Chapter - I

1. Introduction

1.1 General Background

A bank means financial institution established for the transaction of money. It deals from public and lends money to the borrowers as a loan. It also creates credit and exchanges the foreign currency. It is established to fulfill certain objectives such as to facilitate public economic interest, to advance loans for the development of agriculture, industries and trade and to provide banking services to the public.

Oxford Advanced Learners' Dictionary of Current English defines that bank is an establishment for keeping money and values safely, the money being paid out on the customer's order (by means of cheques).

Commercial Banks are an integral part of the national financial system that functions on a continuous basis in the open social system. Banking is a trading of money with mind and technology. The basic mission or objective of every commercial bank is to move scarce loanable funds from those who scare to those who borrow to buy goods and services and to make investments in new equipment and facilities. So the national economy can grow and increase the living standard of citizens.

Interest is the cost of fund. Difference between the interest on lending and borrowing of fund is the profit of bank. It is the major source of income of all commercial banks. For these purposes, commercial banks collect deposits from savers group by promising a certain percentage of interest. Out of the all collected fund they provide loan to investors, consumers and borrowers at a certain percentage of interest.

Basically, the principal business of commercial banks is to make loans to qualified borrowers or at least to assist them to find credit from some

other sources. Loans are highest yielding assets that a bank can add to its portfolio and they often provide the largest portion of traditional bank's operating revenue. Commercial banks furnish credit to finance consumption and investment spending. Credit consists of a loan of funds in return for a promise of future payment.

Commercial banks make loans of reserves to other banks through the funds deposited at the central bank. For more important, in rupee volume, however, are the direct loans to business and individuals. These loans arise from the negotiation between the bank and its customers resulting a written agreement designed to meet the specific credit needs of the customer and requirement of the bank for adequate security and income for the specific period at a specific interest cost.

For the balancing of lending and borrowing of the funds, there should be adequate reserve funds in the commercial banks. These funds are called liquid funds. To provide money for demands depositors and other contingency purpose banks should maintain proper liquidity position. The Nepal Rastra Bank (NRB) directs the rules and regulations about the liquidity position and its management criterion, which is the regulatory body of all commercial banks and other financial institutions.

Bankers manage portfolios of assets and liabilities and the accompanying information flows. The key portfolio risks of bank are **credit risk, interest-rate-risk and liquidity risk**. These specific risks generate variability in banks cash flows -a common general definition of risk in finance. Excessive risk taking and adverse economic conditions are the ingredients for bank failure.

Liquidity is the availability of cash in the amount and at the time needed at a reasonable cost. One of the most important tasks faced by the management of any bank is ensuring adequate liquidity. A bank is considered to be liquid if it has ready access to immediately spendable

funds at reasonable cost of precisely the time those funds are needed. This suggests that a liquid bank either has the right amount of immediately spendable funds on hand when they are required or can quickly raise liquid funds by borrowing or by selling assets.

Credit or default risk to the uncertainty is associated with loan repayment. Because most of a bank earning assets is in the form of loans, problems with loan quality have been the major cause of bank failure. Symptoms of poor quality include high level of non-performing loans, loan losses and examiner - classified loans (i.e. substandard, doubtful and loss). A high proportion of loans relative to total assets and repaid growth of the loan portfolio are potential early-warning signals of loan quality problems, which may indicate potential failure. In contrast, high performance banks tend to have high-quality loan portfolio as characterized by low level of non-performing loans and loan losses.

Most of the banks borrow short and lend long, that's why they take on interest-rate risk, variable-rate loans and off-balance-sheet activities in the form of hedging instrument (i.e. interest-rate swaps) are techniques for managing interest-rate risk. Another but important thing is liquidity risk. Banks need liquidity for two reasons (i) to meet deposit withdrawal and (ii) to fulfill customer's loan demand.

The troubled bank usually begins to lose deposits, which erodes its supply of cash and forces the institution to dispose of its more liquid assets. Lack of adequate liquidity is often one of the first signs that a bank is in serious financial trouble. Other banks become increasingly reluctant to lend the troubled bank any funds without additional security or a higher rate of interest, which further reduces the earnings of the problem institution and threatens it with failure. Many banks assume that liquid funds can be borrowed virtually without limit any time they are needed. Therefore, they see little need to store liquidity in the form of easily marketed, stable-price assets. The enormous cash shortages experienced in recent

years by banks in trouble make clear that liquidity needs cannot be ignored. Liquidity management is far more important than we may realize, because a bank can be closed if it cannot raise enough liquidity even though, technically, it may still be solvent. For example, in 1991 the Federal Reserve forced the closure of the $10 billion southeast Bank of Miami because it couldn't come up with enough liquidity to repay the loans it had received from the Fed. Moreover, the competence of a bank's liquidity managers in an important barometer of management's overall effectiveness in achieving the bank's goals.

1.1.1 Commercial Banks in Nepal

Commercial bank is defined in the Commercial Bank Act, 2031, as, "A commercial bank means bank which deals in exchanging currency, accepting deposits, giving loans and doing commercial transactions.

Commercial banks are very important for the development of national economy. They accept public saving as deposits and advance them as loans to the persons, business organizations and government when they require. The development of commercial banks is in increasing trend after the restoration of democracy in 1990A.D. The first commercial bank is Nepal Bank Limited that was established in 30 Kartik 1994 B.S (1937 A.D.). And the second is RBB established in 10/10/2022 B.S.

There after many other joint venture and non joint venture banks were set up under the Commercial Bank Act, 2031and Company Act, 2053.Now, twenty six commercial banks are operating in the country. NABIL Bank is the first commercial bank from the private sector. This is the first joint venture bank of Nepal also.

According to new policy issued by NRB, the paid up capital of new opening commercial bank at national level must be Rs. 1000 million. Similarly, Rs. 500 million must be the paid up capital for the new

commercial bank, which is opened with one function area in all the places of the kingdom except Kathmandu valley.

If the newly opened bank is joint venture with foreign bank or financial institution, it is permitted to open new commercial banks with head office at Kathmandu valley contracting three years management with 67% investment of foreign such institution, the ratio of ownership of share will be 7:3 between founder and public respectively.

By the end of Ashad 30, 2066 there are 26 commercial banks in Nepal which are listed below:

Table: 1.1
Commercial Banks in Nepal

S.N.	Name of Bank	Established Date	Head Office
1	Nepal Bank Ltd.	1994/07/30	Kathmandu
2	Rastriya Banijya Bank Ltd.	2022/10/10	Kathmandu
3	Nepal Arab Bank Ltd. (NABIL)	2041/03/29	Kathmandu
4	Nepal Investment Bank Ltd. (Previously Nepal-Indosuez Bank Ltd.)	2042/11/16	Kathmandu
5	Standard Chartered Bank Nepal Ltd. (Previously Nepal Grind Lays Bank Ltd.	2043/10/16	Kathmandu
6	Himalayan Bank Ltd.	2049/10/05	Kathmandu
7	Nepal State Bank of India (SBI)	2050/03/23	Kathmandu
8	Nepal Bangladesh Bank Ltd.	2050/02/23	Kathmandu
9	Everest Bank Ltd.	2051/07/01	Kathmandu
10	Bank of Kathmandu Ltd.	2051/11/28	Kathmandu
11	Nepal Credit and Commerce Bank Ltd. (NCC) (Previously Nepal- Bank of Ceylon Ltd.)	2053/06/28	Siddharthanagar
12	Lumbini Bank Ltd.	2055/04/01	Narayangadh
13	Nepal Industrial and Commercial Bank Ltd.	2055/04/05	Biratnagar
14	Machhapuchhre Bank Ltd.	2057/06/17	Pokhara
15	Kumari Bank Ltd.	2065/08/24	Kathmandu
16	Laxmi Bank Ltd.	2058/06/11	Birgunj
17	Siddhartha Bank Ltd.	2085/06/12	Kathmandu
18	Agriculture Development Bank Ltd.	2024/10/07	Kathmandu
19	Global Bank Ltd.	2063/09/18	Birgunj
20	Citizens Bank International Ltd.	2064/01/07	Kathmandu
21	Prime Bank Ltd.	2064/06/07	Kathmandu
22	Bank Of Asia Nepal Ltd.	2064/06/25	Kathmandu
23	Sunrise Bank Ltd.	2064/06/25	Kathmandu
24	Development Credit Bank Ltd.	2057/10/10	Kathmandu
25	NMB Bank Ltd.	2053/09/11	Kathmandu
26	KIST Bank Ltd.	2059/11/09	Kathmandu

Source: www.nrb.org.np

Hence, out of 26 commercial banks 18 are Non joint venture and 6 are joint venture in investment with foreign banks. These all are profit

oriented entities. They provide various types of services to public, business organizations and government. They play a vital role in the development of national economy. The Commercial Banks are money trader, for which they should be careful about the risk of money market and liquidity.

Here are some major / principal functions of commercial banks and given as follows:

a) To create credits
b) To accept deposit
c) To provide loans and advances
d) To perform agency function
e) To carry out utility functions.

The commercial bank and banker has its own right and duties. The rights are mentioned point-wise as follows:

a) Banker enjoys a general lien over customer's securities in his possession.
b) He has an implied right to change a reasonable commission for his service and interest upon loans.
c) He has the right of set-off like any other debtors.
d) He has the right to appropriate payment as per the rules laid down in Clayton's case.
e) Banker need not seek out the creditor to make the payment. It is the creditor who should demand payment.

Similarly, the duties of banker are as follows:

a) To receive his customer's money and cheques and other instruments for collection.
b) To repay the customer's deposit on the presentation of customer's mandate known as the cheque.

c) To maintain secrecy in respect of customer's account and affairs.
d) To give a reasonable notice before closing a customer's account.

1.2 Focus of the Study

Commercial banks should keep plenty of liquid funds to fulfill their customer's demand and in other hand; there will be equal chance of being idle of the liquid fund because trading on money is very risky and challenging. In one hand, so it is a very important thing to manage liquidity with balancing demand and supply. The main focus of the study is comparative analysis of managing liquidity in Nepalese commercial banks by taking 2 sample banks out of 26.

The study also attempts to analyze the methods of liquidity management in various commercial banks in existing practice and new methodologies in this technical era. This study also concentrated on whether the theories on liquidity management founded by varies economist and bankers match in Nepalese context or not. After the 1995, there is a ruomour that the Nepalese banks are full of high liquidity and they are not being able to manage it. Thus this study will also focus to analyze whether it is true or allegedly aired.

Thus, how the liquid assets influenced and what is the real solution can be suggested will be the focus point of this study.

1.3 Significance of the Study

All financial decisions of commercial banks are for the betterment of shareholders' wealth. Commercial Banks are always guided by the objective of profitability. There should be an effective system of funds allocation in order to safeguard the banks from the danger of liquidity. An appropriate level must be achieved between them. The study ponders to

find out whether commercial banks are alert or not in this regard and possible situations where the banks need additional liquid funds.

Most of the studies made up to present on capital market are related to financial performance, investment, capital structure analysis, dividend policy, risk and return etc. but non of the research have yet been made on the core perspective of the liquidity and its management. So the present study will be of substantial importance for investors, planners, researchers, professionals, executives and students to meet their personal and organizational objectives. Also some few studies have been made on the liquidity management in commercial banks. But this study intends to help the national economy through mobilization of idle capital of average Nepalese in productive sectors to accelerate the economic growth and to reduce dependency on foreign assistance and loan. And it will help regulatory authority to find out liquidity management of the commercial banks. It will be a reference to the concerned personnel and researchers. This study will also show and suggest the available investment opportunities satisfying both objectives (liquidity and profitability) of commercial banks.

1.4 Statements of the Problem

The objective of the commercial banks is wealth maximization and the achievement of organizational objectives 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 current liquidity position of major 2 big commercial banks.

It seems to be not only general public but also university graduate in commerce and economics cannot calculate the effect of liquid fund in the economy and various banks are suffering from this problem.

More especially the study is expected to answer the following research questions:

- What are the main causes of increasing or decreasing liquidity in commercial banking sector?
- Do the liquidity related to security problem?
- How the commercial banks are managing liquidity in existing practice?
- Do the liquidity increases in lack of secured investment opportunities?
- Is there any necessity to reform in regulations?
- How to make optimal management of liquidity in commercial banks?
- Do the liquidity position is affected by the political, social and economic factors?

1.5 Objectives of the Study

Holding liquid assets and utilizing in proper investment project is one of the major decision functions of commercial banks and other financial institutions. Hence, the main objective of this study is to examine and analyze liquidity position and its management in Nepalese commercial banks. To fulfill this main objective following specific objectives have been formulated:

a) To find the current position of liquidity in Nepalese Commercial Banks.
b) To identify factors affecting the liquidity position and its management in Nepalese commercial banks,
c) To analyze the problem of liquidity management in Nepalese commercial banks,
d) To examine the liquidity management policy in Nepalese commercial banks,

e) To examine the effectiveness of liquidity management in Nepalese commercial banks,
f) To provide suggestions and recommendations about liquidity management in commercial banks.

1.6 Organizations Under Study

There are 26 commercial Banks in Nepal but in this study two sample banks are taken into consideration for the study. A brief introduction of the sample banks is given here to become familiar with the organizations' background and their performances. We hope that it covers the whole banking system of Nepal in the field of commercial Banks & liquidity Management

1.6.1 **Himalayan Bank Limited (HBL)**

Himalayan Bank Limited was established in 1992 by the distinguished business personalities of Nepal in Partnership with Habib Bank Limited, one of the largest commercial bank of Pakistan. Bank operation was commenced from January 1993. It is the first commercial bank of Nepal with maximum shareholding by the Nepalese private sector. Besides commercial activities, the bank also offers industrial and merchant banking facilities. Currently, the bank has thirty two branches all over Nepal. The bank's policy is to extend quality and personalized service to its customers as promptly as possible. The Bank, as far as possible, offers modern technological facilities to its clients, based on the unique needs and requirements, to extent more efficient services to its customers. Himalayan Bank has been adopting innovative and latest banking technology. This has not only helped the bank to constantly improve its services level but has also kept it 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.

1.6.2 Nepal Arab Bank Limited (NABIL)[17]

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

NABIL Bank Ltd. had the official name Nepal Arab Bank Ltd. till 31 December 2001.NABIL is the pioneer in introducing many innovative products and marketing concept in banking sector of Nepal with 32 branches and 2 counters in all major cities. It is the only bank having it's presence at Tribhuvan International Airport, only international airport of the country. Also, the number of outlets in the country is the highest among the joint venture and private banks operating 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 range of commercial banking service through its outlets spread across the nation and reputed correspondent banks across the globe. Moreover, NABIL has a good name in the market for its highly personalized service to the customers.

The share subscription of NABIL is divided in 5 parts, NB international Ltd., Ireland has taken 50%, NIDC has taken 10%, Nepalese general public has taken 30% and remaining 0.33% of share is taken by NEPSE. The bank was warded as the title of "The Bank of the Year 2004".

[17] www.nabilbank.com

1.7 Limitations of the study

As the study is being carried out in a partial fulfillment of the requirements for the degree of Master of Business Studies, it possesses a number of limitations of its own kind. Some of the basic limitations of the study could be illustrated as follows:

a) Simple statistical techniques followed by financial models have been used in the analysis.
b) Absence of required data concerned with commercial banks limits to detail study.
c) Due to the small sample size it may not fully represent Nepal as a whole.
d) The study has covered only the recent five years data.
e) The study lacks in time and other resources as well.

1.8 Scheme of the Study

This study is divided in 5 chapters. Prior to the body of the thesis several pages of preliminary materials such as title page approval sheet, viva voce-sheet, acknowledgements, table of contents, list of figure list of table, abbreviation used etc. have been presented.

Chapter one is the introduction that includes the background of the study brief description about 2 big Nepalese commercial banks and their liquidity and their management practice. Except that this chapter comprises of focus, significance, objective of the study, statement of the problems, a brief description of sample banks and limitations of the study.

The second chapter is the review of literature. This chapter view the relevant previous studies made on the liquidity management and

principles set on it. This chapter includes the theoretical review, policy review and review of previous study about liquidity management.

The third chapter is the research methodology. This chapter includes the detail framework of the study, such as population and sample, variable, research design, data collection, presentation and analysis tools and techniques etc.

The fourth chapter of this research is data presentation and analysis. In this chapter, the primary and secondary data collected from different sources are resented in systematic format, such as table, chart, and figures. And these data have been analyzed using different statistical and financial analytical tools. In addition to that, the major findings of the study are drawn out.

The last and the fifth chapter include summary, conclusions and recommendations. This chapter consists of summary of the major findings of this thesis report and concludes the reports with the major recommendations and suggestions to the Nepalese commercial banks and banking professionals, Nepal Rastra Bank and government about liquidity management which is expected to be a reference to the executive, student, researcher and other professionals in the field of banking management.

Chapter-II

2. Review of Literature

2.1 Theoretical Review

2.1.1 Meaning of Liquidity

According to Manohar Kr. Shrestha & Deepak Bhandari "Liquidity means allocation of funds in close relation to their respective source."[1] "Liquidity is the status and part of the assets that can be used to meet the obligation in the commercial banks. Liquidity can be viewed in terms of liquidity stored in the balance sheet and in terms of liquidity available through purchased funds."

Liquidity denotes the money in use, in the current account, saving account, fixed account and the money in margin account of the economics system, But, definition is not made by the Nepal Rastra Bank Act 2058/2002, the Commercial Bank Act 2031(1974) and the Financial Company Act 2042 (1985). But the definition about what "liquid assets" means is found in the acts. Liquid assets means, the cash balances of the bank, the balance held by a bank in the Nepal Rastra Bank and liquidity appeared in economy.[2]

The commercial banks or financial institutions should keep the stock of liquid asset according to the ratio of liability of deposit fixed by the bank. Section 25 of the Finance Company Act, 2042 (1985), reads as follows for the purpose of this section the term liquid assets means the assets mentioned as follows:[3]

1) Nepalese bank notes and currencies deposited in the co.
2) Deposits of the company in the bank or any other commercial banks.
3) Bonds of his Majesty's Government.

[1] Manohar k. Shrestha and Dipak B. Bhandari (2004), **Financial Markets and Institutions** , Kathmandu: Amita Books Publishers and Distributers, p. 256.
[2] Nepal Rastra Bank Act, 2058.
[3] Finance Company Act, 2042.

4) Any other assets as specified by the bank from time to time.

For the first time, the NRB has implemented the monetary Policy by issuing the rules of credit control in 31st Shrawan 2031 B.S. (1974). This rule has defined the liquid asset of the commercial banks. It had regarded liquid asset at the cash stock of the commercial banks, short-term security and short bills. It is clear from it that the liquid assets mean the cash and the assets, which can be converted immediately in the time of need.

2.1.2 Importance of Liquidity

The importance of liquidity which I have try to cover as of expert like Donald Howard , chief Financial officer city corporation , According to him, "Liquidity always comes first: without it a bank doesn't open its doors; with it, a bank may have time to solve its basic problems."[4]

A bank can't be run without liquidity. The Nepal Rastra Bank from time to time changes the legal provision about the liquidity. The compulsion that the commercial banks should keep the cash in their various funds shows the importance of liquidity. The commercial banks and financial institutions should maintain the balance of cash fund in required quantity that the law and rules made by the Nepal Rastra Bank. The importance of the liquidity is considered very sensitive because if it cannot maintain the liquidity, it has to pay fine. The commercial banks financial institutions should keep the stock of liquid assets in the ratio of their deposit liability, as fixed by the Nepal Rastra Bank. The central bank can give the interest with the rate fixed by the bank from time to time to the amount in the fund. The importance of liquidity is briefly described in point wise as follows:[5]

[4] Donald Howard, Chief Financial Officer, Citicorppration. (Quoted from Joseph F. Sinkey (1983), **Commercial Bank and Financial Management**, 5th edition, , New Jersey, USA: Printice Hall Inc, p.275).

