

CHAPTER –I

1. INTRODUCTION

1.1 Background of the study

The economy of Nepal is survived by agricultural sector. Over 75% of the population is dependent on the agriculture. The agriculture sector contributes over one third portion to the GDP of the country. Therefore, major concentration of government of Nepal has been laid on development and advancement of agricultural sector. But, still there has always been scarcity of adequate capital in this sector. To some extent, the establishment of Agriculture Development Bank has provided the support for the farmers to raise the required capital. Also, various programs like microfinance programs; cooperative programs have been introduced in various villages of Nepal, which have been providing financing support to local people.

While talking about the capital formation, commercial banks play major role on it. Capital is one of the most important components for an organization. Actually, no organization can exist without capital. Without capital it is not possible to set up any type of business whether it is a general store or a big business house. Every organization is started with a zero position and only comes into existence when the promoters, owners or shareholders finance on it as venture capital. Every organization should have enough capital to run business.

Although the banks are the major source of capital, they also have to raise capital to run business. Especially, the bank capital has significant role to play as the banks have obligations towards mass people called as depositors. Thus, the banks should hold adequate capital to secure the interest of depositors. Capital adequacy has become one of the most significant factors for assessing the soundness of banking sector. Raise and utilization of funds are the primary functions of commercial banks. As such, commercial banks collect a large amount of deposits from general public. The depositors think that depositing their money in a bank is safe and relaxing. But, what does happen if the bank does not have enough capital funds to provide a buffer against future, unexpected losses? Therefore, there must be sufficient fund to protect a

bank's depositors and counterparties from the risks like, credit and market risks. Otherwise the banks will use all the money of depositors in their own interest and depositors will have to suffer loss. In current days, NRB, the regulator of banks and financial institutions of Nepal, has compelled to insure the individual depositors up to two lakhs through DCGC for all classes of financial institutions.

After the restoration of multiparty democracy, several commercial banks made ways to conduct business in Nepal. At present, commercial banks hold a large share of economic activities of the country. Stock market has been dominated by commercial banks since more than a decade. Every day, we can see most of stock transactions are related with commercial banks. Not only in the stock market, but commercial banks have also been major contributors to the revenue of the country. They have been paying a large amount of tax every year. Banking sector has become a mainstay of the economy of the country.

Establishment and operation of commercial banks is presently governed by Banking and Financial Institution Act (BAFIA), 2063 BS. However, Nepal Rastra Bank (NRB), as a regulatory body for banks and financial institutions, has right to specify the capital requirements, and other requirements. Being the central bank of Nepal, NRB has the responsibility to give special attention to the interest of depositors. The commercial banks of Nepal have collected more than Rs. 1,076,629 million, money from depositors in Mid - July, 2012. Commercial Banks hold around 81% of total deposit of financial system of Nepal. Such a big amount of money should have to be secured and NRB has the major responsibility to protect it. (*Source: banking and financial statistics of NRB Mid July 2012*)

In March 2001, NRB issued various directives and then modified directives to be complied by all commercial banks of the country. The directives consist of nine volumes. The NRB directive no. 1 includes the capital adequacy norms for commercial banks indicating the requirement of maintaining capital fund to the prescribed ratios. These directives are based on the internationally accepted norms of Basel Committee. The Basel Committee on Banking Supervision is a committee of banking supervisory authorities, which was established by the central bank Governors

of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States. It usually meets at the Bank for International Settlements in Basel, Switzerland, where its permanent Secretariat is located. The Basel Committee issued Basel Capital Accord in 1988. The Basel Capital Accord was implemented worldwide by 1992, which is presently in practice. All commercial banks of Nepal within the Basel II - capital adequacy framework should adopt the prescribed approaches by Mid July 2008 (Fiscal Year 2065/066). (Source: [www. and www.nrb.org.np](http://www.nrb.org.np))

Capital Adequacy Ratio (CAR)

Capital adequacy ratio is the ratio, which determines the capacity of the bank in terms of meeting the time liabilities, and other risks such as Credit risk, Market risk, operational risk, etc. In the simple formulation, a bank's capital is the "cushion" for potential losses, which protects the bank's depositors or other lenders. Banking regulators in most countries define and monitor Credit Adequacy Ratio to protect depositors, thereby maintaining confidence in the banking system. (Source: http://en.wikipedia.org/wiki/Capital_adequacy_ratio)

1.2 Focus of the Study

The study is based on the capital fund of the banks which is supposed to be adequate as per the NRB directive no. 1, which is related with the capital adequacy norms for commercial banks. The norms basically emphasize on the basic requirement of the capital fund that a commercial bank should possess. The fundamental objective of the norms is to safeguard the interest of the depositors as per these norms; bank capital has been divided into two categories, which are generally known as Tier-1 and Tier-2.

At present, there are total 32 commercial banks in Nepal. The capital fund and deposit collection up to the end of fiscal year 2011/12 are shown in Appendix A. Keeping in the view of the striving commercial banks, the thesis report, as case study, analyzes the matters, issues and problems related to capital funds of Bank of Kathmandu Ltd

(BOK) which is struggling to incline and Himalayan Bank Ltd (HBL) which is believed to be one of the strong joint-venture banks of the country. The thesis report is mainly focused in accordance with the capital adequacy framework of Nepal Rastra Bank (NRB) by these commercial banks. (Source: www.nrb.org.np)

Concept of Commercial Banks

Financial intermediaries play significant role to the development of national economy. They influence savings and surpluses considerably, which results investments. Financial intermediaries collect financial resources and supply them to the productive sectors that boosts the trade and industry and at last development of the country's economy.

Commercial banks are also financial intermediaries they mediate people who save money and who want to secure the use of money by accepting the deposits, borrowing funds and advancing loans. In addition to these primary functions, commercial banks, collect checks and bills, open letter of credit, guarantee on behalf of customers, undertake capital and other many activities, exchange foreign currencies etc.

"A commercial bank is one which exchanges money, deposits money, accept deposits, grants loan and performs commercial banking functions and which is not a bank meant for co-operative agriculture industries or for such specific purpose" (source: *Nepal Commercial Bank, Act, 2031:1*)

Rosenberg (1982) has stated commercial bank as an organization chartered either by the Comptroller of the Currency and known as a national bank or chartered by the state in which it will conduct the business of banking. A commercial bank generally specializes in demand deposits and commercial loans.

Clark (1999) has defined commercial bank as bank that concentrates on cash deposit and transfer services to the general public, often to be found on the High Street. It may be joint-venture bank or a private bank. Commercial Banks are heart of financial system. They hold the deposits from individuals, institutions, government bodies etc. They make fund available through their lending and investing activities to borrowers, individuals, business firms, projects etc. They provide the large portion of the medium

of exchange and they are media through which monetary policy is formulated. These facts show that the commercial banking system of a nation is important for the smooth functioning of the economy. (Source: Reed/Cotler/Will/Smith, 1976:39)

In content of Nepal, commercial banks are operated under BAFIA, 2063. In addition to Commercial Bank Act, Nepal Rastra Bank also lays down other many directives.

Background of Bank of Kathmandu Limited

Bank of Kathmandu limited is one of the finest financial institutions in Nepal which was established in 12 March, 1996 A.D in joint venture with Siam International Bank, Thailand. After the termination of joint venture management on 14th September 1998, it is operating as domestic commercial bank from Nepalese entrepreneurs. Now Bank of Kathmandu Ltd. (BOK) is the Nepal's largest public owned bank with 60% public share. BOK is committed to provide products and services of the highest standards to its customers by understanding their requirements best suiting the market needs. In pursuit to deliver the products and services of the highest standards, BOK has state-of-the-art technology for appropriate and efficient Management Information System (MIS) and rendering quality services, VSAT and Radio Modem for networking, SWIFT for international trade and transfer of funds around the world, correspondent banking relationships with hundreds of banks worldwide for effective and proficient execution of international trade and remittance activities, gamut of corporate and retail banking products and services and centralized banking operations for better risk management, consistent service deliveries and lowering operating cost.

The corporate slogan of the bank is "We Make Your Life Easier". The head office of the BOK is located in Kamaladi behind of the Nepal Pragya Pratishtan. Currently it has altogether 45 branches. BOK is the pioneer commercial bank to establish branches in very rural areas like Mountain Region Jumla, Sankhuwa-Sava, Khotang etc. BOK was awarded with 'The Banker' title by The Bankers Magazine, England in 2011 A.D. (Source: www@bok.com.np)

Background of Himalayan Bank Limited

After the economic liberalization policy of Nepal Government and the financial sector reforms in late eighties, the joint ventures commercial banks came into existence. In the course of establishing foreign joint venture commercial banks, Himalayan bank Ltd. came into existence. It is the fourth venture commercial bank in Nepal. It was established in 1992 A.D., according to the Nepal commercial bank Act 2031. It started its banking transaction from January, 1993 A.D. Habib Bank, Pakistan, which is considered as one of the largest commercial bank of Pakistan, employees provident fund are the major promoters of Himalayan bank Ltd. Besides Nepalese promoters have the maximum shareholding in the Himalayan Bank Ltd., while proportional rating, Nepalese private entities hold 51%, Habib Bank, Pakistan holds 20%, Employees Provident Fund holds 14% and general public hold 15% shares of the bank.

The policy of HBL is to extend quality and personalized service to its customers as promptly as possible. To extend more efficient services to its customers, HBL has been adopting innovative and latest banking technologies like, state-of-the-art technology and modern banking tools. HBL has access to the worldwide correspondent network of Habib Bank Limited for funds transfer, letters of credit and any banking business anywhere in the world. Besides, HBL also has correspondent arrangements with hundreds of internationally renowned banks like American Express Bank, ABN Amro etc. (*source: www@himalayanbank.com.np*)

1.3 Statement of the Problem

Each and every organization needs cash in order to handle daily business activities. They have to maintain liquidity position to run smoothly. As discussed earlier, commercial banks in Nepal are running smoothly from their establishment and they are achieving tremendous success, voluminous profit and reputation in national and international markets. Due to the economic instability and crisis, Nepalese commercial banks are facing lots of problems like liquidity crunch, interest rate volatility, foreign exchange rate instability lack of sector of investment etc. So, to face this kind of instability and risks banks have to do some precaution before they lay

down. If any financial institution lay down, people keep negative sense towards the financial transaction with Nepalese financial institution. To solve this condition NRB the regulatory organization of Nepalese commercial banks implements lots of practice and regulation with Nepalese commercial banks like as ante money laundry system, Basel II guidelines and capital adequacy framework etc. Due to the high competition at present scenario commercial banks are investing in more and more risky areas or non productive area (Real Estate, Housing, Construction) for higher profit and economic survival, so they are facing many risks which is defined as Basel II framework - market risk, operational risk and credit risk. To avoid this risks commercial banks are need to hold certain percent of equity capital against the risky investments.

The main area of the study is to find out the banking compliance of these two commercial banks comparatively as well as whether they are financially healthy and strong against risky investments. That means, the area of the study goes on to answer the following questions.

- Whose financial health is better in terms of minimum capital requirement and investments?
- Whose capital adequacy framework is efficient and meets NRB criteria ?
- Are they implements Basel II guidelines as per NRB regulation?

Therefore, an attempt to evaluate their financial health and capital adequacy is studied with a view to find out whether the banks are economically and financially strong or not and the study tries to find out the comparative strength and weakness against the different risks.

1.4 Objectives of the Study

The general objective of this dissertation is to evaluate and compare the capital adequacy analysis and risks measurements of Nepalese commercial banks. The suitable and decisive advice will be recommended in the basis of findings from the study to the concerned authorities for their further enhancement. The specific goals of this study are mentioned below.

- To analyze the capital adequacy ratio i.e. minimum capital requirement against its risk of selected commercial banks.
- To examine the relation of capital fund to the other stakes of bank (Deposit/Credit)
- To find out whether the selected commercial banks achieving the NRB guidelines of minimum percent of capital adequacy ratio or not.
- To make necessary suggestions and recommendations

1.5 Significance of the Study

Analysis of capital adequacy ratio of any company is very important. Actually, on the basis of the capital adequacy ratio we can say that the concerned company is financially strong or not against risk of bankruptcy. The financial report published by the banks gives the meaningful picture to the general public regarding the financial position of the banks. Thus, the analysis of these statements is necessary in order to give the full and clear-cut position and minimum equity capital requirements of the banks in risk and investment area. This study is mainly compared the minimum equity capital of sampled banks which indicates the position of selected bank under the study, which also encourage to improve the different position and performance of the selected banks. From data presentation and analysis researcher finds different strength and weakness of the selective banks, which is recommended to the banks for their further improvement.

Banking Institutions definitely contribute and play an important role for domestic resource mobilization, economic development and maintains economic confidence of various segments and extends credit to people.

- a) This study has multidimensional significance in particular area of concerned banks, which have been undertaken, that justifies for finding out important points and facts to researcher, shareholders, brokers, traders, financial institution, and public knowledge.
- b) This study helps and justify for finding out the capital adequacy of concerned selected commercial banks and Government of Nepal to make plans and policies.

- c) This study certainly input the policymakers of concerned selected banks for making plans and policies of the effective banking system.
- d) It will provide information to the general public regarding to capital adequacy and riskiness of the selected commercial banks.

1.6 Limitation of the study

This study attempts to evaluate the comparative capital adequacy analysis of this selected commercial bank. The present study is not free from limitation.

The limitations of study are as follows.

- The study is confined only to capital adequacy analysis of selected commercial banks among 32 Nepalese commercial banks.
- The study only covers the last eight years data. So the conclusion drawn upon as per six years data. The study mostly is based on the primary and secondary data published by these banks.
- The conclusion drawn depends upon the reliability of data provided.
- The research was done as per the objectives. Therefore it may not be sufficient to draw conclusions beyond the objectives.

1.7 Structure of the Study

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

Chapter – One: - Introduction

This chapter is the introductory framework that includes background of study, brief profiles of banks under study statement of the problem, objective of the study, significant of the study, limitation of the study.

Chapter – Two: - Review of literature

This chapter reviews the existing literature in the relevant areas, mainly includes the fundamental concept, NRB guidelines for Nepalese commercial banks on capital adequacy statement and brief review of previous research work.

Chapter – Three: -Research Methodology

This chapter deals with research methodology that includes research design, data collection and the method of analysis and research variable.

Chapter – Four: - Presentation and Analysis of Data

This chapter deals with the presentation and analysis of relevant data and information. For this purpose various financial and statistical tools have been used to analyze and interpret the result. Major findings of this research are also presented in this chapter.

Chapter-Five: - Summary, Conclusion and Recommendation

This chapter is the final chapter of the study that includes summary of the study, conclusion and recommendations.

Finally bibliography and appendices are represented at the end of the study.

CHAPTER –II

REVIEW OF LITERATURE

2.1 Conceptual Review

This chapter is mainly based on previous books, journals, bulletins, reports, news, statements, thesis etc. that are indirectly related for literature review, many writers have tried to focus on this subject since many years.

2.1.1 Origin and Development of Banks

The economic activities existed in every civilization of mankind in all over the world. But the modern banking practice was originated from Europe. The first bank called 'Bank of Venice' was established in Venice in 1157. Then 'Bank of Barcelona' was established in 1401 and in 1407 'Bank of Genoa' was established. In 1694, the 'Bank of England' was established as a joint stock bank.

Nepal has a long history of using of money. History unveils that the first coins introduced in Nepal were '*Manank*' during the reign of the King Mandev and '*Gunank*' during the reign of the King Gunakamdev. Afterwards the coins were reintroduced during the reign of Amshuverma. After the unification of Nepal, King Prithivi Narayan Shah started the coin '*Mohar*'. The '*Taksar*' was established in 1789 to issue coins scientifically. In 1876, during Rana Regime, an office named '*Tejarath Adda*' was established in Kathmandu to provide loans against deposit of gold and silver. But the office did not have right to accept deposits.

To begin to the modern banking system, Nepal Bank Limited was established in 1937 A.D. as the first bank of the country. Nepal Bank Limited dominated the financial sector of the country for almost 30 years without any competitor. This bank played a major role to boost up the Nepalese economy during that period. Nepal Rastra Bank was established in 1955 A.D. as central bank of Nepal, which was very essential for Nepalese economy. The second commercial bank, Rastriya Banijya Bank was established in 1965 A.D. under the Rastriya Banijya Bank Act, 2022 with full ownership of the Government of Nepal.

2.1.2 Meaning of Central Bank

Central bank is the national institution that monitors all financial and monetary procedures and policies. Vaidya (1997) has stated that the central bank is the apex bank in a country that controls all monetary system and banking structure.

Rosenberg (1982) has defined the central bank as a banker's bank and a bank holding the main body of bank reserves of a nation and the prime reservoir of credit. (e.g., Bank of England, Bank of France)

Clark (1999) has expressed the central bank as bank that often carries out government economic policy, influences interest and exchange rates and monitors the activities of commercial and merchant banks. In this way it functions as the government's banker and is the lender of the last resort to the banking system.

Encyclopedia Britannica (2002) defines Central Bank as an institution that is charged with regulating the size of a nation's money supply, the availability and cost of credit, and the foreign-exchange value of its currency. Regulation of the availability and cost of credit may be nonselective or may be designed to influence the distribution of credit among competing uses. The principal objectives of a modern central bank in carrying out these functions are to maintain monetary and credit conditions conducive to a high level of employment and production, a reasonably stable level of domestic prices, and an adequate level of international reserves.

