

# **CHAPTER – I**

## **INTRODUCTION**

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

Nepal, a landlocked country surrounded by two big countries- the Republic of China in the north, India in the south, east and west has an area of 147,181 sq. km. and more than 250 million populations, is one of the least developed countries in the world. Even though Nepal is the heaven due to the natural scenes and Himalayas, India and China have linked with Nepal from the time immemorial by geographical, cultural, economic and social ties. The highest peak of the world, Mt. Everest lies in Nepal. Nepal is a landlocked country and the nearest sea port is located at Bay of Bengal, Calcutta in India, 1126 km to the south-east of the country, which has greatly hindered its' foreign trade situation.

Nepal has an agro based economy; more than 80% people are engaged in agriculture. The main reason for agro based economy is the major portion of Nepal is composed of hills and Terai very suitable for agriculture and second reason is low literacy rate which has restricted the people to primitive and traditional forms of occupation.

The Nepalese economy is quite dynamic with favorable economic indicators viz. stable prices, strong balance of payments position and average annual economic growth of more than 4% during the decade of the 1990's. These descriptions, however, hide the fact that Nepal is an LDC with widespread poverty and gross national capital income of US \$ 240 in fiscal year 2004/05, with the country ranking 136 out of 177 countries in the United Nation Development Program's human development index.

Nepal is a country trying to develop its economy through global trend and of course with country suitable economic liberalization. Nepal Rastra Bank, the Central Bank of Nepal, has played a vital role by ensuring domestic financial stability for facilitating macroeconomic development. The establishment of Nepal Rastra Bank in 1956 under the Nepal Rastra Bank Act, 1955 is for discharging the central banking responsibilities including guiding the development of the embryonic domestic financial sector. Since then the number of financial institutions has gone up from a single financial institution to 263.

Within a period of two and half decades, the Nepalese financial system has grown significantly both in terms of business volume and the size of assets and market. The sources of finance are most essential for the establishment and operation of financial institution. Profit oriented institutions usually obtain these sources through ownership capital, public capital through issue of shares and debentures, borrowing through banking institution as credit or loan. Nowadays the essential source of the organization for financial supporting is the credit, overdrafts and others provided by banking institution. Since, the second half of 1980's significant achievements has been made in the Nepalese financial services. The Nepalese financial sector comprised 30 commercial banks, 79 development banks including 5 rural development banks, 79 finance companies, 18 micro credit development banks, 15 saving and credit cooperatives (limited banking activities) and other 45 non government organizations NGOs to provide modern banking services and facilities to boost the economic condition of the country till November.

The history of banking system in Nepal in the form of money lending can be traced back in the reigning period of Gunakamadev, the King of Kathmandu. (NBL Patrika, Tankadhari, 2037:31), a special class of people was established to deal with the lending activities of money toward the end of 14th century at the ruling period of King Jayasthiti Malla (NBL Patrika, 2011:32).

During the period of Rannodip Singh , the prime minister of Nepal , one financial institution was established to give loan facilities to the government staffs and afforded loan facilities to the public in general in term of 5% interest but 'Tejrath' did not accept money from public (NBL Patrika, 2040:40).

Nepal Bank Limited was established on 30th Kartik, 1994 for the first time to provide modern and organized banking facilities. Similarly, Rastriya Banijya Bank was established in 2022 to fulfill the growing needs of commercial bank with the uplift stage of banking institute, Nepal also took liberal economic policy due to which open competition and development of banking institution took place in this field. Hence joint venture banking policy is taken.

## **1.2 Focus of the Study**

Financial institutions are currently viewed as catalyst in the process of economic growth of the country. A key factor in the development of an economy is the mobilization of the domestic resources. As intermediaries, the financial institution helps the process of resources mobilization. The importance of financial institutions in the economy has of late grown to an enormous extent. The government in turn is required to regulate their activities so that the financial policies are implemented as per the requirement of the country. Policies such as lending to the priority sectors, lending to the educated unemployed people, and creation of entrepreneurship in the society are certain examples which the government in developing economy try to implement with the help of financial institution. The importance of financial intermediation has been stressed by R.C. Brayent in these words, "Economists and historians agree that the process of modern economic growth has been closely associated with the expansion and increasing diversification of financial intermediation" (Shrestha, 1995:1-2).

Commercial banks are the heart of financial system. They hold the deposits of many persons, government establishment and business units. They make the funds available through their lending and investing activities to borrowing: individuals, business firms and government establishment. In doing so, they assist the flow of goods and services from the producers to consumers and the financial activities of the government. They provide a large portion of medium of exchange and they are the media through which monetary policy is affected. These facts show that commercial banking system of nation is important to the functioning of the economy.

Bank is a business organization where monetary transaction occurs. It creates funds from its clients saving and lends the same to needy persons or business companies in term of loans, advances and investment. So proper decision making is more important in banking transaction for its efficiency and profitability. Most of the financial decision making are concerned with lending policy and loan management. It plays the vital role in the business succession, so efficient management of lending policy is needed.

### **1.2.1 Credit Management**

Credit is regarded as the most income generating assets especially in commercial banks. Credit is regarded as the heart of the commercial banks in the sense that, it occupies large volume of transactions; it covers the main part of investment; the most of the investment activities based on credit; it is the main factor for creating profitability; it is the main source of creating profitability; it determines the profitability. It affects the overall economy of the country. In today's context, it also affects on national economy to some extent. If the bank provides credit to retailer, it will make the customer status. Similarly, it provides to trader and industry, the government will get tax from them and help to increase national economy. It is the security against depositors. It is proved from very beginning

that credit is the shareholder's wealth maximization derivative. However, other factors can also affect profitability and wealth maximization but the most effective factor is regarded as credit. It is the most challenging job because it is the backbone of commercial banks. Thus effective management of credit should seriously be considered.

Management is the system, which helps to complete every job effectively. Credit management is also the system, which helps to manage credit effectively. In other word, credit management refers management of credit exposures arising from loans, corporate bonds and credit derivatives. Credit exposures are the main source of investment in commercial banks and return on such investment is supposed to be the main source of income.

Credit management strongly recommends analyzing and managing the credit risks. Credit risk is defined as the possibility that a borrower will fail to meet its obligations in accordance with the agreed terms and conditions, credit risk is not restricted to lending activities only but includes off balance sheet and interbank explores. For most banks, loans are the largest and most obvious sources of credit risk, however, other sources of credit risk exist throughout the activities of a bank, including in the banking book, and in the trading book and both increasingly facing credit risk in various financial instruments other than land, including acceptances, inter-bank transactions and guarantees and the settlement of transactions.

The credit policy of a firm provides the framework to determine whether or not to extend credit and how much credit to extend .The credit policy decision of a bank has two broad dimensions; edit standards and credit analysis. A firm has to establish and use standards in making credit information and methods of credit analysis.

### **1.2.2 Introduction to Development Credit Bank Limited**

Development Credit Bank Limited is a national level development bank established under the Development Bank Act 2052 by a group of professional bankers and prominent business personalities. Development Credit Bank Limited is the first bank in the history of banking in Nepal to achieve Quality Management System Standard ISO 9001: 2000 Certificate. It is recognition of its commitment and vision to provide high quality professionals banking services. Since its inception, the bank has grown from strength building up a reputation of professionalism that is market acknowledgement. It is the first national level private development bank without having any direct involvement of government of Nepal and or Nepal Rastra Bank in the equity and or management of this bank. DCBL has history of successful banking, has stood the test of the growing steadily offering vast, varied and versatile services with a personal touch. It is the first and only national level development bank to distribute cash dividend to its shareholders for this consecutive years.

#### **Chronology of Establishment**

- Registered with the HMG/N, Company Registrar's Office on Shrawan 6, 2057 under the Company Act 2053.
- Received approval for banking operation from Nepal Rastra Bank (NRB) on Magh 17, 2057 under the Development Bank Act, 2052.
- Launched commercial operation from Magh 19, 2057.

#### **Corporate Goals**

A new look, a new name and a new mission for the new millennium.

DCBL's new mission is to upgrade standard of customer service, enhance technology and prepare for the challenges of the new millennium.

The corporate goals are:

- Offering the highest standards of service, innovation products and value added banking while developing a mutually beneficial relationship with customers.
- Demonstrating vision, professionalism and integrity in every sphere of activity.
- Achieving disciplined growth and reasonable profitability while operating on a sound financial base.
- Creating value for the shareholders.
- Encouraging, motivating and developing human resources – most valuable assets.
- To be the Market leader in the field of Development Bank.
- DCBL strive to be the Banker of First Choice to customers and correspondents.

### **Quality Policy**

DCBL is committed to cultivating a culture of effective Quality Management System that emphasizes on Leadership in the market and ensures to enhance customer satisfaction by demonstrating vision, professionalism, transparency and integrity in business and services by providing professional quality banking services through continual improvement in our services and processes.

The policy is communicated to all concerned, particularly to those performing activities "Quality" through training, display boards etc. The policy is understood, implemented and maintained at all levels in the core and supporting processes stated above.

The way in which the policy is implemented include:

- Total commitment of the management and the employees
- Emphasis on 'prevention than detection' of defects
- Providing necessary training and empowerment so that the employees feel motivated to accept responsibility and deliver quality service
- Technological up-gradation, where appropriate, to meet the changing needs of the customers.

### **Quality Objectives**

Top Management of Development Credit Bank shall ensure that Quality Objectives, including those needed to meet the requirements for product are established at relevant functions and levels within the organization. It would be ensured that the Quality Objective shall be measurable and consistent with the Quality Policy.

The Quality objectives are:

- Providing minimum 10% dividend to the shareholders
- Minimum 20% growth in deposit & lending
- Maintain Non Performing Assets below 3%
- Improving customer satisfaction

### **Scope of Operation**

To obtain the desired objectives, DCBL's scope of operations are as follows:

- Collection and mobilization of deposits.
- Project Financing.
- Provide Fixed and Working Capital Loans.
- Issuance of Bank Guarantees.
- Provide Hire Purchase and Lease Financing facilities.

- Provide assistance in buying and selling government and corporate securities.
- Provide merchant banking activities.
- Venture Capital.
  - Advisory and consultation Services

### **Capital Structure**

Capital	Amount
Authorized Capital	320 million
Issued Capital	160 million
Paid-Up Capital	160 million

Development Credit Bank Limited upgraded as commercial bank from 2008/05/25. It upgraded in commercial bank from development bank.

### **1.3 Statement of the Problem**

Nepal is a small country with limited market. Economic condition of the country is degrading due to conflict since 2052 B.S. over all economic sectors either manufacturing or commercial, have undergone heavy losses. However, the financial institutions are increasing day by day. Even though financial institutions are facing the liquidity problem. Hence the banks and finance companies are competing among themselves to advance credit to limited opportunity sectors. Due to such unhealthy competition, the recovery of the banks credit is going towards negative trends. Non performing assets (NPA) of the bank increasing day by day. To control such type of state, the regulating body of the banks and financial institutions, NRB has renewed its directives of the credit loss provision. Therefore it is necessary to analyze the credit management or credit disbursement recovery provision for loss and write off the credit. As the sample of credit bank, DCBL is selected. However for the study, the following research questions have been raised;

- a. Does the credit plan affect the actual performance of DCBL?
- b. Does the bank able to recover the legal process of credit?

- c. Does the bank maintain the liquidity position of the bank?
- d. Do the banks mobilize the deposit and other resources in investment sectors?
- e. How the banks are providing credit to the public as well as government sectors?
- f. What are the problems of credit planning in DCBL?

#### **1.4 Objectives of the Study**

The role of banks in mobilizing and utilizing scattered resources of nation is praiseworthy one. The main objective of the present study is to explore the credit efficiency or inefficiency, effectiveness, systematization, sincerity and its management in the banks. Moreover, the study has specified the following objectives:-

- To examine the impact of deposit in liquidity and its effect in lending process.
- To analyze the lending efficiency of the bank and its contribution in profit.
- To analyze the performance of the bank.
- To examine lending and deposit policy of bank.
- To offer suitable and beneficial suggestions based on findings of this study.

#### **1.5 Significance of the Study**

The significance of the study is stated below:-

- To establish the better creditability position which has directly impacted the financial performance of an organization.
- It helps to build positive attitude and perception on customer that helps to make the organizational success in terms of better transaction, better turnover and better profitability.
- The study is very important in viewing an organizational performance or position in terms of creditability.

## **1.6 Limitation of the Study**

The study is limited due to lack of time, resource constraints and business secrecy.

Its limitation is stated below:-

- The study mainly focuses on credit management.
- The study is done on Development Credit Bank Limited (DCBL).
- It is only based on annual report published by bank and data collected by researcher at the hand.
- Only selected statistical tools and techniques are used.
- It will base only on the latest five years data.
- The study concentrates only on those factors that are related with credit policy.
- The study is very basic attempt to address the research issues; therefore, it might not be able to show casual linkage or effect.
- The study is conducted only for suggestion not for directing.
- The study is based on primary and secondary data. But most of the data are of secondary nature.

## **1.7 Organization of the Study**

For efficient conduction of banks day to day operation and implementation of strategic decisions, the organizational structure of banks should be organized properly. The present study is organized in a way that the stated objectives can easily be fulfilled. The structure of the study will try to analyze the study in a systematic way. The whole study is divided into five different chapters:-

### **Chapter I: Introduction**

This chapter describes the basic concept and background of the study. It has served orientation for readers to know about the basic information of the research area, various problems of the study, objectives of the study and need or

significance of the study. It is oriented for readers for reporting and giving them the perspective they need to understand the detailed information about coming chapter.

## **Chapter II: Review of Literature**

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

## **Chapter III: Research Methodology**

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

## **Chapter IV: Data Presentation and Analysis**

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

## **Chapter V: Summary, Conclusion and Recommendations**

On the basis of the results from data analysis, the researcher concluded about the performance of the concerned organization in terms of credit management. It also gives important suggestions to the concerned organizations for better improvement.

## **CHAPTER - II**

### **REVIEW OF LITERATURE**

This chapter is the important aspects of planning of the study. It deals with the literature, relevant to this study. The main prior of the study is how to find out the work, which has to be done in the area of the research problem and what has not been done in the field of research study undertaken. The first part consists of conceptual framework and the remaining parts consist of the view of reports, articles, journals and dissertation. With reference to the study, I have taken the topic ‘Credit Management of ‘DCBL’, the sincere efforts have been made to clarify the terms: commercial bank, lending policy and its recovery and practice along its types herein as review of literature. For review study, different books, reports, journals and research studies submitted by master level students have been reviewed. It is divided into

- Conceptual review
- Review of related studies

#### **2.1 Conceptual Review of Credit Management**

Banking is the business of collecting and safeguarding money as deposits and lending of same. The banker’s business is then to take the debt of other people to offer his own in exchange and there by to create money. He may be a dealer in debts, but in distress is only the observe of wealth and it would be equally permissible to describe the banker as liquefies of wealth “(Crowther, 1999: 81).

In sincere response to this topics, let’s discuss briefly the term credit management into two separate terms: “Credit and Management in order to deliver the meaningful sense about the topic, Oxford Advanced Learner’s Dictionary dubbed the term credit as “A thing that is lent, especially a sum of money.” Similarly, the

term management is defined as “the control and making decisions in a business or similar organization and further says, ‘the process of dealing with or controlling people of thing’ (Oxford Learner’s Dictionary, 1997).

Book of Banking Management says that the Banking sector or transaction, an unavailability of credit (loan management and its methodology) is regarded very important. Under this management, many subject matters are considered and thought. For example, there are subject matters of like the policy of loan flow, the document of loan flow, loan administration, audit of loan, renewal of loan, the condition of loan flow, the provision of security, the provision of payment of capital and its interest and other such procedures. This management plays a crucial role in healthy competitive activities (Bhattarai, 2003:170).

Credit administration involves the creation and management of risk assets. The process of lending takes into consideration the people and system required for the evaluation and approval of loan requests, negotiation of terms, documentation, disbursement, administration of outstanding loans and workouts, knowledge of process and awareness of its strength and weaknesses are important in setting objectives and goals for lending activities and for allocating available funds to various lending function such as commercial, installment and mortgage portfolio (Johnson 1940:132).

Bodhi B. Bajracharya, in his article, “Monetary policy and deposit mobilization in Nepal” has conducted that mobilization of the domestic saving is one of the prime objectives of the monetary policy in Nepal. And commercial banks are the most active finance intermediary for generating resources in the form of deposit of private sector and providing credit to the investors in the different sectors of the economy (Bajracharya, 1991:93).

As an inference from all these above illustrated articles, it can be said that credit management refers to scientific identification of needy one or loan taker. It is very important to be reminded that most of the bank failures in the world are due to shrinkage in the value of loan and advances. Hence risk of nonpayment of loan is known as credit risk. Portfolio management helps to minimize the credit risks by spreading over the risk of the various portfolios. These method of managing credit risk is guided by the saying do not keep all the eggs in the single basket.

### **2.1.1 Concept of Commercial Banking**

“Early Banking System” served mainly as depositories for funds while the more modern system has considered the supply of credit their purpose. A bank not accepts money as deposits, but it also lends money and creates and lends its own credit. Crowler has defined a bank as ‘a dealer in debts-his own and of other people.’ Sayers states – ‘We can define a bank as an institution whose debts to each other.’ The Banking Companies Act, 1949 defines a banking, which means the accepting for the purpose of lending or investment, of deposits of money from public, repayable on demands or otherwise, and withdrawable by cheques, draft and order or otherwise” (Sethi, 2001:173).

The term commercial banks have one important characteristic that distinguishes it from all other kinds of financial institutions. This characteristic is that it alone can hold deposits to drawn upon by cheque. It has power of creation and application of money, within limits through the use of loan and deposit.

In earlier period when banks are predominately short term financiers of goods in transit and inventories of trades and merchants. Now, when their lending’s no longer confined to short term commercial loan only, their name is not accurately descriptive of their nature and functions. Nowadays commercial banks have diversified their activities to a point where they may be referred to as department

stores.’ The functions of commercial bank are duplicated by other financial institution: saving deposits, making loans (including short terms and long-term loans, mortgage, consumer and business loans), operating trust departments, underwriting shares and securities, holding custody of valuable, acting as brokers, operating safe deposit vaults and performing many other services (Sethi, 2001:173).

After the restoration of democracy, the government adopted liberal independent and market oriented mixed economy. It has changed its role to control-oriented into promote-oriented policy and as consequences series of fundamental reform in fiscal, monetary, industrial, commercial and investment policy have been done to create a captivating environment for investment and ultimately these efforts provided impetus for the incorporation of a lot of joint venture banks including development bank, finance companies and other. At present, the no. of commercial banks have been reached up to 30.

“Although commercial banks are privately owned enterprises they have been given the extra ordinary power to create money in the form of demand deposits, well as to extinguish money so created” (Kent, 1972:323).

Commercial banks are organized as a joint stock company system, primarily for the purpose of earnings a profit. They are operating with a large network of branches having unit banking type. Although, the commercial banks attract deposits of all kinds current, saving and fixed term and their resources chiefly drawn from current deposits, which are repayable on demand.

According to the defamation of banking institution and ordinance 2001, neither commercial bank nor development bank and finance companies have these own

specific identification. Only they are categorized into four groups A, B, C and D according to their paid up capital and regional coverage. None of them have specific area to invest and distribution of loan. One commercial bank can invest in forming whereas the other agricultural bank invest in the field of business.

As it is concerned to the commercial banks and other financial institution, they must mobilize (i.e. investment in different sectors) their collections (deposits) and other funds towards the profitable, secured and marketable sectors so that they will be in profit. For this purpose, these banks and financial institutions should gather the sufficient information about the firm (client) to which supposed to be invested, these information include as financial background, nature of business as well as its ability to pay the loan back. These all information should be gathered from the view point of security.

Even though commercial banks are operating with the primitive function at receiving deposit, making loan and advances, money creation, agency services and other general utility services such as

- Issuing letters of credit to its customers ,
- Issuing of bank drafts and travelers cheques,
- Dealing in foreign exchange and financing foreign trade ,
- Serving as referee to the financial standing and credit worthiness of its customer ,
- Underwriting loans to be raised by public bodies ,
- Providing safety vaults or lockup for the safer custody of valuables and securities of the customers ,
- Acting as a trustee and executing the will of the demand ,
- Issuing the credit card, deposit card, visa card, etc. for ATM services.

### List of Commercial Banks in Nepal

S.No.	Commercial Banks	Established Date
1	Nepal Bank Ltd.	1937/11/15
2	Rastriya Banijya Bank	1966/01/23
3	Nepal Arab Bank Ltd. (Now Nabil Bank )	1984/07/16
4	Nepal Indosuez Bank Ltd. (Now Nepal Investment Bank Ltd.)	1986/02/27
5	Nepal Grindlays Bank Ltd. (Now Nepal Standard Chartered Bank Ltd.)	1987/01/30
6.	Himalayan Bank Ltd.	1993/01/18
7.	Nepal SBI Bank Ltd.	1993/07/07
8.	Nepal Bangladesh Bank Ltd.	1993/06/05
9.	Everest Bank Ltd.	1994/10/18
10.	Bank of Kathmandu Ltd.	1995/03/12
11.	Nepal Bank of Ceylon Ltd. (Now Nepal Credit and Commerce Bank Ltd.)	1996/10/14
12.	Lumbini Bank Ltd.	1998//07/17
13.	Nepal Industrial and Commercial Bank Ltd.	1998/07/21
14.	Machhapuchhre Bank Ltd.	2000/10/03
15.	Kumari Bank Ltd.	2001/10/03
16.	Laxmi Bank Ltd.	2002/04/03
17.	Siddhartha Bank Ltd.	2002/12/24
18.	Agriculture Develop Bank Ltd.	2006/03/16
19.	Global Bank Ltd.	2007/01/02
20.	Citizen Bank International Ltd.	2007/04/20
21.	Prime Bank Ltd.	2007/09/08
22.	Sunrise Bank Ltd.	2007/10/12
23.	Bank of Asia Nepal Ltd.	2007/10/12
24.	Development Credit Bank Ltd.	2001/01/23*
25.	Nepal Merchant Bank Ltd.	1996/11/26*
26.	Kist Bank Ltd.	2002*
27.	Janata Bank Ltd.	2010/04/05
28.	Mega Bank Ltd.	2010
29	Commerze and Trust Bank Ltd	2010

\*Development Credit Bank Limited, Nepal Merchant Bank Ltd., and Kist Bank Ltd. upgraded as commercial bank from 2008/05/25, 2008/06/02, and 2009/05/07 respectively. Development Credit Bank Limited upgraded in commercial bank

(Class A) from development bank (Class B) and Nepal Merchant Bank Ltd. And Kist Bank Ltd. upgraded in commercial bank (Class A) from finance company (Class C).

## **2.1.2 Credit**

### **2.1.2.1 Concept of Credit**

In the field of banking transaction, the term credit is referred to the loan. In this thesis, credit in faces to the loan. The amount of money lent by the creditor (bank) to the borrower (customers) either on the basis of security or without security is credit. 'Sum of money lent by a bank,' credit and advance is an important term on the asset side of balance sheet of a commercial bank. Bank earns interest on loan and advances, which is one of the major sources of income for banks. Bank prepares credit portfolio, otherwise it will not only add bad debts but also affect profitability adversely (Varshney and Swaroup, 1994:6).

Bank generally grants credit on four ways:

- Overdraft and Credit card wan
- Cash credit
- Discounting of bills
- Direct credit

### **2.1.2.2 Types of Credit**

#### **Cash Credit**

The credit is not given directly cash but deposit amount is being opened on the name of creditor and amount credited to that account. In this way, every bank loan creates deposit.

#### **Term Credit (Loan)**

Money lent in sum to the borrowers is term loan. It is principal form of medium term debt financing having maturities of 1 to 8 years. The term loans are usually

repaid in level amounts over the period of the loan, either a large final “Balloon payment” or just a single “Bullet payment” at maturity.

Bardy 2 Mayers urge that bank loans with maturities exceeding 1 year are called term loans. The firm agrees to pay interest based on the banks prime rate and to repay principal in the regular installments. Special patterns of principal needs (Richard et. al. 1996:80).

### **Overdraft**

It is an agreement by which the bank allows the customer to draw over and above the current account balance. Interest on overdraft is charged on debit balance on daily basis.

### **Working Capital Credit**

It means the different value between current assets and current liabilities. It is granted to the customers to meet their working capital gap for supporting production process. A natural process develops where in funds moving through the cycle are generated to repay a working capital.

### **Credit Against Fixed Deposit**

Fixed deposit is specifying for fixed period of time. Depositors can use it as collateral for loan receives before the maturity period. Normally, financial institutions pay loan against the fixed deposit up to 90%.

### **Priority Sector Credit**

According to NRB directives, commercial banks have to invest in priority sector. It can be minimum 12% of the total credit disbursement. Rs. 2 million for agricultural sector and service sector and Rs2.5 million for single borrowers are limit sanctioned to deprived sector. Institutional support to ‘Agriculture Development Bank’ and ‘Rural Development Bank’ are also considered under this

category. Deprives sector lending includes Advance to poor/down + trodden / meek / deprived people up to Rs 30,000 in generating income or employment.

### **Institutional Credit to Rural Development Bank**

Loans to NGOs those are permitted to carry out banking transaction for lending up to Rs 80,000.

### **Hire-Purchase Financing (Installment Credit)**

It is well known installment policy these days most of the financial institution applied this policy for the disrobement of loan in vehicles and home appliances. Hire purchase loan refers to specifically, periodic repayment of principal and interest over the maturity of loan .Hire agrees to take the goods on hire at a stated rental including their repayment of principal as well as interest with an option to purchase.

### **Housing Financing (Real Estate Credit)**

Financial institution adopts this policy as: residential building commercial complex, construction of warehouse, etc. It is given to those who have regular income or can earn revenue from housing project itself.

### **Project Credit**

It is granted to the customer as per project viability. The borrowers themselves invest certain proportion to the project from their equity and rest will be financed by bank. Construction credits are short-term credits made to developers for the purpose of completing proposed projects. Maturities on construction credit range from 12 months to as long as 5 years, depending on the size at the specific project (Johnson et. al., 1940:242). The basic guiding principal involved in disbursement policy is to advance funds corresponding to the completion stage of the project.

### **Consortium Credit**

No single financial institution grant loan to the project due to single borrower limit or other reason and two or more such institutions may consent to grant credit facility to the project of which is baptized as consortium loan . It reduces the risk of project among them. Financers have equal charge on the project's assets.

### **Credit Cards and Revolving Lives of Credit**

Banks are more singly utilizing charge cards and revolving lines of credit to make unsecured customer credit. Revolving credit line lowers the cost of making credit since operating and processing cost are reduced. Due to standardization, centralized department processes revolving credits reduction on administrative cost. Continued borrowing arrangement enhances cost advantages. "Once the credit line is established, the customer can borrow and repay according to his needs and the bank can provide the funds to the customer at lower cost" (Anderson, 1940:220).

