NEPAL RASTRA BANK: CAPITAL ADEQUACY FRAMEWORK FOR COMMERCIAL BANKS AND ITS IMPACT

A CASE STUDY OF SCB, HBL, NICB, LBL AND RBB.

A Master Degree Thesis

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Submitted To:

Office of the Dean
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In partial fulfillment of the requirement of the degree of
Master of Business Studies (M.B.S.)

Kathmandu, Nepal
February, 2013

RECOMMENDATION

This is to certify that the Thesis

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A CASE STUDY OF SCB, HBL, NICB, LBL AND RBB

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And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for

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DECLARATION

I hereby, declare that the work reported in this thesis entitled **"Nepal Rastra Bank: Capital Adequacy Framework for Commercial Banks and Its Impact a A Case Study of SCB, HBL, NICB, LBL AND RBB"** submitted to Research Department of Shanker Dev Campus, Tribhuvan University, Kathmandu is my original work. It has been done in the form of research work for the partial fulfillment for the requirements of the degree of Master of Business Studies (M.B.S.) under the supervision of ***Dr.*** **Ruchila Pandey Associate Professor of Tribhuvan University, Shanker Dev Campus, Kathmandu, Nepal.**

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ACKNOWLEDGEMENTS

This thesis **NEPAL RASTRA BANK: CAPITAL ADEQUACY FRAMEWORK FOR COMMERCIAL BANKS AND ITS IMPACT A Case Study of SCB, HBL,NICB,LBL and RBB** has been prepared in partial fulfillment of the requirement of the degree of Master of Business Studies (M.B.S.). This Master's Degree thesis seeks to demystify the impact of Capital Adequacy Norms prescribed by NRB through its directive no. one on commercial banks of Nepal. This thesis aims at analyzing the steps taken by banks to fulfil the requirements as per the norms. In addition, this thesis also endeavours to reflect the views of key stakeholders on some key issues relating to capital adequacy norms and safety of deposits.This thesis would not have been possible without the guidance and the help of a large number of people. First and foremost I am extremely grateful to Assoc. Prof. Ruchila Pandey for their able guidance. I must take this opportunity to thank Mr. Anuj Manandhar, (Prime Bank), Mrs. Bandana Pokharel (NIC Bank), Mr. Rishi Ram Neupane (Lumbini Bank), Mr. Gyanendra Shrestha (Himalayan Bank), Mrs. Priyanka Ranjit (SCB), all the interviewees and possible key stakeholders for their valuable inputs and precious time. I also thank the staff of Central Library, TU., NRB and Shanker Dev Campus, who helped me with all the information that I required. I owe special thanks to the officials of NRB who have provided me with the various data, which have been used in my present thesis. I'm indebted to the Bank of International Settlements, Basel Committee, NRB, all the commercial banks and several other institutions whose website/references I have accessed for data and research material. I'm also indebted to the administrative staff of Shanker Dev Campus for all the tedious administrative works.

I am deeply in debt of those friends and people who gave me their direct or indirect hand for their constant encouragement, help, strength and enquiry in the preparation of thesis. Finally I will never find words enough to express the gratitude that I owe to my family.

Thank you.

Chandra Gobinda Maharjan
Nepal Rastra Bank: Capital Adequacy
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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
ADB/N	Agricultural Development Bank of Nepal
AfDB	African Development Bank
AMC	Assets Management Corporation
ATMs	Automated Teller Machines
BAFIA	Banks and Financial Institutions Act
BCBS	Basel Committee on Banking Supervision
BIA	Basic Indicator Approach
BIS	Bank for International Settlements
BOK	Bank of Kathmandu Limited
BoAN	Bank of Asia Nepal Limited
BoP	Balance of Payments
CAR	Capital Adequacy Ratio
CBL	Civil Bank Limited
CBIL	Citizens Bank International Limited
CBPASS	Commercial Bank Problem Analysis and Strategy Study
CCBL	Century Commercial Bank Limited
CDB	Caribbean Development Bank
CDR	Capital to Deposit Ratio
CEDB	Council of Europe Development Bank
CRM	Credit Risk Mitigants
CRR	Cash Reserve Ratio
CTBN	Commerz and Trust Bank Nepal Limited
CV	Coefficient of Variation
DCBL	Development Credit Bank Limited
DCGC	Deposit & Credit Guarantee Corporation
d.f.	Degree of Freedom
DSM	Dispute Settlement Mechanism
EBL	Everest Bank Limited
EBRD	European Bank for Reconstruction and Development
EC	European Communities
ECA	Export Credit Agencies
EIB	European Investment Bank
EIF	European Investment Fund
ESAF	Enhanced Structural Adjustment Facility
FY	Fiscal Year
GBL	Global Bank Limited
HBL	Himalayan Bank Limited
IADB	Inter-American Development Bank
IAS	International Accounting Standards
IBRD	International Bank for Reconstruction and Development
IDB	Islamic Development Bank
IFC	International Finance Corporation
IMF	International Monetary Fund
IRB	Internal Ratings Based
ISA	International Standards on Auditing
JBNL	Janata Bank Nepal Limited
KIST	Kist Bank Limited
KMBL	Kumari Bank Limited
LAXMI	Laxmi Bank Limited

L/C	Letter of Credit
LDCs	Least Developed Countries
LBL	Lumbini Bank Limited
M.B.S.	Master of Business Studies
MBNL	Mega Bank Nepal Limited
MCDBs	Micro Credit Development Banks
MDBs	Multilateral Development Banks
MPBL	Machhapuchhre Bank Limited
NABIL	Nabil Bank Limited
NBA	Non-Banking Assets
NBBL	Nepal Bangladesh Bank Limited
NBFIs	Non-Bank Financial Institutions
NBL	Nepal Bank Limited
NCCB	Nepal Credit and Commerce Bank Limited
NGOs	Non-Governmental Organizations
NIB	Nepal Investment Bank
NICB	Nepal Industrial and Commercial Bank Limited
NIDC	Nepal Industrial Development Corporation
NINV	Nepal Investment Bank Limited
NMB	NMB Bank Limited
NPA	Non-Performing Assets
NPL	Non-Performing Loan
NRB	Nepal Rastra Bank
NRN	Non-Resident Nepalese
NSBI	Nepal SBI Bank Limited
PCBL	Prime Commercial Bank Limited
POS	Point of Sales
PSEs	Public Sector Entities
Q4	Fourth Quarter
r	Correlation Coefficient
r^2	Determinants
RBB	Rastriya Banijya Bank
SAP	Structural Adjustment Programme
SCBL	Standard Chartered Bank Nepal Limited
SD	Standard Deviation
SDBL	Siddhartha Bank Limited
SLR	Statutory Liquidity Ratio
SOL	Single Obligor Limit
SRBL	Sunrise Bank Limited
SSA	Simplified Standardized Approach
TC	Travelers' Cheques
TRWA	Total Risk Weighted Assets
UK	United Kingdom

CHAPTER I
INTRODUCTION

1.1. Background

A strong and sound financial system can promote economic growth, mobilize and allocate resources efficiently, make capital more productive and create jobs. It lessens vulnerability to financial crisis and defrays the economic and social costs that accompany financial disruption. Since the financial system performs the crucial task of raising funds for, and channeling funds to, productive investment, successful financial liberalization is normally a significant constituent of a country's strategy for economic growth. In Nepal, the pace of financial liberalization started in the mid 1980s when the government allowed the entry of commercial banks in joint venture with foreign bank. Since then, the Nepalese financial system has undergone rapid structural changes, with a large number of financial institutions rendering an array of financial products and services. While the increased competition has been instrumental in enhancing efficiency in the financial sector, new challenges have also emerged.

The process of financial liberalization gained momentum in 1987/88 when Nepal entered into a three-year Structural Adjustment Programme (SAP) with the IMF. The broad aim of this programme was to increase the role of market forces in the financial system. The NRB initiated regular auctions of Treasury bill since 1988/89 in order to introduce greater flexibility in the interest rate structure. It also redesigned its rediscounting rates in the form of three windows: basic rate, selective rate and lender of the last resort rate in 1989. For reducing the dependence of commercial banks on the NRB for short-term borrowing requirements, a call money market was set up during 1988/89. During the same period, a comprehensive study entitled "Commercial Bank Problem Analysis and Strategy Study (CBPASS)" was undertaken in order to improve the financial and organizational structure of the two state-owned commercial banks (Nepal Bank Limited [NBL] and Rastriya Banijya Bank [RBB]). Some of the suggestions incorporated in the CBPASS were implemented in 1990/91. Because of the satisfactory results of the SAP, Nepal entered into another three-year Enhanced Structural Adjustment Facility (ESAF) with the IMF in 1992/93. During that period,

the core focus of financial liberalization was directed towards a) allowing market forces to play a greater role in the financial system, b) enhancing private sector participation in the development of the financial system, c) increasing competition and thereby efficiency of the financial system, d) improving and increasing increase financial instruments and e) developing the capital market.

With the enactment of the Nepal Rastra Bank Act, 2002, the central bank of the country has become an independent body in executing its policies for ensuring sound, efficient and healthy financial system through prudent regulatory and supervisory mechanism. An array of reform measures pertaining to financial sector legislation included the enactment of a new Nepal Rastra Bank Act, 2002 and Debt Recovery Act, 2002. In 2004, Bank and Financial Institution Ordinance was enacted and the new legal framework replaced different fragmented legal framework governing the operations of banks and financial institutions.4 In the context of promulgation of the Banks and Financial Institutions Act (BAFIA), the existing prudential regulations and directions, which were separately issued for banks and financial institutions, have already been revised and integrated into a unified directive and came into implementation from July 16, 2005.

Banking in modern sense started with the inception of Nepal Bank Limited (NBL) on 15 November 1937 under Nepal Bank Act 1937 though in Europe modern banks were set up in the 12th century itself. NBL was set up with cooperation of Imperial Bank of India. Before the era, larger section of deficit units of the society had no choice but to knock the doors of the traditional bankers to cover their deficit and the surplus units who were not traditional bankers had the Hobson's choice of keeping their surplus money in ghyampos (a large clay jar) exposing themselves to the risk of theft and erosion in the value of money. As stated above, the first outcome of the reform process in the financial sector back in the 1980s was the birth of the country's first private sector commercial bank. Until 1984, commercial banking transaction was undertaken by then only two state-owned commercial banks, namely Rastriya Banijya Bank (RBB) and Nepal Bank Ltd. (NBL). Likewise, finance companies as well as development banks too came into the financial field. The sustenance of reforms during the past two decades has resulted in a tremendous growth of the financial sector. Consequently, by the end of mid – July 2012, altogether there are 32 "A" class commercial banks licensed by NRB are in

operation with total capital fund of Rs. 97069 million and capital adequacy ratio of 11.50%. They mobilise the deposit of Rs. 867978 million and credit flow is Rs. 622575 million as of mid July 2012. Their NPA is 2.60% where private commercial banks have 1.70% NPA in an average and government owned commercial banks have 6.54% in an average.

In recent years, bank regulators have accentuated their focus on the adequacy of banking organizations capital ratios. The increased emphasis on capital regulation has raised a number of inter-related questions: is focusing on capital an efficient way of regulating banks? What is the best way to structure capital regulation? How do banks respond to different types of capital regulation? Is there any 'trigger' level of capital adequacy, below (resp. above) which banks are induced to indulge in lower (resp. higher) risk taking behaviour?

1.2 Profile of Sample Banks

The profile of sample banks is as follows:

1.2.1 Standard Chartered Bank Limited

Standard Chartered Bank Nepal Limited has been in operation in Nepal since 1987 when it was initially registered as a joint-venture operation. Today the Bank is an integral part of Standard Chartered Group having an ownership of 75% in the company with 25% shares owned by the Nepalese public. The Bank enjoys the status of the largest international bank currently operating in Nepal.

Standard Chartered has a history of over 150 years in banking and operates in many of the world's fastest-growing markets with an extensive global network of over 1750 branches (including subsidiaries, associates and joint ventures) in over 70 countries in the Asia Pacific Region, South Asia, the Middle East, Africa, the United Kingdom and the Americas. As one of the world's most international banks, Standard Chartered employs almost 75,000 people, representing over 115 nationalities, worldwide. This diversity lies at the heart of the Bank's values and supports the Bank's growth as the world increasingly becomes one market.

With 19 points of representation, 23 ATMs across the country and with more than 425 local staff, Standard Chartered Bank Nepal Ltd. is in a position to serve its customers through an extensive domestic network. In addition, the global network

of Standard Chartered Group gives the Bank a unique opportunity to provide truly international banking services in Nepal.

SCB has an Authorized Capital of Rs. 2,000 Million with paid-up capital of Rs. 1,610 Million. The other entities hold 2.03 % of paid-up capital amounting to Rs. 32 Million general public remaining 22.97% amounting to Rs. 370Million and foreign ownership of 75% amounting Rs. 1,207 Million.

1.2.2 Himalayan Bank Limited:

Himalayan Bank was established in 1993 in joint venture with Habib Bank Limited of Pakistan. Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities-Loans and Deposits.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer service. Products such as Premium Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following our lead by introducing similar products and services. Therefore, we stand for the innovations that we bring about in this country to help our Customers besides modernizing the banking sector. With the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure of other local banks under our credit standing with foreign correspondent banks, we believe we obviously lead the banking sector of Nepal. The most recent rating of HBL by Bankers' Almanac as country's number 1 Bank easily confirms our claim.

It has an Authorized Capital of Rs. 3,000 million with paid-up capital of Rs. 2,400 million. The other entities hold 65 % of paid-up capital amounting to Rs. 1560 Million general public remaining 15% amounting to Rs. 360 Million and foreign ownership of 20% amounting Rs. 480 Million.

1.2.3 Nepal Industrial and Commercial Bank Limited

Nepal Industrial & Commercial Bank Limited (NIC Bank) commenced its operation on 21 July 1998 from Biratnagar. The Bank was promoted by some of the prominent business houses of the country. The current shareholding pattern of the Bank constitutes of promoters holding 51% of the shares while 49% is held by the

general public. NIC Bank has over 34,000 shareholders. The shares of the Bank are actively traded in Nepal Stock Exchange with current market capitalization of about NPR 10,493million.

The Bank has grown rapidly with 36 branches throughout the country while several branches are planned to be opened this year. All branches are inter-connected through optical fiber as well as V-Sat and are capable of providing real time on-line transactions.

NIC Bank has an Authorized Capital of Rs. 1,600 million with paid-up capital of Rs. 1,311.55 million. The promoter group holds 51 % of paid-up capital amounting to Rs. 668.89 and remaining 49% amounting to Rs. 642.66 is held by the general public. The shares are listed with Nepal Stock Exchange.

1.2.4. Lumbini Bank Limited

Lumbini Bank Limited is offering a wide range of banking solutions and services meticulously customized to the needs of the customers. Established in 1998, this is the first regional commercial bank in Nepal, which started its operation from Narayangarh spreading its wings to further fourteen more places at Hetauda, Butwal, Naxal, Biratnagar, Parsa Bazaar, Indrachowk, Baneshwor, Bardhghat, Parasi, Suryabinayak, Gwarko, Damauli, Mangal Bazaar and Lanku of Chitwan District. It has authorized capital of NRS. 1.6016 billion With Issued paidup capital of NRS. 1.6016 billion.

1.2.5 Rastriya Banijya Bank Limited:

Rastriya Banijya Bank (RBB) is fully government owned, and the largest commercial bank in Nepal. RBB was established on January 23, 1966 (2022 Magh 10 BS) under the RBB Act. Now, the bank is running under bank and financial institute act 2063. RBB has been contributing to socio economic development of the country for the last four and half decades. The Bank has currently entered into 47 years of service. RBB provides various banking services to a wide range of customers they include elite to poor individuals, institutional customers, and the customers from industry / business communities.

RBB has Nepal's most extensive banking network with over 140 branches (140 ABBS Branches). Through its widest branch and ABBS network RBB has been catering modern Banking services to millions of customers. The Bank was

transformed in s company in 2063 1-6 B.S. Following this historical transformation the bank has successfully completed its five general assemblies.

RBB has many correspondent arrangements with major international banks all over the world that facilitate trade finance, bank-originated personal funds transfers and interbank funds transfer via SWIFT. In a bid to promote remittance business, RBB works with Western Union and International Money Express, two leading person-to-person funds transfer networks.

The bank has played crucial role for the development of financial sector i.e. bank, insurance companies through its promoter's role. As a second commercial bank of the country, the bank has been contributing in the trade, industry and agricultural sector of the country. The bank has also contributed in the hydropower sector. Health and Education sector are also benefitted through its disbursement.

RBB has an Authorized Capital of Rs. 1557 million with paid-up capital of Rs. 1172 Million with 100% ownership of government.

1.3. Concept of Capital Adequacy

Capital is often described as one of the most fundamental and elusive concepts. It is simply the arithmetic difference between assets and liabilities, which is also known as net worth or shareholders' equity. Thus, a bank is solvent if the difference between assets and liabilities is positive and vice versa. Benink and Wihlborg (2002) point out that capital serves three functions: (i) it is a buffer against unexpected losses causing bankruptcy;(ii) equity capital creates incentives for managing risk appropriately from the perspective of the shareholders; and (iii) equity capital of sufficient magnitude signals that lenders to the firm will not be taken advantage of.

Mainelli (2004) emphasises the importance of capital by arguing that "capital is pivotal to everything that a bank does, and changing it... has wide-ranging implications for bank management and bank investors."Specifically, he suggests that changing capital requirements has the effect of changing banks' behaviour towards risk because capital levels (i) constrain a key performance measure (return on equity); (ii) influence a bank's ability to lend and spend; and (iii) limit dividends and capital repatriation. Capital, therefore, is the cushion that protects banks from insolvency. But bank failure may occur because of illiquidity even if a bank is

solvent. Is not this exactly what happened to Northern Rock, which endured a bank run on its deposits in September 2007? Then what is so good for the bank itself about being solvent if, as a result of a loss event, it is not in a position to resume business as usual. Solvent or insolvent, Northern Rock could not resume business as usual, creating significant problems for the British government and forcing the nationalization of the bank in February 2008.
(Imad A. Moosa (2008), *Quantification of Operational Risk under Basel II The Good, Bad and Ugly*)

The concept of capital adequacy refers to the requirement that banks hold adequate capital to protect themselves against insolvency. 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 buffer against future unexpected losses? Therefore, capital must be sufficient 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.

1.4. Statement of the Problem

To minimize the risk involved in the financial sector, the regulation regarding risk management has already been issued. To monitor such system by the NRB, the policy of implementing risk-based supervision is also being pursued. To develop risk management system, the private sector has been encouraged to establish a credit rating agency. In reference to the building up of appropriate infrastructure for the implementation of BASEL II Accord since 2007, necessary directives, policies and provisions for the banks and financial institutions have been formulated in compliance with the accord. Further, as per BASEL II Accord, the regulatory provision has been prepared complying with the Simplified Standardized Approach (SSA) for capital base and Basic Indicator Approach (BIA) for operational risk. The current enforced capital adequacy ratio for commercial bank is 10% including 6% of core capital to Total Risk Weighted Exposures. There are several challenges for the

accord's implementation. The riskiness of assets at a particular point of time may not necessarily be the same at another point of time. One important concern raised by most economists is that new framework would result in worsening credit growth and affect the business cycle adversely. In this regard in a down turn, when loan losses are increased due to poor quality of assets, capital may be eroded. This thesis aims to analyse the impact of New Capital Adequacy Framework (Basel II implementation in Nepal) in the context of Nepal. How does Basel-II affect the economy and the banking industry in Nepal countries? Does the regulatory capital as required by Basel-II overstate the magnitude of an economic? How does the lending behaviour respond to the riskier behaviour as a result of tightened capital constraint?

1.5. Objectives of the Study

The specific objectives of the proposed study are as follows:

- To analyse the significance and impact of NRB capital adequacy norms on commercial banks' Capital Fund, Credit, Deposit, and NPL;
- To examine the capital adequacy of commercial banks
- To analyse the steps taken by commercial banks to fulfill the requirements as per these norms;
- Presentation of key stakeholders' perception on New Capital Adequacy Framework and
- To make necessary suggestions and recommendations

1.6. Scope of the Study

The study focuses on the capital funds of the commercial banks, which are supposed to be adequate as the NRB Directive no. 1 which is related with capital adequacy norms for commercial banks. This study revolves around the impact of the directive.

1.7. Importance of the Study

a) This thesis is prepared in partial fulfilment of the requirement for the degree of Master of Business Studies (MBS).

b) This proposed study offers overall background of Nepal's financial services sector and NRB regulation on Capital Management for commercial banks to mitigate risks.
c) This proposed study could be useful for future researchers and reference purposes.

1.8. Limitations of the Study

a) This proposed study faces serious time and resource constraints.
b) Not all financial sub-sectors have been covered by the study. Institutions that have been providing micro-finance for rural development have not been covered. Likewise, no attempt was made to look into issues relating to Employees Provident Fund and Pension Fund.
c) As studies based on the balance sheet, Income Statement and GDP, the study will be mainly based on the secondary data collected from various sources

1.9. Organization of the Study:

The proposed study will be organized into five sections, each section deals with the specific aspects of the study that will be as follows:

Chapter One: Introduction

Chapter Two: Review of Literature

Chapter Three: Research Methodology

Chapter Four: Presentation and Analysis

Chapter Five: Summary, Conclusion and Recommendation

Chapter One will provide a general introduction to the proposed study named "Nepal Rastra Bank: Capital Adequacy Framework for Commercial Banks and Its Impact". It will contain general background, significance, and limitation of the study and will also clearly spell out the focus and objectives of the study and the problem the study aims to probe in.

Chapter Two will present the theoretical analysis and review of the related and pertinent literature available. It will include a discussion on the conceptual framework and review of related studies highlighting on its relevant findings.

Chapter Three will describe the methodology employed in preparing this study. It will deal with research design, sources of information and data, tools used etc. for the study. It will briefly mention the information and data collection and analysis technique and inherent limitation of such technique.

Chapter Four is very important which include presentation and analysis. This part will contain data and its analysis of commercial banks. Qualitative analyses as and when required and possible.

Last section will present summary and conclusion of the study. The major findings of the study will be presented in brief for convenience of the readers and implication of such findings will be stated as recommendation. This section will also incorporate an outlet for future research.

A bibliography and appendices will be attached at the end of the study.

CHAPTER II

REVIEW OF LITERATURE

In the topic of thesis, there is scanty amount of literature that makes a relative assessment of impact of NRB directives on commercial banking sector. As such, the attempt to review the capital adequacy framework of NRB and its impact on commercial bank can be taken to be a unique one. Nonetheless, various literatures relating to financial sector reforms have been referred to during the course of study. Ample literature has been drawn from various agencies, particularly the NRB. Laws, by-laws, directives, guidelines, etc. issued by NRB concerning commercial banks have been amply referred to for the purpose of the study.

Likewise, Basel II documents availed from the BIS website with regards to the banking supervision has also been amply reviewed. In addition, past researches relating to capital adequacy norms for commercial banks have also been reviewed, so has different relevant articles that have appeared in different newspapers, journals, magazines and books, among others. A huge amount of literature available in the internet has been used. References to the most relevant documents, including theoretical review and information on the overall accession package to financial sector liberalization, are made in this chapter.

2.1. Theoretical Review

The theoretical review encompasses the overview of Nepal's financial system, overview of the Nepalese commercial banks, the Nepal Rastra Bank with focus on Capital adequacy framework.

2.1.1 Overview Of The Nepalese Commercial Banks

There are 32 commercial banks in Nepal. Total assets of the commercial banks, as of mid-July 2012 were Rs.1067,096.60 million. Of the commercial banks, RBB & NBL – with share total share of 17.12 percent of total commercial banking system assets respectively – are still the most dominant although these banks' shares are decreasing.

The government owns the key commercial banks, including RBB, the Agricultural Development Bank of Nepal (ADB/N is Nepal's third largest bank) and, until recently, NBL where it still retains a 40.49 percent stake-holding. When ADB/N is also taken into account as a state-owned bank, the government's share of the total assets of the commercial banks is 24.71 percent around 25 percent. In contrast, the six joint venture banks, some of which also have government direct or indirect ownership – hold 30.53 percent around 30 percent of banking system assets.

The private commercial banks represent 75.29 percent of the banking system (with Rs. 661349.46 million in assets). This group is dominated by large banks – Nabil Bank, Standard Chartered Bank, Nepal Investment Bank, Himalayan Bank and recently Bank of Kathmandu. The joint venture banks are from the United Kingdom (UK), Australia, Ireland, Pakistan, India and Bangladesh.