Central Bank is an institution, which is charged with the responsibility of managing the expansion and contraction of the volume of money in the interest of the general public welfare. It is also a banker's bank and holding reserves of the country and ultimate reservoir of credit. Hence, central bank is the regulating authority for commercial banks, and other banks and financial institutions.

As a regulatory body of all other banks and financial institutions, a Central Bank is the origin of all banking policies under which all the banks are supposed to operate. Therefore, a Central Bank guides and assists in operating banking system as a whole. A central bank has full authority to interfere in the banking market i.e. to all banks in

terms of implementing its policies. It can penalize the banks in case they go out of the central bank's policy or the termination of the license and also can restrict their working dimensions to a large extent.

A Central Bank is also important in the context to co-ordinate with different international institutions such as International Monetary Fund (IMF) etc. It works under the supervision and guidance of such institution to develop the monetary system of a country.

2.1.3 History of the Basel Committee

The Basel Committee, established by the Central Bank Governors of the Group of Ten countries in 1975 A.D., meets regularly four times a year. It has four main working groups, which also meet on regular basis.

The Committee's members consist of senior representatives of bank supervisory authorities and central banks from Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, The Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. Countries are represented by their central bank and also by the authority with formal responsibility for the prudential supervision of banking business where this is not the central bank.

The Committee does not possess any formal supranational supervisory authority, and its conclusions do not, and were never intended to, have legal force. Rather, it formulates broad supervisory standards and guidelines and recommends statements of best practice in the expectation that individual authorities will take steps to implement them through detailed arrangements - statutory or otherwise - which are best suited to their own national systems. In this way, the Committee encourages convergence towards common approaches and common standards without attempting detailed harmonization of member countries' supervisory techniques.

The Committee reports to the Central Bank Governors and Heads of Supervision of its member countries. It seeks their endorsement for its major initiatives. These decisions cover a very wide range of financial issues. One important objective of the Committee's work has been to close gaps in international supervisory coverage in pursuit of two basic principles: that no foreign banking establishment should escape supervision; and that supervision should be adequate. To achieve this, the Committee has issued a long series of documents since 1975.

In 1988, the Committee decided to introduce a capital measurement system commonly referred to as the Basel Capital Accord. This system provided for the implementation of a credit risk measurement framework with a minimum capital standard of 8% by end-1992. Since 1988, this framework has been progressively introduced not only in member countries but also in virtually all other countries with internationally active banks. In June 1999, the Committee issued a proposal for a revised Capital Adequacy Framework. The proposed capital framework consists of three pillars: minimum capital requirements, which seek to refine the standardized rules set forth in the 1988 Accord; supervisory review of an institution's internal assessment process and capital adequacy; and effective use of disclosure to strengthen market discipline as a complement to supervisory efforts. Following extensive interaction with banks, industry groups and supervisory authorities that are not members of the Committee, the revised framework was issued on 26 June 2004. This text serves as a basis for national rule making and for banks to complete their preparations for the new framework's implementation. (*Source: http://en.wikipedia.org/wiki/Basel_Accords*)

Introduction of BASEL I

Prior to 1988, there was no uniform international regulatory standard for setting bank capital requirements. In 1988, the Basel Committee on Banking Supervision (BCBS) developed the Capital Accord, which is known as Basel I, to align the capital adequacy requirements applicable especially to banks in G-10 countries. Basel I introduced two key concepts. First, it defined what banks could hold as capital, as well as designating capital as Tier 1 or Tier 2 according to its loss absorbing or creditor-protecting characteristics. The second key concept introduced in Basel I was

that banks should hold capital in relation to the risks that they face. The major risks faced by banks relate to the assets held on balance sheet. Thus, Basel I calculated banks' minimum capital requirements as a percentage of assets, which are adjusted in accordance to their riskiness and assigning risk weights to assets. Higher weights are assigned to riskier assets such as corporate loans, and lower weights are assigned to less risky assets, such as exposures to government. (*Source: http://en.wikipedia.org/wiki/Basel_I*)

Introduction of BASEL II

The BCBS released the "International Convergence of Capital Measurements and Capital Standards: Revised Framework", popularly known as Basel II, on June 26, 2004. This framework was updated in November 2005 and a comprehensive version of the framework was issued in June 2006. Basel II builds significantly on Basel I by increasing the sensitivity of capital to key bank risks. In addition, Basel II recognizes that banks can face a multitude of risks, ranging from the traditional risks associated with financial intermediation to the day-to-day risks of operating a business as well as the risks associated with the ups and downs of the local and international economies. As a result, the new framework more explicitly associates capital requirements with the particular categories of major risks that banks face. Almost all banking regulators require that banks hold a certain minimum of equity capital against their risk-weighted assets. The Basel Committee on Bank Supervision, a coordinating body within the Bank for International Settlements, supervises the administration of capital reserves for central bankers around the world.

Basel II addresses three categories of risk. The original risk category (and the central concern of the 1988 Basel Accord) is credit risk. Credit risk dominates traditional banking – it is the risk that borrowers will not be able to repay lending banks and so will place lending banks into a liquidity or solvency crisis. Credit risk has two important dimensions: the probability of default and the magnitude of loss given default. Credit risk is most relevant to those assets held on a bank's 'banking book' (as opposed to its 'trading book' – where market prices anticipate losses accompanying eventual defaults). The second Basel II category addresses market risk.

Increasingly international accounting standards (and consistent national regulation) require banks to mark assets to market prices (as opposed to the historic practice of holding assets at book values). Market risks can be divided into various subcategories, reflecting the various sources of loss-generating events. Examples include interest-rate risk, exchange-rate risk, basis risk and migration risk. The third Basel II category covers risks that do not conveniently fall under the prior categories. These are labeled operation risk. Examples include risk of fraud (by inside rogue traders or outsiders), risk of cataclysmic events (hurricanes, September 11) and, to a large extent, counterparty and systemic risk (including old fashioned bank runs and new fashioned liquidity crises). It is within the category of operation risk that many rare and most unforeseen events are likely to develop. Within each of these three categories, Basel II prescribes regulatory disciplines. Yet Basel II had always limits to its effective protection in mind. This is most clear in its provisions concerning the use of bank-designed and implemented risk systems, where achievement was defined as maintaining sufficient capital to have a defined level of survival within a defined period, based on the range of historical outcomes observed during a recent period. (Source: http://en.wikipedia.org/wiki/Basel_II)

2.1.4 Implementation of BASEL II in Nepal

Before the concept of Basel II was introduced, there was Basel I implemented as Capital Adequacy Guidelines. In Nepal, Basel II was introduced as banking supervision and guidelines from Mid July 2007 (Fiscal Year 2064/065) and this framework is applicable to all "A" Class financial institutions licensed to conduct banking business in Nepal under the Bank and Financial Institution Act, 2063. All commercial banks within the scope of this framework adopted the prescribed approaches within Mid July 2008 (Fiscal Year 2065/066).

New Capital Adequacy Framework requires the banks to maintain minimum capital requirements. As per the framework, Nepalese commercial banks need to maintain at least 6% Tier I capital and 10% Total (Tier I & Tier II) Capital. These minimum capital adequacy requirements are based on the basis of the risk-weighted exposures (RWE) of the banks. The NRB format (Basel I & II) of risk calculation and capital

formation is shown in Appendix B, C, D, E, F, G and H. The capital adequacy ratios of banks are monitored on a monthly basis.

2.1.5 Overview: Capital and Capital Adequacy Ratio

“Capital is a stock of resources that may be employed in the production of goods and services and the price paid for the use of credit or money, respectively.” (Microsoft Encarta Reference Library, 2003)

Capital adequacy ratio is the ratio, which determines the capacity of the bank in terms of meeting the time liabilities, and other risks such as credit risk, market risk, operational risk, etc. In the simplest formulation, a bank's capital is the "cushion" for potential losses, which protects the bank's depositors or other lenders. Banking regulators in most countries define and monitor CAR to protect depositors, thereby maintaining confidence in the banking system.

Rosenberg (1982) has defined capital in relation with banking as a long-term debt plus owners' equity. The efficient functioning of markets requires participants to have confidence in each other's stability and ability to transact business. Capital-rules help foster this confidence because they require each member of the financial community to have, among other things, adequate capital. This capital must be sufficient to protect a financial organization's depositors and counterparties from the risks of the institution's on-balance sheet and off-balance sheet risks. Top of the list are credit and market risks; not surprisingly, banks are required to set aside capital to cover these two main risks. Capital standards should be designed to allow a firm to absorb its losses, and in the worst case, to allow a firm to wind down its business without loss to customers, counterparties and without disrupting the orderly functioning of financial markets.

Minimum capital fund standards are thus a vital tool to reduce systematic risk. They also play a central role in how regulators supervise financial institutions. But capital requirements have so far tended to be simple mechanical rules rather than applications of sophisticated risk-adjusted models. Such capital standard is widely known as capital adequacy.

Patheja (1994) has defined banks capital as common stock plus surplus plus undivided profits plus reserves for contingencies and other capital reserves. In addition since a bank's loan-loss reserves also serves as a buffer for absorbing losses, a broader definition of bank capital include this account.

Clark (1999) has defined capital adequacy as legal requirement that a financial institution (such as a bank) should have enough capital to meet all its obligations and fund the services it offers.

Besis (1998) has claimed that capital adequacy aims at setting minimum level of capital as a function of risks. Thus capital should be risk based.

CAR is similar to leverage; in the most basic formulation, it is comparable to the inverse of debt-to-equity leverage formulations (although CAR uses equity over assets instead of debt-to-equity; since assets are by definition equal to debt plus equity, a transformation is required). Unlike traditional leverage, however, CAR recognizes that assets can have different levels of risk.

Capital adequacy ratio (CAR), also called Capital to Risk (Weighted) Assets Ratio (CRAR), is a ratio of a bank's capital to its risk. National regulators track a bank's CAR to ensure that it can absorb a reasonable amount of loss and are complying with their statutory Capital requirements.

Capital adequacy ratios ("CAR") are a measure of the amount of a bank's core capital expressed as a percentage of its assets weighted credit exposures. The Basel II rules recognize that different types of equity are more important than others.

Computation of capital adequacy ratio (CAR) of banks:

For computation of CAR, we need to calculate:

- Tier I capital
- Tier II capital
- Risk Weighted Exposures (RWE)

Step 1: Compute Tier I capital:

Tier I capital, also known as core capital, is the basic/permanent capital which comprises of equity capital and disclosed reserves. It consists of-

- 1. Paid up equity capital**
- 2. Statutory reserves**
- 3. Capital reserves**
- 4. Other disclosed free reserves**

Less:

- 1. Equity investments in subsidiaries**
- 2. Intangible assets**
- 3. Current and Accumulated Losses, if any**

Step 2: Compute Risk Weighted Exposures

Step 3: Compute Tier II capital

These are not permanent in nature or, are not readily available.

Tier II capital consists of-

- 1. Undisclosed reserves and cumulative perpetual preference shares-** Cumulative preference shares should be fully paid and should not contain clauses which permit redemption from shareholders.
- 2. Revaluation Reserves (RR)-** 50% of RR only is taken in calculation of Tier II capital.
- 3. General Provisions and Loss Reserves (GPLR)-** Actual GPLR or 1.25% of Risk Weighted Assets, whichever is lower, is taken.
- 4. Hybrid Debt Capital Instruments-** These combine characteristics of both equity and debt. As they are more or less similar to equity, they are included in the Tier II capital
- 5. Subordinated Debts-** These must be fully paid up; unsecured, subordinated to the claims of other creditors, also there should be no such clause which permits redemption. The amount of subordinate debts to be taken as Tier II capital depends upon the maturity of debt. Subordinate Debt Instruments will be limited to 50% of Tier I capital.

Remaining term to maturity	Discount Rate(%)	Amount to be taken in %
1.Where the date of maturity is above 5 years	0	100
2.Where the date of maturity is above 4 years but doesn't exceed 5 years	20	80
3.Where the date of maturity is above 3 years but doesn't exceed 4 years	40	60
4.Where the date of maturity is above 2 years but doesn't exceed 3 years	60	40
5.Where the date of maturity is above 1 year but doesn't exceed 2 years	80	20
6.Where the date of maturity does not exceed 1 year	100	0

Capital adequacy ratio is defined as

$$\text{CAR} = \frac{\text{Tier 1 capital} + \text{Tier 2 capital}}{\text{Risk weighted assets}}$$

TIER 1 CAPITAL= A) Equity Capital, B) Disclosed Reserves

TIER 2 CAPITAL= A) Undisclosed Reserves, B) General Loss reserves, C) Subordinate Term Debts.

Where, Risk can either be weighted assets (a) or the respective national regulator's minimum total capital requirement. If using risk weighted exposures,

$$\text{CAR} = \frac{T_1 + T_2}{a} \geq 10\%.$$

The percent threshold varies from bank to bank is set by the national banking regulator of different countries. Before Basel II Framework introduced Nepalese commercial banks need to maintain at least 11% Minimum Capital Fund but as per Basel II framework, Nepalese commercial banks need to maintain at least 6% Tier I

capital and 10% Total (Tier I & Tier II) Capital from FY 2065/66. These minimum capital (Fund) adequacy requirements are based on the basis of the risk weighted exposures (RWE) of the banks. The capital adequacy ratios of banks are monitored on a monthly basis. (Source: http://en.wikipedia.org/wiki/Capital_adequacy_ratio)

2.2 Empirical Review

2.2.1 Review of Articles and Reports

Khatiwada Y.R., (2003, April). *Banking Sectors Reform in Nepal I & II* emphasized various reform measures. One of the measures was increasing capital base and revising capital adequacy. Khatiwada stressed that experience has shown that undercapitalized financial institutions are the ones that are first attacked by the speculators and hedgers at the time of crisis and create contagious effect on the other institutions as well. Besides, undercapitalized financial institutions cannot gain credibility and corporate growth even in normal times. This requires that financial institutions are adequately capitalized and possess resilience against attacks by dealers and customers. In this context, the capital adequacy norms are being revised upward as per the Basel Capital Accord. But increasing the capital base for loss making government owned financial institutions is not easy without involving private sector in the equity capital.

Keijser & Haas (2001). *Banking theory and practice* has summarized as the Basel Capital Accord of 1988 was an important first milestone in the regulatory treatment of collateralized transactions. However, the role played by risk mitigating factors in this Accord, such as the use of financial collateral, is still rather limited. The same holds for the European directives and national regulations derived from the Basel Accord. The regulatory treatment of collateral has recently entered a new phase, in the form of the proposed revision of the Basel Accord. The use of a wider range of collateral will be allowed in the new Accord and banks will be able to choose either the comprehensive or the simple approach for the treatment of collateral. Whereas the simple approach resembles the current Basel substitution methodology in its treatment of collateral, the comprehensive approach is more innovative. It assigns a central role to collateral haircuts, which may be based on banks' own internal estimates of

collateral volatility. By making a wider range of collateral available for credit risk mitigation and making the calculation of risk-weighted assets more risk-sensitive, the revision of the Basel Accord is intended further to align regulatory capital which banks must hold and their actual economic risk structure.

(Lamsal.M. (2007, July). *NRB Directives: Bankers Plea for Lighter Strictures, The Business Age* stated that the commercial banks with seven directives issued in two installments asking banks to start complying with the new strictures by mid-July 2007 or face grave consequences. NRB claims that these are based on the internationally accepted banking norms of Basel committee. Lamsal has opined that banks are expected to be disparate to meet the targets of capital adequacy norms since the consequences the banks have to face in case of non-compliance are very strict. And for this purpose they will have to issue additional shares, which is not possible for them in the short-run. Or they do not prefer to go for additional share issue simply because they will also have to pay the same dividend as the past to the holders of shares so issued. This becomes the more difficult as the business is not going to expand commensurately. The difficulty is understandable now when every banker is complaining of the lack of new investment projects.

Pandey L.P. (2003). *Capital Adequacy ratio of Commercial Banks and its impact to depositors*, stressed that one of the main objectives of a commercial bank is to safeguard the money of depositors. With the low capital adequacy rate, the banks were previously lending from the money of the depositors because the capital comprised a very small portion of the total risk-weighted assets. However, the returns the shareholders or promoters were reaping were quite high. The risk of the depositors was too high. Pandey further put forward that a good banking system is, therefore, a sine qua non for maintaining financial equilibrium in the country. And, NRB's efforts in this direction are really praiseworthy.

Stokes (2003). *Relationship of Capital and Liquidity of Banking Sector* has mentioned that banks hold capital in excess of reserve requirements to provide a buffer against future, unexpected losses. Such losses are brought about by the credit, market, and operational risks inherent in the business of lending money. Problems created by an

insolvent bank are important enough that bank regulators enforce minimum capital standards on banks in an effort to safeguard depositors and ensure the ongoing viability of the financial system. However, from a bank's perspective holding idle capital is an expensive safeguard against risk because the bank's shareholders demand a return on their investment and idle capital provides no such return. For this reason bankers and regulators can have divergent opinions about the amount of capital a banks should hold making the problem of determining a bank's risk-based capital a complex and important question.