Change cards and credit lines tied to demand deposit accounts are the two most common revolving credit agreements. It can be further divided into credit cards, automatic overdraft lines and large credit lines.

### **Off-Balance Sheet Transaction**

Actually, off balance sheet transaction means the two form bank guarantee and letter of credit, also known as contingent liability. Contingent liability means the liability which may or may not arise during the happening of certain event.

It is not founded based remunerative facilities but more risky than the funded until adequate collateral are taken.

Lets its rarities be described separately:-

### **Bank Guarantee**

It is used for the sake of customers in favors of other party (beneficiary) up to the approved limit. Generally a certain % amount is taken as margin from the customer and customer's margin account is credited.

### **Letter of Credit (L/C)**

It is issued on behalf of the customer (buyer/importer) in favor of the supporter (seller) for the import of goods and services stating to pay certain sum of money on the submission of certain documents complying the stipulated terms and conditions as per the agreement of L/C.

It is also known as importers letter of credit since the bank of importer do not open separate L/C for the trade of same commodities services.

### **2.1.2.3 Objectives of the Credit Policy**

The main purposes of the credit policy are:

- To provide personnel with a framework of standards within which they can operate.
- To active performance by lending personnel, with the bank's policies and objectives regarding the portfolio of loans.
- For getting support, the leader personnel should write the loan policy from subordinates and associates.
- For establishing this policy, it is necessary to get approval about this board of directors after discussion. Better performance of loan extends multiple benefits to the society and country whereas non-performing erodes even existing share capital.

#### **2.1.2.4 Principle of Credit Policy**

How to scattering the loan is one of the most important things. It is essential to carry out the business of lending consistency. For the better performance of credit policy, following principle should obey:

- Principle of Safety Fund
- Principle of Liquidity
- Principle of Security
- Principle of Purpose
- Principle of Profitability
- Principle of Spread
- Principle of National Interest

#### **2.1.2.5 Lending Criteria**

For every disbursement of credit, well defined and approved procedure must follow, such well established criteria for disbursing advances and loan is the most essential for the survive, thrive and succession of the commercial bank. For such launching process, systematic, scientific throughout study and analysis must be followed. These criteria are known as 5 C, which are as follows:

##### **Collateral**

It is the security which is proposed by the borrower, priority should be given to readily marketable and movable collateral. Decision about the flow of loan is made considering nature of business and types of securities proposed.

##### **Capital**

This indicates applicant's capacity to invest his own money. Examination of credit needy is important to match his demand with his status and business. Indeed his financial feasibility should be stronger than his demand to get the faith of the lenders.

## **Character**

Person or organization's character must be studied to know the intension to pay loan. For character analysis, following documents must be studied.

- Registration certificate
- Tax registration certificate (updated )
- Memorandum and articles of association
- Resolution of borrow
- References from previous lenders and bank statement of customers

## **Capacity**

Lenders should know about the person/organization whether he is able to pay or not. Considering the potent and expertise of the persons in concerned field, decision about the flow of loan should be taken.

## **Condition**

It is necessary to evaluate external environment of business whether business origins, thrives and survives. If the person/organization's business environment is satisfied then credit agreement is issued in favor of the borrowers.

### **2.1.3 Project Appraisal**

According to Project Management Institute, USA, A project is one that is time limited; goal oriented major understanding, requiring commitment of married skill and resources. It is a combination of human and non-human resources pooled together in a temporary organization to achieve specific purpose.

To launch credit to the customer, bank makes analysis of the customer by various aspects. Every investor wants to know the suitable field of investment. So project appraisal reveals the actual facts about the following:-

- Technical aspect
- Financial aspect

- Management aspect
- Commercial aspect

### **Technical Aspect**

For technical viability of the business, proper location, plant and equipment, legal aspect (Government Policy) and technical competence must. Appropriate location must be fulfilled of transport facility, infrastructure, peace and silence as well as accessibility of the market. Further more newly invented technology with high productive efficiency must require. In other hand government should provide the adequate support and useful policy must be adopted.

### **Financial Aspect**

Bank agrees to finance only in the viable and profitable project which have high degree of recovery. The following documents reveal the cleared picture here in:-

### **Cash Flow Statement**

Cash flow statement is prepared by the cash from financing, investing and operating activities. In such figure, opening and closing cash balance shows either surplus or deficit of the project. This helps in taking decision of credit sanction.

### **Performa Balance Sheet**

Balance sheet shows the clear picture about the financial status of the project. Cash flow statement is also prepared with reference to balance sheet and profit and loss account.

### **Cost of Project**

About the cost picture of the project, working capital cost is necessary. Management needs the fixed assets and daily expenses. So bank needs to study both precisely and prepares document about the disbursement.

### **Management Aspect**

Management is one of the most prime aspect of the project operation, which function as the body structure. There must be honest, hardworking, competent, qualified and result oriented staff for the guarantee successes. Only dedicated team with management by objective can lead the organization.

### **Commercial Aspect**

For the viability of the project, commercial feasibility is the most essence, present and future prospect of the projects are to be analyzed and lending decision must be undertaken. Only profitable and future glorious projects are viable.

For this, following aspects must be present.

- Nature of Product/Service
- Quality and Quantity of Product
- Competitive Advantages and Market Reliability
- Selling and Distribution System
- Promotion and Buyer's Analysis
- Advertising and sales order meet

Also, bank considers the further more:

- Quality and types of customers
- Credit terms and policy
- Aging Schedule

### **2.2 Review of NRB Directives**

NRB is the bank of the bank or the chief of all banks operating in the country. It controls, supervises, regulates the functions of commercial banks and the financial institutions. That's why, NRB issues several directives to supervise and control the

functions of commercial banks. Only the directives related to credit aspect are given here.

**A. NRB Directives No.4 [ [www.nrb.org.np](http://www.nrb.org.np)]**

Credit Classification and provisioning

<b><u>Classification</u></b>	<b><u>Provision</u></b>
Pass Credit	1%
Sub. Standard Credit	25%
Doubtful Credit	50%
Bad Credit	100%

That credits which are not crossed the time schedule of repayment and are within 3 months delay of maturity date fall under the classification topic 'pass credit'. It is also known as performing credit.

Sub – standard credit means, the credit which are already crossed the repayment time schedule and 3-6 months delay of maturity date. As like, the credit within 6-12 months delay from the time to be recovered are classified as 'Doubtful credit.' Those credits which are not recovered yet after 1 year from maturity date are known as 'bad credit'. The latest three types of credit are also known as non-performing credit also.

The credit loss provision for performing credit is termed as general credit loss provision whereas the credit loss provision for non-performing credit is termed as specific credit loss provision.

Auditor has to correctly rate the credit and ensure that accurate loss provision has been made. The auditor should examine whether the bank has obtained complete documentation so that banks interest is secured. In addition audit is made to

inspect compliance of terms and conditions laid down. Credit audit is required to check whether credit given and within authority, drawing power, etc. Credit audit helps the bank to adopt corrective measures where weakness has been pointed out and to focus further on strengths. General guideline where to reject or renew the credit can be established with the help of credit audit.

## **2. NRB Directives No.7**

Limit of Credit and Advances in a Particular sector

- Fund based credit and advances can be issued up to 25% (upper limit) of core capital to a single customer, firm, company and a group of related customer.
- Non-fund based (off-balance items) can be issued up to 50% of core capital to a single customer, firm, company and a group of related customer.

Note: The core capital includes {paid up capital + share premium then redeemable preference share + general fund + accumulated profit ( loss)– goodwill }

### **Group of Related Customer**

- If a company takes 25% or more share of another company.
- Member of board of directors of company shareholders of private limited company such members and shareholders with others in a single house, even if husband, wife, son, daughter in law, unmarried daughter, adopted unmarried son/daughter, father , mother , stepmother and brothers and sisters whom should be looked after. And the above members personally or combined take 25% or more share of another company.
- Firm, company and members as a related group.
- Members of board of directors , shareholders and other relatives as stated in serial number and take less than 25% of board of directors of the company

solely or combined but have control on the other company by the following ways :

- Being president of board of director of the company
- Being executive director of the company
- Nominating more than 25% of members of board of director of the company
- If cross guarantee is given by one company to another company

### **2.3 Review of Related Studies**

Under the heading of credit management, different articles can be viewed from various newspaper economic journals, bulletins and magazines. “A study of deposits and credits of commercial bank in Nepal, the credit deposit ratio would be 51:30%, other things remaining the same, in 2005 A.D., which was the lowest under the period of review. So the commercial bank should try to give more credit entering new field as far as possible. Otherwise they might not be able to absorb even its total expenses (Shrestha, 2045:12).

“Investment planning of commercial banks in Nepal”, portfolio (loan and investment) of commercial banks has been influenced by the variable securities rates. Investment’s planning of commercial banks in Nepal is directly traced to fiscal policy of government and heavy regulatory procedure of the central bank (NRB). So the investments are not made in professional manners. Investment planning and operation of commercial banks in Nepal has not been found satisfactory in terms of profitability. To overcome this problem, she has suggested, commercial banks should take their investment function with proper business attitude and should perform leading and investment operation efficiently with the proper analyze of the project” (Shrestha, 1993).

“Central bank tightens black listing procedures” NRB has issued directive to all commercial banks and financial institution ensuring greater transparency during loan disbursement. As per new provisions, all commercial banks now required to disclosing the loan defaulter’s in every six months. Until now there was no such legal system of disclosing the loan defaulter’s name. The new directives have also barred the financial institution from leading any amount to be blacklisted defaulter and his family members. The credit information Bureau (CIB) can blacklist the firm, company or clear the debt within the stipulated period. As per the set criteria for blacklisting, the CIB would monitor those individuals and companies that have the principle loans of above 1 millions. If the creditor fails to clear the amount within tile, or is found missing the loans among others, the creditor can be blacklisted.”

“Project financing a part of Business” The investor or whether banks, financial institutions, individuals, private or government sector must not take the proposal by making decision without having adequate judgement because sometimes they perform out of norms, related studies, policies and techniques. A project appraisal will best viable only if it has accessed through conscious analysis as well as through investment decisions to make its macro and micro level viability effective” (Lamichhane , 46<sup>th</sup> Anniversary of NRB :145).

Due to slowdown in the world economy and deteriorating law and order situation of the country, many sectors of the economy are already sick, when any sector of economy catches cold, bank starts sneezing. From this prospective, the banking industry as a whole is not robust.

In case of investors having lower portfolio management may be limited to small saving income. But on the other hand, portfolio management means to invest funds in various schemes of mutual funds like deposits, shares and debentures of

the investors with surplus income. Therefore, portfolio management becomes very important both for an individual's as well as institutional investors. Large investors would like to select a best mix of investment assets" (Shrestha, 2055:13).

"Why does the loan become defaulter?" This study fixed out the causes that makes loan default. "When the due date is over than, the loan becomes default." But when do the due dates be over? Generally, increase in interest rates, decrease in economic activities cause decrease in the capacity of debtors and sometimes the debtors knowingly do not pay back the loan. Other than these reasons in the context of Nepal, lack of credit policy, lack of information about the loan holder (three C's= Capacity, Character and Capital). Unhealthy competition and small market area, the cause's loan defaults, Default loans increase the resources mobilization cost and reduces the profit earning capacity of a bank. Therefore, increase in default loans are the indicator of problematic situation to the banks" (Neupane, NRB 46<sup>th</sup> Anniversary: 142).

#### **2.4. Review of Thesis**

In this thesis, I have attached the previous thesis review, which are mainly concerned about lending practices investment policy, lending policy and loan management in the similar field of commercial banks.

Poudel (2004) conducted a thesis "*A Study on Lending Practices of Joint Venture Banks with Reference to Nepal Bangladesh Bank Ltd. (NBBL) and Himalayan Bank Ltd. (HBL).*" The basic objectives of his research are:

- To determine the impact of deposit collection and its effect on lending practices.
- To know the volume of contribution made by both banks in lending.
- To analyze loan disbursement and its recovery.

- To analyze the performance of credit and its contribution in total profitability.
- In research methodology, he used statistical tools like standard deviation, co-efficient of variation, measure of correlation, probable error, time service.

His major findings are:-

- For liquidity ratio, the mean current ratio of NBBL is higher than that of HBL. The mean ratio of cash and bank balance to total deposit of NBBL is higher than HBL. But the co-efficient of variation of HBL is less than NBBL. So HBL is more consistent than NBBL. The mean ratio of cash and bank balance to interest sensitive deposit of NBBL is higher than HBL.
- The mean ratio of loan and advances to total assets of NBBL is higher than HBL. The mean ratio of investment to loan and advance and investment of HBL is higher than NBBL.
- NBBL has contributed 91.25% in private sector loan, 3.79% in government sector loan and 4.25% in bills paid and discount. In the same way, HBL has contributed 93.45% in private sector loan, 4.77 % in government sector loan and 1.78% in bills paid and discount.
- The mean non-performing loan to total loan and advances of NBBL is higher than HBL. The mean ratio of interest expenses to total deposit of NBBL is higher than HBL mean ratio of interest expenses to total working fund of NBBL is higher than that of HBL.
- The mean ratio of return on loan and advances is higher in HBL, like return on loan and advances and the mean ratio of return on working fund is higher in NBBL than that of HBL.
- The performance of HBL is better than that of NBBL. Return on equity and earning per share of HBL is higher than that of NBBL.

- The trend analysis of total deposit of NBBL and HBL are found in increasing trend.
- The trend value of loan and advances of both banks have seen to be in increasing.
- The trend value of net profit of NBL is decreasing but HBL is increasing.

Shrestha (2004), has submitted a research report “*A Comparative Study of financial Performance of Himalayan Bank Ltd. and Nabil Bank Ltd.*” The main objectives of this study are:-

- To evaluate the financial performance of HBL and Nabil.
- To compare the financial performance of HBL and Nabil.
- To ascertain financial position of banks.

The specific tools used research methodologies in this research are arithmetic mean, standard deviation, co-efficient of variation, correlation co-efficient and probable error.

The major findings of the research are:-

- From primary interview of the staff and questionnaire, deposit trend increasing best interest rate decreasing. Profit generating source was interest earned from loans and advances and credit.
- In liquidity ratio, the average ratio of cash and bank balance to current deposit shows HBL has higher ratio and better consistency than Nabil. Also average ratio of cash and bank balance to total assets is better of HBL. HBL has better ratio of saving deposit to total deposit than Nabil.
- Nabil has higher financing of long term debt than HBL. Average ratio of total debt to total assets of HBL is higher than Nabil.

- Nabil has more return from the utilization of its total assets compared to HBL. Return from investment is also higher in Nabil.
- Earning per share of both bank showed decreasing trend. Dividend per share of both bank showed the uniformity and better performance of banks. The mean dividend payout ratio in Nabil with better consistency.

Shrestha (2008) conducted a research work on “*A Comparative Study on Credit Management of Nepal Bangladesh Bank Ltd.*” The main objectives of this research are as follow:

- To analyze the functions, objectives, procedures and activities of the NB Bank.
- To analyze the lending practices and resource utilization of NB Bank.
- To determine the impact of growth in deposit on liquidity and lending practices.
- To examine lending efficiency and its contribution to profit.
- To provide suggestions based on the findings of this study.

The major findings of this research are as follow:

- NBBL had only 60% performing assets and other percentage carry the non-performing assets.
- NBBL had more liquid funds. Both computation, in cash and bank balance to total deposit ratio as well as cash and bank balance to current deposit ratio, NBBL kept more liquidity than necessary.
- NBBL was investing high percentage i.e. more than 72% of total deposits in credit and advances.
- NBBL had more non-performing credits and it was increasing year by year.

- As increased in non-performing credits year by year, NBBL also increased the provision for non-performing credits. It was increased up to 11.62% from 0.94%.
- NBBL has 12.11% average ratio to overdue credit on total lending.

Pandey (2009) conducted a research on “*A Comparative Study on Credit Management of Nepal Bank Ltd.*” The main objectives of this research are as follow:

- To analyze the lending system of the bank.
- To examine the impact of impact of growth in deposit on liquidity and lending practices.
- To assess credit practice of the bank.
- To explore the relationship with loan and advances and net profit of the bank.
- To provide suggestions and recommendations for the improvement based on the findings of this study.

Major findings on the research work are:

- At the time of financial reengineering process of NBL, loan investment policy has been brought. New policy of lending focuses on cash flow lending by passing out collateral based lending.
- Liquidity position of NBL seems strong. It is obvious that in the present situation of the country, investment potential is not favorable, so the liquidity is sufficient in the bank.
- Most of the banks are of Nepal nowadays are focusing on consumer lending. NBL also falls on the same category. This is because of load shading.
- NBL has invested money in growing credit and advances but the recovery process of the bank is slow. Efficiency in management is not satisfactory.

- Most of the credit customers of NBL are satisfied with the banks. Customers said that the main strength of NBL is its lending interest rate. The lending rate of NBL is found low in comparison to other banks.
- By analyzing market demand and trend, NBL has brought retail banking facilities like Home loan, Margin Lending whose market performance at present seems satisfactory.
- For effective credit management and customers' service, NBL has been making great effort for the development and empowerment of employees by conducting various training related to credit management and customer service so that they could provide the best services to the customers as well as credit risk could be reduced.

Upreti (2010) conducted a research on "*A Comparative Study on Credit Management of Commercial Banks with reference to NIB and NIC Banks.*" The main objectives of this research are as follow:

- To analyze the functions, procedures and activities of commercial banks credit policy.
- To analyze the credits and advances provided by commercial banks.
- To analyze the recovery status of credit disbursed.
- To find out the strength and weakness in credit administration of commercial banks.

His major findings are as follow:

- Average loan and advances ratio of NIB and NIC is 0.71 and 0.78. NIC has maintained higher loan and advances to total deposit which shows that NIC seems to be strong to mobilize its total deposit as loan and advances. All banks are capable to use more than 50% of deposit on loan and advances. If maintained this, it helps to make consistency on the profitability of the banks.

- The average interest income to loan and advances of NIB is 0.05. Ratio of NIB does not show clear direction. Average interest income to loan and advances ratio of NIC is 0.041 and in terms of the average ratio of NIB has best performance.
- NIB has lowest non-performing loan to total loan and advances, this NIB is best performer than NIC. Banking sector is seriously affected by non-performing loan. If non-performing loan increases, the overall banking business will be affected. So provision amount will increase and profit will decrease. So it is suggested that both the banks (NIB and NIC) to be sincere while granting loan and to do effective follow up for recovery of non-performing loan.
- Average loan and advances to total assets of NIB and NIC is 0.62 and 0.69 which indicates the higher mean ratio, indicates the good lending performance. Here NIB should focus to increase loan and advances to total asset ratio to increase lending performance. Loan and advances to current assets ratio of NIB is in increasing trend. The mean ratio of NIC has highest than others. So higher mean ratio indicates the good short-term lending performance.
- Correlation co-efficient between non-performing loan and loans of NIB is - 0.666, which shows moderate, negative correlation. It indicates that non-performing loan and loans were moderately, negatively related with each other. That means, decreasing on performance in loans management. Effectively loans management helps to decrease the non-performing loans.

### **Research Gap**

Credit management is the major factor of commercial bank which has made on the basis of NRS directives and policy of concerned bank. The directives of NRB change over time and commercial bank also should adopt their policy with the changing pace of time. So , the up to dated study over the change of time frame is

major concern for the researcher and concerned organization as well as industry as a whole .This study covers the more recent financial data, NRB circulars and guidelines than that of studies previously conducted .

Portfolio behavior is the major part of this credit management. The optimum diversification of credit reduced the default risk of credit. It is the major concern of stakeholders to know the portfolio behavior of the bank. This study also puts its effort to find out the assets management efficiency and profitability situation of the bank. Analysis of lending efficiency also shows the expenses and income proportion of the bank.

No case study has yet been conducted about the credit management of Development Credit Bank Ltd. Some comparative studies are previously done in – depth study about lending efficiency of the bank is not found. DCBL is one of the leading commercial bank of the country having huge market share and has significant impact on the national economy. Hence, this study fulfills the prevailing research gap about the in-depth analysis of the lending efficiency of the organization.

## **CHAPTER - III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Research in common sense refers to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. The advance Learner's Dictionary of current English lays down the meaning of research as "a careful investigation or inquiry especially through search for new facts in any branch knowledge." Redman and Mory define research as a "Systematized effort to gain new knowledge." Some people consider research as a movement, a movement from the known to the unknown. It is actually a voyage of discovery, we all possess the vital instinct of inquisitiveness for, when the unknown confronts us, we wonder and our inquisitiveness makes us probe and attain full and fuller understanding of the unknown. This inquisitiveness is the mother of all knowledge and the method, which man employs for obtaining the knowledge of whatever the unknown, can be termed as research (Kothari, 2000:1).

In this chapter, research methodology adopted for achieving the predetermined objectives which are already stated. The various statically and financial instruments will be used for the required purpose. It counts on the resources and techniques available and to the extent of their reliability and validity in this chapter. The research methodology has primary sought the evaluation of the credit practices of Development Credit Bank Ltd. The research methodology adopted in this chapter follows some limited but crucial steps aimed to achieve the objectives of the research. Research methodology refer to the various sequential steps (along with a rationale of each such step) to be adopted by researcher in studying a problem with certain objectives in view.

### **3.2 Research Design**

The crux of this research is to analyze the soundness of DCB Ltd. in relation to credit disbursement and recovery as well.

Decision regarding what, when, how, when, by what means concerning an enquiry of a research study constitute a research design. “A research design is the arrangement of conditions for collection and analysis of data in manner that aims to combine relevance to the research purpose with economy in procedure.” In fact, the research constitutes the blueprint of the collection, measurement and analysis of data. As such the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data. Descriptive and exploratory research designs are tested in this study.

### **3.3 Sources of Data**

Necessary data collected from both sources: Primary and Secondary. Even though adequate data are collected from secondary sources.

#### **Secondary Sources**

Secondary sources of data are the information received from books, journals, newspapers, reports and dissertations, etc. The major sources of secondary data are as follow:

- Economy survey of HMG , Ministry of Finance
- NRB Directives
- Central Bureau of statistics
- Annual general report of DCBL
- National newspapers , journals and magazines
- Internet

### **3.4 Population and Sample**

A population in most studies usually consists of large group because of its large size it is fairly difficult to collect detailed information from each member of population. Rather than collecting information from each member, a sub-group is chosen which is believed to be representative of population. This sub-group is called a sample and the method of choosing this sub-group is done by sampling. The sampling allows the researches more time to make an intensive study if a research problem. The total commercial banks shall constitute the population of the data and single bank under the study constitute the sample under the study. So among the various commercial banks in the Banking Industry, Development Credit Bank Ltd. is taken sample for the study.

### **3.5 Method of Data Analysis Technique**

For the purpose of the study, all collected scanned, tabulated under various heads and them after disunities and statistical analysis have been carried out to enlighten the study.

#### **3.5.1 Financial Method**

“Financial analysis ids the starting point for making plans before using any sophisticated forecasting and budgeting procedures.” Hence ratio analysis is used under financial analysis to attain the result after tabulating the data (Pandey, 1999:108).

A ratio is a quotient of two mathematical expressions. Establishment of quantities relation of data furnished by the financial statement is called ratio analysis. In other words a financial ratio is the mathematical expression of relationship of two accounting figures. It helps in taking decision science it helps to establish relationship among various ratios and interpretation there on, inter firm comparison and comparison between past and present ratios for the same firm

gives enormous and fruitful results to test the financial performance. One author has said that to evaluate the financial condition and performance of firm, the financial analyst needs certain yard sticks. The yard stick frequently used is a ratio or index relating two pieces of financial data of each other. Analysis and interpretation of various ratios should give experienced, skilled analysis better understanding of financial condition and performance of the form than they would obtain from analysis of financial data alone (Van Horn, 1997:759).

### **3.5.1.1 Liquidity Ratio**

The liquidity ratio measures the ability of firm to meet its short-term obligations and reflect the short-term financial strength of the firm. One of the most important functions of commercial bank is to create credit. A commercial bank must maintain its satisfactory liquidity position to meet the credit need of the society. Demand for the deposits, withdraw, pay maturity in time and convert non-cash asset in to cash to satisfy immediate need without loss to bank and consequent impact or long run profit . As a financial analytical tool, the following liquidity ratio has been used to come into the facts and findings of the study.

#### **1. Current Ratio**

Current ratio indicates the ability of the bank to meet its current obligation. It measures the relationship between current assets and current liabilities, which is expressed as:

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

Current assets are those assets, which can be converted into cash within a year and so it includes cash and bank balance, investment in treasury bills, bills purchased and discounted, customer acceptance liabilities, prepaid expenses, bills for collection. Likewise, current liabilities denotes current deposits saving account

deposits, margin deposits, bills payable, call deposit, bank overdraft, intra bank reconciliation account, provisions, customer's acceptance liabilities, etc .

## **2. Liquid Fund to Current Liability Ratio**

It indicates the ability of bank to discharge its liquidity risk. Liquid fund are those assets, which can be converted into cash with in a short period without any decline in their volume.

$$\text{Liquid Fund to Current Liability Ratio} = \frac{\text{Liquid Fund}}{\text{Current Liability}}$$

## **3. Cash and Bank balance to Total Deposit Ratio**

Deposit is one of the major liabilities of the commercial bank. Bank has to manage its liquidity to meet depositor's demand. This ratio measures the availability of the banks highly liquid or immediate fund to meet its unanticipated calls on all types of deposit.

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

Total deposit includes current deposit, saving deposit, fixed deposit, call short deposit and other types of deposits.

## **4. Cash and Bank Balance to Interest Sensitive Deposit Ratio**

Saving deposit is deposited by public in a bank with an objective of increasing their wealth, interest rate plays important role in the follow of interest sensitive deposit. Fixed and current deposits are not interest sensitive. Fixed deposits have a fixed term to maturity and current deposits are not sensitive toward interest rate.

The ratio of cash and bank balance to interest sensitive deposits measure the bank ability to meet its sudden outflow of interest sensitive deposits due to the change interest rate.

$$\text{Cash and Bank Balance to Interest Sensitive Deposit Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Saving Deposit}}$$

### **5. Cash and Bank Balance to Current Assets Ratio**

Cash and bank balance are the most liquid current assets. This ratio measures the percentage of most liquid fund with the current assets. Higher ratio indicates the bank's sound ability to meet the daily cash requirement of their customer's deposit. The bank maintain low ratio, bank may not be able to make the payment of against cheques. So bank has to maintain cash and bank balance to current assets ratio property.

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

### **6. Loan and Advances to Current Assets Ratio**

Loan and advances is the major component in total assets, which indicates the ability of banks to utilize its deposit in the firm of loan and advances to earn high return. If sufficient loan and advances can not be granted it should pay interest on those utilized deposit funds and may loss earnings. So commercial banks provide loan and advances in appropriate level to find out portion of current assets, which is granted as loan and advances.

$$\text{Loan and Advances to Current Assets Ratio} = \frac{\text{Loan and Advances}}{\text{Current Assets}}$$

Loan and advances includes short-term loan and advances, overdrafts, cash credit, local and foreign bills purchased and discounted.