2.1.2 Nepal Rastra Bank As Central Bank and Its Role

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.

It is a difficult task to put aside the importance and functions of a central bank. Shekharand Shekhar (1998) comments that it is difficult to lay down any hard and fast rule regarding the functions of a central bank. The powers and the range of functions of central banks vary from country to country.

The most important and the earliest functions to be discharged by a central bank is to act as a bank of issue. It is also known as a banker's bank. The central bank also acts as a lender of the last resort. In case of any problems and emergency to any of the banks operating under it, central bank comes forward to rescue them temporarily from such problems. It also plays the role of an agent, an advisor and banker to the Government. Central bank is a custodian of the nation's metallic reserves and controller of currency.

A central bank has sole right to issue national currency notes. It controls money flow in the market by imposing monetary policy. It issues notes after full analysis of unemployment, inflation, economic growth, etc. of the country. Central bank is the holder of all the government balances. It is the holder of all the reserves of the other banks and financial institutions in the country.

Objectives between a central bank and other commercial banks are different. The main objective of a central bank is to assist the government to implement economic policies without any profit motive, where as the main objectives of other banks is to earn profit by mobilizing funds collected from the general public. The central bank also plays the role of a guardian and parent to other commercial banks.

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 suppose 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.

With a view to develop the NRB into a modern central bank, capable in maintaining financial sector stability, the second phase of financial sector reform is being focused on updating the information technology, supervisory capability and human resource management. Moreover, the accounting system of the NRB is being updated to comply with the requirements of international accounting standard and Nepal accounting standard.

In 2004, Bank and Financial Institution Ordinance was enacted and the new legal framework replaced different fragmented legal framework governing the operations of banks and financial institutions.4 In the context of promulgation of the Banks and Financial Institutions Act (BAFIA), the existing prudential regulations and directions, which were separately issued for banks and financial institutions, have already been revised and integrated into a unified directive and came into implementation from July 16, 2005. To minimize the risk involved in the financial sector, the regulation regarding risk management has already been issued. To monitor such system by the NRB, the policy of implementing risk-based supervision is also being

pursued. To develop risk management system, the private sector has been encouraged to establish a credit rating agency.

In reference to the building up of appropriate infrastructure for the implementation of BASEL II Accord since 2007, necessary directives, policies and provisions for the banks and financial institutions have been formulated in compliance with the accord. Further, as per BASEL II Accord, the regulatory provision has been prepared complying with the Simplified Standardized Approach (SSA) for capital base and Basic Indicator Approach (BIA) for operational risk.

2.1.3. Concept of Capital Adequacy Ratio(CAR)

Capital adequacy ratio for banking organizations is an important issue that has received a considerable attention in finance literature. It can be defined as a measure of a bank's risk exposure. Bank's risk is classified into credit risk, market risk, interest risk, operational risk, and exchange rate risk that are included in the calculation of capital adequacy ratio. So regulatory authorized used Capital Adequacy Ratio as an important measure of safety and soundness for banks and depository institutions because they view capital as buffer or cushion for absorbing losses (Abdel-Karim 1996).

The concept of Capital adequacy appeared in the middle of 1970's because of expansion of lending activities in the bank without any parallel increase in its capital, since capital ratio was measured by Total Capital divided by Total Assets. This led to the evolution of international debt crisis and the failure of one of the biggest American banks: Franklin National Bank (Koehn 1980). These events forced regulatory authorities to stress more control procedures and to improve new criteria and methods to avoid bank insolvency.

A committee of banking regulation and supervisory practices of the Bank for International Settlement (BIS) which is called Basel Committee, met for the first time in Basel, a city of Switzerland 1n 1987. The committee included representative from G-10 countries. Central banks of G-10 countries approved the adjusted proposal about bank's capital adequacy and a way to measure capital adequacy ratio (CAR) by Total Capital divided by Risk Weighted Assets to be applied the year 1988. Major points of Basel Committee are connecting of bank capital requirements

with resulted from a bank's activities, dividing capital into two Tiers: Core Capital and Supplementary Capital, classifying bank's activities into different categories according to its degree of risk.

One of the most trends that arose at the end of 1980s is the emphasis of capital. So capital adequacy has become the major benchmark for financial institutions and considered as a primary measure for safety and soundness.

2.1.4. Capital Adequacy Framework 2007 (updated July 2008)

2.1.4.1. Introduction

2.1.4.1.1 Background

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 capital should be held by banks 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. 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. The new capital framework also recognizes that large, usually internationally active banks have already put in place sophisticated approaches to risk measurement and management based on statistical inference rather than judgment alone. Thus, the framework allows banks, under certain conditions, to use their own 'internal' models and techniques to measure the key risks that they face, the probability of loss, and the capital required to meet those losses. In developing the new framework, the Basel Committee wanted to incorporate many elements that help promote a sound and efficient financial system over and above the setting of minimum capital requirements. With this in mind, the Basel II framework incorporates three complementary 'pillars' that draw on the range of approaches to help ensure that banks are adequately capitalised in commensurate with their risk profile. The Basel Committees on Banking Supervision's (BCBS) recommendations on capital accord are important guiding framework for the regulatory capital requirement to the banking industry all over the world and Nepal is no exception.

Realizing the significance of capital for ensuring the safety and soundness of the banks and the banking system, at large, Nepal Rastra Bank (NRB) has developed and enforced capital adequacy requirement based on international practices with appropriate level of customization based on domestic state of market developments. The existing regulatory capital is largely based on the Basel committee's 1988 recommendations. With a view of adopting the international best practices, NRB has already expressed its intention to adopt the Basel II framework, albeit in a simplified form. In line with the international development and thorough discussion with the stakeholders, evaluation and assessment of impact studies at various phases, this framework has been drafted. This framework provides the guidelines for the implementation of Basel II framework in Nepal. Reminiscent of the International convergence of capital measurements and capital standards, this framework also builds around three mutually reinforcing pillars, viz. minimum capital requirements, supervisory review process and disclosure requirements.

The adequacy of bank capital is the most important aspect of a bank. The capital adequacy ratio is derived on the basis of total risk weighted assets (TRWA). NRB revises the directory time-to-time in order to meet the specific objective as required by the situation and progresses in the banking sector. The directive no. 1 dictates the minimum capital fund required by commercial banks in terms of Capital

Adequacy Ratio. The revised capital ratios as stated by NRB for different time period are as follows.

Table 2.1
Prescribed Capital Adequacy Ratio

Period	Core Capital	Supplementary Capital	Total Capital Fund
FY 2058/59	4.50%	4.50%	9%
FY 2059/60	5%	5%	10%
FY 2060/61-2064/65	6%	6%	12%
FY 2065/66 onward	6%	4%	10%

Source: Nepal Rastra Bank Unified Directives 2069

2.1.4.1.2 Objective

The main objective of this framework is to develop safe and sound financial system by way of sufficient amount of qualitative capital and risk management practices. This framework is intended to ensure that each commercial banks maintain a level of capital which,

(i) is adequate to protect its depositors and creditors.
(ii) is commensurate with the risk associated activities and profile of the commercial bank.
(iii) Promotes public confidence in the banking system.

2.1.4.1.3 Pre-requisites:

The effective implementation of this framework is dependent on various factors. Some such pre-requisites are:

(i) Implementation of Basel Core Principles for effective Banking Supervision
(ii) Adoption of the sound practices for the management of Operational Risk
(iii) Formulation and adoption of comprehensive risk management policy
(iv) Adherence to high degree of corporate governance

2.1.4.1.4 Responsibility

The board of directors of each bank shall be responsible for establishing and maintaining, at all times, an adequate level of capital. The capital standards herein

are the minimum that is acceptable for banks that are fundamentally sound, well managed, and which have no material financial or operational weaknesses. Thus, the banks are generally expected to operate above the limits prescribed by this framework.

2.1.4.1.5 Scope of Application

This framework shall be applicable to all "A" Class financial institutions licensed to conduct banking business in Nepal under the Bank and Financial Institution Act, 2063. This capital adequacy framework shall be applicable uniformly to all "A" class financial institutions on a standalone basis and as well as on a consolidated basis, where the bank is member of a consolidated banking group. For the purpose of capital adequacy, the consolidated bank means a group of financial entities, parent or holding company of which a bank is a subsidiary. All banking and other relevant financial activities (both regulated and unregulated) conducted within a group including a bank shall be captured through consolidation. Thus, majority owned or controlled financial entities should be fully consolidated. If any majority owned subsidiaries institutions are not consolidated for capital purposes, all equity and other regulatory capital investments in those entities attributable to the group will be deducted and the assets and liabilities, as well as third party capital investments in the subsidiary will be removed from the bank’s balance sheet for capital adequacy purposes.

2.1.4.1.6 Approaches to Implementation

"International Convergence for Capital Measurements and Capital Standards: Revised Framework" alias Basel II under Pillar 1, provides three distinct approaches for computing capital requirements for credit risk and three other approaches for computing capital requirements for operational risk. These approaches for credit and operational risks are based on increasing risk sensitivity and allow banks to select an approach that is most appropriate to the stage of development of bank's operations. The product and services offered by the Nepalese Banks are still largely primitive and conventional, in comparison to other economies. This coupled with the various inherent limitations of our system like the absence of credit rating agencies makes the advanced approaches like Internal Ratings Based Approach or even Standardized Approach impractical and

unfeasible. Thus, at this juncture, this framework prescribes Simplified Standardized Approach (SSA) to measure credit risk while Basic Indicator Approach and an indigenous Net Open Position Approach for measurement of Operational Risk and Market Risk respectively.

2.1.4.1.7 Effective Date

All banks within the scope of this framework should adopt the prescribed approaches by Mid July 2008 (Fiscal Year 2065/066).

2.1.4.1.8 Parallel Run

In order to ensure a smooth transition to new approach prescribed by this framework, a parallel run for the whole year from Mid July 2007 (Fiscal Year 2064/065) was conducted. The returns submitted by the banks during this period were minutely reviewed to identify any anomalies. The identified shortcoming on the returns was advised to the bank management so that they could be rectified before we move onto full-fledged implementation. Based on the findings of the parallel run, amendments and modifications have been incorporated in the framework wherever deemed necessary.

2.1.4.1.9 Implementation of Advance Approaches

This framework prescribes the most simplest of the available approaches at the initial phase with a vision to move onto more complex and risk sensitive approaches as the market gradually gains maturity. However, banks willing to adopt advanced approaches, even for internal purposes, should obtain prior written approval from Nepal Rastra Bank on providing evidences that they have the resource and the capability to adopt the proposed approaches.

A bank will not be allowed to choose to revert to a simpler approach once it has been approved for a more advanced approach without supervisory approval. However, if a supervisor determines that a bank using a more advanced approach no longer meets the qualifying criteria for advanced approach, it may allow the bank to revert to a simpler approach for some or all of its operations, until it meets the conditions specified by the supervisor for returning to a more advanced approach.

2.1.4.2 Eligible Capital Funds

2.1.4.2.1 Definition of Capital

Qualifying capital consists of Tier 1 (core) capital and Tier 2 (supplementary) capital elements, net of required deductions from capital. Thus, for the purpose of calculation of regulatory capital, banks are required to classify their capital into two parts as follows;

a. Core Capital (Tier 1)

The key element of capital on which the main emphasis should be placed is the Tier 1 (core) capital, which comprises of equity capital and disclosed reserves. This key element of capital is the basis on which most market judgments of capital adequacy are made; and it has a crucial bearing on profit margins and a bank's ability to compete.

The BCBS has therefore concluded that capital, for supervisory purposes, should be defined in two tiers in a way, which will have the effect of requiring at least 50% of a bank's capital base to consist of a core element comprised of equity capital and published reserves from post-tax retained earnings.

In order to rank as Tier 1, capital must be fully paid up, have no fixed servicing or dividend costs attached to it and be freely available to absorb losses ahead of general creditors. Capital also needs to have a very high degree of permanence if it is to be treated as Tier 1.

b. Supplementary Capital (Tier 2)

The Supplementary (Tier 2) Capital includes reserves which, though unpublished, have been passed through the profit and loss account and all other capital instruments eligible and acceptable for capital purposes. Elements of the Tier 2 capital will be reckoned as capital funds up to a maximum of 100 percent of Tier 1 capital arrived at, after making adjustments referred to in 2.4. In case, where the Tier 1 capital of a bank is negative, the Tier 2 capital for

regulatory purposes shall be considered as zero and hence the capital fund, in such cases, shall be equal to the core capital.

2.1.4.2.2 Elements of Tier 1 Capital

a. Paid up Equity Capital.

b. Irredeemable non-cumulative preference shares which are fully paid-up and with the capacity to absorb unexpected losses. These instruments should not contain any clauses whatsoever, which permit redemption by the holder or issuer upon fulfillment of certain condition. Banks should obtain prior approval of NRB for this kind of instruments to qualify as a component of core capital.

c. Share Premium

d. Proposed Bonus Equity Share

e. Statutory General Reserve.

f. Retained Earnings available for distribution to shareholders.

g. Un-audited current year cumulative profit, after all provisions including staff bonus and taxes. Where such provisions are not made, this amount shall not qualify as Tier 1 capital.

h. Capital Redemption Reserves created in lieu of redeemable instruments.

i. Capital Adjustment reserves created in respect of increasing the capital base of the bank.

j. Dividend Equalization Reserves.

k. Any other type of reserves notified by NRB from time to time for inclusion in Tier 1 capital

2.1.4.2.3 Elements of Tier 2 Capital

a. Cumulative and/or redeemable preference shares with maturity of five years and above.

b. Subordinated term debt fully paid up with a maturity of more than 5 years; unsecured and subordinated to the claim of other creditors, free of restrictive clauses and not redeemable before maturity. Since, subordinated term debt

is not normally available to participate in the losses; the amount eligible for inclusion in the capital adequacy calculations is limited to 50% of core capital. Moreover, to reflect the diminishing value of these instruments as a continuing source of strength, a cumulative discount (amortization) factor of 20% per annum shall be applied for capital adequacy computations, during the last 5 years to maturity. The banks should obtain written approval of NRB for including any subordinated debt instruments (like Debenture/Bonds) in supplementary (Tier-2) capital.

c. Hybrid capital instruments. Those instruments which combine certain characteristics of debt and certain characteristics of equity. Each such instrument has a particular feature, which can be considered to affect its quality as capital. Where these instruments have close similarities to equity, in particular when they are able to support losses on an ongoing basis without triggering liquidation, they may be included in Tier 2 capital with approval from Nepal Rastra Bank.

d. General loan loss provision limited to a maximum of 1.25% of total Risk Weighted Exposures. General loan loss provision refers to the provisions created in respect of Pass Loans only and it does not include provisions of rescheduled/restructured and classified loans. The additional loan loss provisions created in respect of Personal Guarantee loans and loans in excess of Single Obligor Limits are specific provisions and hence cannot be included under this category. Such provisions however can be deducted from the gross exposures while calculating risk weighted exposures for credit risk.

However, provisions created in excess of the regulatory requirements or provisions which is not attributable to identifiable losses in any specific loans shall be allowed to be included in the General Loan Loss Provision and shall be eligible for Tier II capital subject to a maximum of 1.25% of total risk weighted exposures.

e. Exchange equalization reserves created by banks as a cushion for unexpected losses arising out of adverse movements in foreign currencies.

f. Investment adjustment reserves created as a cushion for adverse price movements in bank's investments falling under “Available for Sale” category.

g. Revaluation reserves often serve as a cushion against unexpected losses but may not be fully available to absorb unexpected losses due to the subsequent deterioration in market values and tax consequences of revaluation. Therefore, revaluation reserves will be eligible up to 50% for treatment as Tier 2 capital and limited to a maximum of 2% of total Tier 2 capital subject to the condition that the reasonableness of the revalued amount is duly certified by the internal auditor of the bank.

h. Any other type of reserves notified by NRB from time to time for inclusion in Tier 2 capital

2.1.4.2.4 Deduction from Core (Tier 1) Capital:

Banks shall be required to deduct the following from the Tier 1 capital for capital adequacy purposes. The claims that have been deducted from core capital shall be exempt from risk weights for the measurement of credit risk.

a. Book value of goodwill.

b. Miscellaneous expenditure to the extent not written off. e.g. VRS expense, preliminary expense, share issue expense, deferred revenue expenditure, etc. However, software expenditure or software development expenditure, research and development expenditure, patents, copyrights, trademarks and lease hold developments booked as deferred revenue expenditure are subject to 100% risk weight and may not be deducted from Tier 1 capital.

c. Investment in equity of financial institutions licensed by Nepal Rastra Bank2.

d. All Investments in equity of institutions with financial interest.

e. Investments in equity of institutions in excess of the prescribed limits.

f. Investments arising out of underwriting commitments that have not been disposed within a year from the date of commitment.

g. Reciprocal crossholdings of bank capital artificially designed to inflate the capital position of the bank.

h. Any other items as stipulated by Nepal Rastra Bank, from time to time.

2.1.4.2.5 Capital Funds:

The capital fund is the summation of Tier 1 and Tier 2 capital. The sum total of the different components of the tier 2 capitals will be limited to the sum total of the

various components of the Tier 1 capital net of deductions as specified in 2.4. In case the Tier 1 capital is negative, Tier 2 capital shall be considered to be "Nil" for regulatory capital adequacy purposes and hence, in such a situation, the capital fund shall be equal to the Tier 1 capital.

2.1.4.2.6 Minimum Capital Requirements:

Unless a higher minimum ratio has been set by Nepal Rastra Bank for an individual bank through a review process, every bank shall maintain at all times, the capital requirement set out below:

a. A Tier 1 (core) capital of not less than 6 per cent of total risk weighted exposure;
b. A total capital fund of not less than 10 per cent of its total risk weighted exposure.

The Capital Adequacy Ratio (CAR) is calculated by dividing eligible regulatory capital by total risk weighted exposure. The total risk weighted exposure shall comprise of risk weights calculated in respect of bank's credit, operational and market risks. The methodologies to calculate RWE for each of these risk categories are described in detail in subsequent chapters.

2.1.4.3 Credit Risk

2.1.4.3.1 General

Credit risk is the major risk that banks are exposed to during the normal course of lending and credit underwriting. Within Basel II, there are two approaches for credit risk measurement: the standardized approach and the internal ratings based (IRB) approach. Due to various inherent constraints of the Nepalese banking system, the standardized approach in its simplified form, Simplified Standardized Approach (SSA), has been prescribed in the initial phase.

2.1.4.3.2 Simplified Standardized Approach(SSA):

In comparison to Basel I, SSA aligns regulatory capital requirements more closely with the key elements of banking risk by introducing a wider differentiation of risk weights and a wider recognition of credit risk mitigation techniques. The advantage of implementing this approach is twofold. This approach allows transitional advantage for countries like us by avoiding excessive complexities associated with the advanced approaches of Basel II while at the same time it will produce capital ratios more in line with the actual economic risks that banks are facing, compared to the present Accord.

Under this approach commercial banks are required to assign a risk weight to their balance sheet and off-balance sheet exposures. These risk weights are based on a fixed weight that is broadly aligned with the likelihood of a counterparty default. As a general rule, the claims that have already been deducted from the core capital shall be exempt from risk weights for the measurement of credit risk.

Claims on foreign government, their central banks as well as foreign corporates shall be generally risk-weighed on the basis of the consensus country risk scores of export credit agencies (ECA). Wherever there are claims relating to unrated countries, they shall generally be risk weighed at 100 percent. However, these claims shall be subject to supervisory review and higher risk weight shall be assigned where the review process deems appropriate.

All kinds of claims including loans & advances as well as investments shall be risk weighed net of specific provisions. Generally provision related to any receivable or investment is not defined as general or specific. In such situation, the total provision against any claim/exposure (other than the loans and advances) shall be considered as specific provision. However, provisions eligible for the supplementary capital shall not be allowed for netting while calculating risk weighted exposures.

In case of loans, advances and bills purchased the provisions created in lieu of Pass loans only are classified as General loan loss provision. All other provisions are components of specific loan loss provision. Hence, general loan loss provision doesn’t comprise provisions created in respect of rescheduled/restructured and non performing loans. It also doesn’t include additional provisions created for personal guarantee loans or lending in excess of Single Obligor Limits. However, provisions created in excess of the regulatory requirements and not attributable to identifiable

losses in any specific loans shall be allowed to be included in the General Loan Loss Provision.

In order to be consistent with the Basel-II framework, the credit risk for the regulatory capital purpose shall be computed by segregating the exposure in the following 11 categories.

a. Claims on government & central bank
b. Claims on other official entities
c. Claims on banks
d. Claims on corporate & securities firms
e. Claims on regulatory retail portfolio
f. Claims secured by residential properties
g. Claims secured by commercial real state
h. Past due claims
i. High risk claims
j. Other assets
k. Off balance sheet items

2.1.4.3.3 Risk Measurement and Risk Weights:
a. Claims on government & central bank

1. All claims on Government of Nepal and Nepal Rastra Bank shall be risk weighed at 0 %.
2. Claims on foreign government and their central banks shall be risk-weighted on the basis of the consensus country risk scores as follows:

ECA risk scores	0-1	2	3	4 to 6	7
Risk weights	0%	20%	50%	100%	150%

Source: Nepal Rastra Bank Unified Directives 2069

b. Claims on other official entities

1. Claims on the Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community will receive a 0% risk weight.

2. Following Multilateral Development Banks (MDBs) will be eligible for a 0% risk weight.

   - World Bank Group, comprised of the International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC),
   - Asian Development Bank (ADB),
   - African Development Bank (AfDB),
   - European Bank for Reconstruction and Development (EBRD),
   - Inter-American Development Bank (IADB),
   - European Investment Bank (EIB),
   - European Investment Fund (EIF),
   - Nordic Investment Bank (NIB),
   - Caribbean Development Bank (CDB),
   - Islamic Development Bank (IDB), and
   - Council of Europe Development Bank (CEDB).

3. The standard risk weight for claims on other Multilateral Development Banks will be 100%.
4. Claims on public sector entities (PSEs) will be risk-weighted as per the ECA country risk scores.

ECA risk scores	0-1	2	3 TO 6	7
Risk weights	20%	50%	100%	150%

Source: Nepal Rastra Bank Unified Directives 2069

c. Claims on banks

1. All claims, irrespective of currency, excluding investment in equity shares and other instruments eligible for capital funds, on domestic banks/financial institutions that fulfill Capital Adequacy Requirements will be risk weighed at 20% while for the rest, it will be 100%.

   Banks should make use of the publicly available information of the immediately preceding quarter of the respective banks to gauge their status on capital adequacy.

2. Claims on a foreign bank excluding investment in equity shares and other instruments eligible for capital funds shall be risk weighed as per the ECA Country risk score subject to the floor of 20%. The primary basis for applying the ECA Country Risk score shall be the country of incorporation of the bank. Where the bank is a branch office, the ECA score of the country where the corporate office is located shall be used while in the case of a subsidiary the basis shall be the country where the subsidiary is incorporated.