[5] Dilliraj Bhandari, Op. Cit. , p. 146

a) To Meet the Expenses for the Bank's Daily Administrative Work

The transaction of bank is related to the money. A bank is a legal organization. It can't run without, cash stock. Many types of expense go on taking place in the bank daily. With the lack of expenses, it is nearly impossible for the bank to do its transaction. So the liquidity is necessary for daily expenses that it is spent in an administrative function. The administrative expenditure can't be fulfilled without liquidity. Hence Liquidity is importance for the banks.

b) To Pay all Sorts of Deposit

A bank opens the current, saving and fixed account for its customer's and accepts the deposit from the customers. According to the nature of the deposit, the banks should pay in the time when the customers ask. The liquidity needs for it. It can't pay the deposit without liquidity. That is why liquidity is necessary for the payment of all types of deposits.

c) To Maintain Liquidity to Meet the Cash Fund Ratio and Legal Liquidity Ratio

The commercial banks should keep 3% cash as a treasury account in their own account in the banks from the liability of the total deposit and likewise by opening an account in the Nepal Rastra Bank, 7% of the liability of current and saving accounts and 4.5% of the fixed accounts should keep in the Nepal Rastra Banks' account in their own name. In addition to it, there are some small funds in the bank. There, is an addition to it, there are some small funds in the bank. There, is an obligation on a bank to keep cash (money) in such fund. Therefore, to fulfill all these demands or to keep (maintain) the balance, liquidity is necessary.

d) To Control the Economic Fluctuation and to Keep Safe from the Risk

It can't be said, there will be the same situations of transactions in the bank and the bank will always remain in balanced condition. There will be effect of internal and external circumstances in the nation. Such conditions may have effect on economic sector. The commercial banks too can't remain safe from the effect of economic sector. There is necessity of liquidity to keep the bank free from such economic rise and fall or economic crisis. The bank should maintain some liquidity of some certain percent cash fund to keep safe from such situations.

e) To Fulfill the Demand of the Debtor

A bank provides loan to debtors and earns income from it. Many kinds of people come to the banks with the purpose of loan. After the loan is granted, the bank is obliged to give the loan is granted, the bank is obliged to give the loan to the debtor. Therefore, there is necessity of liquidity in bank to provide fresh loan to the debtors.

f) To Gain Trust or Faith

A bank has a great responsibility because of the financial institution that does monetary transactions. It must gain trust in its banking transaction. For this, a bank should do many types of functions. It has to pay attention to the time and the will of customers, to provide the banking services. For the name and fame, a bank should earn the trust. There must be liquidity to gain trust, from the public including other sectors.

g) Providing Security to the Banks

A bank is a sensitive institution because it is an institution of banking transaction. Hence, the deposits are deposited in different types of account of common people, industrialists and businessmen. Apart from it, the bank itself invests the cash in different sectors. The cash as a form of loan can be distributed in different sectors from the bank. So, the bank is regarded as a sensitive and important institution. Such institutions can be saved from the various risks at any situation. Hence, to provide all kinds of security to the bank, the liquidity is necessary.

2.1.3 Principles or Theories of Liquidity Management

We have a lot of theories or principles of liquidity management but better discussion for banking purpose with related economist theories, there are apparent conflicts between objectives of liquidity, safety and profitability relating to a commercial bank. Economists have tried to resolve these conflicts by laying down certain theories from time to time. These principles or theories, in fact, govern the distribution of assets keeping in view these objectives. They have also come to be known as the theories of liquidity management which are discussed as under:

2.1.3.1 Commercial Loan Theory or Real Bills Doctrine

This theory is introduced in early 1920s.[6] The real bills doctrine states that a commercial bank should advance only short-term self-liquidating productive loans to business firms. Self-liquidating loans are those, which are meant to finance the production, storage, transpiration, and distribution. When such goods are ultimately sold, the loans are considered to liquidate themselves automatically.[7]

[6] Joseph F. Sinkey (1983), **Commercial Bank and Financial Management**, 5th edition, New Jersey, USA: Printice Hall Inc. , p. 240.
[7] Op. Cit. p. 148.

Such short-term self-liquidating productive loan passes three advantages. First, they posses liquidity that is why, they liquidate themselves automatically. Second, since they mature in the short run and are for productive purposes, there is no risk of their running into bad debts. Third, being productive such loans earn income for the banks.

2.1.3.2 Asset Conversion or the Shiftability Theory

This theory is introduced in second half of 1940s.[8] H.G. Moulton, who asserted that if the commercial banks maintain a substantial amount of assets that can be shifted on to the other banks for cash without material loss in case of necessity, then there is no need to rely on maturities, propounded the shiftability theory of bank liquidity. According to this view, an asset to be perfectly shiftable must be immediately transferable without capital loss when the need for is immediately transferable without capital loss when the needs for liquidity arise. But in a general crisis requires that all banks should possess such assets, which can be shifted on the central bank, which is the lender of the last resort. This theory has certain elements of truth. [9]

But it has its weakness. First, mere shiftability of assets does not provide liquidity to the banking system. It entirely depends upon the economic circumstances. Second, the shiftability theory ignores the fact that in times of acute depression, the shares and debentures can't be shifted on to others by the bank. In such a situation, there are not buyers and all who possess them want to sell them. Third, a single bank may have shiftable assets in sufficient quantities but if it tries to sell them when there is a run on the bank, it may adversely affect the entire banking system. Fourth, if all the banks simultaneously start

[8] Joseph F. Sinkey, Op. Cit., p.240.
[9] Dilliraj Bhandari (2004), **Banking and Insurance: Principle and Practice,** Kathmandu: Ayush Publication, p. 148.

shifting their assets, it would have disastrous effect son both the lenders and borrowers.

2.1.3.3 The Anticipated Income Theory

The anticipated income theory developed by H.V. Proch in 1950 on the basis of the practice of extending term loans by the USA commercial banks.[10] According to this theory, regardless of the nature and character of a borrower's business, the bank plans the liquidation of the long-term loan from the anticipated income of the borrower. A term loan is for a period exceeding one year and extending to less than five years. It is granted against the hypothecation of machinery, stock and even immovable property. The bank puts restrictions on the financial activities of the borrower while granting this loan. At the time of granting a loan, the bank takes into consideration not only the security but the anticipated earnings of the borrower. In fact, the anticipated income is the main consideration.

This theory is superior to the real bills doctrine and the shiftability theory because, it fulfills the three objectives of liquidity, safety and profitability. Liquidity is assured to the bank when the borrower saves and repays the loan regularly in installments. It satisfies the safety principle because the bank grants a loan not only on the basis of a good security but also on the ability of the borrower to term-loan and is assured of a regular income. Lastly, the term-loan is highly beneficial for the business.

2.1.3.4 The Liabilities Management Theory

This theory was developed in late 1960s and early 1970s.[11] According to this theory, there is no need for banks to grant self-liquidating loans

[10] Op. Cit.
[11] Joseph F. Sinkey, Op. Cit. , p. 240.

and keep liquid assets because they can borrow reserve money in the money market in case of need. A bank can acquire reserves by creating additional liabilities against it, form different sources. These sources include the issuing of time certificates of deposit, borrowing form other commercial banks borrowing from the central bank, raising of capital funds by issuing shares, and by Ploughing back of profits. We discuss these sources of bank briefly:[12]

i) Time Certificates of Deposits:

Time certificates of deposits are negotiable in the money market. So a bank can have access to liquidity by selling them in the money market. But there are two limitations. First, if during a boom, the interest rate structure in the money market is higher than the ceiling rate set by the central bank, time deposit certificates can't be sold in the market. Second, they are not dependable source of funds for the commercial banks. Bigger commercial banks are at an advantage in selling these certificates because they have larger certificates, which they can afford to sell at even low interest rate. So the smaller banks are at a disadvantage in this respect.

ii) Borrowing form Other Commercial Banks:

A bank may create additional liabilities by borrowing from other banks having excess reserves. But such borrowings from banks having excess reserves are only for a very short duration, for a day or week at the most. The interest rate of such borrowings depends upon the prevailing rate in the money market. But borrowings form other banks are only possible during normal economic conditions. In abnormal times, no bank can afford to lend to others.

[12] Dilliraj Bhandari, Op. Cit. , p.150.

iii) Borrowing form the Central Bank:

Banks also create liabilities on themselves by borrowing form the central bank of the country. They borrow to meet their liquidity needs for short term and by discounting bills form the central bank. But such borrowings are relatively costlier than borrowing form other sources.

iv) Raising Capital Funds:

Commercial banks acquire funds by issuing debentures. But the availability of funds through this source depends on the amount of dividend or interest rate, which the bank is prepared to pay. Usually the banks are not in a position to pay rate higher than paid by manufacturing and trading companies. So they are not able to get sufficient funds form this sources.

v) Ploughing Back of Profit:

Another source of liquid funds for a commercial bank is the ploughing back of its profits. But how much it can get from this source will depend upon its rate of profit and its dividend policy. It is larger banks that can depend on this source rather than the smaller banks.

2.1.4 The Demand for and Supply of Bank Liquidity

A bank need for liquidity-immediate spendable funds-can be viewed within a demand supply framework. What activities give rise to the demand for liquidity inside a bank and what source can the bank rely upon to supply liquidity when spendable funds are needed are to be considered sincerely. For most banks, the most pressing demands for spendable funds come from two sources :(1) customers withdrawing money from their deposits, and (2) credit requests from customers the banks wishes to keep, either in the form of new loan requests, renewals of expiring loan agreements, or drawings upon existing

credit lines. Other sources of liquidity demand include paying off obligations arising from bank borrowings, such as loans the bank may have received from other banks or from the central bank (i.e., the Federal Reserve, Central Bank). Similarly, payment of income taxes or cash dividends to the bank's stockholders periodically gives rise to a demand for immediately spendable cash (See Table-2.1).[13]

Table: 2.1

Sources of Demand and Supply for Liquidity Within the Banks

Supplies of liquid Funds Come From:	**Demands for Bank liquidity arise from:**
Incoming customer deposits	Customer deposit withdrawals
Revenues from the sale of non deposit services	Credit request from quality loan customers
Customer loan repayments	Repayment of non deposit borrowings
Sale of bank assets	Operating expenses and taxes incurred in producing and selling services
Borrowings from the money market	Payment of stockholder cash dividends

Source: Peter Ross (2002), Commercial Bank Management, McGraw Hill Book Company, New York, P. 347.

To meet the foregoing demands for liquidity, banks can draw upon several potential sources of supply. The most important source normally is receipt of new customer deposits, both from newly opened accounts and form new deposits placed in existing accounts. These deposit inflows are heavy the first of each month as business payrolls are dispensed, and they may reach a secondary peak toward the middle of each month as bills are paid and other payrolls are met. Another important element in the supply of bank liquidity comes from customers repaying their loans, which provides fresh funds for meeting new liquidity needs, as do sales of bank assets, especially marketable securities, from the bank's investment portfolio. Liquidity

[13] Peter Ross (2002), **Commercial Bank Management**, New York: McGraw Hill Book Company, P. 347.

also flows in from revenues generated by selling non-deposit services and from borrowings in the money market.

These various sources of liquidity demand and supply come together to determine each bank's net liquidity position at any moment in time. That net liquidity position at time 't' is as follows (See Table-2.2): [14]

Table: 2.2

Net Liquidity Position Calculation Table

A. Supplies of Liquidity Flowing into the Bank:	**.....**
Income deposit (inflows)	.....
+ The sale of non deposit services	.....
+ Revenues from the sale of non deposit services	.....
+ Customer loan repayments	.....
+ Sales of bank assets	.....
+ Borrowings from the money market	
B. Demands on the Bank for Liquidity	**.....**
Deposit withdrawals (outflows)	.....
+ Volume of acceptable loan requests	.....
+ Repayments of bank borrowings	.....
+ other operating expenses	.....
+ Dividend payments to bank stockholders	
C. A bank's net liquidity position (L_t) (A-B)	**.....**

Source: Peter Ross (2002), Commercial Bank Management, McGraw Hill Book Company, New York, P. 347.

When the bank's total demand for liquidity exceeds its total supply of liquidity management must prepare for a liquidity deficit, deciding when and where to raise additional liquid funds. On the other hand, if at any point in time the total supply of liquidity to the bank exceeds all of its liquidity demands management must prepare for a liquidity surplus, deciding when and where to profitably invest surplus liquid funds until they are needed to cover future liquidity demands.

[14] Ibid.

Liquidity has a critical time dimension. Some bank liquidity needs are immediate or nearly so. For example, several large CDs may be due to mature tomorrow, and the customers may have indicated that they plan to withdraw these deposits rather than simply rolling them over into new deposits. Sources of funds that can be accessed immediately, such as borrowing reserves from another bank, must be used to meet these near-term liquidity pressures.

Longer-term liquidity demands arise from seasonal, cyclical, and trend factors. For example, liquid funds are generally in greater demand during the fall and summer coincident with school, holidays, and customer travel plans. Anticipating these longer-term liquidity needs, bankers can draw upon a wider array of alternative sources of funds than is true for immediate liquidity needs, such as selling off accumulated liquid assets, aggressively advertising the bank' current menu of deposits and other services, or negotiating long-term borrowings of reserves from other banks. Of course, a bank need not meet all demands for liquidity by selling assets or borrowing new money. For example, just the right amount of new deposits may flow in, or loan repayments from borrowing customers may occur very close to the date that new funds are needed. Timing is critical to liquidity management: bankers must plan carefully how, when, and where needed liquid funds can be raised.

Most liquidity problems in banking arise from outside the bank as a result of the financial activities of its customers. In effect, customer's liquidity problems gravitate towards their banks. If a business is short on liquid reserves, for example, it will ask for a loan or draw down its deposit balances, either of which will require the firm's bank to come up with additional funds. A dramatic example of this phenomenon occurred in the wake of the worldwide stock market crash in October 1987. Investors who had borrowed heavily to buy stock on margin were forced to come up with additional funds to secure their stock

loans. They went to their banks in huge numbers, turning a liquidity crisis in the capital market into a liquidity crisis for banks.

From a slightly different vantage point, we could say that management of bank liquidity is subject to the risk that interest rates will change (interest rate risk and the risk that liquid funds will not be available in the volume needed by the bank (availability risk). If interest rates rise, financial assets that the bank plans to sell to raise liquid funds, such as government bonds, will decline in value, and some must be sold at a loss. Not only will the bank raise fewer liquid funds from the sale of those assets, but the losses incurred will reduce bank earnings as well. Then, too, raising liquid funds by borrowing will cost more as interest rates rise, and some forms of borrowed liquidity may no longer be available to the bank. If the lenders of liquidity perceive a bank to be more risky than before, that bank will be forced to pay higher interest rates to borrow liquidity, and some lenders will simply refuse to make liquid funds available at all.[15]

2.1.5 Why Bank Face Liquidity Problem

Under the following situation, It should be clear from the foregoing discussion that banks face major liquidity problems. The significant exposure of banks to liquidity pressures arises from several sources.[16]

The main cause to face this problem is banks borrow large amounts of short-term deposits and reserves from individuals and businesses and from other lending institutions and then turn around and make long term credit available to their borrowing customers. Thus, most banks face some 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.

[15] Ibid. p. 349.
[16] Ibid.

Another cause of problem related to the maturity mismatch situation is that banks hold an unusually high proportion of liabilities subject to immediate payment, such as demand deposits, NOW accounts, and money market borrowings. 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 liquidity problem is the bank's sensitivity to changes in interest rates. When interest rates rise, some depositors will withdraw their funds in search of higher returns 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 customer demand for deposits and customer demand for loans, each of which has a potent impact on a bank's liquidity position. Moreover, movements in interest rates affect the market values of assets the bank may need tom sell in order to rise additional liquid funds, 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 was temporarily out of cash and could not cash cheques or meet deposit withdrawals (as happened to a bank in Montena several years ago, prompting a federal investigation). One of the most important tasks of a bank's liquidity manager is to keep close contact with the bank's largest depositors and holders of large unused credit lines to determine if and when withdrawals of funds will be made and to make sure adequate funds are available.

2.1.6 Factors Affecting Needs of Bank Liquidity

Basically, need of bank liquidity is affected by the following factors:[17]

A) External Environmental Factors

1. **Prevailing Interest Rate:** If bank interest is high, the demand of cash is low that why there will be low liquidity needs.

2. **Saving and Investment**: High level of income and saving produce low level of liquidity and high level of investment produce high level of liquidity needs.

3. **Growth and Slackening Position of the Financial Market:** Growth and progress of economic and financial market produce low level of liquidity needs but opposite to this slackening position of economic and financial market produces high level of liquidity needs.

B) Internal Environmental Factors

1. **Lending Policy of Bank**: High level of liquidity requires to the bank if it has adopted a long term or mid term loan policy. Otherwise low level of liquidity requirement is applicable for the short-term investment policy adopting bank.

2. **Management Capacity:** low level of liquidity needs to high-risk bearing and capable risk handling management.

[17] Hridaya Bir Singh and Sherjung Khadka (2058), **Banking and Insurance: Principle, Legislation and Practice**, Kathmandu: Nabin Prakashan, p. 160.

Other high level of liquidity needs for risk averter and relatively low capable or inefficient management.

3. **Strategic Planning and Fund Flow Situation:** Liquidity needs is affected by bank's investment policy, strategic planning and objectives. It is also affected by the funds flow situation and lending policy. If the bank has collected more amount in current account relatively there will be high level need of liquidity otherwise there is low level of need of liquidity. It depends on maturity matching of assets and liability of banks.

2.1.7 Criterion for Measuring Bank Liquidity

It is very important to study criteria for measuring bank liquidity. The bank liquidity is the most important aspect of a bank. If there is less bank liquidity, the bank can't be run. If there is much liquidity, the bank should bear great loss economically. Both high liquidity and low liquidity are not good omen for the bank. The bank should be able to keep the liquidity in balance. This is very difficult task. However the bank liquidity can be measured by the following criterion:[18]

a) Deposit Investment Ratio

We can measure the liquidity by the deposit investment ratio. The depositors deposit the cash in the current, saving and fixed accounts. The bank receives the most liquidity as deposit. The bank invests the capital collected by deposit in various profitable and productive sectors in the form of loan by earning much profit from it. The bank has the nature of paying lower interest to the depositors and taking higher interest from the place it invested. And the bank doesn't invest all the cash as loan. Apart from the deposit invested, the bank also has other cash. We can find out the criteria of liquidity from it.

[18] Dilliraj Bhandari, Op. Cit. , p. 158.

b) Investment in Assets

The criteria of measuring liquidity in a bank, depends on the type of asset, which the bank has made investment. The bank doesn't waste cash stock received from different source of capital. The bank can invest the money, it possesses in different types of assets: such as house land for the bank and other permanent sorts of assets. In such condition, the bank has low liquidity because the investment made in such nature of assets needs much cash. And the bank gains income very low from such nature of assets. But in contrast to it, if the bank has invested in the share of various companies, the investment in government securities and treasury bills and in the debentures of different business institution, bank liquidity is abundant. In this way, the investment that the bank did can be used as the criteria of measuring liquidity.

c) Cash Reserve Ratio

The cash Reserve Ratio too can be taken as criteria of measuring bank liquidity. The commercial bank should maintain the cash reserve ratio as fixed by the central bank by opening as account in central bank and also should maintain the statutory liquidity ratio, in its own treasury. It changes from time to time. We can measure the bank liquidity from this too.

d) Profitability

The bank should be able to earn income from the medium of investment because it is a legal person. The objective of the bank is intensified with the concept of gaining profit. The bank should invest its money to gain the profit. The bank can invest in various ways. A great lead of cash is deposited in a bank form different accounts as deposit. The bank invests as loan, the cash fund and the cash collected from other various sources. In addition to it, the bank spreads it investments in various profitable sectors. The bank provides various banking services to its customers. The bank

becomes successful if it generates income from such all investments and functions. But the bank certainly provides little interest to the account holders who deposit the money in the bank. We can guess the liquidity from the profit of a bank has gained.

e) Investment in Loan

The bank distributes loans in different sectors. The source of loan investment is important for the various sources of income of the bank. It is an important to know what short of loan and how much loans the bank has distributed, while the bank distributes the loan. If the bank is intensified with the concept of gaining profit, the bank flows loans on a long term and mid term basis. If it has paid its attention to the safety, it invests in short term loan. If a great deal of amount is invested in the short-term loan, bank retains high liquidity. If it has invested in long term, mid term, there is lower liquidity. Thus, loan investment too can be the criteria of measuring the liquidity.

f) Structure of Bank

The organizational structure of a bank: i.e. division, sub division, branches too gives speculation of bank liquidity. If the structure of the bank is in single nature, there is higher liquidity in the bank. If the banks have many branches liquidity is lower because the liquidity remains scattered in different branches and sub ranches. In this way, we can find out the bank liquidity from the structure and the organization structure of a bank.

g) Position of Business

The business organization, institution and companies have special role in the rising and falling of a bank's investment. If the bank is in the position of profit in investment the investors come to the bank with the proposal for loans. The bank too invests by evaluating the business, its investment time and situation. On the contrary to it,

the bank goes on lessening the loan, if the position of business time and situation is not good. If the business environment is good, liquidity remains low. If the business environment is not good, liquidity remains high in the bank. In this way the position of business can be the medium to guess the criteria of measuring liquidity.