### **3.5.1.2 Portfolio Behavior of Credit Ratio**

This ratio measures the portfolio behavior of the credit disbursement to different sectors. Commercial banks disbursed advance loan to various sectors of the economy and have various types of borrowers.

#### **1. Credit to Government Enterprises to Total Credit**

Commercial banks have various options to mobilize their funds; credit to government enterprises is one of them. To earn high profit most of the commercial banks avoid extending loan on this area.

Credit to Government Enterprises to Total Credit Ratio

$$= \frac{\text{Total Credit to Government Enterprises}}{\text{Total Credit}}$$

#### **2. Credit to Private Sector to Total Credit Ratio**

Commercial banks earn profit by mobilization of deposit through outside assets and credit is one of the important tools to increase profit most of the banks like to advance the loan to private sector it is very much important to learn how the banks are mobilizing their fund. Higher credit ratio to private sector indicates higher profit and higher risk.

$$\text{Credit to Private Sector to Total Credit} = \frac{\text{Credit Granted to Private Sector}}{\text{Total Credit}}$$

#### **3. Credit to Bills Paid and Discounted to Total Credit Ratio**

Purchasing of bills of exchange of customers in whose favors limit is sanctioned is called purchasing of bills. Bills may be either documentary bills or clean bills. If a bill is accompanied documents of title to the goods is called documentary bill. In the absence of such documents, it is called clean bill. Although the term bill

purchased seems to imply that the bank becomes the purchaser of such bill, the bank holds the bills only as a security for the advance.

Credit to Bills Paid and Discount to Total Credit Ratio

$$= \frac{\text{Credit to Bills Paid and Discounted}}{\text{Total credit}}$$

### **3.5.1.3 Assets Management Ratio**

Assets management ratio measures the proportion of various assets and liabilities in balance sheet. Commercial bank should manage its assets and liabilities properly to earn profit. Assets management ratio measures its efficiency in multiplying various liabilities in performing assets. Following are the various assets management ratio which measure the lending strength and effective use of assets.

#### **1. Total Assets to Total Liabilities Ratio**

The total assets of the bank should play active role in profit generating through lending activities. This ratio measures the banks ability to multiply its liability into assets .It is always recommended to have higher ratio of total assets to total liabilities ratio since it signifies overall increases of credit. The higher ratio indicates the higher productivity.

$$\text{Total Assets to Total Liabilities} = \frac{\text{Total Assets}}{\text{Total Liabilities}}$$

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

Loan and advances is an important part of total assets (total working fund). Total working fund plays important role in profit earning through fund mobilization. So bank should carefully mobilize the total assets. The ratio of loan and advances to total assets ratio measures the volume of loan and advances in the structure of total assets.

A high ratio indicates better mobilization of funds as loan and advance and vice-versa.

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

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

The main source of banks lending is its deposit. This ratio is calculated to find out how successfully the banks are utilizing their deposits on loan and advances for profit generating activities. Greater ratio indicates better utilization of total deposits.

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

### **4. Investment to Total Loan and Advances and Investment Ratio**

This ratio measures the contribution made by investment in total loan and advances and investment. The proportion between investment to loan and advances and investment measures the management attitude towards risk assets and safety assets. Investment and loan and advances in whole do not provide the quality of assets that a bank has created. The high ratio indicates the mobilization of funds in safe area and vice-versa.

Investment to Loan and Advances and Investment Ratio

$$= \frac{\text{Investment}}{\text{Loan and Advances and Investment}}$$

### **5. Total Investment to Total Deposit Ratio**

A commercial bank may mobilize its deposit by investing its fund in different securities issued by government and other financial and non-financial companies. Effort has been made to measure the extent to which the banks are successful in

mobilizing the total deposit on investment. A high ratio is the indicator of high success to mobilize the banking fund as investment and vice-versa.

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

#### **3.5.1.4. Profitability Ratio**

This ratio shows the profitability condition of the bank. Profit is essential for the survival of bank, so it is regarded as the engine that drives the banking business and indicates economic progress. Profitability ratios are calculated to measure the management ability regarding how well they have utilized their funds. Lending is one of the major functions of commercial bank so following are the various types of ratio which show the contribution of loan and advances in profit and help to decide investor whether to invest in particular firm or not.

##### **1. Interest Income to Total Income Ratio**

This ratio measures the volume of interest income to total income. The high ratio indicated the banks performance on other fee-based activities. The high ratio indicates the high contribution made by lending and investing activities.

$$\text{Interest Income to Total Income Ratio} = \frac{\text{Interest Income}}{\text{Total Income}}$$

##### **2. Interest income to Interest Expenses Ratio**

Interest income to interest expenses ratio measure the gap between interest rates offered and interest rate charged. NRB has restricted the gap between the interest taken in loan, advances and interest offered in deposits. The credit creation power of commercial banks has high impact on this ratio.

$$\text{Interest Income to Interest Expenses Ratio} = \frac{\text{Interest Income}}{\text{Interest Expenses}}$$

### **3. Total Income to Total Expenses Ratio**

Total income to total expenses ratio measures the productivity of expenses in generating income. The amount of income that a unit of expenses generating is measured by the ratio of total income to total expenses. The high ratio is indicative of higher productivity of expenses.

$$\text{Total Income to Total Expenses Ratio} = \frac{\text{Total Income}}{\text{Total Expenses}}$$

### **4. Operating Profit to Loan and Advances Ratio**

Operating profit to loan and advances ratio measure the earning capacity of commercial bank. Operating profit to loan and advances ratio is calculated by dividing operating profit by loan and advances.

$$\text{Operating Profit to Loan and Advances Ratio} = \frac{\text{Operating Profit}}{\text{Loan and Advances}}$$

### **5. Return on Loan and Advances Ratio**

This ratio measures the earning capacity of the commercial banks through its fund mobilization as loan advances. Higher ratio indicated greater success to mobilize fund as loan and advances and vice-versa. Mostly loan and advances includes cash, credit, overdrafts, bills purchased and discounted.

$$\text{Return on Loan and Advances} = \frac{\text{Net Profit}}{\text{Loan and Advances}}$$

### **6. Total Interest Earned to Total Working Fund Ratio**

This ratio shows the successful mobilization of assets to generate high income. In other words, it represents earning capacity of commercial bank in its total working

fund. A high ratio indicated high earning power of the bank on its total working fund and vice-versa.

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

### **7. Interest from Loan and Advances and Overdraft to Total Interest Income Ratio**

This ratio measures the contribution made by interest from loan and advances and overdraft. Loan and advances generates the major portion of interest income. Hence, this ratio measures how efficiently utilized the fund in loan and advances and overdraft.

$$\begin{aligned} &\text{Interest from Loans and Advances and Overdraft to Total Income Ratio} \\ &= \frac{\text{Interest from Loans and Advances and Overdraft}}{\text{Total Income Ratio}} \end{aligned}$$

### **8. Earning Per Share (EPS)**

Earning per share measure the profit available to the cash equity holders. It only measures the overall operational efficiency of bank. It is the profit after tax figure. EPS tells us what profit the common shareholder get for every share.

$$\text{Earning Per Share} = \frac{\text{Profit After Tax}}{\text{No.of Common Share}}$$

#### **3.5.1.5 Lending Efficiency Ratio**

The efficiency of a firm depends to a large extent on the efficiency with which its assets are managed and utilized. This ratio is concerned with measuring the efficiency of bank. This ratio also shows the utility of available fund. The following are the various types of lending efficiency ratio.

#### **1. Loans Loss Provision to Total Loan and Advances Ratio**

Loan loss provision to total loan and advances describes the quality assets that a bank holding. The provision for loan loss reflects the increasing probability of non-performing loan. The provision of loan mean the net profit of the banks will come down by such amount. Increase in loan loss provisions decrease in profit result to decreases in dividends but its positive impact is that strengthens financial conditions of the bank by controlling the credit risk and reduced the risk related deposits. So it can said that loan suffer it only for short term while the good financial conditions and safety of loans will make bank's prosperity resulting increasing profits for long term.

The low ratio indicates the good quality of assets in total volume of loan and advances. High ratio indicates more risky assets in total volume of loan and advances.

$$\text{Loan Loss Provision to Total Loan and Advances} = \frac{\text{Loan Loss Provision}}{\text{Total Loan and Advances}}$$

## **2. Non-performing Loans to Total Loans and Advances Ratio**

NRB has directed all the commercial banks create loan loss provision against the doubtful and bad debts. But both of our concerned banks have not provided data on non-performing loan in balance sheet and profit and loss account.

$$\text{Non-performing Loan to Total Loan and Advances} = \frac{\text{Non-performing Loan}}{\text{Total Loan and Advances}}$$

## **3. Interest Deposit to Total Deposit Ratio**

This ratio measures the percentage of total interest paid against total deposit. A high ratio indicates higher interest expenses on total deposit. Commercial banks are dependent upon its ability to generate cheaper fund. The cheaper fund has more the probability of generating loans and advances and vice-versa.

$$\text{Interest Expenses to Total Deposit Ratio} = \frac{\text{Interest Expenses}}{\text{Total Deposit}}$$

#### **4. Interest Expenses to Total Expenses Ratio**

This ratio measures the percentage of interest paid against total expenses. The high ratio indicates the low operational expenses and vice-versa. The ratio indicates the costly sources of funds.

$$\text{Interest Expenses to Total Expenses Ratio} = \frac{\text{Interest Expenses}}{\text{Total Expenses}}$$

#### **5. Interest Expenses to Total Working Fund Ratio**

This ratio measures the percentage of total interest paid against the total working fund. A high ratio indicates the higher interest expenses on total working fund and vice-versa.

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

#### **6. Interest Suspense to Total Interest Income from Loan and Advances and Overdraft Ratio**

Interest suspense refers to that portion of interest, which is due but not collected. NRB has directed commercial bank not to show the due but not collected interest as income. Such interest is shown in liability side of balance sheet. This ratio measures the uncollected but due interest in the volume of total interest income from loan, advances and overdraft. The higher ratio refers to poor interest turnover.

Interest Suspension to Total Interest Income

$$= \frac{\text{Interest Suspension}}{\text{Total Interest Income from Loan and Advances and Overdraft}}$$

### 3.5.2. Statistical Method

For supporting the study, statistical tools such as mean, standard deviation, coefficient of variation, correlation, probable errors, time series, test hypothesis with the diagrammatic and pictorial tools have been used under this.

#### 3.5.2.1 Arithmetic Mean (Average)

Arithmetic mean also called 'the mean' or 'average' as the most popular and widely used measure of central tendency. Arithmetic mean represents the entire data by a single value. It provides the gist and gives the bird's eye view of the huge mass of unwidely numerical data. It is calculated as:-

$$\bar{X} = \frac{\sum x}{N}$$

Where,

$\bar{X}$  = mean value or Arithmetic mean

$\sum x$  = sum of the observation

N = Number of observations

#### 3.5.2.2 Standard Deviation

Standard deviation is defined as the positive square root of the arithmetic means of the squares of the deviations of the given observations from their arithmetic mean.

It is used as absolute measure of dispersion or variability. It is calculated as:

$$\sigma = \sqrt{\frac{\sum x^2}{N} - \left(\frac{\sum x}{N}\right)^2}$$

$\sigma$  = Standard deviation

$\frac{\sum x^2}{N}$  = Sum of squares of observations

$\left(\frac{\sum x}{N}\right)^2$  = Sum of square of mean

A small standard deviation means a high degree of uniformity of observation where as large means just adverse.

### 3.5.2.3 Co-efficient of Variation (CV)

Standard deviation is the measure of dispersion. The relative measure of dispersion based on the deviation. If  $\bar{x}$  be the arithmetic mean and  $\sigma$ , the standard deviation of distribution, the C.V. is defined as

$$\text{C.V.} = \frac{\sigma}{\bar{x}} \times 100$$

It is independent of unit. Hence, two distributions can be compared with the help of C.V. for knowing their variability.

### 3.5.2.4 Correlation

Correlation may be defined as the degree of linear relationship existing between two or more variables. These variables are said to be correlated when the change in the value of one results change in another variable. Correlation may be:

- Simple or partial or multiple correlation
- Positive or negative or zero correlation
- Linear or non-linear correlation
- Perfect or non-perfect correlation

It is calculated as:

$$r_{xy} = \frac{N \sum xy - \sum x \sum y}{\sqrt{N \sum x^2 - (\sum x)^2} \times \sqrt{N \sum y^2 - (\sum y)^2}}$$

Where ,

$r_{xy}$  = correlation between x and y

$N \sum xy$  = Product of no. of observations and sum of product of x and y.

$\sum x \sum y$  = Product of sum X and Y.

### 3.5.2.5 Co-efficient of Determination ( $r^2$ )

It explains the variation percent derived in dependent variable due to the any one specified variable is good predictor of the behavior of the dependent variable. It is square of correlation co-efficient.

### 3.5.2.6 Probable Error

Probable error of the correlation co-efficient denoted by P.E. is the measure of testing the reliability of calculated value of r. If r be the calculated value from a sample of N pair of observations, then P.E. is defined as:

$$\text{P.E.} = 0.6745 \times \frac{1-r^2}{\sqrt{N}}$$

The Karl Pearson co-efficient of correlation [r] always fall between -1 to +1 . The value of correlation in minus sign lies the negative correlation and plus signifies the positive correlation. As the value of the correlation co-efficient reaches near to the value of zero it is said that there is no significant relationship between the variables. The co-efficient of correlation share be interpreted based on probable error. If the value of correlation coefficient is greater than 6 times the value of probable error the correlation co-efficient is deemed as significant and reliable. If the value of correlation co-efficient is less than probable error, the correlation co-efficient is said to be insignificant and there is no evidence of correlation.

### 3.5.2.7 Time Series

When a series of data pertaining to series of containing periods should be studied if characteristics and its future direction is best estimated by the time series. Time series analysis is a series of data keeping in mind the various short term and long term fluctuations.

DCB Ltd. was established in the year 2001 A.D. The data of the last year i.e. from 2005 to 2009 has been used to measure the trend analysis. The last square method

to trend analysis has been used to measure the trend behavior of the bank. The method is widely used in practices .The straight line trend of a series of data represented by the following formula.

$$Y = a + bx$$

Where,

Y is used to distinguish the trend value from actual value of y , 'a' is the y intercept or the computed trend figure of the y variable .

When  $x=u$

b represents the slope of the trend line of the amount of change in y variable that is associated with a change of one it of x variable . Time x variable in time series analysis represent times.

While analyzing the time series, the propensity of growth and growth rate have examined on the value of trend value of least square method. The growth rate has been measured from 2010 to 2014 to reveal the real status of the study period.

## **CHAPTER – IV**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.1 Data Presentation and Analysis**

In this chapter, the data collected from various sources have been presented and analyzed to measure the various dimensions of the problems of the study and in major findings of the study are presented systematically.

#### **4.2 Financial Method**

The concept of financial Method has been already discussed in previous chapter. Here, we study and analyze the data by using accounting tools.

#### **4.3 Measuring Liquidity Position of the Bank**

A Commercial bank must maintain its satisfactory liquidity position to satisfy the credit needs of the community, to meet demands for deposits withdrawal, pay maturity obligation in time and convert non-cash assets in to cash to satisfy immediate needs without loss to the bank. And without consequent impact on long run profitability of the bank. To measure the liquidity position of the bank, the following measures of liquidity ratio has been calculated and a brief analysis of the same has been done as below:-

##### **4.3.1 Current Ratio**

Current ratio indicates the ability of the bank to meet its current obligation. It measures the relationship between current assets and current liabilities.

**Table 4.1**  
**Current Ratio**

(Rs in million)

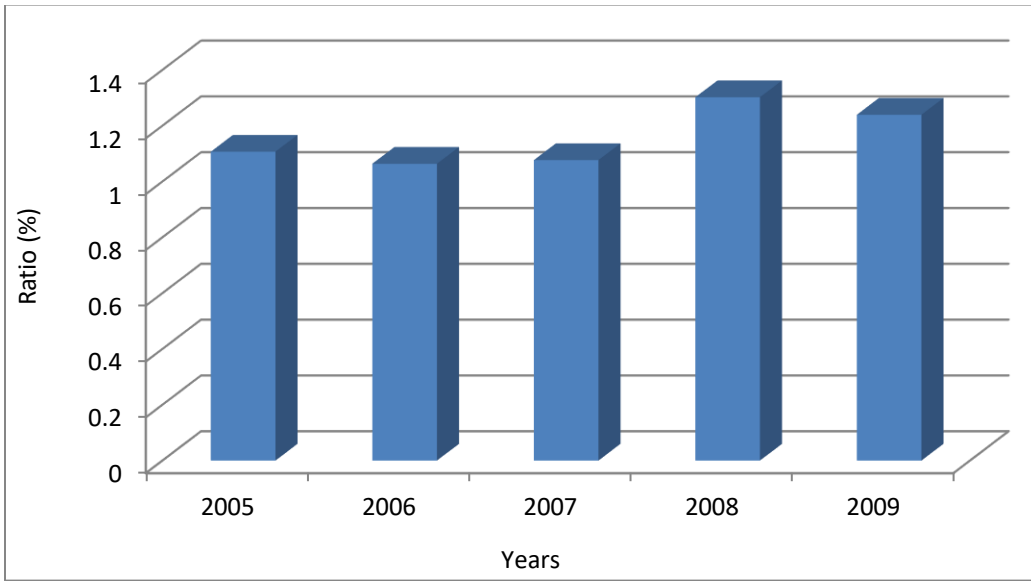
<b>Years</b>	<b>Current Assets</b>	<b>Current Liabilities</b>	<b>Ratio (Times)</b>
2005	1800.341	1626.450	1.1069
2006	2430.798	2285.268	1.0637
2007	2793.872	2594.966	1.0767
2008	4566.052	3506.860	1.3020
2009	8589.124	6931.460	1.2392
Mean ( $\bar{X}$ )			1.1577

*(Sources: Annex 3 And Working Note no. 1)*

The current ratio of DCBL is 1.1069, 1.0637, 1.0767, 1.3020 and 1.2392 times respectively from the first year to last year of the research period. The average is 1.1577 times, which means consistency in this ratio during the research period. Though the optimal standard of current ratio should be 2:1, the conventional measure of liquidity is not applicable in banking sector. Banking business holds big portion of deposits as a core deposit and this deposits remains all the time throughout the years. This core deposit forms the fixed liability on the bank though it is current in nature. So the ratio maintained by development banks at the level of around 1:1 can be regarded as good and sufficient to meet the normal contingencies. Therefore the above current ratio analysis of the bank over five years' period indicates that the bank has satisfactory liquidity position.

Current ratio of DCBL also represented by bar diagram as follows:

**Figure 4.1**  
**Current Ratio**



**4.3.2 Liquid Fund to Current Liability Ratio**

This indicates the ability of bank to discharge its quality risk liquid funds is those assets, which can be converted into cash with in a short period.

**Table 4.2**  
**Liquid Fund to Current Liability Ratio**

(Rs in million)

<b>Years</b>	<b>Liquid fund</b>	<b>Current Liabilities</b>	<b>Ratio (%)</b>
2005	406.687	1626.450	25
2006	533.722	2285.268	23.35
2007	422.049	2594.966	16.26
2008	888.861	3506.860	25.35
2009	1737.335	6931.460	25.06
Mean ( $\bar{X}$ )			23

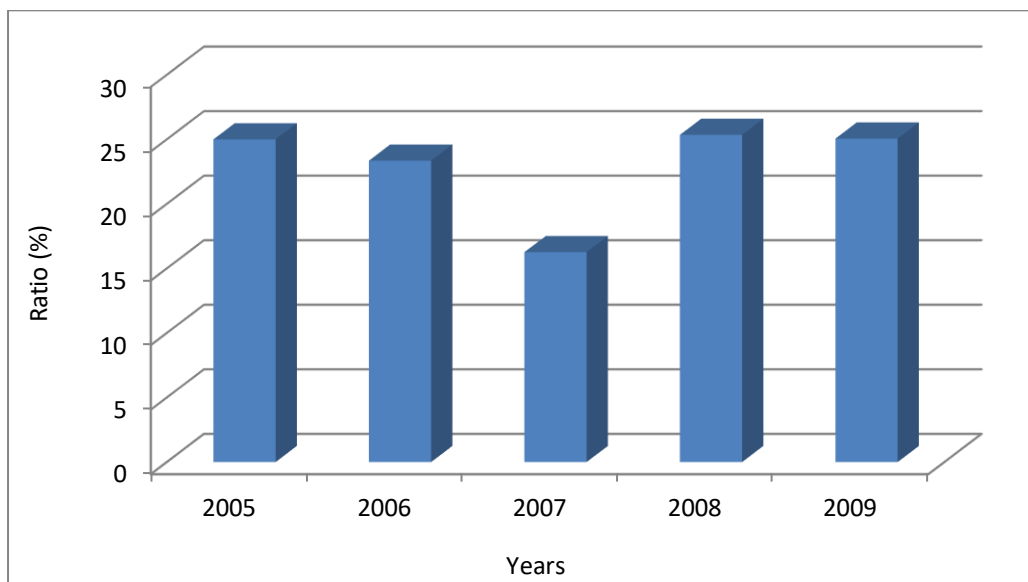
(Source: Annex 3 And Working Note no.2)

In the above table, the liquid fund to current liability ratio of DCBL has been observed as 25%, 23.35 %, 16.26 %, 25.35% and 25.06% throughout the study period. From the above table, it is clear that DCBL has the fluctuating trend

throughout the study period. Liquidity position in terms of liquid fund to current liability ratio of DCBL is found 23% as average in the five years study period which indicates the satisfactory status of bank to fulfill its obligation.

Liquid fund to current liability ratio of DCBL is presented in bar diagram as follow:

**Figure 4.2**  
**Liquid Fund to Current Liability Ratio**



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

Cash and Bank Balance are the most liquid current assets. This ratio measures the percentage of most liquid fund with the bank to make immediate payment to the depositors. Both higher and lower ratios are not desirable. The reason is that if bank maintains higher ratio of cash, it has to pay interest on deposits and some earnings may be lost. In contrast, if a bank maintains low ratio of cash, may fail to make payment for the demands of the depositors. So, sufficient appropriate cash reserve should be maintained properly.

**Table 4.3**  
**Cash and Bank Balance to Total Deposit Ratio**

(Rs in million)

<b>Years</b>	<b>Cash and Bank Balance</b>	<b>Total Deposit</b>	<b>Ratio (%)</b>
2005	34.166	1479.074	2.31
2006	130.383	2103.396	6.20
2007	153.610	2539.702	6.05
2008	225.798	2913.338	7.75
2009	715.758	6613.359	10.82
Mean ( $\bar{X}$ )			6.63

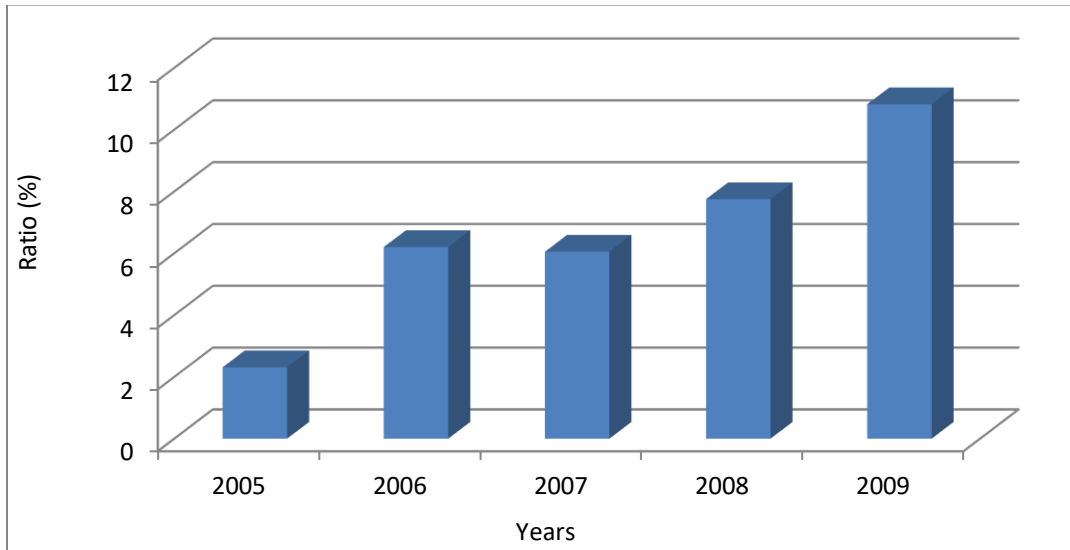
*(Sources: Annex 3 And Working Note no. 3)*

The cash and bank balance to total deposit ratio of this bank has been observed as 2.31%, 6.20%, 6.05%, 7.75% and 10.82%. From the above table, it is clear that DCBL has fluctuating trend throughout the study period. Liquidity position in terms of cash and bank balance to total deposit ratio of DCBL is found 6.63% as average in the five years study period. The trend is increasing throughout the period. From this it is obvious that the bank has enough cash and bank balance to cover its demands.

Though the ratios are not consistent, the cash and bank balance position of DCBL with respect to deposits is better to serve the customers deposit withdraw demands. Commercial banks have to maintain its cash and bank balance in term of total deposit as directed by NRS time to time. Otherwise they are imposed penalty. A high ratio of non-earning cash and bank balance may be unfit which indicates that banks inability to invest in to short –term marketable security, treasury bills, etc. insuring enough liquidity which will help the bank to improve in profitability.

**Figure 4.3**

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



**4.3.4 Cash and Bank Balance to Interest Sensitive Deposit Ratio**

The ratio of cash and bank balance to interest sensitive deposits measures the ability to meet its sudden outflow of interest deposits due to the change in interest rate.