Shah, P.B. (2005). *Fund Management Tool of Banking Sector* concluded that being the central bank of the nation, Nepal Rastra Bank has to be active by playing important role for monetary and financial stability. Central bank should always be eager to achieve the public faith towards bank and financial institutions enabling them being disciplined, well organized, healthy and competent by providing effective regulation and supervision to appropriate utilization and mobilization of financial resources by increasing financial saving rate by raising financial stability. Also, central bank should always be willing to safeguard the interest of depositors and investors to accomplish the financial stability. Constant financial stability leads to the accomplishment of monetary stability. As the tools for monetary policy are applied through financial sector, the efficiency of monetary policy depends on effectiveness of financial sector. Balanced growth of financial sector helps monetizing of economy. Various drawbacks; like, managerial ineffectiveness, organizational difficulty, contrary financial situation; make the long-term stability of financial sector suspicious. Failure of any one financial institution leads the destructive impact to whole financial sector and such impact will be spread to other countries from the countries where capital accounts are fully convertible. So, the concept of financial system of the country should be boosting and healthy for achieving higher economic growth by steady macro economic stability has been globally supported. The financial sector reform program in Nepal can also be taken in the same background. Since, it is not possible to achieve financial stability without the commanding role of regulation and supervision, new program of financial sector reform program should play role regarding structural reformation / transformation and organizational

structure in existing banks and financial institutions by clarifying the role of government and central bank.

Khatiwada, N.K. (2005). *Banking Sectors Reform in Nepal* enlightened that recent financial crisis have revealed a number of data deficiencies, notably in pledged assets, deposits held in financially weak domestic banks and their foreign affiliates, valuation practices leading to bank valuation of assets being significantly different from market values and complicating assessments of the realizable value of reserve assets. Similarly, public information is lacking in many countries on the off-balance-sheet activities of the authorities that can affect foreign currency resources. There was a lack of information on the authorities' financial derivatives activities. Also was observed that inadequate information of actual and potential foreign liabilities of the monetary authorities and central government. Financial sector reform envisages for measures for mitigating this information and data gap problem as well.

Jeffery Atik (2009). *Basel II Framework* has concluded that the Basel II Framework was never understood to be unbreakable. Rather, it was meant to address certain probabilities of certain magnitudes. To observe the failure of Basel II during the current crisis does not imply that Basel II was inadequate to address the risks it anticipated. Another reconstruction of an international harmonized system for bank regulation featuring capital adequacy controls as a central tool will similarly have to define set limits. That said there is some value to be derived from observing rare events. We may end up over-engineering, fighting last wars, as inappropriate amounts of capital are drawn to cover losses that now seem all-too-likely.

2.2.2 Review of Thesis Works

Pandey S., (2002). *Nepal Rastra Bank Directives, their Implementation 7 Impact on the Commercial Banks – A Case Study of Himalayan Bank Ltd.* has given conclusion regarding the capital adequacy of HBL during his study period, i.e., as of Poush end 2058 as the capital fund of HBL stands at Rs. 1,070 million comprising of Rs. 756 million core capital and Rs. 314 million of supplementary capital. The total risk weighted assets of HBL is equal to Rs. 12,690.6 million. Therefore, the capital adequacy of the bank stands at 8.43% of total risk weighted assets. Core capital is

5.96% and the supplementary capital is 2.47% of total risk weighted assets. Hence, Pandey has concluded that HBL has surplus of Rs. 184.92 million of core capital and a shortfall of Rs. 257.08 million of supplementary capital. The standard required to be maintained by HBL as per NRB by July 16, 2002 is 4.5% in each case totaling at 9% in all. However, according to the directives, a shortfall in the supplementary capital can be fulfilled by the surplus in core capital. Therefore, in case of HBL, the bank can use the excess of Rs. 184.92 million core capital to compensate for the shortfall. But still the bank requires another Rs. 72.6 million to meet the requirement of supplementary capital. Pandey has suggested that HBL should increase the capital base from Rs. 1,070 million by at least Rs. 115 million to meet the capital adequacy ratio. For this, the bank should try to increase its supplementary capital as it falls short by Rs. 73 million. The bank should increase its core capital in order to expose itself to more credit risk.

Sapkota, U.P. (2004). *Fund Mobilization and Deposit Trend – Comparative Study of SCBNL and HBL*, in his study on fund mobilizing policy of Standard Chartered Bank Nepal Ltd. (SCBNL), has found that liquidity position of SCBNL was not satisfactory. Loans and advances, cash and bank balance ratio seemed too weak than that of NBBL and HBL. Investment on share and debenture and interest earning power on total working fund also seemed weak in condition than that of NBBL and HBL. The relation of investment and loans and advances with deposits seemed positive and the relation of net profit with outside assets (investment and loans and advances) seemed positive. At last, Sapkota concluded that in overall condition SCBNL seemed in satisfactory position in comparison to NBBL and HBL. Since SCBNL used to provide less loans and advances in comparison to its total deposits, Sapkota has strongly recommended for following a liberal lending policy so that more percentage of deposits can be invested in different profitable sectors as well as towards loans and advances as a significant factor this affects the net profit of the bank. Subsequently, a skilful administration is the must for these assets because negligence may become a reason for liquidity crisis and bankruptcy.

Shrestha, Sabitri (2004). *Impact and Implementation of NRB's Guidelines on Commercial Banks A Case Study of NABIL Bank Ltd. and Nepal SBI Bank Ltd.*, in his study has stated that in a situation when the existing financial institutions, especially government owned commercial banks were unable to supply credit timely and carry capital market activities, private joint venture commercial banks have contributed a lot. The overall performances of joint venture commercial banks are satisfactory and NRB has to play more active role to enhance the operation. The analysis of liquidity position of sample joint venture commercial banks (Nabil Bank Ltd., Standard Chartered Bank Ltd. and Nepal SBI Bank Ltd.) has satisfactory outcomes. Initially, the major part of these banks was consisting of business and industrial loan: this is the indication of investment on productive sector. Nowadays, these banks are slowly turning towards hire purchase and housing financing.

Strengthening and institutionalization of the commercial banks is very important to have a meaningful relationship between commercial banks and national development through shift of credit to productive industrial sectors. At the same time, the series of reforms such as consolidation of commercial banks, directing attention to venture capital financing, appropriate risk return trade off by linking credit to timely repayment schedules, avoiding imperfections, allowing flexibility in lending, one window service from NRB, need of a strong supervision and monitoring from NRB, diversity scope of activities for commercial banks, professional culture within commercial banks, etc. All these are necessary to ensure better future performance of commercial banks that have already been established and growing in Nepal.

Agrawal, S.K. (2004). *Fund Mobilization of Financial Sector in Nepal – A Case study of Yeti Finance Company Ltd.*, in his study on deposit and investment position of Yeti Finance Company Ltd., has concluded that the major objective of the financial institution is to transfer capital between saver and those who need it. Such institutions are established with the aim of further intensifying the participation of assisting industries and private sector in regular supply of funds. Financial institutions serve as a financial intermediaries, transfer money and securities between firm and saver that create a new financial product. Agrawal further commented that the major classes of financial intermediaries are commercial banks, mutual saving bonds, credit unions

and pension funds, life insurance companies and finance companies. Within a short span of time, they are showing encouraging trend in the financial sector, both in collecting and investing funds. They are able to tap even smaller amount of saving from public and investing in different production sectors.

Karmacharya, R.P. (2005). *Capital Requirement of Financial Institutions in Nepal*, and has expressed that the financial soundness as well as its strength of the company depends upon the large extent on the composition of the capital structure and assets. Capital structure of the company presents its resource capacity and ability of its present worthiness. In the study, he has found that all the banks in his study follow the requirements of NRB Directives regarding capital adequacy. The capital structure of studied banks is highly leveraged. Thus, Karmacharya has recommended that the proportion of debt and equity capital should be decided keeping in mind that effort of tax advantages and financial distress. The banks are required to maintain improved capital structure by increasing equity base i.e., issuing more equity capital, expanding general reserve and retaining more earnings. With this improvement, it will compromise among the conflicting factors of cost and risk. As mandated by NRB, for the operation in overall Nepal, a commercial bank should have capital base of Rs. 500 million. Hence, the banks should raise its paid-up capital to Rs. 500 million as soon as possible.

Ranjit R. (2006). *Impact of Capital in Deposits and Loans – Comparative Study of NB Bank Ltd. and NIC Bank Ltd.* has indicated that capital funds have positive and significant relation with both deposits and loans. That means increase or decrease in capital fund increases or decreases deposits as well as loans. However the degrees of relationship were different. But relation of capital with profit was positive and insignificant. That indicated less of increase or decrease in profit is due to capital fund or capital fund is least responsible in changing profit. Bank should increase capital fund to increase the capital fund ratio according to increase in deposits.

2.3 Research Gap

Banks and financial institutions are the mediators of economic activities of overall economy. Banking sector of Nepal has just relieved from intensive liquidity crisis. To control the liquidity crisis in BFIs, NRB has regulated all the BFIs through directive and compel to maintain Capital Adequacy Ratio. Most of the researchers in this sector in Nepal are analyzing about Basel guidelines only. But there is no comparative analysis of Capital Adequacy Ratio of two financial institutions that they reveal the clear picture of Nepalese economy whether they are maintaining Capital Adequacy Ratio properly or not. The main concern of this study is to assess Capital Adequacy Ratio of BFIs in different financial years. Many financial institutions are not maintaining CAR as per NRB directives due to which many of them are still facing liquidity crisis. Maintenance of capital adequacy ratio properly secures the fund of depositors. Most of the Nepalese commercial banks have invested their funds by breaching the NRB guidelines and not maintained the ratio in current scenario which has created liquidity problem into them. So this study has also included the deposit credit C/D ratio of HBL and BOK.

CHAPTER III

RESEARCH METHODOLOGY

Research Methodology can be understood as a science of studying how research has been done i.e. what kinds of tools to be used while preparing it. This chapter looks into the Research Design, Nature and Sources of Data, Data Collection Procedure and Tools and Technique of Analysis. For the purpose of achieving the objectives of the study, the applied methodologies are used. The research methodology used in the present study is briefly mentioned below.

3.1 Research Design

This study research attempts to analyze the capital funds of commercial banks taking the data and information of BOK and HBL. The research design is basically focused on analytical study. Capital Adequacy Ratio analysis, correlation analysis has been done for analyzing the research. The research examines the relationship of bank capital to various other stakes, like deposits, credits, etc.

3.2 Population and Sample

There are total 32 commercial banks presently operating in Nepal. Collecting the data of these entire commercial banks is not possible. Hence, Bank of Kathmandu Ltd (BOK) and Himalayan Bank Ltd (HBL) have been selected for the case study. Thus, the population of the study comprises of all these commercial banks and the samples are BOK and HBL.

3.3 Data collection procedure

The data and information are collected mostly from secondary sources. For the collection of secondary data and information, directives of Nepal Rastra Bank, annual reports of BOK, annual reports of HBL, various publications of Nepal Rastra Bank, magazines, the other publications and the Internet have been used. Also, for other related information, various books and periodicals have been referred from library and some that the researcher self has.

3.4 Data Analysis Tools

Before analyzing the data, the data and information have been presented systematically in the formats of Tables, Graphs and Charts, which will explain a lot about the data and information collected.

For the analysis of the research study, the following financials tools and statistical tools are used.

3.4.1 Financial Tools

Ratio Analysis

Ratio Analysis is the best tool for financial analysis, which is the expression of relationships between two items or group of items and therefore may be calculated in any number and ways so far meaningful co-relationship is obtainable.

In general, the Ratio Analysis is used as a benchmark for evaluating the financial position and performance of a firm.

The following ratios related to the banks are used to analyze the data:

(a) Capital Adequacy Ratio:

Capital adequacy ratio is the foremost tool to analyze the capital fund of a bank. Actually, the fundamental objective of this research study is to examine capital adequacy of HBL and BOK.

The Capital Adequacy Ratio is based on Total Risk-Weighted Exposure (TRWE) of the bank. Capital adequacy ratios are a measure of the amount of a bank's capital expressed as a percentage of its risk weighted credit exposures. This ratio is used to examine adequacy of total capital fund and core capital, which is yielded by the following formulas:

To measure the adequacy of total capital fund:

$$\frac{\text{Total Capital Fund}}{\text{TRWE}} \times 100\%$$

To measure the adequacy of core capital:

$$\frac{\text{Core Capital}}{\text{TRWE}} \times 100\%$$

(b) Capital to Deposit Ratio:

The capital to deposit ratio is an important tool in measuring capital adequacy ratios of banks. But, this ratio cannot reflect the capital adequacy of a bank. Patheja (1994) has stressed that the capital to deposit ratio has enjoyed the longest use of any ratio devised to measure and determine capital adequacy.

The capital to deposit ratio is derived by the following formula:

$$\frac{\text{Total capital fund}}{\text{Total deposit collected}} \times 100\%$$

(c) Credit / Deposit Ratio:

The credit / deposit ratio (CD ratio) is a major tool to examine the liquidity of a bank. CD ratio measures the ratio of fund that a bank has utilized in credit out of the deposit total collected. More the CD ratio more the effectiveness of the bank to utilize the fund it collected.

The CD ratio is derived by the following formula:

$$\frac{\text{Total Credit}}{\text{Total deposit collected}} \times 100\%$$

3.4.2 Statistical Tools

The following statistical tools are used to analyze the data:

(a) Karl Pearson Correlation Analysis:

The relation between two variables is correlated by Karl Pearson's correlation coefficient. The following is the formula proposed by Karl Pearson for calculation of correlation coefficient.

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2]} \sqrt{[N\sum Y^2 - (\sum Y)^2]}}$$

Where,

N = Numbers of pairs in observation

X = Product of the first variable

Y = Product of the second variable

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

This chapter deals with the presentation, analysis and interpretation of relevant data and information of BOK and HBL. To obtain best result, the data and information have been analyzed according to the research methodology as mentioned in Chapter III.

The main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating and performing statistical analysis.

This chapter is partitioned into the sections of:

- (1) Presentation of Data
- (2) Ratio Analysis
- (3) Statistical Analysis
- (4) Comparative Analysis of Significance of the Ratios of BOK and HBL

4.1 Presentation of Data

The collected data and information are presented various tables, charts and graphs are used to best present the data. The data and information has been presented in most understandable format.

4.1.1 Capital Fund of HBL and BOK

Capital Fund consists of two types of components viz. Core Capital and Supplementary Capital. Hence, the Total Capital Fund of bank is derived by adding these two components of capital, and subtracting some components from Core Capital as above mention. The Capital Fund of BOK and HBL have been illustrated here in after.

The capital funds of BOK and HBL Banks have been tabulated in Table 4.1 which show the capital fund of the bank over the period of six fiscal years, i.e., from FY 2061/62 to FY 2068/69.

Table 4.1
Capital Fund of HBL

(Amount in Millions)

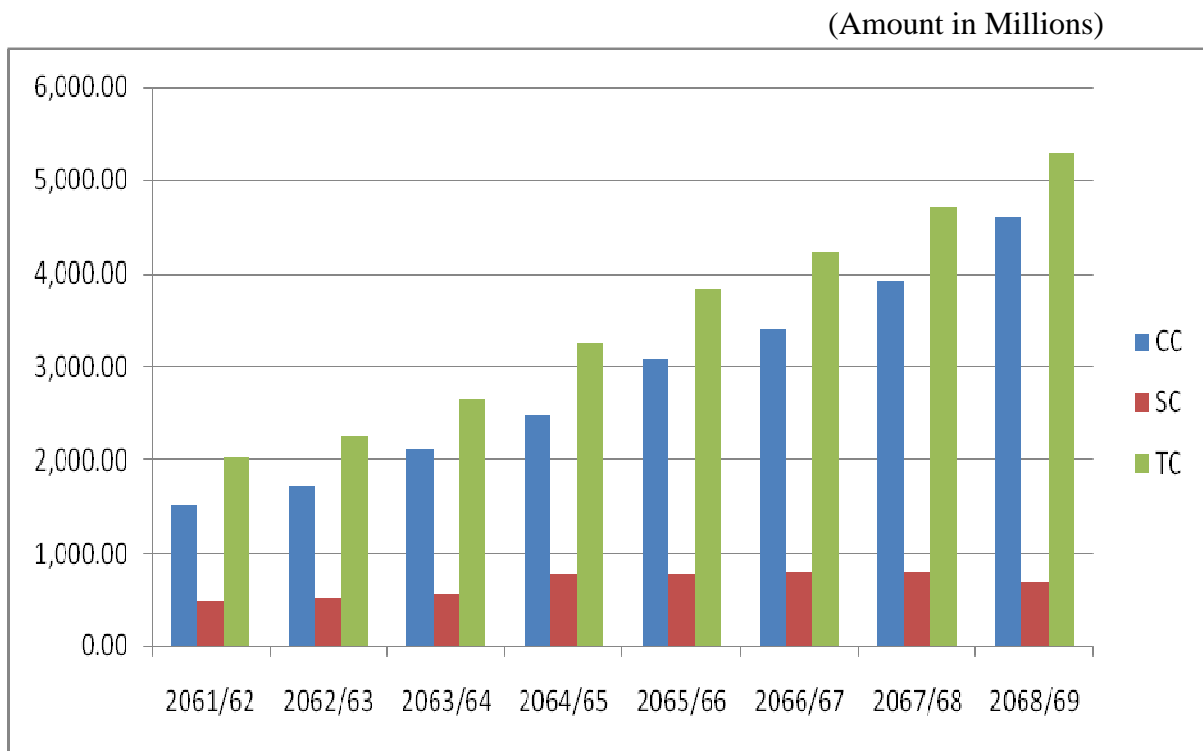
Fiscal Year	Core Capital (CC)	Supplementary Capital (SC)	Total Capital (TC)
2061/62	1,525.77	491.29	2,017.06
2062/63	1,721.94	520.9	2,242.84
2063/64	2,104.60	546.77	2,651.37
2064/65	2,469.79	783.73	3,253.52
2065/66	3,074.44	770.77	3,845.21
2066/67	3,414.64	803.72	4,218.36
2067/68	3,916.97	794.27	4,711.24
2068/69	4,600.15	683.75	5,283.90

(Source: Annual Reports of HBL)

The above table 4.1 depicts that, in the last eight years period, the Capital Fund of HBL has seen steady growth. The Core Capital of the bank has seen consistent growth, whereas dramatic increment in Core Capital and Supplementary Capital Decrement in the FY 2065/66. The Capital Fund of HBL consisted of Core Capital of Rs. 1,525.77 million and Supplementary Capital of Rs.491.29 million totaling Rs 2,017.06 million at the end of the FY 2061/62. The Capital Fund has increased to Rs. 5,283.90 million consisting of Core Capital of Rs. 4,600.15 million and Supplementary Capital of Rs. 683.75 million by the end of the FY 2068/69.