2.1.8 Strategies for Liquidity Management in Existing Practice

Nepal Rastra Bank implements monitory policy to extend or narrow the loan flowing capacity of commercial banks to manage the liquidity foreign capital and internal loan are the main reason of liquidity growth. It becomes impossible for the central bank to control the growth of the forcing capital by the implementation of the monetary policy. The central bank use its monetary policy with its internal loans because the main sources of flowing internal loans are the commercial banks and they use the monetary policy as a main device of managing liquidity. In managing the liquidity, the central bank pays attention mainly in two aspects.[19]

a) Not to make less liquidity which is necessary for the commercial banks to run their transactions.
b) To save the economy from the sustainable effect, that causes to arise, the high liquidity and the liquidity crisis.

The commercial banks should attract the deposit because it is called the raw materials of banking without which the commercial bank can't run. A decision to the effect that in which sector the deposit shall be flowed is important. The amount of the current account is the most important liability for commercial banks. But, it should return immediately at the time of demand. So, there must be a liquid fund.

[19] Ibid. p. 165.

Though the, loan and advance are the most profitable sector in the side of asset, it is not be recovered at the time of demand. Therefore, to make arrangements for liquid assets from its own assets, to give loan, to fix the quantity of investment and to make the coordination between the assets and liquidity are the most important factor for a commercial bank. The central bank too pays attention to this fact while giving the instruction about liquidity to the commercial banks. In preparing the strategy of liquidity management, the bank should consider many factors. If the banks fail to prepare a good strategy, at can be an in fortunate event for the bank. Bake liquidity has a great importance. Therefore, bank should set the following strategies for the management liquidity.[20]

a) Strategy Relating to Deposit

The bank can allow opening current, saving and fixed accounts for its customers. Common people, organization and institution in the banks according to their need, they can deposits the cash. Such cash may be accumulated in a great deal as deposit in the banks. The banks should do all works like determination of how much money will be deposited, which account and what interest rate shall be maintained for which deposit and fixing of minimum and maximum period of the deposits. To set the strategy of liquidity it can analyze the amount accumulated as deposit. It is an internal matter of banks to set up their strategy for the management of liquidity from this the bank may get success in its goal.

b) Strategy Relating to Investment

The bank can't invest if there is scarcity of liquidity. But the bank should invest to gain profit. For this purpose, the liquidity is necessary. The commercial banks are established with the objective

[20] Ibid. p. 166.

of earning profit. So, the bank can't meet its goal in lack of liquidity. Keeping the stock, a bank needs, daily liquidity, the bank should set the strategy to invest the rest of the cash fund.

c) Strategy Relating to Reserve Fund

A bank should deposit money in different funds. There is some fund in which it should compulsorily deposit cash. If it can't deposit the amount these funds, it will have to face a disaster. It should be able to manage liquidity well to save itself from such disaster. It establishes a reserve fund. Some percent of amount gained from profitability is kept in this reserve fund. The bank should set a strategy on such subject as how much cash is to be kept in a bank from the amount of such reserve and how much is to be flowed as investment.

d) Strategy Relating to Dividend

A bank distributes some dividend from profit to its shareholders. But if it lacks liquidity it can issue share certificates instead of distribution of cash. But the bank management should understand that whether such condition prevail in the bank or not. If there is scarcity of liquidity, it should precede the strategy of distributing the share certificates. It is better to set the strategy of distributing the cash, if there is adequate liquidity in the bank.

e) Strategy Relating to Capital

After a bank is established, it needs capital for its operation. It can open another branch or sub branches. It may need a lot of capital for this. In such condition, the bank can collect a capital by issuing its shares and debenture. Some how, it lessens the problem from liquidity. The bank should adopt a strategy whether it should issue the shares, debenture or not.

In this way, the bank can carryout a healthy transaction by adopting abovementioned strategies for management of liquidity. There is also a provision to pay fine, if the cash stock is less than prescribed by the Nepal Rastra Bank. Hence the management of liquidity is really significant aspect for the banks for the purpose of maintaining liquidity in balance.

2.1.9 Lines of Defence

The manner in which these two apparently conflicting principles of liquidity and profitability are happily reconciled to the maximum benefits, calls for sound judgement and business acumen on the part of a banker, which come only after considerable experience.

Experienced and successful bankers strike a golden mean by so arranging their various assets (advances, investment, etc) in different proportions of liquidity and profitability, that they do not find much difficulty in meeting their various commitments even during the periods of crises. The arrangement of assets in the order of rising profitability and diminishing liquidity is known as "Lines of Defence".[21]

a) First Line of Defence

The first and foremost line of defence is "cash" on hand. The quantum of cash kept by a bank any time depends on the statutory requirements as well as factors based on experience. Cash offers complete liquidity but little or no return.

b) Second Line of Defence

Call loans-overnight loans or loans repayable on a few days notice-are made to selected fellow bankers within limits of safety and are

[21] Ibid. p. 168.

highly liquid. The rate of interest is usually low except when the money market is tight, say, in the busy season.

c) Third Line of Defence

The third line of defence is the "bank's own investment". If the investments are judiciously made, keeping the four main principles viz; safety, yield, marketability and stability in view, and if suitable changes in the portfolio are made from time to time, as warranted by monetary conditions, this can be one of the strongest lines of defence. Most of the investments of commercial banks are in the form of government securities. A small portion is also held in debentures and shares of first class companies.

d) Fourth Line of Defence

The fourth line of defence is bills purchased and discounted from first class parties. They arise out of genuine trade transactions and should not be accommodating bills. An accommodation bill is a bill to which a person puts his name to accommodate another person without receiving any consideration. The retirement of demand bills on presentation maturity makes this mode a strong and valuable line of defence.

e) Fifth Line of Defence

The fifth line of defence is advances, in the order of diminishing liquidity, and rising profitability, come regular advances (most of which are repayable 'on demand') comprising loans, cash credits, and overdrafts to different types of customers, different industries and profession, small borrowers, trade, agriculture and government and semi-government corporations. The strength of all advances as well as their effectiveness in the promotion of the economic progress of the community depends upon certain should principles of good lending followed by experienced bankers the world over.

Peter S. Ross describes the following strategies for liquidity management.[22]

a) Assets Liquidity Management (or Asset Conversion) Strategies:

The oldest approach to meeting bank liquidity needs is known as 'asset liquidity management'. In its purest form, this strategy calls for storing liquidity in the form of holdings of liquid assets, predominantly in cash and marketable securities. When liquidity is needed, selected assets are sold for cash until the entire bank's demands for cash are net. This liquidity management strategy is often called asset conversion because liquid funds are raised by converting non-cash assets into cash. Assets liquidity management is "reliance on liquid assets that can be readily sold for cash to meet a bank's liquidity needs.

This strategy is used mainly in smaller banks that find it a less risky approach to liquidity management than relying on borrowings. But assets conversion is not a cost - less approach to liquidity management.

b) Borrowers Liquidity (liability) Management Strategies:

Liability management reliance upon borrowed funds to meet a bank's liquidity needs. In the 11960s and 1970s, many banks, led by the largest in the industry, began to raise move of their liquid funds through borrowings in the money market. This borrowed liquidity strategy - often called purchased liquidity or liability management-in its purest from calls for borrowing enough immediately spendable funds to cover all anticipated demands for liquidity.

[22] Peter S. Ross (2002), **Commercial Bank Management**, New York: McGraw Hill Book Company, pp. 350-351.

Borrowing liquid funds has a number of advantages. A same can choose to borrow only when it actually needs, unlike storing liquidity in assets where a storehouse of at least some liquid assets must be held at all times, lowering the banks' 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 currently holds. In contrast, selling assets to provide liquidity shrinks the size of a bank as its total holdings decline.

The principle sources of borrowed liquidity for banks include large negotiable CDs, federal funds borrowings, repurchase agreements (in which securities are sold temporarily with an agreement to buy them back), Euro currency borrowings, and borrowings at the discount window of the central bank in each nation or region.

This strategy is used most extensively by the largest banks, which often borrowed close to 100 percent of their liquidity needs. It is the most risky approach to solving bank liquidity problems (but also has the highest expected return) because of the volatility of money market interest rates and the rapidity with which the availability of credit can change. Often banks must purchase liquidity when it is most difficult to do so both in cost and in availability. The banks borrowing cost is always uncertain; which adds greater uncertainty to the banks' net earnings. More over, a bank that gets into financial trouble is usually most in need of borrowed liquidity, particularly because knowledge of the banks' difficulties spreads and depositors being to with draw their funds. At the same time, other financial institutions become less willing to lend to the troubled bank due to the risk involved.

c) Balance (assets and liability) liquidity management strategies:

The combined use of liquid assets holdings (asset management) and borrowed liquidity (liability management) to meet a bank's liquidity needs is knower as balanced liquidity management strategy (liability management) to meet a banks' liquidity needs is knower as balance liquidity management strategy. Due to the risks inherent in relying on borrowed liquidity and the costs of storing liquidity in assets most banks compromise in choosing their liquidity management strategy and liability management. Under this strategy some of the expected demands for liquidity are stored in assets (principally holdings of marketable securities and deposits at other banks), while other anticipated liquidity needs are bank stopped by advance arrangements for lines of credit from correspondent banks or other suppliers of funds. Unexpected cash needs are typically met from near term borrowings. Longer-term liquidity needs can be planned for and funds to meet them parked in short term and medium term loans and securities that will roll over into cash as those liquidity needs arise.

Peter S. Ross has sketched following four guidelines for effective liquidity management:"[23]

First, the liquidity manager must keep track of the activities of all funds using and funds raising departments within the bank and co-ordinate his or her department's activities with theirs. Whenever the commercial loan department grants a new credit line to a customer, for example, the liquidity manager must prepare for possible drawings against that line.

Second, the liquidity manager should know in advance, whenever possible, when the bank's biggest credit or deposit customers plan to withdraw their funds or add to their deposits. This allows the

[23] Ibid. p. 354.

manager to plan ahead to deal more effectively with emerging liquidity surpluses and deficits.

Third, the liquidity manager, in co-operation with senior management and the board of director, must make sure the banks' priorities and objectives for liquidity management are clear. In the recent past, a banks' liquidity position was of the assigned top priority when it come to allocating funds. Liquidity management has generally been relegated to a supporting role compared to a banks' number or priority - making loans and supplying other fee generating services to all qualified customers. The bank should grant all profitable loans, leaving to the liquidity manager the task of finding sufficient cash to fund them.

Forth, the bank's liquidity needs and liquidity decisions must be analyzed on the continuing basis to avoid both excess and deficit liquidity positions.

Excess liquidity that is not reinvested the same day it occurs results in lost income for the bank, while liquidity deficits must be dealt with quickly to avoid dire emergencies with hurried borrowings or sales of assets, resulting in excessive losses for the bank.

2.1.10 Predicting Bank's Liquidity Needs

Different methods have been developed for predicting bank's liquidity requirements. The estimation depends upon the nature of the bank; it's operational coverage and the movement of the economy etc. Some of the mostly used methods are sources and uses of funds approach, the structure of funds approach and the experience indicator approach.

Each method is based on some specific assumptions. Each of the methods for the prediction of liquidity needs is discussed as follows:[24]

a) The Sources and Uses of Funds Approach:

The estimation of bank's liquidity can be done by the help of its sources and uses of funds. Bank liquidity rises- as a result of deposit increase or decreases in demand for loans or loans outstanding or vice versa. Whenever sources and uses of liquidity do not match, the back has a liquidity gap indicated by the total gap of funds either favorably or unfavorably. Once the bank notices such gap, it will have ample time to decide for managing both position and negative liquidity gap in order to make more accurate, the bank must forecast the loans and deposits for given a period of liquidity planning period. Secondly, the bank must also assess the change in the loan and deposits for the planning period. The bank uses several statistical techniques for judging the required amount of liquidity. The liquidity need can be calculated by the help of the following formula:

Liquidity need for the future period =Estimated change in total loan
-Estimated change in total deposit and non deposit liabilities.

b) The Structure of Fund Approach

It is also one of the methods of predicting banks liquidity requirement. It indicates the likely change in deposits and loan over a period of time based on the analysis of trend of both on the past. It is simply the analysis of sources of funds to find out the probability of withdrawals over a period. For example, the interest sensitive funds are highly volatile i.e. the bank must e prepared to fulfill its payment even at the present level. Similarly large

[24] Shakespeare Vaidya (2001), **Banking and Insurance Management**, Third Edition, Kathmandu: Taleju Prakashan, pp. 142-143.

accounts known as vulnerable funds of which the substantial portion is likely to withdraw at any time which must be analyzed thoroughly by bank for its liquidity maintenance and finally, stable funds are the most secured funds for the bank for which the bank can maintain some percentage of its funds for liquidity.

c) Experience Approach

Many banks estimate liquidity management based on experience and the economic movement. There are some indicators monitored continuously by the bank management so as to define the problem need for liquidity for a bank over a period of time. Some indicators are deposits to total assets, liquid securities to total assets, risk less assets to deposit assumption ratio etc. Al these ratios assist the bank one why or the often to find out the net liquidity requirement of the bank. These ratios will be playing role directly or indirectly in fund management.

2.2 Review of Policies in Liquidity Management

2.2.1 Cash Reserve Ratio (CRR)

The reserve provision of certain percentage of deposit in own vault and certain percentage with Nepal Rastra Bank is known as CRR. The CRR rate depends on the monetary policy of NRB and it is modified time to time as per the requirement of economy. It is a tool of monetary policy. Nepal Rastra Bank had started to declare CRR from 1 Ashwin 2023. Now the CRR rate is 5% for the fiscal year 2o62/063.[25]

[25] Tulashi Pradad Ghimire(2061), **Rastriya Banijya Bank Pratiyogita Digdarshan**, Kathmandu: Makalu Book and Stationers, p. 415.

2.2.2 Statutory Liquidity Ratio (SLR)

SLR is another instrument of monetary policy. SLR is known as a legal liquidity reserve of commercial banks. It is a certain percentage of deposit as directives issued by NRB. The concept of SLR is evolved from 2031B.S. in Nepal. At the starting the rate of SLR was 32% of total deposit. But, this provision is repealed in 2050 B.S. Now, from 2060/61 only CRR rate is in practice in Nepal. The rate of CRR was 6% in 2060/61 and it is 5% for the preceding two years hence.[26]

2.2.3 Provision to Minimize Liquidity Risk

Commercial banks should separate its assets and liabilities based on time interval of maturity period in order to minimize the liquidity risk. Commercial banks shall be liable to report this liquidity profile to the Banking Inspection and Supervision department and Bank Management department quarterly (i.e. the end of Ashwin, Poush, Chaitra and Ashadh).

The time interval of maturity period is calculated as follows:[27]

1. 0-90 days maturity period assets and liabilities
2. 91-180 days maturity period assets and liabilities
3. 181-270 days maturity period assets and liabilities
4. 271-365 days maturity period assets and liabilities
5. More than 1-year days maturity period assets and liabilities

Provision for having infinite maturity period assets and liabilities:

a) Out of total current deposit core deposit and compensating balance should be included in the more than one-year maturity period time interval.

b) Current deposit is considered as core deposit.

[26] Ibid . p. 416.
[27] www.nrb.org.np, Directive No.5/2061-62, 2(2).

c) Saving deposit is considered as long-term liabilities and included in more than one-year maturity period interval.

d) The commercial banks should calculate the difference of interval-wise assets and liabilities. The cumulative difference may be positive or negative.

2.2.4 Practice of Liquidity Management in Nepalese Commercial Banks

Nepal Rastra Bank (NRB) is the regulatory body of the banking industry. NRB issues the rules and regulations to facilitate the banking operation in Nepal like other regulations. There is a regulation for maintaining liquidity by commercial banks. Revision in monetary policy and operational procedure is continuation from time to time. The regulation is called Cash Reserve Ratio (CRR). It is directly related to the liquid assets of commercial banks. The regulation specifies the cash reserve ratio of commercial to central bank and its own vault to operate day-to-day operation (transaction). It is a policy instrument of central bank for money supply. Money supply is a variable of monetary policy through which the bank plans to maintain adequate liquidity in the economy. It changes as per the requirement of the economy. According to the central bank's regulation, commercial banks need to consider the following rule to calculate CRR:[28]

Total deposit means current, saving and fixed deposit account as well as call money deposit and certificate of deposit (CD). For this purposes, deposits held in convertible foreign currency, Employee guarantee amount and Margin account would not be included.

a) Fixed deposit means a deposit in local currency accepted with a condition to repay on completion of stipulated time period.

[28] NepalRastra Bank, Baink Byabasthapan Paripatra 82/059, Banking Operation Department.

b) Current and saving deposit means all deposit accounts other than fixed deposit.
c) Cash in vault shall include only the local current and foreign currency (except clearing cheque)

A complete procedure for compliance lest is in place. Failure in any respect under the regulation is liable to pay penalty at a very high rate of interest. Procedures for compliance test are as follows:[29]

a) The cash reserve requirement shall be examined on a weekly basis.
b) Only the balance held in ordinary account with NRB shall be eligible for inclusion in cash reserve. Balance held with NRB in special accounts opened for specific purpose and foreign currency accounts shall not be included for this purpose.
c) Any amount of local currency fund transfer meant to be credited in the account with NRB and lying in transit shall be included in the balance held with NRB.
d) The cash reserve requirement shall be examined against the average weakly balance of deposit liabilities of immediately preceding 4 th week. In case of full holiday in the preceding 4 th week, the average deposit of immediately preceding 5th week shall be considered.
e) For the purpose of calculation of weekly average of total deposit, cash balance in vault and balance held with NRB, the total aggregate amount of daily balance form Monday through Friday should be divided b five. In case a holiday falling in the week, the balance of the preceding day shall be considered as the balance for the day.
f) In case of full holidays during the entire week, cash reserve requirement for the week shall not be calculated.
g) For the purpose, all branches offices of the bank shall constitute as one unit.
h) The central bank monitors that the regulation is followed or not.

[29] Ibid.

2.3 Review of Previous Studies

2.3.1 Review of Independent Studies

The following independent studies have been viewed during the study:

2.3.1.1 Foreign Context

In foreign context following independent case studies viewed during the study.

2.3.1.1.1 Liquidity Planning at Small Banks [30]

In 1977 McKinney an American researcher contends that the greatest potential for small banks to improve their funds management through quantitative methods is in better planning of their liquidity positions. He claims that the liquidity needs of small banks can be determined accurately enough using worst-case analysis. This technique employs baseline trend to estimate future loan demand and deposit supplies. Given these estimates, the banks objective is to use stored liquidity or liability management liquidity or both to meet its funds requirements. The worst-case scenario forecasts the bank' greatest liquidity need by projecting maximum loan demand and minimum deposit supplies. The difference between these projections represents the worst-case liquidity need of the bank. In the worst-caste analysis a ceiling trend is employed on variables that use bank funds (i.e., loans) and a floor trend on variables that provide bank funds (i.e. deposits). By reversing this procedure (i.e., by applying a floor trend to uses and a ceiling trend to sources), a bank can project what its most-liquid position is expected to be (i.e., the one resulting from minimum loan demand and maximum deposit supplies). The most-liquid and least-liquid projection represents upper and lower bounds for a bank's liquidity planning. By carrying the analysis one step further, it is easy to construct a most likely situation. This can be accomplished by fitting a

[30] Joseph F. Sinkey, Op. Cit. , p. 263.

trend line to the data using regression analysis or by carefully plotting the data and drawing in the trend line.

The three situations described as three types of trends: (1) upward, (2) downward, and (3) level. In each of the situations, the upper and lower bounds represent a range within which future values of the variable are expected to lie. Based upon historical experience or statistical evidence, some degree of confidence will be associated with the upper and lower boundaries (i.e., a 95 percent confidence interval). Of course, this does not mean that some future value cannot punch through the ceiling or floor.

2.3.1.1.2 Continental's Liquidity Crisis: An Electronic Cash-Out [31]

In 1984 the Bank of America made a research report and concluded that the liquidity crisis and subsequent bailout of Continental Illinois National Bank and its holding company, Continental Illinois Corporation, dominated the financial news continental Illinois had a reputation as an aggressive lender. In addition, it (and other large banks) had purchased (what turned out to be bad energy loans from Penn Square Bank of Oklahoma City, a 1982 failure. As a result, Continental lost both financial and reputational capital, which eventually shook the confidence of large uninsured creditors and precipitated a run on the bank.