ECA risk scores	0-1	2	3 TO 6	7
Risk weights	20%	50%	100%	150%

Source: Nepal Rastra Bank Unified Directives 2069

However, the claims on foreign banks incorporated in the SAARC region and which operate with a buffer of 1% above their respective regulatory minimum capital requirements may be risk weighed at 20%. The banks shall be responsible to submit the latest capital adequacy position of such banks and demonstrate that they fulfill the eligibility requirements. Such capital adequacy position submitted by the banks should not be prior to more than one financial year. Moreover, such claims shall be subject to a supervisory review and supervisors may require the bank to risk weigh the claims on ECA country risk scores where the review process deems necessary.

d. Claims on corporate & securities firms

1. The risk weight for claims on domestic corporate, including claims on insurance companies and securities firm will be 100%. The domestic corporate includes all firms and companies incorporated in Nepal as per prevailing Acts and regulations.
2. The claims on foreign corporate shall be risk weighed as per the ECA Country risk score subject to the floor of 20% as follows:

ECA risk scores	0-1	2	3	4 to 6	7
Risk weights	20%	50%	100%	100%	150%

Source: Nepal Rastra Bank Unified Directives 2069

e. Claims on regulatory retail portfolio

1. Claims that qualify all criteria listed below may be considered as regulatory retail portfolio and risk weighed at 75%, except for past due loans. Such claims however, have to be in strict compliance with the Product paper developed by the bank and approved by their respective board of directors

Criteria:

- Orientation criteria :- exposure is to an individual person or persons or to a small business. Bank should obtain written declaration from the borrower to the effect that their indebtedness is within the threshold across all banks and FIs..
- Product criteria :- The exposure takes the form of any of the following:
  - Revolving credits and lines of credit, (including overdraft, hypothecation etc.)
  - Term loans and leases (e.g. hire purchase, auto loans and leases, student and educational loans) and,
  - Small business facilities and commitments,
  - Deprived sector loans up to a threshold of Rs.10 million (Ten Million only)
- Granularity criteria:- NRB must be satisfied that the regulatory retail portfolio is sufficiently diversified to a degree that reduces the risks in the portfolio, warranting the 75% risk weight. No aggregate exposure7 to one counterpart can exceed 0.5 % of the overall regulatory retail portfolio.
- Low value individual criteria :- The total aggregated exposure to one counterpart cannot exceed an absolute threshold of Rs.10 million (Nepalese Rupees Ten Million only)

2. Banks which have claims that fulfill all criterion except for granularity may risk weigh those claims at 100%

f. Claims secured by residential properties

1. Lending to individuals meant for acquiring or developing residential property which are fully secured by mortgages on residential property, that is or will be occupied by the borrower or that is rented will be risk-weighted at 60%. However, banks should ensure the existence of adequate margin of security over the amount of loan based on strict valuation rules.
2. Banks have to develop product paper and get it approved from the board of directors to regulate this kind of lending. The claims in order to be eligible for this category have to be in strict compliance with this product paper
3. Where the loan is not fully secured, such claims have to risk weighed at 150%
4. When claims secured by residential properties are or have been past due9 at any point of time during the last two years, they shall be risk-weighted at 100%, net of specific provisions.

g. Claims secured by commercial real estate

1. Claims secured by mortgages on commercial real estate, except past due, shall be risk-weighted at 100%. Commercial real estate hereby refers to mortgage of Office buildings, retail space, multi-purpose commercial premises, multi-family residential buildings, multi-tenanted commercial premises, industrial or warehouse space, hotels, land acquisition, development and construction etc.

h. Past due claims

1. Any loan, except for claim secured by residential property, which is or has been past due at any point of time during the last two years, will be risk-weighted at 150% net of specific provision.

i. High risk claims

1. 150% risk weight shall be applied for venture capital and private equity investments.
2. Exposures on Personal loan in excess of the threshold of regulatory retail portfolio and lending against securities (bonds and shares) shall attract a risk

weight of 150%. Similarly, exposures on credit card shall also warrant a risk weight of 150%.

3. Investments in the equity and other capital instruments of institutions, which are not listed in the stock exchange and have not been deducted from Tier 1 capital, shall be risk weighed at 150% net of provisions.
4. Investments in the equity and other capital instruments of institutions, which are listed in the stock exchange and have not been deducted from Tier 1 capital, shall be risk weighed at 100% net of provisions.
5. The claims which are not fully secured or are only backed up by personal guarantee shall attract 150% risk weight.
6. Where loan cannot be segregated/or identified as regulatory retail portfolio or qualifying residential mortgage loan or under other categories, it shall be risk weighed at 150%.

j. Other assets

1. With regard to other assets, following provisions have been made;

- Interest receivable/claim on government securities will be risk-weighted at 0%.
- Staff loan given as per Employee By-laws and secured by residential property, that is or will be occupied by the staff or that is rented, will be risk-weighted at 60%.However, banks should ensure the existence of adequate margin of security over the amount of loan based on strict valuation rules.
- Investments in equity or regulatory capital instruments issued by securities firms will be risk-weighted at 100%.
- Cash in transit and other cash items in the process of collection will be risk-weighted at 20%.
- For this purpose, cash items shall include Cheque, Draft, and Travellers Cheques.
- Fictitious assets that have not been deducted from Tier 1 capital shall be risk weighed at 100%.
- All Other assets will be risk-weighted at 100% net of specific provision.

k. Off balance sheet items

1. Off-balance sheet items under the simplified standardized approach will be converted into equivalent risk weight exposure using risk weight as follows:

Table 2.2

Risk Weightage for Off Balance Sheet

Off Balance Sheet Exposure	Risk Weight
Any commitments those are unconditionally cancelable at any time by the bank without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness (for example bills under collection) & Forward exchange contracts.	0%
Short Term Trade-related contingencies Contingent liabilities arising from trade-related obligations, which are secured against an underlying shipment of goods for both issuing and confirming bank and are short term in nature. This includes documentary letters of credit, shipping guarantees issued and any other trade-related contingencies with an original maturity up to six months.	20%
Undertaking to provide a commitment on an off-balance sheet items	20%
Unsettled securities and foreign exchange transactions between bank to bank and between bank and customer	20%
Long Term Trade-related contingencies Contingent liabilities arising from trade-related obligations, which are secured against an underlying shipment of goods for both issuing and confirming bank and are long term in nature. This includes documentary letters of credit, shipping guarantees issued and any other trade-related contingencies with an original maturity of over six months	50%
Performance-related contingencies Contingent liabilities, which involve an irrevocable obligation to pay a third party in the event that counterparty fails to fulfill or perform a contractual non-monetary obligation, such as delivery of goods by a specified date etc. This includes issue of performance bonds, bid bonds, warranties, indemnities, underwriting commitments and standby letters of credit in relation to a non-monetary obligation of counterparty under a particular transaction.	50%
Long term irrevocable Credit Commitments Any un-drawn portion of committed credit lines sanctioned for a period of more than 1 year. This shall include all unutilized limits in respect of revolving working capital loans except for trade finance exposures e.g. Overdraft, Cash credit, working capital loans e.g. overdraft, cash credit, working capital loan etc. except for trade finance exposures.	50%
Short term irrevocable Credit Commitments Any un-drawn portion of committed credit lines sanctioned for a period of upto 1 year. This shall include all unutilized limits in respect of revolving working capital loans except for trade finance exposures e.g. Overdraft, Cash credit, working capital loan e.g. overdraft, cash. credit, working capital loan etc. except for trade finance exposures.	20%

Repurchase agreements, securities lending, securities borrowing, reverse repurchase agreements and equivalent transactions This includes sale and repurchase agreements and asset sales with recourse, where the credit risk remains with the purchasing bank.	100%
Direct credit substitutes Any irrevocable off-balance sheet obligations which carry the same credit risk as a direct extension of credit, such as an undertaking to make a payment to a third party in the event that a counterparty fails to meet a financial obligation or an undertaking to a counterparty to acquire a potential claim on another party in the event of default by that party, constitutes a direct credit substitute. This includes potential credit exposures arising from the issue of financial guarantees and credit derivatives, confirmation of letters of credit (acceptances and endorsements), issue of standby letters of credit serving as financial guarantees for loans, securities and any other financial liabilities, and bills endorsed under bill endorsement lines (but which are not accepted by, or have the prior endorsement of, another bank).	100%
Unpaid portion of partly paid shares and securities	100%
Other Contingent Liabilities	100%

Source: Nepal Rastra Bank Unified Directives 2069

2.1.4.3.4 Credit Risk Mitigation:

Banks may use a number of techniques to mitigate the risks to which they are exposed. The prime objective of this provision is to encourage the banks to manage credit risk in a prudent and effective manner. As such, credit risks exposures may be collateralized in whole or in part with cash or securities, or a loan exposure may be guaranteed by a third party. Where these various techniques meet the minimum conditions mentioned below, banks which take eligible financial collateral are allowed to reduce their credit exposure to counterparty when calculating their capital requirements to take account of the risk mitigating effect of the collateral. However, credit risk mitigation is allowed only on an account by account basis, even within regulatory retail portfolio.

As a general rule, no secured claim should receive a higher capital requirement than an otherwise identical claim on which there is no collateral. Similarly, the effects of the CRM shall not be double counted and capital requirement will be applied to banks on either side of the collateralized transaction: for example, both repos and reverse repos will be subject to capital requirements.

Those portions of claims collateralized by the market value of recognized collateral receive the risk weight applicable to the collateral instrument. The remainder of the claim should be assigned the risk weight appropriate to the counter party.

Where the same security has been pledged for both the funded and non funded facilities, banks should clearly demarcate the value of security held for funded and non funded facility. In cases where the bank has obtained same security for various forms of facilities; banks are eligible to claim the CRM benefit across all such exposures upto the eligible value of CRM.

a. Minimum conditions for eligibility:

In order to obtain capital relief towards credit risk mitigation, there are certain basic condition that needs to be fulfilled. Supervisors will monitor the extent to which banks satisfy these conditions, both at the outset of a collateralized transaction and on an on-going basis.

1. **Legal certainty:-** Collateral is effective only if the legal mechanism by which collateral is given is robust and ensures that the lender has clear rights over the collateral to liquidate or retain it in the event of default. Thus, banks must take all necessary steps to fulfill local contractual requirements in respect of the enforceability of security interest. The collateral arrangements must be properly documented, with a clear and robust procedure for the timely liquidation of collateral. A bank's procedures should ensure that any legal conditions required for declaring the default of the customer and liquidating the collateral are observed. Where the collateral is held by a custodian, the bank must seek to ensure that the custodian ensures adequate segregation of the collateral instruments and the custodian's own assets. Besides that, banks must obtain legal opinions confirming the enforceability of the collateral arrangements in all relevant jurisdictions.
2. **Low correlation with exposure:-** In order for collateral to provide protection, the credit quality of the obligor and the value of the collateral must not have a material positive correlation. For example, securities issued by the collateral provider - or by any related group entity – would provide little protection and so would be ineligible.

3. **Maturity Mismatch:-** The maturity of the underlying exposure and the maturity of the hedge should both be defined conservatively. The effective maturity of the underlying should be gauged as the longest possible remaining time before the obligor is scheduled to fulfill its obligation. The collateral must be pledged for at least the life of the exposure. In case of mismatches in the maturity of the underlying exposure and the collateral, it shall not be eligible for CRM benefits.
4. **Currency Mismatch:-** Ideally the currency of the underlying exposure and the collateral should be the same. Where the credit exposure is denominated in a currency that differs from that in which the underlying exposure is denominated, there is a currency mismatch. Where mismatches occur, it shall be subject to supervisory haircut of 10%.
5. **Risk Management:-** While CRM reduces credit risk, it simultaneously may increase other risks to which a bank is exposed, such as legal, operational, liquidity and market risks. Therefore, it is imperative that banks employ robust procedures and processes to control these risks, including strategy; consideration of the underlying credit; valuation; policies and procedures; systems; control of roll-off risks; and management of concentration risk arising from the bank's use of CRM techniques and its effect with the bank's overall credit profile. In case where these requirements are not fulfilled, NRB may not recognize the benefit of CRM techniques.
6. **Qualifying criteria for guarantee:-** A guarantee (counter guarantee) to be eligible must represent a direct claim on the protection provider and must be explicitly referenced to specific exposures or a pool of exposures, so that the extent of the cover is clearly defined and irrefutable. Other than non-payment by a protection purchaser of money due in respect of the credit protection contract it must be irrevocable in that there must be no clause in the contract that would increase the effective cost of cover as a result of deteriorating credit quality in the hedged exposure. It must also be unconditional in that there should be no clause in the protection contract outside the control of the bank that could prevent the protection provider from being obliged to pay out in a timely manner in the event that the original counter party fails to make the payments due.

On the qualifying default or non-payment of the counter party, the bank may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the bank, or the guarantor may assume the future payment obligations of the counter party covered by the guarantee. The bank must have the right to receive any such payments from the guarantor without first having to take legal actions in order to pursue the counter party payment.

b. Eligible Collaterals:

1. Cash deposit (as well as certificates of deposit or fixed deposits or other deposits) with the bank. The banks may only claim these as CRM only if it has specific authority to recover the amount from this source in case of default.
2. Fixed Deposit Receipts/Certificates of deposits/other deposits of other Banks and FIs, who fulfill the capital adequacy requirements, subject to a 20% supervisory haircut.
3. Gold.
4. Securities issued by the Government of Nepal and Nepal Rastra Bank.
5. Guarantee of the Government of Nepal
6. Financial guarantee/counter guarantee of domestic banks and FIs who meet the minimum capital adequacy requirements subject to a haircut of 20%.
7. Securities/Financial guarantee/Counter guarantee issued by sovereigns.
8. Securities/Financial guarantee/Counter guarantee issued by MDBs in the list specified in 3.3 b (3 & 4)
9. Securities/Financial guarantee/Counter guarantee issued by banks with ECA rating 2 or better .The supervisory haircut shall be 20% and 50% for the banks with ECA rating of 0-1 and 2 respectively.

c. Methodology for using CRM

Step 1: Identify the accounts eligible for capital relief under credit risk mitigation.

Step 2: Assess the value of the exposure and the eligible collateral. The value of the eligible collateral is the lower of the face value of the instrument or the outstanding amount of exposure

Step 3: Adjust the value of the eligible collateral in respect of the supervisory haircut in terms of currency mismatch and other eligibility requirements.

Step 4: Compare the adjusted value of the collateral with the outstanding exposure.

Step 5: The value of the eligible CRM is the lower of the adjusted value of the collateral and the outstanding exposure.

Step 6: Plot the eligible CRM in the appropriate category of credit risk.

The sum total of net amount of eligible CRM as per “Form No.4 Exhibit of claims with eligible credit risk mitigants” shall be consistent with the “Form No.3 Eligible Credit Risk Mitigants” prescribed in this framework.

2.1.5.4 Operational Risk

2.1.5.4.1 General:

Operational risk is the risk of loss resulting from inadequate internal processes, people, and systems, or from external events. Operational risk itself is not a new concept, and well run banks have been addressing it in their internal controls and corporate governance structures. However, applying an explicit regulatory capital charge against operational risk is a relatively new and evolving idea. Basel II requires banks to hold capital against the risk of unexpected loss that could arise from the failure of operational systems. The most important types of operational risk involve breakdowns in internal controls and corporate governance. Such breakdowns can lead to financial losses through error, fraud, or failure to perform in a timely manner or cause the interests of the bank to be compromised in some other way, for example, by its dealers, lending officers or other staff exceeding their

authority or conducting business in an unethical or risky manner. Other aspects of operational risk include major failure of information technology systems or events such as major fires or other disasters.

2.1.4.4.2 Basic Indicator Approach:

Under the basic indicator approach, banks must hold capital for operational risk equal to the average over the previous three years of a fixed percentage (denoted alpha) of positive annual gross income.

The capital charge for operational risk may be expressed as follows:

$$K_{BIA} = [\Sigma(GI_{1..n} \times \alpha)]/N$$

where:
K_{BIA} = capital charge under the Basic Indicator Approach
GI = annual gross income, where positive, over the previous three years
N = number of the previous three years for which gross income is positive
α = 15 percent.

NRB shall review the capital requirement produced by this approach for general credibility, especially in relation to a bank's peers and in the event that credibility is lacking, appropriate supervisory action under Review Process shall be considered.

Figures for the year, in which annual gross income is negative or zero, should be excluded from both the numerator and denominator while calculating the average. In case where the gross income for all of the last three years is negative, 5% of total credit and investments net of specific provisions shall be considered as the capital charge for operational risk. For this purpose investments shall comprise of money at call, placements, investment in government securities and other investments irrespective of currency.

Similarly, in case of new banks who have not completed an year of operation and hence whose average gross income cannot be measured reliably, they shall also be required to compute their capital charge for operational risk vide the same approach as prescribed for banks with negative gross income. These banks may use the gross income approach from second year onwards. But, based on the reasonableness of the so computed capital charge for Operation Risk, during the

first three years of operation, review process may require additional proportion of capital charge if deemed necessary.

2.1.4.4.3 Gross Income:

Gross income is defined as "net Interest Income" plus "non interest income". It is intended that this measure should:

- **a.** be gross of any provisions (e.g. for unpaid interest) and write-offs made during the year;
- **b.** be gross of operating expenses, exclude reversal during the year in respect of provisions and write-offs made during the previous year(s);
- **c.** exclude income/gain recognized from the disposal of items of movable and immovable property;
- **d.** exclude realized profits/losses from the sale of securities in the “held to maturity” category;
- **e.** exclude other extraordinary or irregular items of income and expenditure

Thus, for the purpose of capital adequacy requirements, gross income shall be summation of:

a. Total operating income as disclosed in Profit and Loss account prepared as per NRB directive no.4. The total operating income comprises of:

1. Net Interest Income
2. Commission and Discount Income
3. Other Operating Income
4. Exchange Fluctuation Income

b. Addition/deduction in the Interest Suspense during the period.

Banks shall use the annual audited financials of the last three years for the computation of gross income under this approach. Hence, the capital requirement for operational risk for a whole financial year shall remain constant. Until the accounts are finalized for the financial year, banks shall use the provisional figures for the period, which should be validated by the internal auditor of the bank.

2.1.4.4.4 Computation of Risk Weight:

Operational risk-weighted assets are determined by multiplying the operational risk capital charge by 10 (i.e., the reciprocal of the minimum capital ratio of 10%) and adding together with the risk weighted exposures for credit risk.

2.1.4.5 Market Risk

2.1.4.5.1 Definition of Market Risk:

Market risk is defined as the risk of losses in on-balance sheet and off-balance sheet positions arising from adverse movements in market prices. The major constituents of market risks are:

a. The risks pertaining to interest rate related instruments;

b. Foreign exchange risk (including gold positions) throughout the bank; and

c. The risks pertaining to investment in equities and commodities.

2.1.4.5.2 Segregation of Investment Portfolio:

Banks will have to segregate their investment portfolio into any of following three categories:

a. **Held for Trading:**

   An investment that is made for the purpose of generating a profit from short term fluctuations in price should be classified under this category. An asset should be classified as held for trading even if it is a part of a portfolio of similar assets for which there is a pattern of trading for the purpose of generating a profit from short term fluctuations in price. These investments should be marked to market on a daily basis and differences reflected in the profit and loss account.

b. **Held to Maturity:**

   The investments made with positive intent and ability of the bank to hold till maturity should be classified as held to maturity investments. The bank does

not have the positive intent to hold an investment to maturity, if any of the following conditions are met:

1. Bank has the intent and the ability to hold the asset for only an undefined period; or
2. Bank stands ready to sell the asset (other than if a situation arises that is non-recurring and could not have been reasonably anticipated) in response to changes in market interest rates or risks, liquidity needs, changes in the availability of and the yield on alternative investments, changes in financing sources and terms, or changes in foreign currency risk.

The held to maturity investments should be valued at amortised cost i.e. the cost price less any impairments (if applicable). The impairments should be included in the profit and loss accounts for the period.

c. Available for Sale:

All other investments that are neither "held for trading" nor "held to maturity" should be classified under this category. These investments should be marked to market on a regular basis and the difference to be adjusted through reserves. Banks are required to maintain Investment Adjustment Reserve (eligible as Tier 2 capital) to the extent of 2% of available for sale portfolio.

2.1.4.5.3 Net Open Position Approach:

Out of the various components of market risk, foreign exchange risk is the predominant risk in our country. The effects of other forms of market risk are minimal. Thus, a net open position approach has been devised to measure the capital requirement for market risk. As evidenced by its name, this approach only addresses the risk of loss arising out of adverse movements in exchange rates. This approach will be consolidated over time to incorporate other forms of market risks as they start to gain prominence.

The designated Net Open Position approach requires banks to allocate a fixed proportion of capital in terms of its net open position. The banks should allocate 5 percentages of their net open positions as capital charge for market risk.

2.1.4.5.4 Net Open Position:

Net open position is the difference between the assets and the liability in a currency. In other words, it is the uncovered volume of asset or liability which is exposed to the changes in the exchange rates of currencies. For capital adequacy requirements the net open position includes both net spot positions as well as net forward positions.

For capital adequacy purposes, banks should calculate their net open position in the following manner:

a. Calculate the net open position in each of the foreign currencies.

b. Convert the net open positions in each currency to NPR as per prevalent exchange rates.

c. Aggregate the converted net open positions of all currencies, without paying attention to long or short positions.

d. This aggregate shall be the net open position of the bank.

2.1.4.5.5 Computation Of Risk Weight:

Risk-weighted assets in respect of market risk are determined by multiplying the capital charges by 10 (i.e., the reciprocal of the minimum capital ratio of 10%) and adding together with the risk weighted exposures for credit risk.

2.1.4.6 Review Process

2.1.4.6.1 General

The supervisory review process of the framework is intended not only to ensure that banks have adequate capital to support all the risks in their business, but also to encourage banks to develop and use better risk management techniques in monitoring and managing their risks. It is the responsibility of the bank management in developing an internal capital assessment process and setting capital targets that are commensurate with the bank's risk profile and control environment beyond the core minimum requirements.

Nepal Rastra Bank recognizes the significance of the relationship between the amount of capital held by the bank against its risks and the strength and effectiveness of the bank's risk management and internal control processes.

However, increased capital should not be viewed as the only option for addressing increased risks confronting the bank. Other means for addressing risk, such as strengthening risk management, applying internal limits, strengthening the level of provisions and reserves, and improving internal controls, must also be considered. Furthermore, capital should not be regarded as a substitute for addressing fundamentally inadequate control or risk management processes.

There are three main areas that is particularly suited to treatment under this process: risks considered under minimum capital requirements which are not fully captured it (e.g. credit concentration risk); those factors not taken into account by the minimum capital requirements (e.g. business and strategic risk); and factors external to the bank (e.g. business cycle effects).

In order to achieve the objectives of the supervisory review process, this process has been broadly divided into three parts:

a. Internal Capital Adequacy Assessment Process (ICAAP)

b. Supervisory Review

c. Supervisory Response

2.1.4.6.2 Internal Capital Adequacy Assessment Process:

The internal capital adequacy assessment process (ICAAP) is a comprehensive process which requires board and senior management oversight, monitoring, reporting and internal control reviews at regular intervals to ensure the alignment of regulatory capital requirement with the true risk profile of the bank and thus ensure long-term safety and soundness of the bank. The key components of an effective ICAAP are discussed below.

a. Board and senior management oversight

Bank management is responsible for understanding the nature and level of risk being taken by the bank and how this risk relates to adequate capital levels. It is also responsible for ensuring that the formality and sophistication of the risk management processes is commensurate with the complexity of its operations. A sound risk management process, thus, is the foundation for an effective assessment of the adequacy of a bank's capital position.

The board of directors of the bank is responsible for setting the bank's tolerance for risks. The board should also ensure that management establishes a mechanism for assessing various risks; develops a system to relate these risks to the bank's capital level and sets up a method for monitoring compliance with internal policies. It is equally important that the board instills strong internal controls and thereby an effective control environment through adoption of written policies and procedures and ensures that the policies and procedures are effectively communicated throughout the bank.

The analysis of a bank's current and future capital requirements in relation to its strategic objectives is a vital element of the strategic planning process. The strategic plan should clearly outline the bank's capital needs, anticipated capital expenditures, desirable capital level, and external capital sources. Senior management and the board should view capital planning as a crucial element in being able to achieve its desired strategic objectives.

b. Sound capital assessment

Another crucial component of an effective ICAAP is the assessment of capital. In order to be able to make a sound capital assessment the bank should, at minimum, have the following:

- Policies and procedures designed to ensure that the bank identifies, measures, and reports all material risks;
- A process that relates capital to the level of risk;
- A process that states capital adequacy goals with respect to risk, taking account of the bank's strategic focus and business plan; and

- A process of internal control, reviews and audit to ensure the integrity of the overall management process.

c. Comprehensive assessment of risks

All material risks faced by the bank should be addressed in the capital assessment process. Nepal Rastra Bank recognizes that not all risks can be measured precisely. However, bank should develop a process to estimate risks with reasonable certainties. In order to make a comprehensive assessment of risks, the process should, at minimum, address the following forms of risk.

1. Credit risk: Banks should have methodologies that enable them to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at the portfolio level. The credit review assessment of capital adequacy, at a minimum, should cover risk rating systems, portfolio analysis/aggregation, large exposures and risk concentrations.

Internal risk ratings are an important tool in monitoring credit risk. Internal risk ratings should be adequate to support the identification and measurement of risk from all credit exposures, and should be integrated into an institution's overall analysis of credit risk and capital adequacy. The ratings system should provide detailed ratings for all assets, not only for problem assets.

2. Credit concentration risk: Risk concentrations are arguably the single most important cause of major problems in banks. A risk concentration is any single exposure or group of exposures with the potential to produce losses large enough (relative to a bank's capital, total assets, or overall risk level) to threaten a bank's health or ability to maintain its core operations.