The same information is depicted in the chart below.

Figure 4.1
Trend of Capital Fund of HBL



The Figure 4.1 shows the growing trend of Capital Fund of the bank during the eight fiscal years. The trend shows that Core Capital is in increasing trend but Supplementary Capital is fluctuating. The Supplementary Capital has is continuously decreasing after FY 2066/67.

The increment in the Capital Fund shows that HBL has been trying to increase its capital base to comply with the requirements of NRB as prescribed in Capital Adequacy Norms for commercial banks. Increment of capital base helps to increase in capital adequacy ratio and easy to manage the ratio.

Table 4.2
Capital Fund of BOK

(Amount in Millions)

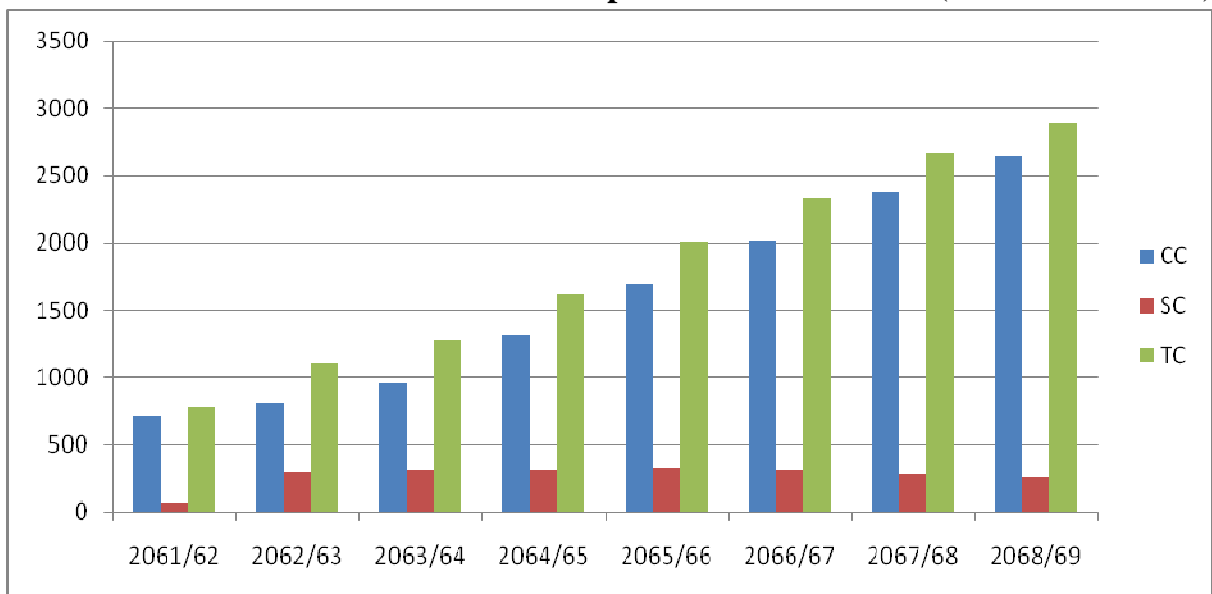
Fiscal Year	Core Capital	Supplementary Capital	Total Capital Fund
2061/62	708.46	68.99	777.45
2062/63	811.92	288.88	1,100.80
2063/64	953.26	312.56	1,265.82
2064/65	1310.85	312.18	1,623.03
2065/66	1,683.59	322.10	2,005.69
2066/67	2,021.09	308.98	2,330.07
2067/68	2,377.73	284.34	2,662.07
2068/69	2,639.37	250.26	2,889.63

(Source: Annual Reports of BOK)

Table no. 4.2 shows that in the last eight years period, the Capital Fund of BOK has seen continuously growing. The Capital Fund of BOK consisted of Core Capital of Rs. 708.46 million and Supplementary Capital of Rs. 68.99 million totaling Rs. 777.45 million at the end of the FY 2061/62. The Capital Fund has increased to Rs. 2,889.63 million consisting of Core Capital of Rs. 2,639.37 million and Supplementary Capital of Rs. 250.26 million by the end of the FY 2068/69.

The same information can be depicted in the chart below.

Figure 4.2
Trend of Capital Fund of BOK (Amount in Millions)



The Figure 4.2 shows the growing trend of Capital Fund of the bank during the six fiscal years. The trend shows that Core Capital is in increasing trend but Supplementary Capital is fluctuating. The Supplementary Capital is falling down dramatically since FY 2065/66 from 322.10 million to 250.26 million in FY 2068/69.

The increment in the Capital Fund shows that BOK has been trying to increase its capital base to comply with the requirements of NRB as prescribed in Capital Adequacy Norms for commercial banks.

4.1.2 Risk-Weighted Exposure of HBL and BOK

The Risk-Weighted Exposure is derived by calculating the amount from the respective balance sheet, off-balance sheet items and others risk factors with the prescribed weighted.

Risk-Weighted Exposure of HBL

The Risk-Weighted Exposure of HBL has been illustrated in Table 4.3. The table shows Risk-Weighted Exposure of the bank over the period of last eight years from FY 2061/62 to FY 2068/69.

Table 4.3
Total Risk-Weighted Exposure of HBL
(Amount in Millions)

Fiscal Year	Total Risk Weighted Exposure (TRWE)
2061/62	18,321.72
2062/63	19,918.33
2063/64	21,889.71
2064/65	28,152.90
2065/66	34,905.89
2066/67	39,357.06
2067/68	44,124.52
2068/69	47,934.90

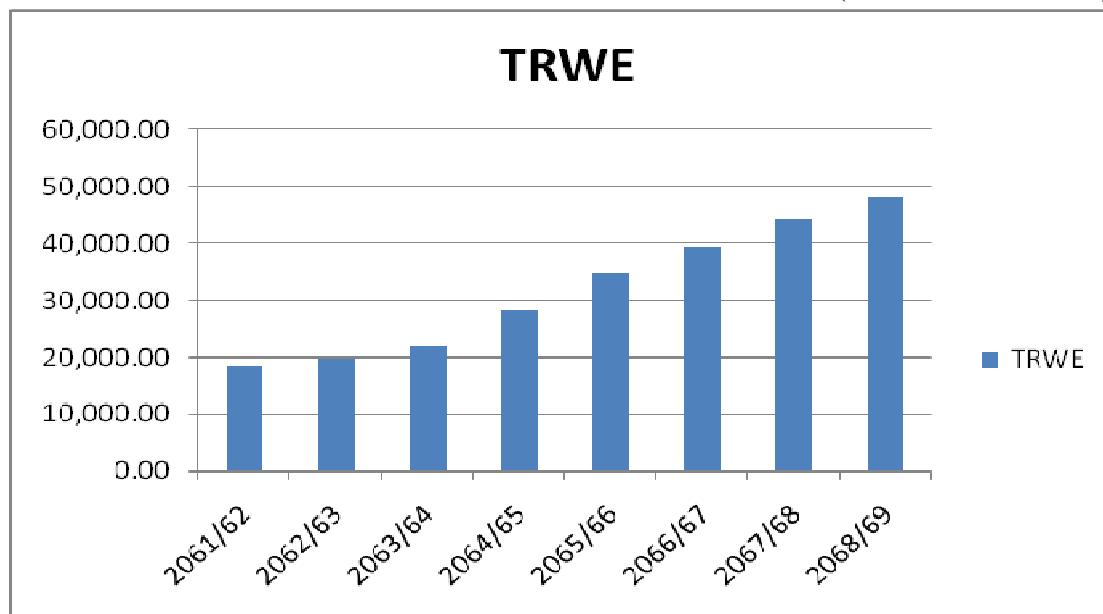
(Source: Annual Reports of HBL)

The above table shows that TRWE of the bank has been increasing gradually in the last eight years period. The TRWE of the bank was Rs. 18,321.72 million during FY 2061/62. By FY 2068/69, the TRWE increased to Rs. 47,934.90 million.

The same information can be depicted in the chart below:

Figure 4.3
Trend of TRWE of HBL

(Amount in Millions)



The Figure 4.3 shows the increasing trend of TRWE in the eight years period from FY 2061/62 to FY 2068/69. The growing rate of TRWE was so high during FY 2064/65 to FY 2067/68.

Risk-Weighted Exposure of BOK

The Risk-Weighted Exposure of BOK has been shown in Table 4.4. The table shows Risk-Weighted Exposure of the bank over the period of last eight years from FY 2061/62 to FY 2068/69.

Table 4.4
Total Risk-Weighted Exposure of BOK
 (Amount in Millions)

Fiscal Year	Total Risk Weighted Exposure (TRWE)
2061/62	6,926.85
2062/63	7,583.65
2063/64	10,226.19
2064/65	15,290.66
2065/66	17,167.52
2066/67	21,471.66
2067/68	22,918.30
2068/69	26,095.91

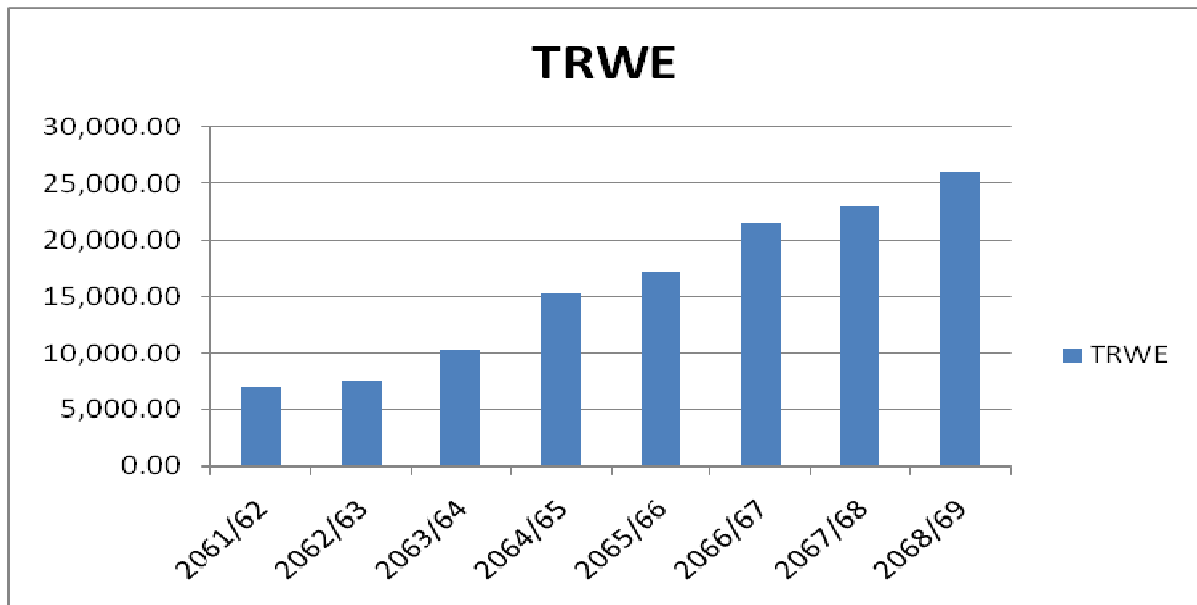
(Source: Annual Reports of BOK)

From the Table no. 4.4, it is clear that the TRWE of the bank has been increasing gradually in the last eight years period. The TRWE of the bank was Rs. 6,926.85 million during FY 2061/62. Gradually it increased every year and reached to Rs. 26,095.91 million in the FY 2068/69.

The same information can be depicted in the chart below:

Figure 4.4
Trend of TRWE of BOK

(Amount in Millions)



The Figure 4.4 shows the continuous increasing trend of TRWE of BOK in the last eight years period from FY 2061/62 to FY 2068/69. There was highest growth rate of about 50 % in FY 2064/65 and TRWE is increasing in decreasing growth rate thereafter.

4.1.3 Deposit Trend of HBL and BOK

Deposit from general public by lunching different kinds of product is the main function of any Commercial Banks. Verma & Malhotra has mentioned that a commercial bank has usually access to three sources of fund: capital fund, deposits and borrowings. Deposit is the raw materials for banking sectors.

Deposit Trend of HBL

It is clear that as other banks, HBL also could not remain in the business without collecting deposits. The bank has its own policies to lure deposits from general public. In this matter, the deposit collection trends of HBL for last eight fiscal years can be viewed in the Table 4.5, which also includes the national total deposit of commercial banks and the share of HBL on it.

Table 4.5
Deposit Collection Trend of HBL and National Total
(Amount in Millions)

Fiscal Year	Deposit of HBL	National Total	Share of HBL
2061/62	24,814.01	252,409.80	9.83 %
2062/63	26,490.85	291,245.50	9.10 %
2063/64	30,048.42	337,497.20	8.90 %
2064/65	31,842.79	426,080.30	7.47 %
2065/66	34,682.31	563,604.40	6.15 %
2066/67	37,611.20	630,880.84	5.96%
2067/68	40,920.63	687,587.89	5.95%
2068/69	47,730.99	867,978.25	5.50%

(Source: Annual Reports of HBL and Banking & Financial Statistics 2012)

The above table shows that HBL has been gradually increasing the deposit collection from FY 2061/62 to FY 2068/69. It can also be seen that HBL has a average share in

the total national deposit collections but the share of HBL is slightly decreasing year by year due to increase in competitors.

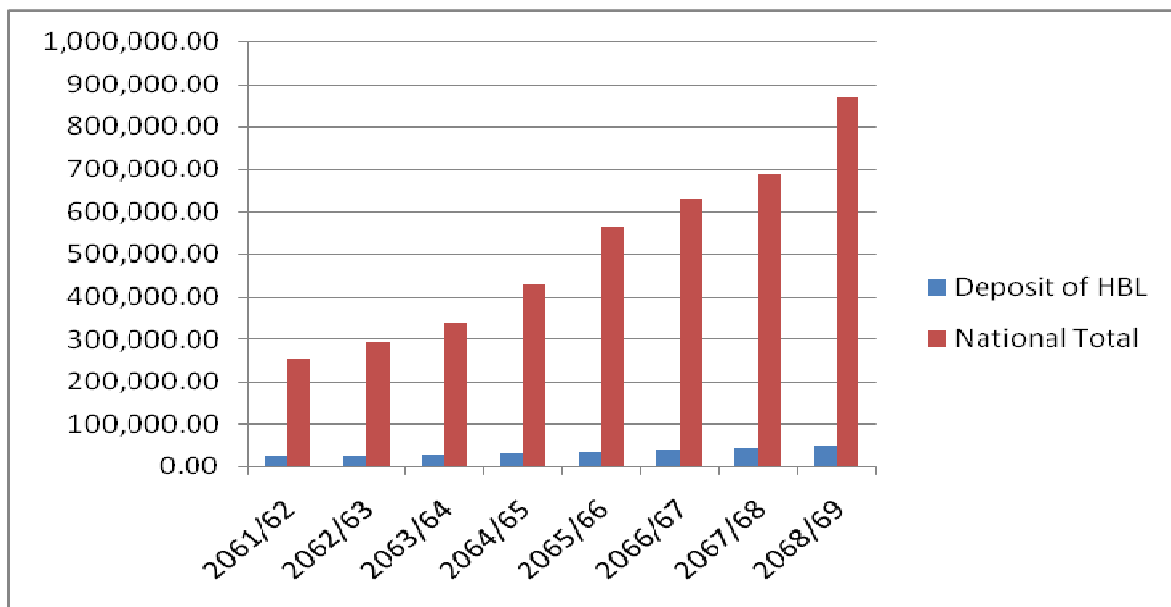
In the FY 2061/62, the bank was able to collect Rs. 24,814.01 million of deposit against the national total deposit of commercial banks of Rs. 252,409.80 million thus contributing 9.83%. The collection of HBL has shown steady increment. The growth rate of deposit of HBL is increasing at slightly decreasing rate. The bank is able to collect Rs. 47,730.99 million of deposit by the end of FY 2068/69 against national total of Rs. 563,604.40 million making contribution of 5.50%. The deposit figure of HBL has almost doubled during last eight years period.

The deposit collection made by HBL and the national total deposit collection of commercial banks has been illustrated in the figure below.

Figure 4.5

Trend of Deposit Collection of HBL against Total National Collection

(Amount in Millions)



The above figure 4.5 shows average contribution of HBL regarding national total deposit collection but the signs are not good as the contribution rate is decreasing year by year.

Deposit Trend of BOK

The deposit collection trends of BOK for last eight fiscal years can be seen in Table 4.6 which also includes the national total deposit of commercial banks and the share of BOK on it.