The run on Continental was a silent by deadly one- an electric one inn which billions of dollars of hot money "impulsed" out of the bank. For the seven day period ended May 17, 1984, which was the height of the crisis, Continental required an infusion of $8 billion to stop its electronic hemorrhaging. Continental's liquidity crisis represents, at the extreme, the risks of aggressive liability management. Without a substantial foundation of core deposits (i.e., stable local deposits), Continental was vulnerable to an electronic or silent run. Once the marketplace, in the

[31] Ibid. p. 244.

form of uninsured creditors, lost confidence in Continental's creditworthiness, the stage was set for the electronic run to being. The liquidity crisis, collapse, and bailout of Continental in 1984 caused liability managers to rethink their assumption regarding the availability of purchased funds. Prior to Continental's problems, the working assumption was that funds would always be available, especially in the international area. However, even a guarantee by the FDIC of all of continental's liabilities could not stop the silent electronic run on the banks.

2.3.1.1.3 Bank of New England's Liquidity Crisis [32]

On January 6, 1991, the OCC declared the Bank of New England (and two affiliated banks insolvent. The story of its failure and liquidity crisis goes like this (Clarke [1991] and Lohr [1991] provide details): Through aggressive lending in the 1980s, Bank of New England developed a large concentration of commercial real estate loan-ventures that seemed like positive net-present-value projects at the time. In 1989, however, as the New England economy turned sour, cash flows from the projects dries up, and the banks' loan quality, earnings, and stock price plunged. Institutional providers of funds such as mutual funds, pension funds, corporations, and other banks began a silent run on the bank. The runoff in liabilities forced Bank of New England into the Fed's discount window. To get out of the Fed' window, the bank had to sell assets, cut employees, and draw on Treasury tax-and-loan accounts. As the economy continued to deteriorate in 1990, the situation worsened. Press coverage of the bank's problems (e.g., the announcement of up to a $450 million loss for the fourth quarter of 1990) and of the insolvency of a private insurance fund in Rhode Island worried small (insured) depositors to the extent they began withdrawing money. In two days (January 4-5), the bank lost almost $1 billion in deposits, On January 6(Sunday); the bank was closed, opening the next day as a bridge bank under the supervision of the FDIC.

[32] Ibid. p. 245.

In his statement before the senate Banking Committee on January 9, 1991, (former) Comptroller Clarke stressed that his office had closely supervised Bank of New England for almost two years before its failure. The supervision included installing new management, asset sales and cost reductions, suspension of dividends, and attempts to recapitalize the bank. He concluded that the salvage attempt had failed because of "the severity of the economic downturn in New England" nevertheless; the original managers put the bank in a vulnerable position by betting too heavily on commercial real-estate loans. A more diversified loan portfolio would have given the bank more time; whether it would have saved it can't be answered. A report by the General Accounting Office (GAO [1991] concluded that Bank of New England failed because of three factors:

1. Liberal lending practices
2. Poorly controlled growth
3. Concentration in commercial real-estate loans in a severely declining regional economy.

   Should the OCC have stopped the Bank of New England from concentrating its loan portfolio in commercial real estate? No, because in the final analysis, we do not want bank regulators determining how credit it allocated. What we do want is a deposit-insurance system that prevents high-risk banks from being subsidized by low-risk ones and ensures that the costs of bank failures are not foisted on taxpayers.

2.3.1.1.4 Winning Basketball and Liquidity Crisis for a Community Bank [33]

In 1989 Robert Bacon, president of the First National Bank, Montana experienced a liquidity crisis in his bank virtually. According to the OCC and the FDIC, there was no record that this had ever happened to a U.S. Bank since the FDIC was established. There was, of course, a federal

[33] Ibid. p. 243.

investigation. It revealed that the cause of the bank's liquidity crisis was the local high school's success in a state basketball tournament. As a result of that victory, weekly pay-checks were issued early to government employees on the nearby Blackfoot Indian Reservation and too many of the town's 1,700 residents. Because mot of them were planning to watch the basketball team, the Browning Indians, play 200 miles south in Massuri, they wanted to cash their checks. As a result, it did not take long for the only bank and two local check-cashing stores to run out of cash. By 2:10 P.M., first National's tellers were left with only small change in their drawers. Not only was the bank caught out of cash, but the town was without liquidity too. One merchant reported, "Business was way down because nobody in town had money until the bank put out a sign at 11:00 the next morning saying they would cash checks". Another merchant said, "The whole town left for the game and they took the money".

2.3.1.2 Nepalese Context

There are very few independent studies in finance in Nepalese perspective. On the core concept of liquidity management and factors affecting to liquidity position in the commercial banks, very negligible studies have been made. During the study the following independent studies have reviewed about liquidity management in Nepalese commercial banks:

Dr. Radhe Shyam Pradhan has done a research for which he carried out a survey of 78 enterprises. Through his research entitled, **"Financial Management Practices in Nepal".**[34] He found some of the major features of the Nepalese financial management. According to him "the most important one appeared to be maintaining good relation with stockholder. The finding reveals that banks and retained earning are most widely used financing sources. Most enterprises do not borrow from one

[34] Radhe Shyam Pradhan (1994), "**Financial Management Practice in Nepal",** New Delhi, India: Vikash Publishing House.

bank only and they do switch between banks to banks whichever offers best interest rates. Most enterprises find that banks are faxable in interest rate. Among the banks loan, bank loan of less than one year are more popular in public sector where as banks loan of 1-5 years are more popular in private sector. In period of light money, the majority of private sector enterprises fell that bank will treat all firms equally while public sector does not feel so. Similarly, he concluded that the majority of enterprises in traded sector find that bank's interest rate is just right while the majority of non-traded sector find that the some is one higher side".

Liquidity management of a bank basically deals with bank's two conflicting goals namely liquidity and profitability. Liquidity is the banks ability to pay depositors on demand. In a broad sense, it is the banks' ability to convert its assets into cash without delay and minimum loss. The main technique of liquidity management is to trade off between profitability and liquidity. Managers of bank can obtain the trade off following the method of cash planning managing cash flow, managing optimum cash level and investing idle funds in shiftable assets.

A Bank must manage liquid assets efficiently as they are non- earning assets. Management of liquid assets minimizes the amount invested in cash assets without taking exercise risk. A bank's liquidity need and its ability to meet such needs are difficult to measure because perception and confidence of actual and potential depositors and money market are all important but very difficult to qualify liquidity need of a bank may be short-term, cyclical and contingent. There as also a statutory provision of maintaining reserves.

In the view of **Mr. Shekhar Bahadur Pradhan,** in his articles, **"Deposit Mobilization, its Problem and Prospects,"**[35] He has presented the following problems in the context of Nepal:

[35] Shekhar Bahadur Pradhan, **Deposit Mobilization: Its Problem and Prospects,** Nepal Bank Patrika, Baishakh Masanta, 2053, P. 9.

- © People do not have knowledge and proper education for saving in institutional manner. They so now know financial organizational process, withdrawal system, depositing system etc.
- © Financial institutions do not want to operate and provide their services in rural areas.
- © He has also recommended about how to mobilize the deposit collection by the financial institutions by rendering their services in rural areas, by adding various services.
- © By operating rural banking programmes.
- © Nepal Rastra Bank must organize training programmes to develop the skilled human resources.
- © By spreading a numbers of co-operative societies to develop mini banking services and improves the habits of public on deposit collection to the rural areas.

The reserve requirement is to meet daily and contingent liability of commercial banks. The CRR rate must be at a reasonable level by which cost of fund of commercial banks can be lowered. As a result, the bank shall be in apposition to extend loans charging a minimum rate of interest. The lowered CRR rate is not only beneficial to the commercial banks but also to the country through which cost of production can be reduced, observation of bank balance sheet for FY ending 1996/97 clearly indicates mismanagement of sources and usage of funds, Because of this reason, there have been inadequacy in capital and problem in liquidity of the banks. There are instances where credit deposit ratio (loan and advances to total deposits) of commercial banks recorded very high in the range of 83 to 89 percent. The credit deposit ratio is beyond the permitted level to a typical bank. Credit deposit ratio should be fixed to a maximum of 80% by the regulatory body in order to avoid any kind of accident.[36]

[36] Shiv Hari Shrestha, **Necessary Infrastructure for Healthy Development and Expansion of Banking System in Nepal**, Economic Mirror, year 3, No. 25, pp. 40 – 61.

CRR rate has been reduced as a tool of monetary policy of the country. A Policy to cut down CRR in the vault balance has been adopted in the recent decision. Provision of cash in vault is taken as a prudential norm so that commercial banks do not face payment difficulties. By this action the central bank wants to maintain more liquidity in the banking system. There is discrimination in CRR rate for different deposits liability. The discrimination has been maintained deliberately due to variability of deposits and their behavior. However it is up to the commercial banks to decide appropriate level of cash they need in the vault.[37]

Sunity Shrestha has analyzed in her article, **"Financial Performance of Commercial Banks using both Descriptive and Diagnostic Approach."**[38] In her studies she has concluded the following points:

a) The structural ratio of commercial banks show that banks invest on the average 75% of their total deposit on the government securities and the shares.
b) The analysis of resources position of commercial banks should quit high percentage of deposit as cash reserve.
c) Return ratio of all the banks show that most of the time foreign banks have higher return as well as higher risk than Nepalese banks.
d) The debt-equity ratios of commercial banks are more than 100 % in most of the time period under study period. It led to conclude that the commercial banks are highly leveraged and highly risk. Joint venture banks had higher capital adequacy ratio but has been dealing every day.
e) In case of the analysis of the management achievement foreign banks have comparatively higher total management achievement index.

[37] Nar Bahadur Thapa, **Some CRR Issues**, The Kathmandu Post, 13 Aug 2002. p. 4.
[38] Sunity Shrestha, **"Lending Operations of Commercial Banks of Nepal and its Impact on GDP",** The Business Voice of Nepal (special issue of Banijya Sansar), T.U. 1997, pp. 23-27.

Liquidity management is an important branch of total management of commercial banks. So, it should be taken as a different discipline rather than cash management, working capital management and ratio analysis. After the re-engineering of NRB, with the help of ISO partners of USA, NRB has made a directive to adopt liquidity profile and GAP analysis tools to manage liquidity properly for the commercial banks in Nepal.

While reviewing the books, articles and previous studies, it is found that there are so many theories and rules relating to liquidity management in foreign practice. Liquidity management is considered as an important discipline in USA and other developed countries. But it is still lacking in Nepal. In Nepalese books, journals and studies, liquidity is taken only as a part of cash management, working capital management and ratio analysis. Even in central library, TU, the research on these discipline are categorized in the heading of liquidity management. On this research heading, there were a few theses found relating to liquidity management of Nepalese commercial banks. Thus, this research work is done to fulfill this kind of lacks. Moreover, in this research, an attempt has been made to recognize the liquidity management as a major function of Nepalese commercial banks and the tools and techniques are also searched for the betterment for it.

Chapter III

3. Research Methodology

3.1 Introduction

Research methodology is a systematic way to solve the research problems. It describes the methods and process applied in the entire aspects of the study. It refers to the various sequential steps (along with a rational of each step) to be adopted by a researcher in studying a problem with certain objectives in view. Thus the overall approach to the research is presented in this chapter. This chapter contains the research design variables sample size, sample selection procedure, data collection procedure data processing look and tech technique etc.

3.2 Research Design

Research Design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance.[39] It is the specification of methods and procedures for acquiring the information needed. In this study, historical as well as descriptive and comparative analytical research design is adopted.

Historical and comparative research design is adopted along with trend analysis. To identify the qualitative factors affecting liquidity, the descriptive and analytical research design is adopted with non-parametric test using Likert Type Scale.

3.3 Variables

A variable is a symbol to which numerals or values are assigned.[40] So the variables can take on values. This research intends to identify the factors

[39] F.N. Kerlinger (2002), **Foundation of Behavioural Research**, New Delhi: Surjeet Publication, p. 300.
[40] Ibid. p.300.

that affect the liquidity of commercial bank. Thus, liquidity is known as dependent variable which is affected by many other variables; such variables in this study. The entire factor that affects the liquidity management of commercial factors security problem, investment opportunity and other rules and regulation relating liquidity management etc are the independent variables.

3.4 Population and Sample

The population refers to the organizing of the same nature on its services and product in general. This study intends to identify the factors that affect the liquidity and how to manage it properly. The population of the study is all commercial banks in Nepal up to July 24, 2009, i.e. 26 commercial banks in Nepal. In the study 2 sample banks are taken into consideration among those 26 commercial banks on the basis of quota as well as convenience sampling from 2 different types of bank.

Out of 24 commercial bank, 18 banks are pure Nepalese investment based (Non-Joint Venture) and 6 are joint venture with foreign banks. The number of Non-Joint Venture Banks is greater than Joint Venture, but due to the performance and to meet the objective of the study 2 Joint Venture banks are taken as sample namely; HBL, and NABIL from later. The sample covers 33% of total population.

For the Sampling of primary data analysis, most of banks are headed by three people in the top level management: they are Chief Executive Officer (CEO), Finance Controller and Manager of Remittance and Foreign Trade. Thus, the total population of primary data will be 21 banking professionals (i.e. 3 persons of each 7 bank). Then, in order to meet the research objective 15 banking professionals are taken as sample which covers 43% of total population.

3.5 Source and Nature of Data

The study is based on both secondary data (ready made) as well as primary data (first hand data). 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 bank. The relation with liquidity to other variables as described 3.3 is analyzed by using primary data, which is drawn by filling a questionnaire from the respondents. The respondents of the primary data are senior level officials and professional of banking sector. The opinions, experiences, and thoughts of practitioners play a significance importance to identify the problem and prospects of liquidity management.

The source of secondary data are AGM reports of commercial banks, NRB web-sites, bulletins publication of different authorities, researchers, journals, unpublished thesis reports, newspapers etc. The learners' practitioners and banking professionals of the banking sector are the major source of primary information of this study.

3.6 Data Collection Techniques

The research consists of both primary as well as secondary data. Since the nature of these two types of data is different, the data collection procedure also varies. To collect the secondary data, published materials are viewed in various sports. Books by different authors, journals, magazines, internet websites, AGM reports of commercial banks, bulletins published by NRB, are major sources of secondary data. To collect these secondary data, the researchers visited campus library of NCC including online library, TU Central Library, SEBO/N Library and Nepal Rastra Bank's Library.

The primary data collected through scheduled questionnaire (Annex-9, opinion survey, observation and the personal interview to the learners and practitioners of commercial and central bank of Nepal.

The researcher filled up the questionnaires by personal meeting with the respondents. Opinions obtained during the personal meeting with the respondents have been incorporated in this research.

3.7 Data Analysis Tools

The primary and secondary data collected from various sources leads to the logical conclusion, only if the appropriate tools and techniques are adapted to analyse such data. The collected data has no meaning if such data are not analyzed. To analyze the data in this research the researcher has used some statistical and financial tools, which are explained here separately.

3.7.1 Statistical Tool

Statistical tools are the measures or the instruments to analyze the collected data form different sources. In statistics, there are numerous statistical tools to analyze data of various natures. In this study, the researcher has used the following statistical tools to analyze the data.

3.7.1.1 Average (Mean)

An average is a single value related from a group of values to represent them in someway, a value which is supposed to stand for whole group of which it is part, as typical of all the values in the group. There are various types of averages. Arithmetic mean (A.M. simple and weighted), median, mode, geometric mean, harmonic mean, are the major types of averages. The most popular and widely used measure representing the entire data

by one value is the A.M. The value of the A.M. is obtained by adding together all the items and by dividing this total by the number of items.

Mathematically,[41]

$$\text{Arithmetic Mean (A.M.) is given by, } \bar{X} = \frac{X}{n}$$

Where,

$\bar{X}$ = Arithmetic Mean

$\sum X$ = Sum of all the values of the variable X.

n = Number of observations

3.7.1.2 Standard Deviation

The standard Deviation (σ) measures the absolute dispersion. The greater the standard deviation, greater will be the magnitude of the deviation of the values from their mean. A small standard deviation means a high degree of uniformity of the observations as well as homogeneity of a series and vice versa.

Mathematically, [42]

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{1}{n} \quad (X \ \text{Z} \ \bar{X})^2}$$

3.7.1.3 Coefficient of Variation

The standard deviation is absolute measures of dispersion: where as the coefficient of variation (CV) is a relative measure. To compare the variability between two or more series, CV is more appropriate statistical tool.

Mathematically,[43]

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[41] S.C. Gupta (1992), **Fundamentals of Statistics**, Bombay: Himalayan Publishing House, p.238.
[42] Ibid. p. 380.
[43] Ibid.

$$\text{Coefficient of Variation (CV)} = \frac{\pm}{\bar{X}} \mid 100$$

3.7.1.4 Trend Analysis:

Trend analysis is a significant tool of horizontal financial analysis. It is a dynamic method to indicate the changes in terms of financial statement. Trend analysis helps to identify the controllable items of given period and future forecast can be made for ongoing concern. It is one of the useful tools in making a comparative study of the financial statement of the number of years. It makes easy to identify the changes in an item or in a group of items over a period of time and to draw the conclusion regarding the changes there on.

Under this topic, trend of different ratios are forecasted for next five years. The projections are based on the following assumptions.

- The main assumption is that other things will remain unchanged i.e.
- The banks will remain in the present position.
- The economy will remain in the present stage.
- NRB will not change its guidelines to commercial banks.
- The forecast will be true only when the limitation of least square method is carried out.

Least square method:

This is one of the most commonly used methods 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 $Y_c = a + bx$

Where,

Y_c = estimated value of 'y' for any given value of independent variable X.

a = y – intercept of value of 'y' when x = 0 $\left[\text{i.e. } a = \frac{Y}{n}\right]$

b= slope of the trend line or amount of change in 'y' per unit change in x

$\left[\text{i.e. } b = \frac{XY}{X^2}\right]$

3.7.2 Financial Tools

Financial tools also are the measures or the instruments to analyze the collected data form different sources. In this study, the researcher has used the following financial tools to analyze the data.

3.7.2.1 Financial Ratio Analysis

Financial Ratio Analysis is a tool, through which economic and financial position of organization can be fully to X-rayed. It is the indicated quotient of two mathematical expressions, and as the relationship between two or more things. Therefore, to find out the liquidity position of the sampled commercial banks, the following ratios are examined:

I) **Cash and Bank Balance to Current Deposit Ratio**

This ratio is designed to measure the bank's ability to meet the immediate obligations. This ratio is obtained by dividing cash and bank balance by current deposits i.e.

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

II) Liquid Funds to Total Deposit Ratio

This ratio is designed to see what portion of the total deposits accepted by commercial banks is kept as liquid funds. This ratio is calculated by dividing total liquid fund by total deposit and formula is:

$$\text{Liquid Funds to Total Deposit Ratio} = \frac{\text{Total Liquid Fund}}{\text{Total Deposit}} \times 100$$

III) Short Term Investment to Total Deposit Ratio.

This ratio is designed to analyze the liquidity position of commercial banks. It shows the portion of the total deposits in short term investment. Higher ratio indicates the better liquidity position where as lower ratio is the symptom of liquidity risks which may arise in the future. It is computed by using the formula as under:

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

IV) Short Term Investment to Total Investment Ratio

This ratio shows the percentage of short term investment on total investment of sampled banks. This ratio is calculated by dividing short terms investment by total investment and the formula is:

$$\textbf{Short Term Investment to Total Investment Ratio} = \frac{\text{Short Term Investment}}{\text{Total Investment}} \times 100$$

V) Total Investment to Total Deposit Ratio

This ratio is used to find out the ratio of total investment on total deposits. The ratio can be completed by using following formula:

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

VI) Current Deposit to Total Deposit Ratio

This ratio measures the portion of current deposit on total deposit. It clarifies what percentage of the total deposits is collected from current deposit. It is computed by dividing current deposit by total deposit and formula is;

$$\textbf{Current Deposit to Total Deposit Ratio} = \frac{\text{Current Deposits}}{\text{Total Deposits}} \times 100$$

VII) Balance with NRB to Total Deposit Ratio

Nepal Rastra Bank (NRB), the central bank, is the regulatory body of all the commercial banks. In order to enable to 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 in order to maintain the strength of commercial banks regarding the liquidity position. This ratio is calculated by using the following formula:

$$\text{Balance with NRB to Total Deposit Ratios} = \frac{\text{Balance with NRB}}{\text{Total Deposits}} \times 100$$

VIII) Cash Reserve Ratio (CRR)

Commercial banks are directed by Nepal Rastra Bank, the central bank to maintain certain percentage of their deposits liabilities with NRB in own account in order to enable them to maintain the sound liquidity position. Cash reserve ratio (CRR) describes whether the commercial banks have met the liquidity requirement as prescribed by NRB or not. In 2003 NRB issued notice in monetary policy and prescribed CRR rate as 6% of total deposit but it was revised in 2004 as 5% of total deposit. Since 2003 NRB has withdrawn the other reserve ratio for liquidity purpose like statutory liquidity ratio, presently commercial banks have to maintain 5% of their

total deposit in NRB and own in hand. It is computed by dividing the cash reserve of commercial banks by total deposit and the formula is:

$$\textbf{Cash Reserve Ratio (CRR)} = \frac{\text{Cash in Reserve}}{\text{Total Deposits}} \times 100$$

IX) Balance with NRB to Current Deposit Ratio

This ratio presents the portion of balance with NRB on current deposit. It is used to measure the liquidity position of commercial banks and capacity to pay depositors amount promptly. This ratio can be calculated by using the following formula:

$$\text{Balance with NRB to Current Deposit Ratio} = \frac{\text{Balance with NRB}}{\text{Current Deposits}} \times 100$$

X) Investment on Government Securities to Total Deposit Ratio

This ratio shows the percentage of investment on government securities on total deposit. It presents that how much funds are invested on government securities of total deposit of commercial banks. This ratio is computed by using the following formula:

Investment on Government Securities to Total Deposit Ratio

$$= \frac{\text{Investment on Government securities}}{\text{Total Deposits}} \times 100$$

3.8 Methods of Data Presentation

The collected data (from both primary and secondary sources) are presented in simple and easily understandable tables to make those data clear and more informative. Such data have been presented in figures like bar diagram, trend line, pie chart whichever is relevant to explain the data more effectively, based on the nature of data. After presenting such data in the table and figures are analyzed using various statistical, mathematical and financial tools and techniques.