Lending being the primary activity of most banks, credit risk concentrations are often the most material risk concentrations within a bank. However, risk concentrations can arise in a bank's assets, liabilities, or off-balance sheet items, through the execution or processing of transactions (either product or service), or through a combination of exposures across these broad categories. Credit risk concentrations are based on common or correlated risk factors, which, in times

of stress, have an adverse effect on the creditworthiness of each of the individual counterparties making up the concentration.

Such credit concentrations are not addressed in the minimum capital requirements for credit risk. Thus, Banks should have in place effective internal policies, systems and controls to identify, measure, monitor, and control their credit risk concentrations. Banks should explicitly consider the extent of their credit risk concentrations in their assessment of capital adequacy under review process. These policies should cover the different forms of credit risk concentrations to which a bank may be exposed to. Such concentrations include but are not limited to:

- Significant exposures to an individual counterparty or group of related counterparty. Banks might also establish an aggregate limit for the management and control of all of its large exposures as a group;
- Credit exposures to counterparties in the same economic sector or geographic region;
- Credit exposures to counterparties whose financial performance is dependent on the same activity or commodity; and
- Indirect credit exposures arising from a bank's CRM activities (e.g. exposure to a similar type of collateral or credit protection provided by a single counterparty or same collateral in cases of multiple banking).

A bank's framework for managing credit risk concentrations should be clearly documented and should include a definition of the credit risk concentrations relevant to the bank and how these concentrations and their corresponding limits are calculated. Limits should be defined in relation to a bank's capital, total assets or, where adequate measures exist, its overall risk level. A bank's management should conduct periodic stress tests of its major credit risk concentrations and review the results of those tests to identify and respond to potential changes in market conditions that could adversely impact the bank's performance.

3. Operational risk: The failure to properly manage operational risk can result in a misstatement of an institution's risk/return profile and expose the institution to significant losses. Gross income, used in the Basic Indicator Approach is only a

proxy for the scale of operational risk exposure of a bank and can in some cases underestimate the need for capital. Thus, Banks should develop a framework for managing operational risk and evaluate the adequacy of capital as prescribed by this framework. The framework should cover the bank's appetite and tolerance for operational risk, as specified through the policies for managing this risk, including the extent and manner in which operational risk is transferred outside the bank. It should also include policies outlining the bank's approach to identifying, assessing, monitoring and controlling/mitigating the risk.

4. Market risk: The prescribed approach for the computation of capital charge for market risk is very simple and thus may not be directly aligned with the magnitude of risk. Likewise, the approach only incorporates risks arising out of adverse movements in exchange rates while ignoring other forms of risks like interest rate risk and equity risks. Thus, banks should develop a framework that addresses these various forms of risk and at the same time perform stress tests to evaluate the adequacy of capital.

The use of internal models by the bank for the measurement of market risk is highly encouraged. Wherever bank's make use of internal models for computation of capital charge for market risks, the bank management should ensure the adequacy and completeness of the system regardless of the type and level of complexity of the measurement system as the quality and reliability of the measurement system is largely dependent on the quality of the data and various assumptions used in the model.

5. Liquidity risk: Liquidity is crucial to the ongoing viability of any financial institution. The capital positions can have a telling effect on institution's ability to obtain liquidity, especially in a crisis. Each bank must have adequate systems for measuring, monitoring and controlling liquidity risk. Banks should evaluate the adequacy of capital given their own liquidity profile and the liquidity of the markets in which they operate. Banks are also encouraged to make use of stress testing to determine their liquidity needs and the adequacy of capital.

6. Other risks: Although the 'other' risks, such as reputational and strategic risk, are not easily measurable, banks are expected to take these into consideration as well while deciding on the level of capital.

d. Monitoring and Reporting

The bank should establish an adequate system for monitoring and reporting risk exposures and assessing how the bank's changing risk profile affects the need for capital. The bank's senior management or board of directors should, on a regular basis, receive reports on the bank's risk profile and capital needs. These reports should allow senior management to:

- Evaluate the level and trend of material risks and their effect on capital levels;
- Evaluate the sensitivity and reasonableness of key assumptions used in the capital assessment measurement system;
- Determine that the bank holds sufficient capital against the various risks and is in compliance with established capital adequacy goals; and
- Assess its future capital requirements based on the bank's reported risk profile and make necessary adjustments to the bank's strategic plan accordingly.

e. Internal control review

The bank's internal control structure is essential to a sound capital assessment process. Effective control of the capital assessment process includes an independent review and, where appropriate, the involvement of internal or external audits. The bank's board of directors has a responsibility to ensure that management establishes a system for assessing the various risks, develops a system to relate risk to the bank's capital level, and establishes a method for monitoring compliance with internal policies. The board should regularly verify whether its system of internal controls is adequate to ensure well-ordered and prudent conduct of business.

The bank should conduct periodic reviews of its risk management process to ensure its integrity, accuracy, and reasonableness. Key areas that should be reviewed include:

- Appropriateness of the bank's capital assessment process given the nature, scope and complexity of its activities;
- Identification of large exposures and risk concentrations;

- Accuracy and completeness of data inputs into the bank's assessment process;
- Reasonableness and validity of scenarios used in the assessment process; and
- Stress testing and analysis of assumptions and inputs.

2.1.4.6.3 Supervisory Review:

Nepal Rastra Bank shall regularly review the process by which a bank assesses its capital adequacy, risk positions, resulting capital levels, and quality of capital held by a bank. Supervisors shall also evaluate the degree to which a bank has in place a sound internal process to assess capital adequacy. The emphasis of the review should be on the quality of the bank's risk management and controls and should not result in supervisors functioning as bank management. The periodic review can involve any or a combination of:

- On-site examinations or inspections;
- Off-site review;
- Discussions with bank management;
- Review of work done by external auditors (provided it is adequately focused on the necessary capital issues); and
- Periodic reporting.

Some of the key areas which will be reviewed during the supervisory review process are discussed hereunder

a. Review of adequacy of risk assessment

NRB shall assess the degree to which internal targets and processes incorporate the full range of material risks faced by the bank. Supervisors shall also review the adequacy of risk measures used in assessing internal capital adequacy and the extent to which these risk measures are also used operationally in setting limits, evaluating business line performance, and evaluating and controlling risks more generally. Supervisors shall consider the results of sensitivity analyses and stress tests conducted by the institution and how these results relate to capital plans.

b. Assessment of capital adequacy

NRB shall review the bank's processes to determine that:

- Target levels of capital chosen are comprehensive and relevant to the current operating environment;
- These levels are properly monitored and reviewed by senior management; and
- The composition of capital is appropriate for the nature and scale of the bank's business.

NRB shall also consider the extent to which the bank has provided for unexpected events in setting its capital levels. This analysis should cover a wide range of external conditions and scenarios, and the sophistication of techniques and stress tests used should be commensurate with the bank's activities.

c. Assessment of the control environment

NRB shall consider the quality of the bank's management information reporting and systems, the manner in which business risks and activities are aggregated, and management's record in responding to emerging or changing risks. In all instances, the capital level at an individual bank should be determined according to the bank's risk profile and adequacy of its risk management process and internal controls. External factors such as business cycle effects and the macroeconomic environment should also be considered.

d. Supervisory review of compliance with minimum standards

In order to obtain relief as per this framework banks are required to observe number of requirements, including risk management standards and disclosures. In particular, banks will be required to disclose features of their internal methodologies used in calculating minimum capital requirements. As part of the supervisory review process, supervisors must ensure that these conditions are being met on an ongoing basis. Likewise, the supervisors must ensure that qualifying criteria as specified in the framework are continuously being met as these criteria are developed as benchmarks that are aligned with bank management expectations for effective risk management and capital allocation.

e. Significance of risk transfer

Securitization or credit sale agreements with recourse may be carried out for purposes other than credit risk transfer (e.g. funding). Where this is the case, there might still be a limited transfer of credit risk. However, for an originating bank to achieve reductions in capital requirements, the risk transfer arising from a securitization or credit sale has to be deemed significant by the NRB. If the risk transfer is considered to be insufficient or non-existent, NRB can require the application of a higher capital requirement or, alternatively, may deny a bank from obtaining any capital relief from the securitization or transfer agreements. Therefore, the capital relief that can be achieved will correspond to the amount of credit risk that is effectively transferred.

f. Credit Risk Mitigants

In case when the eligibility requirements are not fulfilled, NRB will not consider Credit Risk Mitigants in allocating capital. Similarly, CRM may give rise to residual risks, which may render the overall risk reduction less effective. Where, these risks are not adequately controlled by the bank, NRB may impose additional capital charges or take other appropriate supervisory actions.

g. Operational risk and Market Risk

The framework prescribes simple approaches for allocating capital for operational and market risk which may not be directly aligned with the volume and complexity of risk. Thus, the supervisor shall consider whether the capital requirements generated by the prescribed approaches gives a consistent picture of the individual bank's risk exposure in comparison with the peer group and the banking industry at large. Where NRB is convinced such is not the case, appropriate supervisory response is warranted.

h. Market Discipline

The framework requires banks to disclose various key information about their business on a periodic basis. It is imperative that the banks discharge their obligations under the disclosure requirements in order to be eligible to claim benefits of CRM. In line with the utmost significance of this requirement, the

supervisor shall review the adequacy of the disclosures. As a part of this process itself, the supervisor shall regularly review the website of the banks and review the contents of the site. Wherever the review process identifies any shortcomings or non-compliances, appropriate supervisory response shall be initiated.

2.1.4.6.4 Supervisory Response:

Nepal Rastra Bank expects banks to operate above the minimum regulatory capital ratios. Wherever, NRB is not convinced about the risk management practices and the control environment, it has the authority to require banks to hold capital in excess of the minimum.

a. Supervisory adjustments in risk weighted assets and capital

Having carried out the review process as described above, supervisors should take appropriate action if they are not satisfied with the results of the bank's own risk assessment and capital allocation. In such a scenario, NRB shall be empowered to undertake any or combination of the following adjustments in the banks risk weighted assets and regulatory capital computations.

1. Shortfall in provisions made by the bank against adversely classified assets shall be deducted from the Tier 1 capital.
2. The loans and facilities extended to Directors, Employees (other than loans given under Employee rules), Shareholders holding more than 1% percent shares and related parties as well as loans, advances and facilities restricted by the prevailing rules and regulations shall be deducted from Tier 1 capital.
3. In case the bank has provided loans and facilities in excess of its Single Obligor Limits, 10% of all such excess exposures shall be added to the risk weighted exposure for credit risk.
4. Where the bank has been involved in the sale of credit with recourse facility, 1% of the contract (sale) value shall be added to the risk weight for credit risk.
5. Where the banks do not have satisfactory Assets Liability Management policies and practices to effectively manage the market risks, an additional risk weight of 1% of Net Interest Income of immediate previous financial year shall be added to the risk weight for market risk.

6. Where the bank's net liquid asset to total deposit ratio is less than 20%, a risk weight of 1% (as given in the table below) of total deposit, for each percent or portion of percent shortfall in such ratio, is added to total of the Risk Weighted Exposures.

Table 2.3

Risk Weighted Exposure for Net Liquid Assets Ratio

Net liquid asset to total deposit ratio	A risk weight to be added to the Risk Weighted Exposures
19% - less than 20%	1% of total deposit
18% - less than 19%	2% of total deposit
17% - less than 18%	3% of total deposit
16% - less than 17%	4% of total deposit
15% - less than 16%	5% of total deposit and so on.

Source: Nepal Rastra Bank Unified Directives 2069

For this purpose, liquid assets include cash and bank balances, money at call & short notice, placement upto 90 days and investment in government securities. Borrowings repayable upto 90 days is deducted from liquid assets to obtain net liquid assets.

7. Where the banks do not adopt sound practices for the management of operational risk, an additional capital charge of 2% of Gross Income of immediate previous financial year shall be levied for operational risks.

8. Where the Gross Income determined for computation of capital charge of Operational Risk for all of the last three years is negative and where the banks themselves have not addressed the capital charge for operational risk, 5% of the total credit and investments net of specific provisions shall be the capital charge for operational risk.

New banks who have not completed an year of operation and hence whose gross income cannot be measured reliably and where the banks themselves have not addressed the capital charge for operational risk, shall also be required to compute their capital charge for operational risk vide the same

approach as prescribed for banks with negative gross income. These banks may use the gross income approach from second year onwards. But, based on the reasonableness of the so computed capital charge for Operation Risk, during the first three years of operation, review process may require additional proportion of capital charge.

9. During the course of review, where the supervisor is not satisfied with the overall risk management policies and procedures of the bank, the total risk weighted exposures of the bank shall be increased up to 5%.

10. In case the bank has not achieved the desired level of disclosure requirements, the total risk weighted exposures of the bank shall be increased up to 3%.

11. Banks that do not meet the eligibility requirements to claim the benefit under credit risk mitigation techniques shall not be allowed the benefit of CRM.

b. Corrective Actions for Non-Compliances

1. The failure on part of the banks to meet the provisions of this framework shall be considered as a violation of the NRB directives and shall attract stipulated actions. The nature of the enforcement action largely depends on degree of the capital adequacy of the bank. The trigger points and the prescribed action in case of non-compliance shall be as per the provisions of Prompt Corrective Action Byelaw 2064 propounded by Nepal Rastra Bank.

2.1.4.7. Disclosure

2.1.4.7.1 General:

The purpose of disclosure requirements is to complement the minimum capital requirements and the review process by developing a set of disclosure requirements which will allow market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment processes, and hence the capital adequacy of the bank. It is believed that providing disclosures that are based on a common framework is an effective means of informing the market about a bank's exposure to those risks and provides a consistent and comprehensive disclosure framework that enhances comparability.

The importance of disclosure is more pronounced in cases of bank that rely on internal methodologies in assessing capital requirements.

2.1.4.7.2 Disclosure Principles:

Banks should have a formal disclosure policy approved by the Board of directors that addresses the bank's approach for determining what disclosures it will make and the internal controls over the disclosure process. In addition, banks should implement a process for assessing the appropriateness of their disclosures, including validation and frequency. While deciding on the disclosure policy, the board should pay due attention to strike a balance between materiality and proprietary and confidential information.

a. Materiality

Besides the minimum prescribed disclosure requirements, a bank should decide which additional disclosures are relevant for it based on the materiality concept. Information would be regarded as material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making economic decisions.

b. Proprietary and confidential information

Proprietary information encompasses information (for example on products or systems), that if shared with competitors would render a bank's investment in these products/systems less valuable, and hence would undermine its competitive position. Information about customers is often confidential, in that it is provided under the terms of a legal agreement or counterparty relationship. This has an impact on what banks should reveal in terms of information about their customer base, as well as details on their internal arrangements, for instance methodologies used, parameter estimates, data etc. The disclosure requirements set out below by NRB aims to strike an appropriate balance between the need for meaningful disclosure and the protection of proprietary and confidential information.

2.1.4.7.3 Validation:

The disclosures of the bank should be subjected to adequate validation. In addition, supplementary material (such as Management's Discussion and Analysis) that is published should also be subjected to sufficient scrutiny (e.g. internal control assessments, etc.) to satisfy the validation issue. If material is not published under a validation regime, for instance in a standalone report or as a section on a website, then management should ensure that appropriate verification of the information takes place, in accordance with the general disclosure principles.

2.1.4.7.4 Disclosure Requirements:

Banks should at minimum, disclose the following information at the stipulated time intervals. At the same time, banks shall be free to disclose any other information they consider important for its stakeholders as and when they consider necessary, beyond the prescribed requirements.

a. Banks should provide the following disclosures as at end of each financial year along with the annual financial statements.

1. Capital structure and capital adequacy

- Tier 1 capital and a breakdown of its components;
- Tier 2 capital and a breakdown of its components;
- Detailed information about the Subordinated Term Debts with information on the outstanding amount, maturity, amount raised during the year and amount eligible to be reckoned as capital funds.
- Deductions from capital;
- Total qualifying capital;
- Capital adequacy ratio;
- Summary of the bank's internal approach to assess the adequacy of its capital to support current and future activities, if applicable; and
- Summary of the terms, conditions and main features of all capital instruments, especially in case of subordinated term debts including hybrid capital instruments.

2. Risk exposures

- Risk weighted exposures for Credit Risk, Market Risk and Operational Risk;

- Risk Weighted Exposures under each of 11 categories of Credit Risk;
- Total risk weighted exposure calculation table;
- Amount of NPAs (both Gross and Net)

    - Restructure/Reschedule Loan
    - Substandard Loan
    - Doubtful Loan
    - Loss Loan

- NPA ratios

    - Gross NPA to gross advances
    - Net NPA to net advances

- Movement of Non Performing Assets
- Write off of Loans and Interest Suspense
- Movements in Loan Loss Provisions and Interest Suspense
- Details of additional Loan Loss Provisions
- Segregation of investment portfolio into Held for trading, Held to maturity and Available for sale category

3. Risk Management Function

- For each separate risk area (Credit, Market and Operational risk), banks must describe their risk management objectives and policies, including:

    - Strategies and processes;
    - The structure and organization of the relevant risk management function;
    - The scope and nature of risk reporting and/or measurement systems; and
    - Policies for hedging and/or mitigating risk and strategies, and processes for monitoring the continuing effectiveness of hedges/mitigants.

- Types of eligible credit risk mitigants used and the benefits availed under CRM.

b. All commercial banks should make following disclosures on a quarterly basis on their respective websites.

- Tier 1 capital and a breakdown of its components;
- Tier 2 capital and a breakdown of its components;
- Detailed information about the Subordinated Term Debts with information on the outstanding amount, maturity, amount raised during the year and amount eligible to be reckoned as capital funds.
- Deductions from capital;
- Total qualifying capital;
- Capital adequacy ratio;
- Risk weighted exposures for Credit Risk, Market Risk and Operational Risk;
- Risk Weighted Exposures under each of 11 categories of Credit Risk;
- Total risk weighted exposure calculation table;
- Amount of NPAs (both Gross and Net)

    - Restructure/Reschedule Loan
    - Substandard Loan
    - Doubtful Loan
    - Loss Loan
    - NPA ratios

        - Gross NPA to gross advances
        - Net NPA to net advances

    - Movement of Non Performing Assets
    - Write off of Loans and Interest Suspense
    - Movements in Loan Loss Provisions and Interest Suspense
    - Details of Additional Loan Loss Provisions
    - Segregation of investment portfolio into Held for trading, Held to maturity and Available for sale category
    - Summary of the bank's internal approach to assess the adequacy of its capital to support current and future activities, if applicable; and

- Summary of the terms, conditions and main features of all capital instruments, especially in case of subordinated term debts including hybrid capital instruments.

c. Disclosure requirements under this framework should also be published in the respective websites of the banks. Such disclosures of the banks should also be updated to reflect the capital adequacy position of the banks after the supervisory adjustments under the review process. Banks that do not host a website yet are required to make the necessary arrangements to host a website immediately.

d. Banks are required to report to NRB their capital adequacy computations, according to the format as specified in Annexure of this framework on a monthly basis within one month after the end of the month or as required by NRB from time to time. All such returns have to be validated by the internal auditor of the bank. If the monthly internal audit could not be carried out, it should be disclosed on the monthly returns. But, such returns at the end of the quarter must be submitted with the validation from the internal auditor of the bank.

   Besides the returns specified above, a bank must inform NRB within 30 days of:

   1. Any breach of the minimum capital adequacy requirements set out in this framework together with an explanation of the reasons for the breach and the remedial measures it has taken to address those breaches.
   2. Any concerns it has about its capital adequacy, along with proposed measures to address these concerns.

e. Full compliance of these disclosure requirements is a pre-requisite before banks can obtain any capital relief (i.e., adjustments in the risk weights of collateralized or guaranteed exposures) in respect of any credit risk mitigation techniques.

2.2. Empirical Review

2.2.1. Review of Articles and Reports

"Annual Bank Supervision Report (2011)" was prepared as a report for inspections in terms of compliance with NRB directives, BAFIA-2006 and other relevant Acts

and statutes. The report brought the several forms of discrepancies into limelight. The supervision report presented the following area where deviation and non compliance were observed.

- Heavy accumulated loss and capital below prescribed limit in Public banks
- Cases on accounting treatment of Debt Instruments
- Improper calculation of risk weighed exposure
- Redemption reserve not created
- Weak overall risk management
- Disclosure policy not formulated
- Credit Risk Mitigation Criteria not fulfilled
- Loan provided by banks exceeded the Single Obligor Limit (SOL)
- Weak infrastructure to implement Capital Adequacy Framework

The comments/issues on inspection reports, to a great extent, are being repeated for last few years. The comments generally happened to be in the field of corporate governance, compliance and collateral issues. With regard to the effectiveness of enforcement, most of the banks are complying with the instructions given by the supervisor and appropriate correction take place in time. At the same time some banks seem more or less unable to address some issues put forth on inspection reports that require more supervisory attention.

The report further state “The capital of the Nepalese banking industry depicted a favorable trend during 2009/10. There were various reasons for this improvement. The banks, during the period, on an average have performed well and some of them have raised capital from the market, which improved the overall capital position of the industry. All banks were able to post handsome profits. Some banks were able to distribute cash dividends and bonus shares to their shareholders. At the same time, some banks raised funds from the market through issuance of right shares during the year.”

Patricia Jackson led working group in their paper ‘*Capital Requirements and Bank Behaviour: The Impact of the Basle Accord’* examine how banks adjust their balance sheets when their capital ratios are constrained by regulation are varied in their conclusions. This is not surprising since the approach banks take to adjusting

capital ratios is likely to depend on the business cycle and the bank's financial situation. Nevertheless, there is evidence that in some cases undercapitalised banks raise new equity capital. There is also evidence that weakly capitalised banks sometimes substitute away from high risk weighted assets and reduce their lending, although the studies reviewed generally have difficulty distinguishing the effects of regulation from market discipline or other factors. On balance, it seems reasonable to conclude that banks attempt to respond in the least costly way to binding capital constraints. Whether or not banks raise Tier 1 or Tier 2 equity may depend in part on which capital constraint is most binding. When it is costly to increase capital, it appears that banks may adjust the composition or level of lending.

Choi G (2000) in economic note, "*The credit crunch in the banking sector in Korea in Year 1997",* found the replacement of old capital standards with risk based capital RBC in 1997 increased number of banks below the regulatory capital requirements from 0-14 and a number reduced to 7 in 1998. And the banks' capital deficiency amounted to 59 percent of total Korean assets in 1997 reduced to 26 percent either by raising expensive capital or by reducing risk weighted assets through substituting less risky assets such as commercial loans. So banks with the less satisfactory CARs reduced banks lending and banks that met satisfactory CARs increased bank lending.

Keijser/ De Haas (2001) in their *"Financial Collateral and Capital Adequacy requirement"* have 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.

Stokes (2003) has mentioned in article *"Risk Assessment in Banks, Based on Basel Framework"* 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.

Heakal (2009) has written that the central bank has been described as "The lender of the last resort," in his article *"Changing Role of Central Bank"* which means that the central bank is responsible for providing its economy with funds when commercial banks cannot cover a supply shortage. In other words, the central bank prevents the country's banking system from failing. However, the primary goal of central banks is to provide their countries' currencies with price stability by controlling inflation. A central bank also acts as the regulatory authority of a country's monetary policy and is the sole provide and printer of notes and coins in circulation. Time has proven that the central bank ca best function in these capacities by remaining independent from government fiscal policy and therefore uninfluenced by political concerns of any regime. The central bank should also be completely divested of any commercial banking interests.

Dowd (2009) found in his study "*Minimum Capital Standards of Financial Institutions"* states that the imposition by regulators of minimum capital standards on financial institutions can be seen as a means of strengthening the safety and

soundness of the banking system and also a response to the moral hazard problems created by deposit insurance. He also suggested that an information asymmetry between bank managers and depositors could produce market failure that provides a rational for regulatory authorities, i.e. Central Bank intervention in the financial system. This intervention would take the form of capital adequacy regulation to force bank to maintain stronger capital position.

2.2.2. Review of Previous Thesis

Shrestha (2002) in his thesis named " *NRB-Capital Adequacy Norms for Commercial Banks and Its Impact: Case Study of BOK and HBL"* 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. Shrestha 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.

Lamsal (2009) in thesis "NRB Directives Impact on commercial Bank" stated that that the central bank rocked the commercial banks with seven directives issued in two installments asking banks to start complying with the new structures by mid-July 2001 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 desperate to meet the targets of capital adequacy norms since the consequences the banks have to face in case of noncompliance 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.