Table 4.6
Deposit Collection Trend of BOK and National Total

(Amount in Millions)

Fiscal Year	Deposit of BOK	National Total	Share of BOK
2061/62	8,942.75	252,409.80	3.54%
2062/63	10,485.36	291,245.50	3.60%
2063/64	12,388.93	337,497.20	3.67%
2064/65	15,833.74	426,080.30	3.72%
2065/66	18,083.98	563,604.40	3.21%
2066/67	20,315.83	630,880.84	3.22%
2067/68	21,018.42	687,587.89	3.06%
2068/69	24,991.45	867,978.25	2.88%

(Source: Annual Reports of BOK and Banking & Financial Statistics 2012)

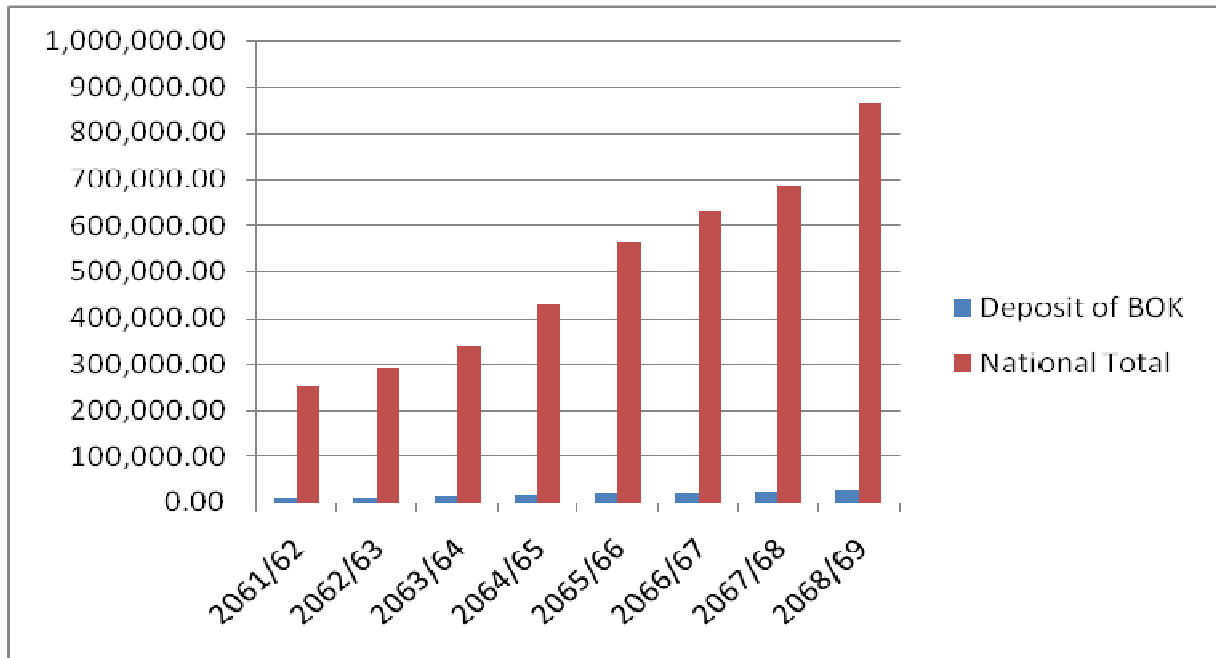
The above table 4.6 shows that BOK contributes a relatively small share in the national total deposit of commercial banks. The growth rate of deposit collection of BOK has been progressively increasing till FY 2064/65. However, the growth rate is on a decreasing trend thereafter.

In the FY 2061/62, the bank was able to collect Rs. 8,942.75 million of deposit against the national total of Rs. 252,409.80 million, contributing 3.54%. The collections increased continuously and reached Rs. 15,833.74 million during FY 2064/65. The bank has collected Rs. 24,991.45 million of deposit by the end of FY 2068/69, which is almost three times the figure eight years back, against a national total of Rs. 867,978.25, thus making a contribution of 2.88%.

The deposit collection made by BOK and the national total deposit of commercial banks has been illustrated in the figure below.

Figure 4.6
Trend of Deposit Collection of BOK against Total National Collection

(Amount in Millions)



The figure shows very small contribution of BOK concerning national total deposit collection of commercial banks. But the signs are good as the involvement rate is growing every year despite entrance of new commercial banks during last eight years period. Though the percentage contribution of bank has decreased in recent years due to intense competition, it is able to maintain satisfactory volume of deposit in the industry.

4.1.4 Credit Trend of HBL and BOK

The main source of income of a bank is interest income from extending credit facility to its clients. Most of the funds available in the bank either in the form of capital or deposit is utilized for providing credit facility. The commercial banks are inspired with the motive of gaining profit and to fulfill this objective, they should widely manage and improve credit sector. Much attention should be paid to the extension of the quality of the credit facility along with the quantity of the facility for progressive operation of any bank.

Credit Trend of HBL

Being a commercial bank, one of the prime functions of the HBL is to provide credit facility. Credit is the main source of revenue for any commercial bank. The lending trend of HBL for the last eight fiscal years has been illustrated in the Table 4.7 including national total lending of commercial banks and its share on it.

Table 4.7
Credit Trend of HBL and National Total

(Amount in Millions)

Fiscal Year	Credit of HBL Bank	National Total Credit	Share of HBL
2061/62	12,424.52	163,718.80	7.59 %
2062/63	14,642.56	176,820.30	8.28 %
2063/64	16,998.00	231,829.50	7.33 %
2064/65	19,497.52	302,913.40	6.44 %
2065/66	24,793.16	398,143.00	6.23 %
2066/67	27,980.63	469,279.84	5.96%
2067/68	31,566.98	528,023.14	5.98%
2068/69	34,965.43	622,575.49	5.62%

(Source: Annual Reports of HBL and Banking & Financial Statistics 2012)

The Table 4.7 shows gradual increment in the flow of credit by HBL during past eight years but the percentage of contribution to the national total credit is decreasing rate from FY 2062/63 regularly. The bank was able to flow Rs. 12,424.52 million of loans during the year 2061/62 against the national total of Rs. 163,718.8 million with contribution of 7.59%. This contribution was slightly increased to 8.28 % in FY 2062/63. However, the growth rate began to go down thereafter although individual total credit flow had seen increment. With gradual increment over the period of seventh year, the total lending of the bank has reached Rs.31,566.98 million against the national total of Rs. 528,023.14 million thus, making contribution of 5.98% and at eighth year of above table lending of HBL is 34,965.43 million and national total is 622,575.49 which is 5.62% of national

total. Credit trend of HBL was in decreasing order because most of the financial institutions are facing liquidity crunch. In other hand there is high competition in financial sector and many of the banks and financial institutions was established at this period. Liquidity crunch is caused by anti money laundry rule, lack of spending of government budget in time and low economic growth of Nepalese etc.

The credit flow of HBL along with national total credit flow has been illustrated in the figure below.

Figure 4.7
Credit Trend of HBL against Total National Credit

(Amount in Millions)

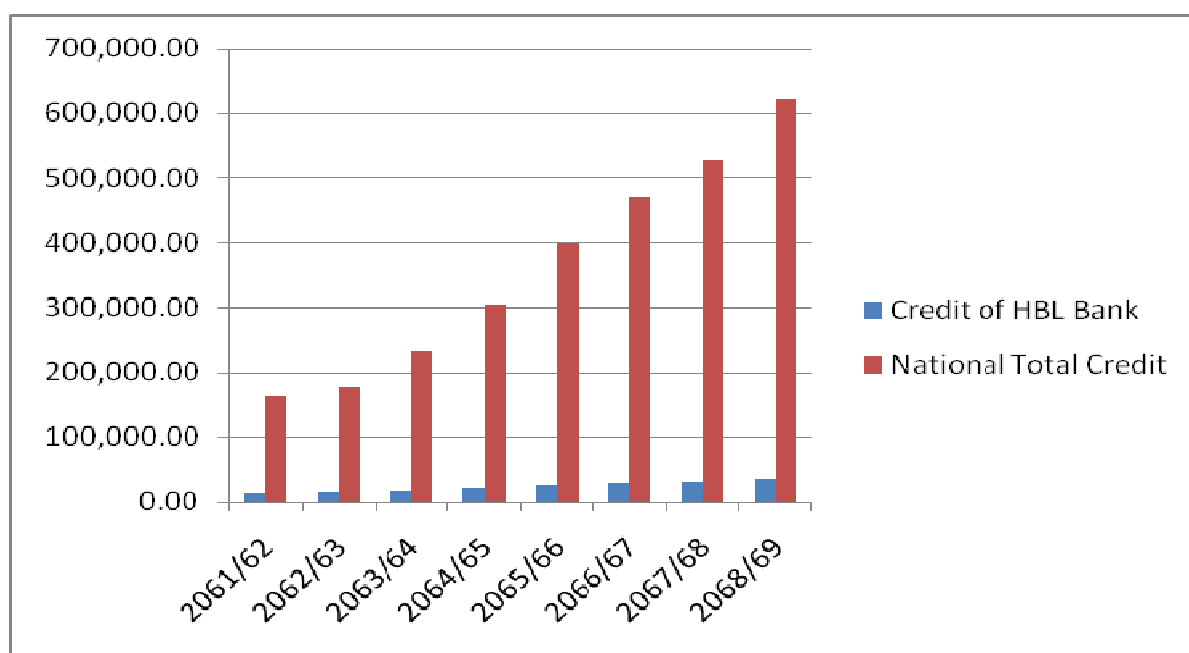


Figure 4.7 shows average contribution of HBL for total national flow of credit of commercial banks. The bank has been displayed by the steady growth in lending shown by the bank over the period of eight years.

Credit Trend of BOK

The lending trend of BOK for the last eight fiscal years has been illustrated in the Table 4.8 including national total lending of commercial banks and its share on it.

Table 4.8
Credit Trend of BOK and National Total

(Amount Millions)

Fiscal Year	Credit of BOK	National Total Credit	Share of BOK
2061/62	5,912.58	163,718.80	3.61%
2062/63	7,259.08	176,820.30	4.11%
2063/64	9,399.33	231,829.50	4.05%
2064/65	12,462.64	302,913.40	4.11%
2065/66	14,647.29	398,143.00	3.68%
2066/67	16,664.93	469,279.84	3.55%
2067/68	17,468.19	528,023.14	3.31%
2068/69	18,813.94	622,575.49	3.02%

(Source: Annual Reports of BOK and Banking & Financial Statistics 2012)

The Table 4.8 shows regular increment in the flow of credit by BOK during past eight years but percentage of contribution to the national total credit was fluctuating. The bank was able to flow Rs. 5,912.58million of loans during the year 2061/62 against the national total of Rs. 163,718.80 million with contribution of 3.61% to the national total. Though the share of the bank on national total was fluctuation till 2064/65, it began to decrease continuously then after. During FY 2065/66 the total lending of the bank has reached 14,647.29 million against the national total of Rs. 398,143.00 million thus, making contribution of 3.68%. At the FY 2068/69 total lending of BOK was 18,813.94 million out of 622,575.49 million national total and which is 3.02% of the same. Overall performance of BOK is satisfactory in connection with credit trend. The basic reasons of decrease in market share are: increasing competition among financial institutions, liquidity crunch as well as anti money laundry rule etc. In other hand, Nepalese investment market is limited and establishment of new industries and businesses are not operating smoothly due to political instability and other unfavorable issues. Hence, credit trend of most of the banks and financial institutions are decreasing.

The credit flow of BOK along with national total credit flow of commercial banks has been illustrated in the figure below.

Figure 4.8
Credit Trend of BOK against Total National Credit
 (Amount in Millions)

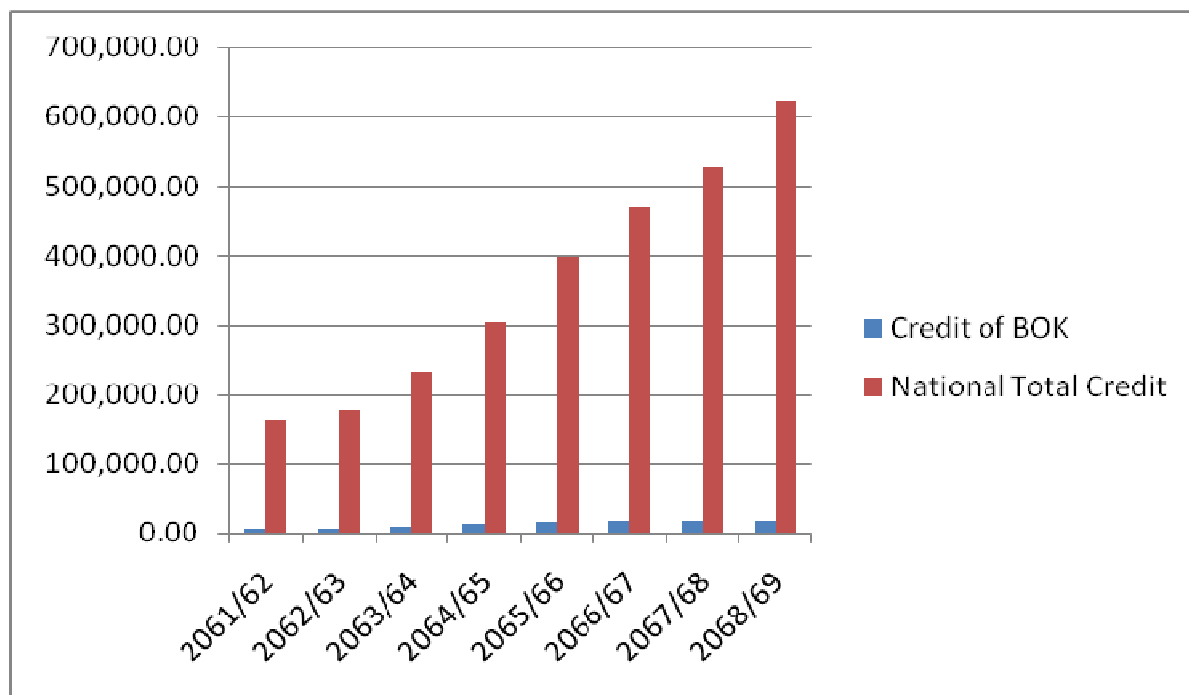


Figure 4.8 shows very small contribution of BOK for total national flow of credit. However, individual lending figure of the bank is growing continuously.

4.2 Ratio Analysis

The following ratios are used to evaluate the financial statements of HBL and BOK in regard of the capital adequacy and capital fund.

4.2.1 Capital Adequacy Ratio

Capital Adequacy Ratio shows the strength of a bank pay its debts/liabilities comfortably. The calculation of Capital Adequacy Ratios has been presented in Appendix I.

The Capital Adequacy Ratios show that the bank has been able to comply with the requirements of NRB consistently. NRB had laid down following minimum requirements regarding capital adequacy ratio on different times.

FY 2061/62 to 2064/65 : Core Capital-5.5% and Total Capital-11% of TRWE
From FY 2065/66 to till date : Core Capital-6.0% and Total Capital-10% of TRWE

Capital Adequacy Ratio of HBL

The calculated Capital Adequacy Ratio of HBL is shown in the Table 4.9 for the FY 2061/62 to FY 2068/69.

Table 4.9
Capital Adequacy Ratio of HBL

Fiscal Year	Percentage of Core Capital (% of CC)	Percentage of Supplementary Capital (% of SC)	Percentage of Total Capital (% of TC)
2061/62	8.33 %	2.68 %	11.01 %
2062/63	8.65 %	2.62 %	11.26 %
2063/64	9.61 %	2.50 %	12.11 %
2064/65	8.77 %	2.78 %	11.56 %
2065/66	8.81 %	2.21 %	11.02 %
2066/67	8.68 %	2.04 %	10.72 %
2067/68	8.88%	1.80%	10.68%
2068/69	9.60%	1.43%	11.02%

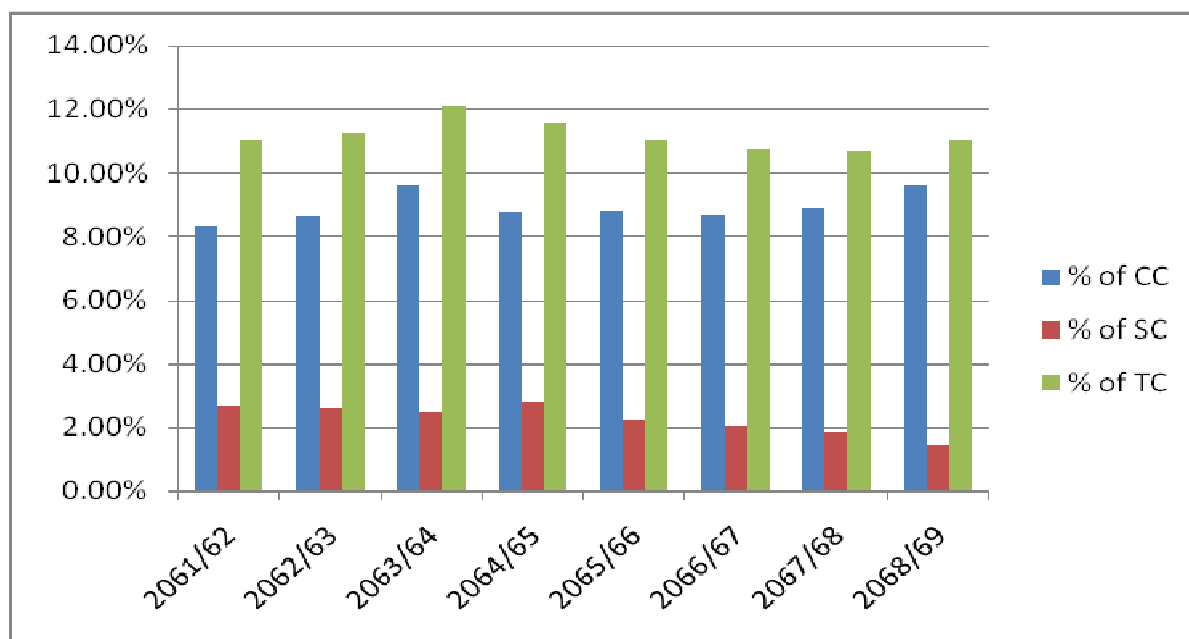
Detail calculations are shown in Appendix I.