**Table 4.4**

**Cash and Bank Balance to Interest Sensitive Deposit Ratio**

(Rs in million)

Years	Cash and Bank Balance	Saving Deposit	Ratio (%)
2005	34.166	445.975	7.66
2006	130.383	834.622	15.62
2007	153.610	716.494	21.44
2008	225.798	900.253	25.08
2009	715.758	1131.449	63.26
Mean ( $\bar{X}$ )			26.61

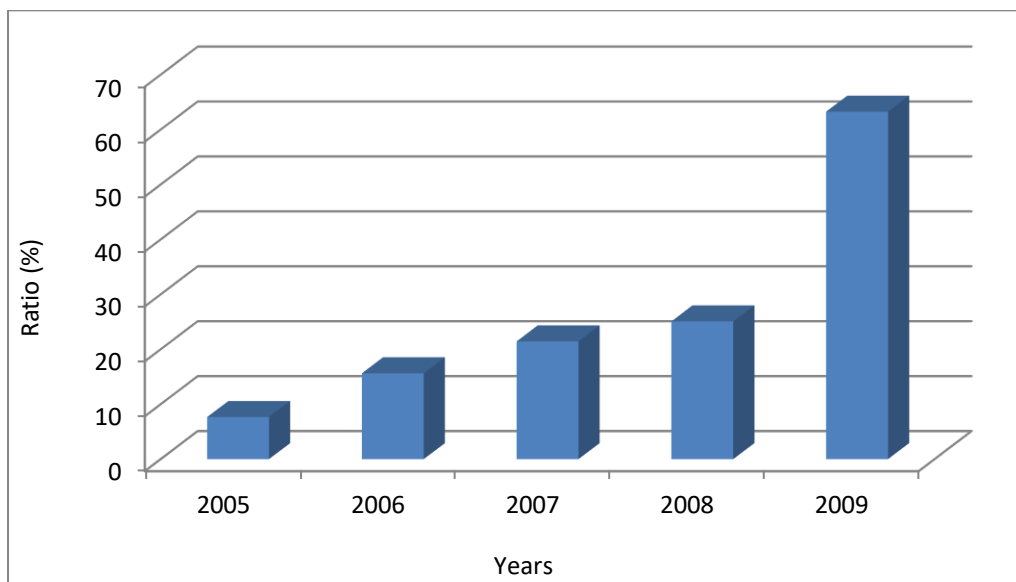
(Sources: Annex 3 And Working Note no. 4)

The cash and bank balance to interest sensitive deposit ratio of this bank has been observed as 7.66%, 15.62%, 21.44%, 25.08% and 63.26%. From the above table, it is clear that DCBL has increasing trend throughout the study period.

Liquidity position in terms of cash and bank balance to interest sensitive deposit ratio of DCBL is found 26.61% as average in the five years study period. From the analysis, we can say that from the overall liquidity ratio of DCBL, it has high degree of running capacity in adverse liquidity position caused by interest sensitive deposits. Cash and bank balance to interest deposit ratio is presented in bar diagram as follow.

**Figure 4.4**

**Cash and Bank Balance to Interest Sensitive Deposit Ratio**



#### **4.3.5 Cash and Bank Balance to Current Assets Ratio**

This ratio shows the percentage of the banks most liquid fund over current assets of the bank. Higher ratio indicates the bank's sound ability to meet the daily cash and requirement of their customer's deposit. Low ratio is also dangerous. If bank maintains low ratio, bank may not able to make the payment against of cheques.

**Table 4.5**  
**Cash and Bank Balance to Current Assets Ratio**

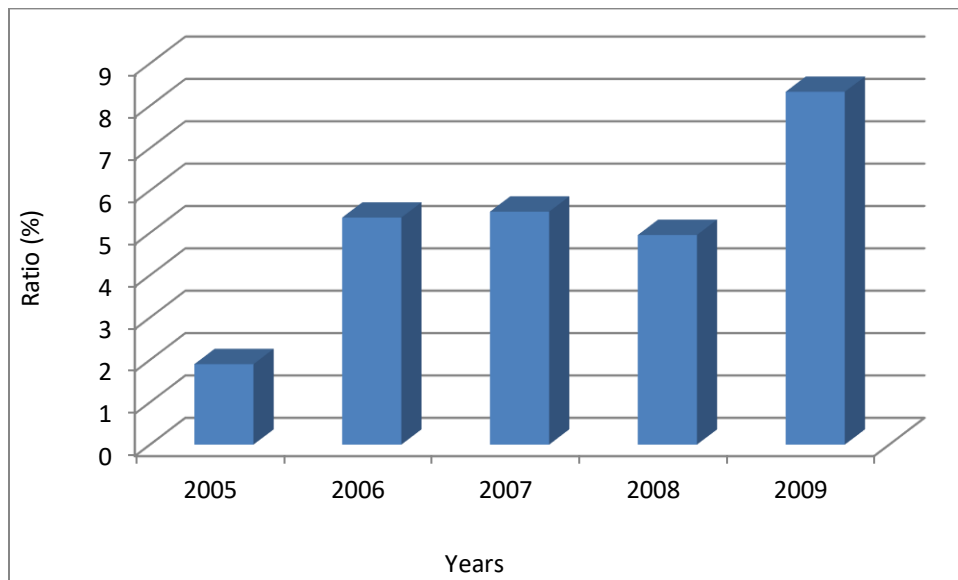
(Rs in million)

<b>Years</b>	<b>Cash and Bank Balance</b>	<b>Current Assets</b>	<b>Ratio (%)</b>
2005	34.166	1800.341	1.90
2006	130.383	2430.798	5.36
2007	153.610	2793.872	5.50
2008	225.798	4566.052	4.95
2009	715.758	8589.124	8.33
Mean ( $\bar{X}$ )			5.21

(Sources: Annex 3 And Working Note no. 5)

The cash and bank balance to current assets ratio of DCBL has been observed as 1.90%, 5.36%, 5.50%, 4.95% and 8.33%. The trend is fluctuating. The mean ratio of DCBL is found 5.21% as average in the five years study period. In conclusion it can be said that DCBL is hardly able to meet its daily requirements to make the payments on customer deposit with draws.

**Figure 4.5**  
**Cash and Bank Balance to Current Assets Ratio**



### 4.3.6 Loan as Advances to Current Assets Ratio

This ratio indicates the ability of bank to utilize its deposit in the form of loan advances to earn high return. If sufficient loan and advances can not granted, bank should pay interest on those utilized deposit fund and may lose earnings. So commercial banks provide loan and advances in appropriate level to find out portion of current assets, which is granted as loan and advances.

**Table 4.6**

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

(Rs in million)

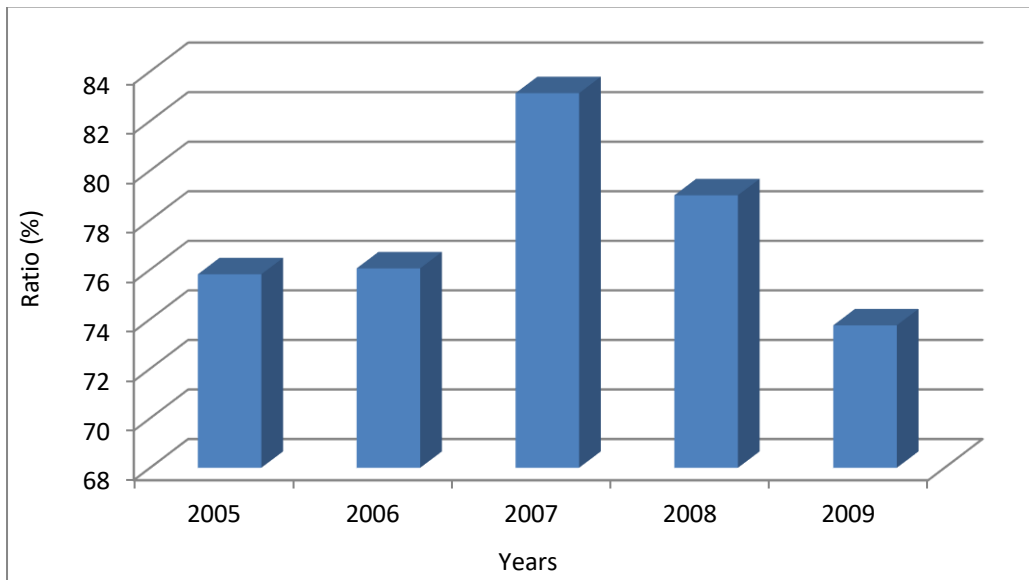
<b>Years</b>	<b>Loan and Advances</b>	<b>Current Assets</b>	<b>Ratio (%)</b>
2005	1364.833	1800.341	75.81
2006	1848.523	2430.798	76.05
2007	2322.227	2793.872	83.12
2008	3607.040	4566.052	79.00
2009	6334.054	8589.124	73.75
Mean ( $\bar{X}$ )			77.55

(Sources: Annex 3 And Working Note no. 6)

The five years ratio of loan and advances to current assets is in fluctuating trend. The high ratio at the F/Y 2006/07 is 0.8337 and lowest ratio is 0.7398 in F/Y 2008/09. The loan and advances to current assets is 77.55% as average in the five years study period. The bank is able to utilize its current assets as loan and advances in appropriate level so that it is able to make high return. To get high return, it should grant loan and advances in appropriate level. From the above table it indicates that the earning of the bank is increasing due to increase in ratio, which will lead the bank in the better condition in the latest year. Loan and advances to current assets ratio is presented in bar diagram as follow.

**Figure 4.6**

**Loan and Advances to Current Assets Ratio**



#### **4.4 Analyzing Portfolio Behavior of Credit**

In this chapter, we analyzed the portfolio management of credit. Both concerned bank advances loan to various sector of economy and various to total volume of credit is measured.

##### **4.4.1 Credit to Government Enterprises to Total Credit Ratio**

Commercial banks have various options to mobilize their funds, credit to government enterprises is one of them. To earn high profit most of commercial banks avoids extending loan on this area. But Development Credit Bank has invested certain portion of their total credit outstanding to the government enterprises.

**Table 4.7**  
**Credit to Government Enterprises to Total Credit Ratio**

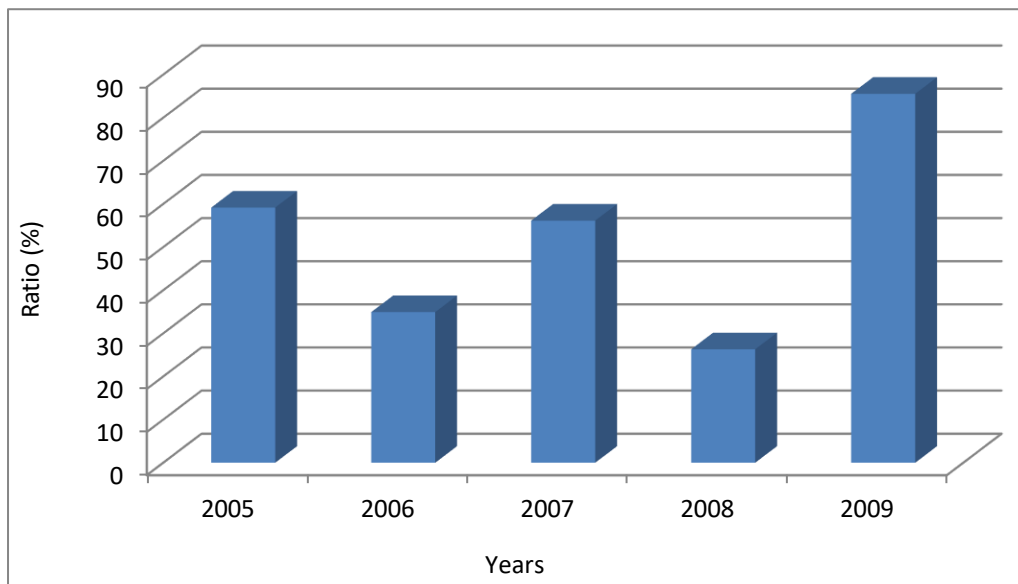
(Rs in million)

<b>Years</b>	<b>Credit to Government Enterprises</b>	<b>Total Credit</b>	<b>Ratio (%)</b>
2005	17.050	28.821	59.16
2006	17.050	48.821	34.92
2007	27.844	49.595	56.14
2008	18.450	70.151	26.30
2009	442.917	517.735	85.55
Mean ( $\bar{X}$ )			52.41

*(Sources: Annex 3, NRB Report And Working Note No. 7)*

The credit to government enterprises to total credit has the fluctuating trend. The credit to government enterprises to total credit has been observed as 59.16%, 34.92%, 56.14%, 26.30% and 85.55% during the five years study period. The mean ratio is found 52.41% as average. After analyzing the table, we can say that the credit behavior to government enterprises is variable in nature and is not consistent and this behavior is not affected by NRB rate.

**Figure 4.7**  
**Credit to Government Enterprises to Total Credit Ratio**



#### 4.4.2 Credit to Private Sector to Total Credit Ratio

Commercial banks earn profit by mobilization of deposit through outside assets and credit is one of the important tools to increase profit. Higher credit ratio to private sector indicates higher profit and higher risk.

**Table 4.8**  
**Credit to Private Sector to Total Credit Ratio**

(Rs in million)

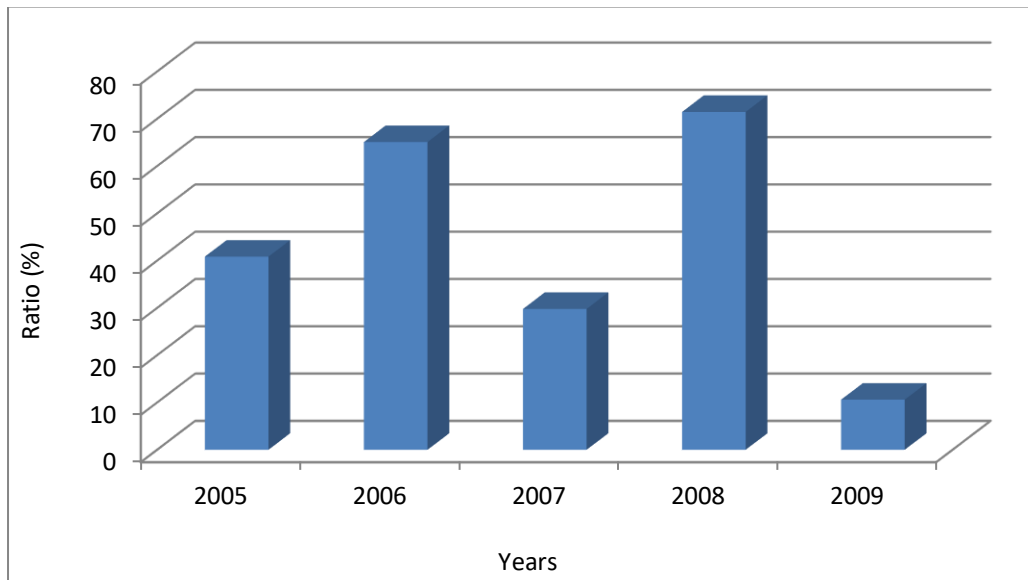
<b>Years</b>	<b>Credit to Private Sector</b>	<b>Total Credit</b>	<b>Ratio (times)</b>
2005	11.771	28.821	40.84
2006	31.771	48.821	65.08
2007	14.771	49.595	29.78
2008	50.121	70.151	71.45
2009	54.896	517.735	10.60
Mean ( $\bar{X}$ )			43.55

(Sources: Annex 3, NRB Report And Working Note No. 8)

Above table shows the credit to private sector to total credit ratio has the fluctuating trend. The highest ratio in the F/Y 2007/08 is 71.45% and lowest ratio to the F/Y 2008/09 is 10.60%. The average ratio is 43.55% which shows the low variable in nature to private sector credit.

The lower ratio shows the low intensity to invest in private sector credit to private sector to total credit ratio of DCBL is presented in diagram as follow :

**Figure 4.8**  
**Credit to Private Sector to Total Credit Ratio**



#### 4.4.3 Credit to Bills Paid and Discounted to Total Credit Ratios

The term bill purchased seems to imply that the bank becomes the purchaser of such bill, the bank holds the bills only as a security for the advance.

**Table 4.9**  
**Credit to Bills Paid and Discount to Total Credit Ratio**

(Rs in million)

Years	Credit to Bills Paid and Discount	Total Credit	Ratio (%)
2005	-	28.821	-
2006	-	48.821	-
2007	6.980	49.595	14.07
2008	1.580	70.151	2.25
2009	19.922	517.735	3.85
Mean ( $\bar{X}$ )			6.72

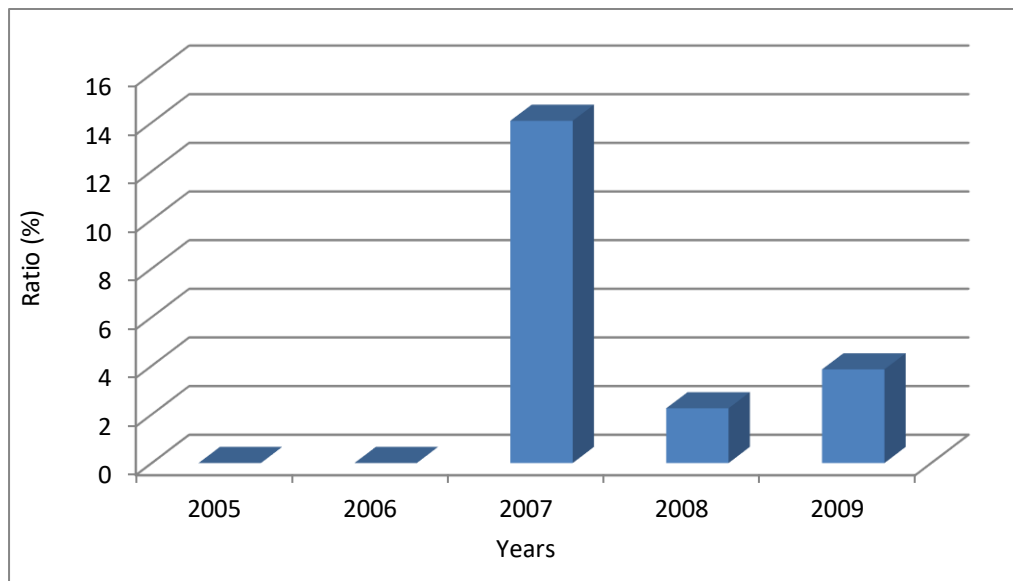
(Sources: Annex 3, NRB Report And Working Note No. 9)

Credit to bills paid and discount total credit ratio is in fluctuating trend. In the F/Y 2004/05 and 2005/06, the credit to bills paid and discount is nil. The mean ratio of the above credit behavior is 6.72%. The above ratio shows that the DCBL has low

intensity to invest in credit to bills paid and discount. Even that the bank has the nil position to supply credit in this sector. Credit to bills paid and discount to total credit ratio of DCBL is presented in bar diagram as follow:

**Figure 4.9**

**Credit to Bills Paid and Discount to Total Credit Ratio**



#### **4.5 Assets Management Ratios**

This ratio measures the efficiency of a commercial bank in its fund mobilization. A commercial bank must be able to manage its assets properly to earn high profit maintaining the appropriate level of liquidity. Asset management ratio measures the efficiency of the bank to manage its assets in profitable way satisfactorily. By the help of the following ratios, asset management ability of Himalayan Bank Ltd. has been analyzed.

##### **4.5.1 Total Assets to Total Liabilities Ratio**

The total assets of the bank should pay active role in profit generating through lending activities. This ratio measures the banks ability to multiply its liability in to assets. It is always recommended to have higher ratio to total assets to total

liabilities since it signifies overall increases of credit. The higher ratio indicates the higher productivity.

**Table 4.10**

**Total Assets to Total Liabilities Ratio**

(Rs in million)

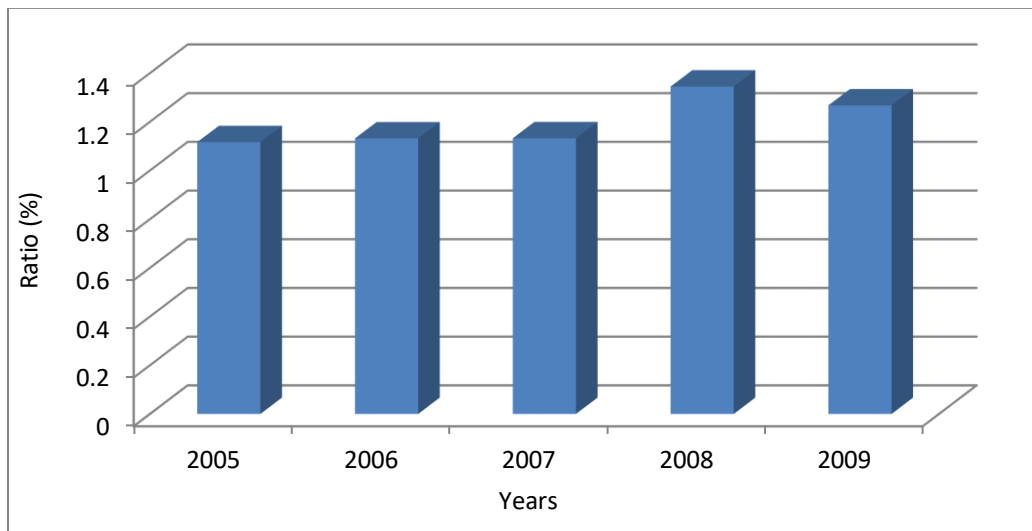
<b>Years</b>	<b>Total Assets</b>	<b>Total Liabilities</b>	<b>Ratio (times)</b>
2005	1847.058	1654.292	1.1165
2006	2607.306	2303.216	1.1320
2007	2969.265	2621.769	1.1325
2008	4770.225	3547.264	1.3448
2009	8858.639	6989.145	1.2675
Mean ( $\bar{X}$ )			1.1987

(Sources: Annex 3, NRB Report And Working Note No. 10)

From the above table we can say that the total assets to total liabilities ratio is first increasing and then decreasing. In F/Y 2004/05 this ratio is 1.1165 which is increased to 1.3448 in the F/Y 2008/09 but it decreases to 1.2675 in the F/Y 2008/09. The total assets to total liabilities ratio is 1.1987 as average during the five years study period. The analysis of total assets to total liabilities ratio shows the better performance of assets management in the latest year.

**Figure 4.10**

**Total Assets to Total Liabilities Ratio**



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

Loan and advances of any commercial bank represent the major portion in the volume of total working fund. This ratio measures the volume of loan and advances in the structure of total assets. The high degree of this ratio indicates the good performance of the bank in mobilizing its funds by way of lending function. However, in its reverse side, the high degree of this ratio is repress inactive of low Liquidity ratio either. Granting the loans and advances always carries a certain degree of risk. Thus this asset of banking business is regarded as risky assets. This ratio measures the management attitude toward risk assets. The low ratio is indicative of low productivity and high degree of safety in liquidity and vice-versa. The interaction between risk and return determines this ratio. This ratio also shows the credit risk taken by the bank towards mobilizing its funds into different types of assets. This ratio reflects the extent to which the banks are successful in mobilizing their total assets on loan and advances for the purpose of income generation.

**Table 4.11**  
**Loans and Advances to Total Assets Ratio**

(Rs in million)

<b>Years</b>	<b>Loans and Advances</b>	<b>Total Assets</b>	<b>Ratio (%)</b>
2005	1364.833	1847.058	73.89
2006	1848.523	2607.306	70.90
2007	2322.227	2969.265	78.21
2008	3607.040	4770.225	75.62
2009	6334.054	8858.639	71.50
Mean ( $\bar{X}$ )			74.02

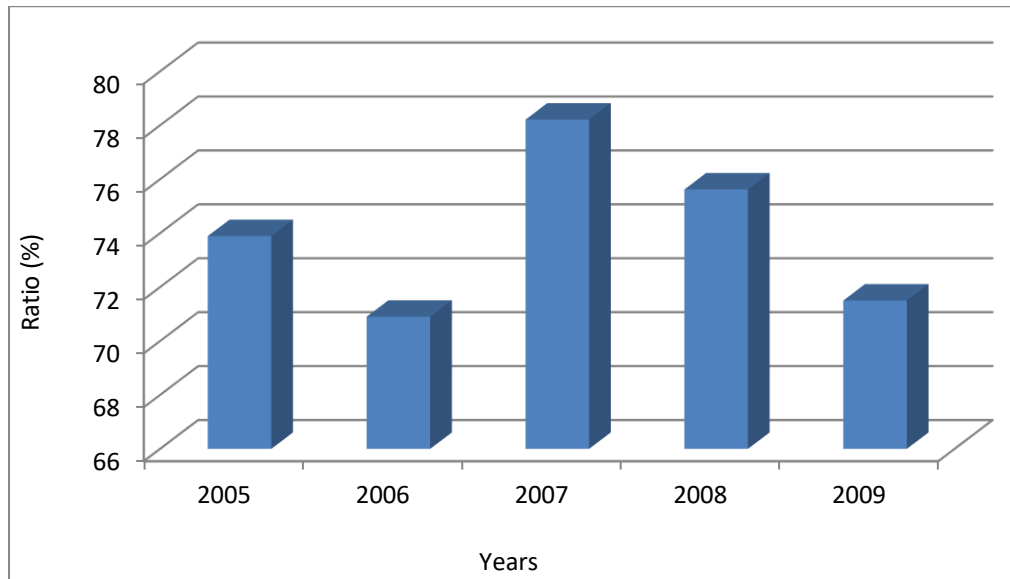
(Sources: Annex 2 And Working Note No. 12)

From the above table, we can say that the ratios are in fluctuating trend. First decreases, then increases and again decreases. The higher ratio is 78.21% in the F/Y 2006/07 and lower ratio is 70.90% in the years 2005/06. The mean ratio is 74.02%. It shows that bank has capability in utilizing total assets in the form of

loan advances. Consistency in the utilization so assets in the form of loan and advances are satisfactory because the fluctuating in the ratio is minimum.

**Figure 4.11**

**Loans and Advances to Total Assets Ratio**



**4.5.3 Loans and Advances to Total Deposit Ratio**

This ratio measures the extent to which the bank is successful to manage its total deposit on loan and advances for the purpose of income generation. A high ratio indicates better mobilization of collected deposit and vice-versa. But it should be noted that too high ratio might not be better from liquidity point of view.

**Table 4.12**

**Loans and Advances to Total Deposit Ratio**

(Rs in million)

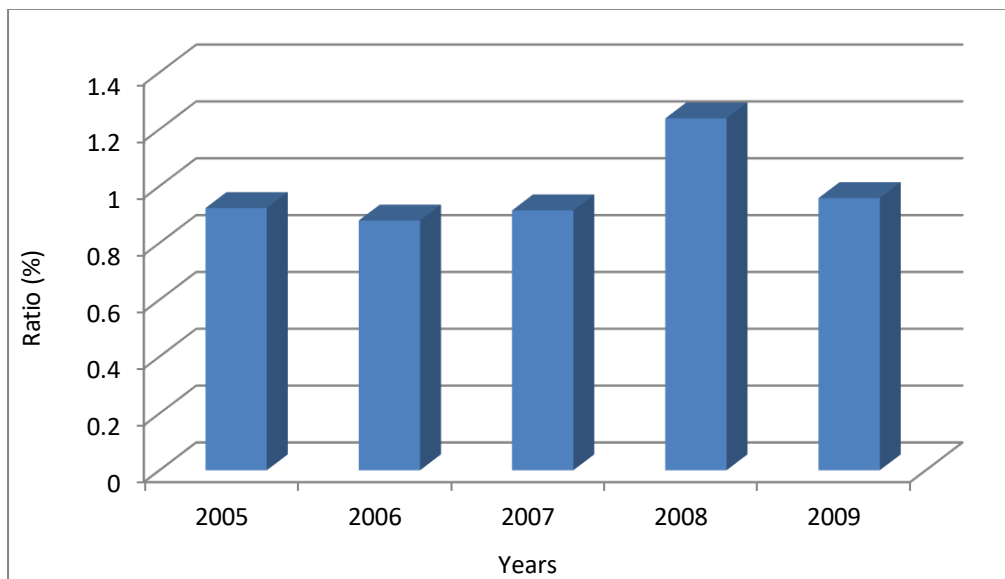
Years	Loans and Advances	Total Deposit	Ratio (times)
2005	1364.833	1479.074	0.9228
2006	1848.523	2103.396	0.8788
2007	2322.227	2539.702	0.9144
2008	3607.040	2913.338	1.2381
2009	6334.054	6613.359	0.9578
Mean ( $\bar{X}$ )			0.9824

(Sources: Annex 2 And Working Note No. 12)

From the above table 4.12, the ratio of loan and advances to total deposit is in fluctuating trend. The highest ratio in the F/Y 2007/08 is 1.2387 and lowest ratio is 0.9171 in the F/Y years 2006/07. The loan and advances to total deposit credit deposit ratio is 0.9824 as average during the five years study period. Credit deposit ratio should be around 70% as standard. From this point of view the loan and advances to total deposit ratio of the bank is not good because it is too high. It seems that bank is heavily depended on loan and advances to make profit from their investment.