Chapter - IV

4. Data Presentation and Analysis

4.1 Introduction

This chapter deals with the presentation, analysis and interpretation of statistics, evidence and facts, to clearing the research works. Here the study presents the collected data for various purpose of analysis. The data are analyzed by using financial and statistical tools to get values of different variables. The analyzed data and results are presented clearly and simultaneously by using tables and graphs. Finally, each of the results in interpreted in each topics and sub-topics.

4.1.1 Financial Ratio Analysis

Financial Ratio Analysis is a tool, through which economic and financial position of organization can be fully to X-rayed. It is the indicated quotient of two mathematical expressions, and as the relationship between two or more things. Therefore, to find out the liquidity position of the sampled commercial banks, the following ratios are examined:

4.1.1.1 Cash and Bank Balance to Current Deposit Ratio

This ratio is designed to measure the bank's ability to meet the immediate obligations. This ratio is obtained by dividing cash and bank balance by current deposits i.e.

$$\text{Cash and Bank Balance to Current Deposit Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Current Deposit}} \mid 100$$

Table: 4.1
Comparative Analysis of Cash and Bank Balance to Current Deposit Ratio

Ratio in %

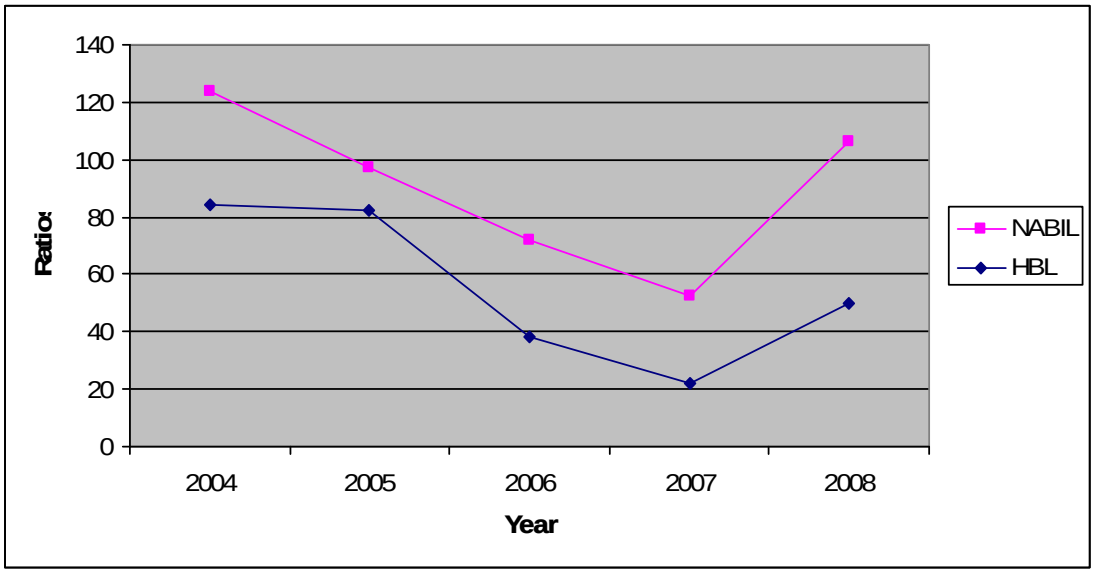
Year	Banks	
	HBL	**NABIL**
2004	84.44	39.18
2005	82.04	15.24
2006	38.19	33.70
2007	22.09	30.12
2008	49.70	56.70
Mean (X)	55.29	34.99
SD (σ)	24.46	13.45
C.V.	0.44	0.38

Source: Appendix-I

The table 4.1 shows that cash & bank balance of HBL is much fluctuating as compared to Nabil. The higest ratio of cash & bank balance of HBL is 84.44% in the year 2004 and lowest is 22.09 in the year 2007. The average ratio of HBL is 55.29% and CV is 0.44 which reveals the inconsistency to its average ratio. Whereas the average ratio of Nabil is 34.99 and CV is 0.38, which shows consistency with the average ratio. It reveals the high liquidity position of HBL as compairing with Nabil. It can easily be observed in the figure below.

Figure: 4.1

Comparative Cash and Bank Balance to Current Deposit Ratio



Source: Table 4.1

4.1.1.2 Liquid Funds to Total Deposit Ratio

This ratio is designed to see what portion of the total deposits accepted by commercial banks is kept as liquid funds. This ratio is calculated by dividing total liquid fund by total deposit and formula is:

$$\textbf{Liquid Funds to Total Deposit Ratio} = \frac{\text{Total Liquid Fund}}{\text{Total Deposit}} \times 100$$

Table: 4.2

Comparative Analysis of Liquid Fund to Total Deposit Ratio

Ratio in %

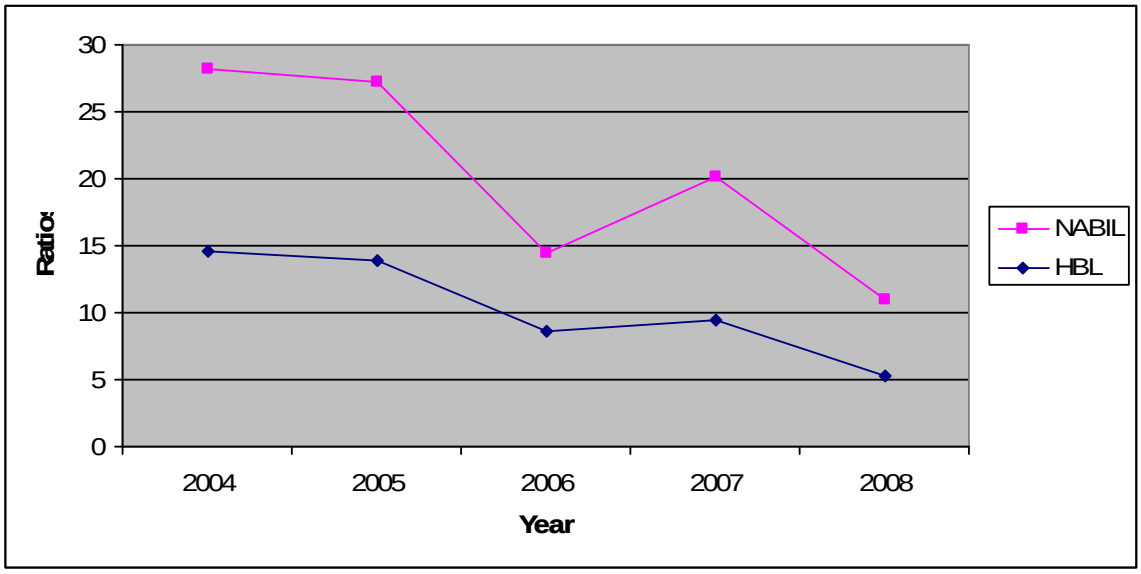
Year	Banks	
	HBL	**NABIL**
2004	14.62	13.52
2005	13.83	13.39
2006	8.57	5.83
2007	9.45	10.65
2008	5.23	5.73
Mean (X)	10.34	9.82
SD (σ)	3.48	3.46
C.V.	0.34	0.35

Source: Appendix-II

The table 4.2 shows that liquid fund to total deposit ratio of both the sampled banks are in fluctuating trend. The average ratio of HBL is 10.34% which implies that HBL has maintained low liquid fund as compared to total deposit. And the ratio of Nabil is also in decreasing trend. The average ratio of Nabil is 9.82% and CV is 0.35 and CV of HBL is 0.34 as well. This shows that the CV of both the banks are consistent to its average ratio. It shows that the percentage of liquid fund to total deposit is high in both banks which depicts that both banks have strong capacity to meet the immediate obligation. It should be noted that liquidity position of banks may be affected by various internal factors (lending policies, management capabilities, strategic planning and fund flow situation of the bank).And external factors such as prevailing interest rate, demand and supply position of loans, saving and investment, guidelines of central bank, growth or slackening position of financial market etc. With the figure below it can more clearly be seen.

Figure: 4.2

Comparative Analysis of Liquid Fund to Total Deposit Ratio



Source: Table 4.2

4.1.1.3 Short Term Investment to Total Deposit Ratio

This ratio is designed to analyze the liquidity position of commercial banks. It shows the portion of short term investment in total deposit. Higher ratio indicates the better liquidity position where as lower ratio is the symptom of liquidity risks which may arise in the future. It is computed by using the formula as shown below:

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

Table: 4.3

Comparative Analysis of Short Term Investment to Total Deposit Ratio

Ratio in %

Year	Banks	
	HBL	**NABIL**
2004	54.30	72.57
2005	50.07	66.79
2006	55.27	66.60
2007	56.57	66.94
2008	61.23	73.87
Mean (X)	55.49	69.35
SD (σ)	4.14	3.18
C.V.	0.07	0.05

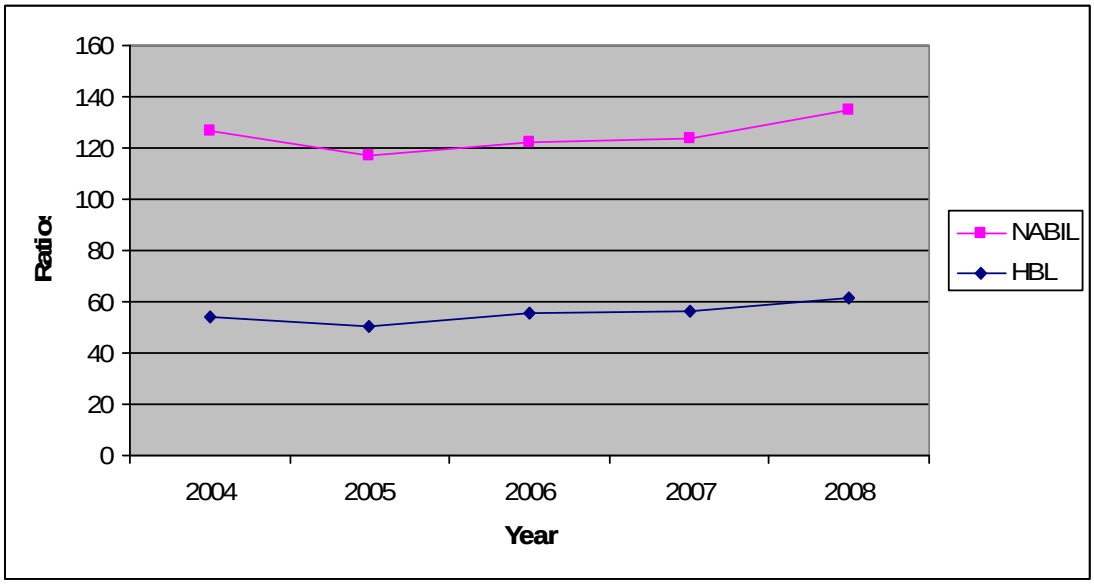
Source: Appendix-III

The table 4.3,shows that the short term investment to total deposit ratio of HBL in the year 2005 is 50.07% is least and 61.23% highest in the year 2008. And average mean is55.49 and CV is 0.07, which shows CV to be consistent to average mean. And talking about Nabil is average mean is 69.35% and CV is 0.05 which means CV is consistent to average mean.

Both the banks have strong liquidity positions and able to take its profitability through short term investment on other sectors. The following figure clearly reveals the fact.

Figure: 4.3

Comparative Analysis of Short Term Investment to Total Deposit Ratio



Source: Table 4.3

4.1.1.4 Short Term Investment to Total Investment Ratio

This ratio shows the percentage of short term investment on total investment of sampled banks. This ratio is calculated by dividing short terms investment by total investment amount and the formula is:

$$\textbf{Short Term Investment to Total Investment Ratio} = \frac{\text{Short Term Investment}}{\text{Total Investment}} \times 100$$

Table: 4.4

Comparative Analysis of Short Term Investment to Total Investment Ratio

Ratio in %

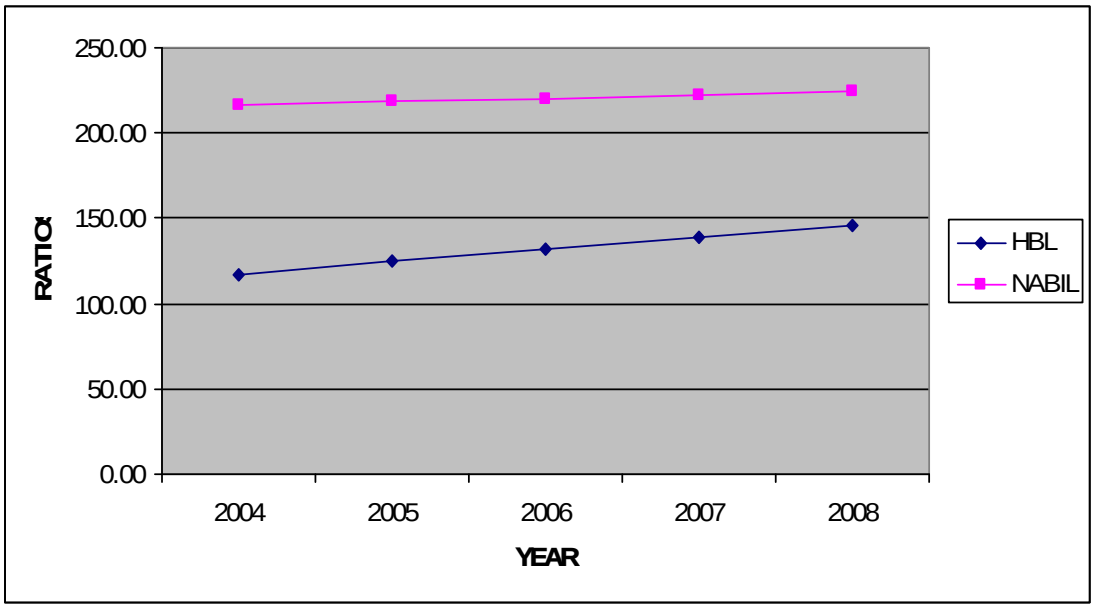
Year	Banks	
	HBL	NABIL
2004	117.34	216.30
2005	124.60	218.23
2006	131.86	220.16
2007	139.12	222.09
2008	146.37	224.02
Mean (X)	131.86	220.16
SD (σ)	10.12	2.73
C.V.	0.08	0.01

Source: Appendix-IV

From the table 4.4 , it is depicted that the short term investment to total investment ratio in both the banks are high. The ratio is very high in both the banks. The average of 131.86% reveals that HBL invests that percentage of its fund in short term investment. And NABIL also has average 220.16%, which means it also invests that sum of portion in short term investment. Banks does invests in short term to gain high profitability in a short period. But it could increase the level of risk in the longterm. The C.V of 0.08 and 0.01 of HBL and Nabil respectively shows the consistency to its average ratio. With the help of following figure it can be seen more clearly.

Figure 4.4

Comparative Analysis of Short Term Investment to Total Investment Ratio



Source :Table 4.4

4.1.1.5 Total Investment to Total Deposit Ratio

This ratio is used to find out the ratio of total investment to total deposits. The ratio can be computed by using following formula:

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

Table: 4.5
Comparative Analysis of Total Investment to Total Deposit Ratio

Ratio in %

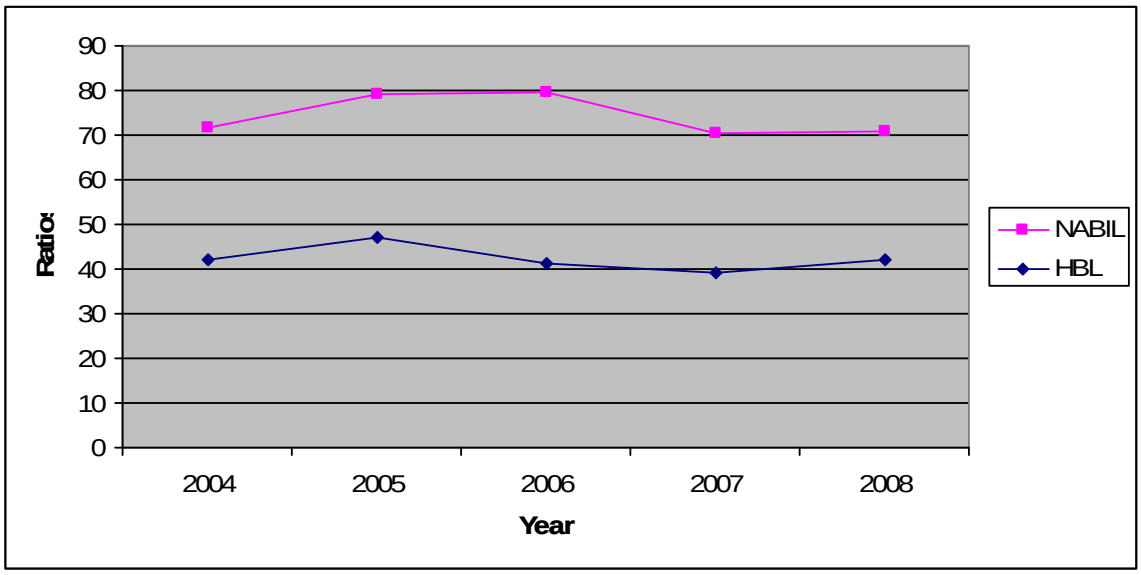
Year	Banks	
	HBL	**NABIL**
2004	42.12	29.25
2005	47.12	31.93
2006	41.10	38.32
2007	39.35	31.14
2008	41.90	28.99
Mean (X)	42.34	31.93
SD (σ)	2.59	2.06
C.V.	0.06	0.05

Source: Appendix-V

The figure 4.5, shows that total investment to total deposit ratio of HBL is 41.10 in the year 2006 and 47.12 in the year 2005, which is fluctuating in trend. The average mean is 42.34 and CV is 0.06. Similarly, the average mean of 42.34% shows the total investment to total deposit to be high and CV 0.06 reveals its consistency. Similarly, the average mean of Nabil. Is 31.93 and CV is 0.05, shows consistent CV. And the total investment to be 31.93% of total deposit. Compairing the two banks, HBL has total investment high than Nabil, which is seen clearly in the figure below.