The above table shows percentage of capital maintained by HBL during last eight years period. From the table it is clear that, HBL is maintaining minimum requirement of Total Capital fund every year. However, the share of Core Capital is always dominating over Supplementary Capital. In the FY 2061/62, the bank has Total Capital Fund at 11.01% of Total Risk Weighted Exposure with the NRB requirement of 11% and this has significantly increased to 12.11% by FY 2063/64. The NRB requirement was 5.5% Core Capital and Total Capital Fund 11% of Total Risk Weighted Exposure till FY 2065/66 and they have been adequately complied with. By the end of FY 2068/69 Total Capital Fund has reached to 11.02% of Total Risk Weighted Exposure with 8.68% Core Capital where NRB requirement was 10% for total capital and 6% for core capital.

The Capital Adequacy Ratio of the bank is in always higher than minimum requirement of NRB which means they are able to maintain the NRB requirements and strong enough on capital base. As such, it is evident that HBL has been performing well enough to comply with the NRB requirement without failure at any point of time.

The same information has been depicted in the chart below.

Figure 4.9
Trend of Capital Adequacy Ratio of HBL



The Figure 4.9 displays that the trend of the Capital Adequacy Ratios of the HBL is fluctuating between 10.5% to 12.5%. The percentage of Total Capital is increasing in first three years and then decreasing continuously up to seventh year. Again it has increased in the eight year, which shows the bank is more conscious about capital adequacy.

Capital Adequacy Ratio of BOK

The calculated Capital Adequacy Ratio of BOK is shown in the Table 4.10 for the FY 2061/62 to FY 2068/69.

Table 4.10
Capital Adequacy Ratio of BOK

Fiscal Year	Percentage of Core Capital	Percentage of Supplementary Capital	Percentage of Total Capital
2061/62	10.23%	1.00%	11.22%
2062/63	10.71%	3.81%	14.52%
2063/64	9.32%	3.06%	12.38%
2064/65	8.57%	2.04%	10.61%
2065/66	9.81%	1.88%	11.68%
2066/67	9.41 %	1.44 %	10.85 %
2067/68	10.37%	1.24%	11.62%
2068/69	10.11%	0.96%	11.07%

Detail calculations are shown in Appendix I.

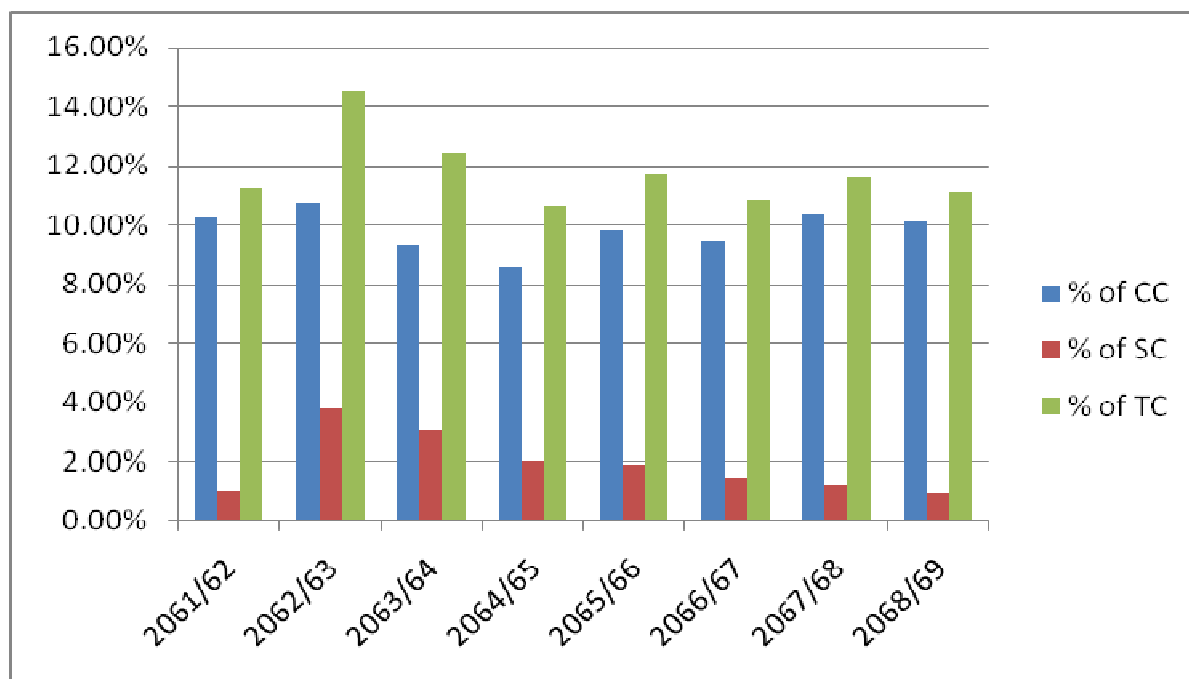
The above table depicts the percentage of Core Capital, Supplementary Capital and Total Capital of BOK during last eight years period. From this table, it can be concluded that the bank is able to maintain minimum requirement of NRB in all years except in FY 2064/65. In the FY 2061/62, the bank has Total Capital Fund at 11.22% of Risk Weighted Exposure with the NRB requirement of 11% and this has fluctuated every year and reached to 10.61% by FY 2064/65. The NRB requirement was 5.5% Core Capital and Total Capital Fund 11% of Risk Weighted Exposure and In FY 2064/65 they haven't been adequately complied with. In the FY 2065/66, the bank has Total Capital Fund at 11.68% of Total Risk Weighted Exposure with NRB Requirement of 6.0% Core Capital and Total Capital Fund 10 % of TRWE. At the last year of data it has been reached to 11.07% of TRWE with NRB requirement of 10% for total capital and 6% for core capital.

The Capital Adequacy Ratio of the bank is in fluctuating trend. It is obvious, as transactions of the bank increases; the Risk Weighted Exposure also increases in the same manner. But this creates bank difficulty to maintain capital fund as required by the NRB as capital do not increase often and the performance of the bank (i.e. earning of profit) has major role to play to comply with the NRB requirements. As such, it is evident

that BOK has been performing well but In FY 2064/65 it had failed to comply with the NRB requirement.

The same information can be depicted in the chart below.

Figure 4.10
Trend of Capital Adequacy Ratio of BOK



The Figure 4.10 displays ups and downs trend of the Capital Adequacy Ratios of the BOK. The Percentage of Total Capital increased sharply during the FY 2062/63 and after that there is steady decrease for two years and fluctuating every year then after.

4.2.2 Capital to Deposit Ratio of HBL and BOK

The Capital to Deposit Ratio has a significant role in measuring strength of capital base of a bank. Higher the ratio, safer will be the depositors but is always certain that this ratio always remains less because collection of capital cannot go parallel to the collection of deposit. Calculations of Capital to Deposit Ratios are shown in Appendix J.

Table 4.11
Capital to Deposit Ratio of HBL

Fiscal Year	Capital to Deposit Ratio
2061/62	8.13 %
2062/63	8.47 %
2063/64	8.82 %
2064/65	10.22 %
2065/66	11.09 %
2066/67	12.81 %
2067/68	11.51%
2068/69	11.07%

Detail calculations shown in Appendix J.

As per Table 4.11, the Capital to Deposit Ratio of the bank was in increasing trend till FY 2066/67. The ratio was 8.13% during FY 2061/62 and continuously increased and reach to 12.81% during FY 2066/67. However, it began to decrease from FY 2067/68 till last fiscal year end.

Table 4.12
Capital to Deposit Ratio of BOK

Fiscal Year	Capital to Deposit Ratio
2061/62	8.69 %
2062/63	10.50 %
2063/64	10.22 %
2064/65	10.25 %
2065/66	11.09 %
2066/67	11.47 %
2067/68	12.67%
2068/69	11.56%

Detail calculations shown in Appendix J.

As per Table 4.12, the Capital to Deposit Ratio of the bank is in up and down trend. The ratio was 8.69% during FY 2061/62 and increased to 10.50% during FY 2062/63 then decreased to 10.22% during FY 2063/64. After then the ratio increased and reached to 12.67% till FY 2067/68. At the last year, it decreased to 11.56%

4.2.3 Credit/ Deposit (CD) Ratio of HBL and BOK

The Credit/Deposit (CD) Ratio is a major tool to examine the liquidity of the bank. It also measures the performance of the bank in terms of resources utilization irrespective of the quality of utilization. Higher the CD Ratio better is the performance regarding deposit utilization whereas such high ratio may not be favored by the depositors as in case of improper investment, the depositor's fund may be on risk. Calculations of CD Ratios are shown in Appendix K. Table 4.13 and 4.14 shows the CD Ratios of the banks for the period of eight years from FY 2061/62 to FY 2068/69.

Table 4.13

Credit/Deposit Ratio of HBL

Fiscal Year	Credit/Deposit Ratio
2061/62	50.07 %
2062/63	55.27 %
2063/64	56.57 %
2064/65	61.23 %
2065/66	71.49 %
2066/67	85.00 %
2067/68	77.14%
2068/69	73.26%

Detail calculations shown in Appendix K.

The Table 4.13 shows a quite increasing CD Ratios of the bank in the first six year's period beginning from FY 2061/62 to FY 2066/67. The ratio has been ranging from 50.07% in FY 2061/62 to 85.00% in FY 2066/67. Since the ratio in FY 2066/67 was very high, it managed its ratio to 77.14% in FY 2067/68 and finally to 73.26% in FY 2068/69.

Table 4.14
Credit/Deposit Ratio of BOK

Fiscal Year	Credit/Deposit Ratio
2061/62	66.12 %
2062/63	69.23 %
2063/64	75.87 %
2064/65	78.71 %
2065/66	81.00 %
2066/67	82.03 %
2067/68	83.11%
2068/69	75.28%

Detail calculations shown in Appendix K.

The Table 4.14 shows increasing trend of CD Ratios of the bank till seventh year's period beginning from FY 2061/62 to FY 2067/68. The ratio has been ranging from 66.12% to about 83.11% with continuously growth. In an average, the bank has been able to utilize nearly 3/4 portion of the depositors fund in the form of Credit. In the final year the bank is able to maintain the CD ratio at 75.28% which can be considered as an ideal ratio.

4.3 Statistical Analysis

Statistical Analysis is carried out for better understanding of the collected data and information. The result of the statistical analysis is enumerated in the following section.

4.3.1 Correlation Co-efficient

To test the relationship between deposit and capital and between credit and capital, the correlation coefficients have been calculated by using Karl Pearson's correlation co-efficient. A detail calculation has been illustrated in Appendix L and M. The calculated values of correlation co-efficient are presented below in the Table 4.15.

Table 4.15

Correlation Co-efficient of HBL

Correlation between	Values
Capital & Deposit	0.9482
Capital & Credit	0.9967

Detail Calculation shown in Annex L and M

The calculated correlation co-efficient of HBL between Deposit & Capital and Credit & Capital are positive. Therefore, it can be said that Deposit and Credit components of HBL are positively correlated with its Capital Fund. Here, we can see that all co-efficient are near to 1, which indicates that, the correlations seem to be nearly perfectly positive. We can say that the increase in capital causes the increase in deposit and similar will be the case with credit with increment in capital.

Table 4.16

Correlation Co-efficient of BOK

Correlation between	Values
Capital & Deposit	0.9902
Capital & Credit	0.9887

Detail Calculation shown in Annex L and M

The calculated correlation co-efficient of BOK between Deposit & Capital and Credit & Capital are positive. Therefore, it can be said that Deposit and Credit components of BOK are positively correlated with the bank's Capital Fund. Here, we can see that all co-efficient are near to 1, which indicates that, the correlations seem to be nearly perfectly positive. We can say that the increase in capital causes the increase in deposit and similar will be the case with credit with increment in capital.

Refer to objective number third, this study is searching that commercial banks of Nepal has maintained the capital adequacy ratio properly or not and found that both commercial banks has successfully maintained the capital adequacy ratio in the eight study period but HBL has maintained the ratio effectively as compared to BOK. Capital Adequacy ratio requirement from FY 2061/62 to 2065/66 is 5.5% for core capital and 11% for total capital, which have been maintained by both banks every year except on FY 2064/65 by BOK. At that time BOK had CAR of 10.61%, which shows its failure to maintain

minimum requirement of 11% at that period. As per NRB Directives of 2066/67, CAR should be maintained to 6% of core capital and 10% of total capital. Both financial institutions have maintained the ratio on FY 2066/67. Both financial institutions have operated as per NRB directives and guidelines and there is improvement in position of capital adequacy of both banks.

Same as CAR, NRB has prescribed limitation in credit lending with respect to deposit of a Commercial Bank. As per NRB guidelines, credit to deposit (C/D) ratio must be within 80%. In case of HBL, it has maintained CD ratio below 80% most of the time except in FY 2066/67. However, BOK has failed to maintain CD ratio below 80% in various years viz. FY2065/66, FY2066/67 & FY 2067/68. As the maintenance of this ratio within prescribed limit is mandatory, both of the banks have extended their credits within 80% of their respective deposits in FY 2068/69.

4.4 Major Findings of the Study

The thesis has been concentrated on the capital and capital related items of two commercial banks- HBL and BOK. The findings of the study are as follows:

Capital Fund: Capital Fund of HBL and BOK both have grown consistently over research period comprising of FY 2061/62 to FY 2068/69. HBL had capital fund of Rs. Rs. 1,525.77 million in FY 2061/62 which increased with normal growth rate of 11% in FY 2062/63 with capital fund amounting 2,242.84 million, then 18%, 23%, 18%, 10%, 12% and 12% in FY 2063/64 to FY 2067/68 respectively. Growth rate of capital fund of HBL is fluctuating.

On the other hand, BOK had capital fund of Rs. 777.45 million in FY 2061/62 which increased highly by 42% during FY 2062/63 with capital fund amounting to Rs. 1,100.80 million because of highly increment of supplementary capital. The bank then saw remarkable and fluctuating rate of increment of 15%, 28%, 24%, 16%, 14% and 9% in FY 2063/64 to FY 2068/69 respectively. At the latest FY of research Capital fund of BOK reached to 2,889.63 million.

Although the capital fund of both banks had fluctuating in growth rate but increased in amount. With compare to BOK, HBL had very huge amount of capital fund, which is almost double, and the growth rate of BOK is highly fluctuating.

Capital Adequacy: As per NRB guidelines the requirement of Capital Adequacy Ratio should be 11 % during the fiscal year of 2060/61 to 2065/66 and then 10 % with 6% core capital. It is found that the bank BOK isn't totally successful in maintaining capital adequacy as prescribed by NRB during research period. BOK had failure to maintain CAR during FY 2064/65 with capital adequacy ratio of 10.61% against the NRB requirement of 11%. On the other hand HBL is totally successful to maintain capital adequacy ratio as prescribed by NRB in all research period.

Risk-Weighted Exposure: The risk weighted Exposure is the most significant component to be considered while studying the capital adequacy norms. HBL had Risk Weighted Exposure of 18,321.72 million during FY 2061/62. In FY 2062/63 TRWE was 19,918.33 million with growth rate of 9% and in FY 2063/64, 2064/65, 2065/66 2066/67, 2067/68 and 2068/69 the growth rate was 10%, 29%, 24%, 13%, 12% and 9% respectively. It is really commendable performance of the HBL to cope with the increasing risk weighted assets and maintain the prescribed capital fund as directed by NRB.

On the other hand, BOK had Risk Weighted Exposure of Rs. 6,926.85 million during FY 2061/62, which in the following years increased subsequently. FY 2062/63 showed the increment rate of 9% in the TRWE with the amount reaching to Rs. 7,583.65 million. The following two years had dramatic increment of 35% and 50% reaching to Rs. 10,226.19 and Rs. 15,290.66 respectively. The growth rates slowed down then to 12%, 25%, 7% and 14% respectively from FY 2065/66 to 2068/69.

Capital to Deposit Ratio: The Capital to Deposit ratio of Both Bank is found to be satisfactory during the study period. The Capital to Deposit ratio of HBL was 8.13 % during FY 2061/62 and increasing thereafter with 8.47 %, 8.82 %, 10.22 %, 11.09 %, 12.81%, 11.51% and 11.07% in FY 2062/63, 2063/64, 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 respectively. It is accepted worldwide that an 8% to 10% capital to deposit ratio is safe.

In case of BOK, Capital to Deposit ratio was 8.69 % during FY 2061/62 and it fluctuated slightly to 10.50%, 10.22%, 10.25%, 11.09%, 11.47%, 12.67 and 11.56% during FY 2062/63, 2063/64, 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 respectively. In total, the both bank had satisfactory capital to deposit ratio over the study period.

