRB is effecting monitoring the liquidity management.

a) YES b) NO