**Figure 4.12**

**Loans and Advances to Total Deposit Ratio**



**4.5.4 Investment to Total Loan and Advances and Investment Ratio**

This ratio measures the contribution made by investment in total amount of loan and advances and investment. The proportion between investment and loan and advances and investment measures the management attitude towards risk assets and safety assets. Investment and loan and advances in whole do not provide the quality of assets that a bank has created. The high ratio indicates the mobilization of funds in safe area and vice-versa.

**Table 4.13**

**Investment to Loan and Advances Investment Ratio**

(Rs in million)

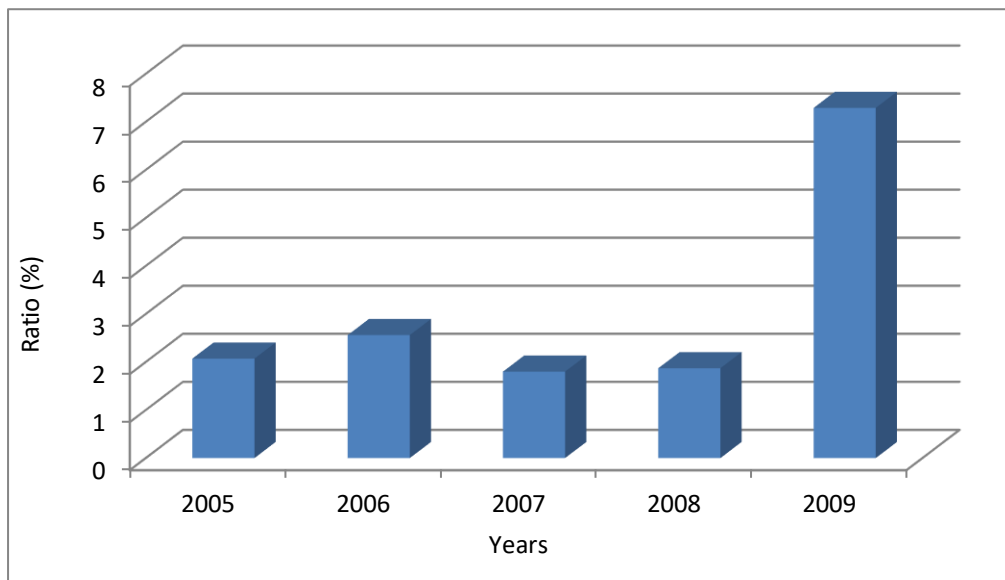
<b>Years</b>	<b>Investment</b>	<b>Loan and Advances and Investment</b>	<b>Ratio (%)</b>
2005	28.821	1393.654	2.07
2006	48.553	1897.076	2.56
2007	42.615	2364.842	1.80
2008	68.571	3675.611	1.87
2009	497.813	6831.867	7.29
Mean ( $\bar{X}$ )			3.12

(Sources: Annex 1, 3 And Working Note No. 13)

The investment to loan and advances and investment ratio has the fluctuating trend. The highest ratio is 7.29% in F/Y 2008/09 and lowest ratio is 1.80% in the F/Y 2006/07. The average ratio is 3.12%. From this we can say DCBL has better practices on the investment in safety assets than risky assets. Further lack of lending opportunity and decline economic growth may have led the bank to look for more safety mean of fund mobilization.

**Figure 4.13**

**Investment to Loan and Advances Investment Ratio**



#### 4.5.5 Total Investment to Total Deposit Ratio

A commercial bank may mobilize its deposit by investing in different securities issued by government and other financial and non financial organizations. This ratio measures the extent to which banks are able to mobilize their deposits on investment in various securities. In the process of process management of bank assets, various factors such as excess availability of fund, Liquidity requirement, central banks norms, etc. are to be considered in general.

This ratio indicates the proportion of deposits utilized for the purpose income generation as well as for maintaining liquidity in appropriate level. A high ratio is the indicator of high success of mobilizes deposit in securities and vice-versa.

**Table 4.14**  
**Total Investment to Total Deposit Ratio**

(Rs in million)

<b>Years</b>	<b>Total Investment</b>	<b>Total Deposit</b>	<b>Ratio (%)</b>
2005	28.821	1479.074	1.95
2006	48.553	2103.396	2.31
2007	42.615	2539.702	1.68
2008	68.571	2913.338	2.35
2009	497.813	6613.359	7.53
Mean ( $\bar{X}$ )			3.16

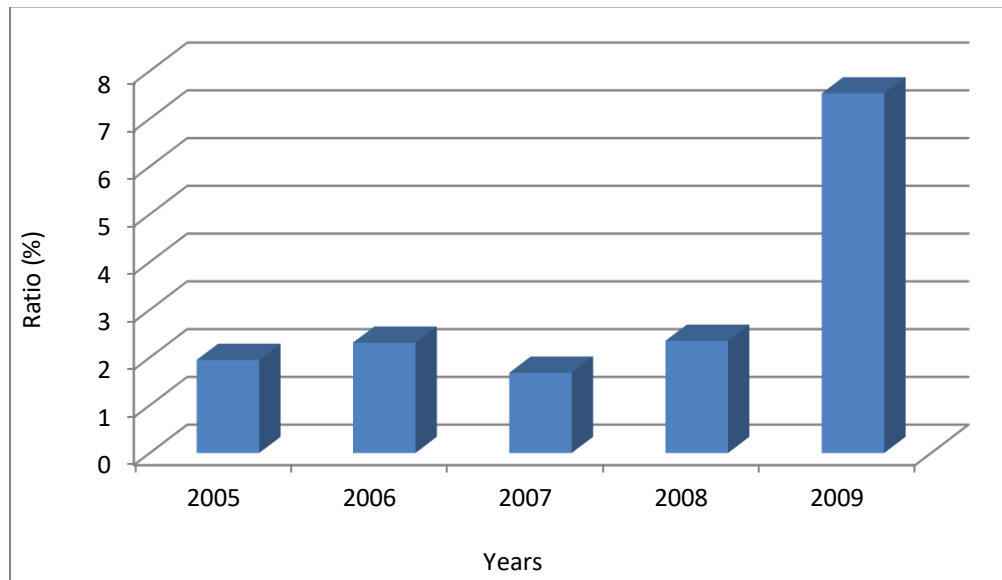
(Sources: Annex1, 3 And Working Note No. 14)

The above table shows that total investment to total deposit ratios of DCBL are in fluctuating trend during the period. The highest ratio is 7.53% in the F/Y 2008/09 and lowest ratio is 1.68% in the F/Y 2006/07. Where the mean ratio is 3.16% during the five years study period between the ratios shows more consistent.

In the study period, the movements of ratios are first increasing then decreasing and again increasing. It may be due to slack in the different sectors of the economy due to which bank is unable to mobilize its fund in loan and advances.

**Figure 4.14**

**Total Investment to Total Deposit Ratio**



**4.6 Profitability Ratios**

Profitability ratios are very helpful to measure the overall efficiency in operation of a financial institution. In the context of banks, no bank can survive without profit is one of the major indicators or efficient operation of a bank. The banks acquire profit by providing different services to its customers or by providing loan and advances and making various kinds of investment opportunities. Profitability ratios measure the efficiency of bank. A higher profit ratio shows the higher efficiency of a bank. The following ratios are under the profitability ratio.

**4.6.1 Interest Income to Total Income Ratio**

This ratio measures the volume of interest income to total income. The ratio indicates the high contribution made by lending and investing activities.

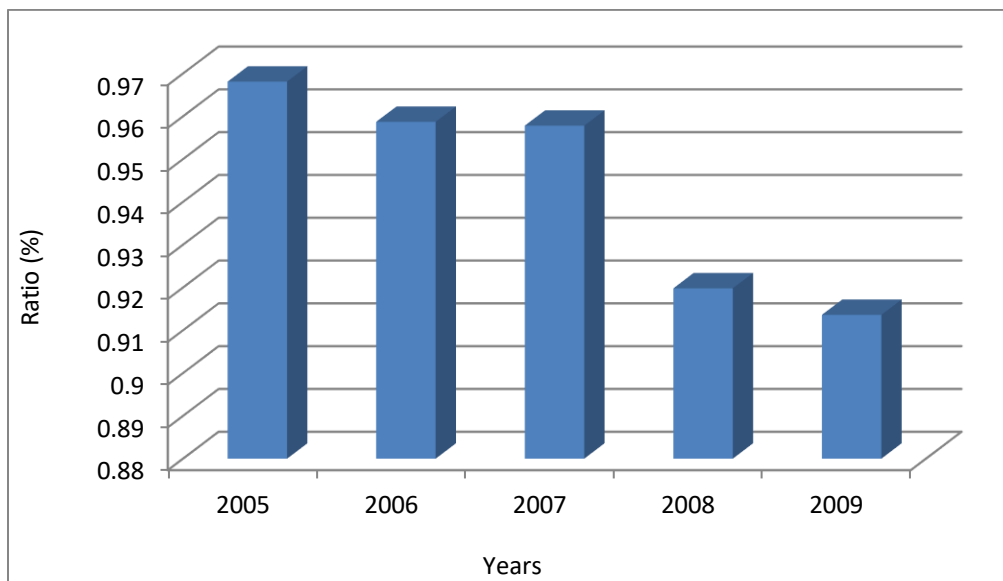
**Table 4.15**  
**Interest Income to Total Income**

(Rs in million)			
<b>Years</b>	<b>Interest Income</b>	<b>Total Income</b>	<b>Ratio(times)</b>
2005	171.755	177.415	0.9681
2006	205.530	214.395	0.9587
2007	255.936	267.223	0.9578
2008	308.678	335.581	0.9198
2009	587.877	643.453	0.9136
Mean ( $\bar{X}$ )			0.9436

*(Sources: Annex1 And Working Note No. 15)*

From the above table, interest income to total income ratio is in decreasing trend. The highest ratio is 0.9681 in the F/Y 2004/05 and lowest ratio is 0.9136 in F/Y 2008/09. Whereas the mean ratio is 0.9436. The greater ratios indicate dependency of fund based activities. The bank is getting less income from interest of lending and investing activities in the last two years & unable to make enough utilization of deposits in lending and investing activities in the previous years than last two years.

**Figure 4.15**  
**Interest Income to Total Income**



#### 4.6.2 Interest Income to Interest Expenses Ratio

Interest income to interest expenses ratio the gap between interest rates offered and interest rate changed, NRB has restricted the gap between interests taken in loan, advances and interest offered in deposit. The credit creation power of commercial banks has high impact on this ratio.

**Table 4.16**  
**Interest Income to Interest Expense Ratio**

(Rs in million)

Years	Interest Income	Interest Expenses	Ratio(times)
2005	171.755	80.723	2.1277
2006	205.530	101.222	2.0305
2007	255.936	131.248	1.9500
2008	308.678	151.131	2.0425
2009	587.877	347.983	1.6894
Mean ( $\bar{X}$ )			1.9680

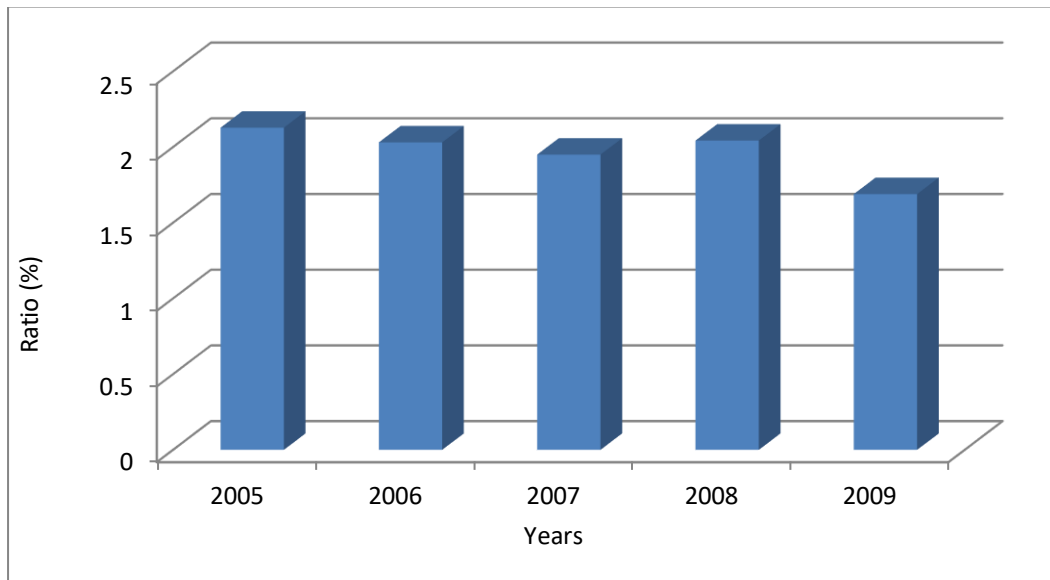
(Sources: Annex1 And Working Note No. 16)

From table 16, DCBL has high degree of gap between interests offered and interest changed. This shows that DCBL has charged high interest to borrowers and offering low interest rate to depositors. The highest cost of deposit mix of DCBL has caused the gap between interest income and interest expenses to be least.

During the study period, interest income to interest expenses ratio is in fluctuating trend. The high value is in the F/Y 2.1277 and low ratio is 1.6894 in the F/Y 2008/09 and mean ratio is 1.9680 which shows the profitable situation at the previous years but little bit decrease at the latest year. But in average it is in profitable situation.

**Figure 4.16**

**Interest Income to Interest Expense Ratio**



**4.6.3 Total Income to Total Expenses Ratio**

Total income to total expenses ratio measures the productivity of expenses to generate income. The amount of income that a unit of expenses greater is measured by the ratio of total income to total expenses the high ratio is indicative of higher productivity of expenses.

**Table 4.17**

**Total Income to Total Expenses Ratio**

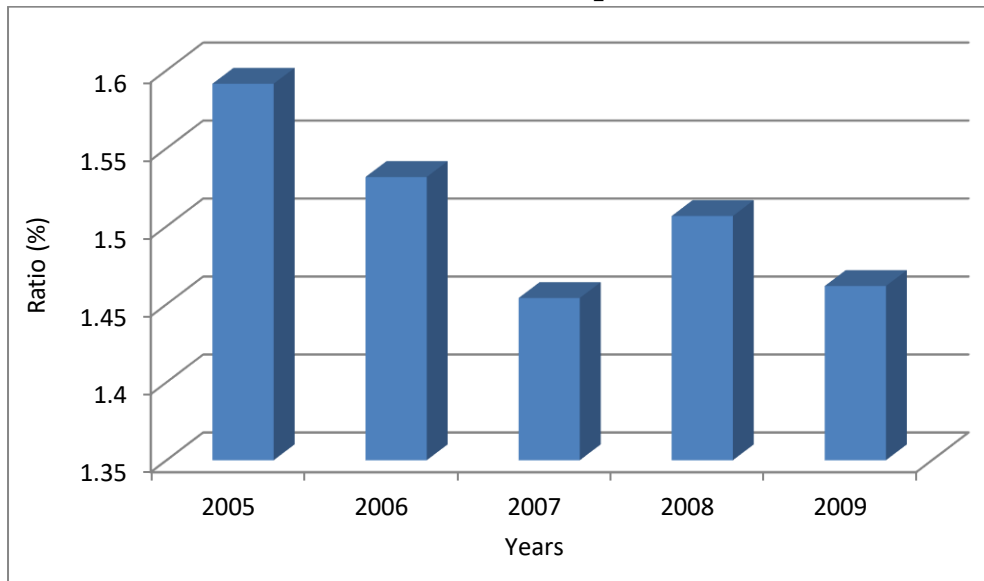
(Rs in million)

Years	Total Income	Total Expenses	Ratio(times)
2005	177.415	111.487	1.5914
2006	214.395	139.981	1.5316
2007	267.223	183.788	1.4540
2008	335.581	222.734	1.5066
2009	643.453	440.201	1.4617
Mean ( $\bar{X}$ )			1.5091

(Sources: Annex 3 And Working Note No. 17)

From the above table, total income to total expenses ratio during the study period has fluctuating trend. First decreases, then increases and again decreases. The minimum ratio is 1.4540 in the F/Y 2006/07 and highest ratios are 1.5914 in the F/Y 2004/05. From mean point of view, DCBL has 1.5091 ratio if total income to total expenses. The overall performance of bank is satisfactory.

**Figure 4.17**  
**Total Income to Total Expenses Ratio**



#### 4.6.4 Operating Profit to Loan and Advances Ratio

Operating profit to loan and advances ratio measures the earning capacity of commercial bank.

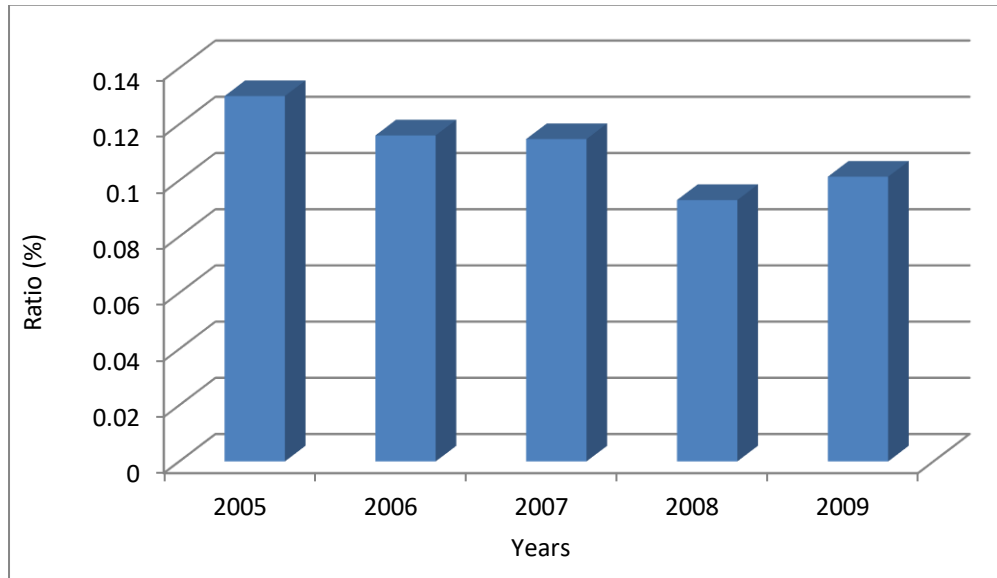
**Table 4.18**  
**Operating Profit to Loan and Advances Ratio**

(Rs in million)			
Years	Operating Profit	Loan and Advances	Ratio(times)
2005	177.415	1364.833	0.1300
2006	214.395	1848.523	0.1160
2007	267.223	2329.207	0.1147
2008	335.581	3608.620	0.0930
2009	643.453	6353.976	0.1013
Mean ( $\bar{X}$ )			0.111

(Sources: Annex1 and 3 And Working Note No. 18)

From the above table, operating profit to loan and advances ratio over the study period is in fluctuating trend. The highest ratio is 0.1300 in the F/Y 2004/05 and lowest ratio is 0.0930 in the F/Y 2007/08. The mean ratio over the period is 0.111 which shows the portability position of the bank.

**Figure 4.18**  
**Operating Profit to Loan and Advances Ratio**



#### 4.6.5 Return on Loan and Advances Ratio

This ratio measures the earning capacity of commercial banks through its fund mobilization as loan and advances and vice-versa.

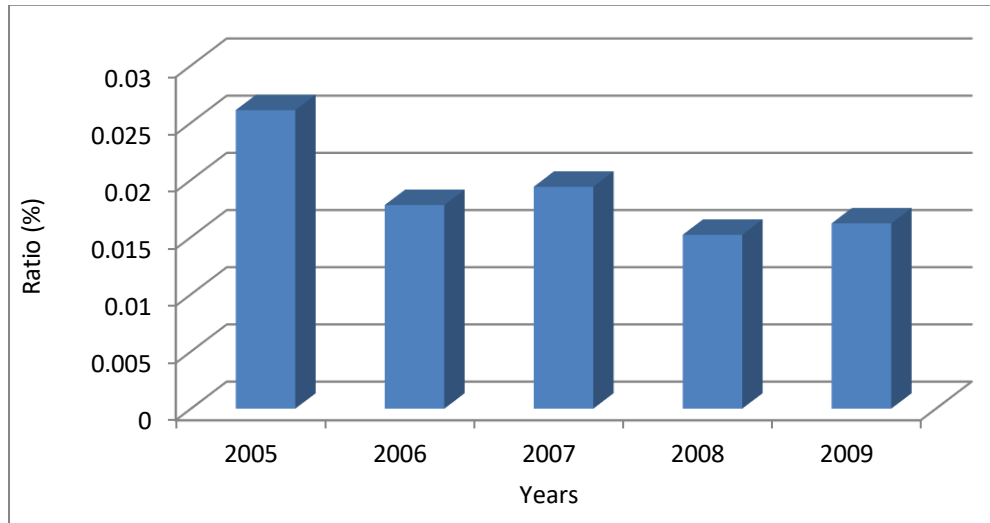
**Table 4.19**  
**Return on Loan and Advances Ratio**

			(Rs in million)
<b>Years</b>	<b>Net Profit</b>	<b>Loan and Advances</b>	<b>Ratio(times)</b>
2005	35.638	1364.833	0.0261
2006	32.840	1848.523	0.0178
2007	45.104	2329.207	0.0194
2008	54.957	3608.620	0.0152
2009	103.056	6353.976	0.0162
Mean ( $\bar{X}$ )			0.0189

(Sources: Annex1 and 2 And Working Note No. 19)

From the above table, return on loan and advance has the fluctuating trend. The highest ratio is 0.0261 in 2004/05 and lowest ratio is 0.0152 in 2007/08. The mean ratio is 0.0189, which shows the normal earning capacity of DCBL in loan and advance.

**Figure 4.19**  
**Return on Loan and Advances Ratio**



#### 4.6.6 Total Interest Earned Total Working Fund

Total interest earned to total working fund ratio is measuring indicator with respect to each financial resources investment of bank's assets. If the bank's total working fund is well managed and effectively utilize, the return on such assets will be higher and vice-versa.

**Table 4.20**

**Total Interest Earned to Total Working Fund Ratio**

(Rs in million)

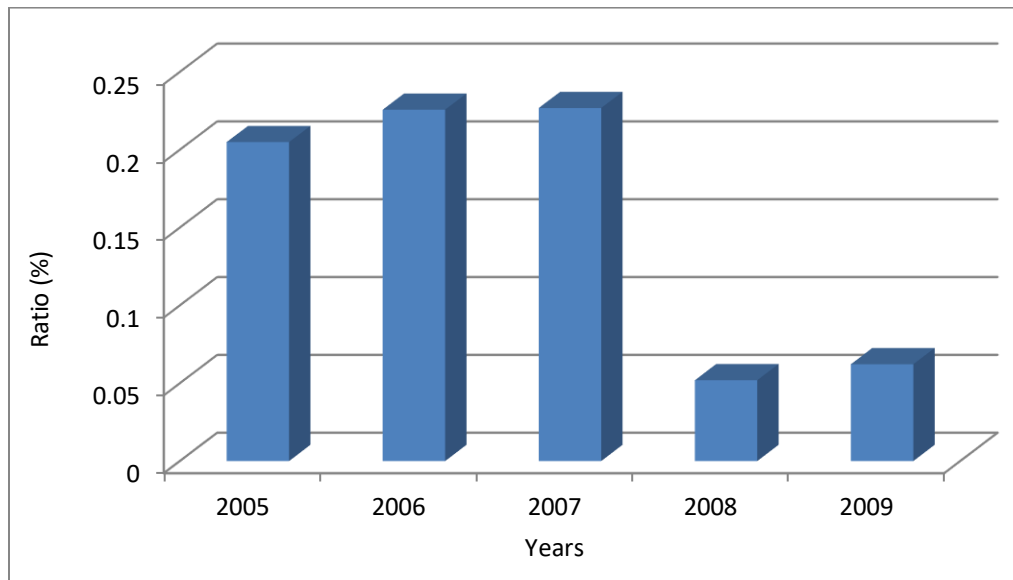
Years	Total Interest Earned	Total Working Fund	Ratio(times)
2005	35.638	173.891	0.2049
2006	32.840	145.531	0.2257
2007	45.104	198.906	0.2268
2008	54.957	1059.192	0.0519
2009	103.056	1657.663	0.0622
Mean ( $\bar{X}$ )			0.1543

(Sources: Annex1 and 3 And Working Note No. 20)

From the above table, the return in total working fund is in fluctuating trend. The highest ratio is 0.2268 in the F/Y 2006/07 and lowest ratio is 0.0519 in the F/Y 2007/08. The mean ratio is 0.1543 during the five years study period. From this, DCBL seems to be weak to earn high return on working fund and has to make efforts to earn high profit by mobilizing its working fund more efficiently.

**Figure 4.20**

**Total Interest Earned to Total Working Fund Ratio**



**4.6.7 Interest from Loan and Advances and Overdraft to Total Interest Income Ratio**

This ratio measures the contribution made by interest loan, advances and overdraft. Loan and advances generate the major portion of interest income hence this ratio measures how efficiently the bank has employed their fund in loan and advances and overdraft.