Credit/Deposit (CD) Ratio: CD ratio is one of the most important ratios for commercial banks. This ratio shows how effectively the bank has been able to utilize its available fund collected from depositors. In this regard, the both banks have satisfactory results. The CD ratio of HBL ranged from 50.07 % during FY 2061/62 to 73.26 % in FY 2068/69, which means HBL, has utilized the collected fund optimally. In another side, CD ratio of BOK ranged from 66.12% in FY 2061/62 to 75.28% in FY 2068/69. The C/D ratio of BOK was in increasing trend during FY 2066/67 and 2067/68. It is very difficult for a bank to maintain C/D ratio because if the C/D ratio is high there will be liquidity problem occurred. On the other hand, if the C/D ratio is low then the bank will be unable to increase profit through lending. Hence, proper C/D ratio needs to maintain by the bank. It is assumed that 60-80 % of C/D ratio is quite good for commercial banks. In this context both banks are quite successful to maintain C/D ratio within satisfactory level at present stage.

Statistical Analysis: The correlation co-efficient between capital and deposit and capital and credit of the both banks showed that they are correlated. All co-efficient are more than 0.94, which is near to 1. The co-efficient nearest to 1 show the relationship to be more perfect. In comparison to HBL, BOK has higher Correlation Co-efficient of capital to deposit but in case of capital to credit, HBL has the higher Correlation Co-efficient.

Comparative Analysis: The comparative analysis of ratios between HBL and BOK for checking significance showed that the performance of HBL very satisfactory than BOK. The Capital to Deposit ratios as well as C/D ratios is maintained properly by both of the banks. Capital fund, Deposit collection and Credit disbursement of HBL is very higher than BOK and also Capital Adequacy Ratio of HBL meets the criteria of NRB requirement during the research period but BOK is unable to maintain CAR during FY 2064/65. Hence, HBL is found to be comparatively better than BOK in terms of NRB requirement fulfillment, total capital fund, deposit collection and credit lending.

CHAPTER V

SUMMARY, CONCLUSION & RECOMMENDATIONS

5.1 Summary

This research is aimed at studying capital adequacy for commercial banks set by NRB with comparative study of BOK and HBL. Raising and utilization of funds are the primary functions of commercial banks. As such, commercial banks collect a large amount of deposits from general public. Capital must be sufficient to protect a bank's depositors and counter parties from the risks like credit and market risks. Otherwise, the banks will use all the money of depositors in their own interest and depositors will have to suffer loss.

Being the central bank of Nepal, NRB has the responsibility to give special attention to the interest of depositors. NRB has issued various directives to regulate commercial banks. The directive no. 1 has been issued for norms on capital adequacy to be followed by all banks.

The thesis has been prepared with the study of capital funds of BOK and HBL. The study showed that the capital fund of HBL adequately meets the requirement of capital adequacy norms but BOK is unsuccessful to maintain within all the research period. Capital Adequacy Ratios have been calculated to check the adequacy as per the norms. Capital-to-Deposit Ratio and CD Ratio, which are key ratios of commercial banks, have also been checked. Analyses have been done to check the relationship of capital fund with deposit and credit.

5.2 Conclusion

Commercial banks of Nepal are bound by the Unified Directives by NRB issued for all financial institutions. The directive no. 1 has set norms on capital adequacy for commercial banks and all other financial institutions. Every commercial bank has to meet the requirement of capital adequacy as stated by the directive. Capital adequacy is the portion of capital fund with regards to risk-weighted assets that a commercial bank holds.

Capital adequacy is required to safeguard the money of the depositors as the banks are playing with the money they collected from the depositors.

The bank under study, HBL is found to be successful to comply with requirement of capital adequacy norms in all research period but BOK is not able to meet the capital adequacy ratio requirement in all year as prescribed by NRB.

Deposit collection of HBL is very higher than BOK, which means HBL is stronger in terms of deposit collection. The higher deposit volume ultimately enables to lend more and earn more. If a financial institution is able to collect more deposit then it can invest more and earn more profit through interest spread. The capital-to-deposit ratios of the both banks are adequate and satisfactory. It shows both of the banks are trying to maintain more capital in terms of deposit collection increment. Similarly, the CD ratio of the both banks is increasing trend and both are satisfactory. However, in terms of profit earning through higher utilization of fund, BOK is more satisfactory because of higher CD ratio than HBL. On the other hand HBL is better in terms of liquidity availability due to less CD ratio than BOK, which means there will be less chance of having liquidity crunch in the bank. As per NRB requirement HBL is successful to maintain Capital adequacy ratio but BOK was unable to maintain CAR in FY 2064/65 among eight years of research period with 10.61%, where minimum requirement was 11%. The correlation coefficient of both banks between capital and deposit and between capital and credit are found to be positive and near to perfect correlation.

Deposit collection, credit lending, capital fund and risk weighted exposure of both banks are in increasing trend; therefore both banks need to maintain certain capital fund with growth to adjust market failure and other risks. As per above analysis both banks have their own strength and weakness but as per capital adequacy ratio requirement, BOK is failure to maintain the Minimum ratio in FY 2064/65 among eight fiscal years but HBL is successful to maintain CAR in all eight years of research period. In case of CD ratio, HBL failed to maintain 80% cap in FY 2066/67 and BOK failed in FY 2065/66 to 2067/68. In terms of capital adequacy ratio requirement of NRB, HBL is more successful than BOK.

5.3 Recommendations

After thorough study of the research, the following recommendations have been proposed for consideration by the concerned persons:

- ❖ The Capital fund and risk weighted exposure of both banks are increasing but the ratio of capital fund increment is not sufficient with risk weighted exposure increment, so they have to try to make suitable increment in capital fund with respect to risk exposure.
- ❖ Capital-to-deposit ratios of both banks are quite satisfactory. There is no such standard of capital to deposit ratio. As per market study 8-10% is appropriate for the commercial banks. NRB should make some criteria or standard for this ratio.
- ❖ CD ratios of the both banks are average and declining since last year. This showed that both banks are trying to utilize fund optimally towards lending. It is recommended that both banks should try to maintain CD ratio at present level or slightly higher for best use of funds and to avoid liquidity problem in future.
- ❖ NRB is the regulating body of financial institution and which set the minimum capital fund requirement for the banks also. As per NRB requirement of capital adequacy ratio HBL is succeed to maintain minimum requirement but BOK is unable to maintain CAR in FY 2064/65 and also the trend of CAR of BOK is very fluctuating in the research period, so BOK need to make strategy for maintaining capital adequacy ratio with respect to risk weighted exposure change.

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APPENDIX A
Capital Fund and Deposit Collection of Nepalese Commercial Banks (2011/12)

APPENDIX B

Risk Weighted on On-Balance Sheet Assets

On-Balance Sheet Assets	Weightage (%)
Cash Balance	0
Gold	0
Balance at NRB	0
Investment on Government Bonds	0
Investment on NRB Bonds	0
FD Loan provided against the collateral security of own FD	0
Loan provided against the collateral security of Government Bonds	0
Accrued Interest Amount on Saving Bonds	0
Balance with national banks and financial institutions	20
FD Loan provided against the collateral security of FD of other banks and financial institutions	20
Balance with Foreign Banks	20
Money at Call	20
Loan provided against the guarantee of *Rated licensed foreign institutions	20
Investment made in *Rated licensed foreign institutions	20
Investment in Shares, Debentures and Bonds	100
Other investments	100
Loans, Advances and Bills Purchase/Discount**	100
Fixed Assets	100
Net Interest Amount Receivable (Total Interest Receivable-Interest from Saving Bonds-Interest Suspense)	100
Other Assets (Other than Advance Tax Deposit)	100

Risk Weighted on Off-Balance Sheet Assets

Off-Balance Sheet Assets	Weightage (%)
Bills Collection	0
Forward Foreign Exchange Contract	10
Guarantee having maturity period less than 6 months (Full Amount)#	20
Guarantee issued against Counter Guarantee of Rated* Licensed Institutions	20
Guarantee having maturity period of more than 6 months#	50
Bid Bond, Performance Bond and Underwriting related liabilities	50
Advance Payment Guarantee	100
Financial and Other Guarantee	100
Irrevocable Loan Commitment	100
Contingent Liability related to Income Tax	100
All Other Contingent Liabilities including Acceptance	100

APPENDIX C

Table of Capital Fund (Directives Form No. 1.1)

Particulars	Previous Quarter	This Quarter
<p>(A) Core Capital</p> <p>1) Paid Up Capital 2) Share Premium 3) Irredeemable Preference Shares 4) General Reserve Fund 5) Accumulated Profit/Loss (Up to PY) 6) Profit/Loss (Current Period) 7) Capital Redemption Reserve Fund 8) Capital Adjustment Reserve 9) Other Free Reserves</p> <p>Less: - Goodwill - Investment over the prescribed limit - Fictitious Assets - Investment made in shares of company having financial interest</p>		
<p>(B) Supplementary Capital</p> <p>1) General Loan Loss Provision 2) Assets Revaluation Reserve 3) Hybrid Capital Instruments 4) Unsecured Subordinated Term Debt 5) Exchange Revaluation Reserve 6) Additional Loan Loss Provision 7) Investment Adjustment Reserve</p>		
<p>(C) Total Capital Fund (A+B)</p>		
<p>(D) Minimum Capital Fund to be maintained on the basis of Risk Weighted Assets</p> <p>Capital Fund (..... percentage) Core Capital (.....percentage)</p>		
<p>Capital Fund (Excess/Deficit) (by.....percentage) Core Capital (Excess/Deficit) (by.....percentage)</p>		

APPENDIX D

Table of Risk Weighted Assets (Directives Form No. 1.2)

(Rs. in thousand)

On-Balance-Sheet Assets	Weight	Previous Quarter		This Quarter	
		Amount	Risk Weighted Asset	Amount	Risk Weighted Asset
Cash Balance	0				
Gold	0				
Balance at NRB	0				
Investment on Government Bonds	0				
Investment on NRB Bonds	0				
FD Loan provided against the collateral security of own FD	0				
Loan provided against the collateral security of Government Bonds	0				
Accrued Interest Amount on Saving Bonds	0				
Balance with national banks and financial institutions	20				
FD Loan provided against the collateral security of FD of other banks and financial institutions	20				
Balance with Foreign Banks	20				
Money at Call	20				
Loan provided against the guarantee of Rated licensed foreign institutions	20				
Investment made in Rated licensed foreign institutions	20				
Investment in Shares, Debentures and Bonds	100				
Other investments	100				
Loans, Advances and Bills Purchase/Discount	100				
Fixed Assets	100				
Net Interest Amount Receivable (Total Interest Receivable-Interest from Saving Bonds-Interest Suspense)	100				
Other Assets (Other than Advance Tax Deposit)	100				
Total (A)					
Off-Balance-Sheet Items					
Bills Collection	0				
Forward Foreign Exchange Contract	10				
Guarantee having maturity period less than 6 months (Full Amount)	20				
Guarantee issued against Counter Guarantee of Rated Licensed Institutions	20				
Guarantee having maturity period of more than 6 months	50				
Bid Bond, Performance Bond and Underwriting related liabilities	50				
Advance Payment Guarantee	100				
Financial and Other Guarantee	100				
Irrevocable Loan Commitment	100				
Contingent Liability related to Income Tax	100				
All Other Contingent Liabilities including Acceptance	100				
Total (B)					
Total Risk Weighted Assets (A+B)					

APPENDIX E

CAPITAL ADEQUACY TABLE (FORM NO.1-Capital Adequacy Framework 2007)

1.1 RISK WEIGHTED EXPOSURES		Current Period	Previous Period
a	Risk Weighted Exposure for Credit Risk		
b	Risk Weighted Exposure for Operational Risk		
c	Risk Weighted Exposure for Market Risk		
Total Risk Weighted Exposures (a+b+c)			

1.2 CAPITAL		Current Period	Previous Period
Core Capital (Tier 1)			
a	Paid up Equity Share Capital		
b	Proposed Bonus Equity Shares		
c	Irredeemable Non-cumulative preference shares		
d	Share Premium		
e	Statutory General Reserves		
f	Retained Earnings		
g	Un-audited current year cumulative profit		
h	Capital Redemption Reserve		
i	Capital Adjustment Reserve		
j	Dividend Equalization Reserves		
k	Other Free Reserve		
l	Less: Goodwill		
m	Less: Fictitious Assets		
n	Less: Shortfall in provisions		
o	Less: Loan to parties prohibited by Acts and directives		
p	Less: Investment in equity in licensed Financial Institutions		
q	Less: Investment in equity of institutions with vested interests		
r	Less: Investment in equity of institutions in excess of limits		
s	Less: Investments arising out of underwriting commitments		
t	Less: Reciprocal crosshold ings		
u	Less: Other Deductions		
Supplementary Capital (Tier 2)			
a	Cumulative and/or Redeemable Preference Share		
b	Subordinated Term Debt		
c	Hybrid Capital Instruments		
d	General loan loss provision		
e	Investment Adjustment Reserve		
f	Assets Revaluation Reserve		
g	Exchange Equalization Reserve		
h	Other Reserves		
Total Capital Fund (Tier I and Tier II)			

APPENDIX F

RISK WEIGHTED EXPOSURE FOR CREDIT RISK (FORM NO.2- Capital Adequacy Framework 2007)

A. Balance Sheet Exposures	Book Value a	Specific Provision b	Eligible CRM c	Net Value d=a-b-c	Risk Weight E	Risk Weighted Exposures f=d*e
Cash Balance				0	0%	0
Balance With Nepal Rastra Bank				0	0%	0
Investment in Nepalese Government Securities				0	0%	0
All other Claims on Government of Nepal				0	0%	0
Investment in Nepal Rastra Bank securities				0	0%	0
All other claims on Nepal Rastra Bank				0	0%	0
Investment in Foreign Government Securities (ECA Rating 0-1)				0	0%	0
Investment in Foreign Government Securities (ECA -2)			0	0	20%	0
Investment in Foreign Government Securities (ECA -3)			0	0	50%	0
Investment in Foreign Government Securities (ECA-4-6)			0	0	100%	0
Investment in Foreign Government Securities (ECA -7)			0	0	150%	0
Claims On BIS, IMF, ECB, EC				0	0%	0
Claims on Multilateral Development Banks (MDB's)				0	0%	0
Claims on Other Multilateral Development Banks			0	0	100%	0
Claims on Public Sector Entity (ECA 0-1)			0	0	20%	0
Claims on Public Sector Entity (ECA 2)			0	0	50%	0
Claims on Public Sector Entity (ECA 3-6)			0	0	100%	0
Claims on Public Sector Entity (ECA 7)			0	0	150%	0
Claims on domestic banks that meet capital adequacy Requirements			0	0	20%	0
Claims on domestic banks that do not meet capital Requirements			0	0	100%	0
Claims on foreign bank (ECA Rating 0-1)			0	0	20%	0
Claims on foreign bank (ECA Rating 2)			0	0	50%	0
Claims on foreign bank (ECA Rating 3-6)			0	0	100%	0
Claims on foreign bank (ECA Rating 7)			0	0	150%	0
Claims on Domestic Corporates			0		100%	
Claims on Foreign Corporates (ECA 0-1)			0	0	20%	0
Claims on Foreign Corporates (ECA 2)			0	0	50%	0
Claims on Foreign Corporates (ECA 3-6)			0	0	100%	0
Claims on Foreign Corporates (ECA 7)			0	0	150%	0
Regulatory Retail Portfolio (Not Overdue)			0	0	75%	0
Regulatory Retail Portfolio (Overdue)			0	0	150%	0
Claims secured by residential properties (with condition)			0	0	50%	0
Claims secured by residential properties (without condition)			0	0	75%	0
Unsecured portion of claims secured by residential Properties			0	0	150%	0
Claims secured by residential properties (Overdue)			0	0	100%	0
Claims secured by Commercial real estate			0	0	100%	0
Past due claims (except for claim secured by residential properties)			0	0	150%	0

High Risk claims (Venture capital, private equity investments, personal loans and credit card receivables)			0	0	150%	0
Investments in equity of institutions not listed in the stock Exchange			0	0	150%	0
Investments in equity of institutions listed in the stock Exchange			0	0	150%	0
Other Loans and Advances			0	0	150%	0
Cash and cash items in transit			0	0	20%	0
Fictitious Assets			0	0	150%	0
Other Assets (as per attachment)			0	0	100%	0
TOTAL	0	0	0	0		0
B. Off Balance Sheet Exposures	Gross Book Value	Specific Provision	Eligible CRM	Net Value	Risk Weight	Risk Weighted Exposures
	a	b	c	d=a-b-c	E	f=d*e
Revocable Commitments					0%	0
Bills Under Collection					0%	0
LC Commitments With Original Maturity Up to 6 months (domestic)			0	0	20%	0
ECA Rating 0-1			0	0	20%	0
ECA Rating 2			0	0	50%	0
ECA Rating 3-6			0	0	100%	0
ECA Rating 7			0	0	150%	0
LC Commitments With Original Maturity Over 6 months (domestic)			0	0	50%	0
ECA Rating 0-1			0	0	20%	0
ECA Rating 2			0	0	50%	0
ECA Rating 3-6			0	0	100%	0
ECA Rating 7			0	0	150%	0
Bid Bond and Performance Bond (domestic)			0	0	50%	0
ECA Rating 0-1			0	0	20%	0
ECA Rating 2			0	0	50%	0
ECA Rating 3-6			0	0	100%	0
ECA Rating 7			0	0	150%	0
Underwriting commitments			0	0	50%	0
Lending of Bank's Securities or Posting of Securities as Collateral			0	0	100%	0
Repurchase Agreements, Assets sale with recourse (including repo/ reverse repo)			0	0	100%	0
Advance Payment Guarantee			0	0	100%	0
Financial Guarantee			0	0	100%	0
Acceptances and Endorsements			0	0	100%	0
Unpaid portion of Partly paid shares and Securities			0	0	100%	0
Irrevocable Credit commitments			0	0	50%	0
Other Contingent Liabilities			0	0	100%	0
TOTAL	0	0	0	0		0
Total RWE for credit Risk (A) +(B)	0	0	0	0		0