Figure: 4.5

Comparative Analysis of Total Investment to Total Deposit Ratio



Source: Table 4.5

4.1.1.6 Current Deposit to Total Deposit Ratio

This ratio measures the portion of current deposit on total deposit. It clarifies how much percentage of the total deposits is collected from current deposit. It is computed by dividing current deposit by total deposit and formula is;

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

Table: 4.6

Comparative Analysis of Current Deposit to Total Deposit Ratio

Ratio in %

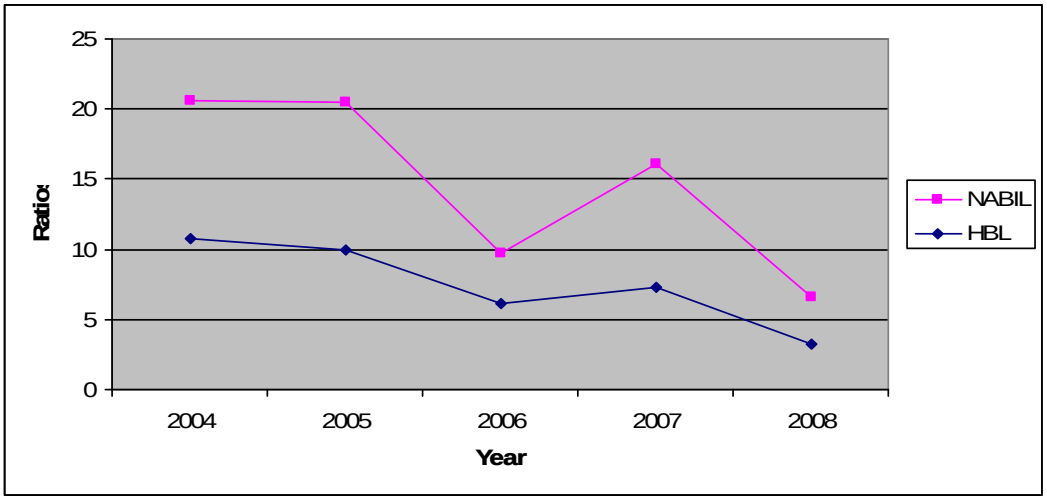
Year	Banks	
	HBL	**NABIL**
2004	10.76	9.79
2005	9.90	10.58
2006	6.14	3.64
2007	7.30	8.75
2008	3.23	3.42
Mean (X)	7.47	7.24
SD (σ)	2.70	3.08
C.V.	0.36	0.43

Source: Appendix-VI

From the table 4.6 it is observed that the current deposit to total deposit ratio of both the banks are in fluctuating trend. The average ratio of HBL is 7.47%, which reveals that only 7.47% of total deposit comes form current deposit. And CV 0.36 shows its consistency to average ratio. Te 7.24% average ratio of Nabil proves the current ratio in the total deposit and 0.43 CV also shows its consistency to its average current deposit ratio. Compairing the two banks the average current deposit of HBL is a bit higher than Nabil. And Nabil is less inconsistent than HBL by compairing both the CV.The figure below describes the fact.

Figure: 4.6

Comparative Analysis of Current Deposit to Total Deposit Ratio



Source: Table 4.6

4.1.1.7 Balance with NRB to Total Deposit Ratio

Nepal Rastra Bank (NRB), the central bank, 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 in order to maintain the strength of commercial banks regarding the liquidity position. This ratio is calculated by using the following formula:

$$\text{Balance with NRB to Total Deposit Ratios} = \frac{\text{Balance with NRB}}{\text{Total Deposit}} \times 100$$

Table: 4.7

Comparative Analysis of Balance with NRB to Total Deposit Ratio

Ratio in %

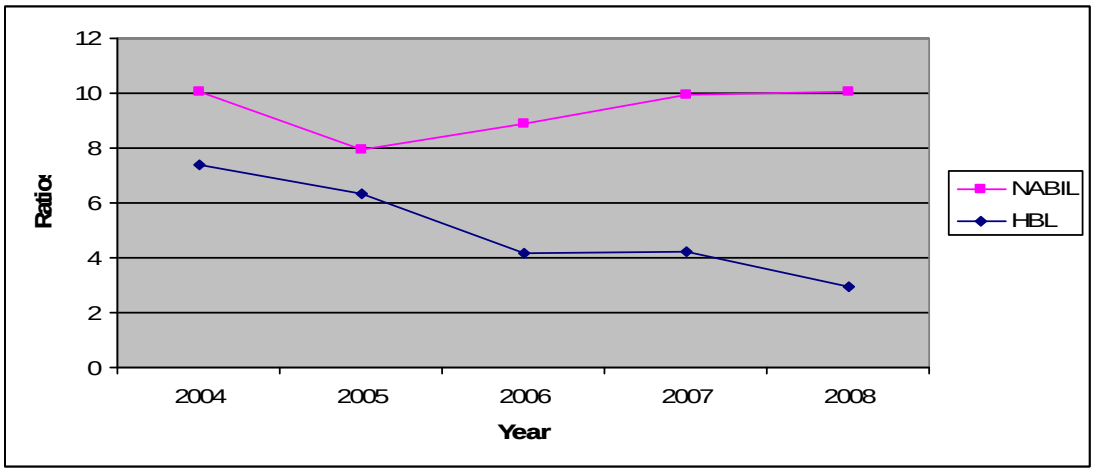
Year	Banks	
	HBL	**NABIL**
2004	7.38	2.67
2005	6.31	1.65
2006	4.14	4.77
2007	4.23	5.73
2008	2.94	7.10
Mean (X)	5.00	4.38
SD (σ)	1.61	1.99
C.V.	0.32	0.45

Source: Appendix-VII

The table 4.7 explains that balance with NRB of all the banks are fluctuated. The average ratio of the balance with NRB to total deposit of HBL is 5%. The highest ratio of HBL is 7.38% in the year 2004, thereafter it is in decreasing trend. Except first year of the study period, the ratios are consistent to average ratio. The ratios of balance with NRB to total deposit of NABIL are more fluctuating than BOK as well as others. The highest ratio is 7.10% in the year 2008 and the lowest ratio is 1.65% in 2005. The ratios of HBL are the least fluctuating among others. As its CV is 0.32, it is seen as highly consistent of the ratios to average ratio 5%. average ratio .The average ratio of NABIL is too low during the study period. As NRB has determined the ratio of balanced with NRB to total deposit is 7%, it will be the measurement tool of each bank's ratio. With the help of the following figure it can be seen more clearly.

Figure: 4.7

Comparative Analysis of Balance with NRB to Total Deposit Ratio



Source: Table 4.7

4.1.1.8 Cash Reserve Ratio (CRR)

Commercial banks are directed by Nepal Rastra Bank, the central bank to maintain certain percentage of their deposits liabilities with NRB in own account in order to enable them to maintain the sound liquidity position. Cash reserve ratio (CRR) describes whether the commercial banks have met the liquidity requirement as prescribed by NRB or not. In 2003 NRB issued notice in monetary policy and prescribed CRR rate as 6% of total deposit but it was revised in 2004 as 5% of total deposit. Since 2003 NRB has withdrawn the other reserve ratio for liquidity purpose like statutory liquidity ratio. Presently commercial banks have to maintain 5% of their total deposit in NRB and own in hand. It is computed by dividing the cash reserve of commercial banks by total deposit and the formula is:

$$\textbf{Cash Reserve Ratio (CRR)} = \frac{\text{Cash in Reserve}}{\text{Total Deposit}} \times 100$$

Table: 4.8

Comparative Analysis of Cash Reserve Ratio (CRR)

Ratio in %

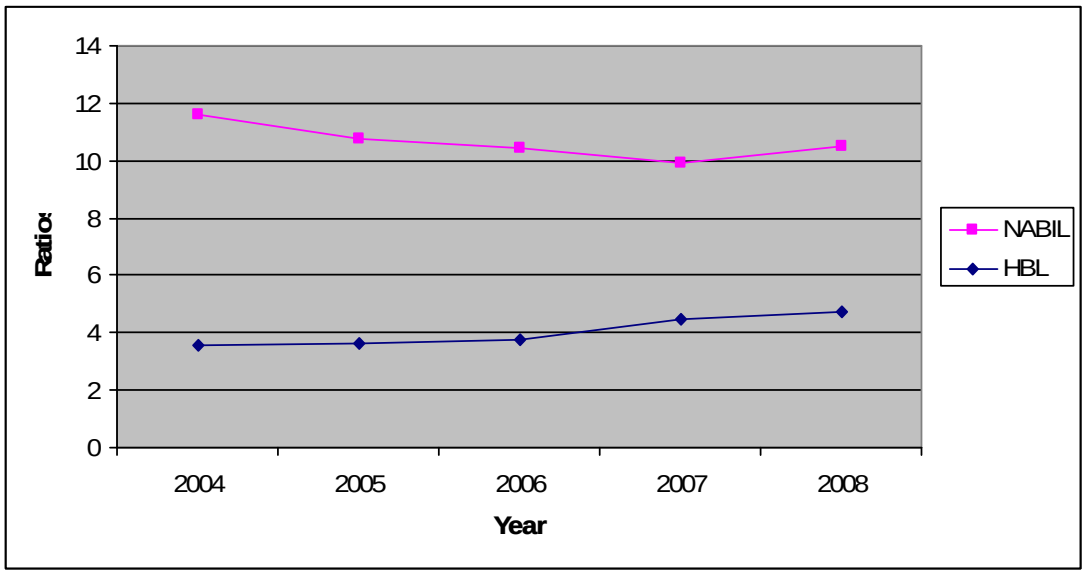
Year	Banks	
	HBL	**NABIL**
2004	3.58	8.00
2005	3.62	7.15
2006	3.75	6.71
2007	4.45	5.48
2008	4.71	5.80
Mean (X)	4.02	6.63
SD (σ)	0.46	0.91
C.V.	0.12	0.14

Source: Appendix-VIII

From the table 4.8, it is portrayed that the ratios of CRR are in fluctuating trend in all banks. The average CRR of each bank is more than the standard set by NRB i.e. 5%. This shows that each bank has tied up their fund in excess deposit in NRB, which ultimately affects the profitability negatively. The average ratio of HBL and NABIL i.e. 4.02% and 6.63% the CRR of HBL and NABIL are consistent with standard respectively. In average all banks are in strong liquidity position, further more the CVs of all banks reveals the better consistency to ratios during the study period. With the help of the following figure it can be seen more clearly.

Figure: 4.8

Comparative Analysis of Cash Reserve Ratio (CRR)



Source: Table 4.8

4.1.1.9 Balance with NRB to Current Deposit Ratio

This ratio presents the portion of balance with NRB on current deposit. It is used to measure the liquidity position of commercial banks and capacity to pay depositors amount promptly. This ratio can be calculated by using the following formula:

$$\text{Balance with NRB to Current Deposit Ratio} = \frac{\text{Balance with NRB}}{\text{Current Deposit}} \times 100$$

Table: 4.9

Comparative Analysis of Balance with NRB to Current Deposit Ratio

Ratio in %

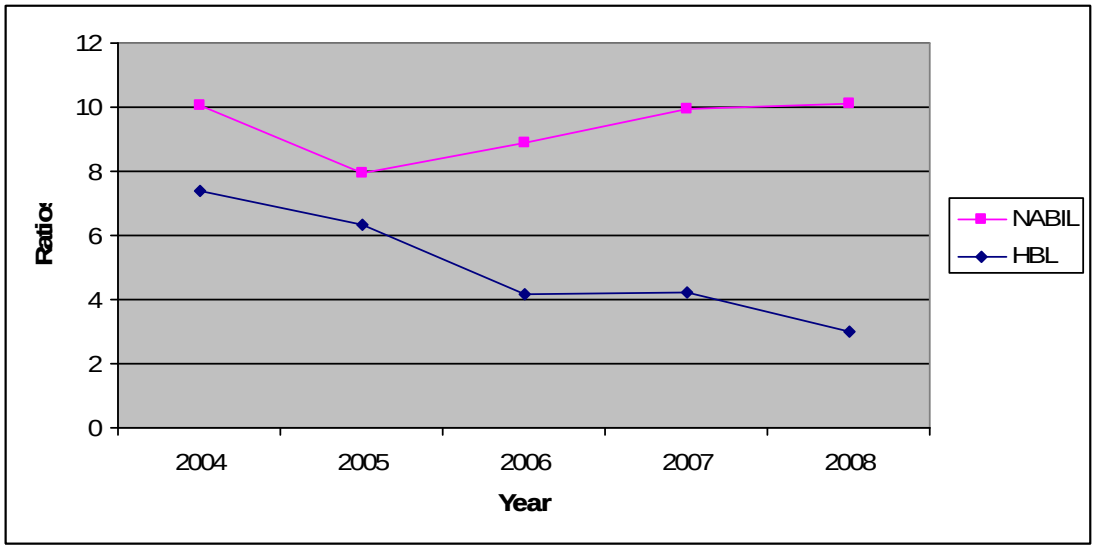
Year	Banks	
	HBL	**NABIL**
2004	7.38	2.67
2005	6.31	1.65
2006	4.14	4.77
2007	4.23	5.73
2008	3.00	7.09
Mean (X)	5.01	4.38
SD (σ)	1.59	2.00
C.V.	0.32	0.46

Source: Appendix-IX

From the table 4.9,it is clearly observed the comparative ratio of balance with NRB to current deposit ratio of HBL and NABIL banks. By these figure, it has been seen that the ratio of all banks are in fluctuating trend. The average ratio of HBL is 5.01% which implies that out of current deposit HBL has deposited 5.01% in NRB and it shows the strong liquidity position of BOK. The average ratio of NABIL is 4.38% which describes the strong liquidity position of NABIL. It is too high and it is seen that both the banks are loosing a huge volume of profit by holding too much cash with NRB in idle form. With the help of the following figure, it can be seen more clearly.

Figure: 4.9

Comparative Analysis of Balance with NRB to Current Deposit Ratio



Source: Table 4.9

4.1.1.10 Investment on Government Securities to Total Deposit Ratio

This ratio shows the percentage of investment on government securities on total deposit. It presents that how much funds are invested on government securities of total deposit of commercial banks. This ratio is computed by using the following formula:

Investment on Government Securities to Total Deposit Ratio

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

Table: 4.10

Comparative Analysis of Investment on Government Securities to Total Deposit

Raito in %

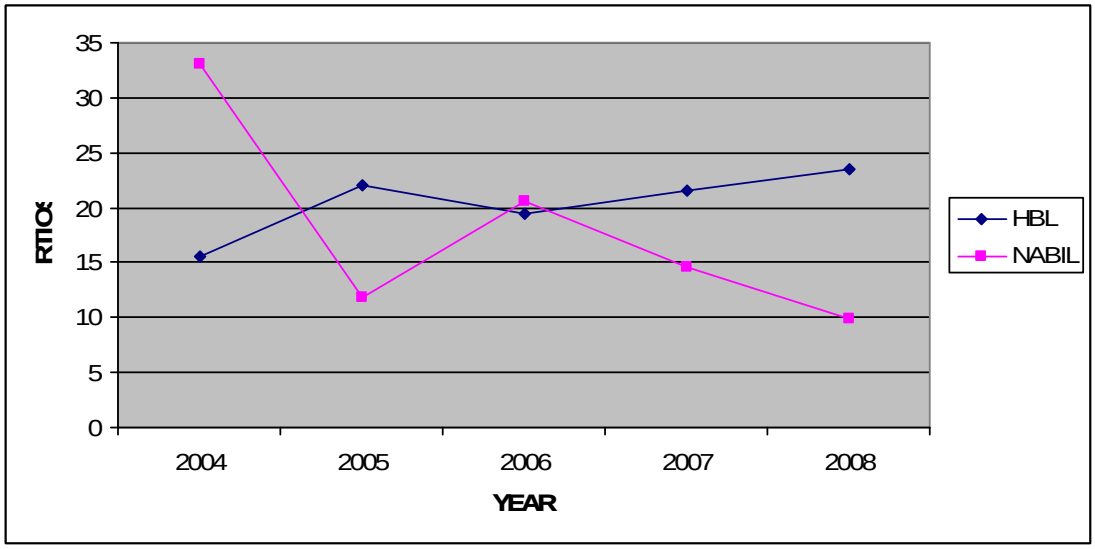
Year	Banks	
	HBL	**NABIL**
2004	15.59	33.10
2005	22.04	11.90
2006	19.42	20.60
2007	21.48	14.56
2008	23.46	9.92
Mean (X)	20.04	18.02
SD (σ)	2.73	8.36
C.V.	0.13	0.46

Sources: Appendix-X

From the table 4.10, it is revealed the facts that the investment on government securities to total deposit ratio of all banks are fluctuating in increasing trend which shows that the banks are concentrating their funds to investment on government securities. HBL and NABIL are in moderate i.e. 20.04% and 18.02% respectively. It is depicted that HBL has used its total deposit in investment on government securities, which is secure and non-risky. By this, HBL can gain more profitability as compared to others. As its CV is 0.13 it is relatively consistent but lesser consistent than Nabil to the average ratio.With the help of the following figure, it can be seen more clearly.

Figure: 4.10

Comparative Analysis of Investment on Government Securities to Total Deposit Ratio



Source: Table 4.10

4.1.2 Least Square Linear Trend Analysis

Trend analysis has been a very useful and commonly applied statistical tool to forecast the future events in quantitative terms. On the basis of tendencies in the dependent variables in the past periods, the future trend is predicted. This analysis takes the historical data as the basis of forecasting. This method of forecasting the future trend is based on the assumptions that the past tendencies of the variable are repeated in the future or the past events affect the future events significantly.

The future trend is forecasted by using the following formula:

$$Y_c = a + bx$$

where,

Y_c = the dependent variable

a = the origin i. e. arithmetic mean

b = the slope coefficient i. e. rate of change

X= the independent variable

4.1.2.1 Trend Analysis of Cash and Bank Balance to Current Deposit Ratio

Under this topic, an effort has been made to calculate the trend value of cash and bank balance to current deposit ratio of HBL and NABIL comparatively under five years study period and project the trend for next five years.

The following table describes the trend values of cash and bank balance to current deposit ratio of sampled banks for ten years.

Table : 4.11

Comparative Trend Analysis of Cash & Bank Balance to Current Deposit Ratio

Ratio in %

YEAR	BANKS	
	HBL	NABIL
2004	81.18	25.00
2005	68.24	30.00
2006	55.29	34.99
2007	42.35	39.98
2008	29.41	44.97
2009	16.46	49.96
2010	3.52	54.96
2011	-9.42	59.95
2012	-22.37	64.94
2013	35.31	69.93
Mean (a)	55.29	34.99
Rate of Change (b)	-12.94	4.99
Trend Equation (Y)	55.29-12.94x	34.99+4.99x

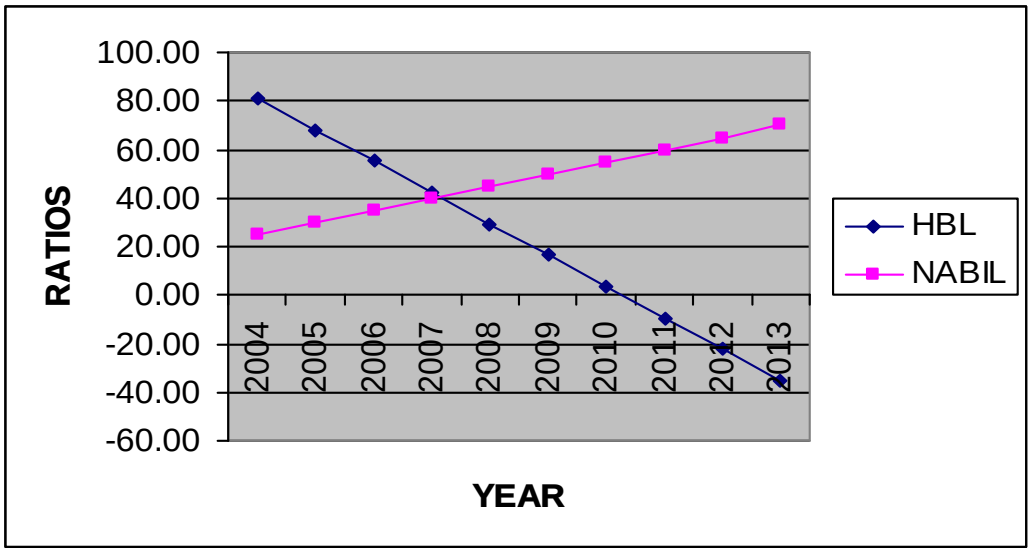
Source : Appendix - XI

Table 4.11, derived from appendix XI, reveals the ratio of cash and bank balance to current ratio of sample banks. In this table, it is revealed that the trend line of cash and bank balance to current deposit ratio is in

decreasing in both the sampled banks. Comparatively the fluctuation of the ratio of HBL is high and its trend line is sloping down rapidly. The ratio of cash and bank balance to current deposit of Nabil is also highly fluctuating. If all the things remaining the same, the trend ratio will be 35.31% and 69.93% of HBL and NABIL respectively in the year 2013. Trend line of cash and bank balance to current deposit ratio of sampled banks is presented below.

Figure: 4.11

Comparative Trend Analysis of Cash and Bank Balance to Current Deposit Ratio



Source: Table : 4.11

4.1.2.2 Trend Analysis of Liquid Fund to Total Deposit Ratio

Under this topic, an attempt has been made to analyze the trend of liquid fund to total deposit ratio of HBL and NABIL with comparatively under five years study period and project the trend for next five years.