Udas, K.S (2009) in thesis **"***Capital Adequacy and Its significance to commercial Banks"* 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 rate by steadying macroeconomic 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.

Khadka (2010) 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 observed was the 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.

Khadka has further written that Nepal initiated financial sector reform back in 1980s with donor initiative and assistance. In this process, some progress was made in terms of re-capitalization of the government banks, divestment, branch consolidation, introduction of new regulatory and prudential norms and cleaning up the balance sheets of bad loan loaded banks. But the reform process was stalled in the later 1990s due to political instability and the government's priority in areas other than the financial system. In between, the country be served, from very close by, the financial crisis in the neighboring region. Keeping in mind the financial crisis and its effect in the Asian region, the Nepal Rastra Bank is now focusing its attention on the reform measures in the financial sector as a drive towards new financial architecture.

Khadka emphasized various reform majors. One of the measures was increasing capital base and revising capital adequacy. Khadka 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

2.3. Research Gap

This Master's degree thesis is unique in the sense that no significant attempts have so far been made to perform a study on impact of capital adequacy norms on commercial banks with help of sample banks having different background. It's been experienced that till date either the sample has been limited to a single bank or 2 or more banks in arbitrary manner as a sample in order to draw conclusion over the financial sector of Nepal. Here, the effort has been made to draw the nearest conclusion over impact of capital adequacy norms specifically on commercial banks

of Nepal. For which the study is undertaken with the help of 5 commercial banks with different sizes and different background viz. SCB, HBL, NICB, LBL and RBB. SCB and HBL represent joint venture banks. NICB represents a commercial bank funded by Nepalese shareholders. Similarly, LBL represents the bank which has been improving after taken over by NRB. Finally, RBB has been taken as government owned bank with negative capital fund.

Moreover, the thesis study is intended with the following major objectives:

- To provide a clear concept of capital adequacy framework of NRB.
- To explain the trend of the elements of capital adequacy ratio.
- To present key stakeholders' opinions on some key issues relating to NRB's Capital Adequacy Norms.
- To assess the awareness of depositors towards the importance of Capital Adequacy.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Research Design

The study follows the historical, descriptive and analytical research design. The research is historical as it has used the past data. The research is descriptive as the data have also been described for their various changes observed under the various aspects. The data have been analyzed with the use of various tables and research tools. The views of key stakeholders have also been described and analyzed in detail. The period of research has been from mid-July 2008 till mid-July 2012.

3.2 Population and Sample

The population of the commercial banking sector in Nepal would represent all the 32 commercial banks namely Nepal Bank Limited (NBL), RastriyaBanijya Bank (RBB), Nabil Bank Limited (NABIL), Nepal Investment Bank Limited (NIBL), Standard Chartered Bank Nepal Limited (SCB), Himalayan Bank Limited (HBL), Nepal SBI Bank Limited (NSBI), Nepal Bangladesh Bank Limited (NBBL), Everest Bank Limited (EBL), Bank of Kathmandu Limited (BOK), Nepal Credit & Commerce

Bank Limited (NCCB), Lumbini Bank Limited (LBL), Nepal Industrial & Commercial Bank Limited (NICB), Machhapuchhre Bank Limited (MPBL), Kumari Bank Limited (KBL), Laxmi Bank Limited (LAXMI), Siddhartha Bank Limited (SDBL), Global Bank Limited (GBL), Citizens Bank International Ltd. (CBIL), Prime Commercial Bank Ltd. (PCBL), Sunrise Bank Ltd. (SRBL), Bank of Asia Nepal Ltd. (BOANL), Grand Bank Nepal Ltd. (GBNL), NMB Bank Ltd (NMB), KIST Bank Ltd. (KIST), Agriculture Development Bank Limited (ADB/N), Janata Bank Nepal Limited (JBNL), Mega Bank Nepal Limited (MBNL), Commerz and Trust Bank Nepal Limited (CTBN), Civil Bank Limited(CBL),Century Commercial Bank Limited (CCBL) and Sanima Bank Limited(SBL). Where possible, the data of the whole commercial banking system have been used. However in some cases due to time constraint and unavailability of sufficient data, the following five commercial banks of Nepal have been taken as the samples for the study: the two joint venture commercial banks SCB and HBL, two private sector commercial banks NICB and LBL and one Government owned commercial bank RBB.

3.3 Secondary Information and Data Sources

Secondary information and data have mostly been gathered from www.nrb.org.np, www.sawtee.org, other relevant websites, commercial banks etc. The additional information and data have also been gathered from NRB. The directives related to the financial sector particularly commercial banking sector has been adopted from Unified Directives 2069. Likewise, information and data have also been collected and assimilated from relevant past reports, research works and different relevant articles published in the newspapers and journals.

3.4 Primary Information and Data sources

Primary information and data have mostly been gathered from the findings of a questionnaire survey that involved 100 respondents. 30 key stakeholders representing officials from sample commercial banks were cordially requested to reply the questionnaire. However, only 20 respondents replied. Similarly, 70 stakeholders represent depositors of commercial banks. Out of which 55 responded to the questionnaire. Since most of the respondents were not able to answer the many technical questions contained in the questionnaire, the respondents

answered only those questions related to their specific field and interest. Two sets of questionnaire containing 9 questions where 3 questions seeking response from officials of commercial banks and 3 questions from individual depositors respectively were prepared and used covering the areas of Nepal's adoption of Basel II, Capital Adequacy Framework and performance appraisal of commercial banks. Objective questions were asked in the questionnaire. The objective questions were asked in "yes-yes" or "no-no" and options type response questions. The set of questionnaire distributed to key stakeholders for their opinions is provided in Annex Nine.

3.5 Nature of Analysis

This study undertakes the analyses of both the qualitative as well as quantitative aspects relating to activities of Nepal's financial services sector the context of Capital Adequacy Framework. The qualitative part of this study focuses on the unified directives and Capital adequacy Framework issued by NRB; and presentation of key stakeholders' opinions on some key issues relating to impact of directives and framework on Commercial banks. So does quantitative analysis.

3.6 Tools Used

A statistical tool i.e., tables, correlation analysis, and accounting tool namely, ratio analysis have been used during the course of study. However, relative assessment through literature review has been the focal method by which this study has been carried out.

3.6.1. Financial Tools

Ratio analysis is the best tool for financial analysis. Ratios can be taken as 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 obtained.

a. Capital Adequacy Ratio

Capital Adequacy Ratio is a ratio of total capital to risk weighted assets. Higher the ratio, higher the banks' soundness. Because with the help of a

high capital adequacy ratio, a bank could absorb losses without becoming insolvent.

$$CAR = \frac{Total\ Capital}{Total\ Risk\ Weighted\ Assets} \times 100$$

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.It denotes how bank can effectively protect depositors against loss.

$$Capital\ to\ Deposit\ Ratio = \frac{Total\ Capital\ Fund}{Total\ Deposit} \times 100$$

c. Credit to Deposit Ratio (CDR)

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 it collected.

$$CD\ Ratio = \frac{Total\ Credit}{Total\ Deposit} \times 100$$

3.6.2. Statistical Tools

The following statistical tools are used to analyze 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= number of pairs in observation
x=first variable

y =second variable

b. Multiple Correlation Coefficient

In case of simple correlation we study the degree of relationship between two variables, one independent and the other dependent variable. But in real life many independent variable do affect the dependent variable and the study on degree of relationship between a single dependent variable and a number of independent variables in combination is called multiple correlation analysis. Here, the effort has been used to identify the correlation between dependent variable Capital Fund and joint effect of the independent variables Deposit and Credit on Capital Fund.

A formula for the calculation of multiple correlation coefficients can be expressed in terms of r12, r13 and r23 as follows.

$$R_{1.23} = \sqrt{\frac{r_{12}^{\ 2} + r_{13}^{\ 2} - 2r_{12}\, r_{13}\, r_{23}}{1 - r_{23}^{\ 2}}}$$

c. Test of Hypothesis

A hypothesis means a statistical statement about the values of one or more parameters of the population. After setting the hypothesis, it is necessary to test the reliability of such statistical statements. For this purpose experiment is conducted by using sample information and the hypothesis may be rejected or accepted based upon the improbability of the results thus obtained. In the thesis, we test if the sample coefficient of multiple correlation, R is significant of correlation between Capital Fund and joint effect of Deposit and Credit on it in the population or it is just due to the fluctuation of sampling using t-test for significance of observed sample multiple correlation coefficient. A detail of calculation is in Annex Eight.

3.7 Method of Analysis and Presentation

Methods of analysis applied are as simple as possible. Data are presented in tabular forms and clear interpretations on them are given simultaneously. To make the thesis simpler and easily understandable, tables have been used in clearer manner. The presentation of key stakeholders' opinions has been kept only rudimentary to facilitate easy understanding and to broadly reflect the views of the aware respondents on some key issues relating to impact of Capital structure framework on commercial bank. Summary, findings, and recommendations are presented finally.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

This chapter forms the core of this Master's Degree thesis. It is broadly divided into six sections, including this introduction. The second section focuses on presentation of data into various tables, charts and graphs. The third section describes in detail ratios that have impact on Capital Adequacy. This section also presents the year-by-year changes in the ratios. The fourth section tries to make a statistical analysis of the quantitative data for better understanding of the impact of ratios on different factors of Capital Adequacy ratios. The performance appraisal of only five sampled commercial banks has been made due to lack of time and resources. The fifth section in this chapter analyses the impact of the norms set by NRB in terms of Capital Adequacy Ratio on different aspects of commercial banks. Finally, the last section makes a presentation of key stakeholders' opinions on some key issues relating to NRB's Capital Adequacy Framework.

4.2 Presentation of Data

4.2.1. Capital Fund

Capital fund of a bank consists of two types of components: Tier-1 capital and Tier-2 capital. Tier-1 capital is known as core capital and Tier-2 capital is known as supplementary capital. Hence, the total capital fund of a bank derived by adding these two components of capital. In more details, it has been discussed under Chapter II: Review of Literature 2.1.4.2 Eligible Capital Funds.

In Five years period, all sample commercial banks have increased their capital fund significantly. During the review period, RBB had negative capital fund of 17,162.60 million at the end of FY 2007/08.

Table 4.1

Capital Fund

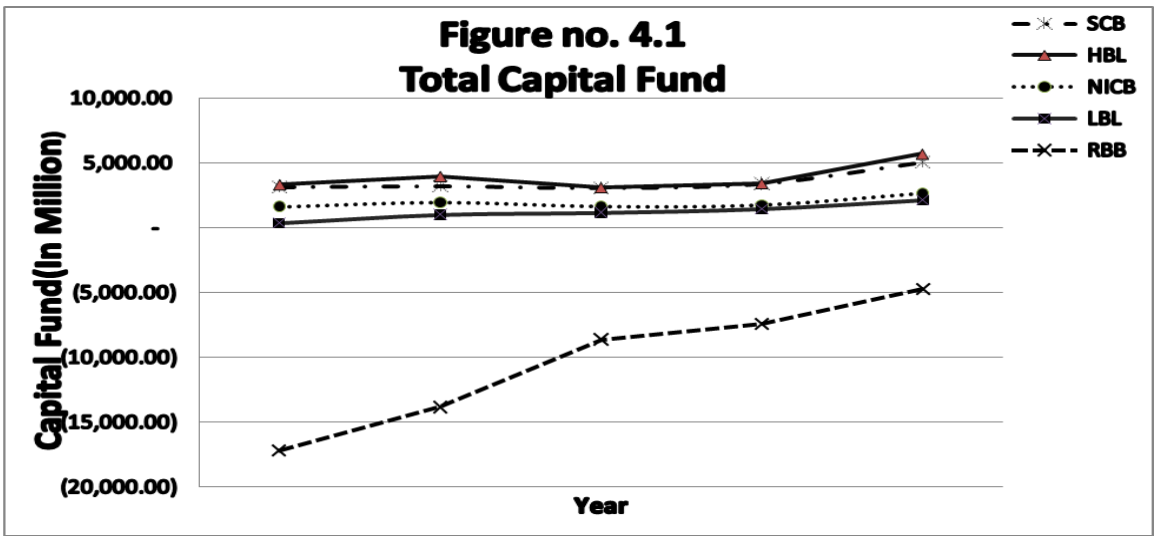
in million('000000)

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	3,115.40	3,348.00	1,626.90	366.90	(17,162.60)
Mid-July 2009	3,190.40	3,980.70	1,963.70	998.40	(13,823.20)
Mid-July 2010	3,053.00	3,119.88	1,660.25	1,151.52	(8,617.08)
Mid-July 2011	3,371.62	3,439.22	1,764.95	1,442.28	(7,422.94)
Mid-July 2012	5,019.00	5,701.00	2,643.00	2,112.00	(4,738.00)

Source: Key_Financial_Indicators--2068-69 (Mid July 2012)-New (unaudited)

LBL increased it to Rs. 2112.00 million by the Mid-July 2012 where as RBB had negative capital fund of Rs. 4738.00 million. However, significant increase can be noticed in the capital fund of RBB. So is the case with others. It can be seen that SCB, HBL and NICB too have increased their capital fund from Rs. 3115.40 million, Rs. 3348.00 million, Rs. 1626.90 million to Rs. 5019.00 million, Rs. 5701.00 million and 2643.00 million respectively.

The increasing trend of capital fund among commercial banks can be viewed in the chart below.



The Figure 4.1 depicts the trend of total Capital fund. It can be observed that all sample commercial banks have been increasing in terms of capital fund.

The main rationale behind the increment of the capital fund is to comply with the requirement of NRB capital adequacy norms for commercial banks.

4.2.2. Total Risk Weighted Assets (TRWA)

Risk-weighted assets are those held by a bank or other financial properties that are weighted according to their risk level. The sum of such risk-weighted assets is known as TRWA. A bank must contain capital that measures out to a predetermined percentage of its risk-weighted assets. Each asset is assigned a risk weight that is based on the amount of risk involved. The TRWA of sample banks are as follows.

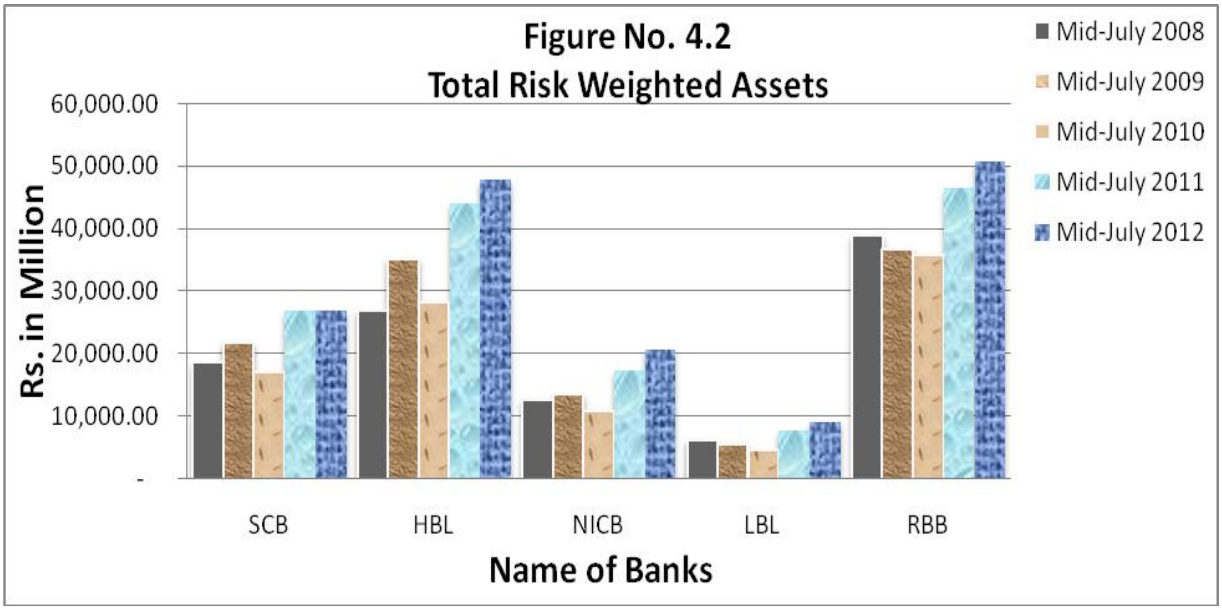
Table 4.2

Total Risk Weighted Assets

in million('000000)

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	18,544.05	26,784.00	12,553.24	6,125.21	38,855.78
Mid-July 2009	21,703.40	35,196.29	13,450.00	5,615.30	36,666.31
Mid-July 2010	17,170.98	28,311.07	10,851.31	4,677.17	35,785.22
Mid-July 2011	26,854.17	44,085.18	17,250.71	7,810.07	46,412.44
Mid-July 2012	26,975.05	47,912.85	20,630.58	8,967.78	50,659.63

Source: Banking_and_Financial_Statistics--No_57 July 2012 & Financial Result of Q4(unaudited)



Increasing risky behavior of the commercial banks in the recent year can be observed in the above column chart. The credit to higher risk might be a one of the cause behind the scenario.

4.2.3. Deposit Trend

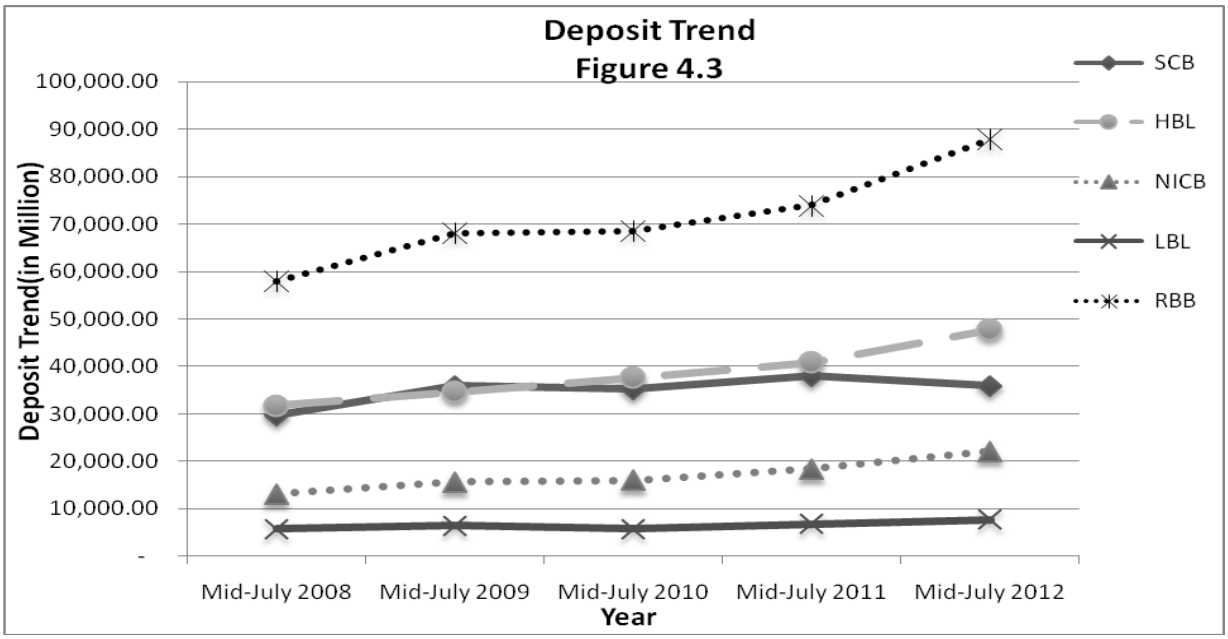
The most important activity of a commercial bank is to mobilize deposits from the public. People who have surplus income and savings find it convenient to deposit the amounts with banks. Depending upon the nature of deposits, funds deposited with bank also earn interest. Deposit collection is one of the major sources of fund of commercial banks. In order to attract deposit from general public, commercial banks offer various products with different features. The deposit trend of the sample banks can be tabulated as follows.

Table 4.3
Deposit Trend

in million('000000)

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	29,743.90	31,805.30	13,078.50	5,703.70	57,990.80
Mid-July 2009	35,871.80	34,681.00	15,579.90	6,444.90	67,976.30
Mid-July 2010	35,182.70	37,609.40	15,968.90	5,758.00	68,623.20
Mid-July 2011	37,999.24	40,920.63	18,394.44	6,773.00	73,924.08
Mid-July 2012	35,965.63	47,731.00	22,112.00	7,669.00	87,775.00

Source: Banking_and_Financial_Statistics--No_57 July 2012 & Financial Result of Q4(unaudited)



It can be observed in the figure that all commercial banks have been directing their effort towards the increment of deposit which is a must for banking activity. However, along with the growth there comes a challenge to manage it effectively while protecting the interests of the depositors.

4.2.4. Credit Trend

One of the basic functions of the commercial banks is credit creation. Interest from extending credit facility to its clients is the main source of income to the banks. 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 bank policy in extending credit service. Much attention should be paid to the extension of the quality of the credit facility although quantity of the facility should also be considered. The lending trend of commercial banks is as follows.

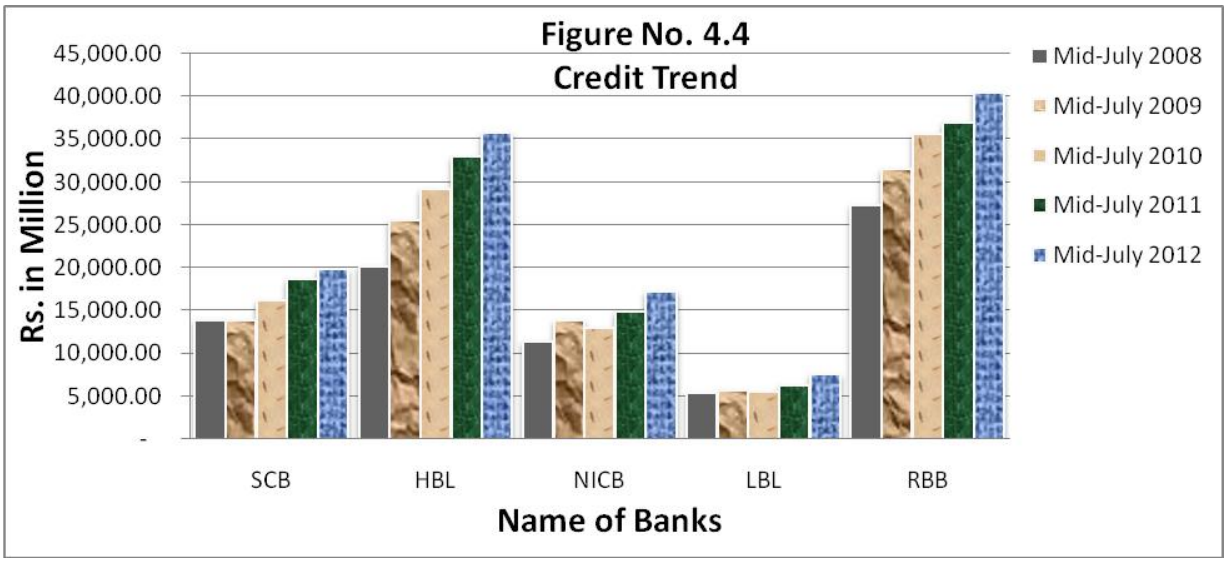
Table 4.4

Credit Trend

in million('000000)

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	13,355.00	20,233.90	11,465.30	5,367.30	27,353.60
Mid-July 2009	13,118.60	25,577.40	13,915.80	5,681.40	31,464.10
Mid-July 2010	15,932.20	29,123.80	12,929.30	5,480.40	35,616.60
Mid-July 2011	17,698.20	32,968.27	14,933.94	6,213.11	36,866.10
Mid-July 2012	19,828.51	35,696.00	17,242.31	7,568.00	40,448.00

Source: Banking_and_Financial_Statistics--No_57 July 2012 & Financial Result of Q4(unaudited)



4.3. Ratio Analysis

4.3.1. Capital Adequacy Ratio

Capital adequacy ratio is the ratio which determines the capacity of a bank in terms of meeting the time liabilities and other risk such as credit risk, market risk, operational risk, and others. It is a measure of how much capital is used to support the banks' risk assets. The Capital Adequacy Ratio (CAR) is calculated by dividing eligible regulatory capital by total risk weighted exposure.