APPENDIX G

RISK WEIGHTED EXPOSURE FOR OPERATIONAL RISK (FORM NO.5 Capital Adequacy Framework 2007)

Particulars	Year 1	Year 2	Year 3
Net Interest Income			
Commission and Discount Income			
Other Operating Income			
Exchange Fluctuation Income			
Additional Interest Suspense during the period			
Gross income (a)	0	0	0
Alfa (b)	15%	15%	15%
Fixed Percentage of Gross Income [c=(a×b)]			
Capital Requirement for operational risk (d) (average of c)			
Risk Weight (reciprocal of capital requirement of 10%) in times (e)	10		
Equivalent Risk Weight Exposure [f=(d×e)]			

APPENDIX H

RISK WEIGHTED EXPOSURE FOR MARKET RISK (FORM NO.6 Capital Adequacy Framework 2007)

S.No.	Currency	Open Position (FCY)	Open Position (NPR)	Relevant Open Position
1	INR			
2	USD			
3	GBP			
4	EURO			
5	GBP			
6	CHF			
7			
8			
9			
Total Open Position (a)				
Fixed Percentage (b)				5%
Capital Charge for Market Risk [c=(a×b)]				
Risk Weight (reciprocal of capital requirement of 10%) in times (d)				
Equivalent Risk Weight Exposure [e=(c×d)]				

APPENDIX I

Calculation of Capital Adequacy Ratio of HBL

(Amount in Millions)

Fiscal Year	Total Capital Fund	Core Capital	Supplementary Capital	Risk Weighted Exposure
2061/62	2,017.06	1,525.77	491.29	18,321.72
2062/63	2,242.84	1,721.94	520.9	19,918.33
2063/64	2,651.37	2,104.60	546.77	21,889.71
2064/65	3,253.52	2,469.79	783.73	28,152.90
2065/66	3,845.21	3,074.44	770.77	34,905.89
2066/67	4,218.36	3,414.64	803.72	39,357.06
2067/68	4,711.24	3,916.97	794.27	44,124.52
2068/69	5,283.90	4,600.15	683.75	47,934.90

We have;

Ratio of Total Capital Fund as:

$$\frac{\text{Total Capital Fund} \times 100\%}{\text{TRWE}}$$

Ratio of Core Capital Fund as:

$$\frac{\text{Core Capital} \times 100\%}{\text{TRWE}}$$

Ratio of Supplementary Capital Fund as:

$$\frac{\text{Supplementary Capital} \times 100\%}{\text{TRWE}}$$

By using above formulas, we get the ratios as:

Fiscal Year	Percentage of Core Capital	Percentage of Supplementary Capital	Percentage of Total Capital Fund
2061/62	8.33%	2.68%	11.01%
2062/63	8.65%	2.62%	11.26%
2063/64	9.61%	2.50%	12.11%
2064/65	8.77%	2.78%	11.56%
2065/66	8.81%	2.21%	11.02%
2066/67	8.68%	2.04%	10.72%
2067/68	8.88%	1.80%	10.68%
2068/69	9.60%	1.43%	11.02%

Calculation of Capital Adequacy Ratio of BOK

(Amount in Millions)

Fiscal Year	Total Capital Fund	Core Capital	Supplementary Capital	Risk Weighted Exposure
2061/62	777.45	708.46	68.99	6,926.85
2062/63	1,100.80	811.92	288.88	7,583.65
2063/64	1,265.82	953.26	312.56	10,226.19
2064/65	1,623.03	1310.85	312.18	15,290.66
2065/66	2,005.69	1,683.59	322.1	17,167.52
2066/67	2,330.07	2,021.09	308.98	21,471.66
2067/68	2,662.07	2,377.73	284.34	22,918.30
2068/69	2,889.63	2,639.37	250.26	26,095.91

Again, we have;

Ratio of Total Capital Fund as:

$$\frac{\text{Total Capital Fund} \times 100\%}{\text{TRWE}}$$

Ratio of Core Capital Fund as:

$$\frac{\text{Core Capital} \times 100\%}{\text{TRWE}}$$

Ratio of Supplementary Capital Fund as:

$$\frac{\text{Supplementary Capital} \times 100\%}{\text{TRWE}}$$

By using above formulas, we get the ratios as:

Fiscal Year	Percentage of Core Capital	Percentage of Supplementary Capital	Percentage of Total Capital Fund
2061/62	10.23%	1.00%	11.22%
2062/63	10.71%	3.81%	14.52%
2063/64	9.32%	3.06%	12.38%
2064/65	8.57%	2.04%	10.61%
2065/66	9.81%	1.88%	11.68%
2066/67	9.41%	1.44%	10.85%
2067/68	10.37%	1.24%	11.62%
2068/69	10.11%	0.96%	11.07%

APPENDIX J

Calculation of Capital to Deposit Ratio of HBL

(Amount in Millions)

Fiscal Year	Total Capital Fund	Deposit of HBL
2061/62	2,017.06	24,814.01
2062/63	2,242.84	26,490.85
2063/64	2,651.37	30,048.42
2064/65	3,253.52	31,842.79
2065/66	3,845.21	34,682.31
2066/67	4,218.36	32,918.71
2067/68	4,711.24	40,920.63
2068/69	5,283.90	47,730.99

We have;

Ratio of Capital Fund to Deposit as:

$$\frac{\text{Total Capital Fund}}{\text{Total Deposit}} \times 100\%$$

By using above formula, we get the ratios as:

Fiscal Year	Capital to Deposit Ratio (HBL)
2061/62	8.13%
2062/63	8.47%
2063/64	8.82%
2064/65	10.22%
2065/66	11.09%
2066/67	12.81%
2067/68	11.51%
2068/69	11.07%

Calculation of Capital to Deposit Ratio of BOK

(Amount in Millions)

Fiscal Year	Total Capital Fund	Deposit of BOK
2061/62	777.45	8,942.75
2062/63	1,100.80	10,485.36
2063/64	1,265.82	12,388.93
2064/65	1,623.03	15,833.74
2065/66	2,005.69	18,083.98
2066/67	2,330.07	20,315.83
2067/68	2,662.07	21,018.42
2068/69	2,889.63	24,991.45

Again, we have;

Ratio of Capital Fund to Deposit as:

$$\frac{\text{Total Capital Fund}}{\text{Total Deposit}} \times 100\%$$

By using above formula, we get the ratios as:

Fiscal Year	Capital to Deposit Ratio (BOK)
2061/62	8.69%
2062/63	10.50%
2063/64	10.22%
2064/65	10.25%
2065/66	11.09%
2066/67	11.47%
2067/68	12.67%
2068/69	11.56%

APPENDIX K

Calculation of Credit/Deposit Ratio of HBL

(Amount in Millions)

Fiscal Year	Credit	Deposit
2061/62	12,424.52	24,814.01
2062/63	14,642.56	26,490.85
2063/64	16,998.00	30,048.42
2064/65	19,497.52	31,842.79
2065/66	24,793.16	34,682.31
2066/67	27,980.63	32,918.71
2067/68	31,566.98	40,920.63
2068/69	34,965.43	47,730.99

We have;

Ratio of Credit to Deposit as:

$$\frac{\text{Total Credit}}{\text{Total Deposit}} \times 100\%$$

By using above formula, we get the ratios as:

Fiscal Year	Credit/Deposit Ratio
2061/62	50.07%
2062/63	55.27%
2063/64	56.57%
2064/65	61.23%
2065/66	71.49%
2066/67	85.00%
2067/68	77.14%
2068/69	73.26%

Calculation of Credit/Deposit Ratio of BOK

(Amount in Millions)

Fiscal Year	Credit	Deposit
2061/62	5,912.58	8,942.75
2062/63	7,259.08	10,485.36
2063/64	9,399.33	12,388.93
2064/65	12,462.64	15,833.74
2065/66	14,647.29	18,083.98
2066/67	16,664.93	20,315.83
2067/68	17,468.19	21,018.42
2068/69	18,813.94	24,991.45

Again, we have;

Ratio of Credit to Deposit as:

$$\frac{\text{Total Credit}}{\text{Total Deposit}} \times 100\%$$

By using above formula, we get the ratios as:

Fiscal Year	Credit/Deposit Ratio
2061/62	66.12%
2062/63	69.23%
2063/64	75.87%
2064/65	78.71%
2065/66	81.00%
2066/67	82.03%
2067/68	83.11%
2068/69	75.28%

APPENDIX L

Calculation of Correlation Coefficient of Deposit on Capital of HBL

(Amount in Millions)

Fiscal Year	Total Capital Fund	Deposit of HBL
2061/62	2,017.06	24,814.01
2062/63	2,242.84	26,490.85
2063/64	2,651.37	30,048.42
2064/65	3,253.52	31,842.79
2065/66	3,845.21	34,682.31
2066/67	4,218.36	32,918.71
2067/68	4,711.24	40,920.63
2068/69	5,283.90	47,730.99

Let the variable Capital be X and Deposit be Y

FY	X	Y	$x = (X - \bar{X})$	$y = (Y - \bar{Y})$	xy	x^2	y^2
2061/62	2,017.06	24,814.01	-1,510.88	-8,867.08	13,397,093.83	2,282,758.37	78,625,107.73
2062/63	2,242.84	26,490.85	-1,285.10	-7,190.24	9,240,177.42	1,651,482.01	51,699,551.26
2063/64	2,651.37	30,048.42	-876.57	-3,632.67	3,184,289.54	768,374.96	13,196,291.33
2064/65	3,253.52	31,842.79	-274.42	-1,838.30	504,466.29	75,306.34	3,379,346.89
2065/66	3,845.21	34,682.31	317.27	1,001.22	317,657.07	100,660.25	1,002,441.49
2066/67	4,218.36	32,918.71	690.42	-762.38	-526,362.40	476,679.78	581,223.26
2067/68	4,711.24	40,920.63	1,183.30	7,239.54	8,566,547.68	1,400,198.89	52,410,939.41
2068/69	5,283.90	47,730.99	1,755.96	14,049.90	4,892,139.68	3,083,395.52	7,761,907.44
$\Sigma =$	28,223.50	269,448.71	-	-	39,576,009.11	9,838,856.13	208,656,808.81

$$\bar{X} = \frac{\Sigma X}{N} = \frac{28,223.50}{8} = 3,527.94$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{269,448.71}{8} = 33,681.09$$

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \cdot \sqrt{\Sigma y^2}}$$

$$= \frac{39,576,009.11}{\sqrt{9,838,856.13} \cdot \sqrt{208,656,808.81}} = 0.9482$$

\therefore Correlation co-efficient of Deposit on Capital of HBL, $r = 0.9482$

Calculation of Correlation Coefficient of Deposit on Capital of BOK

(Amount in Millions)

Fiscal Year	Total Capital Fund	Deposit of BOK
2061/62	777.45	8,942.75
2062/63	1,100.80	10,485.36
2063/64	1,265.82	12,388.93
2064/65	1,623.03	15,833.74
2065/66	2,005.69	18,083.98
2066/67	2,330.07	20,315.83
2067/68	2,662.07	21,018.42
2068/69	2,889.63	24,991.45

Let the variable Capital be X and Deposit be Y

FY	X	Y	$x = (X - \bar{X})$	$y = (Y - \bar{Y})$	xy	x^2	y^2
2061/62	777.45	8,942.75	-1,054.37	-7,564.81	7,976,108.72	1,111,696.10	57,226,350.34
2062/63	1,100.80	10,485.36	-731.02	-6,022.20	4,402,348.64	534,390.24	36,266,892.84
2063/64	1,265.82	12,388.93	-566.00	-4,118.63	2,331,144.58	320,356.00	16,963,113.08
2064/65	1,623.03	15,833.74	-208.79	-673.82	140,686.88	43,593.26	454,033.39
2065/66	2,005.69	18,083.98	173.87	1,576.42	274,092.15	30,230.78	2,485,100.02
2066/67	2,330.07	20,315.83	498.25	3,808.27	1,897,470.53	248,253.06	14,502,920.39
2067/68	2,662.07	21,018.42	830.25	4,510.86	3,745,141.52	689,315.06	20,347,857.94
2068/69	2,889.63	24,991.45	1,057.81	8,483.89	8,974,343.68	1,118,962.00	71,976,389.53
$\Sigma =$	14,654.56	132,060.46	-	-	29,741,336.69	4,096,796.50	220,222,657.53

$$\bar{X} = \frac{\Sigma X}{N} = \frac{14,654.56}{8} = 1,831.82$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{132,060.46}{8} = 16,507.56$$

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \cdot \sqrt{\Sigma y^2}}$$

$$= \frac{29,741,336.69}{\sqrt{4,096,796.50} \cdot \sqrt{220,222,657.53}} = 0.9902$$

\therefore Correlation co-efficient of Deposit on Capital of BOK, $r^2 = 0.9902$

APPENDIX M

Calculation of Correlation Coefficient of Credit on Capital of HBL

(Amount in Millions)

Fiscal Year	Total Capital Fund	Credit of HBL
2061/62	2,017.06	12,424.52
2062/63	2,242.84	14,642.56
2063/64	2,651.37	16,998.00
2064/65	3,253.52	19,497.52
2065/66	3,845.21	24,793.16
2066/67	4,218.36	27,980.63
2067/68	4,711.24	31,566.98
2068/69	5,283.90	34,965.43

Let the variable Capital be X and Credit be Y

FY	X	Y	$x=(X-\bar{X})$	$y=(Y-\bar{Y})$	xy	x^2	y^2
2061/62	2,017.06	12,424.52	-1,510.88	-10,434.08	15,764,642.79	2,282,758.37	108,870,025.45
2062/63	2,242.84	14,642.56	-1,285.10	-8,216.04	10,558,433.00	1,651,482.01	67,503,313.28
2063/64	2,651.37	16,998.00	-876.57	-5,860.60	5,137,226.14	768,374.96	34,346,632.36
2064/65	3,253.52	19,497.52	-274.42	-3,361.08	922,347.57	75,306.34	11,296,858.77
2065/66	3,845.21	24,793.16	317.27	1,934.56	613,777.85	100,660.25	3,742,522.39
2066/67	4,218.36	27,980.63	690.42	5,122.03	3,536,351.95	476,679.78	26,235,191.32
2067/68	4,711.24	31,566.98	1,183.30	8,708.38	10,304,626.05	1,400,198.89	75,835,882.22
2068/69	5,283.90	34,965.43	1,755.96	12,106.83	21,259,109.21	3,083,395.52	146,575,332.65
$\Sigma =$	28,223.50	182,868.80	-	-	68,096,514.57	9,838,856.13	474,405,758.44

$$\bar{X} = \frac{\Sigma X}{N} = \frac{28,223.50}{8} = 3,527.94$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{182,686.80}{8} = 22,858.60$$

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \cdot \sqrt{\Sigma y^2}}$$

$$= \frac{68,096,517.57}{\sqrt{9,838,856.13} \cdot \sqrt{474,405,758.44}} = 0.9967$$

\therefore Correlation co-efficient of Credit on Capital of HBL, $r1 = 0.9967$

Calculation of Correlation Coefficient of Credit on Capital of BOK

(Amount in Millions)

Fiscal Year	Total Capital Fund	Credit of BOK
2061/62	777.45	5,912.58
2062/63	1,100.80	7,259.08
2063/64	1,265.82	9,399.33
2064/65	1,623.03	12,462.64
2065/66	2,005.69	14,647.29
2066/67	2,330.07	16,664.93
2067/68	2,662.07	17,468.19
2068/69	2,889.63	18,813.94

Let the variable Capital be X and Credit be Y

FY	X	Y	$x=(X-\bar{X})$	$y=(Y-\bar{Y})$	xy	x ²	y ²
2061/62	777.45	5,912.58	-1,054.37	-6,915.92	7,291,938.57	1,111,696.10	47,829,949.45
2062/63	1,100.80	7,259.08	-731.02	-5,569.42	4,071,357.41	534,390.24	31,018,439.14
2063/64	1,265.82	9,399.33	-566.00	-3,429.17	1,940,910.22	320,356.00	11,759,206.89
2064/65	1,623.03	12,462.64	-208.79	-365.86	76,387.91	43,593.26	133,853.54
2065/66	2,005.69	14,647.29	173.87	1,818.79	316,233.02	30,230.78	3,307,997.06
2066/67	2,330.07	16,664.93	498.25	3,836.43	1,911,501.25	248,253.06	14,718,195.14
2067/68	2,662.07	17,468.19	830.25	4,639.69	3,852,102.62	689,315.06	21,526,723.30
2068/69	2,889.63	18,813.94	1,057.81	5,985.44	6,331,458.29	1,118,962.00	35,825,491.99
$\Sigma=$	14,654.56	102,627.98	-	-	25,791,889.28	4,096,796.50	166,119,856.51

$$\bar{X} = \frac{\Sigma X}{N} = \frac{14,654.56}{8} = 1,831.82$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{102,627.98}{8} = 12,828.50$$

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \cdot \sqrt{\Sigma y^2}}$$

$$= \frac{25,791,889.28}{\sqrt{4,096,796.50} \cdot \sqrt{166,119,856.51}} = 0.9887$$

\therefore Correlation co-efficient of Credit on Capital of BOK, $r^2 = 0.9887$