**Table 4.21**  
**Interest from Loan and Advances & Overdraft to**  
**Total Interest Income Ratio**

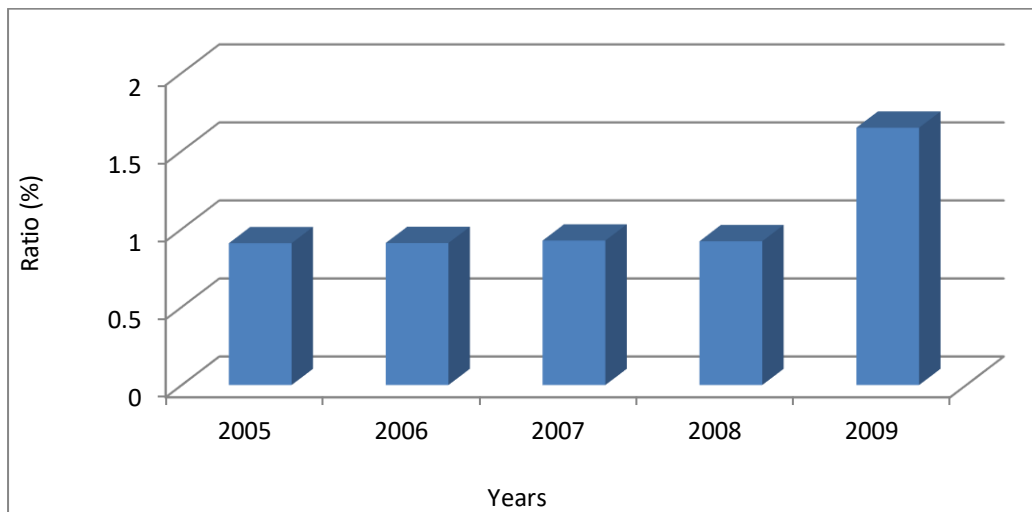
(Rs in million)

Years	Interest from Loan and Advances & Overdraft	Total Interest Income	Ratio(times)
2005	156.110	171.755	0.9089
2006	187.023	205.530	0.9100
2007	236.953	255.936	0.9258
2008	284.436	308.678	0.9215
2009	966.944	587.877	1.6488
Mean ( $\bar{X}$ )			1.063

(Sources: Annex1 and 3 And Working Note No. 21)

The above table reveals that the interest earned from loan and advances and overdraft to total interest income ratio is in fluctuating trend. It has the highest ratio 1.6488 in the F/Y 2008/09 and lowest ratio is 0.9089 in the F/Y 2004/05 during the five years study period. The mean ratio of the DCBL is 0.8663 in the five years study period, which shows the better profitability in the last year.

**Figure 4.21**  
**Interest from Loan and Advances & Overdraft to**  
**Total Interest Income Ratio**



## 4.7 Ratio Showing the Lending Efficiency

Lending efficiency, quality of lending and its effect is measured in this topic. The efficiency of a firm depends to a large extent on the efficiency with which its assets are managed and utilized. This ratio is concerned with measuring the efficiency of bank. This ratio also shows the utility to available fund. The following are the various type of lending efficiency ratio.

### 4.7.1 Loan Loss Provision to Total Loan and Advances

It describes the quality of assets that a bank holding. The amount of loan loss provision in balance sheet refers to general loan loss provision. The provision for loan loss reflects the increasing profitability of non-performing loan. The provision of loan mean the profit of the banks will come down by such amount. Increase in loan loss provisions decreases in profit result to decreases in dividends but its positive impact is that strengthens financial conditions of the banks by controlling the credit risk and reduced the risks related to deposits. So it can be said that banks suffer it only for short term while the good financial conditions and safety of loans will make bank's prosperity resulting increasing profits for long term.

The low ratio indicates the good quality of assets in total volume of loan and advances. High ratio indicates more risky assets in total volume of loan and advances.

**Table 4.22**  
**Loan Loss Provision to Total Loan and Advances**

(Rs in million)

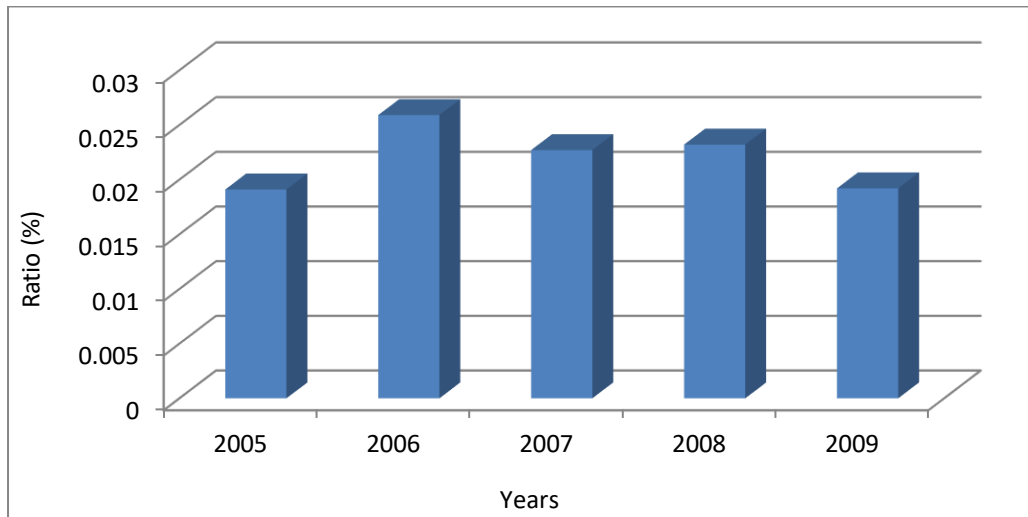
Years	Loan Loss Provision	Total Loan and Advances	Ratio(times)
2005	26.025	1364.833	0.0191
2006	47.815	1848.523	0.0259
2007	52.968	2329.207	0.0227
2008	83.771	3608.620	0.0232
2009	121.979	6353.976	0.0192
Mean( $\bar{X}$ )			0.0220

(Sources: Annex 3 And Working Note No. 22)

From the above table 22, the ratio of loan loss provision to total loan and advances is in fluctuating trend. The highest ratio is 0.0259 in the F/Y 2005/06 and the lowest ratio is 0.0191 in the F/Y 2004/05.

The mean ratio of the study is 0.0220 during the five years study period. The overall trend ratio of bank has been fluctuating. The decrease ratio indicates the decrease in volume of non-performing loans and vice-versa. The ratio is decreased in the last year. The decreasing loan loss ratio indicates the better performance and effective credit policy of the bank.

**Figure 4.22**  
**Loan Loss Provision to Total Loan and Advances**



#### **4.7.2 Non-Performing Loans to Total Loans and Advances Ratio**

NRB has directed all the commercial banks create loan loss provision against the doubtful and bad debts. But both of our concerned banks have not provided data on non-performing loan in balance sheet and profit and loan and loss account. To measure the volume of non-performing loan to total loan and advances, the main indicator of DCBL has been used. This ratio shows the percentage of non-recovery loan in total loans and advances.

**Table 4.23**

**Non-Performing Loans to Total Loans and Advances Ratio**

(Rs in million)

<b>Years</b>	<b>Non-Performing Loans</b>	<b>Total Loan and Advances</b>	<b>Ratio(times)</b>
2005	1390.859	1364.833	1.0191
2006	1896.338	1848.523	1.0259
2007	2382.176	2329.207	1.0227
2008	3692.392	3608.620	1.0232
2009	6475.955	6353.976	1.0192
Mean ( $\bar{X}$ )			1.0220

*(Sources: Annual Report of DCBL, Annex 3 And Working Note No. 23)*

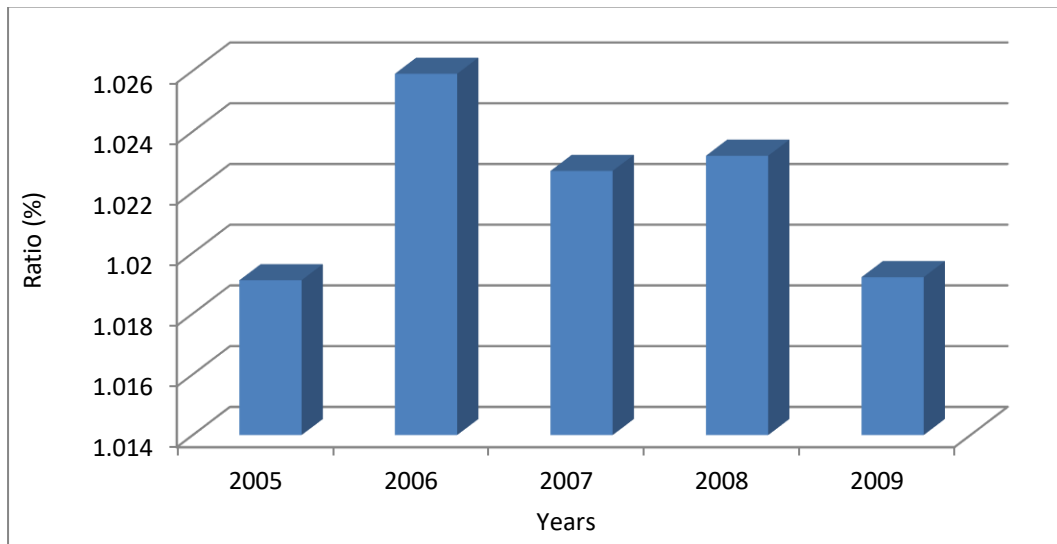
The above table shows the fluctuating trend of non-performing loan to total loan and advances ratio. The highest ratio is 1.0259 in the F/Y 2005/06 and 1.0191 is the lowest ratio in the F/Y 2004/05.

The mean ratio is 1.0234, which shows low ratio of non-performing loan to total loan and advances.

Banking sector is seriously affected by non-performing loan. Around 10% of non-performing loan, the bad performing of bank even though the decreasing trend shows the better improvement of the bank. If non-performing loan will increase that effect in overall banking business provision amount will increase and profit will decrease. So we suggest the bank to be very careful while granting loan and to do effective follow up for recovery of loan is presented in diagram as follow:

**Figure 4.23**

**Non-Performing Loans to Total Loans and Advances Ratio**



**4.7.3 Interest Expenses to Total Deposit Ratio**

This ratio measures the percentage of total interest against total deposit commercial banks are dependent upon its ability to generate cheaper fund. The cheaper fund has more the probability of generating loans and advances and vice-versa.

**Table 4.24**

**Interest Expenses to Total Deposit Ratio**

(Rs in million)

Years	Interest Expenses	Total Deposit	Ratio (%)
2005	80.723	1479.074	5.46
2006	101.222	2103.396	4.81
2007	131.248	2539.702	5.17
2008	151.131	2913.338	5.19
2009	347.983	6613.359	5.26
Mean ( $\bar{X}$ )			5.18

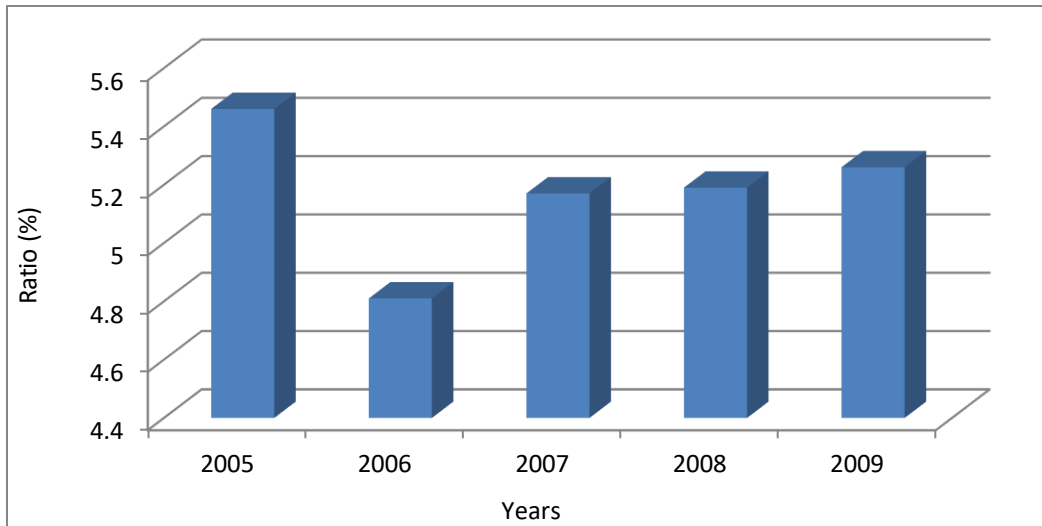
(Sources: Annual Report of DCBL, Annex 1 And Working Note No. 24)

Table 4.24 shows that the cost of deposit of DCBL is in fluctuating trend. The highest ratio is 5.46% in the F/Y 2004/05 and lowest ratio is 4.81% in the F/Y

2005/06. From mean point of view, interest expenses to total deposit ratio of DCBL is 5.18 during the study period. The overall ratios show the bad efficiency of the bank and weak performance in the last three years.

**Figure 4.24**

**Interest Expenses to Total Deposit Ratio**



**4.7.4 Interest Expenses to Total Expenses Ratio**

This ratio measures the percentage of interest paid against total expenses. The high ratio indicates the low operation expenses and vice-versa. The ratio indicates the costly sources of funds.

**Table 4.25**

**Interest Expenses to Total Expenses Ratio**

(Rs in million)

Years	Interest Expenses	Total Expenses	Ratio(times)
2005	80.723	111.487	0.7241
2006	101.222	139.981	0.7231
2007	131.248	183.788	0.7141
2008	151.131	222.734	0.6785
2009	347.983	440.201	0.7905
Mean( $\bar{X}$ )			0.7261

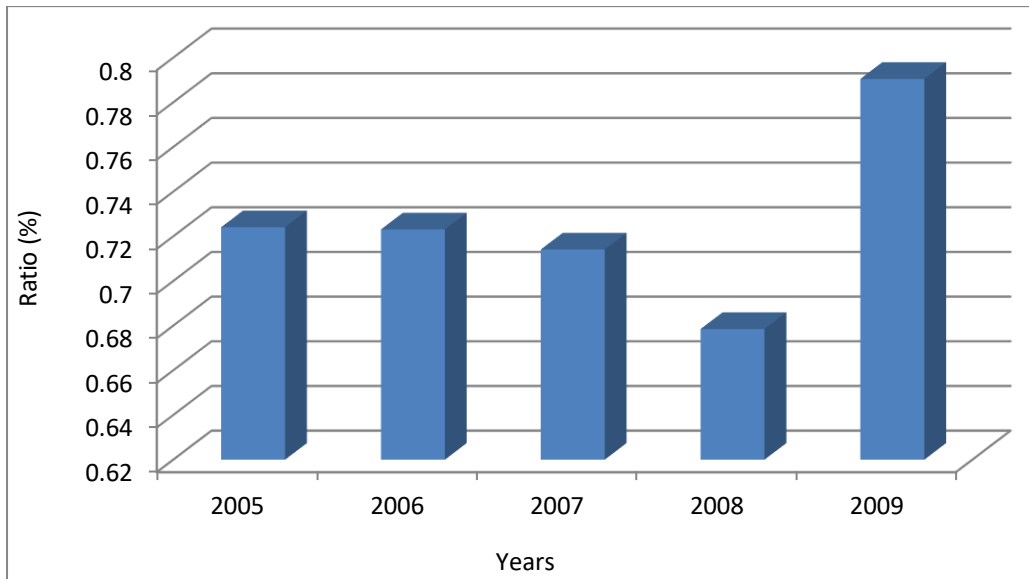
(Sources: Annex 3 And Working Note No. 25)

From the above table, the interest expenses to total expenses ratio is first decreasing up to F/Y 2007/08 and then increasing, the highest ratio is 0.7241 in the F/Y 2004/05 and lowest ratio is 0.6785 in the F/Y 2007/08.

From mean point of view, the interest expenses to total expense ratio is 0.7261 thus we can say that decrease in cost of the deposits, the volume of interest expenses ratio has been decreasing.

**Figure 4.25**

**Interest Expenses to Total Expenses Ratio**



**4.7.5 Interest Expenses to Total Working Fund Ratio**

This ratio measures the percentage of total interest paid against the total working fund. A high ratio indicates the higher interest expenses on total working fund and vice-versa.

**Table 4.26**

**Interest Expenses to Total Working Fund Ratio**

(Rs in million)

<b>Years</b>	<b>Interest Expenses</b>	<b>Total Working Fund</b>	<b>Ratio(%)</b>
2005	80.723	173.891	46.42
2006	101.222	145.531	69.55
2007	131.248	198.906	65.98
2008	151.131	1059.192	14.27
2009	347.983	1657.663	20.99
Mean ( $\bar{X}$ )			43.44

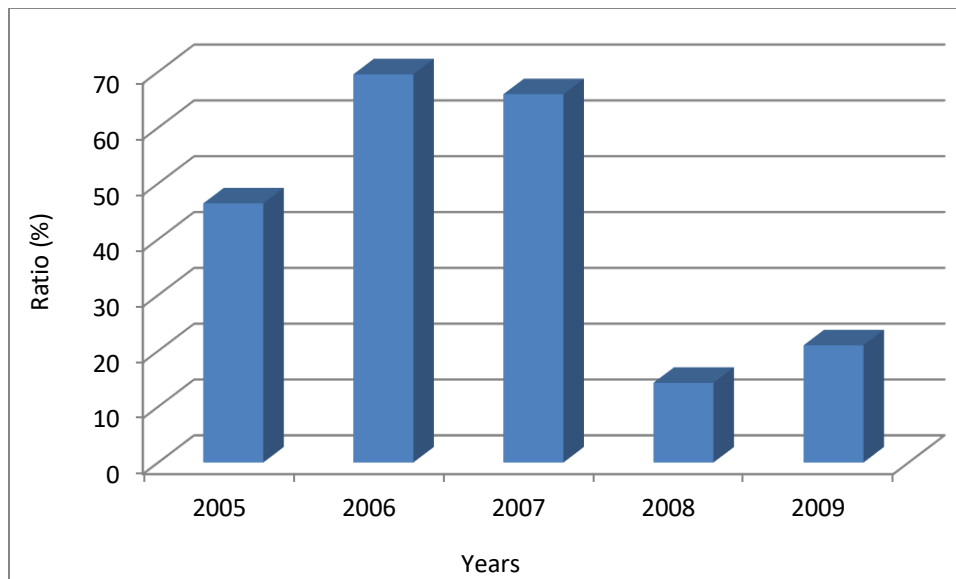
(Sources: Annex 3 And Working Note No. 26)

From above table, interest expenses to total working fund ratios during studying period is first increases and then decreases. The highest ratio is 69.55% in the F/Y 2005/06 and the lowest ratio is 14.27% in the F/Y 2007/08.

The mean ratio is 43.44% during the study period. The ratio shows the minimum cost on the total working fund of the bank.

**Figure 4.26**

**Interest Expenses to Total Working Fund Ratio**



#### **4.7.6 Interest Suspension to Total Interest Income from Loan and Advances and Overdraft Ratio**

Interest suspension refers to that portion of interest, which is due but not collected. NRB has directed commercial bank not to show the due but not collected interest as income, such interest is shown in liability side of balance sheet. This ratio measures the uncollected but due interest in the volume of total interest income from loan, advance and overdraft. The higher ratio refers to poor interest turnover.

**Table 4.27**  
**Interest Suspension to Total Interest Income from Loan and Advances and Overdraft Ratio**

(Rs in million)

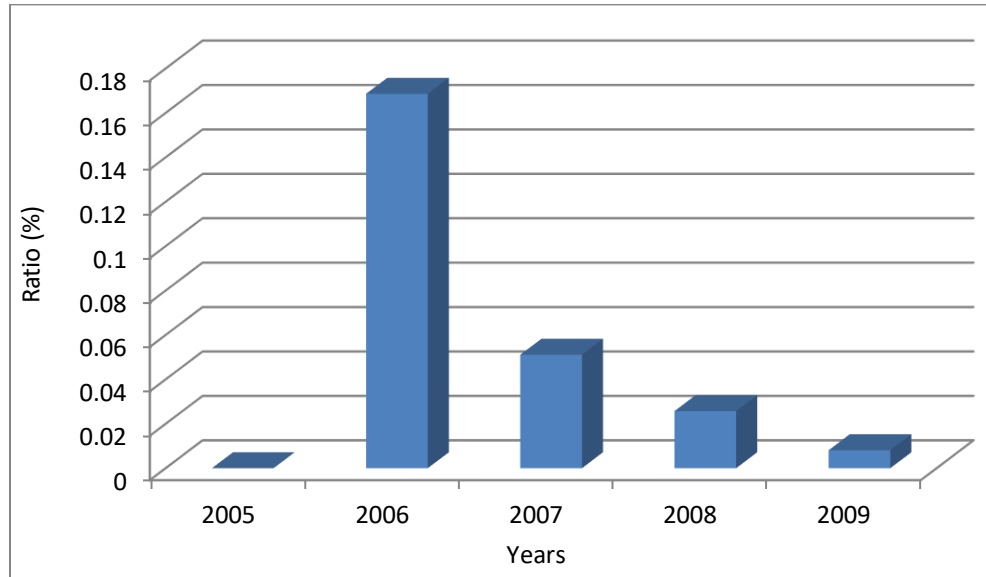
<b>Years</b>	<b>Interest suspension</b>	<b>Total Interest Income from Loan and Advances and Overdraft</b>	<b>Ratio(times)</b>
2005	-	156.110	-
2006	31.530	187.023	0.1686
2007	12.102	236.953	0.0511
2008	7.304	284.436	0.0257
2009	7.876	966.944	0.0081
Mean ( $\bar{X}$ )			0.0634

(Source: Annex 3 And Working Note no.27)

From the above table, interest suspension to interest from loans and advances and overdraft ratio is in decreasing trend. The highest ratio is 0.1686 in the F/Y 2005/06 and lowest ratio is 0.0081 in the F/Y 2008/09.

From the mean ratio ie. 0.0634, the interest suspension to interest from loan and advance and overdraft has high ratio, which shows the strong interest turnover. If decreasing trend of this ratio continues in coming futures, the volume of non-performing loan of DCBL resulting from bad interest turnover may cause to rise of this bank.

**Figure 4.27**  
**Interest Suspension to Total Interest Income from Loan and Advances and Overdraft Ratio**



#### **4.8 Co-efficient of Correlation Analysis**

Under this topic, Karl Pearson's Co-efficient Correlation is used to find out the relationship between total deposit and loan and advances total income to total loan and advances, net profit and loan and advances, loan loss provision and loan and advances, interest suspension and interest income.

##### **4.8.1 Co-efficient of Correlation between Total Deposit and Loan and Advances**

Total deposit is independent variable and loan and advances is dependent variable. The co-efficient of correlation between total deposit and loan and advances measure the degree of relationship between these two variables. In analysis, deposit is independent variable and loan and advances are dependent variable. The main objective of computing 'r' between these two variables is to justify whether deposits are significantly used as loan and advances in a proper way as not.

The following table shows the value of ‘r’ PER and CPER between total deposit and loan and advances of DCBL during the study period.

**Table 4.28**

**Correlation between Deposit and Loan and Advance of DCBL**

Year	2005	2006	2007	2008	2009
Total Deposit	1479.074	2103.396	2539.702	2913.338	6613.359
Loan and Advances	1364.833	1848.523	2322.227	3607.040	6334.054
r.					0.979009
PE					0.012531
6 PE					0.075186

*(Source: Annual Report of DCBL And Working Note no.28 a and b)*

The above table shows the relation between deposit and loan and advances of DCBL. The Co-efficient of correlation between deposit and loan and advances is 0.979009 and probable error is 0.012531 comparing the value of ‘r’ and 6 PE, we say that there is significant relationship between total deposit and loan and advances because, ‘r’ is higher than 6 PE, ie.  $0.979009 > 0.075186$ .

From the above analysis, we can conclude that DCBL has positive relationship between deposit and loan and advances. The relationship is significant, i.e. Increase in loan and an advance is due to the increase in deposit.

**4.8.2 Co-efficient of Correlation between Total Interest Income and Loan and Advances**

Loan and advances is independent variable and total interest income is dependent variable. The correlation between total income and loan and advances measures the relationship between these two variables. The relationship between these two variables describes the degree of relationship between loan and advances and total income. The value of ‘r’ explains whether a percentage change in loan and advances contributes to increase the same percentage of income.

**Table 4.29**

**Correlation between Total Interest Income and Loan and Advances of DCBL**

<b>Item Years</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Total Interest Income	171.755	205.530	255.936	308.678	587.877
Loan and Advances	1364.833	1848.523	2322.227	3607.040	6334.054
Correlation coefficient 'r'					0.990667
Probable Error{PE}					0.012531
6 PE					0.075186

*(Source: Annex 3 And Working Note no.29 a and b)*

The above table shows the relation between total interest income and loan and advances. Co-efficient of correlation between total interest income and loan and advances is 0.990667, which shows the positive relationship between two variables. Value of 'r' comparing 6PE i.e.  $0.990667 > 0.075186$ , we can say there is significant relationship between total interest income and loan and advances.

From the above analysis, we conclude that DCBL has positive relationship between total income and loan and advances. The relationship between them is anything to say because  $r > 6PE > PE$ . The increase in interest income is due to increase in loan and advances.

**4.8.3 Co-efficient of correlation between Net Profit and Loan and Advances**

Loan and advances is independent variable and net profit is dependent variable. The coefficient of degree of relationship between these two variables, the main objectives of computing 'r' between these two variables are to justify whether loan and advances are significantly used to earn profit in a proper way or not. The value of 'r' explains whether a percentage change in loan and advances contribute to increases the same percentage of net profit.

**Table 4.30****Correlation between Net Profit and Loan and Advances of DCBL**

<b>Item Years</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Net Profit	35.638	32.840	45.104	54.957	103.056
Loan and Advances	1364.833	1848.523	2322.227	3607.040	6334.054
Correlation coefficient 'r'					0.061928
Correlation coefficient 'r'					0.061928
Probable Error{PE}					0.300489
6 PE					1.802934

(Source: Annex 3 And Working Note no. 30)

The above table shows the relation between net profit and loan and advances. The correlation coefficient between net profit and loan and advances of DCBL is 0.061928 which shows the positive relationship between these two variables. Further, there is no significant relationship between net profit and loan and advances because 'r' is less than 6 PE ie.  $1.802934 < 0.061928$ .

#### **4.8.4 Co-efficient of correlation between Loan Loss Provision and Loan and Advances**

Loan loss provision is dependent variable and loan and advances is independent variable. The correlation between provision for loan loss and loan and advances measures the relation between these two variables. The following table shows the relationship between loan loss provision and loan and advances.

**Table 4.31****Correlation between Loan Loss Provision and Loan and Advance of DCBL**

<b>Item years</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Loan loss provision	26.025	47.815	52.968	83.771	121.979
Loans and advances	1364.833	1848.523	2322.227	3607.040	6334.054
Correlation coefficient 'r'					0.9843944
Probable Error{PE}					0.009341
6 PE					0.056047

(Source: Annual Report of DCBL And Working Note no.31)

From the above table the correlation coefficient between loan loss provision to loan and advances is positive relationship ie  $r = 0.9843944$  comparing 'r' with probable error, we can say that there is significant relationship between them because; Correlation Coefficient is greater than 6PE.

From the above analysis, we can conclude that DCBL has positive relationship between loan loss provision to loan and advances. It indicates that the increase in loan and advances increases the loan loss provision.

#### **4.8.5 Co-efficient of Correlation between Interest Suspense and Interest Income**

Interest suspense is the dependent variable and total income is independent variable. The correlation between interest suspense and interest income measures the relationship between increases in interest suspense and increases in interest income. Interest suspension is uncollected portion of the total income.