Table 4.5

Capital Adequacy Ratio

Year	SCB	HBL	NICB	LBL	RBB	Average
Mid-July 2008	16.80%	12.50%	12.96%	5.99%	-44.17%	4.04%
Mid-July 2009	14.70%	11.31%	14.60%	17.78%	-37.70%	7.22%
Mid-July 2010	17.78%	11.02%	15.30%	24.62%	-24.08%	8.81%
Mid-July 2011	17.38%	11.45%	24.49%	14.68%	-22.52%	10.59%
Mid-July 2012	16.28%	11.90%	12.85%	23.55%	-9.35%	11.50%

Source: Banking_and_Financial_Statistics--No_57 July 2012 & Financial Result of Q4(unaudited)

The table above depicts that in an average commercial banks do not meet the minimum requirement set by NRB. As per the set requirement, the total capital should be 10% of total risk weighted assets. Among the sample banks, except for RBB, all other banks have been fulfilling the NRB requirement. However, except for HBL, all other banks have been constantly increasing their total capital in relation to TRWA. And so do banking industry.

4.3.2. Capital to Deposit Ratio

Capital to Deposit Ratio used to be an important standard of banking supervision. It denotes how bank can effectively protect depositors against loss.The Table 4.6 shows the capital to deposit ratios for the period of five fiscal years starting from FY 2007/08 to FY 2011/12. Calculation of the given ratio for the given banks is shown in Appendix Five.

Table 4.6

Capital to Deposit Ratio

In %

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	7.12	6.75	8.18	(0.60)	(29.69)
Mid-July 2009	6.95	7.25	8.68	6.11	(19.55)
Mid-July 2010	8.68	8.30	10.40	20.00	(12.56)
Mid-July 2011	11.80	10.58	12.30	27.40	(11.10)
Mid-July 2012	13.95	11.94	11.95	27.54	(5.40)
Average	9.70	8.96	10.30	16.09	(15.66)
SD	2.75	1.99	1.66	11.42	8.34
CV	28.35	22.21	16.17	70.97	(53.27)

In the above table, RBB has negative and HBL has very low mean Capital to Deposit Ratio. It means the deposit of RBB is much vulnerable and not being able to give return to the capital. Similarly, NICB's less variable SD and CV. It refers to it has less risk compare to other banks.

The capital-deposit standard frequently is cited in a very precise and concrete form, that is, one to ten.(Source: Roland I. Robinson (1941), "*The Capital-Deposit Ratio in Banking Supervision")* As such all sample banks have been trying their best to increase Capital to deposit ratio. However, government owned commercial bank seems to be lacking very much behind in securing deposits.

4.3.3. Credit to Deposit Ratio

Credit to Deposit Ratio (CDR) is the proportion of risk assets created by banks from the deposit received. It is also a tool of examining the liquidity of the bank. Calculation of CDR is shown in Appendix Six.

Table 4.7

Credit to Deposit Ratio

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	47%	64%	88%	94%	47%
Mid-July 2009	39%	74%	89%	88%	46%
Mid-July 2010	46%	77%	81%	95%	52%
Mid-July 2011	49%	81%	81%	92%	50%
Mid-July 2012	55%	75%	78%	99%	46%

It is evident from above table that except for RBB and SCB all other banks are at higher CDR. It reflects that banks are making more loans and advances out of their deposits, hence making lower liquidity at their disposal. As per NRB's Capital Adequacy Framework 2007, more than 20% Liquidity ratio would attract no additional risk.

4.4 Statistical Analysis

4.4.1. Correlation Analysis

Under correlation analysis, it is tried to analyze/justify whether there exists any relations between Capital Fund and Deposit and Capital Fund and Loans and Advances.

Table 4.8

Multiple Correlation of Loan & Advances and Deposit on Capital Fund

Bank	R	R^2
SCB	0.82	0.69
HBL	0.91	0.83
NICB	0.89	0.78
LBL	0.91	0.83
RBB	1	1
Average	0.91	0.83

In the above table 4.8., it can be experienced that all the correlation coefficient, ***R*** for each individual commercial bank is positive and determinants, R^2 are above 60%. Similarly, it is clear from the average R of sample banks that correlation of credit and Deposit on Capital Fund seems to be nearly perfectly positive. While going through the determinants, $\boldsymbol{R^2}$ 69%, 83%, 78%, 83% and 100% of the total variation in the Capital Fund of SCB, HBL, NICB, LBL and RBB respectively is explained by Deposit and Loans & Advances. This signifies that there exists the significant relationship between Capital Fund and Deposit and Credit. Analyzing this result, the conclusion can be drawn that the sample banks have been successful in mobilizing capital fund and Deposit in better manner.

4.4.2 Test of Hypothesis

Here the effort has been made to test the significance of the correlation coefficient using *t-Test.* The calculation is shown on the Appendix Eight. For test purpose, average correlation coefficient of sample banks has been used. The result is as in table below.

Null Hypothesis (H_0)	Credit and Deposit of commercial banks in Nepal are not correlated to population Capital Fund
Alternative Hypothesis (H_1)	Credit and Deposit of commercial banks in Nepal are correlated to population Capital Fund
Correlation coefficients (r)	0.95
Calculated Value (t_{cal})	3.82
Tabulated Value (t_{tab})	3.182
Degree of Freedom (d.f.)	3
Level of significance (α)	5%
Decision	H0 is rejected, hence, H_1 is accepted i.e., Credit and Deposit of commercial banks in Nepal are correlated to population Capital Fund

The test signifies the existence of relationship among loan and advances, deposit and capital fund. Similarly, the correlation coefficient and determinants calculated in table 4.8 applies to all commercial banks in Nepal.

4.5. Impact Analysis of Capital Adequacy Norms

4.5.1. Share Capital

Table 4.9
Changes in Share Capital

Rs. In million

Year	SCB	% increased	HBL	% increased	NICB	% increased	LBL	% increased	RBB
Mid-July 2008	620.80	50%	1,013.50	25%	943.90	43%	995.70	66%	1,172.30
Mid-July 2009	932.00	50%	1,216.20	20%	1,140.50	21%	1,096.10	10%	1,172.30
Mid-July 2010	1,398.50	50%	1,600.00	32%	1,311.60	15%	1,294.50	18%	1,172.30
Mid-July 2011	1,610.17	15%	2,000.00	25%	1,311.60	-	1,300.00	0.42%	1,172.30
Mid-July 2012	1,610.17	-	2,400.00	20%	1,311.60	-	1,430.00	10%	1,172.30

In the beginning year of the study, the paid up capital of all sample banks were at its lowest in 5 year period except for RBB. However, SCB, HBL, NICB, and LBL have raised their share capital to Rs. 1610.17 million, Rs. 2400.00 million, Rs. 1311.60 million and Rs. 1430.00 million respectively. In order to meet the capital adequacy norms, the sample banks have raised their capital by means of issuance of Rights Share and Bonus Share. The above table implies that the commercial banks increment in the paid capital is the impact of capital adequacy norms.

4.5.2. Non Performing Loan to Total Loan

Table 4.10

Percentage of NPL to Total Loan

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	0.92	2.35	0.86	14.87	21.65
Mid-July 2009	0.66	2.16	0.90	9.06	15.68
Mid-July 2010	0.54	3.16	0.56	4.66	11.45
Mid-July 2011	0.62	3.92	0.60	0.96	10.92
Mid-July 2012	0.74	2.06	0.73	0.47	7.27

Source: www.nrb.org.np

The table depicts that the banks have been trying to minimize it NPL to Total loan percentage. During the review period, SCB, HBL and NIC NPL is decreased by zero points basis. Similarly, government owned commercial bank; RBB and Lumbini Bank has also been successful in decreasing its NPL substantially. It implies that the banks are being discouraged to embark into riskier activities, hence, decreases its NPL to Total Loan percentage.

4.6. Presentation of Key Stakeholders' Option

4.6.1. Study of Response from Bank Officials

A questionnaire regarding the impact of Capital Adequacy norms is attached in Appendix Nine. A total number of twenty officials from sample banks participated in the interview.

All respondents agreed on the on the issue that NRB should enforce Capital Adequacy Norms for commercial banks. The respondents also admitted that this would be in favor of the depositors which would safeguard their interests.

Thought all banks officials agreed on the point that NRB must issue Capital Adequacy Norms, six of them opposed on the prescribed CAR as not perfect stating the ratio higher than required. However, rest of them indicated them as perfect. Similarly, fourteen of the respondents remarked the weightage on Risky Assets prescribed by NRB directives are just OK where other officials said that it should be revised.

Most of the officials opine that they can increase both components of capital to cope with NRB requirements. But one of the official of NICB believe that at present it is not necessary to increase capital while the capital requirement can be cope by decreasing the involvement in the risky behavior of the bank.

4.6.2. Study of Perception of Depositors on Commercial Banks

In order to study perception of depositors on commercial banks, a separate questionnaire was developed shown in Appendix. A total number of 55 individual depositors of various commercial banks responded the questionnaire. 75% of them have Saving Accounts while rests of them have current accounts.

In response to the question for motive behind the operation of accounts, 58.33% of them were operating account for security purpose, 22.22% for interest earning, 2.78% for social status, and 9.72% for transactional purpose and rest for other reasons.

Out of the 55 respondents, 41.67% said that physical security arrangement of a bank is most important to make a depositor's money safe. 25% agreed that an adequate capital is required to make a depositor's money safe. 20.83% said that profitability of the bank is important whereas 12.5% referred to the status of the bank as most important.

75% respondents think that a bank should pay an attractive interest rate to attract more deposits. 29.17% urged to arrange proper security. 25% insist on to achieve a

good profit. Only 20.83% advised to maintain adequate capital fund. The remaining 12.5% referred to other reasons that attract deposits to a bank.

CHAPTER V

SUMMARY, FINDINGS & RECOMMENDATIONS

5.1. Summary

The Nepalese banking system comprises of 32 commercial banks, 88 development banks, 70 finance companies and 23 micro finance institutions. Among these financial institutions, commercial banks hold the majority of the banking assets in the country. Nepal has initiated its liberalization policy for the last two decades. The central bank has initiated transparent and prudent regulatory framework for banks and financial institutions and the effectiveness of the central bank's regulatory framework is also reflected in the stock market. Some of the regulations imposed by the central bank are capital adequacy related regulation, loan classification, loan loss provisioning, single obligor limit, accounting and transparency, risk management, corporate governance, cash reserve ratio, deprived sector lending etc. These regulations have contributed to the soundness of Nepal's financial system.

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. It is threats to depositors, creditors and other those who have stake in them. Such risk may deteriorate overall financial stability of the nation. Similarly, the Nepalese financial sector has been signified by huge number of financial institutions. This also affects the performance and soundness of the financial sector in Nepal. In order to develop sound and safe financial system, one measure could be maintaining sufficient amount of qualitative capital and adopting risk management practices. In line with regulating capital funds, NRB has issued Directive number 1 for supervising and maintaining capital adequacy norms for commercial and development banks and has developed separate framework to cope with this.

This study focuses on norms established by the central bank of Nepal, NRB to regulate capital standard for commercial banks through its directive no. 1. This

Master's Degree thesis seeks to provide impact of the directives on the commercial banking activities in line with maintaining capital. In order to get the clear view, the study on five major commercial banks, i.e., SCBNL, HBL, NICB, LBL and RBB with different background was carried out. For the purpose of the study, capital funds, deposits, credits and share capital of the sample banks were referred. The study focuses on the changes in deposit, lending, changes in capital funds, non performing loan and key stakeholders' opinions on some key issues relating to capital adequacy norms prescribed by NRB.

Various literatures relating to financial sector reforms have been referred to during the course of study. Ample literature has been drawn from various agencies, particularly the NRB. Directives, guidelines, etc. issued by NRB concerning commercial banks have been amply referred to for the purpose of the study. Likewise, Basel II documents availed from the BIS website; with regards to the banking supervision has also been amply reviewed. In addition, past researches relating to capital adequacy norms for commercial banks have also been reviewed, so has different relevant articles that have appeared in different newspapers, journals, magazines and books, among others. A huge amount of literature available in the internet has been used. In addition, past researches relating to financial sector reforms and capital adequacy have also been reviewed, so has different relevant articles that have appeared in different newspapers, journals, magazines and books, among others. A huge amount of literature available in the Internet has been used. References to the most relevant documents, including theoretical review and information on the overall accession package to financial sector liberalisation, are made.

Attempts have been made to describe in detail ratios that have impact on Capital Adequacy and also presents the year-by-year changes in the ratios. Statistical analysis of the quantitative data for better understanding of the impact of ratios on different factors of Capital Adequacy ratios was made. Finally, a presentation of key stakeholders' opinions on some key issues relating to NRB's Capital Adequacy Framework was made.

The last section briefly presents the findings of a questionnaire survey that involved 12 respondents representing bankers from sample commercial banks. Most of the

issues discussed herein come from Directive No. 1. As such, the presentation has been kept only rudimentary to facilitate easy understanding and to broadly reflect the views of the aware respondents on some key issues Given the nature of the questions and the diversity of the answers obtained, it was not possible to make graphical and diagrammatic presentations of the respondents' replies.

5.2 Major Findings:

5.2.1. Capital Fund

In Five years period, all sample commercial banks have increased their capital fund significantly. During the review period, RBB had negative capital fund of Rs. 17,265.78 million at the end of FY 2007/08. It was observed that RBB still had negative capital fund of Rs. 4738.00 million. However, significant increase can be noticed in the capital fund of RBB. So is the case with others. SCB, HBL, NICB and LBL too have increased their capital fund from Rs. 3115.40 million, Rs. 3348 million, Rs. 1626.90 million and 366.90 million to Rs. 5019.00 million, Rs. 5701 million 2693 million and 2112 Million respectively. Most of the capital fund of the banks has been arranged by means of Share Capital.

5.2.2. Total Risk Weighted Assets (TRWA)

RBB and HBL have the highest risk weighted assets during the review period among other commercial banks. The risk weighted assets are in increasing trend. However, TRWA of all the sample banks decreased in Mid July 2010 from Mid July 2009. RBB stood at top with Rs. 50659.63 million and LBL with the lowest TRWA of Rs. 8967.78 million.

5.2.3. Capital Adequacy Ratio

NRB has prescribed 10% capital adequacy ratio out of which 6% represents core capital. Among the sample banks, except for RBB, all other banks have been fulfilling the NRB requirement. RBB has negative capital adequacy ratio of 9.35% as of Mid July 2012. However, except for HBL, all other banks have been constantly increasing their total capital in relation to TRWA. And so do banking industry. It was also observed that capital adequacy ratio as prescribed by NRB

was 12% during the FYs 2060/61-2064/65. Before, it was set 9% for FY 2058/59 and 10% for FY 2059/60.

The banks are maintaining CAR what has been prescribed by NRB.

5.2.4. Capital to Deposit Ratio

RBB has negative and HBL has very low mean Capital to Deposit Ratio. It means the deposit of RBB is much vulnerable and not being able to give return to the capital. Similarly, NICB's less variable SD and CV. It refers to it has less risk compare to other banks. The capital-deposit standard frequently is cited in a very precise and concrete form, that is, one to ten. As such all sample banks have been trying their best to increase Capital to deposit ratio. However, government owned commercial bank seems to be lacking very much behind in securing deposits.

5.2.5. Credit to Deposit Ratio (CDR)

Except for RBB and SCB all other banks are at higher CDR. It reflects that banks are making more loans and advances out of their deposits, hence making lower liquidity at their disposal. As per NRB's Capital Adequacy Framework 2007, more than 20% Liquidity ratio would attract no additional risk.

5.2.6. Statistical Analysis

All the Multiple Correlation Coefficient of Loan & Advances and Deposit on Capital Fund, ***r*** for each individual commercial bank is positive and determinants, r^2 are above 60%. Similarly, it is clear from the average r of sample banks that correlation of credit and Deposit on Capital Fund seems to be nearly perfectly positive. While going through the determinants, r^2 69%, 83%, 78%, 83% and 100% of the total variation in the Capital Fund of SCB, HBL, NICB, LBL and RBB respectively is explained by Deposit and Loans & Advances. This signifies that there exists the significant relationship between Capital Fund and Deposit and Credit.

Similarly, the test of hypothesis signifies the existence of relationship among loan and advances, deposit and capital fund. Similarly, the correlation coefficient and determinants calculated applies to all commercial banks in Nepal.

5.2.7. Impact Analysis of Capital Adequacy Norms

In the beginning year of the study, the paid up capital of all sample banks were at its lowest in 5 year period except for RBB. However, SCB, HBL, NICB, and LBL have raised their share capital to Rs. 1610.17 million, Rs. 2400.00 million, Rs. 1311.60 million and Rs. 1430.00 million respectively. In order to meet the capital adequacy norms, the sample banks have raised their capital by means of issuance of Rights Share and Bonus Share. It implies that the commercial banks increment in the paid capital is the impact of capital adequacy norms.

During the review period, LBL has decreased the percentage of nonperforming loan from 14.87% to 0.47%. Similarly, government owned commercial bank, RBB has also been successful in decreasing its NPL substantially. So have been other sample banks. It implies that the banks are being discouraged to embark into riskier activities, hence, decreases its NPL to Total Loan percentage.

5.2.8. Perception of Respondents

The officials of both the banks feel that NRB, as a central bank, should set the capital adequacy norms. They all agree that these norms are required to safeguard the interest of depositors. The officials are not quite convinced with the prescribed ratios. Some of them say that the ratios are reasonable and some say that it is not perfect. However, the majority opine that these norms are acceptable.

It has been found that majority of the depositors deposit their money in a bank for security of their money. But they are not seemed to be aware of the capital fund of the commercial bank where they are depositing their money. Only 25% of the respondents are aware of the fact of the necessity of adequate capital to safeguard their money. Also majority of the respondents say that attractive interest is required to attract deposits to commercial banks. It has been studied that the depositors in Nepal are not aware of the fact of capital adequacy of a bank which is necessary to safeguard their deposit.

5.3. Conclusion

Capital adequacy has become one of the most significant factors for assessing the soundness of banking sector. To establish the sound financial system in the nation,

NRB has also persuaded the policy of implementing risk-based supervision through its directive no. 1. As per the policy, NRB tries to protect its depositors and creditors is adequate, to commensurate with the risk associated activities and profile of the commercial bank and promote public confidence in the banking system.

The banks have been trying to buffer against the risks associated with its objective by maintaining the sufficient capital adequacy ratio as prescribed by NRB. However, maintenance of capital adequacy constrained them from their business. Hence, some of the bankers are not satisfied with this provision.

Though the banks have been able to meet the norms set by NRB, the Capital to Deposit ratio has been significantly low. However, the banks are focusing towards its growth. Otherwise the situation is vulnerable. Any default would lead to doubt over the financial sector of the nation. The lack of policy in regard of these types of ratios caused to the relaxation of the banks not to meet the adequate ratios.

There is the positive correlation between deposit & credit and Capital Fund. The positive correlation helps to boost the growth of financial activities in the nation. Such relation helps safeguarding of the depositors and overall financial position of the bank.

5.4. Recommendations:

Based on the analysis and findings of the study, some of the recommendations are made which are as follows:

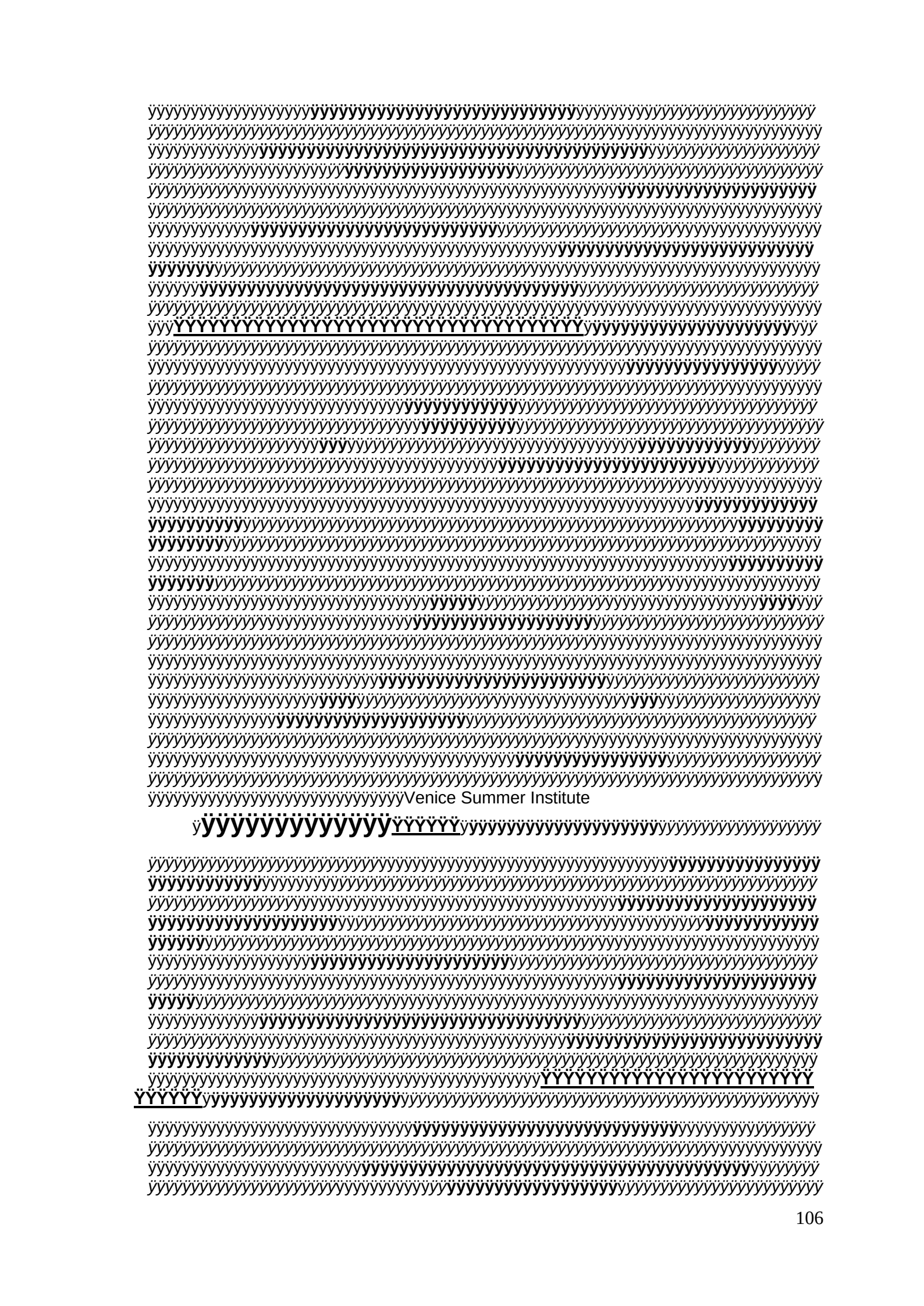
- The capital funds of commercial banks are highly dependent upon share capital. It is recommended to follow optimal capital structure which maximizes the market value of the firm. The banks should use some sort of debt financing also depending upon its viability. It is notable that some of the commercial banks have already started the debt financing. But still debt financing is an unaccustomed source of financing for commercial banks in Nepal.
- Capital-to-deposit ratios of commercial banks under study are seemed to be less than what actually required. There is lack of standard on such type of ratio. Therefore, NRB should set appropriate standard for capital-to-deposit

ratio to be maintained by commercial banks. An 8% to 10% ratio is appropriate for the ratio of capital-to-deposit.

- CD ratios of most of the commercial banks are high. The situation is vulnerable to the interest of depositors. The commercial banks should try to maintain appropriate capital-to-deposit ratios and CD ratios as stated above. They can no way escape pointing on to the lack of the policy.
- NRB should consult to the various bank officials before setting or resetting standards on capital adequacy norms. The complaints and criticisms of bank officials should be considered accordingly. Consequently, an optimal standard will ensue which will satisfy almost everyone.
- It has been found that the depositors are not aware of the fact of the necessity of adequate capital fund to safeguard their deposits. They deposit their money to any banks regardless of adequate capital fund which may endanger safety of their money. Therefore, NRB should initiate awareness programs to make the depositors aware of such fact and think before depositing money in any commercial banks.
- The current insurable deposit amount per depositor in the commercial banks should be raised to Rupees Five Lakh only from Rupees Two Lakh. Deposit guarantee is recognized internationally as an important component of a country's financial safety net which is being done by Deposit & Credit Guarantee Corporation (DCGC). www.dcgc.org.np It is a system that protects depositors against the loss of their insured deposits placed with banks in the unlikely event of a bank failure.
- Introduction of effective compliance department in commercial banks
- Introduction of assessing operational risk management system
- Bank Supervision Department has initiated to move towards Risk Based Supervision from its Compliance based supervision approach. As the banking of Nepal has already become sophisticated and complex, it has become imperative to utilize the supervisory resources in a most efficient manner possible concentrating on the major risks that may produce systemic impact. Similarly, adopting advanced approaches of Basel II and complying with the Basel Core Principles over the period is next major task to be performed. After global financial crisis it has become a prominent issue that the banking regulations should be formulated with consideration of the

relationship between macroeconomic variables and banking parameters. Considering that NRB has also thought of commencing designing macro prudential supervisory framework that sets interconnectivity between these variables. Not only that but also the NRB has added in the plan the modality publishing financial stability report of the country. In the process to incorporate relevant best practices in our supervisory approach, the workout on forward-looking analysis has been done. The development of Liquidity Monitoring Framework and Stress Testing Techniques by the department is in final stage.