The following table describes the trend values of liquid fund to total deposit ratio of sampled banks for ten years.

Table :4.12

Comparative Trend Analysis of Liquid Fund to Total Deposit Ratio

Ratio in %

YEAR	**BANKS**	
	HBL	**NABIL**
2004	14.97	13.49
2005	12.66	11.66
2006	10.34	9.82
2007	8.02	7.99
2008	5.71	6.16
2009	3.39	4.33
2010	1.08	2.50
2011	-1.24	0.66
2012	-356	-1.17
2013	-5.87	-3.00
Mean (a)	10.34	9.82
Rate of Change (b)	-2.32	-1.83
Trend Equation (Y)	10.34-2.32x	9.82-1.83x

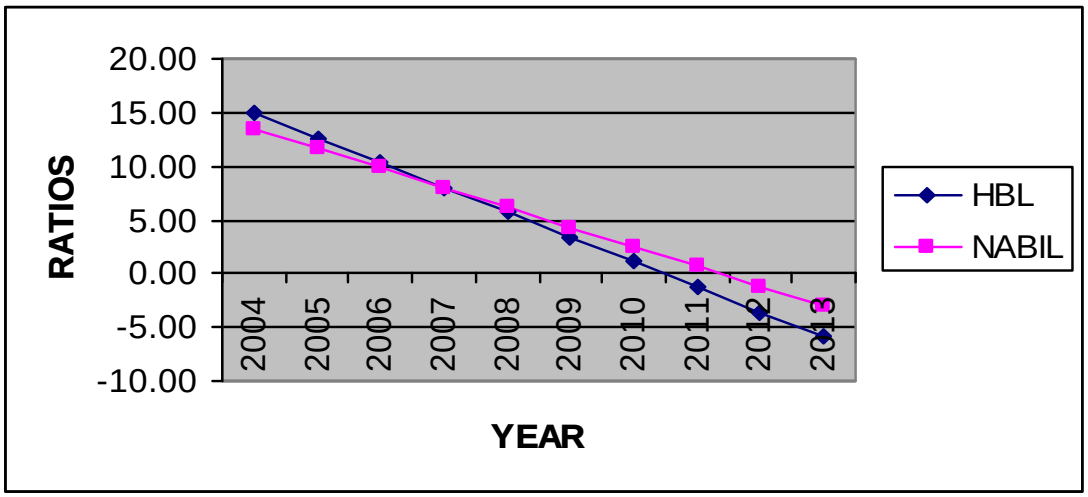
Source : Appendix - XII

From the above comparative table 4.12, it has been found that the liquid fund to total deposit ratio of sampled banks are in decreasing trend. The trend of HBL is less decreasing than the trend value of Nabil is decreasing rapidly. The rate of change in HBL is -2.32 and that in NABIL is -1.83. This shows that the rate of change in HBL is higher than in NABIL.

If other things remaining the same the liquid fund to total deposit ratio of HBL and NABIL will be 10.34% & 9.82% respectively in the year 2013. Trend lines of liquid fund to total deposit ratio of sampled banks are shown below.

Figure : 4.12

Comparative Trend Analysis of Liquid Fund to Total Deposit Ratio



Source : Table 4.12

4.1.2.3 Trend Analysis of Short Term Investment to Total Deposit Ratio

Under this topic an attempt has been made to analyze the trend of short term investment to total deposit ratio of sampled banks with comparatively under five years study period and project the trend value for next five years. The following table describes the trend value of short term investment to total deposit ratio of sampled banks for ten years.

Table: 4.13

Comparative Trend Analysis of Short Term Investment to Total Deposit Ratio

Ratio in %

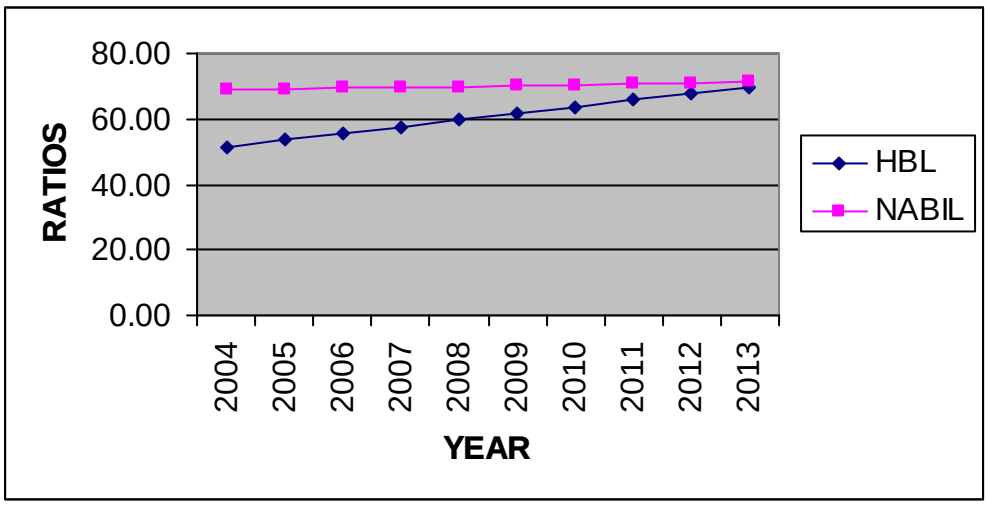
YEAR	BANKS	
	HBL	NABIL
2004	51.42	68.8
2005	53.45	69.1
2006	55.49	69.4
2007	57.52	69.6
2008	59.56	69.9
2009	61.60	70.2
2010	63.63	70.5
2011	65.67	70.7
2012	67.70	71.0
2013	69.74	71.3
Mean (a)	55.49	69.35
Rate of Change (b)	2.04	0.28
Trend Equation (Y)	55.49+2.04x	69.35+0.28x

Source: Appendix-XIII

From the table 4.13, it has been found that the short term investment to total deposit ratio of sampled banks are in increasing trend. The rate of change of Nabil is higher than HBL. So the bank is efficient to invest in short term investment from the total deposit amount. The rate of change in HBL is 2.04 and in NABIL is 0.28, this shows in HBL the change is high than NABIL. If all the other things remaining the same, the trend ratio will be 69.74% and 71.3% of HBL and NABIL respectively in the year 2013.The trend pattern can be more clearly observed in the figure below.

Figure :4.13

Comparative Trend Analysis of Short Term Investment to Total Deposit Ratio



Source : Table 4.13

4.1.2.4 Trend Analysis of Short Term Investment to Total Investment Ratio

Under this section, an attempt has been made to calculate the trend values of short term investment to total investment ratio of sampled banks with comparatively under five years study period and project the trend value for next five years.

The following table describes the trend values of short term investment to total investment ratio of sampled banks for ten years.

Table: 4.14

Comparative Trend Analysis of Short Term Investment to Total Investment Ratio

Ratio in %

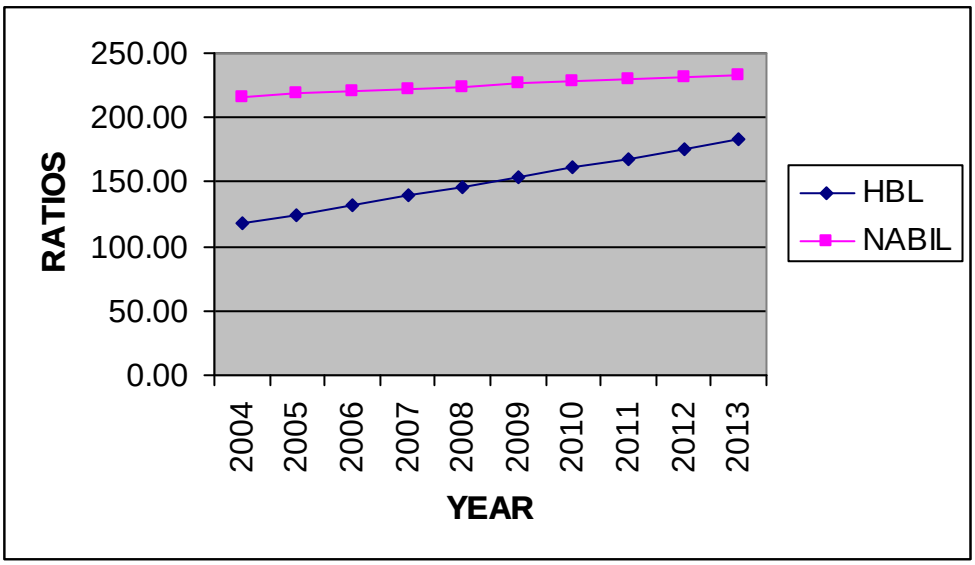
YEAR	BANKS	
	HBL	NABIL
2004	117.34	216.30
2005	124.60	218.23
2006	131.86	220.16
2007	139.12	222.09
2008	146.37	224.02
2009	153.63	225.96
2010	160.89	227.89
2011	168.15	229.82
2012	175.41	231.75
2013	182.67	233.68
Mean (a)	131.86	220.16
Rate of Change (b)	7.26	1.93
Trend Equation (Y)	131.46+7.26x	220.16+1.93x

Source: Appendix-XIV

From the table 4.14, it has been found that the short term investment to total investment ratio of HBL and Nabil are in increasing trend but remaining banks i.e.HBL and NABIL are in decreasing trend. The rate of change (i.e. b=7.26) is high in HBL. The rate of change of Nabil (i.e. b= 1 .93) is lowest among the two banks. If other things remaining the same the short term investment to total investment ratio of HBL and NABIL will be 182.67% and 220.16% respectively in the year 2013. This figure shows that Nabil is utilizing its fund in short term investment significantly but HBL is reducing short term investment on total investment. The trend can be seen in the figure below.

Figure : 4.14

Comparative Trend Analysis of Short Term Investment to Total Investment Ratio



Source : Table 4.14

4.1.2.5 Trend Analysis of Total Investment to Total Deposit Ratio

Under this topic an attempt has been made to analyze the trend of total investment to total deposit ratio of sampled banks comparatively under five years study period and project the trend value for next five years. The following table describes the trend value of total investment to total deposit ratio of sampled banks for ten years.

Table: 4.15

Comparative Trend Analysis of Total Investment to Total Deposit Ratio

Ratio in %

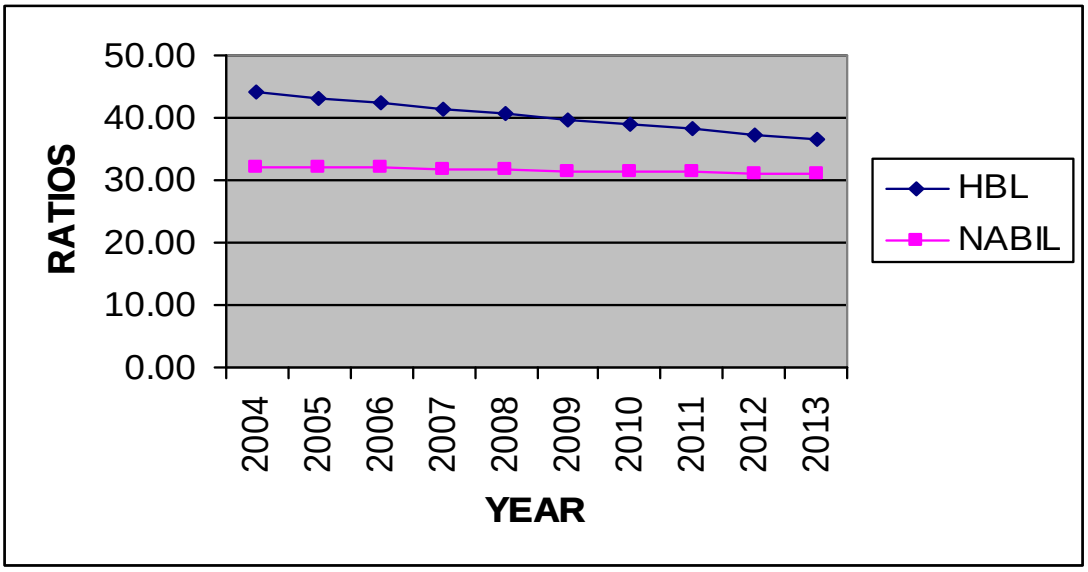
YEAR	BANKS	
	HBL	NABIL
2004	44.02	32.19
2005	43.18	32.06
2006	42.34	31.93
2007	41.50	31.80
2008	40.66	31.66
2009	39.82	31.53
2010	38.97	31.40
2011	38.13	31.27
2012	37.29	31.14
2013	36.45	31.01
Mean (a)	42.34	31.93
Rate of Change (b)	-0.84	-0.31
Trend Equation (Y)	42.34-0.84x	31.93-0.13x

Source : Appendix : xv

From the table 4.15,it is found that total investment to total deposit ratio of HBL and NABIL both are in decreasing trend. The rate of change (i.e. b= -0.84 & -0.31) of HBL and NABIL respectively. If all the things remains the same, the total investment to total deposit ratio of HBL will be 36.45% and NABIL will be 31.01% respectively. The trend shows less volatility in the total investment. The rate of change in HBL is -0.84 and in NABIL is -0.31. The trend can easily be understood in the table below.

Table : 4.15

Comparative Trend Analysis of Total Investment to Total Deposit Ratio



Source : Table : 4.15

4.1.2.6 Trend Analysis of Current Deposit to Total Deposit Ratio

In this topic, an attempt has been made to analyze the trend of current deposit to total deposit ratio of sampled banks with comparatively under seven years study period and project the trend value for next five years. The following table presents the trend values of current deposit ratio of sampled banks for twelve years.

Table: 4.16

Comparative Trend Analysis of Current Deposit to Total Deposit Ratio

Ratio in %

YEAR	BANKS	
	HBL	**NABIL**
2004	11.00	10.15
2005	9.23	8.69
2006	7.47	7.24
2007	5.70	5.78
2008	3.93	4.32
2009	2.17	2.87
2010	0.40	1.41
2011	-1.36	-0.05
2012	-3.13	-1.51
2013	-4.90	-2.96
Mean (a)	7.47	7.24
Rate of Change (b)	-1.77	-1.46
Trend Equation (Y)	7.47-1.77x	7.47-1.46x

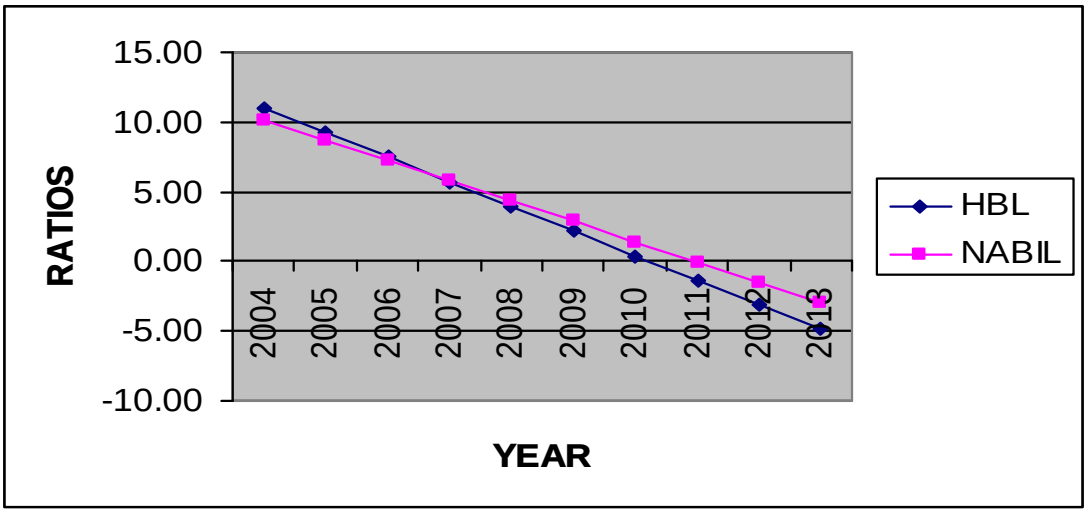
Source: Appendix-XVI

From the comparative table 4.16, it has been revealed that the current deposit to total deposit ratio of HBL and NABIL are in decreasing and fluctuating trend. The data shows that the portion of current deposit on total deposit of Nabil and HBL are in negative. It reveals that if the trend shown in the table comes to be true, both the banks will be loosing their portions of current deposit in the coming year which is shown very nominal in the table. There is volatility in both the banks current deposit.The rate of change of HBL is -1.77 and that of Nabil is -1.46. If all the things remaining the same the trend will be -4.90 and -2.96 of HBL and NABIL respectively in the year 2013.

Trend line of current deposit to total deposit ratio of sampled banks are shown below.

Figure : 4.16

Comparative Trend Analysis of Current Deposit to Total Deposit Ratio



Source : Table 4.16

4.1.2.7 Trend Analysis of Balance With NRB to Total Deposit Ratio

Under this topic an attempt has been made to analyze the trend of total investment to total deposit ratio of sampled banks comparatively under five years study period and project the trend value for next five years. The following table describes the trend value of total investment to total deposit ratio of sampled banks for ten years.

Table: 4.17

Comparative Trend Analysis of Balance With NRB to Total Deposit Ratio

Ratio in %

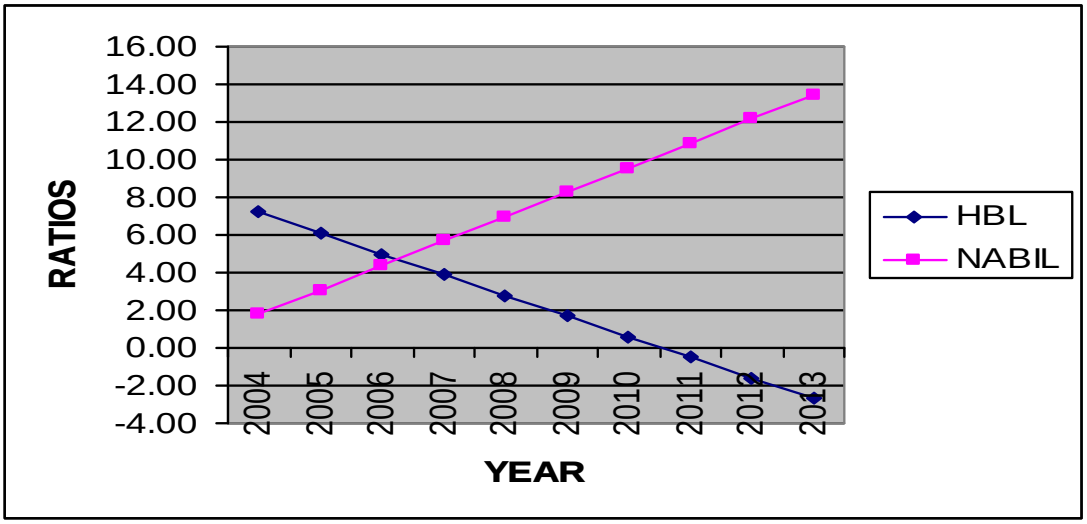
YEAR	BANKS	
	HBL	**NABIL**
2004	7.19	1.80
2005	6.10	3.09
2006	5.00	4.38
2007	3.90	5.68
2008	2.81	6.97
2009	1.71	8.27
2010	0.62	9.56
2011	-0.48	10.85
2012	-1.58	12.15
2013	-2.67	13.44
Mean (a)	5.00	4.38
Rate of Change (b)	-1.1	1.29
Trend Equation (Y)	5.00-1.1x	4.38+1.29X

Source: Appendix-XVII

The table 4.17,shows that balance with NRB to total deposit ratio of HBL is fluctuating and negative trend. And that of NABIL is increasing trend. This shows HBL has high fluctuation in the NRB balance , means it could reduce its NRB balance to -2.67% in the year 2013. But NABIL increases its balance which could increase to 13.44% in the year 2013.The rate of change of HBL is -1.1 and in NABIL is 1.29 shows that change is high in NABIL. Both the banks are volatile with respect to their deposit, here HBL is negatively fluctuating and NABIL is positively . This process can easily be seen in the trend figure below.

Figure : 4.17

Comparative Trend Analysis of Current Deposit to Total Deposit Ratio



Source : Table 4.17

4.1.2.8 Trend Analysis of Cash Reserve Ratio

Under this topic an attempt has been made to analyze the trend of total investment to total deposit ratio of sampled banks comparatively under five years study period and project the trend value for next five years. The following table describes the trend value of total investment to total deposit ratio of sampled banks for ten years.