**Table 4.32**

#### **Correlation between Interest Suspense and Interest Income**

Item years	2005	2006	2007	2008	2009
Interest suspense	32.006	31.530	12.102	7.304	7.876
Total interest income	171.755	205.530	255.936	308.678	587.877
Correlation Coefficient 'r'					0.699225
Probable error{ PE}					0.154166
6PE					0.924996

*(Source: Annex 1 and 3 And Working Note no.32 a and b)*

From the above table, the co-efficient of correlation between interest suspense and interest income of DCBL is -0.699225, which indicates negative correlation between them. Further, the value of 'r' is less than 6 times probable error, which shows nothing to say about significance.

From the above analysis, increase in the value of interest income decreases the interest suspense.

## **4.9 Trend Analysis**

In this chapter we examine the trend analysis of deposits. Loan and advances and net profit and forecast trend for net five years. The measures of trend analysis show the behaviors of given variables in series of time. Commercial bank does not carry consistency over all the period. Sluggish economic situation, internal security situation and other various factors effects in performance of the commercial banks. The objectives of this analysis are to analyze the trend of deposit collection, its utilization as a loan and advances and return as net profit of DCBL.

The projectors are based; on following assumption:-

- The main assumption is that other thing will remain unchanged.
- The forecast will be true only Cohen the limitation of least square method is carried out.
- The bank will run in present situation.
- The economy will remain in the present stage.
- NRB will not change its guidelines to commercial banks.

### **4.9.1 Trend Analysis of Total Deposit**

Deposit is one of the major liabilities of commercial banks. Its trend is determined by value factors. Under this chapter, trend analysis of deposit of DCBL for five years from mid July 2005 to 2009 and Forecast for five years from mid-July 2010 to 2014, the following table shows the trend value of deposit for ten years from mid-July 2005 to 2014.

**Table 4.33**  
**Trend Value of Total Deposit of DCBL (2005-2014)**

(Rs. in million)

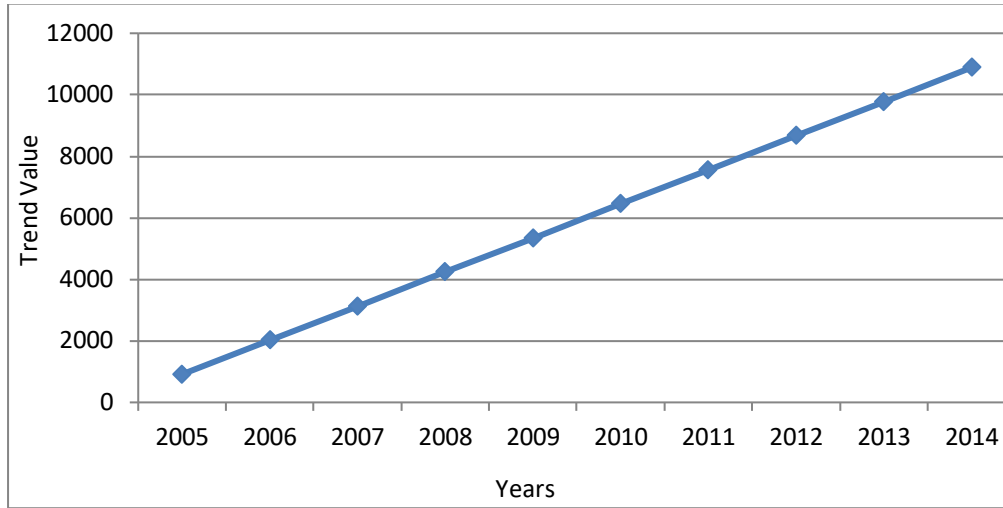
<b>Year</b>	<b>Trend value of DCBL</b>
2005	914.072
2006	2021.923
2007	3129.774
2008	4237.625
2009	5345.476
2010	6453.327
2011	7561.178
2012	8669.029
2013	9776.88
2014	10884.731

*(Source: Calculation No.6 - a and b)*

The above table shows the trend behavior of total deposit in DCBL. It was increasing trend other things remaining the same, the total deposit of DCBL in mid-July 2014 is predicted to be Rs. 10884.731 million, which is highest amount during the study period.

The calculated value of trend of total deposit is presented in graph as trend line is as follow:

**Figure 4.28**  
**Trend Value of Total Deposit**



#### 4.9.2 Trend Analysis of Loan and Advances

Lending is one of the major functions of commercial banks; its trend is determined by various factors. Under this topic trend values of loan and advance of DCBL for five years from mid-July 2005 to 2009 and forecast for five years from 2010 to 2014. The following table shows the trend value of loan and advances for ten years from mid-July 2005 to 2014.

**Table 4.34**  
**Trend Value of Loan and Advances of DCBL (2005-2014)**

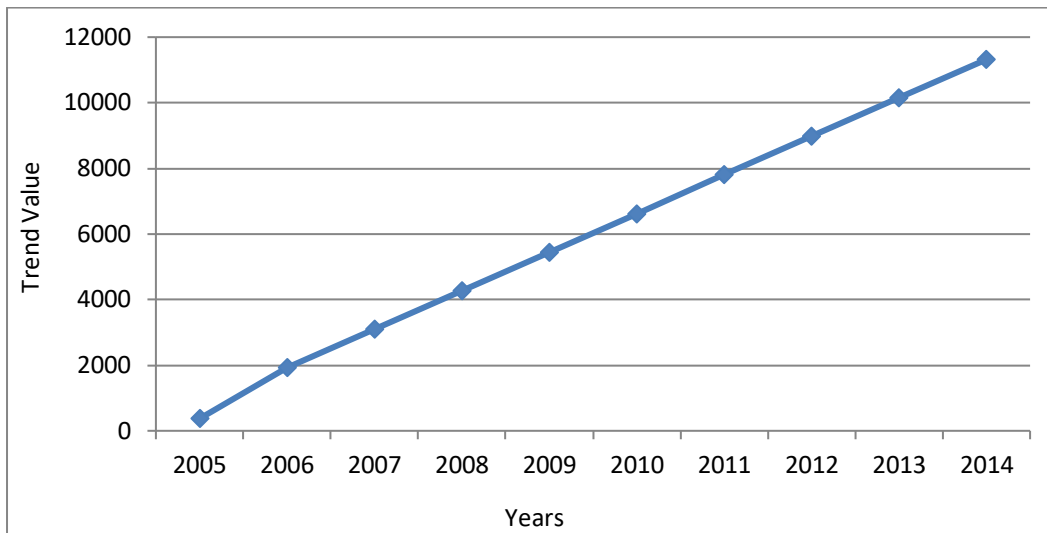
(Rs. in million)	
Year	Trend value of DCBL
2005	371.366
2006	1927.194
2007	3101.032
2008	4274.87
2009	5448.708
2010	6622.546
2011	7796.384
2012	8970.222
2013	10144.06
2014	11317.898

*(Source: Calculation No.7- a and b)*

The above table shows the trend behavior of loan and advances of DCBL, which is in increasing trend. Other thing remaining the same, the loan and advances of DCBL in mid-July 2014 will be Rs. 11317.898 million, which is the highest amount under this study period. The above calculated behavior of trend analysis of loan and advances pitted in the trend line given as follows.

**Figure4.29**

**Trend Value of Loan and Advances of DCBL**



### 4.9.3 Trend Analysis of Net Profit

Net profit measures the success of a firm in every aspect of its operation and strategy, its trend is determined by various factors. Under this chapter, trend values of Net Profit of DCBL for five years from mid-July 2005 to 2009 and forecast for five years from 2010 to 2014. The following table shows the trend value of net profit for trend years from mid-July 2005 to 2014.

**Table 4.35**

**Trend Value of Net Profit of DCBL (2005-2014)**

(Rs. in million)

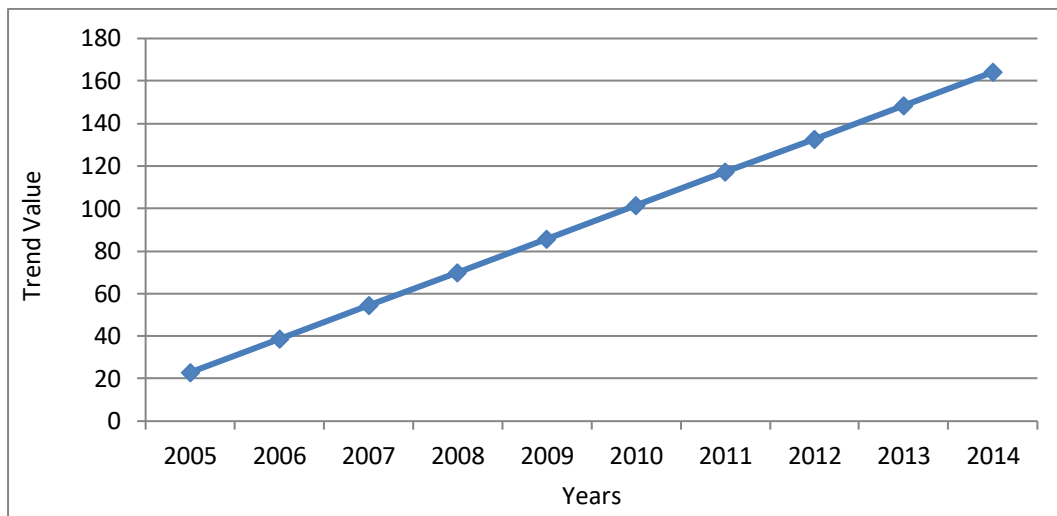
<b>Year</b>	<b>Trend value of DCBL</b>
2005	22.9284
2006	38.6237
2007	54.319
2008	70.0143
2009	85.7096
2010	101.4049
2011	117.1002
2012	132.7955
2013	148.4908
2014	164.1861

(Source: Calculation No.8 -a and b)

The above table shows the trend behavior of net profit of DCBL, which is in increasing trend. Other things remaining the same, the net profit of DCBL in mid-July 2014 will be Rs. 164.1861 million, which is the highest amount under this study period. The above calculated behavior of trend analysis of net profit predicted in the trend line given as follows:

**Figure 4.30**

**Trend Value of Net Profit of DCBL**



## **4.10 Major Findings of the Study**

Based on the analysis of data the main findings are summarized as follows:

### **4.10.1 Liquidity Ratio**

The current ratio of the bank shows the fluctuating trend during the study period. Though the optimal standard of current ratio should be 2:1 for convention measure of liquidity, it is not appraisable or banking business so analyzing over the study period, it indicates the satisfactory liquidity position.

Liquid fund to current liability shows the satisfactory position in nature. Where as cash and bank balance to total deposit ratio is consistent. It indicates the DCBL with respect to deposits is better to serve the customer deposit with drawl demands.

The cash and bank balance to interest sensitive ratio has high degree of running capacity in adverse liquidity position caused by interest sensitive deposits.

The cash and bank balance to current assets ratio of DCBL is not in good position. It is tightly able to make daily requirements of the customers.

### **4.10.2 Portfolio Behavior Ratio**

Credit to government enterprises to total credit ratio is variable in nature. It is not consistent and this behavior is not affected by NRB rules.

The credit to private sector to total credit ratio shows the low intensity of bank to invest in private sector.

Credit to bills paid and discounted to total credit shows the low intensity to invest in credit to bills paid and discount some how, the bank has high position to supply credit in this sectors.

#### **4.10.3 Assets Management Ratio**

The total assets to total liability ratio shows the less variable in nature and the better performance of assets management in the latest years. Also the loans and advances to total assets ratio shows the satisfactory performance in the latest year than previous. The loan and advances to total deposit ratio is not in good position than standard measurement.

Investment to total loan and advances and investment ratio shows the better practice of DCBL in investment to safely assets than risky assets. Investment to total deposit ratio shows the more consistency in nature, which is due to bank is unable to mobilize fund in loan and advances.

#### **4.10.4 Profitability Ratio**

The interest income to total income ratio shows the dependency nature in fund based activity. The interest income to interest expenses ratio is higher, i.e. mean is 1.9680 which shows the more profitable situation.

The total income to total expenses ratio shows the less consistent in nature and overall predominance of bank is satisfactory. The mean ratio operating profit to loan and advances is 0.111, which shows the portability position of the bank.

The return on loan and advances shows the normal earning capacity of the bank where as it is highest in the fiscal year 2004/05. The return on working fund of DCBL seems to be weak to earn high profit.

#### **4.10.5 Lending Efficiency Ratio**

Loan loss provision to total loans and advances ratio shows the less consistency in nature. It indicates the better performance and effective credit policy of bank. The overall decrease ratio indicates the decrease in volume of non-performing loans to

total loans and advances ratio shows the better performance of DCBL in latest years.

The interest expenses to total deposit ratio shows the decreasing trend, which indicates bad efficiency and weak performance of bank. The interest expenses to total working fund ratio of bank is decreasing and shows the minimum cost on the total working fund of the bank. The interest suspensions to total interest from loan and advances and overdraft shows the poor interest turn over.

#### **4.10.6 Co-efficient of Correlation Analysis**

The co-efficient of correlation between deposits and loan and advances of DCBL is 0.979009 and probable error is 0.012531, which shows the significant relationship between total deposit and loan and advances if increase in deposit increases the loan and advances.

The Co-efficient of correlation between total interest income and loan and advances is 0.990667, which shows the positive relationship between the two variables.

The Co-efficient of Correlation between net profit and loan and advances of DCBL is 0.061928, which shows the positive relation between two variables. Further there is no significant relationship between net profit and loan and advances.

The Co-efficient of Correlation between loan loss provision to loan and advances is 0.9843944, which shows DCBL has negative relationship between loan loss provision and loan and advances.

The Co-efficient of correlation between interest suspension to interest income is,  $r = -0.699225$ , which indicates the increase in the value of the interest income increases the interest suspension.

#### **4.10.7 Trend Analysis**

The trend behavior of the total deposit in DCBL is increasing trend. Other things remaining the same, the total deposit of DCBL in mid-July 2014 is predicted to be 10884.731 million.

The trend analysis of loans and advances of DCBL is also increasing trend. Other things remaining the same, the loan and advances of DCBL in mid-July 2014 will be Rs. 11317.898 million.

The trend analysis of net profit measure the success of a firm in every aspect of its operation and strategy. The trend behavior of net profit of DCBL is also increasing trend. Other things remaining the same, the net profit of DCBL in mid-July 2014 will be Rs. 164.1861million.

## **CHAPTER - V**

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

#### **5.1 Summary and Conclusion**

In this chapter, summary, conclusion and recommendation are included. We have done credit management of Development Credit Bank Ltd. by using financial as well as statistical tools. After completing the basic analysis required for the study few. Recommendation has made which would be beneficial for the management of the bank.

From the above analysis it has been found that liquidity position is satisfactory. Current ratio and liquid fund to current liability ratio are better consistent even though cash and bank balance to total deposit ratio is not more consistent. It shows the DCBL with respect to deposit is hardly able to serve the customer deposit with drawl demand. The cash and bank balance has not mobilized in the more profitable assets.

On the basis of portfolio behavior, bank has not mobilized fund in private sector and has followed the NRB directives where as bank disbursed credit on the government sector which is more than 52% of the credit. Even more it has invested in bills paid and discounted sector.

By analysis, the assets management ratio, loan and advances to total assets ratio shows the better performance but loan and advances to total deposit position in minimum than the averages. Where as investment in loan and advances is not safely and taking more risk. That's why assets management position of the bank shows risk in the latest year.

In the aspect of profitability position, interest income to interest expenses ratio shows the more profitable salivation. Also total income to total expenses ratio shows the overall predominance of the bank is satisfactory. Operating incomes return and loan and advances and working fund are also showing little bit profitable position of the DCBL.

After analyzing the lending efficiency of the bank, the loan loss provision to loan and advances eradicates the decrease in non-performing loan. Other loan and advances indicator shows the better performance in the latest year. The interest expenses to total deposit working funds ratios show the bad efficiency and weak performance of the bank.

## **5.2 Recommendations**

The findings of the study may provide important intonation for those who are concerned directly or indirectly with the credit management of joint venture commercial bank {DCBL} on the basis of analysis and findings of the study following suggestion and recommendation can be outlined.

The liquidity position on the bank should more positive than at present. If the bank follows strictly the NRB directives, it will help to reduce credit risk arising from borrower's defaulter leak of proper credit appraisal, defaulter by black listed borrowers and professional defaulter. Government has established credit inebriation Bureau, which will guide commercial bank, so the bank is suggested to follow Project oriented approach and avoid more risky area of lending.

Even loan loss provision and non-performing loan decreasing, the bank should adopt the sound credit collection policy. It helps them to decrease loan loss provision and non-performing loan. The policy should entire rapid identification of delinquent loans, immediate contact with borrower and continual follow-up

until a loan is recover. The recovery of loan is most challenging job in the bank. Therefore, the bank must be very careful in strengthen credit collection policy.

According to NRB directives, all the commercial banks should increase the capital up to Rs. 64 million by 2066B.S.DCBL is also suggested to increase its capital. The increment in capital can be made either by capitalization of profit declaration of stock dividend or right share issue.

Looking a current trend of banking business, DCBL must be very careful on formulating marketing strategies to serve its customers. The marketing strategies should be innovative that would attract and retain the customers. The bank is recommended to develop an innovative approach to bank marketing for its well being and sustainability in the market.

NRB and HMG/N have encouraged the joint venture banks to expand the banking services in rural areas without making unfavorable impact in their profit. DCBL is recommended to expand its branches and provide banking services and facilities to the rural and communities to accelerate rural areas economic development through opening now branches in particular areas.

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**ANNEXURE  
WORKING NOTE**

**1. Current Ratio**

Current Ratio{X}	1.1069	1.0637	1.0767	1.302	1.2392	$\sum x = 5.7885$
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$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{5.7885}{5} \\ &= 1.1577 \end{aligned}$$

**2.Liquid Fund to Current Liability Ratio**

Liquid fund to current liability ratio= Liquid fund / Current Liabilities{X}	0.2500	0.2335	0.1626	0.2535	0.2506	$\sum x = 1.1502$
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$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{1.1502}{5} \\ &= 0.230040 \text{ ie. } 0.2300 \end{aligned}$$

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

Cash and Bank Balance to Total Deposit Ratio= Cash and Bank Balance/Total Deposit{X}	0.0231	0.0620	0.0605	0.0775	0.1082	$\sum x = 0.3313$
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$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{0.3313}{5} \\ &= 0.066260 \text{ ie. } 0.0663 \end{aligned}$$

**4. Cash and Bank Balance to Interest Sensitive Deposit Ratio**

Cash and BankBalance to Saving Deposit Ratio=Cash and Bank Balance / Saving Deposit{X}	0.0766	0.1562	0.2144	0.2508	0.6326	$\sum x = 1.3306$
--	--------	--------	--------	--------	--------	-------------------

$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{1.3306}{5} \\ &= 0.266120 \text{ ie. } 0.2661 \end{aligned}$$

### 5. Cash and Bank Balance to Current Assets Ratio

Cash and Bank Balance to Current Assets Ratio=Cash and Bank Balance/ Current Assets {X}	0.0190	0.0536	0.0550	0.0495	0.0833	$\sum x=0.2604$
---	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.2604}{5} \\ &= 0.05208 \text{ ie. } 0.0521 \end{aligned}$$

### 6. Loan and Advances to Current Assets Ratio

Loan and Advances to Current Assets Ratio= Loan and Advances / Current Assets {X}	0.7581	0.7605	0.8312	0.7900	0.7375	$\sum x=3.8773$
---	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{3.8773}{5} \\ &= 0.77546 \end{aligned}$$

### 7. Credit to Government Enterprises to Total Credit Ratio

Credit to Government Enterprises to Total Credit Ratio= Total Credit to Government Enterprises / Total Credit {X}	0.5916	0.3492	0.5614	0.2630	0.8555	$\sum x=2.6207$
---	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{2.6207}{5} \\ &= 0.52414 \end{aligned}$$

### 8. Credit to Private Sector to Total Credit Ratio

Credit to Private Sector to Total Credit Ratio= Credit to Private Sector Total Credit {X}	0.4084	0.6508	0.2978	0.7145	0.1060	$\sum X=2.1775$
---	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{2.1775}{5} \\ &= 0.4355 \end{aligned}$$

**9. Credit to Bills Paid and Discount to Total Credit Ratio**

Credit to Bills Paid and Discount to Total Credit Ratio= Credit to Bills Paid and Discounted/Total Credit {X}	-	-	0.1407	0.0225	0.0385	ΣX=0.2017
---	---	---	--------	--------	--------	-----------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.2017}{3} \\ &= 0.067233333 \text{ ie. } 0.0672 \end{aligned}$$

**10. Total Assets to Total Liabilities Ratio**

Total Assets to Total Liabilities = Total Assets /Total Liabilities {X}	1.1165	1.1320	1.1325	1.3448	1.2675	ΣX=5.9933
---	--------	--------	--------	--------	--------	-----------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{5.9933}{5} \\ &= 1.19866 \text{ ie. } 1.1987 \end{aligned}$$

**11. Loans and Advances to Total Assets Ratio**

Loans and Advances to Total Assets=Loans and Advances/ Total Assets {X}	0.7389	0.7090	0.7821	0.7562	0.7150	ΣX=3.7012
---	--------	--------	--------	--------	--------	-----------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{3.7012}{5} \\ &= 0.74024 \text{ ie. } 0.7402 \end{aligned}$$

**12. Loans and Advances to Total Deposit Ratio**

Loans and Advances to Total Deposit =Loans and Advances/ Total Deposit {X}	0.9228	0.8788	0.9144	1.2381	0.9578	ΣX=4.9119
--	--------	--------	--------	--------	--------	-----------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{4.9119}{5} \\ &= 0.98238 \text{ ie. } 0.9824 \end{aligned}$$

### 13. Investment to Total Loan and Advances and Investment Ratio

Investment to Total Loan and Advances and Investment Ratio = Investment/ Total Loans and Advances and Investment{ X}	0.0207	0.0256	0.0180	0.0187	0.0729	$\sum X=0.1559$
---	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.1559}{5} \\ &= 0.03118 \quad \text{ie. } 0.0312 \end{aligned}$$

### 14. Total Investment to Total Deposit Ratio

Total Investment to Total Deposit Ratio= Investment/ Total Deposit {X}	0.0195	0.0231	0.0168	0.0235	0.0753	$\sum X=0.158$ 2
---	--------	--------	--------	--------	--------	---------------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.1582}{5} \\ &= 0.03164 \quad \text{ie. } 0.0316 \end{aligned}$$

### 15. Interest Income to Total Income

Interest Income to Total Income= Interest Income / Total Income {X}	0.9681	0.9587	0.9578	0.9198	0.9136	$\sum X=4.718$
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$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{4.718}{5} \\ &= 0.9436 \end{aligned}$$

### 16. Interest Income to Interest Expense Ratio

Interest Income to Total Income = Interest Income / Total Income {X}	2.1277	2.0305	1.9500	2.0425	1.6894	$\sum X=9.840$ 1
--	--------	--------	--------	--------	--------	---------------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{9.8401}{5} \\ &= 1.96802 \end{aligned}$$

**17. Total Income to Total Expenses Ratio**

Total Income to Total Expenses =Total Income/ Total Expenses {X}	1.5914	1.5316	1.4540	1.5066	1.4617	$\sum X=7.5453$
--	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{7.5453}{5} \\ &= 1.50906 \text{ ie. } 1.5091 \end{aligned}$$

**18. Operating Profit to Loan and Advances Ratio**

Operating Profit to Loan and Advances = Operating Profit / Loan and Advances {X}	0.1300	0.1160	0.1147	0.0930	0.1013	$\sum X=0.555$
--	--------	--------	--------	--------	--------	----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.555}{5} \\ &= 0.111 \end{aligned}$$

**19. Return on Loan and Advances Ratio**

Net Profit to Loan and Advances = Net Profit / Loan and Advances {X}	0.0261	0.0178	0.0194	0.0152	0.0162	$\sum X=0.0947$
--	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.0947}{5} \\ &= 0.01894 \end{aligned}$$

**20. Total Interest Earned to Total Working Fund Ratio**

Total Interest Earned to Total Working Fund Ratio =Total Interest Earned /Total Working Fund {X}	0.2049	0.2257	0.2268	0.0519	0.0622	$\sum X = 0.771$ 5
---	--------	--------	--------	--------	--------	-----------------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.7715}{5} \\ &= 0.1543 \end{aligned}$$

**21. Interest from Loan and Advances and Overdraft to Total Interest Income Ratio**

Interest from Loan and Advances and Overdraft to Total Interest Income Ratio=Interest from Loan and Advances / Total Interest Income {X}	0.9089	0.9100	0.9258	0.9215	1.6488	$\sum X=5.315$
--	--------	--------	--------	--------	--------	----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{5.315}{5} \\ &= 1.063 \end{aligned}$$

**22. Loan Loss Provision to Total Loan and Advances**

Loan Loss Provision to Total Loan and Advances Ratio = Loan Loss Provision/Total Loan and Advances {X}	0.0191	0.0259	0.0227	0.0232	0.0192	$\sum X=0.1101$
--	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{0.1101}{5} \\ &= 0.02202 \text{ ie. } 0.0220 \end{aligned}$$

**23. Non-Performing Loans to Total Loans and Advances Ratio**

Non-Performing Loans to Total Loan and Advances Ratio = Non-Performing Loans / Total Loan and Advances {X}	1.0191	1.0259	1.0227	1.0232	1.0192	$\sum X=5.1101$
--	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean } \{X\} &= \frac{\sum x}{N} \\ &= \frac{5.1101}{5} \\ &= 1.02202 \text{ ie. } 1.0220 \end{aligned}$$

**24. Interest Expenses to Total Deposit Ratio**

Interest Expenses to Total Deposit Ratio = Interest Expenses / Total Deposit {X}	0.0546	0.0481	0.0517	0.0519	0.0526	$\sum X=0.2589$
--	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{0.2589}{5} = 0.05178 \text{ ie. } 0.0518 \end{aligned}$$

**25. Interest Expenses to Total Expenses Ratio**

Interest Expenses to Total Expenses Ratio = Interest Expenses / Total Expenses {X}	0.7241	0.7231	0.7141	0.6785	0.7905	$\sum X=3.6303$
--	--------	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{3.6303}{5} = 0.72606 \text{ ie. } 0.7261 \end{aligned}$$

**26. Interest Expenses to Total Working Fund Ratio**

Interest Expenses to Total Working Fund Ratio = Interest Expenses / Total Working Fund {X}	0.4642	0.6955	0.6598	0.1427	0.2099	$\sum X=2.1721$
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$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{2.1721}{5} = 0.43442 \text{ ie. } 0.4344 \end{aligned}$$