- Due to the large volume of negative reserves of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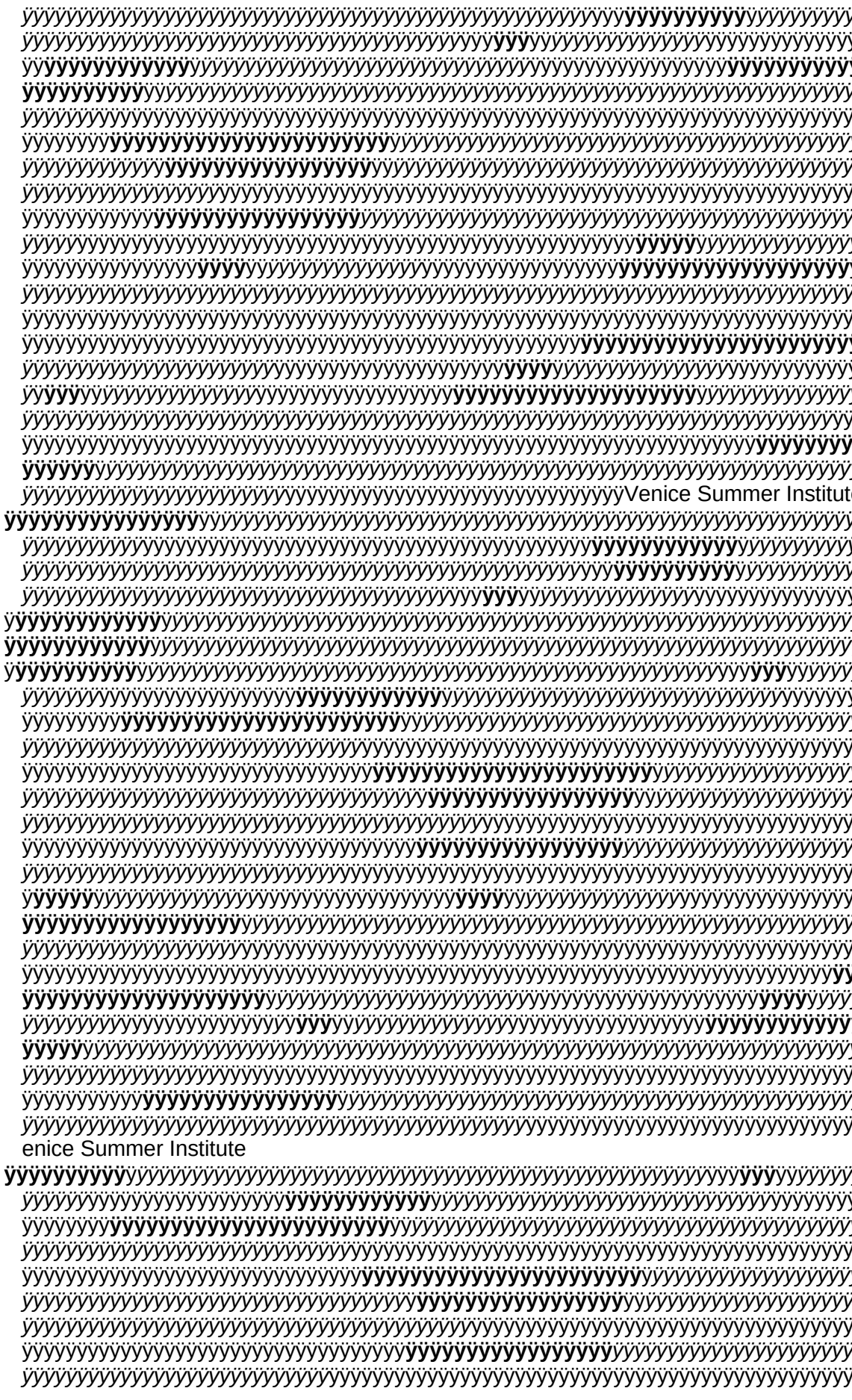
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Annex One Nepal Rastra Bank Regulated Nepalese Financial Institutions as of mid-July 2012

S.No.	Name of A Class Financial Institution
1	Nepal Bank Limited
2	Rastriya Banijya Bank
3	Nabil Bank Limited
4	Nepal Investment Bank Limited
5	Standard Chartered Bank Nepal Limited
6	Himalayan Bank Limited
7	Nepal SBI Bank Limited
8	Nepal Bangaladesh Bank Limited
9	Everest Bank Limited
10	Bank of Kathmandu Limited
11	Nepal Credit and Commerce Bank Limited
12	Nepal Industrial and Commercial Bank
13	Lumbini Bank Limited
14	Machhapuchhre Bank Limited
15	Kumari Bank Limited
16	Laxmi Bank Limited
17	Siddhartha Bank Limited
18	Agriculture Development Bank
19	Global Bank Limited
20	Citizens Bank International
21	Prime Commercial Bank Limited
22	Bank of Asia Nepal Limited
23	Sunrise Bank Limited
24	DCBL Bank Limited
25	NMB Bank Limited
26	Kist Bank Limited
27	Janata Bank Nepal Limited
28	Mega Bank Nepal Limited
29	Commerz and Trust Bank Nepal Limited
30	Civil Bank Limited
31	Century Commercial Bank Ltd
32	Sanima Commercial Bank Ltd

S.No.	Name of B Class Financial Institution	S.No.	Name of B Class Financial Institution
1	Nepal Industrial Development Corporation	45	Alpine Development Bank Limited
2	Udhyam Development Bank Limited	46	Nilgiri Bikas Bank Limited
3	Malika Development Bank Limited	47	Kasthamandap Development Bank Limited
4	Siddhartha Development Bank Limited	48	Garima Bikas Bank Limited
5	United Development Bank Limited	49	City Development Bank Limited
6	Manakamana Development Bank Limited	50	Biswo Bikas Bank Limited
7	Narayani Development Bank Limited	51	Professional Bikas Bank Limited
8	Pashimanchal Development Bank Limited	52	Kabeli Bikas Bank Limited
9	Sahayogi Bikas Bank Limited	53	Kamana Bikas Bank Limited
10	Pashupati Development Bank Limited	54	Corporate Development Bank Limited
11	Karnali Bikash Bank Limited	55	Pathibhara Bikas Bank Limited
12	Triveni Development Bank Limited	56	Purnima Bikas Bank Limited
13	Annapurna Development Bank Limited	57	Jyoti Development Bank Limited
14	Bhrikuti Bikas Bank Limited	58	Bagmati Development Bank Limited
15	Shubhechchha Bikas Bank Limited	59	Hamro Bikas Bank Limited
16	Bageshowri Development Bank Limited	60	Kakre Bihar Bikas Bank Limited
17	Sanima Bikas Bank Limited	61	Shine Development Bank Limited
18	Gaurishankar Development Bank Limited	62	Pacific Development Bank Limited
19	Gorkha Bikas Bank Limited	63	Civic Development Bank Limited
20	Gandaki Bikas Bank Limited	64	International Development Bank Limited
21	Infrastructure Development Bank Limited	65	Gulmi Bikas Bank Limited
22	Business Development Bank Limited	66	Kanchan Development Bank Limited
23	Biratlaxmi Bikas Bank Limited	67	Matribhumi Bikas Bank Limited
24	Excel Development Bank Limited	68	Bright Development Bank Limited
25	Western Development Bank Limited	69	Innovative Development Bank Limited
26	H. & B. Development Bank Limited	70	Jhimruk Bikas Bank Limited
27	Arniko Development Bank Limited	71	Metro Development Bank Limited
28	NDEP Development Bank Limited	72	Vivor Bikash Bank Limited
29	Clean Energy Development Bank Limited	73	Gaumukhi Bikas Bank Limited
30	Miteri Development Bank Limited	74	Raptibheri Bikas Bank Limited
31	Tinau Bikas Bank Limited	75	Nepal Consumer Development Bank Limited
32	Rising Development Bank Limited	76	Khandbari Development Bank Limited
33	Muktinath Bikas Bank Limited	77	Tourism Development Bank Limited
34	Sewa Bikas Bank Limited	78	Mission Development Bank Limited
35	Kankai Bikas Bank Limited	79	Surya Development Bank Limited
36	Public Development Bank Limited	80	Mount Makalu Development Bank
37	Mahakali Bikas Bank Limited	81	Sindhu Bikas Bank Limited
38	Ace Development Bank Limited	82	Sahara Development Bank Limited
39	Bhargab Bikas Bank Limited	83	Social Development Bank Limited
40	Sangrila Bikas Bank Limited	84	Nepal Community Development
41	Resunga Bikas Bank Limited	85	Cosmos Development Bank Limited
42	Rara Bikas Bank Limited	86	Manasalu Development Bank Limited
43	Diyalo Bikas Bank Limited	87	Samabriddhi Development Bank
44	Country Development Bank Limited	88	Nepal Housing Development Finance

S.No.	Name of C Class Financial Institution	S.No.	Name of C Class Financial Institution
1	Nepal Finance Limited	44	Crystal Finance Limited
2	NIDC Capital Markets Limited	45	Royal Merchant Banking & Finance Limited
3	Narayani National Finance Limited	46	Guheshworil Merchant Banking & Finance Limited
4	Annapurna Finance Co.Limited	47	Patan Finance Co. Limited
5	Nepal Share Markets and Finance	48	Fewa Finance Limited
6	Peoples Finance Limited	49	Everest Finance Limited
7	Mercantile Finance Co. Limited	50	Prudential Finance Company Limited
8	Kathmandu Finance Limited	51	ICFC Finance Limited
9	Himalaya Finance Limited	52	IME Financial Institution Limited
10	Union Finance Limited	53	Sagarmatha Merchant Banking and Finance Limited
11	Gorkha Finance Limited	54	Shikhar Finance Limited
12	Paschhimanchal Finance Co.Limited	55	Civil Merchant Bittiya Sanstha Limited
13	Nepal Housing & Merchant Finance	56	Prabhu Finance Co. Limited
14	Universal Finance Limited	57	Imperial Finance Limited
15	Samjhana Finance Co. Limited	58	Kuber Merchant Finance Limited
16	Goodwill Finance Limited	59	Nepal Express Finance Limited
17	Siddhartha Finance Limited	60	Valley Finance Limited
18	Shree Investment & Finance Co.	61	Seti Bittiya Sanstha Limited
19	Lumbini Finance & Leasing Co.	62	Hama Merchant & Finance Limited
20	Inbesta Finance Limited	63	Reliable Finance Limited
21	Yeti Finance Limited	64	Loard Buddha Finance Limited
22	Standard Finance Limited	65	Swostik Merchant Finance Company Limited
23	International Leasing & Finance	66	Api Finance Limited
24	Mahalaxmi Finance Limited	67	Namaste Bitiya Sanstha Limited.
25	Lalitpur Finance Co. Limited	68	Kaski Finance Limited
26	Bhajuratna Finance & Saving Co.	69	Suryadarshan Finance Co. Limited
27	United Finance Co. Limited	70	Zenith Finance Limited
28	General Finance Limited	71	Unique Finance Limited
29	Progessive Finance Limited	72	Manjushree Financial Institution Limited
30	Alpic Everest Finance Limited	73	Subhalaxmi Finance Limited
31	Nava Durga Finance Co.Limited	74	Jebil's Finance Limited
32	Janaki Finance Co. Limited	75	Reliance Finance Limited
33	Pokhara Finance Limited	76	Lotus Investment Finance Limited
34	Central Finance Limited	77	Baibhava Finance Limited
35	Premier Finance Co. Limited	78	Bhaktapur Finance Limited
36	Arun Finance Limited		
37	Multipurpose Finance Co. Limited		
38	Butwal Finance Limited		
39	Shrijana Finance Limited		
40	Om Finance Limited		
41	CMB Finance Limited		
42	World Merchant Banking & Finance		
43	Capital Merchant Banking & Finance		

S.No.	Name of D Class Financial Institution
1	Purbanchal Grameen Bikas Bank Limited
2	Sudur Pashimanchall Grameen Bikas Bank Limited
3	Pashimanchall Grameen Bikas Bank Limited
4	Madhya Pashimanchal Grameen Bikas Bank Limited
5	Madhymanchall Grameen Bikas Bank Limited
6	Nirdhan Utthan Bank Limited
7	Rural Microfinance Development Centre Limited
8	Deprosc Microfinance Development Bank Limited
9	Chhimek Microfinance Development Banks Limited
10	Shawalamban Laghu Bitta Bikas Banks Limited
11	Sana Kisan Vikas Bank Limited
12	Nerude Laghu Bitta Bikas Bank Limited
13	Naya Nepal Laghu Bitta Bikas Bank Limited
14	Summit Microfinance Development Bank Limited
15	Sworojagar Laghu Bitta Bika Bank Limited
16	Frist Microfinance Development Bank Limited
17	Nagbeli Microfinance Development Bank Limited
18	Kalika Microcredit Development Bank Limited
19	Mirmire Microfinance Development Bank Limited
20	Janautthan SamudayikMicrofinance Dev. Bank Limited
21	Mithila Laghu Bitta Bikas Banks Limited

Annex Two Key Financial Indicators of Commercial Banks

As on Ashadh End, 2068

in Lakh

S. No.	Bank	Solvency				Liquidity					NPL %	SLR %
		Core Capital	Total Capital Fund	CCAR%	CAR %	Total LCY Deposit	Total Loan	Net Liquidity%	CD Ratio%	CCD Ratio%		
1	Nepal Bank Ltd.	(47,891.00)	(47,891.00)	(9.66)	(9.66)	465,462.00	267,099.00	35.94	57.38	63.96	5.28	26.55
2	Rastriya Banijya Bank Ltd.	(104,525.00)	(104,525.00)	(22.52)	(22.52)	738,210.00	368,661.00	23.89	49.94	58.18	10.92	26.14
3	Agriculture Dev. Bank Ltd.	117,930.00	151,310.00	15.55	19.95	343,986.00	403,893.00	34.70	117.42	87.44	8.64	28.00
	Sub Total	**(34,487.00)**	**(1,107.00)**	**(2.01)**	**(0.06)**	**1,547,659.00**	**1,039,653.00**	**29.92**	**67.18**	**68.71**	**8.59**	**26.70**
4	Nabil Bank Ltd.	49,303.00	57,345.00	10.10	11.75	432,710.00	389,227.00	26.56	89.95	80.75	1.77	23.97
5	Nepal Investment Bank Ltd.	58,174.00	70,151.00	10.02	12.09	462,979.00	418,877.00	29.31	90.47	80.38	0.59	20.32
6	Standard Chartered Bank Nepal Ltd.	41,471.00	46,683.00	15.44	17.38	258,169.00	186,625.00	47.01	72.29	62.28	0.62	47.72
7	Himalayan Bank Ltd.	43,035.00	50,472.00	9.76	11.45	364,176.00	329,683.00	29.01	90.53	80.96	3.92	24.76
8	Nepal SBI Bank Ltd.	29,461.	32,506.0	10.73	11.8	288,957.	217,188.	36.29	75.1	68.2	1.13	29.6

		00	0		4	00	00		6	1		5
9	Nepal Bangladesh Bank Ltd.	17,275.00	18,699.00	9.73	10.53	111,723.00	102,375.00	39.86	91.63	79.36	19.18	31.86
10	Everest Bank Ltd.	29,272.00	36,058.00	8.46	10.43	405,297.00	316,618.00	32.26	78.12	72.86	0.34	29.35
11	Bank of Kathmandu Ltd.	23,777.00	26,621.00	10.37	11.62	193,212.00	179,570.00	29.46	92.94	82.76	1.82	29.09
12	Nepal Credit & Com. Bank Ltd.	15,727.00	16,640.00	12.84	13.58	108,127.00	92,298.00	30.56	85.36	74.52	3.94	29.24
13	Nepal Ind. & Com. Bank Ltd.	22,491.00	25,316.00	13.04	14.68	175,138.00	151,655.00	27.40	86.59	76.74	0.60	26.06
14	Lumbini Bank Ltd.	17,907.00	19,131.00	22.93	24.49	66,913.00	62,131.00	35.79	92.85	73.25	0.96	32.08
15	Machhapuchhre Bank Ltd.	17,480.00	18,976.00	10.00	10.86	159,523.00	147,321.00	15.63	92.35	83.23	4.46	18.35
16	Kumari Bank Ltd.	22,366.00	25,806.00	12.52	14.45	161,407.00	149,264.00	27.94	92.48	81.22	1.12	22.19
17	Laxmi Bank Ltd.	21,429.00	25,673.00	11.03	13.21	169,424.00	153,895.00	30.08	90.83	80.64	0.90	20.48
18	Siddharth Bank Ltd.	21,606.00	25,351.00	10.01	11.75	206,550.00	186,472.00	24.33	90.28	81.73	0.59	16.86
19	Global Bank Ltd.	16,678.00	18,230.00	10.24	11.20	146,709.00	127,792.00	27.23	87.11	78.21	2.52	24.82
20	Citizens Bank Int'l Ltd.	21,578.00	22,828.00	14.72	15.57	128,482.00	125,142.00	23.61	97.40	83.39	1.17	19.67
21	Prime Commercial Bank Ltd.	27,805.00	29,505.00	15.40	16.34	186,624.00	170,839.00	24.70	91.54	79.67	0.48	16.34
22	Bank of Asia Nepal Ltd.	23,461.00	24,744.00	16.51	17.41	121,280.00	118,732.00	29.30	97.90	82.03	0.65	21.08
23	Sunrise Bank Ltd.	22,958.00	24,178.00	13.94	14.68	129,331.00	124,344.00	24.34	96.14	81.65	3.44	18.42
24	DCBL Bank Ltd.	21,457.00	22,367.00	20.37	21.23	88,828.00	90,435.00	23.40	101.81	82.00	1.64	30.48
25	NMB Bank Ltd.	23,245.00	24,456.00	16.92	17.80	116,845.00	113,431.00	29.90	97.08	80.97	0.27	22.99
26	KIST Bank Ltd.	22,641.00	23,982.00	13.68	14.49	157,824.00	134,370.00	21.11	85.14	74.46	0.99	20.53
27	Janata Bank Nepal Ltd.	14,804.00	15,235.00	35.41	36.44	35,009.00	35,843.00	29.47	102.38	71.95	-	23.34
28	Mega Bank Nepal Ltd.	17,088.00	17,569.00	18.80	19.33	52,555.00	48,165.00	33.15	91.65	69.16	-	20.52
29	Commerz & Trust Bank Nepal Ltd.	14,096.00	14,345.00	28.27	28.77	24,225.00	24,863.00	53.62	102.63	64.88	-	37.70
30	Civil Bank Ltd.	12,016.00	12,331.00	20.73	21.28	29,016.00	31,552.00	28.77	108.74	76.90	-	18.76
31	Century Commercial Bank Ltd.	11,232.00	11,351.00	41.64	42.08	13,578.00	11,873.00	89.30	87.44	47.85	-	72.93
	Sub Total	**679,833.00**	**756,550.00**	**12.55**	**13.97**	**4,794,611.00**	**4,240,578.00**	**30.03**	**88.44**	**77.46**	**1.87**	**25.21**
	Grand Total	**645,346.00**	**755,443.00**	**9.05**	**10.59**	**6,342,270.00**	**5,280,231.00**	**30.01**	**83.25**	**75.57**	**3.19**	**25.56**

Note :

Core Capital = Tier I Capital

Total Capital Fund = Tier I and Tier II Capital

CCAR %= Core Capital to Total Risk Weighted Exposures. Minimum required by NRB regulation is 6%

CAR %= Total Capital Fund to Total Risk Weighted Exposures. Minimum required by NRB regulation is 10%
Net Liquidity % = Net Liquid Assets to Total Deposits
CD Ratio %= Credit to LCY Deposit
CCD Ratio %= Credit to Core Capital and LCY Deposit
NPA% = Non Performing Loan to Total Loan.
After Supervisory Review
Source: Nepal Rastra Bank

Annex Three Disclosure as per Basel II Format

FORM NO. 1 CAPITAL ADEQUACY TABLE

	1.2 CAPITAL	Current Period	Previous Period
Core Capital (Tier 1)			
a	Paid up Equity Share Capital		
b	Irredeemable Non-cumulative preference shares		
c	Share Premium		
d	Proposed Bonus Equity Shares		
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: Investment in equity in licensed Financial Institutions		
o	Less: Investment in equity of institutions with financial interests		
p	Less: Investment in equity of institutions in excess of limits		
q	Less: Investments arising out of underwriting commitments		
r	Less: Reciprocal crossholdings		
s	Less: Other Deductions		
Adjustments under Pillar II			
	Less: Shortfall in Provision (6.4 a 1)		
	Less: Loans and Facilities extended to Related Parties and Restricted lending (6.4 a 2)		
Supplementary Capital (Tier 2)			
a	Cumulative and/or Redeemable		
b	Subordinated Term Debt		
c	Hybrid Capital Instruments		
d	General loan loss provision		
e	Exchange Equalization Reserve		
f	Investment Adjustment Reserve		
g	Assets Revaluation Reserve		
h	Other Reserves		
Total Capital Fund (Tier I and Tier II)			
1.3 CAPITAL ADEQUACY RATIOS		Current	Previous

	Period	Period
Tier 1 Capital to Total Risk Weighted Exposures (After Bank's adjustments of Pillar II)		
Tier 1 and Tier 2 Capital to Total Risk Weighted Exposures(After Bank's adjustments of Pillar II)		

FORM NO. 2: RISK WEIGHTED EXPOSURE FOR CREDIT RISK

A. Balance Sheet Exposures	Book Value	Specific Provision	Eligible CRM	Net Value	Risk Weight	Risk Weighted Exposure
	a	b	c	d=a-b-c	e	f=d*e
Cash Balance	0	0	0	0	0%	0
Balance With Nepal Rastra Bank	0	0	0	0	0%	0
Investment in Nepalese Government Securities	0	0	0	0	0%	0
All Claims on Government of Nepal	0	0	0	0	0%	0
Investment in Nepal Rastra Bank securities	0	0	0	0	0%	0
All claims on Nepal Rastra Bank	0	0	0	0	0%	0
Claims on Foreign Government and Central Bank (ECA -1)	0	0	0	0	0%	0
Claims on Foreign Government and Central Bank (ECA -2)	0	0	0	0	20%	0
Claims on Foreign Government and Central Bank (ECA -3)	0	0	0	0	50%	0
Claims on Foreign Government and Central Bank (ECA-4-6)	0	0	0	0	100%	0
Claims on Foreign Government and Central Bank (ECA -7)	0	0	0	0	150%	0
Claims On BIS, IMF, ECB, EC and on Multilateral Development Banks (MDB's) recognized by the framework	0	0	0	0	0%	0
Claims on Other Multilateral Development Banks	0	0	0	0	100%	0
Claims on Public Sector Entity (ECA 0-1)	0	0	0	0	20%	0
Claims on Public Sector Entity (ECA 2)	0	0	0	0	50%	0
Claims on Public Sector Entity (ECA 3-6)	0	0	0	0	100%	0
Claims on Public Sector Entity (ECA 7)	0	0	0	0	150%	0
Claims on domestic banks that meet capital adequacy requirements	0	0	0	0	20%	0
Claims on domestic banks that do not meet capital adequacy requirements	0	0	0	0	100%	0
Claims on foreign bank (ECA Rating 0-1)	0	0	0	0	20%	0
Claims on foreign bank (ECA Rating 2)	0	0	0	0	50%	0
Claims on foreign bank (ECA Rating 3-6)	0	0	0	0	100%	0
Claims on foreign bank (ECA	0	0	0	0	150%	0