Table: 4.18

Comparative Trend Analysis of Cash Reserve Ratio

Ratio in %

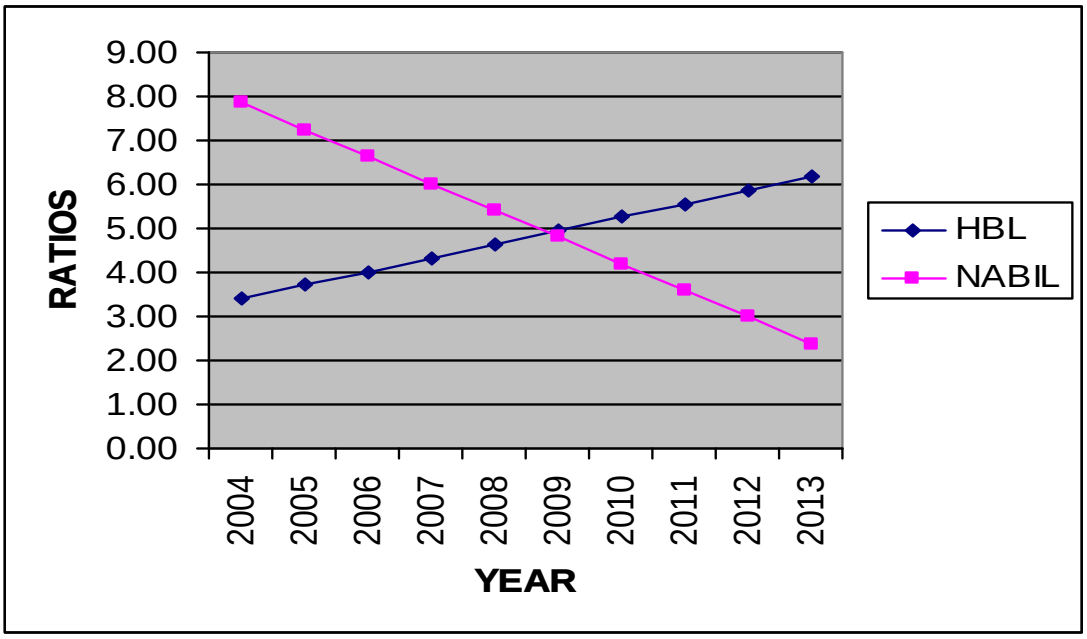
YEAR	BANKS	
	HBL	**NABIL**
2004	3.40	7.84
2005	3.71	7.24
2006	4.02	6.63
2007	4.33	6.02
2008	4.64	5.41
2009	4.95	4.81
2010	5.26	4.20
2011	5.57	3.59
2012	5.88	2.99
2013	6.19	2.38
Mean (a)	4.02	6.63
Rate of Change (b)	0.31	-0.61
Trend Equation (Y)	4.02+0.31x	6.63-0.61x

Source: Appendix-XVIII

The table 4.18, shows that CRR of HBL is in increasing trend .CRR of NABIL is in decreasing trend. This shows that HBL increases its CRR and NABIL could reduce its CRR. The rate of change of HBL is 0.31 and that of NABIL is -0.61, means that of HBL is high. If all the things remaining the same the ratio will be 6.19% and 2.38% in HBL and NABIL respectively in the year 2013. This could easily be seen in the figure below.

Figure: 4.18

Comparative Trend Analysis of Cash Reserve Ratio



Source : Table 4.18

4.1.2.9 Trend Analysis of Balance With NRB to Current Deposit Ratio

Under this topic an attempt has been made to analyze the trend of total investment to total deposit ratio of sampled banks comparatively under five years study period and project the trend value for next five years. The following table describes the trend value of total investment to total deposit ratio of sampled banks for ten years.

Table: 4.19

Comparative Trend Analysis of Balance with NRB to Total Deposit Ratio

Ratio in %

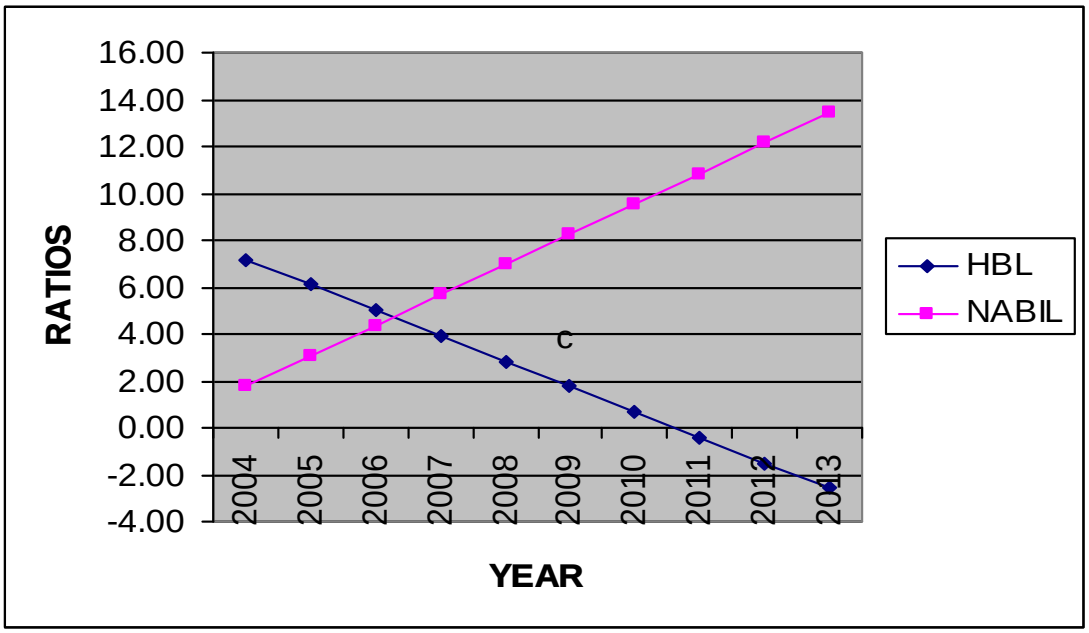
YEAR	BANKS	
	HBL	**NABIL**
2004	7.18	1.80
2005	6.10	3.09
2006	5.01	4.38
2007	3.93	5.67
2008	2.84	6.97
2009	1.76	8.26
2010	0.68	9.55
2011	-0.41	10.84
2012	-1.49	12.13
2013	-2.58	13.43
Mean (a)	5.01	4.38
Rate of Change (b)	-1.08	1.29
Trend Equation (Y)	5.01-1.08x	4.38+1.29x

Source: Appendix-XIX

The table 4.19, depicts that NRB balance to current deposit ratio of HBL is fluctuating and negative . Which means the current deposit of HBL goes on decreasing and comes to -2.58% in the year 2013 . But that of NABIL is in increasing trend. Which results in 13.43% in the year 2013. The rate of change is -1.08 and 1.29 in both banks. The rate of change in HBL is -1.08 and that in NABIL is 1.29. This shows that the rate of change in NABIL is high. This can be easily seen in the trend figure below.

Figure : 4.19

Comparative Trend Analysis of Balance with NRB to Total Deposit Ratio



Source : Table: 4.19

4.1.2.10 Trend Analysis of Investment on Government Security to Total Deposit Ratio

Under this topic, an attempt has been made to calculate and analyze the trend of investment on government securities to total deposit ratio of sampled banks with comparatively under five years study period and project the trend value for next five years.

The following table describes the trend values of investment on government securities to total deposit ratio of sampled banks for ten years.

Table: 4.20

Trend Analysis of Investment on Government Securities to Total Deposit Ratio

Ratio in %

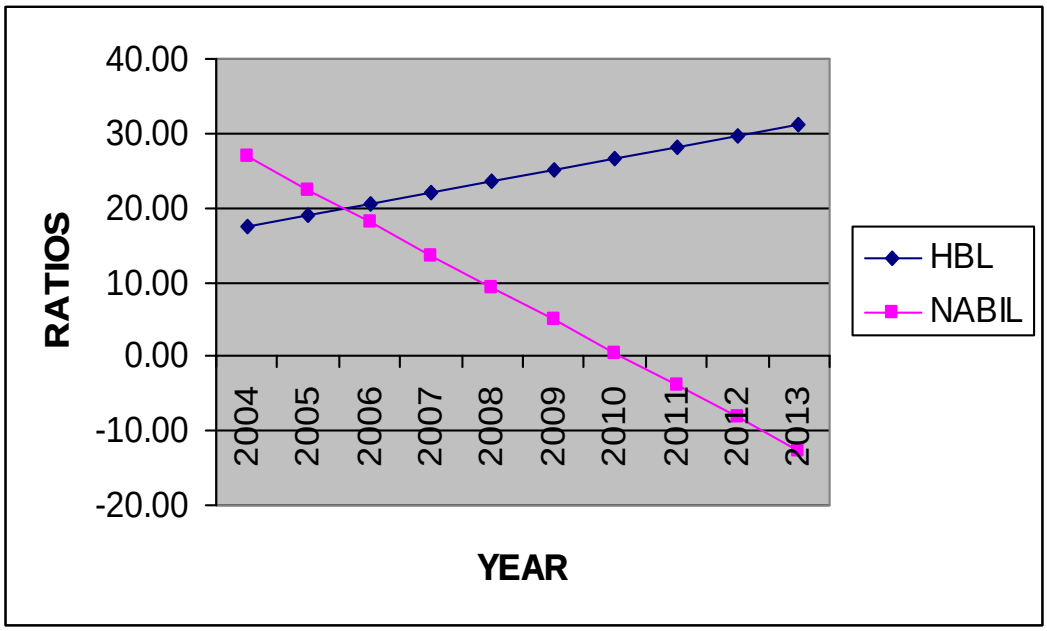
YEAR	BANKS	
	HBL	NABIL
2004	17.36	26.76
2005	18.88	22.39
2006	20.40	18.02
2007	21.92	13.65
2008	23.43	9.28
2009	24.95	4.91
2010	26.47	0.54
2011	27.99	-3.83
2012	29.51	-8.20
2013	31.02	-12.57
Mean (a)	20.4	8.02
Rate of Change (b)	1.52	-4.37
Trend Equation (Y)	20.4+1.52x	8.02-4.37x

Source: Appendix-XX

By the comparative table 4.20, it is revealed the facts that the investment on government securities to total deposit ratio of HBL is in increasing trend but that of Nabil is in fluctuating trend. This fact implies that HBL is utilizing its deposits by investing on government securities but Nabil is not investing in government securities as HBL is doing. Comparatively the rate of change of HBL is the higher than Nabil. If all the things remaining the same the ratio in the year 2013 of HBL will be 31.02% and of NABIL will be -12.57%. The rate of change in HBL is 1.52 and in NABIL is -4.37, shows vast difference in the change. This can easily be seen in the figure below.

Figure: 4.20

Trend Analysis of Investment on Government Securities to Total Deposit Ratio



Source : Figure 4.20

Chapter-V

5. Summary, Conclusions and Recommendations

5.1 Summary

Under this chapter five, summary and conclusion of the research is presented with recommendations so that further actions could be implemented. Summary of the findings is made and conclusion is withdrawn and then recommendations are suggested to improve the liquidity positions of Commercial Banks in the context of Nepalese bank. This research conducted could help the concerned groups; banks, NRB, banking professionals and further researchers to perform their very task smoothly. NRB could be alert as central bank in its work, commercial banks could also workout its shortcomings (specially HBL and Nabil). Researchers could take this research work as reference guide for their further research work.

Basically, the entire research work has focused on the comparative study on liquidity management of Nepalese commercial banks. For the study, two commercial banks (i.e. HBL and NABIL) were taken as samples and analyzed their liquidity management practice by taking five years secondary data from 2004 to 2008 . The objective of the study is to find out and analyze the liquidity management practice in Nepalese commercial banks. To fulfill the main objectives following specific objectives are formulated.

a. To examine the liquidity management policy of commercial banks in Nepal.
b. To analyze liquidity management problems of Nepalese commercial banks,
c. To identify factors affecting the liquidity positions and its management.
d. To examine the effectiveness of liquidity management in Nepalese commercial banks,

To fulfill the objectives of research, the study is divided into five chapters. In the very first chapter, brief introduction of liquidity management, focus of the study, significance of the study, research objectives, brief introduction of the sampled banks, limitation of the study and research scheme are included.

In the second chapter, theoretical review has been made. Different theories, policies, rules and regulations about liquidity management are reviewed. During the study different books, journals, previous studies, websites, reports are viewed and visited to different professionals to know the liquidity management. During the literature review, few research work made on this topic was found.

In the third chapter, research design, population and sample and analysis tools are included. The data are collected from secondary and primary source as well for further study. The secondary data are collected from annual reports of sample banks, SEBO/N, and Nepal Rastra Bank. The primary data and information are collected from the questionnaire. After collecting the data from different sources, it is analyzed by using financial and statistical tools and techniques.

During this research work an attempt has been made to fulfill the objectives of the research work. In this chapter all the secondary as well as primary data are compiled, processed and tabulated as per the necessity and figures, diagrams are also used to present it clearly.

This chapter includes summary of the whole research work. A conclusion is derived throughout the entire research work . And after viewing the outcome of the research task, a clear suggestion or recommendation is presented. This could be a clear way to layout an outcome, which could help out everyone in touch with the related topic and could contribute from their side for the betterment of liquidity management.

There are various shortcomings while performing this research work. Various limitations might have occurred while conducting this research. Among different commercial banks only two banks are considered sample. Time and resources are the constraints of the study. Therefore, the study may not be generalized in all cases and accuracy depends upon the data collected and provided by the organizations and respondents. And those data provided may or may not be as accurate.

5.2 Conclusions

1. From the analysis of cash and bank balance to current deposit ratio, it is seen that the liquidity position of HBL is high and NABIL is moderate.

2. From the analysis of liquid fund to total deposit ratio, it is found that HBL and NABIL both banks lacks the capacity to meet the short term obligations. Both seems poor to meet the short term obligation.
3. Out of the total deposited fund, both the banks have utilized maximum fund on short term investment.

4. Most of the investment of HBL and NABIL is made in short term investment. So, they can convert their short term investment into cash i.e. liquid fund to meet the requirement of payment. Thus, it is the most efficient to manage liquidity for those banks.

5. The current deposit to total deposit ratio of HBL and NABIL are very low, this shows that out of total deposit only certain portion of deposit comes from current deposit. Thus, the liquidity risk is rare in both the banks.

6. HBL adequate balance with NRB but comparing with HBL, Nabil has average balance. From this study, it is seen that HBL have ready cash for maintain liquidity but Nabil is in average.

7. As per the standard prescribed by NRB, the CRR should be 5%. During the study, it is found that HBL have maintained CRR of 4.02% and Nabil have maintained the CRR above 5%. So, based on the CRR, Nabil is in strong liquidity position than HBL.

8. From the analysis of balance with NRB to current deposit ratio, it is found that HBL have adequate reserve in NRB to meet the obligation of current deposit but Nabil is in moderate.

9. From the study of secondary data and primary data, it is found that most of the banks are increasing their fund to invest on government securities and term loan. Reserve balance and investment have inverse relationship. So, by the analysis, it is also found that, most of the banks are reducing their fund on reserve.

10. From the trend analysis, it is found that cash and bank balance to current deposit ratio of all banks are in decreasing trend. It implies that all the banks are reducing their cash and bank balance to current deposit ratio. The banks are reducing the liquid fund to total deposit ratio also. It means banks have increased the investment ratio and trend lines of investments are increased.

11. Nepalese commercial banks are in over liquidity position and it is in increasing trend also. Due to the lack of unfavorable investment opportunities in Nepal, liquidity management is being difficult and challenging. Liquidity management is influenced by the external factors like; national security, political instability, income of depositors foreign remittance and fear of possibility of loan defaulters and internal factors like; lending policy of banks,

management capacity, strategic planning and funds flow situation in Nepalese commercial banks.

12. The policies and rules of liquidity management are adequate but not implemented properly.

13. From the study it is found that the main problems of liquidity management are:

    a) High flow of remittance but low investment opportunities.
    b) Increasing numbers of loan defaulters and lack of strong law against it.
    c) Lack of proper inspection and supervision of NRB and flexible management.
    d) Underdeveloped market for liquidity creating financial instruments and lack of manpower to risk analysis.

14. Following techniques are found to manage liquidity in existing practice:
    a) Managing liquidity by demand and supply theory.
    b) Maintaining proper portfolio risk management analysis.
    c) Matching principle of assets and liabilities.

15. From the study, it is found that liquidity management practice is still in developing phase. Most of the banks have maintained liquid fund to fulfill the statutory provision only. Since, NRB has to threat to commercial banks to maintain liquidity, it is seen that the commercial banks are found less sincere to liquidity management.

16. Rules and regulations are the guidelines of things to do or not to do. So, its effects can be seen after the implementations. In order to manage the liquidity effectively the existing regulation should be effectively put in practice.

5.3 Recommendations

To HBL

The following points are recommended to HBL:

1) Cash and Bank balance to Current Deposit should be maintained at that level to be in equal to meet liquidity crisis.
2) Liquid fund to total deposit ratio should be increased to maintain liquid fund.
3) Current deposit to total deposit ratio is in average and should not be increased to minimize the liquidity risk.
4) NRB balance should be maintained of that level. HBL should not reduce its balance in NRB.
5) CRR should be increased to 5%.
6) Balance with NRB to current deposit should be the same.

To NABIL

The following points are recommended to NABIL:

7) Cash and Bank balance to Current Deposit ratio should be increased to avail liquid fund.
8) Liquid fund to total deposit ratio should be increased to maintain liquid fund.
9) Current deposit to total deposit ratio is in average and should not be increased to minimize the liquidity risk other deposits should be increased rather than current deposit. Otherwise, due to the drawing of current deposit, the bank may fall into liquidity crisis.
10) Reserve with NRB to total deposit ratio should be increased.
11) CRR should be decreased to 5%.
12) Balance with NRB to current deposit should be increased.

To All Commercial Banks:

13) Liquidity position is in increasing trend. It may turn into the cause of inflation, low profitability and inefficiency of Nepalese

commercial banks. So, to overcome from these problems, new investment opportunities should be searched. Home loan, education loan, development loan, loan to foreign employment, loan to research work and over night loan etc. shall be the examples of new opportunities.

14) An effort should be made on human resource development on the risk analysis management and liquidity management.

15) An effort should be made on the development of market for the liquidity generating assets like; T-bills, Options and Bank CDs etc.

16) Satisfied employees are the backbone of the bank. So, necessary steps should be forwarded to develop satisfied and obedient employees, which may reduce the problems of bank defaulters and corruptions. So, as to overcome it banks should make their employees satisfied by reasonable salary, perfect working environment, necessary trainings, etc.

To NRB

17) Regular monitoring and evaluation should be made for the effective liquidity management.

18) As a central bank, the duty of NRB is to regulate the commercial banks. So, those commercial banks who do not send the data on time should be made alert, the received data should be analyzed and stored for future reference, and if the banks do not respond on time should also be punished.

19) It is very difficult to collect the necessary data by going bank to bank and the related banks also feel a burden to response the research student. So, NRB should play a role of data bank. To make it easier, the data should be stored in computer and copied in soft copy of floppy Diskettes, CDs, Pen Drive etc.

To the Government

20) National security should highly be insured for the Liquidity Management and other financial activities as it is very much affected by the national security matter. So, how the remedy for this problem is shortout either by table talk or collective bargaining process.
21) Political stability should also be considered a factor that could defect in liquidity management.
22) There should be strong law for the defaulters and should also be strongly implemented against loan defaulters.
23) Most of the loan defaulters are high class families, top level businessmen 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

Success behind every organization widely depends on its efficient professionals. A bank can be an efficient and successful in management with the help of dedicated professionals. Banking professionals are the life blood of the bank. So, the following points are suggested to the profession:

24) Every professional banker should be more dedicated to the profession and should apply banking tools more effectively.
25) Professional should have theoretical as well as practical knowledge, and should also implemented on banking operation.
26) Trainings are must for the refreshment and to enhance their knowledge for analyzing the risk and manage the liquidity.
27) Brain storming and group discussion programmes should be made to search further investment opportunities.

To Other Researchers

28) Whoever would be conducting research work later, this research may be helpful to fulfill the gap of proper research in liquidity management in Nepalese commercial banks. It might be able to provide knowledge about the Liquidity Management of Commercial Banks in Nepal. This research is conducted in such a way that it could cover all the existing liquidity management practices existing liquidity position and its trend, factors affecting the liquidity management and banking tools for liquidity management only. For the further study and analysis, this study may be the guideline to other researchers. Other researchers are suggested to study about the effect of every factor to liquidity management.

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