**27. Interest Suspension to Total Interest Income from Loan and Advances and Overdraft Ratio**

Interest Suspension to Total Interest Income from Loan and Advances and Overdraft Ratio = Interest Suspension / Total Interest Income from Loan and Advances and Overdraft {X}	-	0.1686	0.0511	0.0257	0.0081	$\sum X=0.2535$
--	---	--------	--------	--------	--------	-----------------

$$\begin{aligned} \text{Mean \{X\}} &= \frac{\sum x}{N} \\ &= \frac{0.2535}{4} = 0.063375 \text{ ie. } 0.0634 \end{aligned}$$

**Calculation No.1 {a}**

**Correlation between Deposit and Loan and Advances**

Total Deposit{x}	Loan and Advances{y}	xy	x <sup>2</sup>	y <sup>2</sup>
1479.074	1364.833	2018689.005	2187659.897	1862769.118
2103.396	1848.523	3888175.884	4424274.733	3417037.282
2539.702	2322.227	5897764.556	6450086.249	5392738.24
2913.338	3607.040	10508526.7	8487538.302	13010737.56
6613.359	6334.054	41889373.03	43736517.26	40120240.07
$\sum x = 15648.869$	$\sum y = 15476.677$	$\sum xy = 64202529.18$	$\sum x^2 = 65286076.44$	$\sum y^2 = 63803522.27$

We have the following formula to calculate the correlation between two observations.

$$\begin{aligned}
 r_{xy} &= \frac{N \sum xy - \sum x \sum y}{\sqrt{N \sum x^2 - (\sum x)^2} \times \sqrt{N \sum y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 64202529.18 - 15648.869 \times 15476.677}{\sqrt{5 \times 65286076.44 - (15648.869)^2} \times \sqrt{5 \times 63803522.27 - (15476.677)^2}} \\
 &= \frac{321012645.9 - 242192490.9}{\sqrt{326430382.2 - 244887101.0} \times \sqrt{319017611.4 - 239527531.0}} \\
 &= \frac{78820155}{\sqrt{81543281.2} \times \sqrt{79490080.4}} \\
 &= \frac{9030.131848 \times 8915.720969}{78820155} \\
 &= \frac{80510135.87}{78820155} \\
 &= 0.979009
 \end{aligned}$$

**Calculation No.1{b}**

**Probable Error**

$$\begin{aligned}
 \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{N}} \\
 &= 0.6745 \times \frac{1-0.958458622}{\sqrt{5}} \\
 &= 0.6745 \times \frac{0.041541377}{2.236067977} \\
 &= 0.6745 \times 0.018577868 \qquad \qquad \qquad = 0.012531
 \end{aligned}$$

Where,

$$\begin{aligned}
 r^2 &= 0.979009^2 \\
 &= 0.958458622
 \end{aligned}$$

**Calculation No.2{a}**

**Correlation between Total Interest Income and Loan and Advances of DCBL**

Total Interest Income{x}	Loan and Advances{y}	xy	x <sup>2</sup>	y <sup>2</sup>
171.755	1364.833	234416.8919	29499.78003	1862769.118
205.530	1848.523	379926.9322	42242.5809	3417037.282
255.936	2322.227	594341.4895	65503.2361	5392738.24
308.678	3607.040	1113413.893	95282.10768	13010737.56
587.877	6334.054	3723644.663	345599.3671	40120240.07
$\Sigma x = 1529.776$	$\Sigma y = 15476.677$	$\Sigma xy = 6045743.87$	$\Sigma x^2 = 578127.0718$	$\Sigma y^2 = 63803522.27$

We have the following formula to calculate the correlation between two observations.

$$\begin{aligned}
 r_{xy} &= \frac{N \Sigma xy - \Sigma x \Sigma y}{\sqrt{N \Sigma x^2 - (\Sigma x)^2} \times \sqrt{N \Sigma y^2 - (\Sigma y)^2}} \\
 &= \frac{5 \times 6045743.87 - 1529.776 \times 15476.677}{\sqrt{5 \times 578127.0718 - (1529.776)^2} \times \sqrt{5 \times 63803522.27 - (15476.677)^2}} \\
 &= \frac{30228719.35 - 23675849.03}{\sqrt{2890635.359 - 2340214.61} \times \sqrt{319017611.4 - 239527531.0}} \\
 &= \frac{6552870.32}{\sqrt{550420.7488} \times \sqrt{79490080.4}} \\
 &= \frac{741.9034633 \times 8915.720969}{6552870.32} \\
 &= \frac{6614604.265}{6552870.32} \\
 &= 0.990667
 \end{aligned}$$

**Calculation No. 2{b}**

**Probable Error**

$$\begin{aligned}
 \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{N}} \\
 &= 0.6745 \times \frac{1-0.981421104}{\sqrt{5}} \\
 &= 0.6745 \times \frac{0.041541377}{2.236067977} \\
 &= 0.6745 \times 0.018578895 \\
 &= 0.012531
 \end{aligned}$$

Where,

$$\begin{aligned}
 r^2 &= 0.990667^2 \\
 &= 0.981421104
 \end{aligned}$$

**Calculation No.3 {a}**

**Correlation between Net Profit and Loan and Advances of DCBL**

Net Profit{x}	Loan and Advances{y}	xy	x <sup>2</sup>	y <sup>2</sup>
35.638	1364.833	48639.91845	1270.067044	1862769.118
32.840	1848.523	60705.49532	1078.4656	3417037.282
45.104	2322.227	104741.7266	104741.7266	5392738.24
54.957	3607.040	198232.0973	3020.271849	13010737.56
103.056	6334.054	652762.269	10620.53914	40120240.07
$\Sigma x = 271.595$	$\Sigma y = 15476.677$	$\Sigma xy = 1065081.507$	$\Sigma x^2 = 120731.0702$	$\Sigma y^2 = 63803522.27$

We have the following formula to calculate the correlation between two observations.

$$\begin{aligned}
 r_{xy} &= \frac{N \Sigma xy - \Sigma x \Sigma y}{\sqrt{N \Sigma x^2 - (\Sigma x)^2} \times \sqrt{N \Sigma y^2 - (\Sigma y)^2}} \\
 &= \frac{5 \times 1065081.507 - 271.595 \times 15476.677}{\sqrt{5 \times 120731.0702 - (271.595)^2} \times \sqrt{5 \times 63803522.27 - (15476.677)^2}} \\
 &= \frac{5325407.535 - 4203388.09}{\sqrt{4203388.09 - 73763.84403} \times \sqrt{319017611.4 - 239527531.0}} \\
 &= \frac{1122019.445}{\sqrt{4129624.246} \times \sqrt{79490080.4}} \\
 &= \frac{1122019.445}{2032.147693 \times 8915.720969} \\
 &= \frac{1122019.445}{18118061.8} \\
 &= 0.061928
 \end{aligned}$$

**Calculation No. 3{b}**

**Probable Error**

$$\begin{aligned}
 P.E. &= 0.6745 \times \frac{1-r^2}{\sqrt{N}} \\
 &= 0.6745 \times \frac{1-0.003835077}{\sqrt{5}} \\
 &= 0.6745 \times \frac{0.996164922}{2.236067977} \\
 &= 0.6745 \times 0.445498496 = 0.300489
 \end{aligned}$$

Where,

$$\begin{aligned}
 r^2 &= 0.061928^2 \\
 &= 0.003835077
 \end{aligned}$$

**Calculation No.4 {a}**

**Correlation between Loan Loss Provision and Loan and Advance of DCBL**

Loan Loss Provision {x}	Loan and Advances{y}	xy	x <sup>2</sup>	y <sup>2</sup>
26.025	1364.833	35519.77883	677.300625	1862769.118
47.815	1848.523	88387.12725	2286.274225	3417037.282
52.968	2322.227	123003.7197	2805.609024	5392738.24
83.771	3607.040	302165.3478	7017.580441	13010737.56
121.979	6334.054	772621.5729	14878.87644	40120240.07
$\Sigma x = 332.558$	$\Sigma y = 15476.677$	$\Sigma xy = 1321697.547$	$\Sigma x^2 = 27665.64076$	$\Sigma y^2 = 63803522.27$

We have the following formula to calculate the correlation between two observations.

$$\begin{aligned}
 r_{xy} &= \frac{N \Sigma xy - \Sigma x \Sigma y}{\sqrt{N \Sigma x^2 - (\Sigma x)^2} \times \sqrt{N \Sigma y^2 - (\Sigma y)^2}} \\
 &= \frac{5 \times 1321697.547 - 332.558 \times 15476.677}{\sqrt{5 \times 27665.64076 - (332.558)^2} \times \sqrt{5 \times 63803522.27 - (15476.677)^2}} \\
 &= \frac{6608487.735 - 5146892.75}{\sqrt{138328.2038 - 110594.8234} \times \sqrt{319017611.4 - 239527531.0}} \\
 &= \frac{1461594.985}{\sqrt{27733.3804} \times \sqrt{79490080.4}} \\
 &= \frac{1461594.985}{1461594.985} \\
 &= \frac{166.5334213 \times 8915.720969}{1461594.985} \\
 &= \frac{1484765.516}{1461594.985} \\
 &= 0.9843944
 \end{aligned}$$

**Calculation No. 4{b}**

**Probable Error**

$$\begin{aligned}
 \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{N}} \\
 &= 0.6745 \times \frac{1-0.969032334}{\sqrt{5}} \\
 &= 0.6745 \times \frac{0.030967665}{2.236067977} \\
 &= 0.6745 \times 0.01384916 \\
 &= 0.009341259
 \end{aligned}$$

Where,

$$\begin{aligned}
 r^2 &= 0.9843944^2 \\
 &= 0.969032334
 \end{aligned}$$

**Calculation No.5 {a}**

**Correlation between Interest Suspense and Interest Income of DCBL**

Interest Suspense {x}	Interest Income{y}	xy	x <sup>2</sup>	y <sup>2</sup>
32.006	171.755	5947.19053	1024.384036	29499.78003
31.530	205.530	6480.3609	994.1409	42242.5809
12.102	255.936	3097.337472	146.458404	65503.2361
7.304	308.678	2254.584112	53.348416	95282.10768
7.876	587.877	4630.119252	62.031376	345599.3671
$\Sigma x = 90.818$	$\Sigma y = 1529.776$	$\Sigma xy = 21959.59227$	$\Sigma x^2 = 2280.363132$	$\Sigma y^2 = 578127.0718$

We have the following formula to calculate the correlation between two observations.

$$\begin{aligned}
 r_{xy} &= \frac{N \Sigma xy - \Sigma x \Sigma y}{\sqrt{N \Sigma x^2 - (\Sigma x)^2} \times \sqrt{N \Sigma y^2 - (\Sigma y)^2}} \\
 &= \frac{5 \times 21959.59227 - 90.818 \times 1529.776}{\sqrt{5 \times 2280.363132 - (90.818)^2} \times \sqrt{5 \times 578127.0718 - (1529.776)^2}} \\
 &= \frac{109797.9614 - 138931.1968}{\sqrt{11401.81566 - 8247.909124} \times \sqrt{2890635.359 - 2340214.61}} \\
 &= \frac{-29133.2354}{\sqrt{3153.906536} \times \sqrt{550420.749}} \\
 &= \frac{56.15965221 \times 741.9034634}{-29133.2354} \\
 &= \frac{41665.04048}{-29133.2354} \\
 &= -0.699225
 \end{aligned}$$

**Calculation No.5{b}**

**Probable Error**

$$\begin{aligned}
 P.E. &= 0.6745 \times \frac{1-r^2}{\sqrt{N}} \\
 &= 0.6745 \times \frac{1-0.4889156}{\sqrt{5}} \\
 &= 0.6745 \times \frac{0.511084399}{2.236067977} \\
 &= 0.6745 \times 0.228563891 \\
 &= 0.154166
 \end{aligned}$$

Where,

$$\begin{aligned}
 r^2 &= \{-0.699225\}^2 \\
 &= 0.4889156
 \end{aligned}$$

**Calculation No.6****a Trend Value of Total Deposit of DCBL{2005 to 2009}**

Year {X}	Total deposit {y}	x=X- 2007	x <sup>2</sup>	xy	y=a+bx
2005	1479.074	-2	4	-2958.148	914.072
2006	2103.396	-1	1	-2103.396	2021.923
2007	2539.702	0	0	0	3129.774
2008	2913.338	1	1	2913.338	4237.625
2009	6613.359	2	4	13226.718	5345.476
Total	15648.869	0	10	11078.512	

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

$$= \frac{15648.869}{5}$$

$$= 3129.774$$

$$b = \frac{\sum xy}{\sum x^2}$$

$$= \frac{11078.512}{10}$$

$$= 1107.851$$

Where, N= No. of years

Y= Total deposits

**b. Trend value of Total Deposit of DCBL {2010-2014}**

Year{ X}	x= X-2007	Trend Value{y= a+bx}
2010	3	6453.327
2011	4	7561.178
2013	6	9776.88
2014	7	10884.731

**Calculation No.7****a. Trend value of loan and advances of DCBL {2005 to 2009}**

Year {X}	Loan and advances {y}	x= X-2007	x <sup>2</sup>	xy	Y= a+bx
2005	1364.833	-2	4	-2729.666	371.366
2006	1848.523	-1	1	-1848.523	1927.194
2007	2329.207	0	0	0	3101.032
2008	3608.620	1	1	3608.620	4274.87
2009	6353.976	2	4	12707.952	5448.708
Total	158377.2	0	10	11738.383	

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

$$= \frac{15505.159}{5}$$

$$= 3101.032$$

$$b = \sum \frac{xy}{x^2}$$

$$= \frac{11738.383}{10}$$

$$= 1173.838$$

**b. Trend value of loan and advances of DCBL {2010-2014}**

Year{X}	x=y-2007	Trend value { y=a+bx }
2010	3	6622.546
2011	4	7796.384
2012	5	8970.222
2013	6	10144.06
2014	7	11317.898

**Calculation No.8****a. Trend value of net profit of DCBL {2005-2009}**

Year {X}	Net Profit{y}	x=X-2007	x <sup>2</sup>	xy	y=a+bx
2005	35.638	-2	4	-71.276	22.9284
2006	32.840	-1	1	-32.84	38.6237
2007	45.104	0	0	0	54.319
2008	54.957	1	1	54.957	70.0143
2009	103.056	2	4	206.112	85.7096
Total	271.594	0	10	156.953	

$$a = \frac{\sum X}{Y}$$

$$= \frac{2715.94}{5}$$

$$= 543.188$$

$$b = \frac{\sum XY}{\sum X^2}$$

$$= \frac{1569.52}{10}$$

$$= 156.952$$

**b. Trend value of net profit of DCBL {2010-2014}**

Year{X}	x=y-2007	Trend value{y=a+bx}
2010	3	101.4049
2011	4	117.1002
2012	5	132.7955
2013	6	148.4908
2014	7	164.1861

**Annex - 1**  
**Development Credit Bank Ltd.**  
**Kamaladi, Kathmandu**  
**Comparative Profit and Loss Account**

(Rs. in million)

<b>Particulars</b>	<b>7/15/2005</b>	<b>7/15/2006</b>	<b>7/15/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
1. Interest Income	171.755	205.530	255.936	308.678	587.877
2. Interest Expenses	80.723	101.222	131.248	151.131	347.983
<b>Net Interest Income</b>	<b>91.033</b>	<b>104.309</b>	<b>124.688</b>	<b>157.547</b>	<b>239.894</b>
3 Commission and Discount	1.809	2.384	3.833	5.136	9.811
4. Other Operating Income	3.809	5.308	7.007	12.576	30.852
5. Exchange Difference Income	0.041	0.298	0.375	5.157	14.913
<b>Gross Operating Income</b>	<b>96.692</b>	<b>112.298</b>	<b>135.904</b>	<b>180.417</b>	<b>295.470</b>
6. Employee Expenses	16.191	23.512	29.430	43.699	52.752
7. Other Operating Expenses	14574269	15247063	23.110	27.904	39.466
8. Exchange Difference Loss	-	-	-	-	-
<b>Operating Profit Before Provision For Loss</b>	<b>65.927</b>	<b>73.539</b>	<b>83.364</b>	<b>108.814</b>	<b>203.252</b>
9. Provision For Losses	9.461	22.058	9.532	30.803	38.208
<b>Operating Profit</b>	<b>56.467</b>	<b>51.481</b>	<b>73.832</b>	<b>78.011</b>	<b>165.045</b>
10. Nonoperating Income/Loss	-	0.875	0.071	<b>0.783</b>	-
11. Return From Provision For Loss	-	-	0.265	4.379	-
<b>Income From Operation</b>	<b>56.467</b>	<b>52.356</b>	<b>74.172</b>	<b>83.173</b>	<b>165.045</b>
12. Income/Loss From Extraordinary Items				3.250	
<b>Net Profit Including All Transaction</b>	<b>56.4667</b>	<b>52.356</b>	<b>74.172</b>	<b>86.423</b>	<b>165.045</b>
13. Provision For Employee Bonus	<b>5.647</b>	<b>4.760</b>	<b>6.743</b>	<b>7.857</b>	<b>15.004</b>
14. Provision For Tax	-	-	-	-	-
Current year	<b>15.182</b>	<b>14.757</b>	<b>22.325</b>	<b>25.021</b>	<b>43.416</b>
Up to previous year	-	-	-	-	1.334
Tax Adjustment Expenses/(Income)	-	-	-	-1.413	2.235
<b>Net Profit/Loss</b>	<b>35.638</b>	<b>32.840</b>	<b>45.104</b>	<b>54.957</b>	<b>103.056</b>

*(Sources: Financial Reports of DCBL)*

**Annex - 2**  
**Development Credit Bank Ltd.**  
**Kamaladi, Kathmandu**  
**Comparative Balance Sheet**

Rs. in million

<b>Capital and Liabilities</b>	7/15/2005	7/15/2006	7/15/2007	7/15/2008	7/15/2009
1.Share Capital	160.000	240.000	268.800	1107.456	1655.289
2.Reserve and Surplus	32.766	64.090	78.697	115.505	214.205
3.Debenture and Bonds					
4.Borrowings	120.000	170.000	50.000	350.995	290.000
5.Deposits	1479.074	2103.396	2539.702	2913.338	6613.359
6.Bills Payable	0.414	6.248	0.813	241.028	22.500
7.Proposed Dividend Payable	23.530	5.624	4.451	1.499	5.601
8.Income Tax Liability	3.432				
9.Other Liabilities	27.842	17.948	26.803	40.404	57.685
<b>Total Liabilities</b>	<b>1847.058</b>	<b>2607.306</b>	<b>2969.265</b>	<b>4770.225</b>	<b>8858.639</b>
<b>Assets</b>					
1.Cash in Hand	3.450	6.633	15.831	33.272	87.949
2.Balance With Nepal Rastra Bank	27.142	121.949	129.546	153.024	551.213
3.Balance With Bank And Financial Institutions	3.574	1.801	8.233	39.502	76.597
4.Money at Call and Short Notice	372.521	403.339	268.440	663.063	1021.576
5.Investments	28.821	48.553	42.615	68.571	497.813
6.Loans, Advances and Bills Purchase	1364.833	1848.523	2329.207	3608.620	6353.976
7.Fixed Assets	13.296	120.226	137.524	172.439	220.448
8.Non Banking Assets			13.136		
9.Other Assets	33.421	56.282	24.733	31.733	49.067
<b>Total Assets</b>	<b>1847.058</b>	<b>2607.306</b>	<b>2969.265</b>	<b>4770.225</b>	<b>8858.639</b>

**Annex - 3**

<b>Particulars</b>	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
<b>Current Assets</b>					
Cash in Hand	3.450	6.633	15.831	33.272	87.949
Balance With Nepal Rastra Bank	27.142	121.950	129.546	153.024	551.213
Balance With Bank and Financial Institutions	3.574	1.801	8.233	39.502	76.597
Money at Call and Short Notice	372.521	403.339	268.440	663.063	1021.576
Investments	28.821	48.553	42.615	68.571	497.813
Loans, Advances and Bills Purcahse	1364.833	1848.523	2329.207	3608.620	6353.976
	<b>1800.341</b>	<b>2430.798</b>	<b>2793.872</b>	<b>4566.052</b>	<b>8589.124</b>
<b>Current Liabilities</b>					
Borrowings	120.000	170.000	50.000	350.995	290.000
Deposits	1479.074	2103.396	2539.702	2913.338	6613.359
Bills Payable	0.414	6.248	0.813	241.028	22.500
Proposed Dividend Payable	23.530	5.624	4.451	1.499	5.601
Income Tax Liability	3.432				
	<b>1626.450</b>	<b>2285.268</b>	<b>2594.966</b>	<b>3506.860</b>	<b>6931.460</b>

<b>Particulars</b>	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
<b>Liquid Fund</b>					
Balance with Bank and Financial Institutions	3.574	1.801	8.233	39.502	76.597
Money at Call and Short Notice	372.521	403.339	268.440	663.063	1021.576
	<b>406.687</b>	<b>533.722</b>	<b>422.049</b>	<b>888.861</b>	<b>1737.335</b>

<b>Particulars</b>	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
<b>Cash and bank balance</b>					
Cash in hand	3.450	6.633	15.831	33.272	87.949
Balance with Nepal Rastra Bank	27.142	121.949	129.546	153.024	551.213
Balance with Bank and Financial Institutions	3.574	1.801	8.233	39.502	76.597
	<b>34.166</b>	<b>130.383</b>	<b>153.610</b>	<b>225.798</b>	<b>715.758</b>
<b>Total deposit</b>					
Deposits	<b>1479.074</b>	<b>2103.396</b>	<b>2539.702</b>	<b>2913.338</b>	<b>6613.359</b>
<b>Saving Deposit (As Per Schedule 5)</b>	<b>445.975</b>	<b>834.622</b>	<b>716.494</b>	<b>900.253</b>	<b>1131.449</b>

Particulars	7/16/2005	7/16/2006	7/16/2007	7/15/2008	7/15/2009
<b>Loans And Advance</b>					
Loans, Advances (As Per Schedule 13)	<b>1364.833</b>	<b>1848.523</b>	<b>2322.227</b>	<b>3607.040</b>	<b>6334.054</b>

Particulars	7/16/2005	7/16/2006	7/16/2007	7/15/2008	7/15/2009
<b>Credit To Government Enterprises</b>	<b>17.050</b>	<b>17.050</b>	<b>27.844</b>	<b>18.450</b>	<b>442.917</b>
(As Per Schedul 12)					
<b>Credit Granted To Private Sector</b>	<b>11.771</b>	<b>31.771</b>	<b>14.771</b>	<b>50.121</b>	<b>54.896</b>
(As Per Schedule12)					
<b>Credit to Bill Paid and Discount</b> ( As Per Schedule 1)			<b>6.980</b>	<b>1.580</b>	<b>19.922</b>
<b>Total Credit</b>	<b>28.821</b>	<b>48.821</b>	<b>49.595</b>	<b>70.151</b>	<b>517.735</b>

Particulars	7/16/2005	7/16/2006	7/16/2007	7/15/2008	7/15/2009
<b>Total Income</b>					
Interest Income	171.755	205.530	255.936	308.678	587.877
Commission and Discount	1.810	2.384	3.833	5.136	9.811
Other operating Income	3.809	5.308	7.007	12.576	30.852
Exchange Difference Income	0.041	0.298	0.375	5.157	14.913
Non-operating Income/Loss		0.875	0.071	0.783	
Income/Loss From Extraordinary Items				3.25	
	<b>177.415</b>	<b>214.395</b>	<b>267.223</b>	<b>335.581</b>	<b>643.453</b>
<b>Total Expenses</b>					
Interest Expenses	80.723	101.222	131.248	151.131	347.983
Employee Expenses	16.191	23.512	29.430	43.699	52.752
Other Operating Expenses	14.574	15.247	23.110	27.904	39.466
	<b>111.487</b>	<b>139.981</b>	<b>183.788</b>	<b>222.734</b>	<b>440.201</b>

Particulars	7/16/2005	7/16/2006	7/16/2007	7/15/2008	7/15/2009
<b>Total Working Fund =CA-CL</b>	<b>173.891</b>	<b>145.531</b>	<b>198.906</b>	<b>1059.192</b>	<b>1657.663</b>

Particulars	7/16/2005	7/16/2006	7/16/2007	7/15/2008	7/15/2009
<b>Interest From Loans And Advance And Overdraft</b>					
Interest from Loans and Advance	156.110	181.490	218.279	252.058	483.472
Interest From Overdraft		5.533	18.675	32.378	483.472
	<b>156.110</b>	<b>187.023</b>	<b>236.953</b>	<b>284.436</b>	<b>966.944</b>

<b>Particulars</b>	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
<b>No Of Common Share</b>	<b>1.600</b>	<b>2.400</b>	<b>2.688</b>	<b>11.075</b>	<b>16.553</b>

<b>Particulars</b>	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
<b>Loan Loss Provision (As Per Schedule 13)</b>	<b>26.025</b>	<b>47.815</b>	<b>52.968</b>	<b>83.771</b>	<b>121.979</b>
	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
<b>Non Performing Loan</b>	<b>1390.859</b>	<b>1896.338</b>	<b>2382.176</b>	<b>3692.392</b>	<b>6475.955</b>

<b>Particulars</b>	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
<b>Interest suspension</b>		<b>31529905</b>	<b>12101811</b>	<b>7304158</b>	<b>7875762</b>

**Development Credit Bank Ltd.**  
**Kamaladi, Kathmandu**  
**Comparative Balance Sheet**

<b>Capital and Liabilities</b>	<b>7/16/2005</b>	<b>7/16/2006</b>	<b>7/16/2007</b>	<b>7/15/2008</b>	<b>7/15/2009</b>
1.Debenture And Bonds					
2.Borrowings	120.000	170.000	50.000	350.995	290.000
3.Deposits	1479.074	2103.396	2539.702	2913.338	6613.359
4.Bills Payable	0.414	6.248	0.813	241.028	22.500
5.Proposed Dividend Payable	23.530	5.624	4.451	1.499	5.601
6.Income Tax Liability	3.432				
7.Other Liabilities	27.842	17.948	26.803	40.404	57.685
<b>Total Liabilities</b>	<b>1654.292</b>	<b>2303.216</b>	<b>2621.769</b>	<b>3547.264</b>	<b>6989.145</b>
<b>Assets</b>					
1.Cash in Hand	3.450	6.633	15.831	33.272	87.949
2.Balance With Nepal Rastra Bank	27.142	121.949	129.546	153.024	551.213
3.Balance With Bank And Financial Institution	3.574	1.801	8.233	39.502	76.597
4.Money At Call And Short Notice	372.521	403.339	268.440	663.063	1021.576
5.Investments	28.821	48.553	42.615	68.571	497.813
6.Loans, Advances And Bills Purcahse	1364.833	1848.523	2329.207	3608.620	6353.976
7.Fixed Assets	13.296	120.226	137.524	172.439	220.448
8.Non Banking Assets			13.136		
9.Other Assets	33.421	56.282	24.733	31.733	49.067
<b>Total Assets</b>	<b>1847.058</b>	<b>2607.306</b>	<b>2969.265</b>	<b>4770.225</b>	<b>8858.639</b>