Rating 7)						
Claims on foreign bank incorporated in SAARC region operating with a buffer of 1% above their respective regulatory capital requirement	0	0	0	0	20%	0
Claims on Domestic Corporates	0	0	0	0	100%	0
Claims on Foreign Corporates (ECA 0-1)	0	0	0	0	20%	0
Claims on Foreign Corporates (ECA 2)	0	0	0	0	50%	0
Claims on Foreign Corporates (ECA 3-6)	0	0	0	0	100%	0
Claims on Foreign Corporates (ECA 7)	0	0	0	0	150%	0
Regulatory Retail Portfolio (Not Overdue)	0	0		0	75%	0
Claims fulfilling all criterion of regulatory retail except granularity	0	0		0	100%	0
Claims secured by residential properties	0	0		0	60%	0
Claims not fully secured by residential properties	0	0		0	150%	0
Claims secured by residential properties (Overdue)	0	0		0	100%	0
Claims secured by Commercial real estate	0	0		0	100%	0
Past due claims (except for claim secured by residential properties)	0	0		0	150%	0
High Risk claims	0	0		0	150%	0
Investments in equity and other capital instruments of institutions listed in the stock exchange	0	0		0	100%	0
Investments in equity and other capital instruments of institutions not listed in the stock exchange	0	0		0	150%	0
Other Assets (as per attachment)	0	0		0	100%	0
TOTAL	0	0		0		0

B. Off Balance Sheet Exposures	**Book Value**	**Specific Provision**	**Eligible CRM**	**Net Value**	**Risk Weight**	**Risk Weighted Exposure**
	a	**b**	**c**	**d=a-b-c**	**e**	**f=d*e**
Revocable Commitments	0	0		0	0%	0
Bills Under Collection	0	0		0	0%	0
Forward Exchange Contract Liabilities	0	0	0	0	10%	0
LC Commitments With Original Maturity Upto 6 months	0	0	0	0	20%	0

domestic counterparty	0	0	0	0	20%	0
foreign counterparty (ECA Rating 0-1)	0	0	0	0	50%	0
foreign counterparty (ECA Rating 2)	0	0	0	0	100%	0
foreign counterparty (ECA Rating 3-6)	0	0	0	0	150%	0
foreign counterparty (ECA Rating 7)	0	0	0	0	50%	0
LC Commitments With Original Maturity Over 6 months	0	0	0	0	20%	0
domestic counterparty	0	0	0	0	50%	0
foreign counterparty (ECA Rating 0-1)	0	0	0	0	100%	0
foreign counterparty (ECA Rating 2)	0	0	0	0	150%	0
foreign counterparty (ECA Rating 3-6)	0	0	0	0	50%	0
foreign counterparty (ECA Rating 7)	0	0	0	0	20%	0
Bid Bond, Performance Bond and Counter guarantee	0	0	0	0	50%	0
domestic counterparty	0	0	0	0	100%	0
foreign counterparty (ECA Rating 0-1)	0	0	0	0	150%	0
foreign counterparty (ECA Rating 2)	0	0	0	0	50%	0
foreign counterparty (ECA Rating 3-6)	0	0	0	0	100%	0
foreign counterparty (ECA Rating 7)	0	0	0	0	100%	0
Underwriting commitments	0	0	0	0	100%	0
Lending of Bank's Securities or Posting of Securities as collateral	0	0	0	0	100%	0
Repurchase Agreements, Assets sale with recourse	0	0	0	0	100%	0
Advance Payment Guarantee	0	0	0	0	100%	0
Financial Guarantee	0	0	0	0	20%	0
Acceptances and Endorsements	0	0	0	0	50%	0
Unpaid portion of Partly paid shares and Securities	0	0	0	0	20%	0
Irrevocable Credit commitments (short term)	0	0	0	0	100%	0
Irrevocable Credit commitments (long term)	0	0	0	0	200%	0
Claims on foreign bank incorporated in SAARC region operating with a buffer of 1% above their respective regulatory capital requirement	0	0	0	0		0

Other Contingent Liabilities	0	0	0	0		0
Unpaid Guarantee Claims						
TOTAL						
Total RWE for credit Risk Before Adjustment (A) +(B)						
Adjustments under Pillar II						
Add: 10% of the loan and facilities in excess of Single Obligor Limits(6.4 a 3)						0
Add: 1% of the contract(sale) value in case of the sale of credit with recourse (6.4 a 4)						
Total RWE for credit Risk (After Bank's adjustments of Pillar II)						

FORM NO. 3: ELIGIBLE CREDIT RISK MITIGANTS

Credit exposures	Deposits with Bank	Deposits with other bank/FI	Gold	Govt & NRB Securities	G'tee of Govt of Nepal	Sec/G'tee of Other Sovereigns	G'tee of domestic Banks	G'tee of MDBs	Sec/G'tee of Foreign Banks	Total
	a	b	c	d	e	f	g	h	i	
Balance Sheet Exposures										
Claims on Foreign government and Central Bank (ECA -2)										0
Claims on Foreign government and Central Bank (ECA -3)										0
Claims on Foreign government and Central Bank (ECA-4-6)										0
Claims on Foreign government and Central Bank (ECA -7)										0
Claims on Other Multilateral Development Banks										0
Claims on Public Sector Entity (ECA 0-1)										0
Claims on Public Sector Entity (ECA 2)										0
Claims on Public Sector Entity (ECA 3-6)										0
Claims on Public Sector Entity (ECA 7)										0
Claims on domestic banks that meet capital adequacy requirements										0
Claims on domestic banks that do not meet capital adequacy requirements										0
Claims on foreign bank (ECA Rating 0-1)										0
Claims on foreign bank (ECA Rating 2)										0
Claims on foreign bank (ECA Rating 3-6)										0
Claims on foreign bank (ECA Rating 7)										0
Claims on foreign bank incorporated in SAARC region operating with a buffer of 1% above their respective regulatory capital requirement										

Claims on Domestic Corporates										0
Claims on Foreign Corporates (ECA 0-1)										0
Claims on Foreign Corporates (ECA 2)										0
Claims on Foreign Corporates (ECA 3-6)										0
Claims on Foreign Corporates (ECA 7)										0
Regulatory Retail Portfolio (Not Overdue)										0
Claims fulfilling all criterion of regulatory retail except granularity										0
Claims secured by residential properties										0
Claims not fully secured by residential properties										0
Claims secured by residential properties (Overdue)										0
Claims secured by Commercial real estate										0
Past due claims (except for claim secured by residential properties)										0
High Risk claims										0
Investments in equity and other capital instruments of institutions listed in the stock exchange										0
Investments in equity and other capital instruments of institutions not listed in the stock exchange										0
Other Assets (as per attachment)										
Total										0
Off Balance Sheet Exposures										
Forward Exchange Contract Liabilities										
LC Commitments With Original Maturity Upto 6 months										
domestic counterparty										0
foreign counterparty (ECA Rating 0-1)										0
foreign counterparty (ECA Rating 2)										0
foreign counterparty (ECA Rating 3-6)										0
foreign counterparty (ECA Rating 7)										0
LC Commitments With Original Maturity Over 6 months										
domestic counterparty										0
foreign counterparty (ECA Rating 0-1)										0
foreign counterparty (ECA Rating 2)										0
foreign counterparty (ECA Rating 3-6)										0
foreign counterparty (ECA Rating 7) guarantee										0
Bid Bond, Performance Bond and Counter										
domestic counterparty										0
foreign counterparty (ECA Rating 0-1)										0
foreign counterparty (ECA Rating 2)										0
foreign counterparty (ECA Rating 3-6)										0

foreign counterparty (ECA Rating 7)										0
Underwriting commitments										0
Lending of Bank's Securities or Posting of Securities as collateral										0
Repurchase Agreements, Assets sale with recourse										0
Advance Payment Guarantee										0
Financial Guarantee										0
Acceptances and Endorsements										0
Unpaid portion of Partly paid shares and Securities										0
Irrevocable Credit commitments										0
Other Contingent Liabilities										0
Total										0
Grand Total										0

FORM NO.4 EXHIBIT OF CLAIMS WITH CREDIT RISK MITIGANTS

(Rs.In ……..)

S.N.	Counterparty	Category	Facility	Eligible CRM			
				Nature	Gross Amount	Haircut	Net Amount

FORM NO.5 OTHER ASSETS

S.No.	Assets	Gross Amount	Specific Provision	Net Balance
1	Cash and Cash Items in Transit	0		0
2	Miscellaneous Expenditure			0
3	Fixed Assets			0
4	Interest Receivable on Other			0
5	Interest Receivable on Loan			0
6	Non Banking Assets			0
7	Reconciliation Account			0
8	Draft Paid Without Notice			0
9	Sundry Debtors			0
10	Advance payment and Deposits			0
11	Staff Loan and Advance			0
12	Stationery			0
13	Other			0
TOTAL		0	0	0

FORM NO. 6: RISK WEIGHTED EXPOSURE FOR OPERATIONAL RISK

Particulars	Year 1	Year 2	Year 3
Net Interest Income			
Commission and Discount Income			
Other Operating Income			
Exchange Fluctuation Income			

Addition/Deduction in Interest Suspense during the period			
Gross income (a)			
Alfa (b)	**15%**	**15%**	**15%**
Fixed Percentage of Gross Income [c=(a×b)]			
Capital Requirement for operational risk (d) (average of c)	**10**		
Risk Weight (reciprocal of capital requirement of 10%) in times (e)			
Equivalent Risk Weight Exposure [f=(d×e)]			
PILLAR-II ADJUSTMENTS			
If Gross Income for all the last three years is negative(6.4 a 8)			
Total Credit and Investment (net of Specific Provision)			
Capital Requirement for operational risk (5%)	**10**		
Risk Weight (reciprocal of capital requirement of 10%) in times			
Particulars	**Year 1**	**Year 2**	**Year 3**
Equivalent Risk Weight Exposure [g]			
Equivalent Risk Weight Exposure [h=f+g)]			

FORM NO.7 RISK WEIGHTED EXPOSURE FOR MARKET RISK

S.No.	Currency	Open Position (FCY)	Open Position (NPR)	Relevant Open Position
1	INR			
2	USD			
3	GBP			
4	EURO			
5	THB			
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)]				

FORM NO. 8 NET LIQUID ASSETS TO TOTAL DEPOSIT RATIO

(Rs.In …..)

Particulars	Amount
Total Deposit and Borrowing (A)	
Total Deposit(as per NRB Ni.Fa. 9.1)	
Total Borrowing(as per NRB Ni.Fa. 9.1)	
Liquid Assets (B)	
Cash(9.1)	
Bank Balance(9.1)	
Money at call and short notice (9.1)	
Investment in government Securities(9.1)	
Placement upto 90 days	

Borrowings payable upto 90 days (C)	
Net Liquid Assets (D)=(B-C)	
Net Liquid Assets to Total Deposit	
Shortfall in Ratio	
Amount to be added to Risk Weighted Exposures	

Annex Four Exhibit of Capital Fund, Deposit & Credit of Sample Banks

In million Rs.

Year	SCB			HBL		
	Capital Fund	Deposit	Credit	Capital Fund	Deposit	Credit
Mid-July 2008	3,115.40	29,743.90	13,964.40	3,348.00	31,805.30	20,233.90
Mid-July 2009	3,190.40	35,871.80	13,880.70	3,980.70	34,681.00	25,577.40
Mid-July 2010	3,053.00	35,182.70	16,176.70	3,119.88	37,609.40	29,123.80
Mid-July 2011	3,371.62	37,999.24	18,662.48	3,439.22	40,920.63	32,968.27
Mid-July 2012	5,019.00	35,965.63	19,828.51	5,701.00	47,731.00	35,696.00
Total	17,749.42	174,763.27	82,512.79	19,588.80	192,747.33	143,599.37

Year	LBL			RBB		
	Capital Fund	Deposit	Credit	Capital Fund	Deposit	Credit
Mid-July 2008	366.90	5,703.70	5,367.30	-17,162.60	50,192.60	27,353.60
Mid-July 2009	998.40	6,444.90	5,681.40	-13,823.20	57,990.80	31,464.10
Mid-July 2010	1,151.52	5,758.00	5,480.40	-8,617.08	67,976.30	35,616.60
Mid-July 2011	1,442.28	6,773.00	6,213.11	-7,422.94	68,623.20	36,866.10
Mid-July 2012	2,112.00	7,669.00	7,568.00	-4,738.00	73,924.08	40,448.00
Total	6,071.10	32,348.60	30,310.21	-51,763.82	318,706.98	171,748.40

Here,
Average refers to the average Capital Fund, Average Deposit and Average Credit of 5 sample banks.

Annex Five Calculation of Capital to Deposit Ratio

In million Rs.

Year	SCB		HBL		NICB		LBL		RBB	
	Capital Fund	Deposit	Capital Fund	Deposit	Capital Fund	Deposit	Capital Fund	Deposit	Capital Fund	Deposit
Mid-July 2008	3,115	29,744	3,348	31,805	1,627	13,079	367	5,704	(17,163)	57,991

Mid-July 2009	3,190	35,872	3,981	34,681	1,964	15,580	998	6,445	(13,823)	67,976
Mid-July 2010	3,053	35,183	3,120	37,609	1,660	15,969	1,152	5,758	(8,617)	68,623
Mid-July 2011	3,372	37,999	3,439	40,921	1,765	18,394	1,442	6,773	(7,423)	73,924
Mid-July 2012	5,019	35,966	5,701	47,731	2,643	22,112	2,112	7,669	(4,738)	87,775

We have,

$$Capital\ to\ Deposit\ Ratio = \frac{Total\ Capital\ Fund}{Total\ Deposit} \times 100$$

Using above Formula, we get the ratios as:

In %

Year	SCB x_1	HBL x_2	NICB x_3	LBL x_4	RBB x_5
Mid-July 2008	9.55	9.50	8.04	15.55	(3.38)
Mid-July 2009	11.24	8.71	7.93	6.46	(4.92)
Mid-July 2010	11.52	12.05	9.62	5.00	(7.96)
Mid-July 2011	11.27	11.90	10.42	4.70	(9.96)
Mid-July 2012	7.17	8.37	8.37	3.63	(18.53)
Total	50.75	50.54	44.38	35.33	(44.74)
Average	10.15	10.11	8.88	7.07	(8.95)

Where Average is calculated using the formula,

$$Average = \frac{Total}{5}$$

Again,

Calculation of Standard Deviation Capital Deposit Ratio

n

%

Year	SCB $(x_1 - \bar{x}_1)^2$	HBL $(x_2 - \bar{x}_2)^2$	NICB $(x_3 - \bar{x}_3)^2$	
Mid-July 2007	0.36	0.37	0.70	7
Mid-July 2008	1.20	1.95	0.89	0
Mid-July 2009	1.89	3.79	0.55	4
Mid-July 2010	1.25	3.21	2.39	5
Mid-July 2011	8.91	3.01	0.26	1

Total	**13.61**	**12.33**	**4.79**	

Hence,

$$Standard\ Deviation\ for\ SCBL(\sigma_1) = \sqrt{\frac{(x_1 - \bar{x}_1)^2}{5}}$$

and, so on.

Therefore,

In %

Bank	**SCB**	**HBL**	**NICB**
SD	**2.72**	**2.47**	**0.96**

Again,

$$\text{Coefficient of Variation for SCBL} = \frac{\sigma_1}{\bar{x}_1}$$

and so on.

Therefore,

In %

Bank	**SCB**	**HBL**	**NICB**	**LBL**	**RBB**
CV	26.81	24.39	10.79	265.96	(315.08)

Hence,

In %

Year	**SCB**	**HBL**	**NICB**	**LBL**	**RBB**
Mid-July 2008	9.55	9.50	8.04	15.55	(3.38)
Mid-July 2009	11.24	8.71	7.93	6.46	(4.92)
Mid-July 2010	11.52	12.05	9.62	5.00	(7.96)
Mid-July 2011	11.27	11.90	10.42	4.70	(9.96)
Mid-July 2012	7.17	8.37	8.37	3.63	(18.53)
Total	50.75	50.54	44.38	35.33	(44.74)
Average	10.15	10.11	8.88	7.07	(8.95)
SD	2.72	2.47	0.96	18.79	28.20
CV	26.81	24.39	10.79	265.96	(315.08)

Annex Six Calculation of Credit to Deposit Ratio

In million Rs.

Year	**SCB**		**HBL**		**NICB**		**L**
	Credit	**Deposit**	**Credit**	**Deposit**	**Credit**	**Deposit**	**Credit**
Mid-July 2008	13,964.40	29,743.90	20,233.90	31,805.30	11,465.30	13,078.50	5,367.30
Mid-July 2009	13,880.70	35,871.80	25,577.40	34,681.00	13,915.80	15,579.90	5,681.40
Mid-July 2010	16,176.70	35,182.70	29,123.80	37,609.40	12,929.30	15,968.90	5,480.40
Mid-July 2011	18,662.48	37,999.24	32,968.27	40,920.63	14,933.94	18,394.44	6,213.11

Mid-July 2012	19,828.51	35,965.63	35,696.00	47,731.00	17,242.31	22,112.00	7,568.00

We have,

$$Capital\ to\ Deposit\ Ratio = \frac{Total\ Credit}{Total\ Deposit} \times 100$$

Using above Formula, we get the ratios as:

Year	SCB	HBL	NICB	LBL	RBB
Mid-July 2008	47%	64%	88%	94%	47%
Mid-July 2009	39%	74%	89%	88%	46%
Mid-July 2010	46%	77%	81%	95%	52%
Mid-July 2011	49%	81%	81%	92%	50%
Mid-July 2012	55%	75%	78%	99%	46%

Annex Seven Coefficient of Multiple Correlation

X_1, X_2, and X_3 denote Capital Fund, Deposit and Credit respectively. Assuming Capital Fund (Y) is a dependent variable, the coefficient of multiple correlation is given by

$$R_{1.23} = \sqrt{\frac{r_{12}^{\ 2} + r_{13}^{\ 2} - 2r_{12}r_{13}r_{23}}{1 - r_{23}^{\ 2}}}$$

Where,

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

Here, X is the first variable and Y is the second variable.

Calculation of Sums for SCB's Coefficient of Multiple Correlation

Year	X1	X2	X3	X1 X2	X1X3	X2X3	
Mid-July 2008	3,115.40	29,743.90	13,355.00	92,664,146.06	41,606,167.00	397,229,784.50	9
Mid-July 2009	3,190.40	35,871.80	13,118.60	114,445,390.72	41,853,581.44	470,587,795.48	10
Mid-July 2010	3,053.00	35,182.70	15,932.20	107,412,783.10	48,641,006.60	560,537,812.94	9
Mid-July 2011	3,371.62	37,999.24	17,698.20	128,118,997.57	59,671,605.08	672,518,149.37	11
Mid-July 2012	5,019.00	35,965.63	19,828.51	180,511,496.97	99,519,291.69	713,144,854.11	25
Total	17,749.42	174,763.27	79,932.51	623,152,814.42	291,291,651.81	2,814,018,396.40	65

Now,

ΣX_1=17,749.42 ΣX_2=174,763.27

ΣX_3=79,932.51

ΣX_1X_2=623,152,814.42

ΣX_2X_3=2,814,018,396.40 ΣX_1X_3= 291,291,651.81

ΣX_1^2=65,763,360.74

ΣX_2^2=6,146,776,783.61

ΣX_3^2=1,310,684,779.86

Now,

$$r_{12} = \frac{n\sum X_1X_2 - \sum X_1 \sum X_2}{\sqrt{[n\sum X_1{}^2 - \sum(X_1)^2]}\sqrt{[n\sum X_2{}^2 - \sum(X_2)^2]}}$$

$$\therefore r_{12} = 0.27$$

Then,

$$r_{13} = \frac{n\sum X_1X_3 - \sum X_1 \sum X_3}{\sqrt{[n\sum X_1{}^2 - \sum(X_1)^2]}\sqrt{[n\sum X_3{}^2 - \sum(X_3)^2]}}$$

$$\therefore r_{13} = 0.79$$

Again,

$$r_{23} = \frac{n\sum X_2X_3 - \sum X_2 \sum X_3}{\sqrt{[n\sum X_2{}^2 - \sum(X_2)^2]}\sqrt{[n\sum X_3{}^2 - \sum(X_3)^2]}}$$

$$\therefore r_{23} = 0.57$$

Now,

$$R_{1.23} = \sqrt{\frac{r_{12}{}^2 + r_{13}{}^2 - 2r_{12}r_{13}r_{23}}{1 - r_{23}\,2}}$$

$$\therefore R_{1.23} = 0.82$$

$$R^2{}_{1.23} = 0.68$$

And so on for rest of the bank and their average.

We get,

Bank	R	R^2
SCB	0.82	0.69
HBL	0.91	0.83
NICB	0.89	0.78
LBL	0.91	0.83
RBB	1	1

Average	0.91	0.83

R refers to coefficient of multiple correlation of deposit and credit on capital fund.

Annex Eight Test of Hypothesis

For the purpose of testing hypothesis, we observe 5 years average capital fund, average deposit and average credit data of sample banks. The observed data are as follows.

Year	Average of sample banks		
	Capital Fund	Deposit	Credit
Mid-July 2008	(1,741.08)	27,664.44	15,555.02
Mid-July 2009	(738.00)	32,110.78	17,951.46
Mid-July 2010	73.51	32,628.44	19,816.46
Mid-July 2011	519.03	35,602.28	21,735.92
Mid-July 2012	2,147.40	40,250.53	24,156.56
Total	260.86	168,256.46	99,215.42

Coefficient of Multiple Correlation of Deposit and Credit on Capital fund i.e., **R** = 0.91
No. of observation i.e., **n**=5

Now,
Null Hypothesis. H_0: $\rho = 0$, i.e., Credit and Deposit of commercial banks is not correlated to their Capital Fund

Alternative Hypothesis. H_1: $\rho \neq 0$, i.e., Credit and Deposit of commercial banks is correlated to their Capital Fund

Test Statistics,

$$t = \frac{R}{\sqrt{1-R^2}}\sqrt{n-2} = \frac{0.91}{\sqrt{1-(0.91)^2}}\sqrt{5-2} = 3.82$$

Degree of freedom= n – 2 = 5 – 2 = 3

Critical Value:
The tabulated value of t at 5% level of significance for two tailed test and 3 degree of freedom is 3.182.

Decision: Since the calculated value of t is greater than tabulated value of t, the null hypothesis h0 is rejected and hence alternative hypothesis h1 is accepted. Therefore, Credit and Deposit of commercial banks in Nepal is correlated to their Capital Fund.

Annex Nine Questionnaire Distributed to Key Stakeholders for their Opinions

NAME:

DESIGNATION:

1) Nepal Rastra Bank has prescribed capital adequacy ratio in its directive no. 1 for commercial banks. Do you think it is necessary that a central bank should issue Capital Adequacy norms for commercial banks?

□ Yes □ No

2) Which stakeholders' interest will be safeguarded most by an adequate capital fund?

□ Depositors' interest □ Shareholders' interest

□ Employees' interest □ Others _____

3) Do you think the present capital adequacy ratio i.e., 10% FY 2065/66 onwards; prescribed by Nepal Rastra Bank is justified?

□ Yes, it is perfect □ No, it is high □ No, it is not adequate

4) Do you think the change in capital adequacy ratio as stated above is necessary in the present context?

□ Yes, it is necessary □ Not at all

5) The capital adequacy ratio is based on risk-weighted assets. Do you think the weightage prescribed by NRB on the on- and off-balance sheet items are appropriate?

□ Yes, it is perfect □ Just OK □ No, it should be revised

6) In your opinion, which of the following steps is appropriate for your bank to follow to cope with the above changes in capital adequacy ratio?

□ We can increase core capital.

□ We can increase supplementary capital.

□ We can increase both components of capital.

□ It is not necessary to increase capital for us, it is adequate.

7) Why do you deposit your money in a bank?

□ For Security of Money □ For Interest Earning

□ For Social Status □ For Official Purpose

□ Others (please specify) ……

8) Which aspect of the bank do you think is the most important one to make a depositor's money safe?

□ Physical Security Arrangements □ Capital Fund

□ Status □ Profitability

□ Others (please specify) ……

9) What do you think a bank should do in order to attract more deposits?

□ Arrange the proper security □ Maintain the adequate capital fund

□ Achieve a good profit □ Pay an attractive interest rate

□ Others (please specify) ……

-Thank You-